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# Sri Lanka Poverty Assessment

## Engendering Growth with Equity: Opportunities and Challenges

January 23, 2007

Poverty Reduction and Economic Management Sector Unit  
South Asia Region



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January 1- December 31

**LIST OF ABBREVIATIONS**

|              |                                                       |                |                                                    |
|--------------|-------------------------------------------------------|----------------|----------------------------------------------------|
| <b>ADB</b>   | Asian Development Bank                                | <b>LFS</b>     | Labor Force Survey                                 |
| <b>AI</b>    | Asset Index                                           | <b>LTTE</b>    | Liberation Tigers of Tamil Eelam                   |
| <b>BMI</b>   | body mass index                                       | <b>MA</b>      | management agent                                   |
| <b>CBSL</b>  | Central Bank of Sri Lanka                             | <b>MASL</b>    | Mahaweli Authority of Sri Lanka                    |
| <b>CEPA</b>  | Center for Poverty Analysis                           | <b>MDGs</b>    | Millennium Development Goals                       |
| <b>CFSES</b> | Consumer Finances and Socio Economic Survey           | <b>MoU</b>     | Memorandum of Understanding                        |
| <b>CIRM</b>  | Center for Information Resources Management           | <b>NGOs</b>    | Non Government Organizations                       |
| <b>DCS</b>   | Department of Census and Statistics                   | <b>NIC</b>     | National identity card                             |
| <b>DHS</b>   | Demographic and Health Survey                         | <b>O&amp;M</b> | Operations and maintenance                         |
| <b>DS</b>    | District Secretariat                                  | <b>O/L</b>     | O-Levels                                           |
| <b>FDI</b>   | foreign direct investment                             | <b>PMTF</b>    | Proxy-means test formula                           |
| <b>FGD</b>   | focus group discussion                                | <b>RPC</b>     | Regional Plantation Company                        |
| <b>GDP</b>   | gross domestic product                                | <b>SLBDC</b>   | Sri Lanka Business Development Corporation         |
| <b>GIA</b>   | Gross irrigated area                                  | <b>SLBFE</b>   | Sri Lanka Bureau of Foreign Employment             |
| <b>GIS</b>   | Geographic Information Systems                        | <b>SLIS</b>    | Sri Lanka Integrated Survey                        |
| <b>GNI</b>   | Gross national income                                 | <b>SMD</b>     | sum of mean deviations                             |
| <b>GoSL</b>  | Government of Sri Lanka                               | <b>SMEs</b>    | Small and medium enterprises                       |
| <b>GTZ</b>   | German Corporation for Technical Cooperation          | <b>TE</b>      | Trieennium ending                                  |
| <b>HCR</b>   | Headcount ratio                                       | <b>TEWA</b>    | Termination of Employment of Workmen Act           |
| <b>HDI</b>   | Human Development Index                               | <b>UNDP</b>    | United Nations Development Programme               |
| <b>HIES</b>  | Household Income and Expenditure Surveys              | <b>USAID</b>   | United States Agency for International Development |
| <b>ICS</b>   | Investment Climate Survey                             | <b>VPP</b>     | Vulnerability Poverty Profile                      |
| <b>IDPs</b>  | Internally displaced persons                          | <b>WB</b>      | World Bank                                         |
| <b>JBIC</b>  | Japan Bank for International Cooperation              | <b>WBB</b>     | Welfare Benefits Board                             |
| <b>JICA</b>  | Japan International Cooperation Agency                | <b>WDI</b>     | World Development Indicators                       |
| <b>JVP</b>   | Janatha Vimukthi Peramuna (People's Liberation Front) | <b>WFP</b>     | World Food Program                                 |
| <b>LDO</b>   | Land Development Ordinance                            |                |                                                    |

|                          |                                         |
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## Preface

Since 2003, the Department of Census and Statistics (DCS) in Sri Lanka and the World Bank have been working together to improve methodologies and analytical tools for measuring and analyzing poverty. This included developing an official poverty line and creating a poverty mapping system using small-area estimation techniques and Geographic Information Systems. This report uses these analytical tools as well as qualitative and quantitative research conducted in Sri Lanka and the broader development community to take a closer look at the trends, patterns and determinants of poverty, with particular focus on lagging regions and sectors. In many of these areas, the report extends and updates the analysis conducted for the World Bank's Poverty Assessment for Sri Lanka 2002.

The report has been prepared *in collaboration with DCS*, particularly on topics related to measurement of poverty and its correlates and poverty mapping. The analysis is primarily based on national data sets from the Household Income and Expenditure Survey (HIES), the Demographic and Health Survey and Labor Force Survey (LFS) for different years conducted by DCS, and the Consumer Finances and Socio Economic Survey (CFSES) for different years conducted by the Central Bank of Sri Lanka. These data were supplemented by a qualitative study and household survey of the estate sector conducted by the Centre for Poverty Analysis and the Sri Lanka Business Development Centre, respectively. Notably, *the poverty estimates in this report exclude the conflict-affected North and East*, since HIES data necessary for measuring poverty is not available for this region. A chapter focusing on economic and social outcomes in the North and East provides an overview of the evidence available for this region from alternative data sources, including the CFSES, LFS and smaller surveys by private agencies.

The report is intended to add to the debate and understanding of poverty and inequality in Sri Lanka. Acknowledgment of the slow and uneven pace of growth and poverty reduction across regions in Sri Lanka features prominently in the President's election manifesto, the *Mahinda Chintana*. The *Chintana* explicitly addresses regional inequalities in incomes, human development outcomes, and access to economic infrastructure. The 2007 Budget includes measures to strengthen links between emerging policy priorities articulated in the *Chintana* and initial steps toward the creation of a medium-term budget framework.

While the available data sources provide significant insights into poverty issues, the analysis is somewhat limited by the absence of a regular integrated household survey, like the Living Standards Measurement Surveys conducted in many developing countries. In the absence of an integrated survey, information from different sources were combined and recent innovations like poverty maps were used to draw insights about the causes and determinants of poverty. The DCS is currently introducing changes to the HIES to cover a wider range of topics critical to assessing a household's well-being, which will greatly enhance poverty analysis and its ability to inform policy in the future.

## **Acknowledgements**

This report was prepared by Ambar Narayan, Princess Ventura (Task Managers) and Nobuo Yoshida from the Poverty Reduction and Economic Management (PREM) unit of the World Bank's South Asia Region, drawing upon significant contributions from Nistha Sinha (health), Kirthisri Rajatha Wijeweera (education), Mona Sur and Dina Umali-Deininger (rural poverty), Muttukrishna Sarvananthan (North and East) and Aphichoke Kotikula (estates). The analysis of poverty using data from numerous surveys and the Population Census produced by the Department of Census and Statistics (DCS) was conducted in partnership with the DCS. In particular, the team is grateful to Wimal Nanayakkara, Suranjana Vidyaratne, G. Y. L. Fernando, and K. G. Tillakaratne (DCS) for valuable advice and contributions to the analysis. The report was edited by Hedy Sladovich (World Bank). Research assistance was provided by Fei Gao and Gozde Isik (World Bank). Oxana Bricha, Prameela Namasivayam and Malathi Ratnayaka (World Bank) provided able assistance in handling logistical and contracting arrangements for the report, and Thelma Rutledge (World Bank) prepared the report for printing.

The peer reviewers are Anila Bandaranaike (Director, Statistics, Central Bank of Sri Lanka), Gershon Feder and Linda Van Gelder (World Bank). The team is grateful to Tara Vishwanath (World Bank) for overall guidance on the report and design of the Estate household survey, as well as detailed comments at various stages. The team also gratefully acknowledges advice and comments received from Anila Bandaranaike and Rocio Castro (World Bank) during various stages of preparation; Harsha Aturupane and Kumari Vinodhani Navaratne (World Bank) for guidance on human development issues; and Uwe Deichmann and Piet Buys (World Bank) for contributions to the analysis using poverty and accessibility maps.

The report benefited from extensive discussions with officials from government departments, notably the Plantation Human Development Trust and Ministries of Finance & Planning, Resettlement, Estate Infrastructure and Livestock Development, Health, and Social Welfare. Comments on a previous draft received from Department of National Planning, Ministry of Finance & Planning benefited the final version. Acknowledgments are also due to participants at the Concept Note and Bankwide review meetings for comments and suggestions that shaped the report, and participants at the Regional workshop on Inequality (Delhi, December 2004) where preliminary results of the analysis were presented.

The quantitative Estate household survey was conducted in collaboration with a team from Sri Lanka Business Development Centre (SLBDC) led by Rohanthi Perreira; a team from Centre for Poverty Analysis (CEPA) in Colombo led by Neranjana Gunetilleke and Sanjana Kuruppu conducted the qualitative study of the estates. Guidance on methodology, peer reviewing and partial funding for the qualitative study were provided by the World Bank's "Moving out of Poverty" (MOP) study team led by Deepa Narayan (World Bank). The questionnaire and sampling design of the Estate household survey benefited from the active participation of numerous individuals, notably, officials from DCS and the Statistics Department of Central Bank, the SLBDC and CEPA teams, and members of the World Bank Sri Lanka Country Team. The qualitative study benefited from suggestions received from government officials, researchers, and other industry related participants at two stakeholder workshops organized by CEPA in Colombo. Financial support from the Department for International Development (DFID), United Kingdom for the estate and conflict-related studies greatly facilitated the new work undertaken for this report.

The report benefited from oversight and comments provided by Kapil Kapoor (Sector Manager, South Asia PREM). Finally, the team thanks Sadiq Ahmed (Sector Director, South Asia PREM) for his valuable support; and Deborah Bateman (Country Coordinator), Peter Harrold (ex-Country Director for Sri Lanka) and Naoko Ishii (Country Director for Sri Lanka) for their support and commitment to bring the poverty- and inequality-related challenges to the forefront of the World Bank's engagement in Sri Lanka.

## Executive Summary

1. The development story in Sri Lanka is one of mixed success. The country is on par with middle-income countries and Millennium Development Goal timetables for universal primary school enrollment, gender parity in primary and secondary school enrollment, and universal provision of reproductive health services. At the same time, consumption income poverty persists and the poor continue to face basic welfare challenges such as malnutrition.

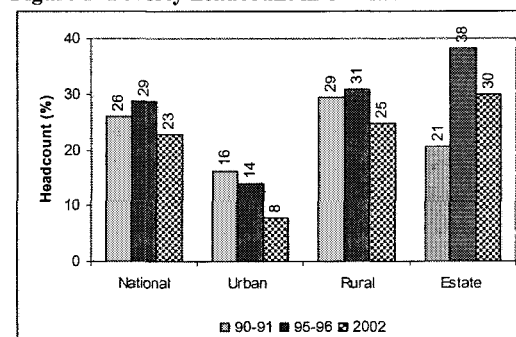
2. A number of interrelated constraints prevent access by the poor to opportunities in more dynamic sectors of the economy. In poor rural areas and the estates economic and geographic constraints include inadequate connectivity to markets and growth centers, lack of electricity and transport facilities (infrastructure) and poor quality schools (public services). In poor urban areas constraints include inadequate access to clean water, electricity, sanitation and quality of housing. At the household level, the report assesses the cyclical nature of poverty traps caused by low levels of education, poor nutrition and underemployment (mostly associated with the informal sector). Population in the estates, North and East, and the tsunami-affected coastal areas are more likely to fall into the poverty trap cycle due to historical disadvantages or recent events like civil conflict or natural disasters.

### I. Poverty, growth, and inequality trends in Sri Lanka

3. *Consumption poverty reduction in Sri Lanka has been modest*—about 3 percentage points (from 26 to 23 percent) from 1990–91 to 2002)—and uneven across sectors. Urban poverty halved between 1990–91 and 2002, while rural poverty declined by less than 5 percentage points, and poverty in the estates increased by about 50 percent—making this sector the poorest in the country (Figure 1). The conflict-affected North and East are excluded from these estimates, since consumption data from HIES (the official source for poverty measurement) essential to measure poverty is not available for this region.

4. *The growing urban-rural gap is largely due to concentrated economic growth in Western Province.* GDP grew by an average of 6.2 percent annually during 1997–2003 in Western Province, and by only 2.3 percent in the remaining provinces.<sup>1</sup> Western Province's share in national GDP increased from 40 percent

**Figure 1: Poverty headcount in Sri Lanka**



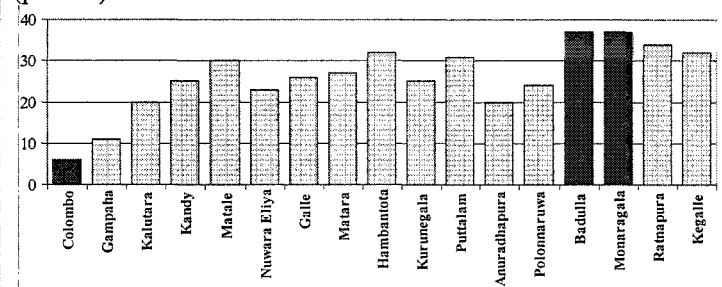
Note: Excludes the North and East for which HIES data are not available.

Source: HIES (different years).

in 1990 to 48 percent in 2002, while that of Uva and Sabaragamuwa fell from 16 to 11 percent. As a result, in 2002 the incidence of poverty fell to 11 percent for Western Province compared with 35 percent for Sabaragamuwa and Uva.

5. *The largest poverty reduction in 2002 occurred in districts with low incidence of poverty in 1990–91* (Colombo and Gampaha in Western Province).<sup>2</sup> In some districts—already

**Figure 2: Poverty headcount by district, 2002 (percent)**



Source: DCS HIES 2002.

<sup>1</sup> Excluding the North and East. Source: Peace Secretariat using Central Bank Provincial GDP numbers.

<sup>2</sup> Poverty headcounts in Colombo and Gampaha were 16 and 15 percent, respectively, in 1990–91, and reduced by 10 and 4 percentage points, respectively, by 2002.

among the poorest in 1990–91—poverty increased even further. Poverty in the poorest districts of Badulla and Monaragala was more than six times that in Colombo in 2002 (Figure 2).

6. *Poverty and vulnerability* (the risk of falling into or deeper into poverty) are closely linked, since the poor and those just above the poverty line are more susceptible to shocks. Figure 3 shows that the population is highly concentrated around the poverty line, implying that even small shocks can cause large increases in poverty incidence.<sup>3</sup>

7. *Current targeted welfare programs perform well below potential.* Despite a long history of publicly funded welfare programs the evidence suggests that current programs perform well below potential in protecting the consumption of the vulnerable and the poor. The largest cash transfer program, Samurdhi still misses a large proportion of the poor even though it covers more than 40 percent of the population. Also transfer amounts are small—the monthly average was a little above Rs. 90 (less than \$1) per capita in 2002.<sup>4</sup> More accurate targeting is likely to improve coverage among the poor and increase the amount of support per family to more meaningful levels, and the government is currently developing plans to improve targeting countrywide.

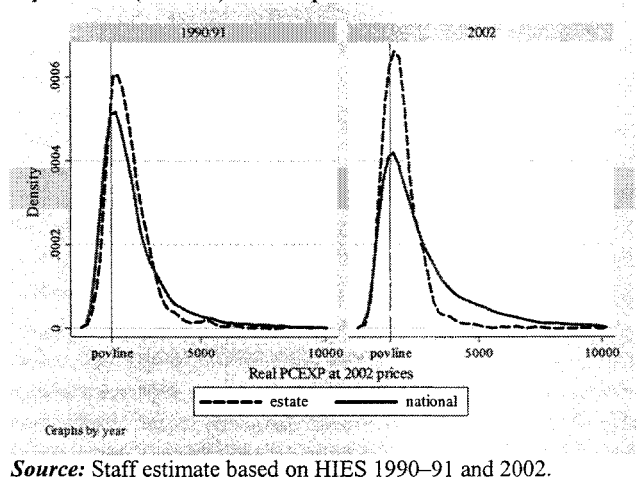
8. *Shocks affect those near the poverty line the most.* The tsunami that struck Sri Lanka on December 26, 2004 is likely to have worsened poverty outcomes. Although poverty numbers are not available for districts in the East hardest hit by the Tsunami on December 26, 2004, the average monthly per capita income before the tsunami in the East was close to that of the poorest provinces of Uva and Sabaragamuwa, so the impact of the tsunami is likely to have worsened poverty outcomes.<sup>5</sup> In the South, where poverty data is available, the tsunami-affected districts have higher poverty incidences than the national average—32 percent in Hambantota, 27 percent in Matara, and 26 percent in Galle.

9. *Growth performance is below potential.* Sri Lanka's growth performance has been below potential when compared with East Asian countries, especially given its early achievements in human development. Per capita income—comparable to that of many East Asian countries in the 1960s—is currently less than one-tenth of Korea's, one-fourth of Malaysia's, and one-half that of Thailand.

10. *Growth has been slower and income per capita substantially lower in regions outside Western Province.* Western Province fares better than the rest of the country in terms of human development outcomes, but these differences are *not* as sharp as the differences in growth and income, suggesting that factors *other* than the availability of human capital also play a role in constraining growth in lagging regions.

11. *Inequality is increasing.* In addition to disparities in growth between the Western Province and the rest of the country, the slow pace of poverty reduction in Sri Lanka is also linked to rising inequality among income groups. Average per capita consumption grew by 50 percent for the richest consumption quintile but by only 2 percent for the poorest quintile.<sup>6</sup> The Gini coefficient of per capita consumption in

**Figure 3: Distribution of real per capita monthly consumption expenditure (PCEXP) at 2002 prices**



**Source:** Staff estimate based on HIES 1990–91 and 2002.

<sup>3</sup> Sources of risk at the household level include sickness and death of a family member and unemployment at the household level. At the community level risks include drought, crop failure, and other natural disasters (World Bank 2006c, draft).

<sup>4</sup> Glinskaya (2000), using data from SLIS (1999–2000).

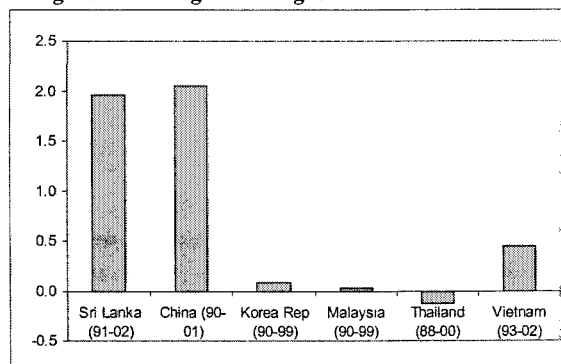
<sup>5</sup> CFSES 2003–04.

<sup>6</sup> World Bank staff calculations based on DCS HIES 1990 and 2002.

Sri Lanka (higher Gini indicates higher inequality) increased at an annual rate of 2 percent, much higher than for East Asian comparator countries with the exception of China (Figure 4). Thus, for every 1 percent annual growth in GDP per capita, the poverty headcount ratio declined by 0.4 percent in Sri Lanka, compared with 0.9, 1.4, and 2.6 percent in Korea, Vietnam and Thailand, respectively.

12. *Rising inequality hinders poverty reduction.* Had consumption distribution remained unchanged from 1990–91, the 30 percent growth in average consumption by 2002 would have reduced poverty by more than 15 percentage points nationally instead of the observed 3 percentage points. At the average rate of per capita consumption Gini increase of the past decade (2 percent annually) and continuing GDP growth at the average rate over the past two years (5.7 percent annually), the poverty headcount in 2015 is likely to be 15 percent, well short of the Millennium Development Goal of halving poverty between 2000 and 2015.<sup>7</sup> Sri Lanka will need to grow at 10 percent annually to achieve this target. If the Gini coefficient remains unchanged at the 2002 level, however, a 5.7 percent rate of annual GDP growth will be sufficient to reduce the poverty headcount to 8 percent by 2015.<sup>8</sup>

**Figure 4: Average annual growth of Gini coefficient**



**Note:** Gini coefficients of per capita consumption for China and Sri Lanka, of per capita income for other countries.

**Source:** China-Ravallion and Chen (2004); Korea-World Bank (2004a); Malaysia-Government of Malaysia (2001); Thailand, Vietnam-PovCalNet at the World Bank; Sri Lanka-HIES (2002).

## II. *The correlates of poverty: household characteristics and spatial factors*

13. Poverty is strongly associated with attributes of individuals/households such as education attainment, employment status, and family size. After individual differences are accounted for (in a multivariate regression of the probability of being poor), the likelihood of being poor also depends on a range of spatial factors, such as poor regional growth and employment opportunities, and the availability of infrastructure, such as roads and electricity.

### A. *Household and individual specific factors*

14. Larger households, especially those with children, are more likely to be poor.<sup>9</sup> Households with a member working abroad, however, have a significantly lower likelihood of being poor.

15. *The human development challenges that face Sri Lanka differ from those that face most developing countries.* Primary enrollment and literacy are near-universal in Sri Lanka. Similarly, basic indicators of health—fertility, infant and child mortality, immunization rates, life expectancy, and maternal health—are uniformly high across income groups. Good basic indicators in health correlate well with the high literacy of mothers in Sri Lanka.

16. *Low education attainment is strongly associated with poverty* (Figure 5). In 2002, well over 30 percent of households with heads with schooling up to and including grade 5 fell under the poverty line, compared with less than 10 percent for heads who completed at least grade 9. Regression analysis shows that a household is significantly less likely to be poor when the head has an education at the A-level and above.

<sup>7</sup> In case of Sri Lanka, since HIES was not conducted in 2000, the reference year is 2002.

<sup>8</sup> Assumes population growth rate of 1.2 percent. These projections are based on the approach proposed by Bourguignon (2003) to estimate growth elasticity of poverty under certain restrictive assumptions about the current distribution of consumption.

<sup>9</sup> Please note the per capita consumption measure is unable to account for economies of scale in consumption and age of family members, and therefore tends to underestimate the welfare of larger households.

17. *Disaggregated data on school enrollments show disparities among income groups.* Educational attainment is significantly lower among children of poor households. Net enrollment for grades 10–13 among the lowest income quintile (31 percent) is only one-half that of the richest quintile (60 percent) and the net tertiary enrollment rate for the lowest quintile (2 percent) is less than one-sixth that for the richest quintile (13 percent).

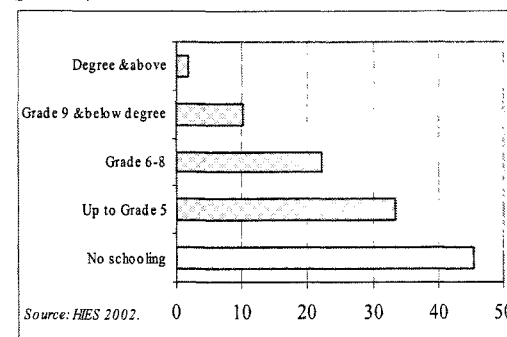
18. *The low quality of education acts as an additional handicap for the poor in remote areas.* Nationally, students display a low skill level in first languages, English, and mathematics, and these indicators are even lower for nonurban children. Absenteeism of teachers (about 20 percent nationally) is also higher in nonurban schools. The poor quality of education has led to a rapid increase in the use of private tutors, and another urban-rural and rich-poor gap: CFSES (2003–04) shows that private tuition is used less by nonurban children, and twice as often by students in the highest income quintile than those in the lowest quintile.

19. *Rich-poor gaps in health include low birthweight, malnutrition among preschool children, poor nutritional status of adult women, and incidence of communicable diseases such as tuberculosis and diarrhea.* Food availability, dietary awareness, and access to safe water and sanitation are often linked to income/consumption poverty (Table 1).

20. *Inadequacies in nutrition and education affect lifelong earnings and trap households in a cycle of low capability and poverty.* The higher incidence of poverty among the less-educated and the fact that the poor are less likely to participate in higher levels of education perpetuates the vicious cycle of poverty.

21. *The correlation between unemployment and poverty for the population as a whole is weak, but the presence of an unemployed youth is associated with a higher probability of the household being poor.* More than 75 percent of the unemployed are between 15 and 29 years of age.<sup>10</sup> Youth unemployment is especially high among school dropouts, who in turn are more likely to belong to poor households. A household is also more likely to be poor when at least one member is employed in an elementary occupation (mostly in the informal sector).<sup>11</sup> Since underemployment is often a feature in the informal sector, this finding supports the commonly held view that underemployment and poverty are closely linked. Individuals with lower education attainment tend to be employed in elementary occupations. Education is thus an important underlying factor linking labor market outcomes with poverty. Also, consistent with the pattern of agricultural stagnation discussed later, employment as an agricultural worker increases the likelihood of poverty.

**Figure 5: Poverty headcount by education attainment of household heads, 2002 (percent)**



Source: HIES 2002.  
Source: World Bank staff calculations using HIES 2002.

**Table 1: Health outcomes by wealth quintiles and sector (percent)**

| Quintile/<br>sector | Children<br>under-<br>weight | Children<br>w/<br>diarrhea | Women with<br>low body<br>mass index |
|---------------------|------------------------------|----------------------------|--------------------------------------|
| Poorest             | 47.4                         | 7.6                        | 37.3                                 |
| Richest             | 11.1                         | 4.5                        | 10.0                                 |
| Urban               | 17.8                         | 5.7                        | 12.7                                 |
| Rural               | 31.0                         | 7.8                        | 23.1                                 |
| Estate              | 45.7                         | 7.6                        | 47.7                                 |
| Sri Lanka           | 29.3                         | 7.3                        | 22.9                                 |

Source: Staff calculations using Sri Lanka DHS 2000. Refers to children aged 3–59 months.

<sup>10</sup> Nanayakkara (2004).

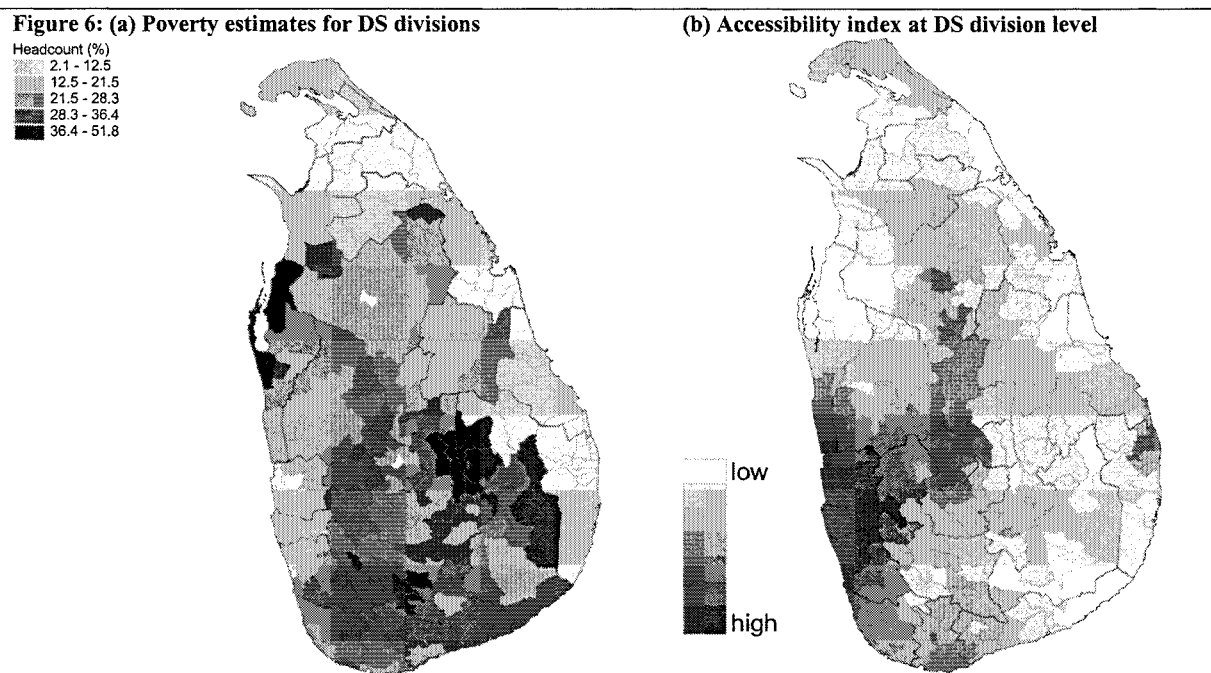
<sup>11</sup> Elementary occupations in the informal sector include wage labor in agriculture, fishing, mining and construction, street vendors, domestic helpers, and garbage collectors.



## B. Spatial or location-specific factors

22. *Spatial characteristics at the district and DS division levels emerge as strong correlates of poverty.* Households—identical in all characteristics—can have very different likelihood of being poor depending on where they are located. A household located in a DS division with the average characteristics of Colombo district is 7 percent more likely to be non-poor than a similar household in a DS division with the average characteristics of Monaragala district. This highly stylized example illustrates the uneven pattern of poverty incidence can be partly explained by the location of the household.

23. *Poverty is concentrated in areas where connectivity to towns and markets, access to electricity and average educational attainment are relatively low, and agricultural labor is an important source of employment.* Location attributes are highly correlated with each other, which indicate the many-sided nature of challenges faced by poor areas. Remote areas with poor connections to markets and cities are more likely to have lower access to electricity and lower average educational attainment.



*Note:* The accessibility index is calculated for every point as the sum of the population totals of surrounding cities and towns inversely weighted by the road network travel time to each town. This map shows the mean of the access values for all points that fall into a given DS unit. The index is a measure of potential market integration reflecting the quality and density of local transportation infrastructure, including 185 cities and towns in the analysis.

*Source:* Poverty map from DCS 2004; accessibility map based on staff calculations.

24. Multivariate analysis finds that *the probability of a household being poor falls by 2–3 percent with every unit increase in the accessibility index.* Figure 6 vividly portrays the association between the accessibility index (potential for market integration using distance and availability of roads from towns and markets) and poverty estimates at the DS division level, and is based on the poverty maps produced by DCS. The probability of being poor is also greater when the household is located in a district with a higher proportion of household heads with only primary education and with low electricity usage.

## III. The impact of internal migration—a consequence of rising regional inequality

25. *Migration offers upward economic mobility to those in economically marginal areas.* Migration can affect cross-regional inequality by shrinking wage gaps between regions as people move in response to wage differences, and promote development in lagging regions through remittances sent back to the

migrants' place of origin. However, migration can also perpetuate regional imbalances, for example when the more educated gravitate toward fast-growing cities.

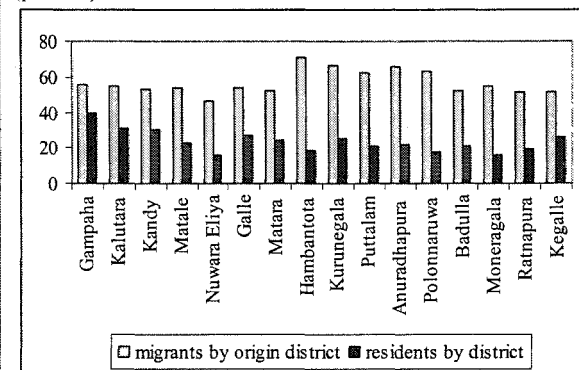
26. *Internal migration has almost doubled between 1996–97 and 2003–04 (from 15 to 29 per 1,000 households).*<sup>12</sup> The primary migration destination is Western Province, which includes the Colombo urban area. This trend is consistent with the expanding wage gap between Colombo and the rest of the country, even in elementary occupations (informal sector). The overall economic benefits of migration from rural and remote areas to Colombo are large and have increased over the past decade. In 2003–04, 81 percent of internal migration was by job seekers.<sup>13</sup> A substantial share of household consumption expenditure—around 26 percent—came from remittances in 2002 (using HIES 2002).

27. *Poverty incidence in the origin district is strongly associated with recent migration to Colombo.* Census (2001) indicates that a large number of migrants come from poorer districts and districts in the North and East. Thus poverty seems to act as a “push” factor inducing households from economically disadvantaged areas to migrate. However, migration is more likely to be undertaken by the better-educated. Figure 7 shows that average education among migrants is much higher than those in their district of origin. This indicates that the better availability of jobs in Colombo acts as a “pull” factor for educated or skilled workers from lagging regions.

28. *Migrants are also likely to be better-educated than long-term residents of Colombo.* Migrants to Colombo City are almost twice more likely to have tertiary-level education than nonmigrants already living in Colombo City. Similarly, the proportion of migrants working in elementary occupations is much smaller than that of nonmigrants. When the household head is a migrant, the household is also more likely to have good housing conditions and amenities. Therefore, urban poverty is *unlikely* to be a direct consequence of the rural poor flooding urban centers.

29. *Migration out of remote and lagging regions is more likely among the better-educated.* It is clear that improving education in remote areas can empower the poor with better choices to improve welfare. But over-agglomeration in Colombo created by the inflow of migrants is leading to congestion and infrastructure bottlenecks and limiting the potential for economic growth. Furthermore, strains on basic city services tend to be concentrated in already underserved settlements, thus reducing the welfare of the poor disproportionately. *Cross-country analysis on the relationship between economic growth and urban concentration* suggests the optimal “urban primacy” for Sri Lanka (the share of the main urban center of the country in total urban population) at 25 percent.<sup>14</sup> Estimates for urban primacy for the greater Colombo area is considerably above this level at 35–50 percent, putting the estimated “cost” of over-

**Figure 7: Share of household heads with tertiary education by origin district, 2001**  
(percent)



Note: Includes migrants to Colombo city only.

Source: WB staff estimates based on Census 2001.

<sup>12</sup> CFSES 1995–96 and 2003–04. These estimates are likely to understate migration, since migrants in these surveys exclude those who have migrated along with their entire household.

<sup>13</sup> CFSES 2003–04. Over the same period, external migration fell marginally from 63 to 60 per 1,000 households, but remittances from abroad grew at 11 per cent in 2003. This report focuses on internal migration because of its close link with widening regional inequalities within Sri Lanka, as well as the current lack of information on the impact of external migration. The latter will be analyzed in detail in an upcoming trade study for Sri Lanka.

<sup>14</sup> See Henderson (2000). There are many country-specific characteristics that significantly affect the relationship between urban primacy and economic growth, but are not necessarily incorporated in a cross-country exercise such as this.

agglomeration at more than 1 percentage point in annual GDP growth.<sup>15</sup> The development of alternate urban growth centers would better utilize the economic potential of migration to urban areas.

#### IV. Poverty in selected sectors and regions

30. Poverty is more prevalent in the estate and rural sectors and is likely to be a serious problem in the conflict-affected North and East. The unique circumstances in conflict-affected areas deserve special attention, especially as more empirical data for this region becomes available, although geographical coverage of household surveys remains incomplete. Poverty in the estate sector remains endemic and is related to issues that are specific to the sector, and thus worthy of special attention. The rural sector is home to most of the poor (88 percent), which implies that significant poverty reduction can only occur when key factors restricting incomes in this sector are addressed.

##### A. Social and economic conditions in the conflict-affected North and East

31. *Over two decades of conflict in the North and East have had far-reaching economic and social repercussions for the country.* Over 65,000 people have died, nearly a million citizens have been displaced, private and public properties and economic infrastructure have been destroyed, local economies and community networks have been disrupted, and health and educational outcomes have deteriorated. The macroeconomic impact of the conflict is estimated at 2-3 percent of GDP growth annually.<sup>16</sup>

32. *The conflict-affected regions lag behind the rest of the country in availability of economic infrastructure, access to financial services, and key human development outcomes.* Only 46 percent of the

population in North and East has access to safe drinking water, compared with 62 percent for the rest of the country, and less than one-half of households have access to water seal toilets (Table 2). In the North and East 26 percent of children had low birthweight compared with 18 percent for the rest of the country and 46 percent of children aged 3–59 months were underweight compared with 29 percent for the rest of the country.<sup>17</sup> The literacy rate in Eastern Province is the lowest for the country. Per capita incomes for Northern and Eastern provinces, however, appear similar to those for other provinces with the exception of Western Province, probably because significant inflow of remittances has safeguarded incomes to a certain degree (Table 2). These figures are, however, based on data that do not cover the entire North, including some of the likely poorest areas, and do not take into account spatial price differences that affect comparisons of incomes between provinces.

|               | Income<br>per capita<br>(Rs.) | Transfers<br>as share of<br>income | Literacy<br>(percent) | Access to<br>water seal<br>toilet |
|---------------|-------------------------------|------------------------------------|-----------------------|-----------------------------------|
| Western       | 6,603                         | 16                                 | 96                    | 90                                |
| Central       | 3,548                         | 17                                 | 89                    | 74                                |
| Southern      | 3,279                         | 18                                 | 93                    | 88                                |
| Northern*     | 3,741                         | 37                                 | 93                    | 46                                |
| Eastern       | 3,162                         | 24                                 | 87                    | 49                                |
| North-West    | 4,139                         | 20                                 | 94                    | 86                                |
| North-Central | 4,003                         | 15                                 | 93                    | 73                                |
| Uva           | 2,769                         | 14                                 | 88                    | 75                                |
| Sabaragamuwa  | 2,996                         | 14                                 | 92                    | 82                                |
| Sri Lanka     | 4,326                         | 18                                 | 93                    | 80                                |

\*Excludes Killinochchi, Mannar, and Mullaitivu.

Source: Central Bank of Sri Lanka (CFSES, 2003/04).

33. *The Cease-fire Agreement signed in February 2002 and subsequent cessation of hostilities spurred economic recovery in the North and East.* Real GDP growth in Northern Province increased four-fold to about 13 percent while that of the Eastern Province doubled to 10 percent from pre-cease-fire (1997–

<sup>15</sup> Given the limitations of a cross-country regression, this number is speculative. At the same time, it is a useful illustration of a broader point that Colombo urban area is overconcentrated, which in turn imposes economic losses on the country.

<sup>16</sup> Central Bank of Sri Lanka, Annual Report 1998.

<sup>17</sup> DCS 2004, Poverty Statistics for Sri Lanka; Central Bank of Sri Lanka, CFSES 2003–04.

2001) to post-cease-fire (2002–03) years.<sup>18</sup> Unemployment fell from 13 to 9 percent in the North and from 16 percent to 10 percent in the East from 2002 to 2004, while the national unemployment rate dropped only marginally from 8.8 to 8.3 percent.<sup>19</sup>

34. *Significant constraints to sustaining high growth in the North and East remain.* These include (i) poor availability and access to financial services, (ii) poor access and quality of economic infrastructure (roads, telecommunications, and water), (iii) time restrictions on the use of the A9 highway, (iv) fishing restrictions, (v) limits on mobility in certain areas such as Jaffna, and (vi) outmigration of the better-educated to the rest of the country or abroad. The tsunami of 2004, as mentioned above, is likely to have aggravated the poverty challenges in the hardest-hit Eastern Province.

35. *The cease-fire since 2002 has presented the North and East region with the longest semblance of normalcy and peace in recent years.* Initial studies have shown significant peace dividends for the North and East. The sustainability of growth in the region and prospects for significant poverty reduction will depend on whether durable peace is achieved and the institutional constraints mentioned above are addressed.

## **B. Poverty in the estates**

36. *The poverty headcount in the estates increased between 1990–91 and 2002 and is now 7 percentage points higher than the national average* (Figure 1). The story in the estates—home to only 5 percent of the country’s population—seems to be one of stagnation, rather than a drastic fall in welfare. A high concentration of consumption per capita within a narrow interval around the poverty line implies that small shifts can result in large swings in poverty, and the large increase in poverty headcount occurred due to a slight shift in the consumption distribution (Figure 3). A comprehensive Estate Household Survey and qualitative study were conducted to examine the determinants of estate poverty in depth and discern patterns among types of estates by size, location, type of crop (tea or rubber), and management (regional plantation company, privately owned and state owned). An Asset Index (AI) score was used as a proxy for household wealth.<sup>20</sup>

37. *Estate households with more earners and with better-educated household heads tend to be better-off.* Possession of National Identity Cards (NICs) among household heads is also associated with significantly lower AI-poverty rates, and those with NICs have better opportunities to earn outside the estates. Ownership of NICs is particularly low among youth (age 16–19), which is probably related to the degree of isolation of households and estates, and, in turn, their increased vulnerability to poverty.

38. *More than 40 percent of estate households rely solely on estate wages for earned income.* The AI-poverty rate is highest among households with wage incomes from only one source, be that within the estate or outside it. Regression analysis shows that while wage employment outside the estates is not associated with significantly higher welfare or earnings, households that receive income from enterprises tend to fare better.<sup>21</sup> Therefore, *diversifying to occupations beyond wage employment*—particularly to income from enterprises—is associated with higher welfare, a pattern that also holds for the rural sector (see below).

39. *The “ideal” diversified livelihood portfolio of an estate household would include remittances from household members working overseas.* Consistent with countrywide trends, estate households that receive remittances from overseas migrants tend to be better-off. Internal migration to urban areas, with or without remittances, does not seem to matter significantly for estate households’ wealth or AI-poverty.

<sup>18</sup> Peace Secretariat using CBSL data.

<sup>19</sup> DCS Labor Force Surveys (LFS) 2002 and 2004.

<sup>20</sup> AI-Poverty Rate is defined as the percentage of households whose AI scores lie below the 30th percentile. The 30th percentile was used since the poverty headcount for the estate sector is 30 percent.

<sup>21</sup> Enterprise incomes come from nonagricultural businesses and from sales of crops, livestock, and livestock products.

This is partly because the rationale for internal urban migration is not limited to short-term earnings, but rather includes the expectation of future opportunities, and access to networks and skills development.

40. *Higher poverty among estate households is associated with the remoteness or lack of useable year-round roads linking the estate to the nearest town.* Nearly 42 percent of estate households cannot use the road to the nearest town at all times of year. Another social factor that emerged from the Estate Survey was alcoholism. About 80 percent of estate respondents mentioned alcoholism as a problem, and 75 percent of community informants reported no improvement over the last 15 years. The increased availability of illicitly produced alcohol was perceived as aggravating the problem.

41. *No clear picture emerges as to why consumption poverty in the estates stagnated or worsened slightly over the past decade.* One trend in employment and diversification data for the period 1996–97 to 2003–04, consistent with higher poverty, is a fall in the average number of income earners in estate households (from 2.3 to 1.7 per household). This may reflect a growing dislike for estate work by youth. The qualitative survey found youth avoid estate work in favor of remaining unemployed until the right opportunity outside estates came their way.

42. *A majority of households interviewed in the Estate Survey reported an improvement in their household conditions in the last 15 years, despite the overall deterioration in the conditions of the estates.* This difference in perceptions is partly explained by the increasing role of nonestate employment among estate residents, which may partly de-link the condition of the estate from that of the household.

43. *Many aspects of health, education, and housing have improved in the estate; and this is also corroborated by the perceptions of respondents to the Estate Survey.* Nevertheless, the estates lag well behind the rest of the country on key indicators of health and education. For example, 37 percent of estate children are stunted compared with 14 percent of rural children; and 48 percent of estate mothers have low body mass index (BMI) compared with 23 percent of rural mothers (DHS, 2000). Qualitative interviews indicated dissatisfaction with the quality of health services. Access to hospital care is a serious concern in remote estates; survey respondents reported an average one-way travel time of more than an hour to the nearest hospital. Households perceived an overall improvement in access to education over the past 15 years, but the cost and quality of education and teacher shortages were frequently raised as concerns.

44. *Nearly 30 percent of the population in the estate sector is poor but only 13 percent of the households interviewed reported receiving cash transfers from government welfare programs.* The actual coverage rate in the estates contrasts sharply with the Samurdhi coverage rate for the rest of the country (40 percent). Coverage by other social programs—with the sole exception of sanitation—also appears to be low. Programs in childcare, early childhood development services, housing, training and awareness, and microcredit reach less than 15 percent of the households sampled in the Estate Survey.

45. *Poverty traps in the estate sector and remote, rural areas of Sri Lanka share many characteristics, including a lack of connectivity and access to infrastructure to lack of education.* Internal and external migration rates and participation in self-employment for the estates, although improving over time, are well below the rates for the rest of the country (CFSES). A long history of isolation of these communities has contributed to inadequate networks and mobility beyond the estates. Even when estate residents are able to find work in outside jobs or migrate to urban areas, the opportunities are limited due to lower education attainment.

46. *Qualitative analysis indicates that a root cause of persistence of poverty in the estates is the unique organizational structure of estates.* Historically, the estates have employed resident workers who originally came from a foreign country; and even today, much of the labor is provided by a resident workforce. The relatively unchanged estate organizational structure is found to contribute to a sense of marginalization, leads to isolation, and adversely affects economic decisions of households. The long-term future of the sector appears to be in moving away from resident labor structure and toward a

standard employer-employee relationship. For this to work, however, the commercial viability of estates has to improve to support higher labor productivity and wages.

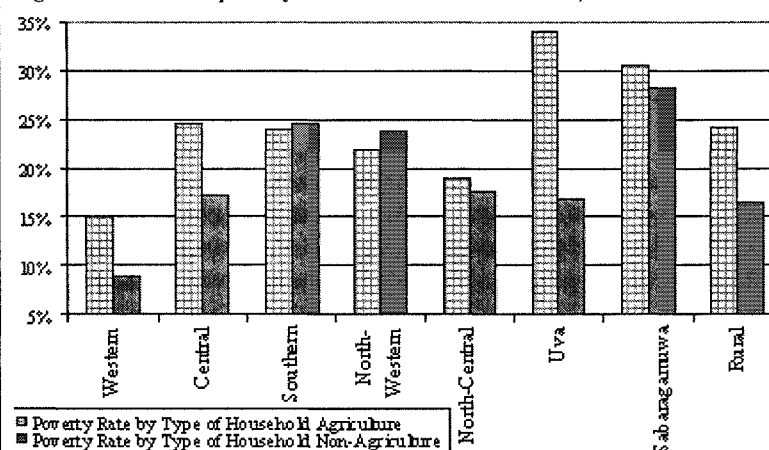
### C. The challenge of rural poverty

47. *Poverty reduction in the rural sector—home to 80 percent of the population and about 3.5 million of the country's poor—has been stymied by stagnation in the agricultural sector.* Nearly 58 percent of the rural population depends on agricultural, at least partially, for their livelihood.<sup>22</sup> Agriculture GDP growth slowed from 2.8 percent during the 1980s to 1.6 percent during the 1990s and to 0.9 percent during 2002–04, while national GDP has been growing annually by 5 percent since the 1990s.<sup>23</sup>

48. *Households dependent on agriculture tend to be poorer* (Figure 8). Nearly 24 percent of rural agricultural households are poor, compared with only 16 percent of nonagricultural households. In the poorest province of Uva, the poverty rate for agricultural households (34.3 percent) is double that for nonagriculture households (16.9 percent) (Figure 8), yet agriculture comprises 53 percent of GDP in Uva.

Even in Western Province, where agriculture makes up only 3 percent of provincial GDP, and where market access and economic infrastructure are substantially better than elsewhere, 15 percent of households engaged in agriculture are poor compared with 9 percent of those engaged in other activities (Figure 8).<sup>24</sup> According to CFSES (2003–04), the average monthly income of those engaged in agriculture is only 60 percent of that in industries and less than one-half of that in services.

**Figure 8: Provincial poverty rates within the rural sector, 2002**



Source: Staff calculations based DCS HIES 2002.

49. *HIES data shows skewed and limited improvement in incomes in rural areas, especially among agricultural households.* The poorest 7 percent of rural and 10 percent of agricultural households suffered a decline in real income between 1995–96 and 2001–02. Only 19 percent of agricultural households experienced an income increase greater than 10 percent. Raising agricultural productivity is therefore imperative for reducing rural poverty. Existing studies indicate that policies to ease farmer access to improved technologies and ensure sustainable use of water and adjustments in existing trade and land policies can facilitate higher productivity.<sup>25</sup>

50. *The growth of the rural nonfarm sector has significantly contributed to a reduction in rural poverty.* The nonfarm sector has become increasingly important in rural areas, generating 67 percent of rural employment in 2003. Nearly 52 percent of the average rural household's income came from nonagricultural wages and self-employment in nonfarm enterprises (HIES, 2002).<sup>26</sup> Even for households engaged in agriculture, the share of nonfarm income in their total income *exceeded* that of agricultural income. The relative importance of nonfarm income is higher for paddy farmers (probably because paddy

<sup>22</sup> DCS HIES 2002.

<sup>23</sup> Staff calculations based on data from Central Bank Annual reports, various years.

<sup>24</sup> Sectoral contribution to provincial GDP from Central Bank data (2004).

<sup>25</sup> See, for example, World Bank (2003) and World Bank (2004c).

<sup>26</sup> Of the estimated 620,000 rural nonfarm enterprises scattered throughout the country, most are in manufacturing (41 percent) or trading (38 percent). The average rural enterprise is a microenterprise employing about 2.4 workers including hired labor, family members, and the relatively young, with an age of about 9 years.

has lower value and its cultivation requires less labor days than most crops) and lower for farmers growing crops like tea, rubber, fruit, and vegetables. Among rural households owning and operating a nonfarm enterprise, the poverty rate is 13 percent, compared with 23 percent for households without a nonfarm enterprise. The monthly income per capita for households operating a nonfarm enterprise is 20 percent higher than households without such income.

*51. Limited employment expansion in the agricultural sector means that poverty reduction will critically depend on the rate at which the rural nonfarm sector can absorb workers from the growing labor force.*<sup>27</sup>

Major obstacles for rural nonfarm enterprises include poor transportation, problems with accessing finance and the cost of finance, access and quality of electricity, and marketing difficulties.<sup>28</sup> The high correlation of location-specific characteristics (like accessibility and electricity use) with the pattern of regional poverty in Sri Lanka (section II) reinforces this view. Addressing these constraints will improve opportunities for the estate population as well, since employment in enterprises is associated with higher earnings in the estates.

## **V. Concluding remarks**

*52. Poverty reduction has been slow due to widening inequalities among income groups and across regions, and because growth is concentrated in Western Province.* More inclusive economic growth will require easing specific constraints affecting particular sectors, regions, and groups, but priorities critical for all include improving the quality of education, access to infrastructure like electricity, connectivity to markets and urban centers, and access to finance for microenterprises. These improvements will expand opportunities for the poor and those in lagging regions in terms of moving to higher paying occupations, setting up or expanding microenterprises, or migrating to work in modern industries. Since many of these opportunities are created in the urban sector, poverty reduction will require better and simultaneous coordination between rural development strategies and urban planning and development.

*53. Policies to address poverty reduction must address multiple dimensions simultaneously.* The President's Manifesto—*Mahinda Chintana*—with its focus on improving the road network, access to electricity and access to finance outside Colombo is consistent with the needs of lagging areas and sectors identified in this report as drivers of change to accelerate growth and poverty reduction. Improving the *connectivity* of poorer and remote areas to markets will be particularly important, as illustrated by the resurgence of economic growth in the North and East following the opening of the A9 highway to Jaffna.

54. Table 3 summarizes key cross-cutting and sector/region specific findings along with their implications for the way forward in terms of policy priorities and knowledge gaps for future analysis. The analytical underpinnings for these conclusions are found in the chapters that follow.

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<sup>27</sup> In 2003, 82 percent of the total labor force of roughly 7.2 million workers was in rural areas, and nearly 106,000 people join the labor force every year.

<sup>28</sup> ADB and World Bank (2005).

**Table 3: Key findings, implications, and knowledge gaps**

| Main findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Way forward and knowledge gaps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <p><b><i>Basic facts about poverty and vulnerability</i></b></p> <ul style="list-style-type: none"> <li>• Poverty reduction has been slow during the past decade and uneven across sectors—rapid in the urban sector, but slow or stagnant in rural and estate sectors.</li> <li>• Poverty reduction has been dampened by rising inequality <i>between</i> as well as <i>within</i> sectors and regions.</li> <li>• High concentration of population around the poverty line suggests a sizeable <i>vulnerable</i> population at risk of falling into poverty in the aftermath of shocks.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><b><i>Cross-cutting issues associated with poverty and inequality</i></b></p> <p><i>Causes and impact of regional/spatial inequality:</i></p> <ul style="list-style-type: none"> <li>• Poor areas characterized by low connectivity to markets and towns, low availability of electricity and human capital. Largest gaps exist between Western Province and the rest of the country.</li> <li>• Migration into Western Province has increased rapidly in recent years due to rising gaps in economic opportunities.</li> <li>• A high proportion of migrants originate from poorer and conflict-affected districts.</li> <li>• The ability to migrate appears to be linked to education. Migrants in Colombo tend to be better-educated than nonmigrants at origin and destination.</li> <li>• Migration adds to the growth potential in the urban center. However, overagglomeration in the Colombo urban area can limit growth potential and reduce welfare due to increased costs of congestion and strain on services.</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p><i>Human development:</i></p> <ul style="list-style-type: none"> <li>• Basic welfare indicators (e.g., child and maternal mortality, primary and secondary enrollments) are generally high for both the poor and nonpoor. But rich-poor gaps exist along certain dimensions that can have lifelong effects on earnings, and perpetuate poverty across generations.</li> <li>• Poverty is associated with higher rates of malnutrition among women and children and lower education attainment; poor children are more likely to drop out and not be enrolled at grade 10 and above.</li> <li>• Quality of education, particularly outside urban areas, is an area of concern. The poor are especially affected, since they may not be able to compensate fully with private tuition.</li> </ul>                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>• Economic growth needs to be more inclusive of lagging regions and poor households. A better understanding of the patterns and causes of poverty requires representative household data for the entire country, including the North and East.</li> <li>• Current social welfare programs like Samurdhi perform well below their potential, primarily due to targeting problems.</li> <li>• A better targeting system (as currently being employed in two Northern districts) will improve the impact of Samurdhi programs.</li> <li>• Improving <i>connectivity of remote areas</i> to market centers and infrastructure availability.</li> <li>• International experiences suggest <i>investing in transport infrastructure</i> is effective to develop regional growth centers, when complemented by investments in key areas (e.g., access to finance and electricity). Further analysis is needed to identify the <i>comparative advantages</i> of specific investments and interventions to exploit those advantages</li> <li>• Improving education and skills in remote areas can enhance employment choices, including the ability to migrate.</li> <li>• Better urban planning and quality of urban services can help reduce the costs of overconcentration and mitigate its impact on the poor.</li> <li>• Reducing income poverty is likely to reduce malnutrition in the medium to long run. In the short term, nutritional outcomes will benefit from improving access to safe water and sanitation and nutritional awareness.</li> <li>• More analysis is needed to explain high dropouts among poor children. Key question: are dropouts explained by supply or demand side factors, or a combination of both?</li> <li>• The quality of learning could be improved by emphasizing English and information technology skills and ensuring teacher deployment to rural areas.</li> </ul> |



| Main findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Way forward and knowledge gaps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Region/sector specific issues</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p><i>Rural sector:</i></p> <ul style="list-style-type: none"> <li>• Poverty in rural areas is higher among agricultural households, due to stagnation in agricultural incomes during the past 10 years.</li> <li>• Rural nonfarm sector has become increasingly important for employment and incomes; and income from nonfarm enterprises appears to reduce poverty.</li> <li>• Given limited opportunities in agriculture, poverty reduction can be improved through growth of the rural nonfarm sector to absorb workers from the growing labor force.</li> </ul>                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Improve farmer access to technologies, trade, land and irrigation to help raise agricultural productivity.</li> <li>• Obstacles to growth and the start-up of new enterprises include access to and quality of energy and transport, as well as access to finance.</li> <li>• Improve access by rural entrepreneurs to markets and market information.</li> </ul>                                                                                                                                                                                                                                                         |
| <p><i>Estate sector:</i></p> <ul style="list-style-type: none"> <li>• Lags behind national averages in poverty rates and human development (e.g., malnutrition and educational attainment). In the estates the concentration of consumption around the poverty line is much higher than for the country as a whole.</li> <li>• Poverty is higher in estates that lack an all-season road to the nearest town. Not possessing a <i>NIC</i> is linked with higher poverty among households.</li> <li>• Income from outside enterprises and remittances from overseas migrants reduces poverty. But the ability of estate households to diversify their sources of income is low compared with the rest of the country.</li> <li>• Economic decisions and opportunities are adversely affected by marginalization from the mainstream, and the current organizational structure of estates.</li> </ul> | <ul style="list-style-type: none"> <li>• Improving connectivity to towns, coverage of National Identity Cards and quality of health and education services can help improve economic opportunities.</li> <li>• Increasing the coverage of Samurdhi transfers in estates can take many above the poverty line.</li> <li>• Expansion of coverage of social programs in microfinance and skills development can improve households' ability to diversify to other income activities.</li> <li>• More analysis is necessary to explore how to improve the commercial viability of estates, and move the structure toward a more standard labor arrangement.</li> </ul> |
| <p><i>Conflict-affected areas:</i></p> <ul style="list-style-type: none"> <li>• The conflict-affected North and East lag behind the rest of the country in economic infrastructure and key human development outcomes.</li> <li>• Remittances appear to have contributed to safeguarding income and consumption levels to a certain extent.</li> <li>• The cease-fire since 2002 has spurred enough economic recovery in the North and East to increase real GDP and reduce unemployment.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Removing constraints on the mobility of people and goods, such as on fishing and on hours of operation of the A9 highway, will yield significant economic benefits.</li> <li>• Filling knowledge gaps in the patterns and causes of poverty will only be possible with more complete and representative household data.</li> <li>• Sustainable peace remains a necessary precondition for sustained economic growth and poverty reduction in this region.</li> </ul>                                                                                                                                                      |



## 1. The Sri Lankan Economy in an International Context: Achievements and Challenges

1. Human development indicators for health and education in Sri Lanka are now almost on par with developed countries. Sri Lanka has already attained or is close to attaining the Millennium Development Goals (MDGs) of universal primary school enrollment, gender parity in primary and secondary school enrollment, and universal provision of reproductive health services well before the target year of 2015.<sup>1</sup>

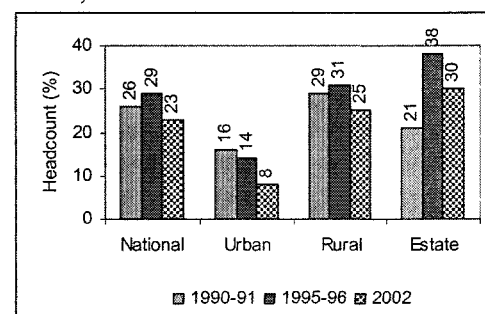
2. Improvements in nonincome dimensions of welfare, however, are not matched by improvements in income or consumption poverty. In 2002, 23 percent of the Sri Lankan population was poor, with per capita consumption expenditures below the national poverty line. Between 1990–91 and 2002, the poverty headcount rate declined by only 3 percentage points, well behind the pace of poverty reduction necessary to attain the Millennium target of halving poverty incidence by the target year of 2015.

### 1.1. Poverty trends in Sri Lanka, 1990–2002

3. The poverty headcount showed a modest decline from 26.1 percent in 1990–91 to 22.7 percent in 2002 (Figure 1-1). During this decade national poverty increased by almost 3 percentage points from 1990–91 to 1995–96, and then fell by more than 6 percentage points from 1995–96 to 2002.<sup>2</sup> These estimates exclude the conflict-affected North and East, since HIES data (the official source for poverty statistics in Sri Lanka) suitable for estimating poverty is unavailable for this region (see Chapters 2 and 7 for more details).

4. Economic growth during periods of poverty reduction was unevenly distributed, resulting in sharp increases in inequality between sectors and regions (see chapter 2 for a detailed analysis of poverty trends and pattern). Urban poverty halved between 1990–91 and 2002, rural poverty declined by less than 5 percentage points, and poverty in the estates increased by 50 percent (see Figure 1-1).

**Figure 1-1: Poverty headcount trends in Sri Lanka, 1990–2002**



Source: HIES for different years, using official poverty lines for Sri Lanka (data excludes North & East)

### 1.2. A cross-country comparison of poverty, growth, and inequality

5. Why has poverty reduction been slow and uneven across sectors and regions in Sri Lanka? Some aggregate (macro level) studies suggest that Sri Lanka has fallen substantially short of its income growth potential. When income growth for Sri Lanka is compared with the Republic of Korea, Malaysia, and Thailand this argument seems reasonable (Figure 1-2). In the 1960s, per capita income in Sri Lanka compared favorably with that of these three countries, but is currently less than one-tenth that of Korea, one-fourth that of Malaysia, and one-half that of Thailand. And China, which lagged far behind Sri Lanka in per capita income in the 1960s, recently overtook Sri Lanka after more than 10 years of extraordinary growth performance.

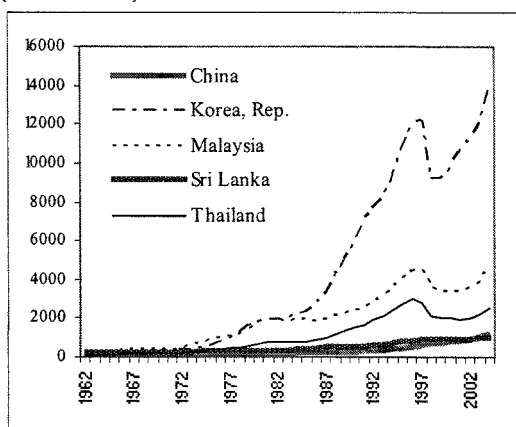
6. The UNDP's global Human Development Report 2005 shows that Sri Lanka's human development index, and its achievements in nonincome dimensions of welfare is among the

<sup>1</sup> See Annex 1, Table A-1.1

<sup>2</sup> Excludes the Northern and Eastern provinces.

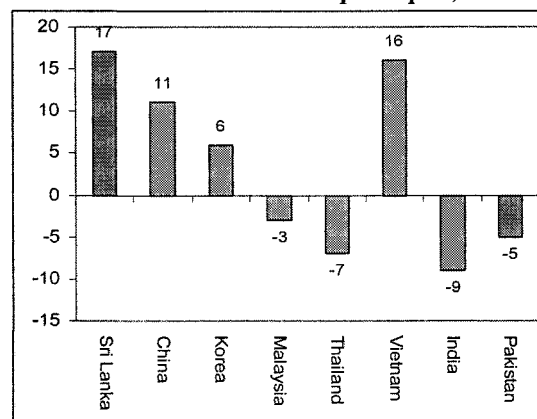
highest in developing countries, in sharp contrast to its rank in terms of GDP per capita. Sri Lanka's rank on GDP per capita minus that on Human Development Index (HDI) is larger than most East and South Asian comparators (Figure 1-3).<sup>3</sup> Since human development was an important prerequisite for East Asian countries' rapid growth during 1980s and 1990s, this indicator can be interpreted as further evidence that Sri Lanka has been unable to fully exploit its growth potential.

**Figure 1-2: GNI per capita, 1962–2002**  
(current US\$)



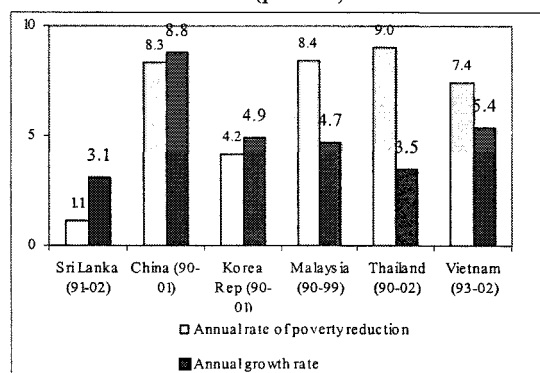
Source: World Bank, WDI (2005).

**Figure 1-3: The rank of Human Development Index minus the rank of GDP per capita, 2003**



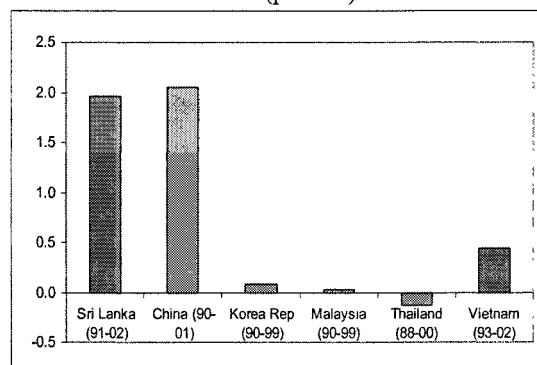
Source: UNDP, Human Development Report (2005)

**Figure 1-4: Annual rates of growth and poverty reduction in the 1990s (percent)**



Source: Real per capita GDP data:- World Bank, WDI, (2005a). Poverty headcount ratios: Sri Lanka:-DCS (2004); China:- Ravallion and Chen (2004); Korea:-World Bank (2004a); Malaysia:-World Bank (2004b); Thailand:-S. Jitsuchon (2004); and Vietnam:-Glewwe et al (2000) and Carolyn Turk (2005).<sup>4</sup>

**Figure 1-5: Average annual growth rate of Gini coefficient in the 1990s (percent)**



Note: Gini coefficients of per capita consumption for China and Sri Lanka, of per capita income for the rest.

Source: China-Ravallion and Chen (2004); Korea-World Bank (2004); Malaysia-Government of Malaysia (2001); Thailand, Vietnam-PovCalNet at the World Bank (various years); Sri Lanka-HIES (2002).

7. Per capita GDP of Sri Lanka grew at an annual average rate of 3 percent between 1991 and 2002 – healthy in absolute terms, but much lower than the rates at which the East Asian comparators grew in the 1990s in spite of the East Asian economic crisis (Figure 1-4). Furthermore, the rate of poverty reduction in Sri Lanka was slow even for the extent of growth

<sup>3</sup> The HDI is a composite index of life expectancy, adult literacy, school enrollment, and income per capita.

<sup>4</sup> Annual rates of poverty reduction are based on national poverty lines using household surveys. For Sri Lanka, 1991–92 and 2002 are used; for China and Thailand, 1990 and 2002; for the Republic of Korea, 1990 and 2001; for Malaysia, 1990 and 1999; for Vietnam, 1993 and 2002. Consumption is used for Sri Lanka, Vietnam, and China, while income is used for Korea, Thailand, and Malaysia. Annual rates of growth are computed using real per capita GDP.

that occurred. For every 1 percent annual growth in GDP per capita, poverty headcount ratio declined by 0.4 percent in Sri Lanka, compared with 0.9 percent in Korea, 1.4 percent in Vietnam, and 2.6 percent in Thailand (using Figure 1-4). These ratios must however be interpreted with caution since poverty headcounts are measured with reference to national poverty lines that are not comparable to each other.

8. The slow response of poverty reduction to economic growth in Sri Lanka is linked to rising inequality. Figure 1-5 indicates how inequality (measured by Gini coefficients) increased at the annual rate of 2 percent in Sri Lanka, which is much higher than its East Asian comparators, with the sole exception of China. As chapter 2 will lay out in detail, Sri Lanka witnessed widening intra- and inter-regional inequality during this period.

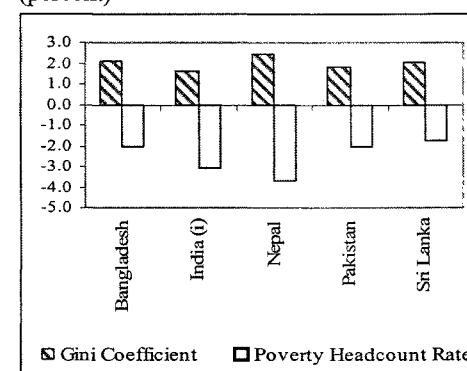
9. *A comparison with other South Asian countries* (see Figure 1-6) reveals that the average annual rate of poverty reduction in Sri Lanka was among the lowest in the region over the last decade. This is partly explained by the rate of increase in inequality (as measured by the Gini of per capita consumption) in Sri Lanka being among the highest in the region, exceeded only by Nepal's.<sup>5</sup>

10. *What are the obstacles to growth and poverty reduction in Sri Lanka?* Major obstacles cited in existing studies include the two-decade-long civil war; inadequate infrastructure, particularly in rural areas; political instability; a large fiscal deficit; the stagnant agricultural sector; and labor market rigidities caused by some of the existing labor regulations.

11. The next section uses cross-country comparisons to indicate areas where Sri Lanka currently lags behind other developing countries with rapid economic growth and poverty reduction. Five comparator countries, China, Korea, Malaysia, Thailand, and Vietnam, are selected since they enjoyed rapid economic growth and poverty reduction, even though they faced conditions comparable with Sri Lanka in 1960s. Since every country faces its own set of unique constraints to growth and poverty reduction, cross-country comparisons tend to be limited in terms of the insights they offer. The rest of this report focuses largely on identifying the country-specific factors critical for achieving poverty reduction and uses the cross-country comparisons to provide benchmarks against which the specific conditions prevailing in Sri Lanka can be evaluated.

12. Such international comparisons are feasible thanks to international databases such as the World Bank's World Development Indicators (WDI), Doing Business Survey, Investment Climate Survey, Human Development Indicators, and Asian Development Bank's key indicators. At the same time, the results using data across multiple sources and across different countries should be interpreted with caution since the data are not fully comparable across countries.

**Figure 1-6: Annual Growth Rate of Gini Coefficient and Poverty Headcount Rate (percent)**



Note: (1) Bangladesh (1992-2000); (2) India (1993/94 - 1999/2000); (3) Nepal (1995/96 - 2003/04); (4) Pakistan (2001/02 - 2004/05); (5) Sri Lanka (1991-2002)

Source: Various publications (see sources in Annex 1, Table A-1.2)

<sup>5</sup> See Annex 1, Table A-1.2 for detailed figures on Gini coefficients and poverty estimates.

### 1.3. Factors that limit growth and poverty reduction in Sri Lanka: insights from a cross-country comparison

13. What does a cross-country comparison tell us about the prospects for growth and poverty reduction in Sri Lanka? A few specific factors stand out—including those identified in the Development Policy Review of the World Bank (2004c).

#### Lack of economic growth outside Western Province

14. The growing urban-rural gap (Figure 1-1) is mirrored by *widening gaps in income and poverty* between Western Province and the rest of the country, since most of the country's urban population live in Western Province—where the country's largest city, Colombo, is located. Provincial GDP of Western Province grew by an average of 6.2 percent annually during 1997–2003, whereas that of the other provinces (excluding Northern and Eastern provinces) grew by 2.3 percent.<sup>6</sup> In 2002, Western Province accounted for about one-third of the country's population but contributed one-half of its GDP; as a result, poverty incidence in Western Province was 11 percent compared to the national average of 23 percent. The Colombo district accounts for much of Western Province's relative prosperity, with its large population, low poverty rate (6 percent), and much of the modern sector of the economy.

15. A higher trajectory for growth and poverty reduction in Sri Lanka would thus require improving growth prospects outside Western Province. While Western Province fares better than the rest of the country in terms of human development outcomes, these differences are not as sharp as those in growth and income, suggesting that factors *other* than the availability of human capital also play a role in constraining growth in these areas. Subsequent chapters of this report will analyze some of these limiting factors, which include stagnation in agriculture, lack of access to and poor quality of infrastructure and services, inadequate connectivity to markets, and lack of alternative markets or urban growth centers in lagging regions.

#### Stagnant agricultural sector

16. The lack of growth outside Western Province, areas that are predominantly rural, is in a large part due to stagnation in the agricultural sector (Table 1-1). The rural areas are home to 88 percent of the poor in the country, and 58 percent of the rural population depend at least partially on agriculture for their livelihood (see chapter 6). Agricultural productivity grew at an annual average rate of 0.5 percent, which was much lower than other East Asian countries as well as some South Asian countries like India and Pakistan.

17. Despite slow growth in productivity and the shrinking contribution of agriculture to national income over time, employment in the agricultural sector remained almost unchanged over the past decade (see chapter 2). Since agricultural production occurs mainly in rural areas and estates, stagnant productivity and limited opportunities for mobility away from the agricultural sector are closely related to the observed spatial patterns of poverty for the population that earn their living from agriculture. Subsequent chapters of this report will explore this relationship more closely.

**Table 1-1: Agricultural productivity growth, 1990–2000 (percent)**

|             |      |
|-------------|------|
| Sri Lanka   | 0.65 |
| China       | 3.51 |
| Korea, Rep. | 5.89 |
| Malaysia    | 1.62 |
| Thailand    | 1.35 |
| Vietnam     | 2.80 |
| India       | 1.13 |
| Pakistan    | 2.56 |

*Source:* World Bank, WDI (2005).

<sup>6</sup> Peace Secretariat using Central Bank Provincial GDP numbers.

## Inadequate infrastructure

18. The economic infrastructure in the country worsens the further one gets from Colombo, which is part of the reason for the lack of regional markets or alternative growth centers. In this Sri Lanka is not alone: many other South Asian countries experience similar constraints to economic activity.<sup>7</sup> Chapter 3 links access to infrastructure and the spatial distribution of poverty, but it is also useful to look at where Sri Lanka stands with respect to comparator countries in East Asia in terms of electricity and telephone service, and road networks (Table 1-2).

**Table 1-2: Selected infrastructure indicators, 2000–03**

| <i>Country</i> | <i>Access to electricity (2000) (percent)</i> | <i>Telephone mainlines per 1,000 people (2003)</i> | <i>Road density (km/sq. km) (1997–2002)</i> |
|----------------|-----------------------------------------------|----------------------------------------------------|---------------------------------------------|
| Sri Lanka      | 76 <sup>1</sup>                               | 49                                                 | 1.51                                        |
| China          | 99                                            | 209                                                | 0.19                                        |
| Korea, Rep.    | 100                                           | 538                                                | 0.88                                        |
| Malaysia       | 97                                            | 182                                                | 0.20                                        |
| Thailand       | 82                                            | 105                                                | 0.11                                        |
| Vietnam        | 36                                            | 54                                                 | 0.29                                        |

*Source:* World Bank, WDI (2005); <sup>1</sup>: 2003 figures from SBSL Annual Report (2004) (the figure for Sri Lanka was 64 percent in 2000 – according to WDI, 2005)

19. Access to electricity is more of a bottleneck in Sri Lanka than comparator countries in the region (World Bank, 2004c). The latest report from the Central Bank suggests that access to electricity has improved from 62 percent of the population in 2000 to 76 percent in 2003, which would still place it well behind all East Asian countries except for Vietnam. Sri Lanka also lags in terms of access to telephone mainlines, with only 49 telephone mainlines per 1,000 people. Since both industry and service sectors—critical fast growing sectors in Sri Lanka—rely on telecommunication network, the low penetration of telephones poses a challenge for the future.

20. The picture on road density is more complicated. Sri Lanka's road density of 1.5 km per 1 km<sup>2</sup> is high for a developing country, but a long history of poor road maintenance means access in remote areas is not as good as the density statistics might suggest. A recent World Bank study finds that only 10 percent of the road network is properly useable.<sup>8</sup> Aggregate figures also mask inequality in access to infrastructure within Sri Lanka, which tends to reinforce spatial inequalities in incomes and poverty, a theme that will be explored in chapter 3.

## Economic impact of the civil conflict and recent tsunami

21. More than 20 years of civil conflict has profoundly affected Sri Lanka's national economy, resulting in increasing economic and social disparities between the populations in the North and East and the rest of the country. The accumulation of public debt—at least partly a result of increased military expenditures in response to the conflict—has crowded out a range of propoor public services; although expenditures on health education were protected (at around 4 percent of GDP combined) as military expenditures expanded from 0.5 percent of GDP in the 1970s to 5-6 percent in the 1990s. According to World Bank (2005a), Sri Lanka's military spending was among the highest in the world at 5.3 percent of GDP, and more than 2 percentage points higher than that any of its East Asian comparators.<sup>9</sup> After the ceasefire treaty in 2002 military expenditures declined to a level comparable to China, Malaysia, and Korea.

22. The instability brought about by the civil conflict reduced investments and job creation. At the macro level, the Central Bank attributes 2 to 3 percent of annual GDP growth loss directly to the conflict.<sup>10</sup> An intangible economic cost is the energy and attention of policymakers diverted from needed economic reforms and policies, especially during 1983–89 when the government

<sup>7</sup> E.g., ADB and World Bank, Sri Lanka Investment Climate Assessment (2005).

<sup>8</sup> World Bank (2004c).

<sup>9</sup> See Annex 1, Table A-1.3

<sup>10</sup> Central Bank Annual Report (1998).

leadership was preoccupied with the war in the North and East and an insurrection in the South. A similar distraction from economic priorities is discernible during 1995–2001, when the civil conflict intensified. The conflict also prevented Sri Lanka from reaping the full economic benefits of liberalization that took place since 1977. The economy grew at an annual average rate of 4.4 percent during the conflict years of 1983–2001, compared to 4.6 percent during the preconflict years, 1964–82.

### Educational attainment

23. Educational attainment, universally considered a precondition for growth, is inversely correlated with poverty in Sri Lanka (chapter 3). Thanks to its long-term commitment to education, Sri Lanka exhibits high educational attainment at the primary and secondary levels. With gross secondary enrollment rates of 84 and 89 percent among males and females of secondary age, respectively, Sri Lanka actually outperforms many East Asian comparators (see Annex 1, Figure A-1.1). Primary school enrollment rates are near 100 percent in Sri Lanka, similar to most of the East Asian comparator countries.

| <b>Table 1-3: Gross tertiary enrollment rate, 1997–2003</b><br>(percent) |        |      |             |      |       |
|--------------------------------------------------------------------------|--------|------|-------------|------|-------|
|                                                                          | 1990   |      | Latest year |      |       |
|                                                                          | Female | Male | Female      | Male | Year* |
| Sri Lanka                                                                | 4      | 6    | 4           | 6    | 1997  |
| China                                                                    | 2      | 4    | 14          | 17   | 2002  |
| Korea, Rep.                                                              | 25     | 51   | 64          | 105  | 2003  |
| Malaysia                                                                 | 7      | 8    | 33          | 26   | 2002  |
| Thailand                                                                 | 19     | 18   | 42          | 36   | 2003  |
| Vietnam                                                                  | 1      | 3    | 9           | 11   | 2002  |

\* A year after a country name refers to the survey year used for computing female and male enrollment rates for the columns in latest year.  
**Source:** Asian Development Bank, Key Indicators (2005).

24. *Tertiary education* outcomes in Sri Lanka have lagged behind East Asian comparator countries, suggesting constraints in the availability of human capital. Gross tertiary enrollment rates for males and females were 6 and 4 percent, respectively, which is much lower than the rates in Korea, Malaysia, and Thailand (Table 1-3). The sharp rise in tertiary enrollment in East Asian comparator countries during the 1990s was not evident in Sri Lanka. In China and Vietnam, tertiary enrollment rates that were initially lower than Sri Lanka's in 1990 grew rapidly enough to surpass Sri Lanka's in 2002. Tertiary enrollments rates are the lowest for the poor in Sri Lanka; only 2 percent among the lowest income quintile. Conversely, the poverty incidence among graduates in Sri Lanka is only about 2 percent (estimated from HIES 2002).

### Foreign direct investment and export industry

25. The inflow of foreign direct investment (FDI) and exports and the technology transfers that come with it can raise the productivity of domestic industries, enhance their competitiveness, and amplify overall economic growth. Foreign direct investment in Sri Lanka has been significantly lower than that of China, Malaysia, Thailand, and Vietnam since the 1990s (Table 1-4).

| <b>Table 1-4: Net foreign direct investment, 1980s–2000s</b><br>(percent of GDP) |               |               |               |
|----------------------------------------------------------------------------------|---------------|---------------|---------------|
|                                                                                  | Average 1980s | Average 1990s | Average 2000s |
| Sri Lanka                                                                        | 0.75          | 1.29          | 1.15          |
| China                                                                            | 0.52          | 4.44          | 3.74          |
| Korea, Rep.                                                                      | 0.26          | 0.66          | 0.88          |
| Malaysia                                                                         | 3.18          | 5.89          | 2.64          |
| Thailand                                                                         | 0.97          | 2.55          | 2.06          |
| Vietnam                                                                          | 0.02          | 7.26          | 3.96          |

**Source:** World Bank, WDI (2005).

26. Studies on the East Asian “miracle” stress the role of exporting industries in transferring technology to these countries (World Bank, 1993). Sri Lanka's export-to-GDP ratio is comparable to China and Korea, and much higher than that of South Asian countries. However, it remains far behind Thailand, Malaysia, and Vietnam (see Annex 1, Figure A-1.2). Growth in exports as a share of GDP since 1990 has also been lower in Sri Lanka than in almost all the East Asian countries.



## Restrictive labor regulations

27. Some of Sri Lanka's labor regulations make dismissing formal sector workers overly difficult and costly, and this has constrained private investments and in turn job creation (World Bank, *Doing Business in 2006*). After Sierra Leone, Sri Lanka is the most expensive place in the world to dismiss permanent workers in terms of weeks of wages per employee, nearly double of that of any of the East Asian countries. Alternatively Sri Lanka is less rigid in other dimensions of the labor market, with almost no restrictions in hiring a new worker and only some degree of restrictions on changing working hours. The average of all three indices ranks Sri Lanka near the bottom in the comparator group, slightly less rigid than Vietnam, almost the same as Korea and much more rigid than China, Malaysia, and Thailand (see Annex 1, Table A-1.4).

28. These rigidities in the Sri Lankan labor market are likely to impede growth and employment generation in the formal sector, which has direct implications for poverty and inequality. In developing countries, where insurance markets and publicly provided safety nets are imperfect, protection for workers by law can be an important social safety net. Overprotecting workers, however, as is the case in Sri Lanka, is likely to stifle job creation in the formal sector and push workers into the informal sector, where earnings as well as job security are much lower. Such "informalization" of employment is therefore associated with poverty; it drives a wedge between the relatively privileged and protected workers in the formal sector and a vast informal sector labor force, which contributes to higher inequality. Evidence presented in chapter 3 depicts the vast difference between these two groups: the presence of a formal sector worker in a household *reduces* the likelihood of being poor in Sri Lanka by more than 8 percent, while that of an informal sector worker *increases* it by more than 6 percent (from Annex 3, Table A).

## Fiscal constraints

29. Sustainable fiscal performance is a cornerstone for any viable growth strategy. In 2003, the fiscal deficit in Sri Lanka exceeded 8 percent of GDP and the public debt stood at over 105 percent of GDP. Large interest payments significantly restrict productive spending. The ratio of interest payments to total revenues is around 45 percent in Sri Lanka, which is many times higher than that of its East Asian comparators (Table 1-5).

30. An international comparison of nominal and real lending interest rates for prime customers suggests the risk of a high fiscal deficit crowding-out private sector investment, which can hurt Sri Lanka's long-term economic development (Annex 1, Table A-1.5). On the positive side, the burden of large interest payments has had little impact on public expenditure for health and education as a percentage of total public expenditure, which remained almost unchanged since 1990. The ratio of public education and health expenditures to GDP is, however, significantly lower than in Korea, Malaysia and Thailand (Annex 1, Table A-1.6); and the current fiscal situation is a deterrent to achieving any further increases in these ratios.

**Table 1-5: Burden of interest payments, 2003 (percent of revenue)**

|                  |             |
|------------------|-------------|
| <b>Sri Lanka</b> | <b>45.3</b> |
| Korea, Rep       | 5.1         |
| Malaysia         | 10.5        |
| Thailand         | 5.8         |
| Vietnam          | 4.1         |

Source: CBSL (2005); World Bank WDI (2005).

## 1.4. Concluding remarks

31. This chapter has reviewed Sri Lanka's progress toward achieving poverty reduction, particularly in comparison with fast-growing countries in East Asia that have managed to reduce poverty rapidly. The evidence suggests that some of the constraints Sri Lanka faces are shared by these countries, albeit in varying degrees. There also appears to be a combination of constraining factors unique to Sri Lanka that limit growth and poverty reduction.

32. Economic growth in Sri Lanka has been stymied by a combination of factors, including the lack of urban centers other than Colombo, inadequate infrastructure, the adverse impact of the civil conflict on investment climate and size of public debt, a stagnant agricultural sector, lack of advanced skills in the labor force, and inefficiencies in the labor market. At the same time, and in spite of these obstacles, the Sri Lankan economy expanded by 45 percent in terms of per capita GDP and 30 percent in terms of per capita consumption during the past decade. The growth, however, has not translated into poverty reduction, primarily because it has been concentrated around Colombo and the neighboring districts, which has resulted in widening inequality across regions and sectors. The uneven nature of economic progress appears linked to stagnation in agriculture and differential access to critical infrastructure and markets. The report takes an in-depth look at the extent, nature, and causes of widening inequality.

33. Subsequent chapters present evidence on trends and patterns in intra- and inter-regional inequality, using household surveys and the population census, to identify interventions that will make economic development more inclusive. Chapter 2 analyzes the relationship between trends and patterns in poverty, inequality, and growth over the past decade. Chapter 3 focuses on understanding the nature and correlates of spatial distribution of poverty, with the aid of poverty maps and geo-referenced information on access to infrastructure, markets, and human capital accumulation.

34. Chapter 4 analyzes domestic migration and how people respond to the lack of economic opportunities in remote, rural areas and estates, and the implications for future growth and poverty reduction. It also looks at the significant economic costs of unequal patterns of regional development, including the high concentration of population in Colombo urban area. Mitigating such over-concentration, while expanding economic opportunities to potential migrants from poor areas, will require the growth of alternate economic hubs. Chapter 5 examines the human development challenges that limit the potential of the poor, including deficiencies in nutrition for children and women and educational attainment, found particularly among the poor in Sri Lanka.

35. Revitalizing the agricultural and the rural nonfarm sector will help the poor in rural areas the most. Chapter 6 draws the links between rural farm and nonfarm sectoral issues and poverty, and attempts to identify factors constraining productivity growth in the agricultural sector and limit the growth of the rural nonfarm sector.

36. Marginalized areas and groups must be drawn into the growth process to reduce poverty and close inter-regional growth gaps. Chapters 7 and 8 focus on two of these marginalized groups: the conflict affected areas and the estate sector.

37. While the civil conflict in Sri Lanka has had economy-wide effects, the most direct impact has been felt by the North and East, which have been largely unable to participate in the economic progress in the rest of the country. Chapter 7 attempts to understand how conflict and its aftermath—even though a ceasefire has held since 2002—is associated with the extent and nature of poverty on the ground. The estate or plantation population, which has historically suffered marginalization is especially vulnerable. Poverty in the estates can only be understood in the context of the unique set of economic, social, and political factors. Since this is beyond the scope of existing national household surveys, Chapter 8 draws on quantitative and qualitative surveys of estates, conducted for this report, to identify the nexus of factors limiting the economic potential of estate households.

## 2. Poverty, Inequality, and Vulnerability

1. Poverty reduction in Sri Lanka has been slow during the decade of 1990–91 to 2002. This is partly because of slow growth as described in chapter 1. Much of the growth bypassed the poor, and was geographically limited to Colombo and its neighboring districts—leaving 23 percent of Sri Lanka’s population living below the national poverty line.
2. A key challenge for Sri Lanka is both to increase growth and to ensure that growth is inclusive of lagging regions and sectors of the economy. This chapter presents past and present national and regional trends in patterns of poverty, drawing primarily from household surveys conducted over the last decade.
3. Given the large overlap between the poor and those vulnerable to the effects of an economic shock, the chapter will also include a brief discussion on the extent and nature of vulnerability in Sri Lanka and safety net programs to adequately protect them. Of course, the most significant aggregate shock to the country in recent times has been the tsunami in December 2004 and the vulnerabilities associated with its impacts,

### 2.1. Consumption poverty: trends and patterns

4. The national poverty headcount for Sri Lanka, which declined from 26.1 percent in 1990–91 to 22.7 percent in 2002, are estimates from an official poverty line recently developed to establish consistent trends across different rounds of the HIES (see Box 2-1). This period can be divided into two distinct phases: the first half of the decade (1990–91 to 1995–96) actually saw an increase in the poverty headcount of almost 3 percentage points, while the second half (1995–96 to 2002) saw a decline of around 6 percentage points. Other measures of poverty—namely depth (poverty gap) and severity of poverty (squared poverty gap)—show similar trends, resulting in a decline of around 9–10 percent between 1990–91 and 2002 (Table 2-1). The *conflict-affected North and East are excluded from these estimates*, since HIES data for this region was either unavailable (1990–91 and 1995–96) or incomplete (2002) due to security challenges that hampered data collection. The incomplete 2002 data was not suitable for estimating poverty for the North and East and comparing these with estimates for the rest of the country.

**Table 2-1: Poverty trends in Sri Lanka<sup>a</sup>**

|                     | Poverty headcount |             |             | Poverty gap (depth) |              |              | Squared poverty gap (severity) |              |              |
|---------------------|-------------------|-------------|-------------|---------------------|--------------|--------------|--------------------------------|--------------|--------------|
|                     | 1990–91           | 1995–96     | 2002        | 1990–91             | 1995–96      | 2002         | 1990–91                        | 1995–96      | 2002         |
| <b>National</b>     | <b>26.1</b>       | <b>28.8</b> | <b>22.7</b> | <b>0.056</b>        | <b>0.066</b> | <b>0.051</b> | <b>0.018</b>                   | <b>0.022</b> | <b>0.016</b> |
| Urban <sup>b</sup>  | 16.3              | 14.0        | 7.9         | 0.037               | 0.029        | 0.017        | 0.013                          | 0.009        | 0.005        |
| Rural               | 29.4              | 30.9        | 24.7        | 0.063               | 0.072        | 0.056        | 0.020                          | 0.025        | 0.018        |
| Estate <sup>c</sup> | 20.5              | 38.4        | 30.0        | 0.033               | 0.079        | 0.060        | 0.009                          | 0.025        | 0.018        |

*Note:* a. Based on official poverty lines Rs. 1423, Rs. 833 and Rs. 475 for 2002, 1995–96 and 1990–91, respectively. The official poverty line is derived using “cost of basic needs” method on 2002 HIES data, and deflated by Colombo CPI to obtain nominal lines for other years.

b. Urban-rural classification of areas is different between HIES 1990–91 and HIES 1995–96 onward. These do not affect national trends; but the sectoral (urban and rural) trends need to be cautiously interpreted.

c. Comparability of estate headcount for 1995–96 with that for other years may be affected by the fact that HIES in was sampled differently for the estate sector.

*Source:* HIES for relevant years, using official poverty lines (DCS); excludes North & East

5. The gap in poverty incidence between the urban sector and the rest of the country widened from 1990–91 to 2002. Urban poverty halved, rural poverty declined by less than 5 percentage points, and the poverty headcount in the estate sector increased by about 50 percent over the

decade (all statistically significant changes).<sup>1</sup> In the first half of the decade, the rise in national poverty was driven entirely by a rise in rural and estate poverty, while urban poverty actually declined. In the second half, the reduction in national poverty was driven by a decline in all 3 sectors. Thus while urban poverty has shown a falling trend all through the period, poverty in rural areas and estates spiked in the middle year, which contributed to a smaller net decline in poverty over the decade for these sectors.

**Box 2-1: Establishing official poverty lines**

Poverty analysis cannot establish statistically robust trends and patterns without a well-defined poverty line. Poverty studies in the 1990s were based on different poverty lines, so there was no consensus on cross-regional patterns and the time trends. A consultative approach was adopted by the Department of Census and Statistics (DCS) in 2004, involving various stakeholders within the country as well as donor organizations, to determine and adopt a nationwide baseline.

The new official national poverty line is set at Rs. 1,423 per capita per month at national median prices of year 2002 and a nutritional anchor of 2030 kilocalories per person. This calorie level is the national average of daily requirement, weighted by gender and age of the population. The rupee amount was calculated using the cost of basic needs approach, and represents the total monthly amount an individual would need to spend on food and nonfood items to achieve the calorie minimum. To ensure that the poverty line across different survey rounds represent the same level of purchasing power, it is adjusted by appropriate price indices. As a result, the line is equivalent to Rs. 475 at current prices of 1990–91 and Rs. 833 at prices of 1995–96. Subsequently, taking into account such spatial differences in price (obtained from the HIES), the national poverty line was translated into district-specific lines (e.g., equivalent to Rs. 1537 at the Colombo district prices of year 2002; Rs. 1338 at the Hambantota district prices of year 2002).

It is worth noting that *no district in the Northern and Eastern Provinces is used for setting the official poverty line due to lack of reliable data from this region*. Information to calculate poverty lines for these districts must await the full round of the next HIES, which is expected to cover this region, security conditions permitting.

*Source:* DCS, Official Poverty Line Bulletin (2004).

6. The one caveat to interpreting the urban and rural poverty estimates is the classification of urban and rural areas, which changed between HIES 1990–91 and HIES 1995–96. The Town Council areas considered as urban in HIES 1990–91 were re-classified as rural in the later two rounds.<sup>2</sup> As a result, the estimated proportion of urban population fell by around 7 percentage points from HIES 1990–91 to HIES 1995–96 and stayed almost constant from 1995–96 to 2001–02. While this suggests caution in interpreting the magnitude of changes in rural and urban poverty from 1990–91 to the later years, this change has minimal implications for the main conclusion that urban poverty has fallen dramatically while rural poverty has been relatively stagnant. The estimates reported below for provinces and regions, the definitions or boundaries of which have *not* changed between surveys, also support this conclusion. Poverty in Western Province (WP) where Colombo is situated (Figure 2-1), which constitutes a large part of the urban sector—irrespective of whether pre or post-1995–96 definitions are used—more than

<sup>1</sup> Note that because the estate sector comprises of a relatively small part of the population, the HIES sample yields poverty estimates with a higher degree of “error.” However, *the fall in national, urban and rural poverty headcount and the rise in estate poverty headcount between 1990-91 and 2002 were all statistically significant at 5 percent level* (Annex 2, Figure A-2.1).

<sup>2</sup> This implies that the definition of “urban” in 1990–91 HIES included Urban, Municipal and Town Councils, whereas that in 95-96 and 2002 HIES included Urban and Municipal Councils only.

halved between 1990–91 and 2002, while poverty reduction in predominantly rural districts has been minimal.<sup>3</sup>

7. The most recent national household survey for Sri Lanka, CFSES 2003–04, is an entirely different survey with differences in modules and field methodologies from the HIES, so that consumption estimates from the two surveys are not comparable. Moreover, since the official poverty line was estimated on HIES data, it cannot be applied to data from CFSES without careful adjustments. At the same time, comparisons of consumption means and inequality measures between two rounds of CFSES—1996–97 and 2002—offer some indications about the most recent economic status of households (see Section 2.2 below).

### Regional differences in poverty incidence and trends

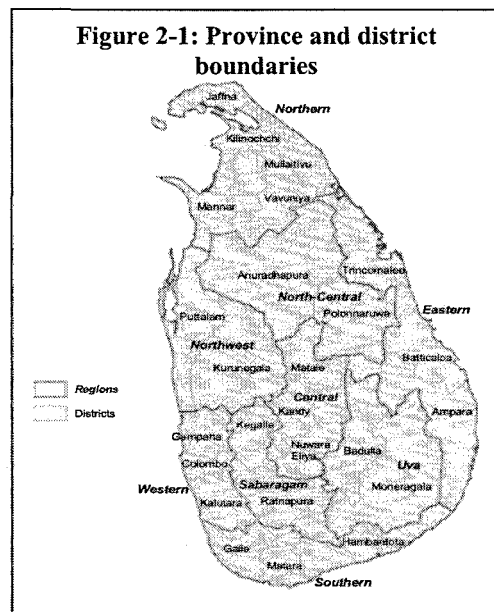
8. Sharp differences in poverty incidence across sectors are mirrored by regional patterns (Table 2-2). Poverty incidence was only 11 percent in WP in 2002, and the poorest provinces of Sabaragamuwa and Uva had headcount poverty rates of around 35 percent. WP accounts for about 33 percent of the population but only 16 percent of the poor. Uva and Sabaragamuwa together are home to 18 percent of the population and 29 percent of the poor.<sup>4</sup>

9. Most recent consumption data (CFSES 2003–04) indicates per capita consumption

**Table 2-2: Poverty and population share by province, 2002**

|               | <i>Percent of population</i> | <i>Poverty headcount (percent)</i> | <i>Percent of poor</i> |
|---------------|------------------------------|------------------------------------|------------------------|
| Western       | 33                           | 11                                 | 16                     |
| North-Central | 7                            | 21                                 | 6                      |
| Central       | 15                           | 25                                 | 16                     |
| Northwest     | 13                           | 27                                 | 16                     |
| Southern      | 14                           | 28                                 | 18                     |
| Sabaragamuwa  | 11                           | 34                                 | 17                     |
| Uva           | 7                            | 37                                 | 12                     |

Source: WB staff calculations using HIES (2002).



expenditure for WP to be more than double that for Uva and Sabaragamuwa, with the other provinces in between (Annex 2, Figure A-2.3). The differences between North-Central, Central, and Southern provinces are negligible, while Northwest Province has significantly higher consumption. These patterns track the HIES 2002 results and are broadly consistent with poverty patterns seen in Table 2-2.

10. Poverty incidence varies even more between districts (Table 2-3). In 2002, while Colombo district had a poverty headcount of 6 percent, 37 percent of the population of Badulla and Monaragala in Uva province lived below the poverty line. In 2002, poverty headcount rate in only 5 out of the 17 districts for which data are available (covering 41 percent of the population) was at or below the national headcount, indicating that the national poverty numbers mask much higher poverty rates in large parts of the country.

<sup>3</sup> Colombo district and WP accounted for 13 and 33 percent of the country's urban population, respectively, in 2002, and 13 and 30 percent in 1990–91.

<sup>4</sup> The share of total population by province remained fairly stable over the decade, with the share of Western Province increasing by about 2 percentage points, while those for Southern, Northwest and Sabaragamuwa declined slightly (by 1 percentage point or less)

11. **Growing regional gaps.** The rate of poverty *reduction* also varies widely across districts (Table 2-3 and Figure 2-2). Between 1990–91 and 2002, poverty declined substantially in the three districts in WP (by 27–63 percent); and in Kandy, Anuradhapura, and Galle (by 13–31 percent) that include smaller urban areas. In comparison, the headcount remained unchanged or *increased* in 9 districts, including four that registered increases of 10 percent or more (Ratnapura, Nuwara Eliya, Badulla and Puttalam).

**Table 2-3: Poverty headcount by districts (percent)**

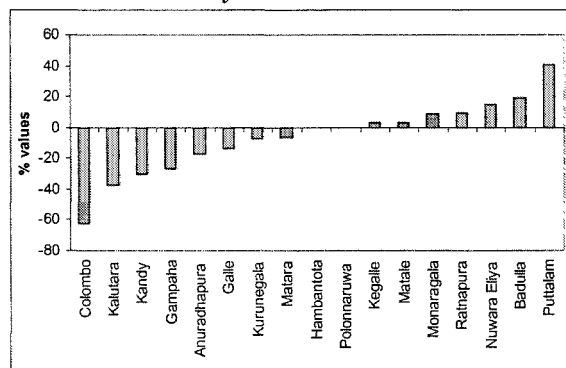
|           | Western |         |          | Central |        |              | Southern |        |            | North-West |          | North-Central |             | Uva     |            | Sabara-gamuwa |         |
|-----------|---------|---------|----------|---------|--------|--------------|----------|--------|------------|------------|----------|---------------|-------------|---------|------------|---------------|---------|
| District: | Colombo | Gampaha | Kalutara | Kandy   | Matale | Nuwara Eliya | Galle    | Matara | Hambantota | Kurunegala | Puttalam | Anuradhapura  | Polonnaruwa | Badulla | Monaragala | Ratnapura     | Kegalle |
| 1990–91   | 16      | 15      | 32       | 36      | 29     | 20           | 30       | 29     | 32         | 27         | 22       | 24            | 24          | 31      | 34         | 31            | 31      |
| 1995–96   | 12      | 14      | 29       | 37      | 42     | 32           | 32       | 35     | 31         | 26         | 31       | 27            | 20          | 41      | 56         | 46            | 36      |
| 2002      | 6       | 11      | 20       | 25      | 30     | 23           | 26       | 27     | 32         | 25         | 31       | 20            | 24          | 37      | 37         | 34            | 32      |

Note: Districts in the Northern and Eastern provinces are excluded since no data are available from HIES.

Source: HIES 1990–91, 1995–96, and 2002 (DCS).

12. When districts are ranked by poverty headcount, the ranking of only 3 out of 17 districts changed by more than 5 places over the decade (Annex 2, Table A-2.1). In other words, districts that were better-off in 1990–91 tended to retain that advantage in 2002. Colombo, Gampaha, and Anuradhapura, which were among the five least poor districts in 1990–91, were also in the top five in poverty *reduction* between 1990–91 and 2002. Conversely, Hambantota, Monaragala, Ratnapura and Kegalle, which were among the six poorest districts in 1990–91, had an increase or no change in poverty. Kandy and Kalutara districts are the exceptions to this pattern being among the poorest districts in 1990–91 and the top five in terms of poverty reduction. Overall, *gaps between poorer and less poor districts widened during 1990–91 to 2002*, and the results in section 2.2 also support this finding.

**Figure 2-2: Percent change in headcount between 1990–91 and 2002 by district**



Source: HIES (1990–91 and 2002).

| <b>Table 2-4: Share of each province in GDP</b> |      |      |      |
|-------------------------------------------------|------|------|------|
| Province                                        | 1990 | 1996 | 2002 |
| Western                                         | 40.2 | 43.7 | 48.1 |
| North-Central                                   | 4.8  | 4.6  | 3.9  |
| Central                                         | 12.1 | 10.0 | 9.4  |
| Northwest                                       | 11.1 | 11.3 | 10.1 |
| Southern                                        | 9.5  | 9.0  | 9.7  |
| Sabaragamuwa                                    | 8.1  | 9.0  | 6.9  |
| Uva                                             | 8.1  | 5.1  | 4.3  |

Note: Excluding Northern and Eastern provinces  
Source: Dept. of National Planning.

13. Growing regional differences are also seen from consumption expenditures of provinces from CFSES data and provincial GDP trends. Per capita real consumption grew at an average annual rate of 3.6 percent in WP between 1996–97 and 2003–04 compared with 1.2 and –0.4 percent in the Uva and Sabaragamuwa, respectively. Northwest Province was the only anomaly: in spite of being one of the poorer provinces in 1996–97, per capita consumption grew at the highest average rate of 5.5 percent annually. As WP's share in national GDP increased from 40 percent in 1990 to 48 percent in 2002, the shares of all other provinces, with the

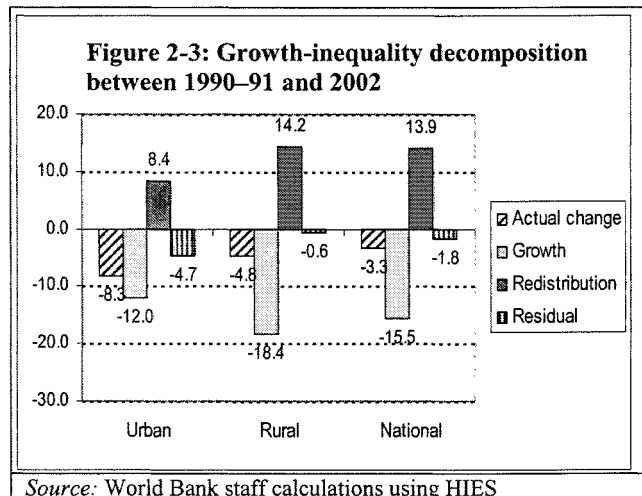
exception of Southern, declined (Table 2-4). The share of Uva, the poorest province, in GDP halved during this period. Uva and Sabaragamuwa together accounted for only 11 percent of the GDP in 2002, and 18 percent of the population.

## 2.2. Poverty, growth, and inequality

14. The pattern of poverty reduction during the last decade occurred during a period of reasonable growth in the national average consumption expenditures, particularly during the second half of the decade, along with a significant skewing of the distribution of consumption.<sup>5</sup> A clear trend of rising inequality over time occurred during periods of low as well as high growth.

### Linking growth and distributional changes to poverty trends

15. The relationship between poverty reduction, growth in consumption, and changes in inequality can be quantified by a growth-inequality decomposition of change in poverty headcount. The so-called growth effect between selected years measures the simulated impact of the increase in *average* per capita consumption on poverty headcount (keeping the distribution unchanged from the initial year), while the redistribution effect measures the simulated impact on headcount of the change in the *distribution* of per capita consumption (keeping the mean unchanged from the initial year).<sup>6</sup>



16. This exercise done for Sri Lanka for the period 1990-91 to 2002 shows that if inequality had not increased, a significantly greater reduction in poverty would have been achieved as a result of the growth in mean per capita consumption (Figure 2-3). With no change in distribution from that in 1990-91, the rise in mean consumption (of about 29 percent) would have been enough to reduce poverty headcount by more than 15 percent nationally between 1990-91 and 2002 (by 12 and 18 percent in urban and rural areas, respectively), instead of the observed reduction of only 3 percent (8 and 5 percent in urban and rural areas, respectively).

### How was growth in per capita consumption distributed?

17. National mean per capita consumption increased by 29 percent in real terms from 1990-91 to 2002 – an annual average growth of 2.3 percent. This increase was unevenly distributed—50 percent for the top quintile, 25 percent for the 4<sup>th</sup> quintile, and 2 and 6 percent for the 1<sup>st</sup> and 2<sup>nd</sup> quintiles, respectively. Mean consumption increased by 47 and 33 percent in urban and rural sectors, respectively, and fell by 6 percent in the estate sector (from Table 2-5). Gini coefficients of per capita consumption also increased between 1990-91 and 2002, by 25 percent nationally, and 15, 35, and 18 percent for urban, rural, and estate sectors, respectively (Table 2-6).

18. The modest reduction in national poverty during 1990-91 to 2002 was the net effect of increases in consumption inequality *and* average consumption. This is also apparent from looking

<sup>5</sup> For comparable years (HIES 1995-96 and 2002 only, since incomes for 1990-91 are not comparable), the trends and patterns in per capita *income* inequality are similar to that for per capita expenditure (see Annex 2, Table A-2.2).

<sup>6</sup> See Datt and Ravallion (1992) for details.

at the full distribution of per capita consumption for the two years (see Annex 2, Figure A-2.1). Moreover, the cumulative distribution of per capita consumption suggests that no matter where the poverty line is drawn, the proportion of population below the poverty line was lower in 2002 than in 1990–91.

19. Over this period, poverty declined slower in the rural sector than in the urban sector due to a greater increase in inequality *as well as* lower growth in rural areas. Poverty increased in the estate sector due to a rise in inequality as well as negative growth in mean per capita consumption.

20. The two interim periods—1990–91 to 1995–96 and 1995–96 to 2002—are quite different (Table 2-5 and Table 2-6). National mean per capita consumption grew by 3 percent *from 1990–91 to 1995–96*, with only the top 2 quintiles experiencing growth. Mean consumption increased by 12 and 6 percent for urban and rural areas, respectively, and fell for the estate sector. The Gini coefficient increased by 3 percent for the urban sector and 14 percent for the rural sector, and fell for the estates. These numbers are consistent with the rise in rural and estate poverty and the small decline in urban poverty during this period.

21. In contrast, *from 1995–96 to 2002*, national mean per capita consumption grew by 26 percent. Consumption of the top and 4<sup>th</sup> quintiles grew by 39 and 21 percent, respectively, and that of the bottom two quintiles by 8–10 percent. Mean per capita consumption increased by 31, 26, and 18 percent for urban, rural and estates, respectively. The Gini coefficient also increased significantly, by 14 percent nationally and 10, 18, and 30 percent for urban, rural and estate sectors, respectively.

22. Thus, inequality overall, as well as for all sectors, *rose faster during the period of higher growth*, namely 1995–96 to 2002 than from 1990–91 to 1995–96. The poverty decline during the later period in all the sectors is *entirely due to faster growth*, which compensated for the adverse impact of rising inequality.

23. **More recent trends from CFSES.** The HIES trends from 1995–96 to 2002 are fairly consistent with those from the CFSES, although the two are different surveys and the latter measures changes *from 1996–97 to 2003–04* (see CBSL, 2003–04). Over this period, mean per capita expenditure increased by 18 percent for the country, and 21, 19, 4 percent for urban, rural, and estate sectors, respectively (Table 2-7). A sharp increase in inequality was also seen for all sectors,

**Table 2-5: Mean per capita consumption**  
(Rs. at constant 2002 prices)

| Consn. quintiles | 1990–91      | 1995–96      | 2002         |
|------------------|--------------|--------------|--------------|
| Q1               | 1,045        | 991          | 1,068        |
| Q2               | 1,499        | 1,445        | 1,596        |
| Q3               | 1,909        | 1,881        | 2,168        |
| Q4               | 2,489        | 2,578        | 3,117        |
| Q5               | 4,871        | 5,274        | 7,325        |
| <b>National</b>  | <b>2,363</b> | <b>2,434</b> | <b>3,055</b> |
| Urban            | 3,168        | 3,556        | 4,667        |
| Rural            | 2,154        | 2,278        | 2,865        |
| Estate           | 2,103        | 1,685        | 1,985        |

Source: HIES 1990–91, 1995–96, 2002

**Table 2-6: Inequality: Gini coefficient of per capita expenditure**

|          | 1990–91 | 1995–96 | 2002 |
|----------|---------|---------|------|
| Urban*   | 0.37    | 0.38    | 0.42 |
| Rural*   | 0.29    | 0.33    | 0.39 |
| Estate   | 0.22    | 0.20    | 0.26 |
| National | 0.32    | 0.35    | 0.40 |

Source: HIES 1990–91, 1995–96, 2002 and CCPI.

**Table 2-7: Growth in mean per capita real consumption, 1996–97 to 2003–04**

| Sector | % annual growth rate | % total change |
|--------|----------------------|----------------|
| Urban  | 2.7                  | 20.5           |
| Rural  | 2.4                  | 18.1           |
| Estate | 0.5                  | 3.6            |
| All    | 2.4                  | 18.1           |

Source: CFSES Report (2003–04); Table 8.3.



using per capita income figures.<sup>7</sup> Aggregate growth for the bottom income quintile of every sector was 4 percent or less, compared to 25–26 percent for the top quintile (Table 2-8). The Gini for per capita income increased by 9, 8 and 26 percent for urban, rural and estate sectors respectively.

24. Thus, for rural and urban sectors, both surveys show rapid growth in average consumption, with the gains heavily skewed toward the upper end of the distribution. For the estate sector, however, the CFSES rounds show negligible consumption growth and a large increase in income inequality; the HIES finds a sizeable increase in mean consumption and some increase in inequality, with a net result of sizeable reduction in poverty.<sup>8</sup>

25. **Growth incidence curves.** While trends in Gini coefficients and mean consumption levels by quintiles presented above hint at unequal distribution of growth across the population, a more precise picture emerges from using growth-incidence curves (GICs) (Annex 2, Figure A-2.4).<sup>9</sup> These confirm that while growth in consumption had a poverty-reducing effect between 1990–91 and 2002 in both rural and urban sectors, the benefits accrued disproportionately among the better-off.

26. Between 1990–91 and 2002, growth in per capita consumption was negligible (below 1 percent) for the bottom 40 percent and sizeable for the top 20 percent of the *rural* population. A similar pattern is seen for the period between 1995–96 and 2002, although the gains in absolute terms were higher for all groups, consistent with a larger reduction in rural poverty during this period. The GIC for per capita income for the same period also shows similar results (Annex 2, Figure A-2.5). Between 1990–91 and 1995–96, consumption *fell* for the lower 50 percent of the rural consumption distribution, which explains the increase in rural poverty during this period.

27. The GICs for the urban sector show similar skewed growth in consumption. For the decade, the shape of the urban GIC closely resembles that of the rural GIC, albeit with somewhat higher levels of per capita consumption growth, consistent with urban poverty declining more than rural poverty during this period. A notable difference between urban and rural areas is seen only for 1995–96 to 2002: the gains for those near the top of the urban distribution appear to be especially large in comparison to the rest of the distribution of urban as well as rural population.

28. The GICs thus tell a story of highly skewed growth in per capita consumption over the decade, for urban and rural areas alike, a pattern that was even more pronounced when one looks at the more recent subperiod of 1995–96 to 2002. The decline in poverty incidence by 6 percentage points for urban and rural areas alike from 1995–96 to 2002 is attributable entirely due to an upward shift in the distribution, rather than any redistribution towards the less well-off.

### Identifying the source of rise in inequality: inequality decompositions

29. To what extent is the rise in overall inequality explained by increase in inequality between regions (districts or provinces) or sectors (among urban, rural and estate sectors), as opposed to

**Table 2-8: Total change in real per capita income, 1996–97 to 2003–04**  
(percent)

| Quintile | Urban | Rural | Estate |
|----------|-------|-------|--------|
| 1        | –5.5  | 4.3   | –0.7   |
| 2        | 1.4   | 9.5   | –1.4   |
| 3        | 11.0  | 14.9  | 0.0    |
| 4        | 17.3  | 16.5  | 1.4    |
| 5        | 26.4  | 24.7  | 25.5   |
| All      | 18.1  | 18.1  | 9.5    |

Source: CFSES Report (2003–04); Table 7.6

<sup>7</sup> Mean per capita consumption by quintiles of consumption are not provided by the CFSES report.

<sup>8</sup> This discrepancy may be explained by the high sensitivity of estate poverty to small fluctuations (see Figure 2-5), the higher standard errors in all estate sector estimates in both surveys (due to the small size of the estate sample), or the fact that the HIES estate sample for 1995–96 was not *ex ante* designed to be representative of the sector.

<sup>9</sup> The GIC maps the average annual rate of growth of real per capita consumption between the relevant years for all centiles (1 percent quantile) of the consumption distribution (for details see Ravallion and Chen, 2003).

an increase in inequality within regions and sectors? A Theil inequality index is used to decompose the national index into (a) interdistrict and within-district indices; and (b) intersectoral and within-sector indices (Table 2-9).

30. The decomposition shows that while national and within-district indices rose by 57 and 52 percent, respectively, from 1990–91 to 2002, interdistrict inequality rose by as much as 112 percent. The intersectoral index, on the other hand, increased less in percentage terms (52 percent) than did the within-sector index (57 percent) and the national index.<sup>10</sup> The within-district and within-sector inequality indices are much larger than the interdistrict or intersectoral indices for both years. This is expected, since the extent of variation within a district or a sector is much larger.

| Table 2-9 District and Sector Theil Inequality Indices |         |      |                                |
|--------------------------------------------------------|---------|------|--------------------------------|
|                                                        | 1990–91 | 2002 | Percent increase between years |
| National                                               | 16.8    | 26.4 | 57                             |
| Within-district                                        | 15.4    | 23.3 | 52                             |
| Inter-district                                         | 1.5     | 3.1  | 112                            |
| Within-sector                                          | 15.5    | 24.4 | 57                             |
| Inter-sector                                           | 1.3     | 2.0  | 52                             |
| Source: World Bank staff calculations using HIES       |         |      |                                |

31. The important insights from this exercise are, *first*, the decompositions show substantial increases in inequality—by 50 percent or more—within and between districts (that are proxies for regions) as well as within and between sectors. *Second*, while inequality *within* districts or sectors continues to be much larger in magnitude than between sectors or districts, the percentage increase in inequality *between districts* was by far the highest.

32. These decompositions are aggregated at a geographical level (district or sectors) that are too large and heterogeneous to capture adequately the spatial dimensions of poverty and inequality. These can be better analyzed using techniques that are able to estimate poverty and its correlates for smaller areas, like DS divisions, which chapter 3 will attempt to do.

### 2.3. Attaining the MDG of halving poverty: how growth and distributional changes matter

33. What are Sri Lanka's prospects of attaining the MDG of halving poverty by 2015 for reasonable assumptions of growth and inequality changes? There is no doubt that higher economic growth will lead to greater poverty reduction, but what is the responsiveness of poverty reduction to growth?

34. Estimating growth elasticity and the impact of inequality is based on the approach proposed by Bourguignon (2003).<sup>11</sup> If inequality measured by consumption Gini remains constant at the 2002 level, elasticity of poverty reduction is found to be 2.1, i.e., a 1-percent increase in per capita consumption expenditure reduces poverty headcount ratio by 2.1 percent. Since growth in GDP is different from that in consumption, this elasticity (with respect to growth in consumption) implies that 1 percent increase in *GDP per capita* will reduce poverty incidence by 1.6 percent.<sup>12</sup> But if the consumption Gini grows at an average annual rate of 2 percent, as it did between 1990–91 and 2002, growth elasticity falls from 1.6 to 0.9.

<sup>10</sup> The share of the estate sector in total population is low, so most of intersectoral inequality is explained by differences between urban and rural areas.

<sup>11</sup> Among numerous methods for estimating growth elasticity, this approach was chosen because it has been empirically tested and allows for the impact of inequality to be easily quantified (Annex 2, section I).

<sup>12</sup> This is calculated using a ratio of GDP growth to consumption growth for Sri Lanka obtained by comparing the growth in consumption from HIES between 1990–91 to 2002 with the GDP growth from 1991 to 2002.

35. These elasticity estimates are used to generate poverty projections for 2015 (Table 2-10). If GDP continues to grow at the rate of the last two years, the population growth rate stays at the current level, and the consumption Gini is unchanged at the level of 2002, the poverty headcount will be more than halved to 8.2 percent by 2015. On the other hand, if the consumption Gini increases at the average annual rate of the last decade, the poverty headcount ratio in 2015 will be 14.8 percent, well above half the poverty headcount ratio in 2002. In this scenario, Sri Lanka will need to grow at an annual average rate of around 10 percent to achieve the MDG target of halving poverty by 2015.

**Table 2-10: Projected poverty headcount in 2015 (percent)**

|                                      | Given Gini | With increase in Gini |
|--------------------------------------|------------|-----------------------|
| <i>Assumed GDP growth rate: 5.7%</i> | 8.2        | 14.8                  |
| <i>Assumed GDP growth rate: 10%</i>  | 3.1        | 10.1                  |

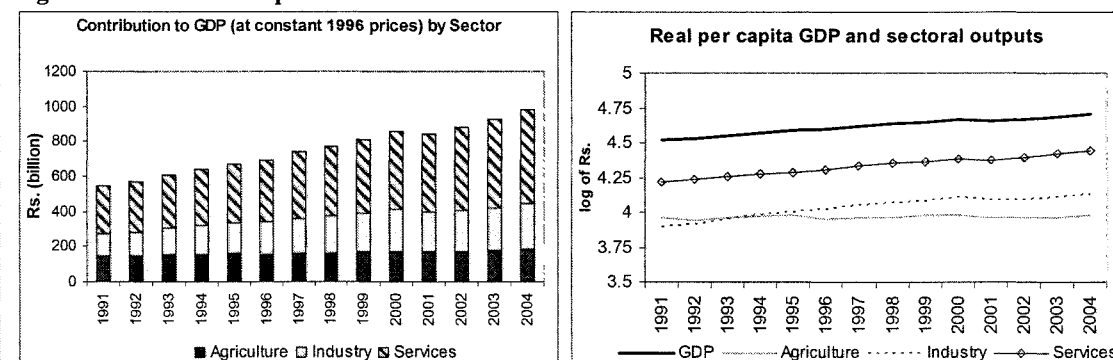
*Note:* (a) Population growth rate is assumed to be 1.2 percent. (b) Annual average growth of consumption Gini is assumed to be the rate between 1990–91 and 2002. (c) 5.7 percent is the average of GDP growth rates in 2003 and 2004 (CBSL Annual Report 2004). *Source:* World Bank staff estimates based on HIES 2002, using the method by Bourguignon (2003).

36. Like most such elasticity measures, these are calculated under certain restrictive assumptions about the current distribution of consumption (see Annex 2, section I). Although these simulations are illustrative, they still indicate that strong economic growth is probably not enough to attain the MDG poverty target unless the growth process becomes much more inclusive of lagging regions and populations.

#### 2.4. How poverty trends relate to sectoral patterns of growth

37. Macroeconomic data are broadly consistent with the growth in average levels of consumption observed in household survey data. Real per capita GDP increased by 41 percent cumulatively during 1991–2002, comparable to the growth in per capita real consumption of 29 percent over the same period. For the interim periods, however, per capita GDP trends are at odds with consumption trends from micro-data. Real per capita GDP grew by 21 percent during 1991–96, and 16 percent during 1996–2002, and this translates to an annual average growth of 3.9 and 2.5 percent, respectively. Mean per capita consumption from survey data, on the other hand, grew by 3 percent from 1990–91 to 1995–96 and 26 percent from 1995–96 to 2002, but such inconsistencies between national accounts and household survey estimates are common in many countries.

**Figure 2-4: Sectoral outputs and contribution to GDP**



*Source:* CBSL, Annual Reports (multiple years up to 2005)

38. Irrespective of whether one invests more faith in macroeconomic or household survey data, the important question is: what explains the rise in inequality that tempered the response of poverty reduction to growth? Sectoral data is a useful starting point to see why predominantly

rural districts/regions lagged significantly behind urban regions. It shows that between 1991 and 2004, the share of agriculture in GDP declined sharply from 28 to 19 percent, while that of industry and services increased (Figure 2-4). A falling share of agriculture in national output is a part of the common process of development, but in Sri Lanka agriculture is *stagnant*. Agricultural output per capita remained almost unchanged and in fact registered negative growth during certain years, which is consistent with the slow and uneven reduction in rural poverty.

39. During 1991–1996, while per capita GDP increased by almost 4 percent annually, agricultural output per capita actually *shrunk* by an annual average of –0.2 percent. This may have led to the spike in rural poverty observed in 1995–96.

| Table 2-11: Average annual percent growth per capita |     |             |          |          |
|------------------------------------------------------|-----|-------------|----------|----------|
|                                                      | GDP | Agriculture | Industry | Services |
| 1991–96                                              | 3.9 | –0.2        | 6.2      | 4.2      |
| 1996–02                                              | 2.5 | 0.4         | 2.6      | 3.3      |

Source: Central Bank of Sri Lanka Annual Reports.

Between 1995–96 and 2002, agriculture did slightly better with output growing at an annual average rate of 0.4 percent per capita, and rural poverty reduced during this period (Table 2-11). Over the decade as well as during *both* subperiods, healthy output growth in industry and services (Table 2-11) is consistent with the sustained poverty reduction experienced by urban areas.

40. In spite of the dynamic growth of other sectors, agriculture remains important for employment. Although agriculture’s share in total employment fell from 43 percent in 1991 to 34 percent in 2002, the *number* of people employed by agriculture actually increased by 3.5 percent and agriculture employed more than one-third of the total workforce (and likely much higher in rural areas) in 2002. Stagnant agricultural output necessarily implies that a sizeable population in rural areas dependent on agriculture would have had minimal income growth over the past decade.

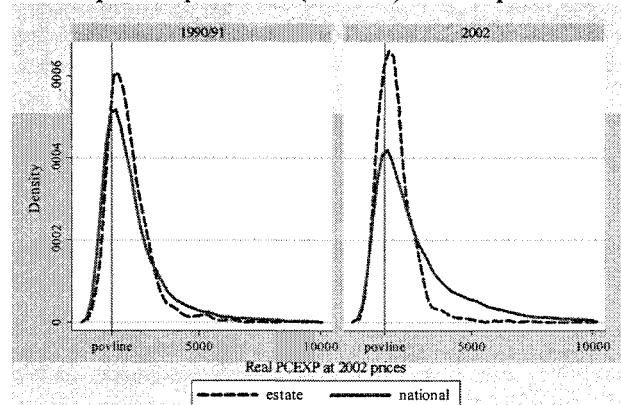
41. Chapter 6 will explore how lack of growth in agriculture translates into rural wages and incomes, and how these impacts are distributed across the population. Unpacking the story of rural poverty will also require examining outcomes and challenges in the rural nonfarm sector.

## 2.5. Nexus between poverty and vulnerability to economic shocks

42. Poverty and vulnerability—the risk of falling into poverty or deeper into poverty—are closely linked. Although income volatility is inevitable for both the rich and the poor, the impact on the poor of a shock—at the individual, community level, or economywide level—is often disproportionately severe due to their limited access to insurance and safety nets. Moreover, vulnerability is also high for those just above the poverty line, since even a small shock can push them into poverty.

43. *Consumption distribution and vulnerability to shocks.* While the static poverty estimates highlighted in the chapter are unable to measure dynamic changes, they offer clues about the extent of vulnerability that prevails in Sri Lanka. A small shock to consumption can cause large jumps in poverty incidence when a high concentration of the population hovers around the poverty line, which is what

Figure 2-5: Distribution of real per capita monthly consumption expenditure (PCEXP) at 2002 prices



Source: World Bank staff estimation based on HIES 1990–91 and 2002.

we see for Sri Lanka, although it fell somewhat from 1990–91 to 2002 (Figure 2-5). The concentration is even higher in the estate sector and increased over the decade.

44. Figure 2-6 shows that if monthly per capita consumption were to fall by 10 percent of the poverty line (less than US\$1.50) for every household, the poverty headcount will increase by 6 percentage points nationally and 10 percentage points for the estates. If monthly consumption declines by 20 percent, national and estate poverty headcount would increase by almost 10 and 20 percentage points, respectively. Furthermore, the impact on poverty headcount rates could be even higher if an adverse economic shock were to affect the lower quintiles disproportionately, as is often the case.

45. According to a recent World Bank report (draft) the major individual risks faced by Sri Lankan households are sickness, disability, and death of a family member and unemployment; and the main communitywide shocks include drought, crop failure, and other natural disasters, the most recent and disastrous being the tsunami.<sup>13</sup> Static poverty measures suggest significant increase in poverty during 1995–96, a year of severe and widespread drought. Certain poor districts appear to be especially vulnerable. Large increases in poverty headcount rates from 1990–91 to 1995–96 occurred in districts that experienced severe drought (Monaragala, Ratnapura, Matale and Puttalam—see Table 2-3).

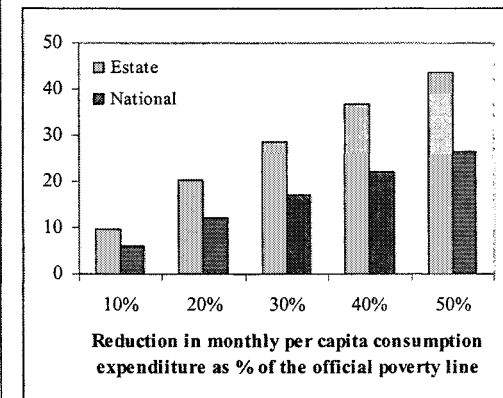
46. Safety net or social welfare programs have a critical role to play in protecting consumption in the aftermath of a shock. While Sri Lanka has a variety of social safety net programs, many of these are inefficient in terms of achieving their stated objectives.

### The current landscape of social welfare programs

47. To be effective in reducing vulnerability among the poor, social welfare programs need to target assistance to the needy, ensuring a minimum level of consumption, particularly in response to income shocks. The typical clientele for such assistance would consist of the poor and the most vulnerable among them.<sup>14</sup> When measured against these broad objectives, the social welfare sector in Sri Lanka presents a decidedly mixed picture. A long history of countrywide programs for the poor and vulnerable have created an enabling environment for such programs, but have performed far below their potential due to inefficient targeting and inadequate coordination across programs.

48. A multitude of overlapping programs administered by different ministries constitutes the social welfare sector in Sri Lanka. Total expenditure for welfare programs, which amounts to almost 1 percent of GDP in 2003, was distributed among programs like Samurdhi consumption grants to the poor; social security for disabled soldiers; social welfare for Internally Displaced People, Relief and Recovery programs; mid-day meals for children at schools; social assistance to vulnerable groups like elderly, women-headed households and disabled people; and Triposha (a nutritional supplement) for mothers and children. The *Samurdhi transfers* program is the most significant targeted welfare program intended for poor families, with an expenditure of Rs. 9 billion (\$ 90 million) in FY 2005, which comes to about 0.4 percent of GDP. The effectiveness of

**Figure 2-6: Projected increases in poverty headcount due to economic shocks**



Source: Staff estimation based on HIES 2002.

<sup>13</sup>World Bank (2006c).

<sup>14</sup> See World Bank (2006c) for a detailed discussion on vulnerable groups.

spending on social welfare by this program is seriously undermined by poor targeting of beneficiaries.

49. **Samurdhi transfer program:** A number of studies, including an evaluation conducted by the World Bank point to large-scale errors in targeting of Samurdhi transfers. The program excludes about 40 percent of households in the poorest consumption quintile, while 44 percent of the total budget is spent on households from the top three quintiles. It covers close to 45 percent of the population, with the result that the benefits are spread too thinly to have much impact on individual households (Box 2-2). Empirical evidence suggests targeting errors are systematic, with some groups (e.g., poor households in urban neighborhoods and estates) being less likely to receive Samurdhi than others (households in traditional villages). Qualitative results suggest that political factors, including party affiliation or voting preferences appear to influence allocation of Samurdhi grants.<sup>15</sup>

50. Poor targeting is also evident from large discrepancies between the distribution of Samurdhi transfer budget with that of poor population *across districts* (see Annex 2, Figure A-2.6).<sup>16</sup> A recent poverty mapping exercise has also revealed wide divergence between the DS division level poverty estimates and the distribution of Samurdhi beneficiaries across DS divisions.

**Box 2-2: Samurdhi benefits have limited impact on households**

About 2 million families received Samurdhi transfers in 2005, or close to 45 percent of the total population. The average monthly Samurdhi grant in 2005 was Rs. 393 per family, which translated to less than \$1 per capita per month for a typical family of four. More than two-thirds of beneficiary families receive Rs. 400 or less per month, about one-fourth of what is needed to move a person over the poverty line in 2002 (using the average poverty gap for Sri Lanka in 2002) (Gunewardena, 2005). Contrary to the objectives of the grant, the grant is regressive among Samurdhi recipients (larger in per capita terms for better-off households). Improved targeting that reduces coverage among the top two quintiles can lead to much higher impact even for an unchanged budget: even a 10-percentage point reduction in overall coverage will result in roughly 25 percent increase in average benefit per household.

Source: World Bank (2006c, draft).

51. The errors of targeting relate to the way the program defines eligibility and selects households. The criteria for selection of beneficiaries are a combination of family size and income applied by the program officers in the field. Since income is generally unobservable and difficult to corroborate, this results in a largely subjective selection process. The absence of any process for community validation, redressing grievance or monitoring of entry and exit also results in a process that is nontransparent and vulnerable to politicization.<sup>17</sup>

52. The need to reform the targeting of Samurdhi transfers has been a high priority for various governments. A Welfare Benefit Act was enacted by the Parliament in 2002 to rationalize and improve the selection of beneficiaries for all state-funded welfare programs. A Welfare Benefits Board (WBB) was set up in accordance with this Act and started developing a formula-based system for selection of Samurdhi beneficiaries that allows for greater objectivity and transparency, complemented by participation of communities in validation and redressing of grievances (see Box 2-3). Such a targeting system was implemented in two districts of the conflict-affected North where Samurdhi was introduced for the first time ever in early 2005.

<sup>15</sup> See, Glinskaya (2000) for the full analysis; also see World Bank (2002) and World Bank (2006c, draft).

<sup>16</sup> The share of Samurdhi transfer budget received by each district in 2005 reveals that a few districts (Kurunegala, Gampaha, Anuradhapura and Colombo) receive much higher Samurdhi allocation than warranted by their shares in total number of poor, while others (such as Badulla, Kegalle and Nuwara Eliya) appear to receive significantly less (see Annex 2, Figure A-2.6 for details).

<sup>17</sup> World Bank (2006d)

However, extending this effort to the rest of the country has proved difficult due to the challenges inherent in changing an entrenched system. In recent times, the government has publicly reiterated the need to target Samurdhi only to the poor; and the Ministry of Samurdhi is considering various options, including ways to better involve communities in the targeting process, to achieve this objective over the next year.

**Box 2-3: An option to improve Samurdhi targeting – a formula-based approach**

The Welfare Benefit Board developed a proxy-means test formula (PMTF) to select Samurdhi beneficiaries based on an analysis conducted jointly by local statisticians and World Bank staff using household survey data. The exercise correlated household or individual characteristics with welfare levels in an algorithm to proxy household income or welfare. The algorithm allows ranking of households using demographic characteristics, attributes of dwelling units, and ownership of durable assets that are more observable than direct measures of welfare like consumption or income. The PMTF is to be complemented by a strong community-based process for independent validation of beneficiary lists and an appeals process to minimize errors of exclusion. Data analysis, field verification and extensive consultations resulted in a number of recommendations to identify target groups, payment amounts, and institutional changes necessary to facilitate implementation. The reformed program envisioned targeting the poorest 30 percent of the population (closer to the poverty headcount rate of the country), with the benefit paid to each household including a variable component calculated per “vulnerable” household member (child, disabled, or elderly) to ensure payment amounts are progressive.

Simulations and field pilots suggest that such a system, properly implemented, is likely to significantly improve the incidence and distribution of benefits: the poorest three deciles would receive 63 percent of the benefits, as compared to 35 percent under the current system, and the poorest 10 percent of the population will be covered more extensively.

*Source:* Poverty and Social Impact Analysis for Sri Lanka: a Case Study, World Bank (2006d).

53. **Other key welfare programs.** A number of programs other than Samurdhi target transfers to vulnerable groups. The largest among them is the Public Assistance program administered by different provincial governments and targeted toward specific vulnerable populations: poor among the elderly and disabled, families without breadwinners, destitute women, and orphans. In 2005, 365,000 families received an average monthly grant of around Rs. 135, much smaller than the average Samurdhi grant. In conflict-affected areas, a separate social welfare program provides dry ration and cash assistance to internally displaced people.

54. Triposha, administered by the Ministry of Health, is the most significant targeted nutrition supplement program for pregnant and lactating women and children (age 6–59 months) from poor families (580,000 beneficiaries in 2005). Other nutrition programs include a current pilot by the Ministries of Samurdhi and Health that provides a basket of food items to pregnant and lactating mothers, an infant milk subsidy provided by the Samurdhi ministry, and a program by the Ministry of Health providing a nutritional supplement different from Triposha in some areas. In addition, a mid-day meal scheme for children is being implemented in select schools, with plans for rapid and expanded coverage in 2006; and there are special programs like food-for-education and nutrition for mothers and children operating in conflict-affected areas.

55. For most programs other than Samurdhi, little is known about targeting effectiveness or impact on beneficiaries. A few studies, based on observations from surveys over the years, provide indirect evidence that the long-standing Triposha program has contributed substantially to the improvements in nutritional status among women and children, but much remains to be done to analyze the impact of Triposha as well as relatively new programs like mid-day meals, to inform any plans to improve or expand such programs.

56. Poor coordination among ministries and levels of government often results in overlaps between the objectives and beneficiaries of different social welfare programs.<sup>18</sup> For example, the Provincial Public Assistance program, the smaller programs run by the Central Ministry of Social Welfare and Samurdhi transfers are targeted to groups that are likely to overlap significantly. Rationalizing the *objectives* and *target groups* of programs and integrating this information across programs that serve near-identical objectives are needed to improve efficiency and reduce administrative and fixed-costs of delivery. Even when integration is not possible, better coordination among programs is desirable to *identify beneficiaries*, reduce gaps and avoid duplication in coverage. Such coordination can also enhance the effectiveness of programs that are *complementary*. For example, when two programs serve different nutritional objectives, coordination of the selection processes will better ensure that assistance is appropriately matched with specific nutrition needs within the two target groups.

57. Effectiveness of welfare programs can thus be enhanced by better coordination between programs, in terms of their stated objectives, target groups, and selection of beneficiaries. A recent effort by the government to take a sectoral approach in budget preparation is an important step toward rationalizing social welfare objectives and allocations.

58. While Samurdhi and other social welfare programs are key elements in managing ongoing risks of the poor, large-scale disasters require more expanded assistance to cope with the immediate and longer-term vulnerabilities. After the tsunami, the government and its development partners assembled important lessons for how social protection strategies can respond to future emergencies and facilitate the transition toward recovery.

#### **Impact of tsunami and the role of social assistance**

59. On December 26, 2004, Sri Lanka suffered was the worst natural disaster to confront the country in modern times. The wave devastated two-thirds of the island's coastline spread over 13 districts.<sup>19</sup> Over a million people were affected: 35,000 dead, 20,000 injured, over one-half million residents displaced, and 150,000 workers without a livelihood. Almost 100,000 houses were at least partially destroyed and the total damage estimate was about \$ 1 billion.<sup>20</sup>

60. External shocks and natural disasters tend to affect the poor disproportionately. The poor typically have fewer assets, resources, and networks at their disposal to help them cope with initial shock and the transition to recovery afterwards. Loss of assets and sources of income for the poor are also much harder to replace, and can leave them more vulnerable to future shocks, both at the household and the community level.

61. *Geographical pattern of damage.* The tsunami affected coastal populations in the Eastern, Southern, Western, Northern, and North Western provinces. Housing damage—a key indicator of impact—affected Eastern, Southern, Northern and Western provinces in descending order of damage suffered. Number of deaths and displaced persons, other key strong indicators of the extent of impact also show similar patterns (Annex 2, Figure A-2.7).<sup>21</sup>

62. Note that *both HIES and CFSES data* used in this report are *pre-tsunami*, and therefore *do not reflect changes that may have occurred due to the impact of the disaster*. The tsunami is particularly likely to have affected economic conditions in the Southern, Northern and Eastern provinces (for more discussion on the impact of the tsunami on Northern and Eastern provinces, see Chapter 7). Although poverty data is not available for conflict-affected areas, all available

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<sup>18</sup> These include Ministries of Education, Health, Nation-building, Samurdhi and Social Welfare, in addition to Provincial departments.

<sup>19</sup> Government of Sri Lanka and Development Partners (December 2005).

<sup>20</sup> ADB, JBIC and WB (2005)

<sup>21</sup> DCS, Census of Tsunami Affected Areas January 25, 2005.



indicators indicate that Eastern Province, and the districts of Ampara and Batticaloa within the province, was among the lagging areas of the country *prior to the* tsunami. In addition, before the tsunami the three districts affected in Southern Province had poverty headcount rates 3 to 9 percentage points higher than the country average (Table 2-3). Given the extent of damages in districts that were already lagging or vulnerable, it is likely poverty will increase in the affected areas at least in the short run. While no systematic post-tsunami household data is available to measure the short-term impact, the next round of the HIES beginning in July 2006 is expected to provide information on the status of these areas and the extent of recovery that has occurred.

63. *Social assistance to reduce vulnerability.* In the immediate aftermath of disasters that disrupt local economies, a primary concern is to protect the consumption of families, until alternative means of livelihood are reestablished. Within 3 months of the disaster the government provided an unconditional grant of \$50 per affected families for a total of four payments.<sup>22</sup> An interim assessment conducted after the first payment indicated that the program was successful in covering a very high percentage of the affected population, as well as people who had been minimally affected by the disaster (mis-targeting). Little more than one year after the disaster, there are encouraging signs of longer-term recovery in sources of livelihood, including critical sectors like fishing and tourism. In keeping with its objective, the cash grant program also disbursed its last payment in December 2005.

64. The emergency cash assistance program highlights the value of a flexible and timely approach to mitigate temporary vulnerabilities caused by a disaster. The post-tsunami program in Sri Lanka offers valuable lessons for similar (or smaller-scale) shocks at home and elsewhere. While a full stocktaking of the program's impact and lessons must await a complete assessment, the interim assessment underscored the need to define clear eligibility criteria from the very beginning. The pre-existence of beneficiary lists would minimize mis-targeting and help implementers in the field.

65. A long-term recovery strategy to provide continued assistance to those in need of longer support is best accomplished by integrating them into the country's welfare system. In the case of Sri Lanka, large programs like Samurdhi are good candidates. And the challenge of the social welfare system in Sri Lanka will be to become flexible enough to meet the needs of those who have become vulnerable for the long-term because of the tsunami.

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<sup>22</sup> This program was supported by the World Bank's Tsunami Emergency Recovery Project.

### 3. A Profile of Poor Households and Lagging Regions

1. This chapter begins to unravel the complex characteristics associated with income and consumption poverty at the household level and the observed spatial patterns of poverty. Rising inequality in Sri Lanka is manifested in widening consumption gaps between regions, provinces, and districts, and the uneven distribution of consumption within geographical areas. This unequal spatial development excludes large sections of the population from the growth process.
2. Poverty incidence is often strongly associated with attributes of individuals and households such as demographics, education, ethnicity, land ownership, occupation and employment status. Beyond individual household attributes, variations in employment opportunities and infrastructure, such as roads, among districts and sectors also affect growth. The exact combination of factors that keep a household below the poverty line is unknown, but partial analysis of the key correlates can suggest policy interventions to reduce poverty.
3. The likelihood of poverty at the individual, household, and spatial level are explored using a multivariate regression of the *probability* of a household being poor. The regressions measure the effects of key correlates of poverty when they are considered together, which can be quite different from simple correlations of the same variables taken individually. The probit regressions (Table A, Annex 3), however, must be carefully interpreted since data limitations circumscribe the range of potential factors that can be taken into account, and the direction of cause and effect is sometimes impossible to determine. The regression results show that a variety of household-specific and spatial (district-specific) characteristics are significantly associated with the likelihood of a household being poor.

#### **3.1. Household-specific factors associated with poverty**

4. This section focuses on the key household and individual characteristics associated with poverty. The probit regressions in columns 1 and 2 of Table A, Annex 3 provide a useful starting point for the analysis. The coefficients on household-specific factors reveal that a household is more likely to be poor when it is located in the rural or estate sector, has at least one member working in the informal sector, includes an unemployed youth as a member, and where the household size is large. The presence of at least one child is also associated with a higher probability of being poor. Poverty is also more likely if the household head is employed as an agricultural wage worker or is inactive in the labor market or unemployed, although the correlation with unemployment is not significant. Households with a lower probability of being poor have at least one member of the household working in the formal sector or a family member working abroad. Higher educational attainment of the household head lowers the probability of being poor significantly.
5. Using these regression results as a framework, correlates of poverty are considered independently as a first step in identifying how these factors constrain the ability of poor households to increase their economic potential. These factors include labor market indicators like educational attainment of household heads (human capital), underemployment and occupational status, and unemployment. While this makes the analysis tractable, it is important to recognize that many of these factors are inter-related: educational attainment at least partly explains employment status; household demographics can play a role in determining education and employment opportunities; and land ownership may affect a household's access to assets critical for income generation.
6. In the analysis, poverty correlates identified as important by the multivariate probit are combined with relevant evidence from other sources to overcome some of the data limitations imposed by the HIES. Land ownership, for example—an important correlate of poverty in many

countries—is not included in the regression since HIES data does not provide household-level information that can be linked with poverty status. The same applies to information on access to safe water and sanitation and housing—other important correlates of poverty—that is available from the CFSES and the Population Census.

### Household demographics and poverty

7. The probit regressions show clearly that larger households and especially those with children are more likely to be poorer than the average, while the elderly are likely to belong to households that are less poor than the average. A household size of six and above is associated with a 24 percent marginal increase in the probability of being poor, and the presence of at least one child increases the probability by 5 percent. The presence of an elderly member reduces the probability of being poor by 1 percent.

8. The apparent strong correlations between household size and composition and poverty incidence must be considered in light of the definition of poverty used in Sri Lanka, which does not take into account economies of scale and equivalence scales in consumption. Such effects are hard to quantify in a universally acceptable form, and are therefore excluded following the practice in many countries where consumption-based measures of poverty are used.

9. Incorporating scale effects in consumption for Sri Lanka would not significantly impact poverty profiles as far as nondemographic correlates are concerned. But correlations with variables directly linked to household size and composition are a different matter. If economies of scale could be incorporated into the poverty measure, the effect of household size and composition—namely the presence of children or the elderly—on the probability of being poor would likely be different from what is described above. For example, larger households with more children would turn out to be less poor than what their per capita consumption suggests.

10. Finally, the presence of a family member abroad has a significant marginal effect (8 percent) in reducing the likelihood of a household being poor. This indicates the critical role of migration to foreign countries, and presumably remittances received from migrants, in determining the economic status of a household.

### How employment status of household members links to poverty

11. *Poverty, underemployment, and unemployment.* Evidence from many developing countries has shown that members of poor households are much more likely to be *underemployed*; i.e., engaged in low-productivity activities in the form of casual wage employment, than *unemployed*. Indeed underemployment is far more common among household heads in Sri Lanka than outright unemployment (Table 3-1). In fact Table 3-2 indicates that there is no clear difference in poverty incidence by employment status of the household head. The probit regression suggests that if the household head is unemployed, everything else being the same, the increase in the probability of being poor is statistically insignificant. However, poorer households are more likely to have household heads who do not *participate* in the labor market, and this coefficient is significant.

| Table 3-1: Distribution of employment status of household heads (percent) |         |         |      |
|---------------------------------------------------------------------------|---------|---------|------|
|                                                                           | 1990-91 | 1995-96 | 2002 |
| Employed                                                                  | 75.7    | 75.4    | 76.3 |
| Unemployed                                                                | 1.1     | 1.2     | 2.7  |
| Inactive                                                                  | 23.2    | 23.4    | 21.0 |
| Source: HIES 1990/91, 1995/96, and 2002.                                  |         |         |      |

12. While there is no direct evidence linking *underemployment* with poverty, the statistics on underemployment in the CFSES report 2003/04—defined as employment with duration of less than 35 hours per week—sheds light on its prevalence and likely link to poverty.<sup>1</sup> Underemployment is usually found among the less-educated workers in *elementary occupations* (employment in informal sector, including agriculture and fisheries), and in the agricultural sector.

| <b>Table 3-2: Poverty headcount rates by employment status of household heads (percent)</b> |         |         |      |
|---------------------------------------------------------------------------------------------|---------|---------|------|
|                                                                                             | 1990–91 | 1995–96 | 2002 |
| Employed                                                                                    | 26.3    | 29.5    | 23.0 |
| Unemployed                                                                                  | 23.4    | 28.9    | 26.2 |
| Inactive                                                                                    | 25.6    | 26.5    | 21.5 |
| <i>Source: HIES 1990/91, 1995/96, and 2002.</i>                                             |         |         |      |

13. Evidence from the HIES 2002 clearly shows that poverty is associated with employment of household heads in elementary occupations, where underemployment is more common. Slightly less than 40 percent of household heads were working in elementary occupations that pay less than one-half of other occupations in monthly earnings, and the poverty headcount rate of their households was almost 70 percent higher than the national average. The probit regression reveals that when at least one member of the family is employed in elementary occupations, the household is 6 percent more likely to be poor, controlling for other factors.

14. *Linking youth unemployment with poverty.* Unlike unemployment among the general population, unemployment among youth is clearly associated with poverty. The poverty headcount rate for households with unemployed youth (10–20 years of age) was 6 percentage points or more higher than households with employed youth for the three surveys during the decade (Table 3-3). The presence of an unemployed youth in the household is associated with a statistically significant increase of 4 percent in the probability of the household being poor. This link is critical in the light of strong evidence that a large share of unemployment in Sri Lanka is among youth. According to Nanayakkara (2004), more than 75 percent of the unemployed are 15 to 29 years of age.

| <b>Table 3-3: Poverty headcount by employment status of youth (10 to 20 years of age) (percent)</b> |         |         |      |
|-----------------------------------------------------------------------------------------------------|---------|---------|------|
|                                                                                                     | 1990–91 | 1995–96 | 2002 |
| Employed                                                                                            | 28.4    | 30.8    | 25.0 |
| Unemployed                                                                                          | 35.2    | 36.9    | 34.6 |
| Inactive                                                                                            | 29.4    | 33.4    | 27.7 |
| <i>Source: HIES 1990/91, 1995/96, and 2002.</i>                                                     |         |         |      |

15. Recent studies argue that youth unemployment can be explained largely by “queuing”, young workers opting to wait for jobs that pay higher than market-clearing wages.<sup>2</sup> This strategy maximizes expected lifetime earnings for workers—provided the wage differential between “good” and “bad” jobs and the probability of eventually securing a good job are high enough. In Sri Lanka, earnings in formal sectors that come under Termination of Employment of Workmen Act (TEWA) have indeed been significantly higher than in other (often informal) sectors. Queuing might explain high unemployment among educated young people who are qualified for these good jobs and who more likely to belong to better-off households, which does little to explain the link between poverty and youth unemployment.

16. Unemployment among school dropouts shows that the highest unemployment rate recorded was among those with GCE A/L or higher degree during the 1990s—which may be largely explained by queuing. However, individuals with an education of grade 5 to 10 constituted the *highest share* of total unemployed (41 percent in 2002).<sup>3</sup> It is unlikely that

<sup>1</sup> As noted in the CFSES report, the definition of underemployment does not take into account that even a person working for more than 35 hours per week can be underemployed if he/she is overqualified for the job. Further analysis will be necessary to get a better picture of underemployment and its association with poverty. A new round of LFS will include various measures of underemployment, which will provide opportunity for such analysis.

<sup>2</sup> Rama (2003); Heltberg and Vodopivec (2004).

<sup>3</sup> Nanayakkara (2004).

secondary school dropouts who entered the labor market refused lesser-paid jobs in the expectation of getting highly paid jobs eventually, so queuing is not the *only* explanation for youth unemployment. The observed association between poverty and youth unemployment is better explained by the fact that dropouts are also more likely to occur in poorer households.

17. Unemployment among youth with low education levels thus may reflect a lack of suitable skills for entering the labor market and a lack of opportunities in the labor market for such workers. The fact that they mostly come from poor households already increases their likelihood of remaining poor, but dropping out of school early when added to the lack of employment opportunities increases the likelihood that they will stay trapped in a vicious cycle of poverty. Special training may be needed to equip them for the demands of the labor market.

18. *Agricultural employment and poverty.* Poverty is also associated with low-wage employment in the agricultural sector. This is expected, given this sector's stagnation co-existing with almost unchanged levels of employment (chapter 2). According to the probit regression, the marginal effect of the household head being employed as an agricultural wage worker on the probability of being poor is positive and significant (4 percent). Table 3-4 suggests that the poverty rate among household heads working in the agricultural sector as paid employees was 18 percentage points higher than the national poverty rate. When household heads who are cultivators are included, the poverty headcount ratio of this group was 5 percentage points higher than the national average.

| <b>Table 3-4: Poverty headcount by industry where household head is employed, 2002</b><br>(percent) |      |
|-----------------------------------------------------------------------------------------------------|------|
| Agriculture/Fishing                                                                                 | 40.4 |
| Manufacturing/Construction                                                                          | 24.7 |
| Service                                                                                             | 9.6  |
| All households                                                                                      | 22.7 |
| <i>Note:</i> Including paid employment only.<br><i>Source:</i> HIES 2002.                           |      |

19. Agriculture is still the major employer in rural areas. Almost 50 percent of household heads in rural areas were working in agricultural sector as cultivators or paid employees, and 54 percent of the poor population belonged to such households.

#### **Poverty and educational attainment of household heads**

20. Higher levels of educational attainment expand economic opportunities for households both in salaried employment and self-employment.<sup>4</sup> Even with high primary and secondary enrollment rates for the country as a whole, the relationship between poverty and the level of education attained by the household head remains high. The multivariate probit (Table A, Annex 3) shows that attainment

| <b>Table 3-5: Poverty headcount ratios by educational attainment of household heads</b><br>(percent) |                |                |             |
|------------------------------------------------------------------------------------------------------|----------------|----------------|-------------|
| <i>Education level</i>                                                                               | <i>1990-91</i> | <i>1995-96</i> | <i>2002</i> |
| No schooling                                                                                         | 38.1           | 45.3           | 45.5        |
| Up to Grade 5                                                                                        | 32.7           | 38.0           | 33.5        |
| Grade 6-8                                                                                            | 23.9           | 29.5           | 22.3        |
| Grade 9-below degree                                                                                 | 11.1           | 14.0           | 10.3        |
| Degree & above                                                                                       | 1.2            | 1.1            | 1.9         |
| <i>Source:</i> HIES 2002.                                                                            |                |                |             |

of an A-level education and above by household heads is associated with an 8 percent lower probability of being poor, and a 5<sup>th</sup> grade education and below is associated with an 18 percent higher probability of being poor. In 2002, the poverty headcount was more than 30 and 45 percent, respectively, if the household head had an education up to grade 5 only or had no schooling—significantly higher than the national average (Table 3-5). Poverty incidence in households whose heads have no schooling has also increased from 1990-91 to 2002, while the

<sup>4</sup> A number of papers in the economic literature have shown the links between incomes and education. Datt and Ravallion (2002) show the links between education and nonfarm economic growth, which results in economic diversity. Basu and others (2001) show that externalities of having an educated member on the household can result in higher earnings of other household members.

proportion of such households in the total has declined from 16 to 13 percent. Even as school enrollments have gone up the disadvantages suffered by households lagging behind in education have expanded over time.

### **Poverty and land ownership**

21. Land ownership is closely associated with poverty in many developing countries, not just because land provides the main source of income, but also because land ownership improves access to economic and social opportunities, especially in rural areas. In the case of Sri Lanka, a few caveats place limitations on the analysis of the association between land ownership and poverty. First, since the HIES did not include detailed information on land ownership, the analysis draws on the CFSES, and the poverty rankings of households from this survey are not strictly comparable with those based on the HIES. Second, land ownership in Sri Lanka is quite complex and sometimes difficult to establish. The CFSES focused on *de facto* ownership of the land without any reference to documentary evidence of legal ownership. This is a practical solution to the complex issue, but may also result in a certain degree of misreporting. Moreover, the absence of legal ownership may impose constraints as far as selling or mortgaging the land for credit that further complicates the association between land ownership and poverty.

22. The CFSES 2003/04 report shows that land ownership rose with income level and that the difference between the rich and the poor was much smaller than in other countries in the South Asia region. For example, in the poorest quintile 86 percent of households own land, while in the richest quintile 96 percent of households own land. The size of the land parcel per household did not vary much among different income levels except for the richest quintile. Households in the poorest quintile owned 117 perches on average, while the average ownership for the 4<sup>th</sup> and 5<sup>th</sup> quintiles were 134 and 197 perches, respectively.

### **Gender, ethnicity, and religion of household heads**

23. From the HIES, there is no evidence to show that households headed by females are poorer than those headed by males (Table A-3.1, Annex 3). This *does not* necessarily imply, however, that female-headed households suffer no economic disadvantages. The lack of correlation, which is often observed for developing countries, may result from poorer households designating a male member as the household head due to social and cultural factors, even if the household lacks an adult male of working age. Also, ethnicity and religion of household heads are not correlated with poverty incidence (Table A-3.2, Annex 3).

24. Since the rural poor account for 88 percent of the total poor of Sri Lanka, the household characteristics associated with poverty identified above predominantly reflect these areas. The next section profiles the urban poor, a large proportion of who live in and around Colombo city.

### **Characteristics of urban poverty**

25. Why profile the urban poor separately, given that urban poverty rate is only around 8 percent? *First*, even a low poverty rate can translate into a significant *number* of poor people in a relatively small area with a large population, as the poverty map for divisional secretary (DS) divisions of Sri Lanka shows (Figure 3-1).<sup>5</sup> Large numbers of poor people are found in Western Province *including* Colombo city due to its high population density. *Second*, as urban poverty rates have dropped consumption inequality has increased, widening the gap between the rich and the poor (chapter 2). A poverty map of Colombo area shows that poverty headcount ratios vary widely within Colombo City, with pockets of deprivation amid relative affluence. This poverty

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<sup>5</sup> Sri Lanka has four tiers of administration: 9 provinces, 25 districts, 324 divisional secretary's divisions (DS divisions), and around 14,000 Grama Niladhari division (GN divisions).

profile will identify factors that prevent some urban dwellers, even in Colombo, from availing themselves of the substantial economic opportunities in the country's most vibrant growth center.

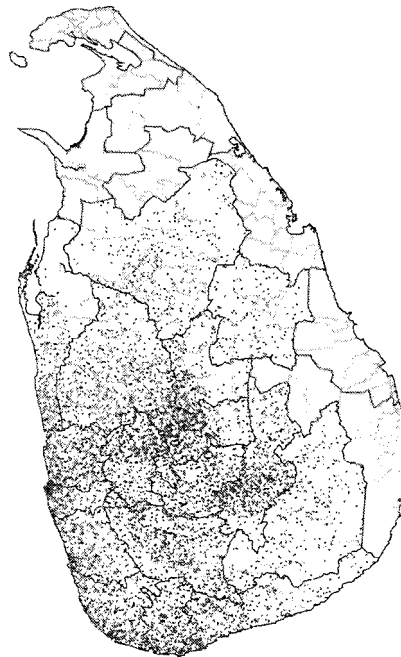
26. A study of poverty in Colombo is especially difficult due to the small size of the household survey sample for the city. A few studies using less formal data sources show a clear pattern endemic in the poor settlements/slums of Colombo City.<sup>6</sup> These areas are underserved in terms of access to basic infrastructure facilities, and they lack stable income sources, access to infrastructure, decent housing, and clarity in land tenure (Box 3.1).

**Box 3.1: Underserved or poor settlements in Colombo city**

A survey of 10 settlements in Colombo city identified three salient features of poor or underserved settlements. (1) Lack of stable income: Only 12 percent of urban poor families have a permanent source of income and 45 percent of them are engaged in unskilled/irregular employment activities. (2) Lack of access to basic infrastructure and housing: 43 percent of residents in the underserved settlements picked availability of water for domestic use as their highest priority in terms of needs, 27 percent picked the availability and quality of sewer system; and 24 percent the availability of electricity. Many residents also expressed concern about poor quality of building materials used in housing construction. (c) Lack of clear land tenure: Illegal occupancy of government department land is common in poor and underserved areas. Lack of land tenure restricts the incentive of residents to build proper houses or renovate their houses with proper materials; they also live in constant fear of sudden eviction by a legal entity. The studies also document the recognition among many residents of poor settlements that the key ingredients for moving out of poverty are completing primary/secondary education, being able to find work in a formal sector, or establishing their own businesses.

Source: DFID and others (2002) and Gunetilleke and others (2004)

**Figure 3-1: Spatial Concentration of poor population**



Note: Dots are placed randomly within a DS division; each dot represents 500 people  
Source: DCS (2004).

27. *Evidence from Census 2001.* The findings reported in Box 3.1 are instructive, and can be validated to some extent using the Population Census of 2001 that provides wider coverage.<sup>7</sup> Based on poverty map estimates and consultations with staff at the DCS, two GN divisions in Colombo City were chosen as “underserved” or poor GN divisions: *Madampitiya* and *Mahawatta*. The estimates show poverty headcount ratios for these two GN divisions of 19 and 18 percent, respectively, more than three times of the poverty headcount ratio of Colombo District.

<sup>6</sup> DFID and others (2002) and Gunetilleke and others (2004)

<sup>7</sup> The Census 2001 identifies areas only at the GN division level, which is larger than a typical urban underserved area/settlement, a problem that can be minimized by careful selection of GN divisions. Underserved areas in Colombo were selected from the Census (5 GN divisions) based on their estimates of poverty headcount ratios, and out of them, 2 GN divisions were chosen after close consultation with knowledgeable DCS staff.

28. The results are consistent with Box 3.1. When compared to other households in Colombo District, the two poor/underserved GN divisions have significantly less access to clean water, electricity, and gas, and a toilet exclusively for the household. These areas also have a much higher proportion of one-room huts and shanties. In the underserved areas, a much lower percentage of individuals finish primary and secondary school and a much higher percentage of working-age adults are employed in the informal sector (Table 3-6).

29. Poverty in urban areas appears to be associated with low educational attainment, employment in elementary occupations in the informal sector, and poor living conditions. These associations

explain why the urban poor are unlikely to increase their economic potential: low human capital and inadequate access to safe water and sanitation critical for health trap them in low-paying and insecure employment. The proportion of migrants in underserved settlements is also smaller than that in other areas of the city, which is consistent with the findings in chapter 4 that migrants are, on average, better-educated and better-employed than long-term residents of Colombo.

### 3.2. The characteristics of poor provinces and districts

30. Regional or spatial characteristics can limit the economic potential even for individuals with favorable attributes. As shown in chapter 2, in Sri Lanka the income and growth distribution pattern over the past decade shows steadily increasing spatial economic inequality. The decomposition in chapter 2 indicates that interdistrict inequality grew much faster than average inequality within a district. This section explores the regional (province or district-specific) characteristics that are strongly associated with poverty incidence.

31. The probit regression, described earlier that explains the probability of a household being poor, shows the importance of district-specific characteristics (Table A, Annex 3, columns 1 and 2). Low district-level averages for electricity usage and access to potential markets are strongly associated with the presence of poor households. Even when the accessibility index is omitted from the regression, the proportion of household heads with education up to primary level or employment as agricultural workers in a district is also significantly associated with the probability of a household being poor.<sup>8</sup> The next section explores how each of these factors is associated with, and partly explains, the regional distribution of income and poverty among provinces and districts.

**Table 3-6: Welfare indicators in Colombo City (percent)**

|                                                                   | <i>Other<br/>GNs</i> | <i>Underserved<br/>GNs</i> |
|-------------------------------------------------------------------|----------------------|----------------------------|
| Light: electricity                                                | 86                   | 56                         |
| Toilet: exclusively for the household                             | 61                   | 37                         |
| Water: Tap within unit/premises                                   | 53                   | 31                         |
| Fuel: gas                                                         | 58                   | 30                         |
| Wall: plank                                                       | 9                    | 35                         |
| Type of house: hut/shanty                                         | 4                    | 13                         |
| House: single roomed house                                        | 19                   | 33                         |
| Individuals (age $\geq 25$ ) with higher than primary education   | 78                   | 58                         |
| Individuals (age $\geq 25$ ) with higher than secondary education | 43                   | 16                         |
| Individuals (age $\geq 25$ ) in elementary occupation             | 31                   | 55                         |
| Proportion of migrants                                            | 27                   | 12                         |

*Note:* Underserved areas in Colombo city are GN 20 and 25 within DS code 3; "other GN divisions" in Colombo City refer to remaining GNs in DS 3 and all GN divisions in DS 27.

*Source:* Census of Population and Housing Condition 2001.

<sup>8</sup> Note that all spatial variables cannot be included together in a regression because of high multicollinearity. In particular, accessibility index has very high correlation with the other spatial variables taken together (see Annex 3, Table A-3.10), for which proportion of household heads with education of primary level or below and proportion of household heads employed as agricultural workers are dropped when accessibility is introduced in the regression.



### Access to markets and infrastructure

32. The association between poverty indices and measures of access to business opportunities is evident at different levels of geographic disaggregation. The accessibility index, which is constructed as a measure of potential market integration and based on information about road network and location of major cities and towns, is one measure. When this index measure is high the area has better than average access to markets. Another measure is travel time to Colombo—which varies between estimates based on the geographic information system on road networks, and actual travel times that depend on road and traffic conditions, which may be longer. Additional indicators at the province level that are useful for assessing access to infrastructure that improve the business environment include share of enterprises that use electricity, have a functioning land/mobile telephone line, and are located near a community with a bank.

**Table 3-7: Poverty indices and access to infrastructure by province**

| Provinces                         | Poverty headcount ratio (percent) | Average accessibility index <sup>a</sup> | Average travel time to Colombo (min) <sup>b</sup> | Enterprises that use electricity (percent) | Enterprises with a land line/mobile phone (percent) | Enterprises located in a community with a bank (percent) |
|-----------------------------------|-----------------------------------|------------------------------------------|---------------------------------------------------|--------------------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| Western                           | 11                                | 3.8                                      | 73                                                | 79                                         | 24                                                  | 70                                                       |
| Central                           | 25                                | 3.1                                      | 200                                               | 80                                         | 7                                                   | 47                                                       |
| Southern                          | 28                                | 3.1                                      | 229                                               | 68                                         | 18                                                  | 62                                                       |
| North Western                     | 27                                | 3.1                                      | 177                                               | 61                                         | 15                                                  | 70                                                       |
| North Central                     | 21                                | 2.9                                      | 304                                               | 61                                         | 8                                                   | 75                                                       |
| Uva                               | 37                                | 2.8                                      | 295                                               | 62                                         | 23                                                  | 78                                                       |
| Sabragamuwa                       | 35                                | 3.3                                      | 152                                               | 76                                         | 15                                                  | 70                                                       |
| <b>Correlation with headcount</b> |                                   | <b>-0.62</b>                             | <b>0.47</b>                                       | <b>-0.32</b>                               | <b>0.2</b>                                          | <b>0.14</b>                                              |
| Source <sup>c</sup>               | HIES WB                           | ICS                                      | ICS                                               | ICS                                        | ICS                                                 | ICS                                                      |

a. The accessibility index is calculated for every point as the sum of the population totals of surrounding cities and towns, inversely weighted by the road network travel time to each town. The numbers show the mean of the access values for all points that fall into a given province.

b. The average travel time to Colombo city is estimated travel time to each town based on geographical information of road network. The numbers show the mean of the travel time for all points that fall into a given province.

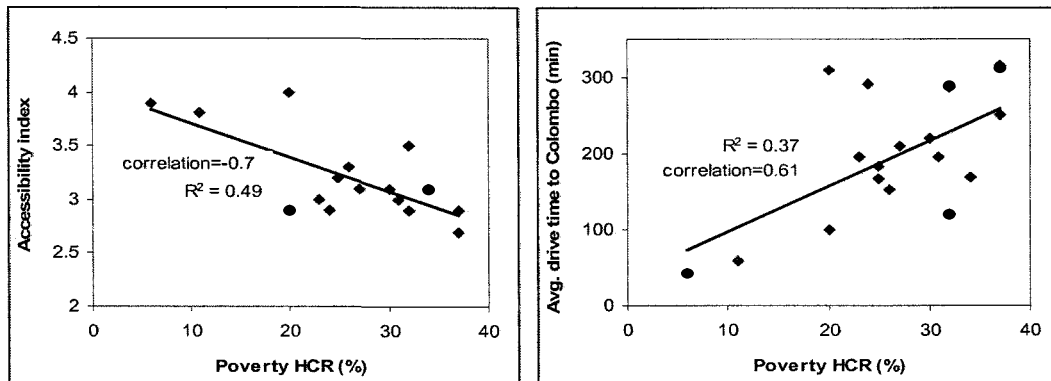
c. "HIES WB" denotes calculations by World Bank staff using HIES 2002; "ICS" refers to World Bank: "Sri Lanka: Improving the Rural and Urban Investment Climate" (2004).

33. The association between indicators of accessibility and poverty incidence comes through most clearly at the provincial level (Table 3-7). Western Province has the best access to business opportunities by any measure. Many of these indicators, however, do not necessarily explain the extent of deprivation in other provinces. For example, Uva, the province with the highest poverty headcount ratio, has almost the same level of telephone connection as the Western province and even better access to a community with a bank, but it has the worst access to markets, a city, and electricity. Among these accessibility indicators, *geographical isolation and high average travel time to Colombo seem to be most closely correlated with poverty*. The correlation coefficient between the accessibility index and poverty headcount ratio is -62 percent and that of the average travel time to Colombo is as high as 47 percent.

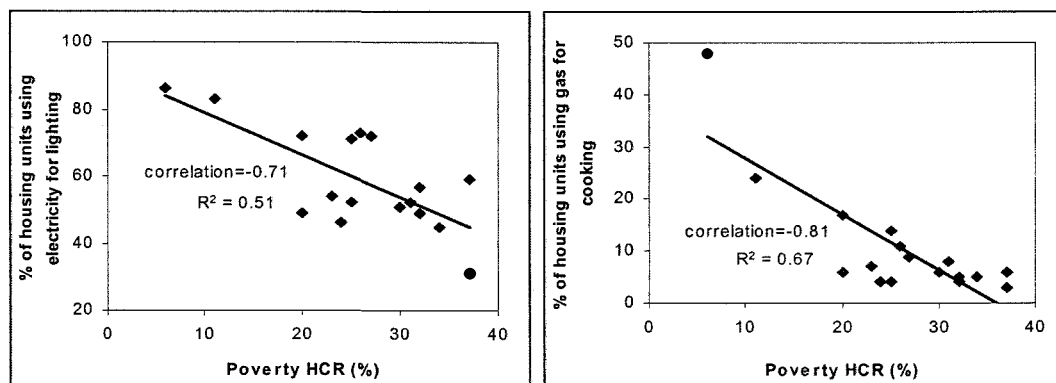
34. The strength of the correlations on factors that constrain investment and growth in poorer provinces is limited by the large variation likely to exist within a geographic area as large as a province. The relationships between poverty headcount rates and measures of accessibility at the *district* level are stronger than at province level (Figure 3-2). According to the probit regression (Table A, Annex 3) the probability of a household being poor falls by almost 3 percent with a unit increase in the accessibility index of the district the household is located in, even after controlling

for other factors that affect the probability of being poor. Moreover, the association is much reduced once districts in Western Province are excluded, suggesting that these indicators mostly explain differences among districts in Western Province than between Western Province and the rest of the country.

**Figure 3-2: Accessibility index and average driving distance to Colombo correlated with district poverty headcounts**



**Figure 3-3: Proportion of housing units using electricity or gas correlated with district poverty headcounts**



Source: Staff calculation using HIES 2002 and Census 2001.

35. Data on the proportions of enterprises with electricity, access to telephone lines, and proximity to a community with a bank are not available at the district level. Instead, two new indicators emerged as proxies for infrastructure availability for economic activities at the district level from the 2001 Census: shares of housing units that use electricity for lighting and gas for cooking fuel. Figure 3-3 shows that few households in poorer areas use electricity and gas. The probit regression (Table A, Annex 3) shows that the average usage of electricity in a district is associated with the probability of poor households in the district. The correlations for these indicators with poverty headcount are reduced once the districts in Western Province are excluded, but are still significant (above 30 percent).

### **The size of rural and estate sectors, and inequality in a province**

36. The probit regressions above show that the probability of being poor is significantly higher when the household belongs to the rural or estate sector, even after allowing for the impact of other household-specific and geographic characteristics. Hence, provinces with a large share of rural and estate population tend to be poorer. Table 3-8 shows that urban areas in all provinces tend to be significantly better-off than rural areas, with the exception of Sabaragamuwa. Poverty in Sabaragamuwa is not just a rural feature: mean per capita consumption expenditure in the

urban areas of Sabaragamuwa is significantly lower than that of other provinces, and is in fact comparable to that of rural Western Province. The two poorest provinces, Uva and Sabaragamuwa, also have relatively high shares of population in estates (Table 3-8). A high share of estate population also explains why the poverty headcount ratio of Central Province is worse than that of North Central Province, in spite of Central Province having the richest urban sector and the second richest rural sector in the country.

**Table 3-8: Sectoral shares and inequality measures by province**

|               | Poverty headcount ratio (percent) | Share of population (percent) |        | Mean per capita monthly consumption expenditure (Rs) |       |        | GINI of per capita consumption expenditure (percent) |
|---------------|-----------------------------------|-------------------------------|--------|------------------------------------------------------|-------|--------|------------------------------------------------------|
|               |                                   | Rural                         | Estate | Urban                                                | Rural | Estate |                                                      |
| Western       | 11                                | 69.7                          | 0.9    | 5447                                                 | 3800  | 1911   | 40                                                   |
| North Central | 21                                | 95.2                          | 1.0    | 5001                                                 | 2574  | 4833   | 33                                                   |
| Central       | 25                                | 70.2                          | 21.0   | 5644                                                 | 2630  | 2067   | 38                                                   |
| North Western | 27                                | 95.7                          | 0.5    | 5113                                                 | 2582  | 1908   | 37                                                   |
| Southern      | 28                                | 90.2                          | 2.0    | 4918                                                 | 2488  | 1979   | 37                                                   |
| Sabaragamuwa  | 35                                | 87.4                          | 8.8    | 3864                                                 | 2317  | 1817   | 35                                                   |
| Uva           | 37                                | 80.8                          | 15.6   | 5282                                                 | 2342  | 1765   | 39                                                   |
| Total         | 23                                | 80.6                          | 6.0    | 5285                                                 | 2865  | 1985   | 40                                                   |

Source: World Bank staff calculations using HIES 2002.

37. Table 3-8 also illustrates how inequality *within* a province explains its relative rank in terms of poverty incidence. For example, access to infrastructure critical for business development in North Central Province ranks quite low (Table 3-7). Also, the majority of its population resides in the rural sector (more than 95 per cent), and the mean expenditure for this sector is not high in comparison with other provinces. The evidence so far suggests that the relatively low poverty incidence in North-Central Province is attributable to two factors: (1) the *lowest* inequality among all provinces as measured by Gini of per capita consumption, and (2) a substantially better-off estate population compared to other provinces.

### Educational attainment and regional poverty

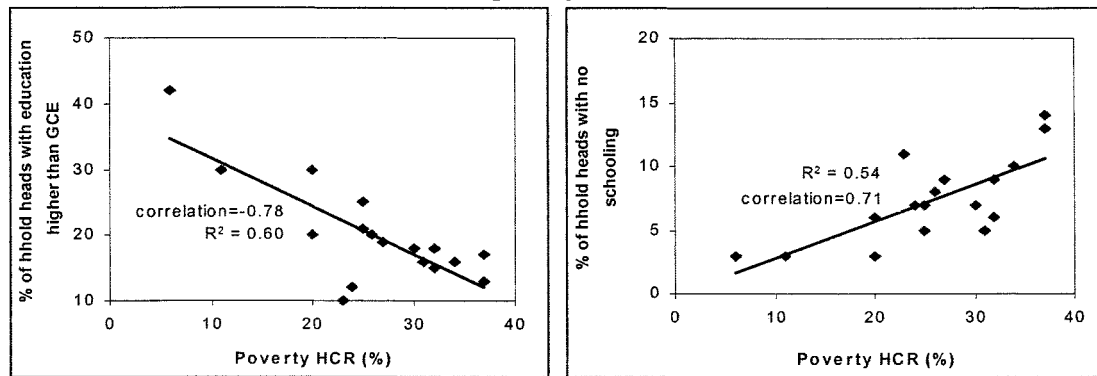
38. Average educational attainment at the province or district level is associated with higher poverty incidence. A higher share of household heads with no schooling in a province corresponds to a higher poverty headcount. Conversely, a higher share of household heads with at least GCE (O/L) education in a province corresponds to a lower poverty headcount (Table 3-9). If Western Province is excluded, both correlation coefficients are still significant at 25 percent in absolute terms.

| Table 3-9: Poverty and educational attainment of household heads by province |                              |                                             |                                             |
|------------------------------------------------------------------------------|------------------------------|---------------------------------------------|---------------------------------------------|
|                                                                              | Poverty head-count (percent) | Household heads with no schooling (percent) | Household heads with at least GCE (percent) |
| Western                                                                      | 11                           | 3                                           | 35                                          |
| North Central                                                                | 21                           | 7                                           | 17                                          |
| Central                                                                      | 25                           | 8                                           | 19                                          |
| North Western                                                                | 27                           | 5                                           | 20                                          |
| Southern                                                                     | 28                           | 8                                           | 19                                          |
| Sabaragamuwa                                                                 | 35                           | 8                                           | 17                                          |
| Uva                                                                          | 37                           | 13                                          | 15                                          |
| Correlation with HCR                                                         |                              | 0.83                                        | -0.85                                       |

Source: World Bank staff calculations using HIES 2002.

39. At the district level, similar results apply (Figure 3-4). The probit regressions show that the average educational attainment of household heads in a district has a significant effect on the probability of a household being poor, even after controlling for other factors. Moreover, bivariate correlations are higher than 70 percent in absolute terms (see Annex 3, Table A-3.5), and if districts in Western Province are excluded, they decline to 25 percent.

**Figure 3-4: Proportion of household heads with higher education or no education correlated with district poverty headcounts**



Source: Staff calculation using HIES 2002 and Census 2001.

40. What can we deduce from the fact that average educational attainment of household heads in a province or district is a strong poverty correlate at the regional level, even though basic education indicators are quite high in Sri Lanka? In a poor province like Uva, which has more than four times the proportion of household heads with no schooling and less than one-half the household heads with GCE (O/L) or higher degree than Western Province, it may reflect relatively poor access to and quality of education in rural/remote areas and lower demand for education due to lack of economic opportunities, which drives down the returns to higher education. A further explanation may lie in patterns of inter-regional or international migration, an issue that will be examined in chapter 4.

41. While it is hard to determine the *exact* combination of factors underlying the observed gap in educational achievements—the implications are clear. Provinces/districts that lag behind economically also suffer from a disadvantage in education and skills, which in turn will make it harder for them to attract investment and catch up with the better-performing regions of the country.

#### **Labor market indicators**

42. The relationship between poverty and unemployment is quite complex (section 3.1). At the level of the household head, *underemployment* rather than *unemployment* prevails in Sri Lanka. When other household members are taken into account, especially youth, the correlation between unemployment and poverty becomes more significant. The picture becomes more complex when spatial correlations with poverty are included.

43. Contrary to intuition, poorer provinces actually tend to have *lower* unemployment rates (see Annex 3, Table A-3.6). Uva has the lowest unemployment rate, while Western Province has a relatively high unemployment rate. With further disaggregation to the district level, there is no association between unemployment and poverty incidence. The probit regression also reveals the ambiguous effect of the average unemployment rate of a district on the probability of being poor (Table A, Annex 3, columns 1 and 2).

44. These findings are broadly consistent with what is known about the nature of unemployment in Sri Lanka. First, many college graduates and highly educated young people are

unemployed in Sri Lanka mainly because they can afford to wait for better job opportunities (see queuing hypothesis in section 3.1). Second, however low the wages are, the extreme poor must work because they cannot survive without income. Thus, in relatively poor areas, *underemployment* is likely to be associated more closely with poverty. In contrast, in Colombo District where only 6 percent of population is poor, *unemployment* in the expectation of better job offers in the future is likely to be more common.

### Regional poverty and the agricultural sector

45. Employment in agriculture is associated with a higher likelihood of a household being poor (section 3.1). Table 3-10 shows a high correlation between poverty headcount and the proportion of agricultural paid employees in total employment of a province, which however declines significantly when Western Province is excluded. The probit regression shows that the *district-level* proportion has a small but significant marginal effect on the probability of a household located in the district to be poor.

| <b>Table 3-10: Poverty and share of paid employees in agriculture</b>     |                                          |                                                                           |                                                                                                       |
|---------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
|                                                                           | <i>Poverty headcount ratio (percent)</i> | <i>Share of agricultural paid employees in total employment (percent)</i> | <i>Average per capita monthly income when household heads work as agricultural wage workers (Rs.)</i> |
| Western                                                                   | 11                                       | 4                                                                         | 2,467                                                                                                 |
| North Central                                                             | 21                                       | 17                                                                        | 2,184                                                                                                 |
| Central                                                                   | 25                                       | 21                                                                        | 2,022                                                                                                 |
| North Western                                                             | 27                                       | 8                                                                         | 2,249                                                                                                 |
| Southern                                                                  | 28                                       | 15                                                                        | 1,929                                                                                                 |
| Sabaragamuwa                                                              | 35                                       | 11                                                                        | 1,467                                                                                                 |
| Uva                                                                       | 37                                       | 23                                                                        | 2,022                                                                                                 |
| <b>Correlation with HCR</b>                                               |                                          | <b>0.64</b>                                                               | <b>-0.07</b>                                                                                          |
| <i>Note:</i> The agricultural sector includes fishing and forest workers. |                                          |                                                                           |                                                                                                       |
| <i>Source:</i> World Bank staff calculations using HIES 2002.             |                                          |                                                                           |                                                                                                       |

46. *Average per capita monthly income* of households whose heads are working as an agricultural worker has a stronger association with poverty incidence in a province (Table 3-10) and at the district level (see Annex 3, Table A-3.8). This partly explains the high poverty headcounts in Southern Province and Sabaragamuwa in spite of the relatively low share of agricultural wage workers: these provinces ranked at the bottom in per capita income when household heads worked as paid agricultural employees.

47. Therefore, when agricultural sector wage employment predominates in a province or district the poverty incidence is higher, but much of this association disappears when Western Province, which is primarily nonagricultural, is excluded from the analysis. What seems to matter more, and is more closely related to regional patterns of poverty, is the average income of households with agricultural employees in a particular area. This in turn suggests variation in the incomes of agricultural households across regions.

48. The correlation between spatial patterns of poverty and variations in incomes of agricultural households makes it important to understand what factors explain such variations—the subject of chapter 6. Moreover, chapter 6 will look at the *nonagricultural* rural sector as critical income-diversification opportunities for households engaged in agriculture.

49. **In review**, comparisons among provinces and districts show some evidence that poverty is concentrated in areas that are *geographically isolated* (in terms of distance to markets and cities); where access to electricity and gas are limited; where the proportion of highly educated household heads is small; and where the proportion of agricultural wage workers in total employment is high and the average incomes of households with such workers are low. Conversely, there is no clear evidence that inequality between provinces or districts is closely associated with differences in regional unemployment rates.

50. Many of the province and district characteristics are better for explaining differences in poverty incidence between Western Province and others rather than differences *among* provinces and districts outside of Western Province, which indicates the vast gap between Western Province and the rest of the country. These differences suggest a story of two economies circumscribed by geography: one of Western Province where there is better access to markets and infrastructure, a higher concentration of educated people, and where nonagricultural sectors play a predominant role; and the rest of the country where the converse of these conditions holds. Although some provinces like North-Central fare much better than Uva and Sabaragamuwa, the differences within these provinces are much less than the difference between them and Western Province.

51. Such broad district- or province-level profiles however obscure significant pockets of poverty that exist in even the richest districts. Even in the more prosperous Western Province, a vulnerable group like the estate population has one-half the per capita consumption levels of rural households. This is also consistent with a result from chapter 2, that *within*-district inequality in consumption has increased by 52 percent over the decade—less than the 112 percent increase in between-district inequality, but substantial all the same.

52. Analysis that is based on more disaggregated geographical data can better reveal the spatial correlates of poverty—particularly those that can be influenced by policy instruments, like access to markets and infrastructure. The analysis below uses poverty maps and other geographical information at the level of DS division.

### ***3.3. DS divisions as the unit of analysis for characterizing poor areas***

53. The ability to conduct geographically disaggregated analysis below the district level is usually hampered by lack of reliable data, since most sample surveys like HIES are designed to be representative at the district level. Recent efforts by the DCS and the World Bank have found ways around this problem by employing the statistical technique of small-area estimation to combine Census and HIES data to estimate poverty incidence for subdistrict administrative areas (see Annex 3, section I), and by using information from Census and other sources to measure certain key spatial characteristics below the district level.

#### **How spatial characteristics of DS divisions relate to poverty incidence**

54. The probit regression of probability of a household being poor offers an opportunity to relate available DS division-level indicators with poverty incidence. The regressions presented in Table A, Annex 3 (columns 3 and 4) replace some of the district-level indicators with DS division-level averages. The results are similar to those obtained with district-level characteristics. The marginal effects of almost all the household-specific factors on the probability of being poor remain unchanged. Spatial characteristics significant at the district level continue to be significant at the DS division level. A household is more likely to be poor if it belongs to a DS division with lower average access to markets, lower proportion of households using electricity, and a higher proportion of household heads with below-primary education (when the accessibility index is omitted from the regression).

55. These three spatial characteristics at the DS division level significantly affect the probability of being poor even when the sample *excludes* households in Colombo District (see Annex 3, Table A-3.9). Thus they are important not only in explaining the variations in poverty incidence between the richest district and the rest of the country, but also the variations in poverty outside this district.

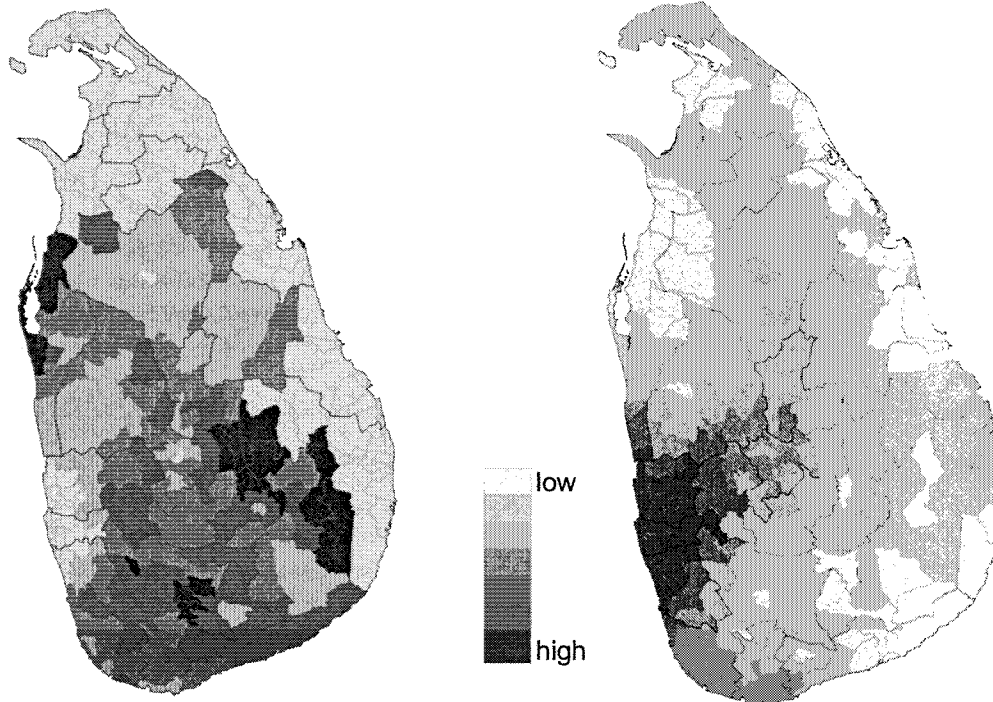
#### **Poverty estimates for DS divisions**

56. Poverty mapping using the small-area estimation technique provides new insights into the distribution of poverty in the country, even for areas where more aggregated analysis suggests

low incidence of poverty (see Annex 3, section I). A map of poverty headcount ratios at the DS Division level indicates some interesting geographic patterns (Figure 3-5). As expected, poverty headcount ratios are substantially lower in Colombo District and its neighboring areas. Areas with high rates of poverty are especially prevalent in Southern Uva and Sabaragamuwa Provinces. But pockets of extreme poverty exist even in districts with relatively low poverty rates – for example, some DS divisions in Kalutara District of Western Province and in North-West and North-Central Provinces (e.g., parts of Puttalam, Anuradhapura and Kurunegala Districts).

**Figure 3-5: Poverty estimates for DS divisions**

**Figure 3-6: Accessibility index for DS divisions**



*Note:* The accessibility index is calculated for every point as the sum of the population totals of surrounding cities and towns inversely weighted by the road network travel time to each town. The map shows the mean of the access values for all points that fall into a given DS unit. The index is a measure of potential market integration reflecting the quality and density of local transportation infrastructure, for 185 cities/towns.

*Source:* Poverty map from DCS (2004); accessibility map based on staff calculations.

### **Relating characteristics of DS divisions with poverty estimates**

57. *Accessibility potential.* As seen earlier, geographical isolation measured by the distance to the nearest market or town is highly correlated with district poverty headcounts. This correlation is likely to be even more important at the DS division level, since accessibility should be more relevant for a smaller geographical area. Accessibility indices calculated for DS divisions shows that areas surrounding the Colombo District in Western Province are well connected to towns and markets (Figure 3-6). These include the southwestern coastal areas surrounding Colombo City and the areas between Colombo and Kandy City. In general, the accessibility index appears to rapidly decline with distance from Colombo and its surrounding areas.

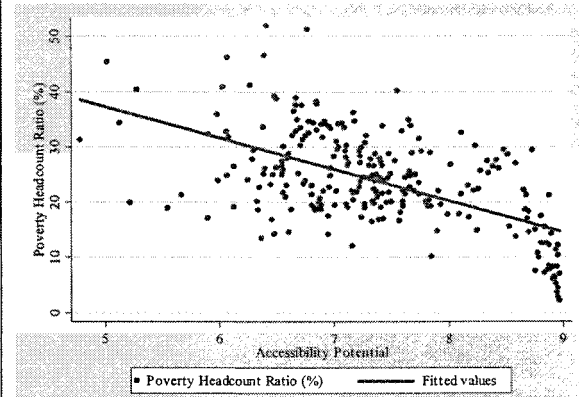
58. Comparing Figure 3-5 and Figure 3-6, the higher the accessibility index of a DS division, the lower tends to be its poverty incidence. For example, the coastal areas surrounding Colombo District record a high accessibility index as well as a low poverty headcount ratio, whereas many DS divisions in Monaragala District of Uva province are very poor and geographically isolated. A

scatter plot and a simple regression of poverty headcount on accessibility index confirm a significant correlation (of  $-0.58$ ) between these two indices (Figure 3-7).

59. *Educational attainment and electricity usage.* DS division-level indicators of education attainment and usage of electricity among households are also highly correlated with poverty estimates for DS divisions obtained from the poverty map. The correlation between poverty incidence and the proportion of household heads with education of primary level or below is  $-0.62$ , and that between poverty and the share of households using electricity is  $0.79$ .

60. The spatial characteristics considered here are also strongly correlated with each other. This is particularly true for the accessibility index vis-à-vis other spatial factors. A regression shows that DS divisions that are better connected to markets are also likely to have larger proportion of households with electricity and better education attainment among household heads, and belong to districts with lower unemployment rates and lower levels of agricultural wage employment (Annex, Table A-3.10).<sup>9</sup>

**Figure 3-7: Poverty headcount and access to urban centers at DS division level**



Source: DCS (2004); World Bank staff calculations

### 3.4. Concluding remarks

61. This chapter identifies broad correlates and hints at some of the sector-specific issues critical to explaining poverty outcomes and informing policy interventions. The analysis excludes the conflict-affected areas in the North and East, due to lack of availability of representative household data or Census information. Chapter 7 will piece together available information for these areas from a variety of sources to draw a profile of poverty and vulnerability in the context of unique challenges brought on by the conflict. The correlates of poverty already identified are a useful starting point for more in-depth analysis in subsequent chapters. Once the constraints that recur across poor households and areas have been identified, sector-specific analysis will address the specific reasons for stagnation in rural incomes, and why certain groups like the estate residents lag behind the rest of the country in income and nonincome dimensions of poverty.

62. A number of household-specific factors are associated with a lower likelihood of being poor: the presence of at least one formal sector employee in the household, a family member working abroad, and higher educational attainment of the household head. Factors associated with a higher probability of being poor include *unemployment*, particularly among youth, and *underemployment*—usually associated with employment in the informal sector. Consistent with the pattern of agricultural stagnation, employment as an agricultural worker increases the likelihood of poverty. In urban areas, poor living conditions and a lack of basic services are critical issues for the poor.

63. These correlations suggest a few avenues for poverty reduction: increasing productivity and incomes from agriculture, creating growth and employment in the formal sector, and investing in higher education. Since poverty is strongly linked to employment in the informal

<sup>9</sup> This regression has an  $R^2$  of 0.71, which is very high given the short list of explanatory variables and indicates high multicollinearity. This also explains why all the spatial variables cannot be included simultaneously in the probit regressions of probability of being poor.



sector, rapid growth of the formal sector will have a large impact on poverty—by drawing workers out of the informal sector and raising informal sector wages. Removing labor market rigidities (see chapter 1) can stimulate growth and employment in the formal sector, particularly in urban areas. Better long-term economic opportunities for the poor require a secondary education and more marketable skills in the labor market. The high incidence of youth unemployment among school dropouts from poor households is likely to perpetuate poverty and sharpen inequality across generations. To identify the types of interventions likely to be effective in reducing dropouts and improving educational attainment, more information is needed to understand what factors constrain education among the poor.

64. While most of these household-specific factors are quite intuitive, even after controlling for their effects, a number of spatial characteristics emerge as strong correlates of poverty. The stylized example using the probit regression in *Table A, Annex 3* show that even when two households are identical in all household characteristics but differ in location—say one is located in a DS division with the average spatial characteristics of Colombo District and the other is located in an average DS division of Monaragala—the Colombo District household is 7 percent less likely to be poor. Although this exercise is a limited application of potential spatial and household-specific factors, it illustrates a message supported by all the available evidence: location matters in Sri Lanka, and location-specific characteristics are critical in explaining the uneven pattern of development.

65. A few spatial factors relevant to poverty emerge as critical constraints faced by lagging regions in the country. Accessibility or the potential for market integration depends on distance from (and available road links with) towns and markets. Higher average accessibility of the DS division or district significantly reduces the probability of a household located there being poor, and is therefore associated with a lower poverty rate for the area. Other important spatial factors include access to electricity and educational attainment, which partly capture the attributes relevant for growth and poverty reduction in a particular region—links to markets, the availability of infrastructure and human capital. These constraints are also highly correlated with each other, indicating the multiple challenges faced by poor areas. Remote areas with poor connections to markets and cities, for example, are also likely to have lower access to electricity and lower educational attainment. It seems intuitive then that policy interventions to promote regional development would need to occur along multiple dimensions designed to complement each other.

66. Although urban poverty rates are low compared to the rest of the country, these rates translate to large numbers due to the high concentration of population in Colombo and surrounding areas. Reducing urban poverty poses special challenges. Urban poverty is highly concentrated within Colombo—and up to three times the poverty rate of Colombo District prevail in a few areas that are also severely underserved in basic services like water, sanitation, and housing. In the long run, improving these services will require more responsive urban municipal governments and better urban planning.

67. While transformations effected through medium-term strategies in regional development and urban planning will take time, targeted interventions can play a key role in protecting the poor and improving their access to basic services in the interim. Targeted initiatives to provide clean water, sanitation, and assistance for housing to underserved settlements can improve welfare substantially among the urban poor; and safety net schemes can ensure a minimum level of sustenance for the poor in rural and urban areas alike. The Samurdhi program, as the largest welfare program in the country, has the greatest potential in terms of outreach and capacity to reach the poor, but to achieve this objective, it must substantially improve its effectiveness in targeting the poor (see chapter 2).

#### 4. Internal Migration, Remittances, and Urban Concentration

1. As earlier chapters have highlighted, poverty in the lagging regions of Sri Lanka—remote districts far away from Colombo, with a large rural and estate population—is a few orders of magnitude higher than that in Western Province, and this gap has been growing over the last decade. The growing regional imbalance contributes to certain dynamic processes, which can in turn influence the future path of growth and poverty reduction. Perhaps the most critical among these is the movement of people from backward regions to faster-growing areas in search of better opportunities. Internal migration from rural/remote areas to the urban growth center doubled between 1996–97 and 2003–04, while the gap in economic performance between rural areas and the rest of the country widened (CFSES, 2003-04). This chapter describes the trend and pattern of internal migration in recent years, and its connection to widening regional inequality.

2. The movement of people from rural areas to the urban growth center of Colombo has complex and profound effects on poverty and inequality depending on the causes, scale, and pattern of migration. Migration can *reduce* cross-regional inequality as people move in response to wage differences and reduce the wage gap. Remittances to the migrants' place of origin in lagging economic regions can also reduce regional inequality. In fact, migration often represents the best available option to those from lagging regions to better their economic status, and it can significantly improve the welfare and poverty levels of households who migrate.

3. Migration can also *perpetuate* regional imbalances by attracting the more endowed, in terms of skills or wealth, to better employment opportunities in Colombo. Moreover, the large-scale movements of people into a single rapidly growing urban center can impose limits on growth due to overcrowding and worsen existing poverty. Thus, the scale and pattern of migration can influence the incidence and characteristics of urban poverty, as well as the challenges faced by urban regions to keep the momentum of economic growth going.

4. This chapter analyzes the characteristics of migrants and the purpose of migration that in turn affect the place of origin as well as the destination. A key element in understanding the impact of migration involves looking at the incidence, size, and use of remittances at the place of origin. The effect of urban agglomeration, which is a consequence of the pattern of migration, and the limits imposed by over-agglomeration on economic growth are also examined along with implications for policy.

##### 4.1. Trends in internal migration over the past decade

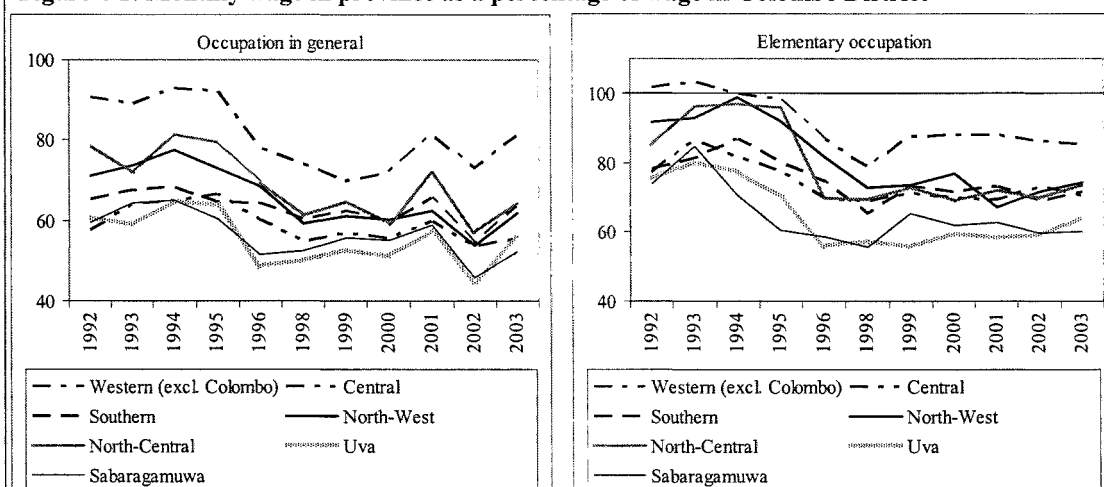
5. The combined proportion of internal migrants and emigrants to other countries increased from 78 per 1,000 households in 1996–97 to 89 in 2003–04, according to CFSES data. Of this total, internal migration increased from 15 to 29 per 1,000 households. In 2003–04, 81 percent of internal migration was undertaken to seek employment.<sup>1</sup> The HIES data show similar increases in migration from 1990–91 to 2002. Both estimates probably *understate* migration, however, since migrants in these surveys are defined as living away from other members of the same household. In other words, these figures do not include the migration of entire households (see *Annex 4, section I*).<sup>2</sup>

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<sup>1</sup> Over the same time, external migration fell marginally from 63 to 60 per 1,000 households. Remittances from abroad, however, still grew at 11 per cent in 2003. The focus of this chapter is however on *internal* migration, since it is a *consequence* of regional inequality and in turn is likely to affect regional growth and inequality patterns.

<sup>2</sup> Internal migration rate is reported as *higher* (71 per 1000 households) than external migration in CFSES 2003-04 Report (part 2), if the reference period for internal migration is taken to be the *same* as that for external migration; this number is however not comparable with the internal migration rate from CFSES 1996-97. This is why the *increase* in internal migration is reported as 15 to 29 per 1000, which is for the *same* reference period across the two surveys.

**Figure 4-1: Monthly wage in province as a percentage of wage in Colombo District**



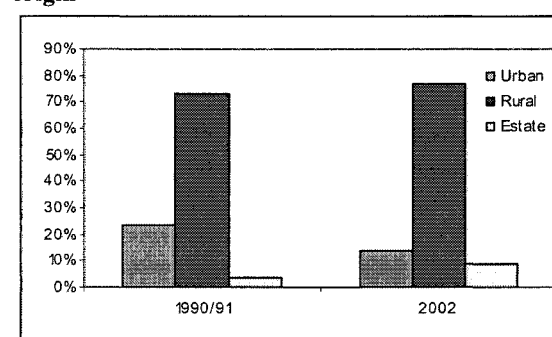
Source: LFS (various years).

6. The sharp increase in internal migration measured by CFSES is consistent with increasing economic inequality between regions through the past decade, which have largely resulted from the increased economic benefits of migrating to Colombo and its surrounding areas. Figure 4-1 shows a widening gap in monthly wage earnings between Colombo District and all provinces other than Western Province. This gap does not necessarily translate into commensurate opportunities for potential migrants, however, since wages in the TEWA-protected formal sector—which is relatively large in Colombo District—are set artificially high above market-clearing levels, and this labor market distortion hampers job creation in the formal sector.<sup>3</sup> Elementary occupations, which are mostly unregulated and better reflect market forces, show a significant wage gap between Colombo District and other areas, and as such present a substantial economic incentive to migrate.

7. Incidence of internal out-migration increased for all provinces from 1996–97 to 2003–04, with the exception of Western Province, the destination for most migrants. Most migrants came from the Northern and Eastern provinces in 2003–04, a pattern consistent with lower economic opportunities there due to the security situation and the ability of people to migrate relatively safely within the country after the ceasefire.

8. Indeed the HIES data show an increase in the proportion of migrants from rural and estate areas from 1990–91 to 2002, and a decline in migrants from urban areas

**Figure 4-2: Composition of migrants by sector of origin**



Source: Staff estimates using HIES data, 1990-91 and 2002.

<sup>3</sup> The simplest economic theories posit that migration occurs when the expected economic benefit—determined by the earning differential and the probability of finding a job at the destination—outstrips the cost of migrating. The wages prevailing in TEWA-protected sectors—which are far more numerous in Colombo than outside and thus affect Colombo wages more—are high enough to impede new hiring and therefore reduce the probability of finding a job in this sector. Thus, the economic benefit from migrating can be overstated if one just looks at the wage differential.

(Figure 4-2). In fact, the share of migrants from the estate sector more than doubled during this period. For example, nearly 90 percent of migrants came from rural and estate sectors in 2002.

#### ***4.2. How migration affects the economy at the origin and destination***

9. The economic literature suggests a wide range of likely welfare impacts depending on who migrates, where they migrate to, and why. Migration among highly skilled workers can reduce productivity and management skills in the source regions, which can in turn deepen regional inequality. At the same time, emigration of skilled workers can also generate benefits for lagging regions because remittances from emigrants usually far exceed the incomes available in their place of origin. The emigrants may also confer indirect benefits to their place of origin, such as inducing investment in education at the origin and the spillover of knowledge from their destination to the place of origin, some of which may raise the stock of human capital.<sup>4</sup>

10. The out-migration of low-skilled workers on the other hand frequently reduces poverty at the place of origin. Low-skilled workers are likely to earn higher wages at their destinations and send remittances to household members in the location of origin; also their emigration can raise wages or create new job opportunities for those left behind. In reality, however, the emigration of poor and low-skilled workers is often limited by their lack of financial resources, skills required to obtain a job, or access to social networks in urban areas.<sup>5</sup> Similarly, the in-migration of poor or low-skilled workers at the target destination can raise unemployment rates, expand urban slums, and strain urban services. Although the link between migration and urban poverty in Colombo City attracts considerable policy interest, few studies have explored this issue with adequate data, and this chapter makes a beginning in this direction.

11. Even though migration from rural/remote areas to Colombo District and City widens spatial disparity, it may represent an efficient use of the labor force. International experience suggests that internal migration to a few large cities is an inevitable stage of the development process.<sup>6</sup> Cities provide a critical mass of consumers, a network of suppliers of intermediate goods, and access to a large pool of skilled workers. These advantages attract workers from lagging areas, which can further widen the economic gap between cities and outlying areas. However, as agglomeration continues, congestion can hamper transactions and reduce productivity in the urban center itself. Hence, the externalities of urban overconcentration may lead to a divergence in individual and social benefits of migration. Namely, migrants can continue to flow into an urban center long after the social cost of congestion exceeds the economic benefits of agglomeration.

12. The net welfare impact of migration trends depends on who migrates, where they end up, and how. Data for a comprehensive profile of migrants within Sri Lanka is unavailable, but this obstacle is partly overcome with data from the Census and household surveys and inferences about households who have migrated or those who have migrant members. The comprehensive use of all three databases leads to a reasonable picture of the economic and socially complex phenomenon of migration (see Annex 4, section I).

#### **Characteristics of internal migrants into Colombo City**

13. Migration is frequently triggered by a combination of “push-pull” factors associated with regional economic differences. Push factors that prevail in the place of origin include lack of economic opportunities in a poor region, which compel certain types of individuals to head for the urban center. Pull factors prevail in urban centers like Colombo higher wages for highly

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<sup>4</sup> See Lucas (2005) and Schiff (2006).

<sup>5</sup> See, for example, Mahmud (1989) for Bangladesh.

<sup>6</sup> See World Bank (2000), World Development Report 2000, chapter 6.

skilled or educated workers, and strong social networks or “network effects” at the potential destination. The data from the Census (2001) describe some of the push-pull factors at work in Sri Lanka and provides a rare opportunity to understand demographic and economic characteristics of migration into Colombo City by using welfare proxies other than income/consumption—namely, education and living conditions. Poverty maps also yield estimates for small geographical areas or groups, which are useful for this purpose.

14. **Push factors that propel migration into Colombo.** According to the 2001 Census, the largest shares of migrants and recent migrants into Colombo City (with residency of five years or less) come from the conflict-affected Jaffna District (see Annex 4, Figure A-4.1). These data also show a clear link between the size of migration and a district’s poor population (see Annex 4, Figure A-4.2), except for the districts of Kandy and Nuwara Eliya, both of which have large estate populations, and for them the incentives to migrate are likely different from the rest of the population due to the unique conditions that prevail in the estates (see chapter 8).

15. Table 4-1 shows that the poverty incidence in the district of origin is strongly associated with recent migration into Colombo City. The correlation is stronger with the district poverty rates in 1995–96 than with those for 2002, which is consistent with the definition of “recent” migration in 2001 Census. Finally, although the aforementioned network effects can be an important pull-factor for internal migration, there is no data suitable to measure this for Sri Lanka. Aggregate statistics only hint at possibilities. For example, the “network” effect of a large Tamil population in Colombo may partly explain large migrations from Jaffna.<sup>7</sup>

**Table 4-1: Correlation of size of recent migration into Colombo City**

|                                                   |             |
|---------------------------------------------------|-------------|
| With poverty headcount rate of districts, 1995–96 | <b>0.56</b> |
| With poverty headcount rate of districts, 2002    | <b>0.39</b> |

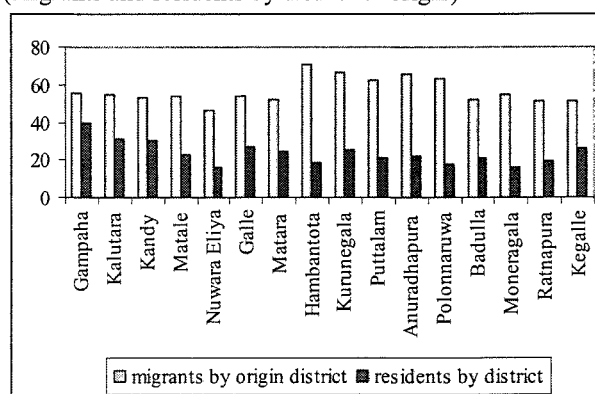
*Source:* Census (2001), HIES (1995-96, 2002)

16. Therefore, consistent with the findings of CFSSES, the Census data for Colombo City show that the main purpose of migration is to escape conflict or the lack of economic opportunities in poor areas. As seen in chapter 3, such districts are also likely to have poor access to infrastructure, markets, and other conditions conducive to business or economic environment.

17. **Education and skills of migrants.** Even if a significant number of migrants originate from poor areas, this does not necessarily imply that the migrants themselves are poor. On the contrary, Figure 4-3 suggests that skilled workers are more likely to emigrate from poor areas in Sri Lanka. The proportion of those with an O-level (O/L) education or above is much higher among household heads who emigrated into Colombo City than among those in the districts of origin who remained.

18. The fact that this pattern is true for all districts, and not just the poorest, suggests the pull factors in Colombo are strong enough to attract highly skilled workers from areas that are not

**Figure 4-3: Share of household heads with tertiary education**  
(migrants and residents by district of origin)



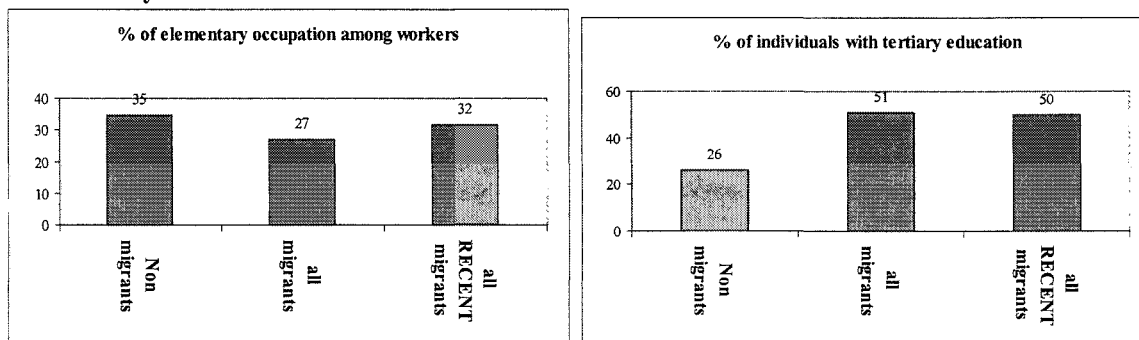
*Source:* World Bank staff calculations using Census (2001)

<sup>7</sup> Sri Lankan Tamils constitute around 30 percent of Colombo City’s population, compared with only 4.5 percent of the total population, excluding the North and East (HIES, 2002).

economically disadvantaged. At the same time, the fact that these migrants are much better educated than other residents in the districts of origin suggests that education level is likely to be an important *constraint* to mobility for people in lagging areas.

19. **Occupation of migrants.** International experience suggests that well-educated migrants may not find jobs commensurate with their skills at their destination. If this were true in Sri Lanka, even though migrants appear to be among the better-educated in their districts of origin, their skills and talents may not be put to optimal use in Colombo City. Figure 4-4 finds some evidence in favor of this kind of “underemployment” among migrants to the Colombo area. Even though tertiary educational attainment among migrants and recent migrants is almost twice that of nonmigrant residents in Colombo City, migrants seem to enjoy narrower employment advantages, as measured by the proportion of (recent) migrants and nonmigrants employed in elementary occupations. A sizeable number of skilled migrants are working in jobs for which they are overqualified. At the same time, the proportion of migrants working in elementary occupations is much smaller than that of nonmigrants, and constitutes a minority (27 percent) of employment among migrants.

**Figure 4-4: Educational attainments and occupation for migrants, recent migrants, and nonmigrants in Colombo City**



Source: World Bank staff calculations using Census (2001)

20. Migrants who did *not* migrate with the head of their households experience greater difficulties in finding good jobs; a larger proportion of such migrants work in elementary occupations (see Annex 4, Table A-4.3).<sup>8</sup> A partial explanation may be that the educational attainment of these migrants is lower than that of other migrants, but still higher than that of nonmigrants. This is also consistent with the presence of a network effect, although there may be other, equally plausible, explanations for this finding.

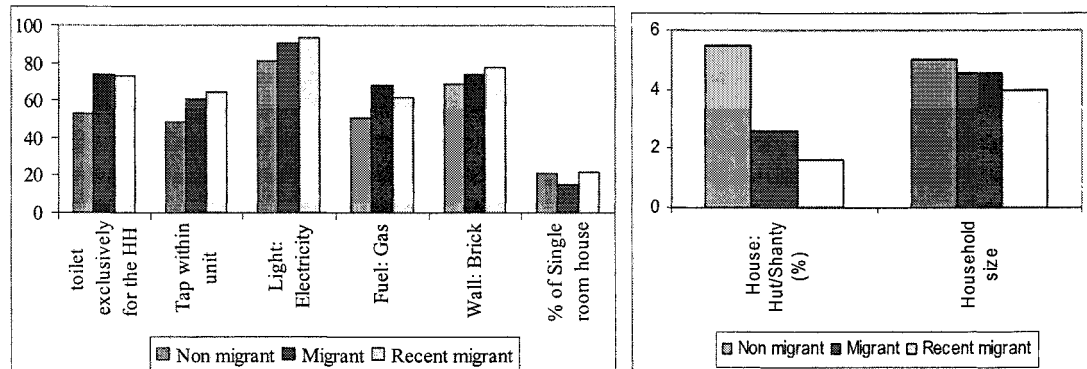
### Migration and urban poverty

21. Given that migration to the Colombo area appears to be a result of both push and pull factors, the net impact on urban poverty is uncertain. It does seem unlikely, given that migrants are, on average, better-off in educational attainment and occupation than nonmigrants, that migrants themselves are a significant proportion of the poor in Colombo.

<sup>8</sup>This finding resolves the apparent contradiction between the Census and CFSES report: the latter indicates that a majority of internal migrants work as unskilled workers. This is because CFSES can identify internal migrants only if the rest of their household live in the district of origin. The 2001 Census data, however, shows that those who have migrated *with* their household head actually constitute a dominant majority among all migrants. Among the migrant group closest to the one considered by CFSES, the Census also shows a large proportion (46 percent) employed in elementary or unskilled occupations (see Yoshida and others 2006).

22. **Housing conditions and ownership:** Figure 4-5 suggests migrants into Colombo City have better housing conditions and are thus likely to be better-off than nonmigrants.<sup>9</sup> When the household head is a migrant, the household is more likely to have access to clean water, electricity, gas, and private toilets; and their houses are more likely to have brick walls and more than one room.

**Figure 4-5: Comparison in housing conditions by household head's migration status**  
(percent of households)



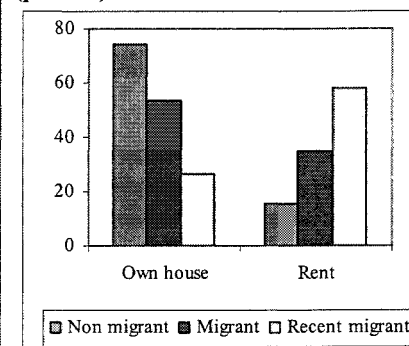
Source: World Bank staff calculations using Census (2001)

23. Migrants are more likely than nonmigrants to rent rather than own the house they live in (Figure 4-6). This seems somewhat inconsistent with the finding that migrants are likely to be better-off than nonmigrants, until we see that a high proportion of renters migrated from conflict areas (see Annex 4, Figure A-4.4), and possibly plan to return to their origin districts as soon as the conflict ends. The high proportion of renters among migrants from *nonconflict* districts may be due to a shortage of housing and a recent hike in land prices in Colombo City that put them at an economic disadvantage.

24. **Poverty estimates using mapping methods.** Typical household surveys cannot provide statistically reliable poverty estimates for migrants to Colombo City due to the small sample size. However the poverty mapping method described in chapter 3 which combines the Census data with HIES data can be used to estimate poverty for *groups* that are relatively small. Because these estimates are based on simulations, they must be interpreted with caution.

25. Using this method, the poverty headcount among migrants and recent migrants (with residency of five years or less) to Colombo City is estimated to be well below that of nonmigrant residents of the city (Table 4-2).<sup>10</sup> These findings are consistent with the findings in chapter 3 that

**Figure 4-6: Home ownership by household head's migration status**  
(percent)



Source: World Bank staff calculations using Census (2001)

<sup>9</sup> This analysis is conducted for households whose heads are (recent) migrants. This is reasonable because first, 80 percent of migrants belong to such households, and second, if household heads are not migrants, the characteristics of housing units, etc., may not reflect the result of migration.

<sup>10</sup> Furthermore, recent research shows that the poverty headcount rates for migrants and recent migrants estimated in this manner are likely to be overestimates, which suggests that the gap between migrants and nonmigrants may be even larger than what is suggested by the poverty mapping estimates. (See Hoogeveen (2003) and Yoshida and others (2006) for details).

the share of migrants in the poor and underserved GN divisions is only 12 percent, which is less than one-half that of other areas in Colombo City (see Table 3-6).

26. Thus unlike other developing countries, the evidence for Sri Lanka seems to suggest that urban poverty is not a *direct* result of the rural poor flooding the urban center. At the same time this does not preclude the indirect effects migration can have on urban poverty. The influx of better-educated and skilled migrants from outer districts into the city can push the less skilled and educated long-term residents out of better types of employment, and therefore increase the number of poor. The rapid inflow of migrants can also drive-up the cost of housing enough to force lower -income households into underserved settlements. Furthermore, the inflow of migrants can lead to excessive concentration of population in Colombo urban area that imposes aggregate losses in growth and welfare due to overagglomeration (see section 4.4 below). Such possible negative effects must be weighed against the benefits migrants bring. For example, an expanding pool of skilled workers is likely to stimulate economic growth, which would increase the earnings of those employed in the informal sector.

**Table 4-2: Estimates of poverty headcount ratio in Colombo City**

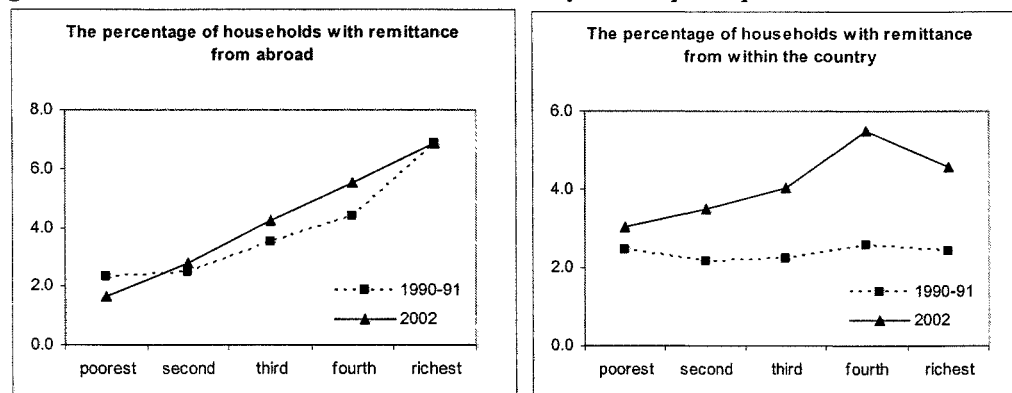
| <i>Migration status of household head</i> | <i>Poverty headcount</i> | <i>Std. error</i> |
|-------------------------------------------|--------------------------|-------------------|
| Nonmigrant                                | 10.9                     | 1.0               |
| Migrant                                   | 5.6                      | 0.6               |
| Recent migrant                            | 4.3                      | 0.6               |

*Source:* Staff estimates using the 2001 Census and the HIES 2002.

#### Does migration benefit lagging areas in Sri Lanka?

27. For many households in economically disadvantaged areas, migration is a viable opportunity to better their economic status. The economic literature supports the view that family members who migrate often diversify the sources of income and economic risk for their households. Migration can also benefit the migrants' place of origin if poor households in these areas receive enough remittances to lift them out of poverty. On the other hand, migration and remittance might further increase regional inequality, if the wealthier or the well-endowed residents migrate.

**Figure 4-7: Percent of households with remittances by consumption quintiles**



*Source:* Staff estimates based on HIES 1990-91 and 2002.

28. **Incidence of remittances in migrants' places of origin.** Links between internal and international remittance and poverty can be explored using HIES data. Figure 4-7 shows that incidence of remittance from abroad is higher among higher-consumption quintiles. The highest share of households with international remittance is also found among the richest consumption quintile. The incidence of remittances from *within* the country, however, is less correlated with consumption level. For both types of remittance, the correlation between household consumption and incidence of remittance is stronger in 2002 than in 1990-91. These results however do not



*necessarily* imply that better-off households have higher incidence of remittance. Instead, it may be that a poor household becomes better-off due to remittances received. Unfortunately, there is no easy way to distinguish between these possibilities using currently available household surveys in Sri Lanka.

29. What is clear from Figure 4-7 is that remittances are received both by the poorest *and* richest groups. The proportion of households in the poorest quintile that received remittance from abroad or within a country (2 to 3 percent) are not that different from the proportion of households in the richest quintile who receive remittances (4 to 7 percent). Remittances constitute a substantial share of consumption expenditure for households who receive them, around 20–28 percent for all consumption groups in 2002 (Table 4-3).<sup>11</sup> Remittances constitute only around 1–3 percent of income for all households, reflecting the fact that most households do not receive any remittances.

| <b>Table 4-3: Ratio of remittance to consumption expenditure, 2002 (percent)</b> |                       |                                   |
|----------------------------------------------------------------------------------|-----------------------|-----------------------------------|
| <i>Consumption quintile</i>                                                      | <i>All households</i> | <i>Households with remittance</i> |
| Poorest                                                                          | 1.2                   | 23.7                              |
| 2nd                                                                              | 1.3                   | 20.4                              |
| 3rd                                                                              | 2.3                   | 27.1                              |
| 4th                                                                              | 3.2                   | 28.1                              |
| Richest                                                                          | 3.3                   | 27.3                              |
| Overall                                                                          | 2.3                   | 26.0                              |

*Source:* Staff estimates using HIES 2002.

30. ***Do remittances reduce the likelihood of being poor?*** After controlling for a number of household and spatial characteristics, receiving remittance from abroad has a significantly negative correlation with the probability of a household being poor (chapter 3). However, this is not enough to say remittance *reduces* the probability of being poor. To answer this question, it is necessary to infer a migrant's *counterfactual* income, i.e., the income level he or she would earn were they to work in the area of origin, which is not possible to obtain from HIES data.

31. A partial picture of the impact of urban migration on poverty emerges from a special survey in Gampaha District that compared premigration income with postmigration income.<sup>12</sup> Since premigration income is a reasonable proxy of the counterfactual income, this comparison indicates whether migration actually improves the income level of the migrant. The study finds that 73 percent of in-migrants experienced income increases after their migration to an urban center in Gampaha District. The income increase is not restricted to the richest income group; and more than 80 percent of even the poorest pre-migration income groups managed to increase their monthly income. This study is based on a relatively small sample from a specific area, so a clearer picture of the impact of remittance on poverty must await analysis using better data at the national level.

32. ***Impact of migration on education at the place of origin.*** Sometimes, as evidence from other countries shows, when the opportunity to emigrate increases the returns to education, more individuals are encouraged to invest more in education. However, it is likely that only some of the educated people actually emigrate. So if the increase in human capital of those who stay exceeds the loss from those who emigrate, the stock of human capital in the place of origin may actually increase because of migration, which is in turn is likely to benefit the lagging region.

33. If this hypothesis holds, educational attainment of household members of migrants should be higher than that of households without migrants. The data show little or no variation in educational attainments of household heads or secondary enrollments of children aged 14 and above based on the migration status of household members (see Annex 4, Table A-4.1 and Figure A-4.5). This is also largely true for enrollments of all other age groups. Moreover, there is no

<sup>11</sup> Per capita monthly remittance ranges from Rs. 270 (in 2002 Rs.) for the poorest income group to more than Rs. 1800 for the richest income group (see Annex 4, Table A-4.2).

<sup>12</sup> Ranabahu (2004).

significant difference in educational expenses between households with and without remittances. Educational expenses account for 11 percent of total household expenditure for households without remittances, but 13 percent for those with remittances. Therefore, there is no evidence that out-migration leads to greater investment or better outcomes in education.

#### 4.3. Urban agglomeration and its effects on growth and poverty

34. Migration is mostly a private decision of households in response to differences in economic opportunities between areas; and the ability to migrate, therefore, often represents a significant welfare-increasing opportunity for households. However, even as private benefits from migrating are high social benefits may go down, due to overcrowding and congestion in the country's major urban center, and result in a net welfare loss. Cross-country evidence also suggests that overconcentration in a single urban area can result in significant aggregate losses in growth, as compared to a country with a larger number of economically developed urban centers that can serve as alternative destinations for migrants. Indeed, it is likely that Sri Lanka can obtain significant gains in growth and welfare by adopting appropriate policies to reduce agglomeration costs at Colombo.

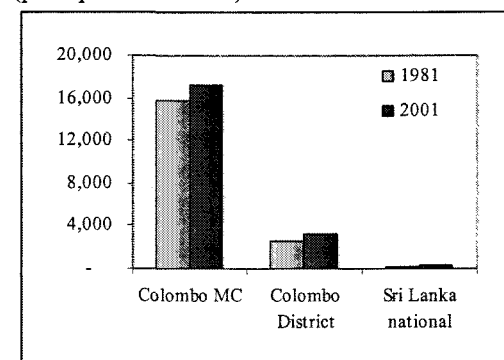
35. **Urbanization and overconcentration.** Urbanization and economic growth in developing countries go hand-in-hand. The simple correlation coefficient between the share of urban population in a country and GDP per capita (in logs) is as high as 0.85. Production is more efficient when concentrated in dense business-industrial districts in cities, due to factors like information spillovers amongst producers, more efficient labor markets, and savings in transportation costs. While such forces promote geographical concentration in a country's main urban area, there are also opposing forces. Immobile factors, such as land and natural resources, can become more expensive due to higher demand; and concentrations of activity can generate pure external diseconomies such as congestion and pollution that can profoundly affect welfare and growth. The loss in economic growth due to over- or underconcentration in the main urban area can be substantial. According to recent cross-country empirical research, a 10-percentage point gap between a country's optimal and actual *urban primacy* – defined as the *share of the main urban center of the country in the country's total urban population* – can reduce its annual growth rate by more than one percentage point.<sup>13</sup>

#### Is Sri Lanka overconcentrated?

36. According to Census 2001, around one-half of Sri Lanka's urban population (1.2 million) lives in Colombo District, and one-quarter (0.6 million) in Colombo MC—live in an area of a little less than 40 square kilometers.<sup>14</sup> The population density of Colombo District is many times higher than that of the country, and the density in Colombo MC is more than 4 times that of even Colombo District (Figure 4-8). This leads to the question: is Sri Lanka over-concentrated, and if so what are the consequences?

37. There is much evidence to suggest that overcrowding is a serious problem in Colombo, especially in the MC area. The strain on basic

**Figure 4-8: Population density**  
(per square kilometer)



Source: UDA (2001), Indrasiri (2006), DCS (2004).

<sup>13</sup> Henderson (2000).

<sup>14</sup> The total urban population of Sri Lanka is 2.6 million (Census 2001) excluding cities in the Northeast.

services is evident in electricity, gas, clean water and sanitation, particularly in the poor and underserved areas of the city (see chapter 3). Residential land prices have skyrocketed in recent years, rising more than 200 percent in real terms in some areas and more than 100 percent in even some poor areas between 2000 and 2005.<sup>15</sup> Census data from 2001 shows high net out-migration from Colombo to its surrounding districts, especially among unskilled workers.<sup>16</sup> This may indicate costs of overcrowding in terms of rising housing costs and access to services that affect the poor more than the better-off.

38. Moreover, the rising trend of workers living outside Colombo MC where housing is more affordable has also led to massive increases in traffic flowing into the city every day. The population of Colombo MC more than triples during the day according to some estimates, when more than a quarter of the *total population of Western Province* flows in and out of the city each day (see Annex 4, section II). The economic and welfare implications of such congestion include increased vehicle running costs and lengthening commuting time, which negatively affecting productivity and welfare, and worsening air quality.

39. ***What is the aggregate cost of overconcentration?*** Cross-country empirical research mentioned earlier provides a way to estimate losses in economic growth. Using the parameters from the cross-country regression, the *optimal urban primacy* for Sri Lanka based on its per capita GDP is estimated to be 24.5 percent (see Annex 4, section III). Taking all areas within a 10-kilometer radius from the center of Colombo MC (a conservative estimate of the size of the Colombo urban area – see Annex 4, section IV), the *actual urban primacy* is as high as 35 percent. Instead, if the much larger Core Area of the Colombo Metropolitan Region (CMR) as defined by the Urban Development Authority (UDA) is taken to be the Colombo urban area, urban primacy of Sri Lanka swells to well above 50 percent.

40. Simulations from the cross-country regression indicate that an urban primacy of 0.35 implies a reduction of at least 1.5 percentage points in annual average growth rate. Given the limitations of cross-country analysis, these estimates should be considered speculative.<sup>17</sup> Nevertheless, it is a useful illustration of a broader point made in chapter 1: that Colombo urban area is overconcentrated, and that in turn imposes economic losses on the country. And these losses are strictly in *comparison* to the counterfactual of having more urban centers as viable destinations for migrants.

### **How to mitigate excessive agglomeration in Colombo urban area**

41. Section 4.2 shows that a high proportion of migration into Colombo is economically driven and originate from poor and conflict-affected areas. This is likely to continue given the large gap in opportunities between Colombo and the rest of the country. Given the strong incentive to migrate and the significant economic gains from migration to households, both urban development in Colombo and regional development to promote alternate urban centers are essential to reduce the costs of agglomeration in Colombo and preserve the economic opportunities afforded by migration to those living in remote, lagging regions.

42. ***Lessons from economic theory and cross-country experience.*** Recent literature on Economic Geography suggests viable ways to mitigate the losses due to overprimacy. Urban agglomeration losses (such as congestion) are externalities; so unless there are institutional mechanisms internalizing these costs in migrants' private decisions, urban migration will surely exceed the optimal concentration level. Studies have identified a few factors as critical for this to

<sup>15</sup> According to Weeratne's independent land price assessment in 2006.

<sup>16</sup> See Yoshida and others (2006).

<sup>17</sup> This analysis is just *indicative* of overconcentration in Colombo. Many country specific characteristics that may significantly affect the relationship between urban primacy and economic growth are not necessarily incorporated into a cross-country regression model such as this.

happen: free-functioning land markets, and a strong role for proactive autonomous local governments and/or competitive land developers in city development (Box 4-1).<sup>18</sup> A number of studies suggest inter-regional transport infrastructure as a way to reduce urban concentration by promoting regional development. Investment in highway systems, inland waterways, and railways has all worked with some success in different countries to spread growth beyond the largest cities (Box 4-1). Investments in transport infrastructure alone, however, are not enough to improve the investment climate and exploit comparative advantages of specific areas.

**Box 4-1: Mitigating excessive urban concentration: theory and cross-country experiences**

Restricting city size in the interests of its residents is one mechanisms/institution to incorporate the externalities of migration into the migrants' private decision to migrate. The collection of rents from land-holding through property tax can provide proper incentives to potential migrants through subsidies or taxes. The deconcentration of Seoul city in the Republic of Korea has been successful partly because the government provides proper incentives to migrants. To take such action, local governments must be able to control their own budgets in order to maximize the welfare of local residents.

Henderson and Becker (2000) suggest that *decentralization of powers and democratization of local governments* is a powerful path to reducing excessive urban concentration. A similar result can be achieved, at least theoretically, through *market forces in land markets*, provided these forces can operate without monopolies or other kinds of distortions. Henderson (2003) finds that investment in national roads and highway systems significantly reduces national urban primacy. Similar results are obtained by Gallup and others (1999), who suggest that historical investments in national navigable waterways induce inland habitation, and significantly reduce urban concentration. Rosen and Resnick (1980) find rail investment reduces national urban concentration. The deconcentration of industry from the greater Sao Paulo region in Brazil to lower-wage hinterland cities followed major transport corridors first through São Paulo state and then into Minas Gerais, the interior state with the main iron ore and other mineral and agricultural reserves.

Transportation links may also have an opposing effect (Krugman 1991, 1999). Lowering transportation costs enables firms in large cities to compete with local producers in remote areas. The competitive advantages enjoyed by firms in the main urban area may then actually conspire to harm local business in hinterlands and induce the perverse effect of further concentration in larger cities. The net effect of investing in better connectivity on urban primacy depends on which of the two opposing effects dominates. For Sri Lanka, no definitive answer is possible at this stage, but there is evidence to suggest that better connectivity will work in favor of spreading growth beyond the main urban center.

Source: Yoshida and others (2006).

**43. *The insights from cross-country evidence appear to be highly relevant for Sri Lanka.***

Lack of adequate transport infrastructure outside Western Province (see chapter 3) indeed is a critical factor behind overconcentrated growth in Colombo and limits to regional development, but it not the only important factor. ADB and World Bank (2005) shows that access to finance, electricity, and transportation are all perceived as major constraints by both urban and rural firms and therefore act as bottlenecks to regional development.

**44.** The role of institutions and markets within cities is also likely to be critical for reducing the costs of overconcentration in Sri Lanka. Local governments, which can play an important role in providing incentives appropriate for achieving optimal city sizes, are hampered by lack of finances and capacity.<sup>19</sup> Moreover, weak local governments are unable to provide adequate urban infrastructure and services, especially to poorer localities. Hence, improvements in the quality of services across the board would mitigate some of the worst impacts of agglomeration on welfare and growth. This report suggests a number of ways to rejuvenate urban functions of Colombo Metropolitan areas and other urban areas through efforts to improve the functioning land markets and the private sector (see Annex 4, section V).

<sup>18</sup> See Krugman (1999); Henderson and Becker (2000); Henderson and Wang (2005).

<sup>19</sup> See World Bank (2006e).

#### 4.4. *Summary and implications for policy*

45. This chapter profiles internal migration in Sri Lanka, which is a consequence of increasing regional inequality, to understand its implications for poverty, inequality, and growth. In the absence of panel data, the analysis uses “snapshots” of migrants at different locations, cross-country analysis, and draws from cross-sectional databases. While these information sources are not substitutes for a properly designed panel survey, they reveal some of the underlying dynamics of migration patterns. Obviously, the design of specific policy responses will greatly benefit from future surveys incorporating such elements into their design.

46. The pattern of migration within Sri Lanka is from outlying areas to Western Province, with Colombo City as a major destination. The rising trend of internal migration is consistent with an expanding wage gap between Colombo District and the rest of the country, in both formal and informal or elementary occupations. Most migrants originate from poor and remote areas or the conflict-affected North and East, indicating that the quest for better economic opportunities is a powerful motive; the ceasefire of 2002 also allowed more free flow of migrants from Northeast.

47. The characteristics of migrants into Colombo City indicate that the average level of education is much higher among heads of households who have migrated into Colombo City than residents at their district of origin, which may cause lagging areas to fall further behind in terms of their economic potential. At the same time, remittances sent by internal and international migrants to their family members at their places of origin appear to improve living standards in these areas.

48. Migrants into Colombo City are likely to be better educated than long-term residents, and less likely to be poor or employed in low-paying elementary occupations than the latter by a wide margin. Consequently, migrants are also likely to enjoy better housing conditions and access to basic infrastructure. A large proportion of migrants into Colombo have migrated with their entire household, and these migrants tend to be more educated and better employed than those who have migrated by alone. This suggests that much of internal migration is relatively long-term in nature, and that this type of migration contributes the most in terms of transferring human capital and skills to where they are valued.

49. In the urban center of Colombo, the inflow of migrants adds to the stock of human capital, which strengthens the city’s economic prospects. At the same time, continued migration into Colombo is likely to impose agglomeration costs that can reduce productivity and raise the cost of doing business. There is strong evidence to suggest this—skyrocketing land prices indicating scarcity of land, increasing pressure on urban infrastructure, and a pattern of out-migration of poor and unskilled workers to the periphery. Cross-country analysis suggests that the aggregate growth impact of overagglomeration in Colombo urban area is likely to be negative and substantial. Sri Lanka can therefore increase growth through regional development strategies that promote alternate growth centers—thereby reducing the agglomeration at Colombo *and* offering alternate economic incentives to potential migrants.

50. While the net welfare impact of migration is ambiguous, migration does offer upward economic mobility to those living in lagging regions. But such opportunities are also more likely to be utilized by those who are better endowed in terms of education or skills, indicating that the absence of such attributes can act as powerful obstacles to the mobility of households.

51. The findings therefore suggest a dynamic process at work in Sri Lanka, as a response of individuals to the sharp inter-regional differences in economic opportunities that exist. While being a *consequence* of inequality, the pattern of migration may also *perpetuate* regional differences, by increasing the endowment of human capital in the Colombo area at the expense of lagging regions. Moreover, as continuing migration leads to overconcentration at the country’s

main growth center, there is an aggregate negative impact on growth and welfare as well. If the trend of rising regional inequality is not reversed, these processes are only likely to become stronger with time.

### **Implications for a development strategy**

52. Migration has the potential to efficiently allocate human resources spatially, and reduce poverty in remote lagging areas. Moreover, in case of remote areas with significant disadvantages, it may be more feasible to improve welfare by empowering people to move rather than moving jobs to people. Migration in Sri Lanka, however, appears to favor skilled or educated workers, even when the potential economic gains (as indicated by wage differentials) are high. By *investing in higher quality education in remote, lagging areas* households will be better endowed with the ability to migrate as a viable way to improve their welfare.

53. Raising the capacity of the rural poor to seek better economic opportunities in urban areas will improve welfare, but that must be complemented by regional development strategies to diversify opportunities for people living in lagging regions, which will in turn reduce overagglomeration in Colombo. Experience in a number of countries suggest that *investing in transport infrastructure* can promote growth of regional markets and urban centers; and the strong correlation between accessibility to markets and welfare (in chapter 3) suggest this is likely to be the case in Sri Lanka as well. At the same time, improving transport infrastructure by itself may not be enough to jump-start the process, and would need to be complemented by other key facilities necessary for market development.

54. Replicating the economic advantages of Colombo in remote areas of the country is however not the answer. It would be enormously inefficient in terms of resource allocation to do so; and investing in regional markets that are not sustainable due to lack of critical complementary factors may not benefit even these markets, as numerous experiences in other countries have shown.

55. A more sustainable approach would involve *identifying the comparative advantages* of different geographic areas, *improving connectivity* of these areas to Colombo and other smaller markets, and providing the *key complementary facilities* needed to exploit these advantages. Potential regional growth centers must enjoy some favorable initial conditions in terms of existing markets, location, basic infrastructure, and institutions. International experience suggests that such initial conditions are often found in towns that are relatively close to (or enjoy better links with) the main urban center, rather than in distant, remote areas of the country. A careful analysis to identify such potential sites would be invaluable to inform a regional growth strategy.

56. Reducing the losses from urban overconcentration also requires coordination between urban planning and regional development. A combination of integrated *urban planning* by proactive autonomous local governments, competition among urban land developers, and well-functioning urban land markets is likely to create interconnecting incentives that allow cities to achieve optimal sizes and improve infrastructure and services. In case of Colombo, improvements in infrastructure and services brought about by a better-functioning municipal government can significantly reduce costs of agglomeration and improve the welfare of the poor. Developing better institutions will also likely help unlock the growth potential of smaller cities.

## 5. Human Development Challenges and the Poverty Nexus

1. Sri Lanka's early achievements in human development are well known internationally. At the national level, the country is poised to achieve or is well on its way to achieving most of the Millennium Development Goals in health and education. An extensive network of schools and healthcare facilities has provided the entire population, including the poor, with universal access to a basic education and health services. As a result, the *poor* fare as *well* as the rest of the country in terms of *basic human development* outcomes.

2. The challenges that face Sri Lanka in human development are quite different from those in most developing countries. Primary enrollment and literacy, which remain challenges for many developing countries, is near-universal in Sri Lanka. Similarly, basic indicators of health—like life expectancy, maternal health, fertility, infant and child mortality rates and immunization rates—are uniformly high in all parts of the country and across income groups. Good basic indicators in health are in no small measure due to high literacy rates among mothers in Sri Lanka.

3. The nationally aggregated social indicators, however, hide *quality issues and disparities* across income groups in terms of secondary outcomes. Some poor health outcomes, low educational attainment, and lower enrollment rates are more likely among low-income households, which in turn is likely to keep households in poverty. In health, some *rich-poor gaps* are prevalent, such as in low birth weight, malnutrition among preschool children, poor nutritional status of adult women, and incidence of communicable diseases such as tuberculosis, and diarrhea. Poor nutrition among the poor has important ramifications for health and earning potential, which in turn is likely to perpetuate the cycle of poverty and low human capability. A healthy mother is an essential prerequisite for the birth of a health baby, and low birth weight and poor health among young children has been found to affect learning in school and also raise the risk of chronic diseases in adulthood. Both are likely to have adverse impacts on lifetime earnings.

4. The challenge in *education* in Sri Lanka is low learning achievement. Despite significant investments in primary school enrollment and retention, students display only a weak grasp of first languages, English, and mathematics, and these weaknesses are even worse in the non-urban sector. Chapters 3 and 4 have discussed the links between higher levels of educational attainment and lower incidence of poverty. This chapter will show that poverty is also associated with lower net enrollment rates at secondary and tertiary levels, and the long-lasting impacts of nutritional deficiencies. Inadequacies in education and nutrition can have lifelong effects on earnings, and trap households in a cycle of low capability and poverty. Private tutoring to supplement formal classroom lectures is more common among the rich, while school avoidance is more common among the poor. The higher incidence of poverty among the less-educated and the fact that the poor are less likely to be enrolled in higher levels of education perpetuates the vicious cycle of illiteracy and poverty.

5. This chapter examines the nexus between inequalities in economic status and nonincome dimensions of welfare. The analysis, drawing on existing data sources as well as a review of the literature in the country, will identify some of the key challenges facing the health and education sectors today, to inform the way forward. It reviews successes already achieved to ensure that the very same factors that have contributed to achievements in basic health and education in Sri Lanka are not undermined by measures to address the key challenges facing these sectors today.

### 5.1. Health sector: achievements, outcomes, and challenges

6. Inadequate health care among the poor, who face the greatest burden of ill-health, remains a pressing issue all over the developing world. Poor health outcomes are more likely among low-income households, which in turn is likely to keep households in poverty. There is little consensus on addressing the health-poverty nexus. Which poverty reduction efforts are most effective in improving the health of the poor? Which health services should governments provide? One view argues that health services alone are not enough to eliminate the root causes of ill-health that are intimately linked to poverty. Another view argues that poverty reduction cannot be achieved when sickness and disease hamper poor people's ability to work and earn a living.<sup>1</sup>

7. Sri Lanka's health experience is a microcosm of this complex debate, in that the country has pursued both poverty reduction and direct health support. These efforts have worked well to improve basic health outcomes of the poor, but challenges remain along certain dimensions, such as nutrition outcomes among poor women and children, and on the curative side, for treating chronic conditions such as heart disease, mental illness, diabetes, and cancer.

8. The next section presents an international comparison of Sri Lanka's health outcomes. This is followed by an examination of how the health system is accessed or used by poor households, and health outcomes, particularly nutritional status, among poor and rich households, and across sectors. Much of the data analysis is based on Sri Lanka's Demographic and Health Survey (DCS, 2002), defining socioeconomic status in terms of assets or wealth, rather than income or consumption that are unavailable from the survey.<sup>2</sup>

#### Profile of health outcomes in Sri Lanka with comparator countries

9. When compared with other South Asian countries as well as a group of lower-middle-income countries, Sri Lanka does better in most human development indicators (Table 5-1). The *fertility* rate is very low at about 2 births per woman and child; and the average mortality rates among infants, children and mothers, immunization rates and life expectancy at birth are much superior. The prevalence of *child malnutrition*, although lower than the South Asian average, is more than twice that of the average for lower-middle-income countries.

10. Sri Lanka's achieves these results with relatively low total *spending on health*.

| <i>Indicator</i>                                                 | <i>Sri Lanka</i> | <i>South Asia</i> | <i>Lower-middle-income countries</i> |
|------------------------------------------------------------------|------------------|-------------------|--------------------------------------|
| Life expectancy at birth (years)                                 | 74               | 63                | 69                                   |
| Total fertility rate (births per woman)                          | 1.9*             | 3.2               | 2.1                                  |
| Infant mortality rate (per 1,000 live births)                    | 14*              | 67                | 36                                   |
| Under-5 mortality rate (per 1,000)                               | 15*              | 93                | 44                                   |
| Maternal mortality rate (per 100,000 live births)                | 92               | 567               | 121                                  |
| Percent of underweight children (under age 5)                    | 29*              | 48                | 11                                   |
| Child immunization rate, DPT3 (12-23 months)                     | 98*              | 71                | 88                                   |
| Child immunization rate, measles (12-23 months)                  | 94*              | 67                | 86                                   |
| Adult literacy rate (percent of population ages 15 and over)     | 92               | 59                | 90                                   |
| Health expenditure per capita (\$)                               | 32               | 26                | 84                                   |
| Health expenditure, public (percent of GDP)                      | 1.8              | 1.3               | 2.7                                  |
| Health expenditure, public (percent of total health expenditure) | 49               | 24                | 45                                   |
| Health expenditure, total (percent of GDP)                       | 3.7              | 5.5               | 6                                    |

*Source:* Health, Nutrition and Population Comparative Data, HNP Stats, World Bank [Retrieved on June 13, 2006 from <http://devdata.worldbank.org/hnpstats/cd.asp>] and Sri Lanka DHS 2000 (DCS, 2002)

<sup>1</sup> Studies on the effects of health on productivity include Schultz (2003), Strauss and Thomas (1995), Strauss and Thomas (1998), Behrman and Deolalikar (1988), Haddad and Bois (1991).

<sup>2</sup> Households are classified into quintiles based on their asset index using the principal components approach described in Filmer and Pritchett (2001). See Thalagala (2004) for another recent analysis of SL DHS 2000 using an asset index.

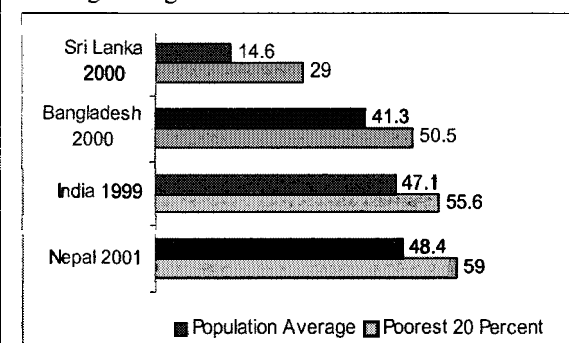


Expenditure per capita and total health expenditures (sum of public and private) as a percentage of GDP are less than both the South Asian average and the average for low-middle-income countries. The composition of expenditures show the important role played by the public health system. Public expenditures make up one-half of total health spending in Sri Lanka, which is higher than the corresponding shares in South Asia and lower-middle-income countries. Public health expenditures as a percentage of GDP is higher than the South Asian average but lower than the average for lower-middle-income countries.

11. *Health sector capacity*, as measured by number of hospital beds per 1,000 (3.1), is comparable to the average for lower-middle-income countries (3.8) and significantly higher than the South Asian average (0.7). However, number of physicians per 1,000 people (0.5) is only about a one-quarter of the average in lower-middle-income countries (1.9). In summary, cross-country comparisons show that Sri Lanka's superior performance in health indicators occurs concurrently with relatively low spending on health and low income.<sup>3</sup>

12. The *poor* in Sri Lanka also generally fare better in terms of health outcomes compared to the poor in other parts of South Asia. Their relatively better health status can at least partially be attributed to universal and free healthcare and a well laid out network of preventive health services and hospitals. As noted earlier, Sri Lanka's performance in malnutrition status is below that of middle-income countries and a comparison of stunting, an indicator of *chronic* malnutrition, among children reveals interesting contrasts.<sup>4</sup> While the prevalence of *stunting* among children, is lower among the poor in Sri Lanka than among the poor in Bangladesh, Nepal, and India,<sup>5</sup> the difference in the incidence of stunting within Sri Lanka between the poor and nonpoor is starker than in any other South Asian country. Stunting among the poor is double that of the average population in Sri Lanka (Figure 5-1).

**Figure 5-1: Sri Lanka's poor do relatively better than South Asian counterparts**  
Stunting among children



Note: Refers to children under 5 years of age.

Source: Tabulations for Sri Lanka based on World Bank staff estimates using DHS (2000). Remaining tabulations taken from Gwatkin and others (2004).

13. Access to *safe water and education* are two areas of investment that typically improve health outcomes. In terms of access to safe water, Sri Lanka performs better than other South Asian countries but slightly worse than the average lower-middle-income countries. In adult literacy, Sri Lanka is comparable to even middle-income countries and outperforms South Asia with less than 10 percent of adult Sri Lankans being illiterate compared with more than 40 percent for South Asia (Table 5-1). The *high literacy* rate in Sri Lanka, especially among mothers, no doubt contributes to *good basic health outcomes*.

### Equity and efficiency of public healthcare

14. Studies using time series data show that between 1952 and 1981, income growth alone could not have achieved the observed positive health outcomes and that public intervention had a

<sup>3</sup> HNP Stats, World Bank; Annual Health Bulletin 2002 (Department of Health Services, Govt. of Sri Lanka, 2002)

<sup>4</sup> Stunting is defined as prolonged or severe nutrient depletion that eventually leads to retardation of height or linear skeletal growth in children evident as unusually low height-for-age. Comparisons are tabulated using recent rounds of DHS by Gwatkin and others (2004) combined with tabulations from Sri Lanka's DHS 2000 (DCS, 2002).

<sup>5</sup> Classification into population quintiles based on asset index approach. See footnote 2.

significant and positive effect.<sup>6</sup> Dreze and Sen (1989) described Sri Lanka's approach to development as one of "support-led security" in which the government provided health and social sector services as a means of promoting development without waiting for economic growth to do so. This approach was also taken by Chile, Costa Rica, Cuba, Jamaica, and the Indian state of Kerala, and in Sri Lanka's case, led to the country being an outlier in terms of its social achievements given its level of income.<sup>7</sup>

15. By regional and international standards, the health system in Sri Lanka displays high levels of *technical efficiency* and *equity*. Total health expenditures (as percent of GDP) in Sri Lanka are comparable to those of Thailand, Malaysia, and Korea; slightly below India, Russia, and the United Kingdom; but significantly lower than the United States (Table 5-2). Like Malaysia, Korea, Russia, and the United States, public spending on health in Sri Lanka make up about one-half of total health expenditures.

| <b>Table 5-2: International comparison of health expenditures, 2004</b> |                                                     |                                      |                                                        |                                                       |                                               |
|-------------------------------------------------------------------------|-----------------------------------------------------|--------------------------------------|--------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------|
| <i>Country</i>                                                          | <i>Gross national per capita income (US\$) 2004</i> | <i>Total health exp. as % of GDP</i> | <i>Public exp. on health as % of total health exp.</i> | <i>Public exp. on health as % of total govt. exp.</i> | <i>Per capita total exp. on health (US\$)</i> |
| Sri Lanka                                                               | 1,010                                               | 4                                    | 49                                                     | 6                                                     | 32                                            |
| India                                                                   | 620                                                 | 6                                    | 21                                                     | 4                                                     | 30                                            |
| Thailand                                                                | 2,540                                               | 4                                    | 70                                                     | 17                                                    | 90                                            |
| Malaysia                                                                | 4,650                                               | 4                                    | 54                                                     | 7                                                     | 149                                           |
| Korea, Republic                                                         | 13,980                                              | 5                                    | 53                                                     | 11                                                    | 577                                           |
| Russia                                                                  | 3,410                                               | 6                                    | 56                                                     | 10                                                    | 150                                           |
| U.K.                                                                    | 33,940                                              | 8                                    | 83                                                     | 16                                                    | 2,031                                         |
| USA                                                                     | 41,400                                              | 15                                   | 45                                                     | 23                                                    | 5,274                                         |

Source: World Health Organization, *The World Health Report* (2005).

16. At the same time, the share of spending on health in total public expenditure is lower in Sri Lanka than in all countries listed here except India. Moreover, *total* health expenditure per capita in Sri Lanka is far lower than other lower-middle-income and high-income countries, and comparable to India. The low unit costs suggest that health expenditures in Sri Lanka are comparatively more efficient than other countries given its health outcomes. Nonetheless, areas for improvement include allocative efficiency, quality of health care, and some poor and nonpoor dimensions (Box 5-1).

#### **Box 5-1: Is public healthcare in Sri Lanka propoor and efficient?**

*Government expenditure.* The incidence of *government expenditure* is found to be *mildly propoor* although the distribution moved somewhat in favor of the better-off in the late 1990s. Out-of-pocket expenses to private healthcare providers increase monotonically with income (Rannan-Eliya, 2001), and incidence of government expenditure is equitably distributed, and even mildly propoor. Calculations using data from CFSES (1996–97) show that every income quintiles, except the richest, received nearly 20 percent of the government health expenditure; while in the early 1990s nearly 30 percent accrued to households in the poorest quintile (Hsiao, 2002). A study comparing Nepal, Bangladesh, and Sri Lanka found that only in Sri Lanka did the overall distribution of government expenditures mildly favor the poor (Rannan-Eliya and others, 2001). Sri Lanka also fares well in terms of out-of-pocket payments, which, as a share of total household consumption, is progressive relative to the ability to pay (WHO, 2005). Moreover, access to health services protects a large majority in Sri Lanka from high out-of-pocket expenditures.

<sup>6</sup> Anand and Kanbur (1991); Anand and Ravallion (1993).

<sup>7</sup> See for example Wang and others (1999) and Shiffman (2000). Sen (1981) showed Sri Lanka to be an outstanding performer in social outcomes given its income level and this generated considerable debate in literature, see Bhalla and Glewwe (1986), Bhalla (1988a and 1988b).

*Efficiency of the health system.* Recent studies have also found that the provision of tertiary hospital services is technically efficient. A 1992 study of the health delivery system in four districts reports high technical efficiency based on the levels and range in inputs, outpatient visits delivered, admission rates, and unit costs (Hsiao, 2000). However, these national statistics hide significant underutilization of smaller healthcare facilities. This underuse is perpetuated by the fact that central tertiary care hospitals are better equipped and patients often bypass primary hospitals, which increases cost and undermines the efficiency of the overall healthcare system. This is, in part, due to the absence of a clear admission and referral system, which results in overcrowding at a few large hospitals. The delivery of preventive health care and outreach, particularly maternal and child health services, is on par with international standards. However, to maintain its past achievements the declining expenditures on preventive care has to be reversed.

*Distribution and shortage of critical staff.* While there continues to be shortages in general surgeons, obstetricians, paramedics, pediatricians, medical teachers, nursing and paramedical tutors, nurses, there is an overproduction of general doctors. This is particularly problematic given the commitment by the government to absorb all medical graduates up to 2010 in the state sector. Although some form of health care is available within 1.4 kilometers of most homes, specialist staff in remote and conflict-affected areas is rare. Alternatively, districts, such as Colombo, Kandy, and Galle, have too many health personnel. According to the Annual Health Bulletin 2002, nearly 35 percent of specialist doctors are in Colombo, while Kilinochchi, Mullaitivu, and Mannar in the North have none.

*Source: Sinha (2006).*

17. *Equity in access to public health services.* Access to health facilities is near-universal. Free public care services are available within a well-developed network of preventive services facilities and hospitals. For example, most people in rural areas live within 5-10 kilometers of a peripheral health facility, which minimizes travel costs (Hsiao, 2000). In-patient care is free and access is more or less equal across income groups.

18. Evidence from DHS 2000 further corroborates this. When asked about whom they will consult about a seriously ill child, mothers from rich and poor families are equally likely to report consulting a trained provider. Utilization of maternal health services shows that women in both rich and poor households have a high uptake of antenatal and postnatal care (Table A-5.1, Annex 5). Nearly 97 percent of the births during the five years prior to the survey took place in government hospitals or maternity homes. Both rich and poor households use preventive care and have contact with health workers (Table A-5.1, Annex 5). For example, on average, most children under age 5 had been weighed about 6 times, suggesting that most mothers comply with the recommended number of visits (Table A-5.2, Annex 5). The starkest differences are across sectors: among urban, rural, and estate women, a smaller percentage of estate women report visits by midwife for prenatal or postnatal care (Table A-5.1, Annex 5).

### **Nutritional outcomes and poverty**

19. Although there is little rich-poor variation in indicators such as childhood mortality and utilization of health services, *rich-poor gaps* show up in low birth weight and low nutritional status of children and women, and the incidence of communicable diseases such as diarrhea and tuberculosis. It can be argued that these gaps are associated more with structural poverty issues like access to food, child-feeding practices, access to safe water and sanitation facilities, and less with “supply side” factors, like access to and utilization of public health system.

20. *Low birth weight* is a proxy for intrauterine growth retardation and indicates that newborns have not attained their full growth potential. Low birth weight is more prevalent among poor and estate households. Nearly 25 percent of babies born to mothers in the poorest income quintile were low in birth weight. Mothers living in the estates had the highest percent of low birth-weight babies (Table 5-3).

21. *Child malnutrition.* Prolonged or severe nutrient depletion eventually leads to *stunting*, a retardation of height or linear skeletal growth (unusually low height-for-age measures). Almost 30 percent of preschool children from the poorest income quintile and nearly 40 percent of estate children are stunted, whereas only 3.5 percent of children from the richest income quintile are stunted (Table 5-3).

22. *Wasting*, usually the result of a short-term and acute food shortfall (low weight-for-height measures), is more prevalent among children in poor households, but not any higher for estate children than for rural children. The percentage of children who are *underweight* or have low weight for their age reflects a combination of children suffering from both chronic and acute nutritional depletion, and the prevalence of being underweight is high among poor and estate children.

23. Child malnutrition rates are high in North-Western, North-Central, Sabaragamuwa, Uva and Central provinces, while Western province, with the highest level of economic activity, has the lowest poverty rate and lowest prevalence of child malnutrition. Hence, variation in child malnutrition rates across regions also reflects *regional variation* in poverty rates.

24. *Nutritional status of women.* The intergenerational persistence of poor nutritional status is evident in the poor nutritional status of women residing in poor and estate households (low body mass index). Nearly 40 percent of poor women and almost one-half of estate mothers have low body mass. Mother's poor nutritional status is an important contributor to intrauterine growth, retardation, and low birth weight. Meanwhile, nearly 40 percent of rich women and those residing in urban areas are obese (Table 5-4), a pattern that is becoming increasingly common in many developing countries.

25. *Long-term impact of malnutrition.* Malnutrition among poor and estate children has a number of consequences for their education, adult health, and earnings. Fetal or childhood malnutrition increases the likelihood of chronic noninfectious diseases in adulthood. Malnutrition can constrain a child's ability to learn. While it is difficult to discern the impact of nutritional status on school

**Table 5-3: Child nutrition and health status, by wealth quintiles and by sector, 2000**

|                                                                                                    | <i>Percent children with low birth weight (&lt;2.5 kg)</i> | <i>Percent children stunted (low height for age)</i> | <i>Percent children wasted (low weight for height)</i> | <i>Percent children underweight (low weight for age)</i> |
|----------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------|
| <i>By wealth quintiles</i>                                                                         |                                                            |                                                      |                                                        |                                                          |
| Poorest                                                                                            | 24.7                                                       | 29.0                                                 | 20.1                                                   | 47.4                                                     |
| Richest                                                                                            | 9.2                                                        | 3.5                                                  | 9.5                                                    | 11.1                                                     |
| <i>By sector</i>                                                                                   |                                                            |                                                      |                                                        |                                                          |
| Urban                                                                                              | 13.7                                                       | 8.3                                                  | 8.9                                                    | 17.8                                                     |
| Rural                                                                                              | 17.3                                                       | 14.1                                                 | 16.8                                                   | 31.0                                                     |
| Estate                                                                                             | 30.0                                                       | 37.0                                                 | 12.5                                                   | 45.7                                                     |
| Population average                                                                                 | 17.4                                                       | 14.6                                                 | 14.8                                                   | 29.3                                                     |
| <i>Note:</i> Refers to children aged 3-59 months whose heights and weights were measured.          |                                                            |                                                      |                                                        |                                                          |
| <i>Source:</i> World Bank staff calculations using Sri Lanka Demographic and Health Survey (2000). |                                                            |                                                      |                                                        |                                                          |

**Table 5-4: Women's nutritional status by wealth quintiles and by sector**

|                                                                          | <i>Percent women with low body mass index (&lt;18.5)</i> | <i>Percent women with high body mass index (&gt;=25)</i> |
|--------------------------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|
| <i>By wealth quintiles</i>                                               |                                                          |                                                          |
| Poorest                                                                  | 37.3                                                     | 6.6                                                      |
| Richest                                                                  | 10.0                                                     | 36.9                                                     |
| <i>By sector</i>                                                         |                                                          |                                                          |
| Urban                                                                    | 12.7                                                     | 37.0                                                     |
| Rural                                                                    | 23.1                                                     | 17.7                                                     |
| Estate                                                                   | 47.7                                                     | 4.6                                                      |
| Population average                                                       | 22.9                                                     | 20.5                                                     |
| <i>Note:</i> Women aged 15-49 years.                                     |                                                          |                                                          |
| <i>Source:</i> World Bank staff calculations using Sri Lanka DHS (2000). |                                                          |                                                          |

attainment, since households simultaneously invest in both, studies using longitudinal data show that malnourished children receive less education (see Box 5-2). This may be either because their parents invest less in education or because malnourished children have higher rates of absenteeism from school due to higher rates of illness. Poor nutritional status may also delay school entry, impair cognitive development, and potentially reduce lifetime earnings.

**Box 5-2: Impact of malnutrition on schooling and earnings**

A study using longitudinal data from Cebu, Philippines tracked children from birth through primary school and found that better nourished children were more likely to start school earlier and less likely to repeat grades (Glewwe and others, 2001). They found that a 0.6 standard deviation increase in the height of undernourished children would increase completed schooling by nearly 12 months. Another study using longitudinal data from rural Pakistan found that malnutrition decreased the probability of ever attending school (Alderman and others, 2001). Because malnutrition affects schooling, it also affects earnings. A study of adult identical twins in the United States found that, after controlling for genetic and other endowments shared by such twins, low birth weight had a large impact on schooling and wages (Behrman and Rosenzweig, 2004).

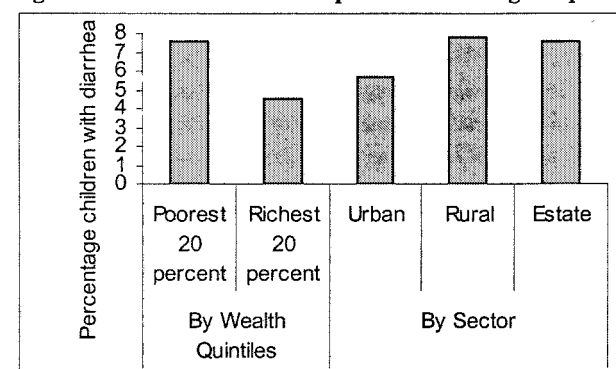
Source: Sinha (2006)

26. *Malnutrition and exposure to disease.* A recent analysis of Sri Lanka's progress toward the MDGs<sup>8</sup> found that the likelihood of becoming malnourished in childhood was strongly associated with a household's access to sanitation facilities (toilets) and safe drinking water (piped water).<sup>9</sup> This is consistent with evidence that diseases and infections that prevent absorption of nutrients or increase dietary requirements are important immediate causes of malnutrition and that children in poor households without water and sanitation services are at a greater risk of being exposed to gastrointestinal infection and diarrhea (Figure 5-2).

27. *Access to safe water and sanitation.* Access to protected water supplies and sanitation systems among *rural households* in Sri Lanka are better than other countries at a similar income level. Around 17 percent of households still get drinking water from potentially unsafe sources like unprotected wells, rivers, streams, and tanks; and this proportion is nearly 67 percent for estate sector households. Although the need to boil drinking water has been widely communicated, most poor households appear not to follow this practice.<sup>10</sup> This exposes children in poor households to significant risks of diarrhea and gastrointestinal infection.

28. *Poverty reduction* measures are likely to reduce the incidence of *malnutrition* in Sri Lanka, since much of nutritional deprivation is concentrated among poor households somewhat, but measures are needed (Box 5-3). Additional measures to address childhood malnutrition must target food and health inputs as well as appropriate child-care practices, such as breast-feeding and nutritional supplementation of very young children. In addition to these policies, improved access to clean water and sanitation are

**Figure 5-2: Diarrhea is more prevalent among the poor**



Note: Percentage of children reporting diarrhea two weeks prior to the survey.

Source: World Bank staff calculations using DHS 2000.

<sup>8</sup> World Bank (2005c) Attaining the Millennium Development Goals in Sri Lanka.

<sup>9</sup> Other significant correlates include mother's education, father's education, child's age, sex and birth order (see World Bank, 2005c).

<sup>10</sup> See Sinha (2006) for evidence from DHS 2000.

also important in preventing malnutrition because young children are particularly susceptible to infections.

**Box 5-3: Nutritional status in responsive to income**

Empirical analysis consistently shows that reductions in poverty lead to reductions in malnutrition. The strength of the association between income and malnutrition varies across countries but is significant.

A study using data from 67 countries finds that Gross National Income per capita can statistically explain more than one-half of the variation in the prevalence of stunting across countries (Svedberg, 2004). Another study estimated the causal effect of income growth on malnutrition (underweight) among preschool children using household survey data from 12 countries during the 1990s (Egypt, Jamaica, Kenya, Kyrgyz Republic, Morocco, Mozambique, Nepal, Pakistan, Peru, Romania, South Africa and Vietnam), and cross-country regressions drawing on data from 61 developing countries. Household survey analysis showed that a 2.5 percent per annum growth in income will lead to a 27-percent reduction in malnutrition by 2015. Only in Jamaica, Morocco, and Peru does such a growth in income lead to a 50-percent reduction in malnutrition by 2015 that is set out in the MDG on nutrition. The elasticity between income and underweight was estimated at about  $-0.54$ , but this conceals vast variations across countries. In Peru, the elasticity estimate was  $-1.13$  while in South Africa, it was  $-0.19$ . In Nepal and Pakistan the elasticity estimate was  $-0.77$  and  $-0.3$ , respectively (Haddad and others, 2003).

Nutritional is sensitive to income for many reasons. Increases in incomes enable families to invest more in food and clean water and good hygiene, and access more effective childcare. Higher Gross National Income (GNI) per capita can also increase government expenditures on health and nutrition services and complimentary investments such as education. In Sri Lanka, where basic health and nutritional outcomes are better, the correlation between income and nutritional status is lower. It is estimated that an annual 3-percent increase in household consumption expenditure per capita would lead to a 2-percentage point reduction in prevalence of underweight (World Bank, 2005c). This is by no means a large effect, but suggests that even modest income growth can lead to improved nutritional status. If Sri Lanka achieves substantial income growth, it can expect to achieve significant improvements in malnutrition.

Source: Haddad (2003), Svedberg (2000, 2004), Smith and Haddad (2002), Strauss and Thomas (1998).

## 5.2. Education sector: achievements, outcomes, and challenges

29. Sri Lanka has had near universal primary school enrollment (96 percent) and gender parity in primary and secondary enrollments as far back as the early 1990s. Furthermore, primary school enrollment rates are the same across income quintiles (Table 5-5). Education in the country continues to be free with the government devoting 7-9 percent of its expenditure on education amounting to 3 percent of GDP. Government investment in basic education has also shown good equity, with underprivileged areas receiving higher per student allocation.

**Table 5-5: Net enrollment rates by income quintile, 1995–96**

| Income quintile | Primary (grade 1-5) | Secondary (6-9) | Secondary (10-13) | Tertiary |
|-----------------|---------------------|-----------------|-------------------|----------|
| Lowest          | 95                  | 61              | 31                | 2        |
| 2 <sup>nd</sup> | 96                  | 66              | 35                | 2        |
| 3 <sup>rd</sup> | 95                  | 67              | 41                | 4        |
| 4 <sup>th</sup> | 96                  | 77              | 47                | 5        |
| Top             | 97                  | 76              | 60                | 13       |

Source: World Bank estimates based on the HIES 1995–96.

### Quality of education

30. Despite significant investments in the education sector since independence, students display only a weak grasp of first languages (37 percent)<sup>11</sup>, English (10 percent), and mathematics (38 percent) (Table 5-6). These core skills are essential for higher education and securing

<sup>11</sup> i.e., either Sinhala or Tamil.

country contributes to the regional imbalances in the quality of education. The high demand for teachers in popular urban schools has led to an oversupply of teachers in urban areas and a severe shortfall of teachers in rural schools and, in particular, schools in economically disadvantaged rural areas where poverty

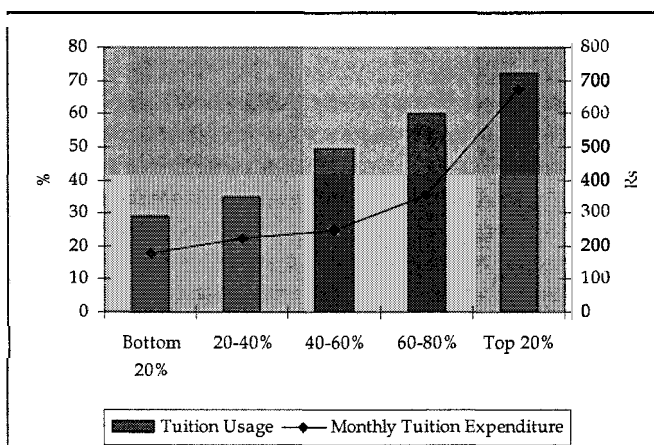
**Table 5-6: Mastery skills at grade 4, 2003**  
(percent)

| <i>Mastery skill</i> | <i>Sri Lanka</i> | <i>Urban</i> | <i>Rural</i> |
|----------------------|------------------|--------------|--------------|
| First language       | 37               | 51           | 34           |
| English              | 10               | 23           | 7            |
| Mathematics          | 38               | 52           | 35           |

*Source:* National Education Research and Evaluation Centre, University of Colombo.

incidence of private tuition among children according to their income level. Clearly, students from higher-income households have a higher incidence of private tuition than their counterparts in low-income brackets. Less than one-third of children in the poorest income quintile spend on private tuition, while over two-thirds of children in the richest quintile take private tuition (Figure 5-3).<sup>12</sup>

34. The above discussion and data underscores two things. First, private tuition has become an essential part of Sri Lanka's educational process as it enhances the chances of passing national competitive examinations. Second, since the poor are less able to afford private education this lowers their chances of success at passing these exams. Indeed, provinces where a smaller percentage of students use private tuition have lower GCE O/L pass



*Source:* CFSES 2003/04.

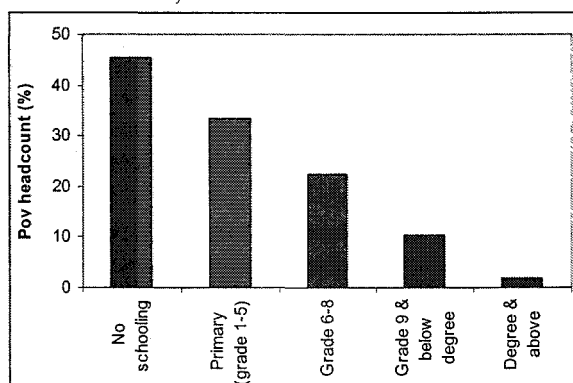
<sup>12</sup> The only exception is in preparation for the GCE A/L, when a larger percentage of estate students use private tuition than in urban or other rural areas. One reason for this as suggested by the CSFES is the high premium placed on educational achievement at the advanced level in the estate sector in recent times.

rates (Table 5-7). For example, in the North Central province where only 40 percent of the students used private tuition in 2003/04, the GCE O/L pass rate was only 31 percent. In contrast, in the Western Province where 63 percent of the GCE O/L students took private tuition the corresponding pass rate was 48 percent. However, in the case of the GCE A/L examinations, the pass rates among provinces were very similar (around 50 percent), while the corresponding incidence of private tuition was also high and show relatively little variation among provinces (around 60 percent).

### Poverty and educational attainment and enrollment

35. World Bank estimates based on HIES 2002 suggest that the poverty incidence is higher among the less-educated than the more-educated. Less than 2 percent of household heads with tertiary education were poor in 2002, whereas almost one-half of household heads with no schooling were poor (Figure 5-4). It seems intuitive that a person with a higher level of education is less likely to experience poverty due to greater chances of being employed in better-paying economic activities.

**Figure 5-4: Poverty and educational attainment of household head, 2002**



Source: HIES 2002.

36. Although the country has near universal primary enrollment, there are imbalances among the different income groups in terms of *net enrollment rates at secondary and tertiary levels* (Table 5-5). Net enrollment of children in grades 10 to 13 in the lowest-income quintile is about one-half the rate for the richest quintile. At the tertiary level, the disparities widen even more: the net enrollment rate for the richest quintile at the tertiary level (13 percent) is more than six times the rate for the poorest quintile (2 percent).

37. Moreover, 18 percent of students who enter school fail to complete the compulsory formal education. Most students who *drop out* of school come from (a) families living off the street, (b) economically disadvantaged areas, (c) conflict-affected areas, (d) the estate sector, or (e) are disabled. In addition, the poor are also more likely to stay away from school. While less than 1 percent of the children in the richest quintile in the urban sector reported avoiding school in the CFSES 2003/04 survey, the corresponding figure for the poorest quintile in the estate sector was about 6 percent.

### Regional disparities in education outcomes

38. Like poverty incidence and growth, there are *regional disparities in some educational outcomes* (Table 5-7). There are wide disparities in the pass rates for GCE O/L and A/L examinations across provinces. While almost one-half of the students in the Western Province pass the GCE O/L exam, only around 30 percent of students from the North Central, Uva, Central and North and East provinces do so. Outcomes in GCE O/L exam also appear to be linked to regional variations in how much households spend monthly on private tuition. Households in the North and East spend about Rs. 222 monthly on private tuition fees, while households in the Western Province spend more than double that amount at Rs. 571.

39. Another way of looking at regional disparities in education outcomes is to look at the *sum of mean deviations* (SMD) for completion of grade 9, pass rates for GCE O/L and GCE A/L, and tertiary enrollment by province. The overall educational attainment score (i.e., SMD score) is



highest in the Western Province, which performs above the national average in almost all outcomes except GCE A/L (Table 5-7). In contrast, provinces with low SMD scores (such as Uva, North Central, and Central provinces) underperform on outcomes such as GCE O/L pass rates and tertiary enrollment.

**Table 5-7: Key educational indicators, 2002**  
(percent)

|                                               | <i>SL</i> | <i>Western</i> | <i>Central</i> | <i>Southern</i> | <i>North and East</i> | <i>North West</i> | <i>North Central</i> | <i>Uva</i> | <i>Sabara-gamuwa</i> |
|-----------------------------------------------|-----------|----------------|----------------|-----------------|-----------------------|-------------------|----------------------|------------|----------------------|
| Formal education completion (Grades 1-9)      | 82        | 87             | 82             | 87              | 73                    | 78                | 81                   | 81         | 85                   |
| GCE O/L Pass                                  | 37        | 48             | 32             | 37              | 32                    | 38                | 31                   | 31         | 34                   |
| GCE A/L Pass                                  | 56        | 54             | 55             | 57              | 58                    | 58                | 53                   | 52         | 57                   |
| Tertiary enrollment                           | 11        | 16             | 8              | 10              | n/a                   | 7                 | 6                    | 7          | 9                    |
| Sum of mean deviations* (of above indicators) | n/a       | 19             | -9             | 5               | n/a                   | -5                | -15                  | -15        | -1                   |
| Monthly tuition expenditure                   | 384       | 571            | 351            | 372             | 222                   | 369               | 344                  | 246        | 299                  |
| Poverty incidence (percent)                   | 23        | 11             | 24             | 28              | n/a                   | 27                | 21                   | 37         | 33                   |

n/a: not available  
 \*SMD measures the overall attainment of the province in outcomes. It is calculated as  $\sum (X_i - X_{SL})$  for all  $i$  1 to 4 and where  $X_{SL}$  is the national average for the relevant outcome. High positive score indicates a relatively higher performance relative to the national average while a low value indicates a weaker performance.  
 Source: CFSES 2003/04; Ministry of Education and World Bank estimates based on Labor Force Survey (DCS).

### 5.3. Concluding remarks

40. Sustained public investments in health and education have clearly led to some of the most impressive basic human development outcomes globally. Compared to countries with similar GNP and poverty rates, Sri Lanka performs much better on most health and education indicators. Sri Lanka's poor tend to have better health and education outcomes than the poor in other South Asian countries. Yet, a few outstanding challenges remain that disproportionately affect the poor. These are important to address because deficiencies in human development have an impact on earning potential over the entire lifetime.

41. In health, rich-poor gaps are prevalent in low birth weight, malnutrition among preschool children, nutritional status of adult women, and incidence of communicable diseases such as tuberculosis and diarrhea. These outcomes are closely associated with poverty because of the direct link between poverty and the availability of food and water and sanitation. Poor nutrition has important ramifications for health and earning potential, which in turn is likely to perpetuate poverty and low human capability.

42. The relatively high prevalence of *malnutrition* in Sri Lanka, which is out of line with the other health indicators, is a puzzle. Common correlates of malnutrition are availability and utilization of health facilities, female literacy, good hygiene practices and health knowledge, and insufficient access to food. Given that Sri Lanka fares quite well on the first two correlates, the best explanations for the relatively high prevalence of malnutrition and communicable diseases among the poor are *insufficient access to food* and exposure to *unsafe sanitary conditions*. Given

that malnutrition contributes to the poverty trap by itself, interventions that seek to reduce malnutrition even at the current income levels need to be considered.

43. Current interventions to address malnutrition appear to have been successful in reducing chronic malnutrition among children, but not in reducing acute, short-term undernutrition, and or the prevalence of low birth weight among infants. More needs to be done to convince mothers, especially in the estates and among poor households, to boil water properly to make it safe for drinking, and to improve *access to piped drinking water, and closed wells and toilets* with a view to reducing the incidence of gastrointestinal diseases.

44. Education is often considered a great “leveler,” since it expands the economic opportunities available to poor individuals and households, especially in remote areas of Sri Lanka. In spite of near-universal enrollments at the primary level, *rich-poor gaps in secondary and tertiary enrollments and rising private tuition* usage suggest that poor children are at a disadvantage in acquiring the necessary skills to improve their economic prospects. Further analysis is therefore needed to understand what causes students to drop out even before completing grade 5, since poverty incidence is particularly high for this group. Since the current inequities in education are likely to worsen poverty traps at the household and regional level, Sri Lanka must focus on improving education for the underprivileged, particularly in remote areas and the estate sector where the challenges are most severe.

45. As discussed earlier, *teacher deployment* is one of the weakest links in service delivery in education, which has a more pronounced impact on children in more remote areas. More effective incentives for teachers to relocate to difficult areas have to be developed to address the regional disparities in staffing in the education sector. Options for decentralizing teacher recruitment to provincial educational authorities need to be looked at to see if they can aid in mitigating the present problem of weak teacher deployment and perhaps even mitigate teacher absenteeism in rural schools. Although Sri Lanka has done well in providing universal access to basic education, *quality* remains a challenge as evidenced by the poor mastery of English, mathematics, and local languages of students.

46. The health system must also gear up to deal with *chronic noncommunicable diseases* that go hand in hand with high life expectancy, such as cancer and diabetes. Sri Lanka is poised to become the third country with the oldest population in Asia, after Japan and Singapore: the share of the population over 60 years of age will increase from 9 percent in 2001 to 13 percent in 2010 and 21 percent in 2025.<sup>13</sup>

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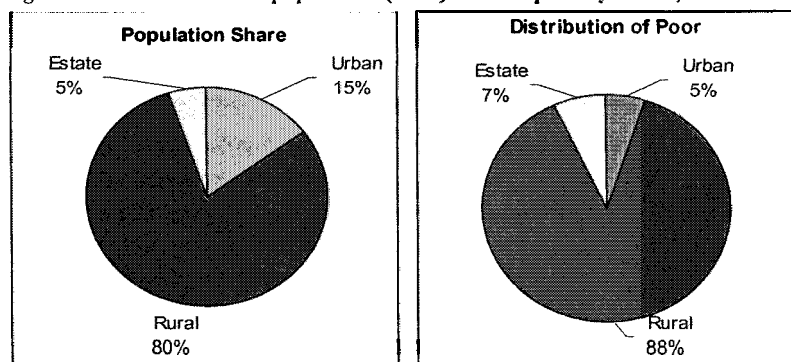
<sup>13</sup> Annual Health Bulletin (2002) and Hsiao (2000).

## 6. The Rural Challenge: Raising Agricultural Productivity and Nonfarm Incomes

1. Rural areas are home to nearly 80 percent of the population and about 88 percent of the poor in the country (Figure 6-1). Even though the rural poverty rate has declined from 29.4 percent to 24.7 percent during the period 1990/91 and 2002, this still translates to nearly 3.5 million people.

2. The slowdown in agricultural growth over the past decade has slowed poverty reduction among agriculture-dependent households. Therefore, measures to raise agricultural productivity and expand nonfarm income are needed increase employment and incomes and reduce poverty in rural areas.

**Figure 6-1: Distribution of population (2001) and the poor by sector, 2002**



Source: HIES (2002).

### 6.1 Agricultural households comprise the majority of the rural poor

3. Agriculture is an important source of livelihood in rural Sri Lanka. According to HIES 2002, agricultural households (defined as households engaged in agriculture, i.e. deriving any income from crop production, livestock raising and agricultural wage labor) comprise over 60 percent of rural households in all provinces with the exception of Western Province (Table 6-1). In Uva and North-Central provinces, 80-90 percent of rural households derive some income from agriculture.

4. The poverty rate among households engaged in agriculture (24.1 percent) is significantly higher than nonagricultural households (16.4 percent) (Table 6-1). Conversely, the poorest rural households tend to be more dependent on agriculture as a source of income. Agricultural farm and wage incomes account for 28 percent of the incomes of the poorest 10 percent of rural households, compared to 7 percent for the wealthiest (Annex 6, Table A-6.1).

**Table 6-1: Household distribution and poverty rates by sector and province, 2002 (percent)**

| Sector/Province | Percent of poor households by sector |                |      | Percent share of total households |                |
|-----------------|--------------------------------------|----------------|------|-----------------------------------|----------------|
|                 | Agriculture                          | Nonagriculture | All  | Agriculture                       | Nonagriculture |
| Rural           | 24.1                                 | 16.4           | 20.8 | 58.0                              | 42.0           |
| Region          |                                      |                |      |                                   |                |
| Western         | 15.0                                 | 9.0            | 9.2  | 32.9                              | 67.1           |
| Central         | 24.5                                 | 17.2           | 20.8 | 65.3                              | 34.7           |
| Southern        | 24.3                                 | 24.6           | 23.6 | 69.0                              | 31.0           |
| North-Western   | 22.0                                 | 23.9           | 22.3 | 64.6                              | 35.4           |
| North-Central   | 19.0                                 | 17.6           | 18.1 | 80.3                              | 19.7           |
| Uva             | 34.3                                 | 16.9           | 31.8 | 89.6                              | 10.4           |
| Sabaragamuwa    | 30.5                                 | 28.4           | 28.9 | 62.0                              | 38.0           |

sector, which accounts for nearly one-half of agricultural and allied sectors' (forestry and fisheries) GDP and was severely affected by the weak performance of the paddy sector.

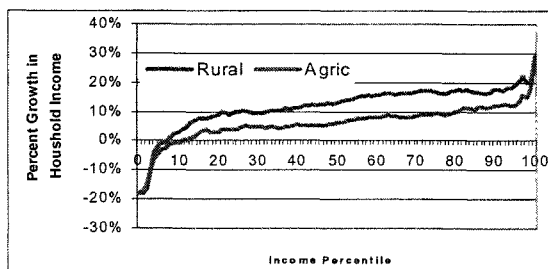
**Table 6-2: Average annual growth rate of output and share in total output value of the agriculture, forestry and fisheries sector, 1982-2004 (percent)**

| Subsector                           | Average annual growth rate of output value |       |       |       | Share in agriculture, forestry, and fisheries output value |      |      |
|-------------------------------------|--------------------------------------------|-------|-------|-------|------------------------------------------------------------|------|------|
|                                     | 82-90                                      | 91-00 | 95-02 | 02-04 | TE85                                                       | TE95 | TE04 |
| Agriculture, forestry and fisheries | 1.7                                        | 1.9   | 1.4   | 0.4   | 33                                                         | 28   | 22   |
| Agriculture                         | 2.8                                        | 1.6   | 1.6   | 0.9   | 24                                                         | 19   | 16   |
| Tea                                 | 2.9                                        | 3.4   | 4.8   | -0.3  | 4                                                          | 1    | 1    |
| Rubber                              | -1.2                                       | 4.3   | -4.7  | 1.8   | 1                                                          | 1    | 0    |
| Coconut                             | -3.8                                       | 2.5   | 1.3   | 3.1   | 3                                                          | 2    | 1    |
| Rice                                | -0.3                                       | -0.7  | 3.7   | -4.5  | 6                                                          | 4    | 3    |
| Other                               | 6.3                                        | 1.9   | 0.9   | 2.6   | 11                                                         | 11   | 10   |
| Forestry                            | 6.1                                        | 3.3   | 1.1   | 1.3   | 2                                                          | 2    | 2    |
| Fisheries                           | 0.7                                        | 6.4   | 4.1   | -2.7  | 2                                                          | 3    | 2    |

Note: TE – Triennium ending.

Source: WB staff calculation from data from Central Bank Annual Reports, various issues.

**Figure 6-2: Growth in incomes (95-96 to 2002) by income groups (percentiles) for rural and agricultural households**



Source: WB staff calculations using HIES data

agricultural self-employment, 15 percent in nonagricultural self-employment, 43 percent in nonagricultural wage work, and 6 percent in agricultural wage work. The rest were unpaid family workers (12 percent) or unemployed (8 percent). During 1998–2002, nonagricultural employment (3 percent annually) has grown faster than agricultural employment (less than 1 percent) largely due to strong growth in nonagricultural wage work (Annex 6, Table A-6.2).

**Table 6-3: Average annual growth in wage earnings by sector, 1992–2002 (percent)**

| Sector/Province | Agricultural wage worker |       |       | Nonagricultural wage worker |       |       | All wage workers |       |       |
|-----------------|--------------------------|-------|-------|-----------------------------|-------|-------|------------------|-------|-------|
|                 | 92-03                    | 92-95 | 95-02 | 92-03                       | 92-95 | 95-02 | 92-03            | 92-95 | 95-02 |
| Rural           | 2.6                      | 5.6   | 1.5   | 3.2                         | 6.7   | 2.4   | 3.1              | 6.5   | 2.4   |
| Provinces       |                          |       |       |                             |       |       |                  |       |       |
| Western         | 1.9                      | 2.5   | 0.1   | 3.5                         | 5.2   | 3.1   | 3.5              | 5.2   | 3.1   |
| Central         | 2.5                      | 5.8   | 1.4   | 3.1                         | 11.1  | 1.5   | 2.7              | 8.9   | 1.1   |
| Southern        | 2.4                      | 8.6   | 0.6   | 3.2                         | 4.3   | 1.9   | 3.0              | 4.0   | 2.1   |
| North-Western   | -0.1                     | 6.3   | -2.5  | 1.7                         | 6.2   | 0.1   | 1.3              | 5.7   | 0.3   |
| North-Central   | 0.8                      | 2.0   | 2.4   | 1.0                         | 2.4   | 0.4   | 1.4              | 5.9   | 0.5   |
| Uva             | 0.7                      | -0.4  | 2.1   | 2.1                         | 10.6  | 0.3   | 2.1              | 6.7   | 1.9   |
| Sabaragamuwa    | 0.8                      | 1.3   | 0.3   | 2.2                         | 5.0   | 1.9   | 2.0              | 4.7   | 1.5   |

Source: Staff calculations using Sri Lanka Annual Labor Force Survey data.

8. The average annual growth rate in wage earnings among agricultural wage workers was also below those of nonagricultural workers (Table 6-3). In Uva and Sabaragamuwa, the provinces with the highest

poverty rates, the average annual growth rate in agricultural wage earnings were about one-half that of nonagricultural wages.

### Challenges in raising agricultural incomes

9. The increased agricultural productivity and competitiveness needed to raise incomes has been hampered, albeit unintentionally, by broad government interventions in agricultural commodity and factor markets intended to protect the interests of the farming population. Policies on trade, marketing, agricultural technology, land and waters have unintentionally squeezed returns from agricultural production, limited productivity and income-enhancing investments, held back diversification to higher value activities, and “pushed” many out of agriculture into low-paying, insecure, casual nonagricultural wage labor.

10. *Agricultural technology policy.* Access to productivity-enhancing technologies by farmers has been constrained by restrictive seed and phyto-sanitary policies and the weakening of the agricultural research systems and extension services. As the cross-country comparisons in Table 6-4 indicate, crop yields in Sri Lanka have considerable room for improvement, and excessive regulation may be serving more as a barrier to entry than as an environmental filter. Many requirements that are outdated and inadequate to meet rapid advances in research and technology occurring worldwide are also subject to costly permit and inspection procedures. Moreover, delays in releasing revised seed and phyto-sanitary regulations increases uncertainty about requirements for planting material imports and marketing.

**Table 6-4: Average yields of selected crops, 2002-04**

| Commodity | Sri Lanka | China  | India  | Indonesia | Pakistan | Thailand | Viet Nam |
|-----------|-----------|--------|--------|-----------|----------|----------|----------|
| Rice      | 3,394     | 6,170  | 3,006  | 4,517     | 2,988    | 2,676    | 4,694    |
| Maize     | 1,103     | 4,964  | 1,874  | 3,241     | 2,319    | 3,656    | 3,333    |
| Groundnut | 585       | 2,904  | 975    | 2,013     | 971      | 1,512    | 1,678    |
| Soybean   | 1,049     | 1,781  | 865    | 1,270     | 1,250    | 1,356    | 1,317    |
| Potatoes  | 16,543    | 15,462 | 18,555 | 18,555    | 15,051   | 12,054   | 13,159   |
| Eggplant  | 6,882     | 18,631 | 16,146 | 7,034     | 10,556   | 5,826    |          |
| Cabbage   | 13,889    | 18,743 | 21,330 | 20,334    | 14,856   | 11,011   | 17,972   |
| Chilies   | 2,888     | 19,160 | 9,182  | 3,808     |          | 14,000   |          |
| Tomatoes  | 7,593     | 26,121 | 14,789 | 12,678    | 9,964    | 26,095   |          |
| Sugarcane | 56,966    | 65,376 | 62,731 | 69,710    | 48,378   | 68,862   | 54,215   |
| Pepper    | 623       | 1,530  | 237    | 718       |          | 3,093    | 1,733    |
| Tea       | 1,450     | 863    | 1,690  | 1,405     |          | 295      | 1,011    |
| Coconut   | 4,271     | 10,099 | 4,809  | 6,013     | 4,000    | 4,327    | 6,804    |
| Rubber    | 798       | 1,292  | 1,596  | 896       |          | 1,623    | 876      |

Source: Food and Agriculture Organization statistical database.

11. *Agricultural research* is performed by a large number of government institutes,<sup>1</sup> which have been relatively successful in raising the productivity of rice, but less successful in raising productivity for other crops. According to past reviews, the public agricultural research system had been almost exclusively focused on rice, makes little use of socioeconomic or financial analysis, and is highly fragmented (Charles, 2002). Although the government established a number of priority setting, planning, and competitive grant research funding schemes, the complicated procedures for accessing the grants deterred applicants from applying. Moreover, private sector investment in agricultural research in Sri Lanka has been hampered by the absence of intellectual property rights protection, restrictive seed and phyto-sanitary regulations and procedures, and the subsidized sale of planting materials.

12. Further improving the effectiveness of the agricultural research system in the future as articulated in the National Agricultural Research Policy (2003) will require fostering a pluralistic national agricultural research system, including the government, private sector, NGOs and other agencies. Existing public agricultural research institutions need to strengthen demand orientation and improve the quality of

<sup>1</sup> These include the Department of Agriculture, plantation research institutes (tea, coconut, rubber), and several national institutes reporting to the Council for Agricultural Research Policy and universities.

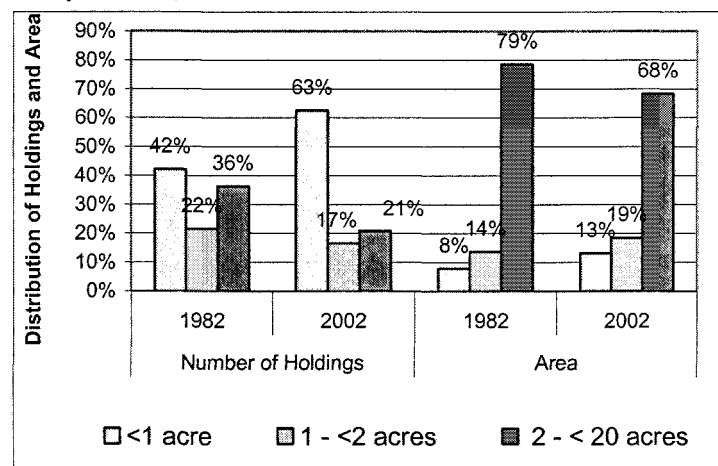
research activities through greater participation by farmers and other stakeholders in program governance, priority setting, and the evaluation of performance.

13. *Agricultural extension services* have been severely weakened since they were devolved to Provincial Councils in the early 1990s under the 13<sup>th</sup> Amendment to the Constitution. Most field-level agricultural extension workers were reassigned as village facilitators, effectively eliminating their role as disseminators of agricultural information (Tabor et al., 2000). Analysis of the SLIS data (1999/2000) found that only about 13 percent of agricultural households report receiving technical assistance from a government extension agent (15 percent from all sources).<sup>2</sup> In 1999, the Department of Agriculture began piloting “fee-based” agricultural extension services as part of the Second Perennial Crops project. By design, however, this approach concentrates only on larger commercial farmers and enterprises. Its applicability to small holders may be more limited.<sup>3</sup>

14. The effectiveness of the agricultural extension system could be improved by (i) expanding the supply of extension services through government sub-contracting to private firms, NGOs, and producer organizations; (ii) strengthening client orientation through adoption of participatory approaches in planning and implementation; (iii) linking providers to multiple sources of innovation (research and others); and (iv) expanding the use of new information and communications technologies to deliver a wider array of information of value to farmers through new, innovative channels.

15. *Land policy.* Another constraint to raising agricultural incomes is the increasing proportion of farmers dependent on very small landholdings coupled with slow growth in agricultural productivity. Analysis of the land ownership structures from the Census of Agriculture 1982 and 2002 highlight the significant jump in the number of farmers with an agricultural land holding of less than 1 acre (0.40 hectares). By 2002, 63 percent of owned agricultural holdings were less than 1 acre (Figure 6-3). Another 17 percent owned holdings less than 2 acres (0.8 hectares). Such small farm sizes severely limit income-generating potential, especially if farmers are confined to only growing low value crops (such as rice).

**Figure 6-3: Distribution of number of owned agricultural holdings and area by farm size, 1982 and 2002.**



Source: DCS (1987) Census of Agriculture 1982, DCS (2004) Census of Agriculture—Sri Lanka 2002, Preliminary Release No.2.

16. Existing *land legislation* limits the efficient functioning of land markets. A critical feature of Sri Lanka’s land ownership pattern is government’s ownership of large shares of land. Agricultural land in Sri Lanka totals about 2.79 million ha (1.72 million ha owned by the state and 1.07 million ha owned privately) (World Bank, 1996). Lands transferred to farmers through various land settlement programs

<sup>2</sup> See Annex 6, Table A-6.3.

<sup>3</sup> Two private firms were contracted to provide technical assistance in project planning, design, and implementation of commercial agricultural activities funded under the project (the fees charge is set at 5 percent of the project costs).

began in the 1930s but the most important of them was the Land Development Ordinance (LDO) of 1935.<sup>4</sup>

17. While these legislated government programs succeeded in promoting greater equity in land ownership, their highly *restrictive* nature hurt farmers in several ways. Land obtained through an LDO carries restrictions on mortgaging that preclude its use as collateral to access credit that households could use to finance both income-enhancing farm and nonfarm investments. For those wanting to remain in agriculture, the small landholdings, the lack of secure property rights, and the legal restrictions on buying or leasing-in LDO land reduce incentives for productivity-enhancing investments. Those interested in shifting out of agriculture into nonfarm activities, or merely moving to another location would have to leave without compensation for their land. In addition to fostering a large cadre of part-time farmers, these legislative provisions limit the ability of the land market to allocate land to its best use (World Bank, 2003).

18. The Land Development Ordinance (LDO) is in the process of being amended to address some of the land issues discussed above, and concerns about inefficiencies that can arise from the procedures laid out in the Bill and the absence of clear criteria for approving or disapproving applications.<sup>5</sup> The prompt processing of the amendments to the LDO, including these concerns, would be essential to enhance agriculture productivity.

19. *Water policy.* During the past five decades, irrigation development has served as a major pillar of the government's agricultural strategy to promote agricultural growth and rural development, and enhance food security. Most of these investments focused on the construction of new dams for power generation and surface irrigation systems, which were also closely linked with the government's land resettlement program. The most important program was the Mahaweli Project initiated in the late 1970s and managed by the Mahaweli Authority of Sri Lanka (MASL).

20. The long term sustainability of huge investments such as expanding surface irrigation infrastructure is threatened on several fronts. Inadequate priority-setting and funding of operations and maintenance (O&M) has led to the rapid deterioration of canal systems and to poor quality of services. This explains the need for repetitive and costly rehabilitation every five to six years. Institutional weaknesses in the water agencies combined with minimal involvement of farmers impeded steady improvements in the quality of and "user-orientation" in service delivery. Poor reliability of water delivery and the frequent lack of access to water by tail-enders, combined with lack of access to agricultural extension and improved technologies, contributed to low crop yields. Inadequate farmers' involvement in decisionmaking regarding water delivery, both in terms of quantity and timing, has constrained their ability to switch away from rice or diversify to include higher value crops.<sup>6</sup> Providing water for free also reduced the incentive for farmers to save and use water efficiently.

21. Ensuring the efficient and effective performance of irrigation systems will be important, not only to sustaining agricultural productivity growth over the longer term, but also in preventing a large proportion of farmers reverting to rainfed agriculture and the associated increased production risks and income vulnerabilities associated with it. Recent estimates using SLIS 1999/00 find that the landless, marginal and small farmers account for 59 percent of total gross irrigated area (GIA).<sup>7</sup> About 85 percent of gross irrigated area in Sri Lanka is supplied with surface (major and minor) irrigation. Of these, landless, marginal and small farmers cultivate 26 and 42 percent of total GIA under major and minor schemes.

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<sup>4</sup> Other key legislation included the Sale of State Lands (Special Provision) Law 1973, Land Development (Amendment Act) 1981, Agrarian Services Act 1979, Land Reform Law 1972 and 1975, Land Reform (Special Provisions) Act 1981, and the Agrarian Services Development Act No. 46 2000

<sup>5</sup> For example, people obtaining new land allocations under the LDO will still be required to obtain a permit first.

<sup>6</sup> Current water delivery schedules are still designed for paddy cultivation.

<sup>7</sup> Marginal farmers are those who cultivate less than 1 acre; small farmers are those who cultivate 1 to 2 acres and medium farmers are those who cultivate 2 to 4 acres of land.

(Annex 6, Tables A-6.4 and A-6.5). Including medium-sized farmers raises their share of GIA to 85 and 81 percent, respectively. *Effective action* will necessitate (i) prioritizing expenditures toward rehabilitation and maintenance of existing infrastructure; (ii) fostering greater user participation in managing systems and recovering costs; and (iii) re-orienting and restructuring water institutions to ensure efficient and client-oriented operations.

22. The Government is now faced with tightening intersectoral competition for water among various users (agriculture, drinking water, industry, etc). Therefore, as it moves toward finalizing the *National Water Policy and National Water Bill*, priority would need to be given to: (i) promoting the shift from supply-driven goals to comprehensive planning, allocation, and management within a river-basin framework; (ii) formulating an appropriate regulatory framework and reprioritizing expenditures to support such a shift; and (iii) reforming institutional structures and procedures, building on increased participatory management of systems, to improve the management of water resources in Sri Lanka.

23. Agricultural tariffs in Sri Lanka are remain high and are subject to frequent change. The government intermittently lowers the tariffs for major agricultural imports through duty waivers and controls import volumes through licensing during months when domestic prices rise. These frequent changes create considerable uncertainty, heightening price risks for farmers, consumers and local entrepreneurs, and greatly dampen incentives for private sector investments in storage. The high tariffs on agricultural commodities have also raised the cost of these products for consumers, with associated impacts on consumer expenditures and poverty levels (World Bank, 2006f).

24. Phasing out tariff protection for various agricultural commodities gradually over the medium term would (i) reduce the bias in favor of particular crops (e.g., rice, potatoes, chilies, onions) and thus allow improved domestic resource allocation; and (ii) reduce the taxation of consumers who pay above-world-market prices. The phased reduction in tariff protection will need to be accompanied by parallel policy changes, especially measures to lift the constraints on domestic, commodity and factor (land, seeds, technology, and water) markets and to improve rural infrastructure. These complementary actions will help ensure farmers the freedom and the capacity to alter their resource-use decisions to meet the changing needs of the market.

25. A strong commitment to removing policy and regulatory restrictions is necessary so that those who choose to remain in agriculture can raise their productivity and incomes. In the short to medium term, policies are needed to ease farmer access to improved technologies, create a more transparent and stable trade policy regime, allow full and transferable ownership rights to land, and ensure sustainable water use. Adopting policies to speed up currently lagging private sector participation and investments would also be critical to promoting growth in both the agricultural and nonfarm sectors. These include promoting a regionally equitable development strategy for rural infrastructure and services development with increased emphasis on operation and maintenance of physical assets to ensure their longer-term performance.

## **6.2 Increasing importance of nonfarm income**

26. The nonfarm sector has increasingly gained importance as a source of income and employment in rural areas. The nonfarm sector generated 67 percent of rural employment in 2003. One-quarter of those employed in the sector are self-employed in nonfarm enterprises, and the remaining work in nonfarm salaried or wage work. Not only does the sector generate a large number of rural jobs, but it also contributes substantially to household income. More than one-half (52 percent) of the per capita income of the average rural household comes from nonfarm earnings. Agricultural households are also highly dependent on nonfarm incomes—the share of their income from nonagricultural activities (41 percent) exceeds the contribution of agricultural incomes (32 percent).<sup>8</sup>

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<sup>8</sup> See Annex 6, Table A-6.6



27. The relative importance of *agricultural incomes*, however, differs considerably by type of farmer. Agricultural incomes account for over 40 percent of incomes for farmers growing higher value crops like tea, rubber, fruit, and vegetables. For paddy farmers, only 32 percent of income comes from agriculture,<sup>9</sup> so these households are more likely to rely on nonfarm activities to supplement income.

28. The growth of the rural nonfarm sector has significantly contributed to the reduction in rural poverty. The poorest rural households are heavily dependent on nonfarm incomes. Among the poorest 10 percent of rural people, the average household derived about 44 percent of their per capita income from nonagricultural wages, salaries and enterprise earnings (Table 6-1). As mentioned earlier, the incidence of poverty among rural nonagricultural households is considerably lower than that among households engaged in agriculture. Data from the HIES suggest that ownership of and/or employment in a rural nonfarm enterprise are associated with significantly higher welfare. Among rural households owning and operating a nonfarm enterprise, the poverty rate is 13 percent, compared to a poverty rate of 23 percent for households without a nonfarm enterprise. Households operating a nonfarm enterprise have monthly per capita incomes 20 percent higher than those who do not.

29. In coming years, the rural nonfarm sector will have to generate a high number of jobs for the growing labor force. In 2003 the size of the labor force was roughly 7.2 million workers. About 12 percent of workers are employed in urban areas, 82 percent in rural areas, and the remaining 6 percent in the estate sector. Each year nearly 106,000 people enter the labor force in Sri Lanka and many of them will continue to live in rural areas.<sup>10</sup> Since the potential for employment expansion in the agricultural sector is somewhat limited, expansion of employment and productivity in nonfarm activities will be essential to absorb this growing labor force.

### **Profile of the rural nonfarm enterprise sector**

30. According to recent estimates, approximately 620,000 rural nonfarm enterprises are scattered throughout the country. Most of these rural enterprises are involved in production/manufacturing (41 percent) or trading (38 percent), with a far smaller proportion in services (21 percent). Approximately 10 percent are engaged in manufacturing and the sale of processed agricultural goods. Other rural manufacturing industries include garments, nonmetallic mineral products, furniture, and wood products. Most trading enterprises are engaged in selling processed (65 percent) and unprocessed agricultural products (57 percent), and only about 5 percent sell agricultural inputs. The main service-related enterprises include repair services (24 percent of service-related enterprises), followed by personal services at 17 percent (including barber shops, beauty salons, etc.) and hotels/restaurants (14 percent).

31. The typical rural enterprise employs about 2.4 workers, including hired workers and family members. Almost one-half the workforce in rural enterprises is comprised of family labor (60 percent of workers in trading enterprises, 50 percent in services and 42 percent in production are family labor). Production-based enterprises tend to be larger with 3 workers on average while traders work alone or partner with one other person. Only 6 percent of rural enterprises have more than 5 workers. The average rural enterprise has been in operation for 9 years. More than half (59 percent) of these enterprises operate as stand-alone establishments, with the main place of business found outside the family homestead.

### **Constraints to rural nonfarm enterprise growth**

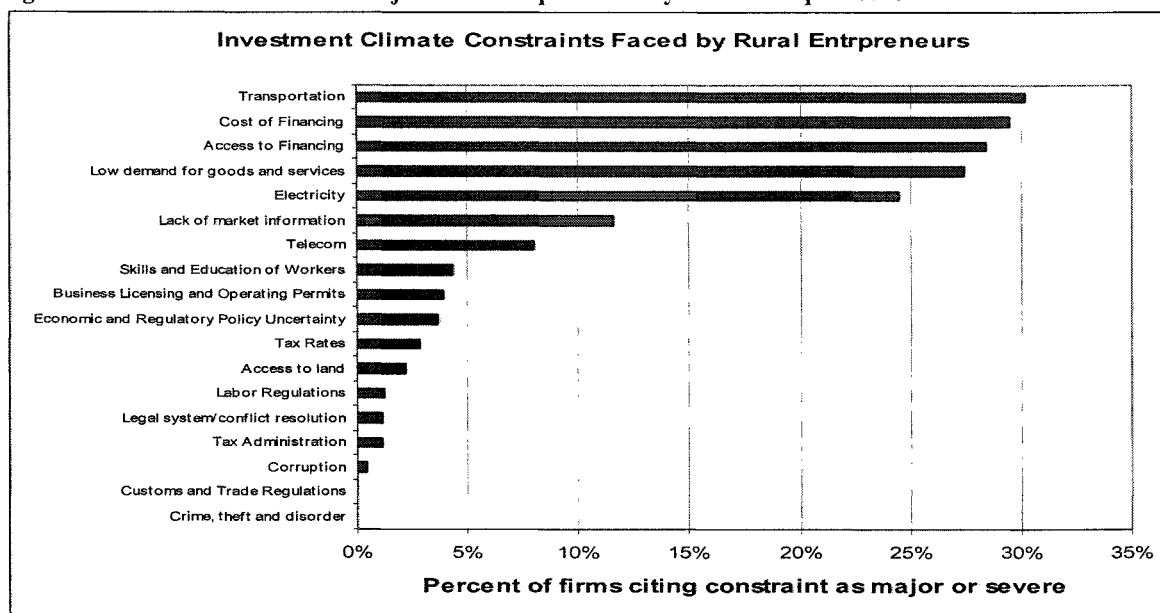
32. The potential for increasing incomes and reduce poverty in rural households through the non-farm sector is hampered by a number of obstacles. A recent survey of the investment climate in Sri Lanka, rural entrepreneurs identified poor quality and availability of transportation, poor access and high cost of finance, limited access and unreliable supply of electricity, marketing difficulties, and poor coverage in telecommunications as the primary *constraints to doing business* (Figure 6-4).

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<sup>9</sup> See Annex 6, Table A-6.6

<sup>10</sup> Between 1998–2003, 58 percent of the new entrants lived in rural areas.

Figure 6-4: Constraints rated as major or severe problems by rural entrepreneurs



Source: ADB & World Bank (2005).

33. While the *ranking of constraints* may differ by province, the top 7 constraints identified as major business obstacles are consistent across provinces (Annex 6, Table A-6.7). The relative importance of the obstacles faced also varies by type of enterprise. For example, electricity was identified as the most important obstacle by production and service enterprises (31 percent and 27 percent) as compared to trade-related enterprises (19 percent), which seem to be more affected by lack of market demand (16 percent) and financial infrastructure (14 percent). Separating firms by age suggests that financial infrastructure, lack of market demand and, to a lesser extent, road access are of greater obstacles for start-ups than for older and well-established enterprises. These factors, especially finance and road access, are also perceived as more important constraints by small stand-alone enterprises as compared to larger ones.

34. The obstacles identified by rural firms have a negative impact on productivity, the level of investments made by existing firms, and the number of new start-up enterprises. The biggest obstacles to productivity by firms in order of priority include electricity, financial infrastructure, market demand and information, and road access. Evidence also suggests that larger rural enterprises are better able to deal with constraints imposed by poor infrastructure than smaller ones (Jin et al, 2005).

35. *Linkage between the business constraints and poverty incidence.* Since the nonfarm sector constitutes a significant part of the rural economy, the constraints for nonfarm enterprises may be closely associated with poverty incidence. In fact, this is the case in Sri Lanka for most of the business constraints identified above. As shown in chapter 3 (Table 3-7), better access to markets and banks, proximity to Colombo, and higher penetration of electricity are all closely associated with lower poverty incidence, with the exception of telecommunication coverage. Even though business communities in rural areas identify poor coverage in telecommunications as a constraint for rural nonfarm enterprises, there is no clear indication that poor coverage is associated with high poverty incidence.

36. *Transport.* On average, enterprises are located within 10 kilometers of the nearest city or market, but because of the poor road conditions travel is slow, so that the average travel time to the nearest commercial center is more than 30 minutes. The average distances as well as travel time to the nearest commercial center are much higher for the poorer provinces – namely, Uva, Sabaragamuwa and Southern – compared to the country averages (Table 6-5). Road conditions cited by rural entrepreneurs as major or severe obstacles to doing business include road quality (36 percent), access to roads (33 percent), and

absence of available transport (32 percent) (Table 6-5). In addition 29 percent of rural enterprises are located in communities without public transportation to the main market and about 13 percent are in communities without public transportation to the nearest city. This greatly contributes to marketing difficulties as 47 of rural entrepreneurs do not own their own vehicles.

37. *Finance.* The high cost of and poor access to finance is also a key constraint to rural enterprise performance and growth. Close to 30 percent of entrepreneurs identified cost of finance as a major or severe problem and 29 percent rated access to finance as a problem. A separate survey on small and medium enterprises (SMEs) conducted by the Asian Development Bank (ADB) in 2003 found that 64 percent of all enterprises cited the availability of credit as a serious constraint to expanding their businesses; and 73 percent cited the interest rate on loans as a constraint. More than 50 percent of such firms viewed access to equity capital as a major or significant constraint (as cited in World Bank, 2005b).

| <b>Table 6-5: Transport facilities and rural access</b> |                                                           |                                                                                              |
|---------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <i>Province</i>                                         | <i>Average distance to nearest commercial center (km)</i> | <i>Average travel time to nearest commercial center by main means of transport (minutes)</i> |
| Western                                                 | 5                                                         | 23                                                                                           |
| Central                                                 | 5                                                         | 22                                                                                           |
| Southern                                                | 13                                                        | 41                                                                                           |
| North Western                                           | 6                                                         | 20                                                                                           |
| North Central                                           | 7                                                         | 29                                                                                           |
| Uva                                                     | 16                                                        | 70                                                                                           |
| Sabaragamuwa                                            | 18                                                        | 59                                                                                           |
| North Eastern                                           | 5                                                         | 23                                                                                           |
| <b>Total</b>                                            | <b>8</b>                                                  | <b>31</b>                                                                                    |
| Source: ICS (2004)                                      |                                                           |                                                                                              |

38. Most rural firms have limited access to financing from private commercial banks. Less than 12 percent of rural firms apply for loans from these institutions compared to 41 percent from state commercial banks and Samurdhi. The smaller the enterprise, the less likely it is to access financing from private commercial banks. Access to formal finance is especially restricted for investment purposes with internal sources (cash in hand) providing the biggest share of investment (43 percent), followed by family and friends (35 percent). Trade finance appears to be an important source of working capital with nearly 31 percent of rural enterprises purchasing goods on credit. The share of financing from moneylenders is relative limited, with rural enterprises primarily using this type of financing for liquidity management purposes.

39. *Collateral* is often critical to the availability of finance. Almost one-quarter of loans to rural enterprises require collateral, and land is offered in 75 percent of these transactions. When loan applications by nonfarm rural enterprises are rejected, lack of collateral is by far the most important reason (and the obstacles to using land as collateral was identified earlier in this chapter). While the government has taken steps to strengthen the enabling environment for financial institutions to expand financing to small enterprises, a number of regulatory and institutional constraints and market failures hurdles remain. The most critical regulatory weaknesses and institutional problems preventing lending to small enterprises include: (i) deficiencies in debt-recovery legislation; (ii) incomplete land ownership and titling; (iii) absence of efficient charge registries over movable collateral; (iv) limited availability of credit information; and (v) a weak regulatory framework for asset-backed securities. Avenues through which access to financing opportunities for small rural businesses could be expanded are addressed in World Bank (2005d).

40. *Lack of market information and isolation from supply chains* are also significant barriers to the success of small rural firms. About 27 percent of rural enterprises complained about low market demand and 11 percent complained about lack of adequate market information. Inadequate market information can lead to businesses selling in local markets where prices may not be optimal or missing opportunities in markets where growth prospects are greater. The ADB survey on SMEs (2003) found that nearly 60 percent of the owners viewed market opportunity as a serious barrier to their growth. In the investment climate survey less than 2 percent of all rural enterprises used any type of marketing assistance to sell their goods and services. A vast majority of firms sell their goods directly to consumers or traders in their own district and only a few sell to multinational parent companies or larger urban firms. Less than 10

percent of all rural firms report selling under subcontracting arrangements that potentially would provide them with access to wider markets. Long and fragmented supply chains constitute another major challenge. Very few firms appear to be integrated into well-coordinated supply chains, limiting access to new technology, financing options, and wider markets.

41. Evidence from other countries suggests that participation in business organizations and local chambers of commerce could potentially strengthen marketing channels allowing businesses to share information on prices and quality standards, and obtain technical, financial and organizational services. In Sri Lanka, however, participation in business associations is limited among rural entrepreneurs. Only about 8 percent of enterprises are members of any form of business association, and 4 percent are members of a chamber of commerce.

42. *Electricity.* Almost one-quarter of rural entrepreneurs cited electricity as a major or severe problem and another one-quarter single it out as their most important constraint. Access to electricity remains a challenge in many communities, and even among enterprises with access, problems in reliability of supply and high prices limit growth. Electricity is heavily concentrated in urbanized areas such as Western Province, which has over 80 percent coverage. Rural areas such as Uva province are grossly underserved, with less than 40 percent coverage. Poor power supply exposes firms to frequent outages increasing production costs and tying up significant capital in back-up power production, resources that could be productively engaged in their core business. Just below 70 percent of rural enterprises use electricity from the national grid. The vast majority of these firms experienced power surges or outages; with one-half of firms reporting the longest power outage in a typical month as lasting more than 2 hours.

43. Addressing the power problem will give rural businesses a strong boost—particularly the rural manufacturing sector, which is the segment that generates more jobs than trade or service-oriented businesses. In the medium term, increasing electricity access in rural areas will require a number of different measures that are outlined in detail in ADB & World Bank (2005).

### **6.3. Concluding remarks**

44. About 60 percent of rural households in Sri Lanka are agricultural households. The poverty rate among rural agricultural households is significantly higher than that for nonagricultural households, and the poorest rural households are more dependent on agriculture as a source of income. Poverty reduction in rural areas has been hampered by a slowdown in agricultural growth and slower growth in incomes in rural areas.

45. The nonfarm sector has become an increasingly important source of income and employment in rural Sri Lanka. The nonfarm sector generated 67 percent of rural employment in 2003. In the average rural household, more than one-half of the income comes from nonagricultural wages and earnings from self-employment in nonfarm enterprises. Rural households that own and operate a nonfarm enterprise have a significantly lower poverty rate compared to those without a nonfarm enterprise.

46. Raising agricultural productivity and expanding nonfarm income opportunities are key to reducing rural poverty. To foster agricultural productivity growth, policy and regulatory restrictions need to be refashioned to ease farmers' access to improved technologies, create a more transparent and stable trade policy regime, allow full and transferable ownership rights to land, and ensure sustainable water use.

47. The most serious obstacles to the development and growth of rural nonfarm enterprises include poor transportation, problems accessing finance and the cost of finance, poor access and quality of electricity supply, lack of market information and isolation from supply chains. Given the importance of nonfarm income for rural households, these constraints would explain why certain location-specific characteristics (like accessibility and electricity use) correlate well with the pattern of regional poverty in Sri Lanka (Chapter 3). As these constraints in rural areas are lifted, the productivity and growth of businesses are likely to improve and more start-up enterprises are likely to emerge.

48. Initiatives to strengthen and link producer organizations and business associations are likely to improve access to markets and marketing information for rural entrepreneurs. Finally, strengthening the regulatory framework for contract enforcement and making lower-cost dispute resolution easier and more available will help raise private sector participation and investments in rural areas.

## **7. Social and Economic Situation in the Conflict-Affected Northern and Eastern Provinces**

1. The economic and social repercussions of over two decades of conflict have affected people throughout the country. Over 65,000 people have died, nearly a million citizens have been displaced, private and public properties and economic infrastructure have been destroyed, local economies and community networks have been disrupted, and health and educational outcomes have deteriorated in districts in the North and East. The macroeconomic impact of the conflict is estimated at 2-3 percent of GDP growth annually.<sup>1</sup>

2. The repercussions of the conflict have fallen particularly heavily on Northern and Eastern provinces. These two regions have fallen behind the rest of the country in terms of health and education outcomes and access to economic infrastructure and financial services. Moreover, the districts of Ampara and Batticaloa in the East sustained the most damage from the tsunami in December 2004. Measures to reduce regional inequalities must take into account the unique circumstances of these two provinces.

3. The cessation of hostilities, following the Cease-fire Agreement signed in February 2002, has stimulated economic recovery. Real GDP growth increased fourfold to 12.6 percent in Northern province and doubled to 10.1 percent in Eastern province.<sup>2</sup> Unemployment significantly dropped from 13 to 9 percent in the North and from 16 percent to 10 percent in the East during 2002–04, while economic growth and unemployment in the rest of the country remained relatively flat.

4. Despite the promising upturn in the local economies of the North and East following the 2002 ceasefire, significant obstacles to sustained growth and poverty reduction in these areas remain. These include: (i) poor availability and access to financial services, (ii) poor access and quality of economic infrastructure (roads, telecommunications, and water), (iii) restrictions on the use of the A9 highway, (iv) fishing restrictions, (v) limits on mobility in certain areas such as Jaffna, and (vii) out-migration of the educated to the rest of the country or abroad.

5. Peace dividends from the Cease-fire Agreement include the recent expansion of the Samurdhi program to the Northern districts (starting with Jaffna and Mannar) and a national program that provides cash transfers to the poor (see Chapter 2). Additional analysis is needed to identify key constraints to raising incomes and improving living standards, but such analysis remains difficult due to the paucity of household survey information with adequate coverage and representation for this region.

6. This chapter presents the economic and welfare situation in the North and East using available sources of survey data and smaller studies conducted by different organizations. Four years of cease-fire has provided the first opportunity in decades for national surveys to include data from Northern and Eastern provinces. However, due to uncertain and volatile security circumstances in these areas the HIES 2002 survey was not completed and the CFSES 2003–04 was completed but with uneven geographic coverage. The key data sources used in this chapter and their limitations are listed in Table 7-1. While the available data do not allow measurement of poverty incidence or identification of its proximate causes, they show how the region compares to the rest of the country along various dimensions of welfare. The chapter also places these indicators of welfare in the broader context of the economy of the region, and developments brought about by the cessation of conflict since 2002, and major challenges ahead.

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<sup>1</sup> Central Bank of Sri Lanka, Annual Report 1998.

<sup>2</sup> Central Bank of Sri Lanka as it appears in Peace Secretariat Impact of the Cease-fire Agreement on Regional Economic Growth in Sri Lanka (2004).

**Table 7-1: Main data sources used for the analysis of Northern and Eastern provinces**

| Indicators                                                                                | Year(s)    | Data Source                                                                                                 | Key Limitation                                                |
|-------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| Provincial GDP growth                                                                     | 1997–2002  | Provincial GDP tabulated by the Central Bank of Sri Lanka (CBSL) as they appear in Peace Secretariat (2004) | Islandwide uniform deflator used                              |
| Provincial GDP and sectoral growth rates                                                  | 1990, 1995 | National Planning Department as they appear in Sarvananthan (2004)                                          | Islandwide uniform deflator used                              |
| Labor force and unemployment trends                                                       | 2002, 2004 | Department of Census and Statistics (DCS) Labor Force Survey                                                | 2002 excludes Mullativu and Killinochchi in Northern province |
| Per capita incomes, consumption, housing, education outcomes, access to health/sanitation | 2003/04    | CBSL Consumer Finances and Socio Economic Survey (CFSES)                                                    | Excludes Killinochchi, Mannar, Mullativu in Northern province |
| Provincial education mastery skills                                                       | 2003       | University of Colombo National Assessment of Grade 4 Achievement                                            | Outcomes cannot be reported separately between North and East |
| Impact of the tsunami                                                                     | 2005       | DCS Census of Tsunami-Affected Areas                                                                        |                                                               |
| Availability, access, and utilization of food                                             | 2003       | World Food Program food insecurity study                                                                    | Relies on secondary data                                      |
| Vulnerability rankings within districts of North and East                                 | 2004, 2005 | Centre for Information Resources Management Vulnerability Poverty Profile (VPP)                             | Cannot compare results across districts                       |

### **7.1. Peace dividends following the cease-fire in 2002**

7. The civil conflict reached a positive turning point in February 2002 when the Government of Sri Lanka (GoSL) and the Liberation Tigers of Tamil Eelam (LTTE) rebels signed a Memorandum of Understanding (MoU) resulting in a cease-fire. This has been the longest truce between the two sides to date. The economic embargo imposed by the government in 1990 on over 60 consumer goods including fuel, food, and medicines in rebel-held areas in the North and East was lifted in January 2002. The A9 highway, which links the districts in the North with the rest of the country, was also repaired and reopened in April 2002. The improved security and the mobility of persons and goods from the rest of the country to most of the North and East and vice versa brought noticeable economic and social benefits.

8. The cease-fire also permitted the collection of household data from conflict-affected areas for the first time in two decades. These efforts fill in some of the information gaps, but areas that remain insecure have yet to be surveyed. In the absence of representative data for all areas in the North and East, estimates of consumption, poverty, and other indicators of well-being cannot be computed. However, the information available from the data sources enumerated in Table 7-1, as well as other studies conducted by different agencies, is sufficient to draw preliminary conclusions about the economic and welfare situation in the North and East compared to the rest of the country.

9. **Provincial GDP growth.** Using Central Bank provincial GDP data the Peace Secretariat found that GDP of the Northern province quadrupled from an average of 3.4 percent during the pre-cease-fire years (1997–2001) to 12.6 percent during the post-cease-fire years (2002–2003), and the GDP of Eastern province more than doubled from 4.6 to 10.1 percent (Figure 7-1). Furthermore, GDP in the North-Central province, which shares borders with the North and the East, increased by 8.2 percent per annum in 2002–03 compared to a contraction of 0.2 percent per annum in 1997–2001.

10. The qualitative study undertaken by CEPA, “Moving Out of Poverty in Conflict-Affected Areas (2006),” also reveals that the *no-war no-peace* following the cease-fire has allowed the people of the North and East to re-establish their livelihoods.

11. However, the rapid post-cess-fire expansion of economic activity in the Northern, Eastern, and North-

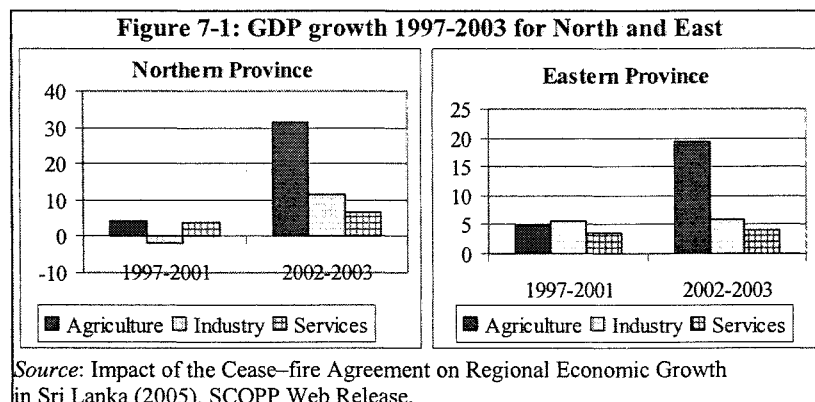
Central provinces was not enough to significantly affect overall national economic growth. During 1996–2003, the collective contribution of these three provinces to national GDP was around 11-12 percent although they make up almost 20 percent of the total population, whereas Western province contributed 43-49 percent of national GDP and makes up only 28 percent of the population.

12. **Agriculture and fishing.** The engine of growth during the post-cess-fire period in the North and East has been the agriculture and fishing sector. In 2002–2004, this sector expanded by an average of 32 percent per year in Northern province and by 19 percent in Eastern province, compared to 4.3 and 4.9 percent, respectively, during 1997–2001. Paddy production more than doubled in Northern province from an average of 65,000 tons during 1997–2001 to 138,000 tons during 2002–2003, and significantly increased in Eastern province from an average of 619,000 tons to 752,000 tons during the same period. The combined share of the North and East in national paddy production increased from 27 percent in 1997–2001 to 31 percent in 2002–2003.

13. Given that the farming community in the North and East consists largely of small landholders, this growth is likely to be broad-based and propoor. Unfortunately, there is no poverty trend data available at this time to verify this hypothesis.

14. *Other sectors* of the economy in the North and East (industry and services) have also shown growth after the cess-fire. Growth in industries, for example, has averaged 11.6 percent annually during 2002–03 compared to an average contraction of 2 percent per year during 1997–2001.

15. Since the cess-fire, *investments* in economic infrastructure by donors, social sectors by the government, and in private investments have risen. Unfortunately, comprehensive data on pre- and post-cess-fire investments in the North and East are not available. Sectors such as banking, retail trade, and communications show clear signs of increased investments in the North and East beginning in 2002. In the communications sector, for example, the largest private cellular company, Dialog, did not operate in the areas under LTTE control prior to the cess-fire. Dialog has since invested over a million dollars in its infrastructure network in the North and East. Of its total 1.5 million mobile customers, 250,000 or 17 percent are now from the North and East. This is a significant increasing considering that only an estimated 13 percent of the population in Sri Lanka currently resides in the North and East.<sup>3</sup>



<sup>3</sup> Peace Secretariat Impact of the Cease-fire Agreement on Regional Economic Growth in Sri Lanka (2004).



### Impact of the cease-fire on labor force trends

16. The downward trend in the *unemployment* rate is encouraging. Although the districts in the North and East remain higher than the national average (8.4-11.5 percent in North and East districts compared to 8.3 percent nationally), unemployment fell from 13 to 9 percent in the North and from 16 percent to 10 percent in the East from 2002–04 (Tables 7-2 and 7-3).

17. *Labor force* participation rates remain low. The labor force participation rate was 34 percent in the North and 40 percent in the East in 2002. The corresponding figures for 2004 varied around 36 to 46 percent, respectively. In comparison, the corresponding national labor force participation rates were 50 percent in 2002 and 49 percent in 2004 (LFS 2002 and 2004).

| Table 7-2: Labor force statistics, 2002<br>(percent)                        |                                  |                          |
|-----------------------------------------------------------------------------|----------------------------------|--------------------------|
| <i>Province</i>                                                             | <i>Labor force participation</i> | <i>Unemployment rate</i> |
| <b>Northern (part)</b>                                                      | 33.8                             | 13.0                     |
| Male                                                                        | 54.6                             | 6.9                      |
| Female                                                                      | 15.7                             | 31.5                     |
| <b>Eastern</b>                                                              | 40.3                             | 15.9                     |
| Male                                                                        | 63.6                             | 9.3                      |
| Female                                                                      | 18.0                             | 38.0                     |
| <b>National excl. North and East</b>                                        | 50.3                             | 8.8                      |
| Male                                                                        | 67.9                             | 6.6                      |
| Female                                                                      | 33.6                             | 12.9                     |
| Source: Labor Force Survey (LFS) 2002, Department of Census and Statistics. |                                  |                          |

| Table 7-3: Labor force statistics, 2004<br>(percent)                 |                                  |                     |
|----------------------------------------------------------------------|----------------------------------|---------------------|
|                                                                      | <i>Labor force participation</i> | <i>Unemployment</i> |
| National                                                             | 48.6                             | 8.3                 |
| <b>North</b>                                                         |                                  |                     |
| Jaffna                                                               | 36.2                             | 9.7                 |
| Mullaitivu                                                           | 36.3                             | 11.3                |
| Killinochchi                                                         | 40.3                             | 8.5                 |
| Mannar                                                               | 39.3                             | —                   |
| Vavuniya                                                             | 38.0                             | 11.1                |
| <b>East</b>                                                          |                                  |                     |
| Batticaloa                                                           | 41.4                             | 10.6                |
| Ampara                                                               | 46.1                             | 11.5                |
| Trincomalee                                                          | 38.1                             | 8.4                 |
| Source: Department of Census and Statistics Labor Force Survey 2004. |                                  |                     |

18. *Employment by sector.* The employment by occupational group in the North and East mirrors the trend in the country. About 27 percent of those employed in the North are skilled agricultural and fishery workers, 25 percent are employed in elementary occupations, and 14 percent are employed in craft and related work. In the East the numbers are 30, 20 and 14 percent respectively; whereas nationally they are 20, 26 and 15 percent, respectively (LFS 2004).

19. *Employment and gender.* The new jobs created recently in the North and East tended to benefit men disproportionately. The female unemployment rate in many districts in the North and East remains high. About 44 percent of the women in Mullaitivu, 30 percent in Vavuniya, 24 percent in Jaffna, and 23 percent in Batticaloa were unemployed in 2004 (Table 7-3).

20. *Education and unemployment.* The more educated who have recently moved back to the North and East provinces have not been able to find jobs. As a result, unemployment is high for educated workers (completed GCE A.L./HNCE and above), at around 29 percent compared to the national average of 17 percent in 2004. Educated workers are now the most likely workers to be unemployed in the North and East. Unemployment among women who have completed GCE A.L. and above in 2004 is even higher: 45 percent in the North and 38 percent in the East (compared to 24 percent nationally). The composition of the unemployed has shifted dramatically. In 2004 unemployment in the North and East was highest among the most educated group in the labor force while in 2002 unemployment was highest for workers who had less than 10 years of schooling (45 percent in the North and 43 percent in the East).

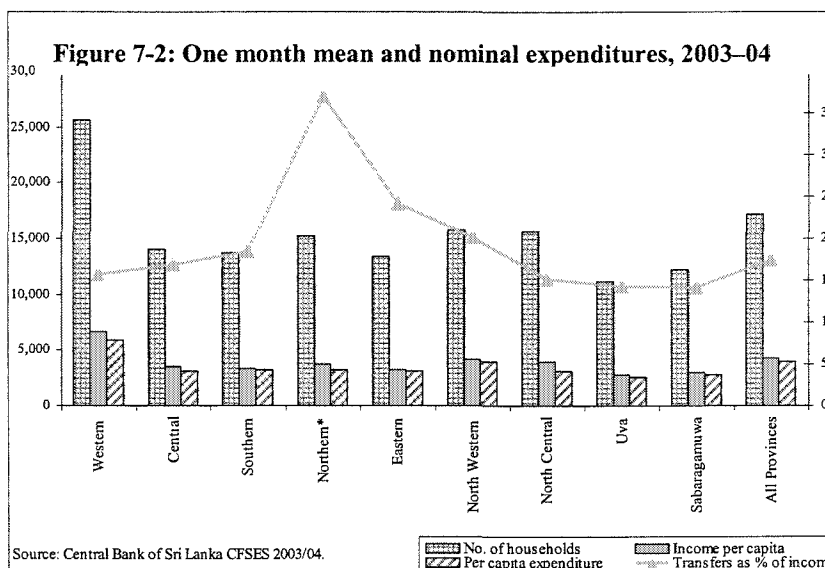
### Consumption, income and housing indicators

21. Both the Central Bank and the DCS attempted to cover the North and East in their household surveys since 2002, but large parts of the North and some parts of the East are incomplete due to security constraints. Therefore, since the DCS was not comfortable with the sampling and the data collected from the North and East, this data was not analyzed. The CFSES 2003/04, on the other hand, provides data on the North and East. The CFSES data on Northern province has an urban-Jaffna bias since the survey was unable to capture the districts of Killinochchi, Mannar, and Mullaitivu, which make up one-quarter of the

population in the North. In addition, the CFSES did not cover families still living in camps that are likely to be worse-off.<sup>4</sup> Thus, consumption and other estimates for the North from the CFSES are likely to be *overestimates*. The CFSES data is also not comparable with the HIES (on which the official poverty lines are based), as a result of which comparable poverty estimates could not be calculated for the North and East. However, the CFSES does yield measures that are rough *proxies* for welfare—such as income and consumption levels, savings and borrowing patterns, and housing conditions—that serve as points of comparison between the North and East and the rest of the country.

22. Comparisons between the per capita income/expenditures in the North and East with those of other provinces may also be problematic because of *higher commodity prices* in the North and East due to higher transport costs and monopolization of trade in certain essential goods. Although there are no consumer price indices for the North and East at present, spot checks on commodity specific prices indicate that a basket of minimum essential commodities would cost much more in certain parts of the North and East (particularly the North) compared to the rest of the country.<sup>5</sup> Thus, the per capita income and expenditure levels reported below for the North may be overestimates in terms of the purchasing power they represent relative to the rest of the country.

23. **Consumption expenditures from CFSES.** Significant transfers to the populations of the North and East seem to have safeguarded income and consumption levels (Figure 7-2).<sup>6</sup> Transfers constituted 37 percent of the total incomes of households in the North and 24 percent in the East, while the average for all provinces was only 18 percent in 2003/04 (Figure 7-2). As a result, the average monthly income of households in the North in 2004 is similar to other provinces, with the exception of richer Western province. The monthly incomes in the East are much lower and comparable to that of the poorest provinces of Sabaragamuwa and Uva (Figure 7-2).



24. The *pattern* of monthly *per capita expenditures* in 2003/04 in the North at Rs. 3,255 and the East at Rs. 3,136 are very similar to those of other provinces with the exception of Western (Rs. 5,922) and North Western (Rs. 4,012) provinces (Figure 7-2).

25. The *composition of household expenditures*, however, shows that food makes up a far larger share of expenditures of households in the North and East—about 42–43 percent similar to the poorest provinces of Uva and Sabaragamuwa (Figure 7-3). In the richest province (Western) the average household spends 27 percent of their monthly per capita expenditures on food. The average household

<sup>4</sup> See Table A-7.3, Annex 7 for statistics on population living in refugee camps due to conflict and/or the tsunami.

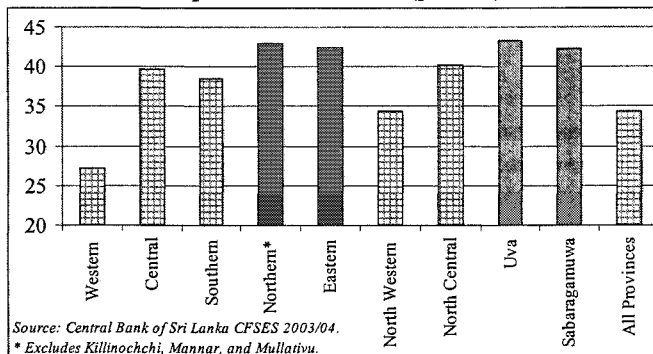
<sup>5</sup> For instance, the price of LP gas (12.5 kg cylinder) was around 38 percent and 35 percent higher in Jaffna compared to Vavuniya during May and June 2005, respectively. The price of petrol was 12 percent higher and diesel 11 percent higher in Jaffna compared to Vavuniya. In Mannar district, during May 2005, the price of a bag of cement was Rs. 520 in government-held territories whereas it was Rs. 630 in rebel-held territories.

<sup>6</sup> The CFSES 2003/04 survey of the Northern Province excludes Killinochchi, Mannar, and Mullativu.

(nationally) spends 34 percent of their monthly per capita expenditure on food. All households spend the second largest share of household expenditure on housing and utilities, and the third largest on transport.

26. **Housing conditions.** A comparison of housing conditions and facilities is also a useful gauge of well-being. The CFSES suggests a mixed picture on this front although the results may again reflect an urban bias for the North (see Table A-7.4, Annex 7). Like many of the other districts, a large proportion of households in Eastern province (92 percent) own their own houses. Homeownership in the North (63 percent) is in fact the lowest in the country. Houses in the North and East tend to be smaller and more congested, but built with good quality inputs compared to the rest of the country. Thus based on quality of housing, the North and East do not seem to lag significantly behind the rest of the country.

**Figure 7-3: Food expenditures as a share of per capita expenditures 2003/04 (percent)**



## 7.2. The economies of the North and East

27. Although significant transfers maintained the income and consumption levels in the districts in the North and East, these economies have remained weak throughout the decades of conflict. Although the North and East combined made up about 14 percent of the population on the island in 2003, the economies of North and East together make up only 8 percent of national GDP (see Table 7-4 below).

**Table 7-4: Provincial GDP and population shares, 1990–2003**

| Province      | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | Population shares 2003 |
|---------------|------|------|------|------|------|------|------------------------|
| Central       | 12.1 | 11.7 | 9.4  | 9.4  | 9.4  | 8.9  | 12.9                   |
| Eastern       | 4.2  | 4.6  | 4.5  | 5    | 4.9  | 5.5  | 7.9                    |
| North Central | 4.8  | 6.3  | 3.9  | 3.7  | 3.9  | 3.9  | 5.9                    |
| Northern      | 4.4  | 3.1  | 2.2  | 2.4  | 2.6  | 2.7  | 5.7                    |
| North Western | 11.1 | 9.6  | 10.4 | 10.7 | 10.1 | 9.4  | 11.4                   |
| Sabaragamuwa  | 8.1  | 7.7  | 6.7  | 6.4  | 6.9  | 6    | 9.5                    |
| Southern      | 9.5  | 9.5  | 9.4  | 9.7  | 9.7  | 9.8  | 12.1                   |
| Uva           | 8.1  | 7.7  | 3.9  | 4.6  | 4.3  | 4.4  | 6.3                    |
| Western       | 40.2 | 42.3 | 49.6 | 48.3 | 48.1 | 49.4 | 28.4                   |

Note: Northern province excludes Kilinochchi, Mannar, and Mullaitivu districts.  
Source: Central Bank of Sri Lanka (2005), Sri Lanka Socio Economic Data 2005, Colombo, pp 35.  
Columns 1 & 2 – Department of National Planning cited in Sarvananthan (2004: 55).

## Sectoral composition

28. The predominance of services and agriculture and fishing sectors (33 to 42 percent of North and East GDP) has not changed during the past two decades. The *industrial sector*, on the other hand, has always been very small. In 1983, about 10,000 industrial units employed approximately 50,000 people and by 2003, 12,000 units employed only about 45,000 people.<sup>7</sup> The services sector makes up one-half of

<sup>7</sup> DCS Census of Industries 2004.

the economy of the North and East, but since it is dominated by microenterprises information on specific activities within this sector is not available.

29. Although the *agriculture and fishing* sector continues to make up a significant part of the economies of the North and East, the importance of the sector nationally has eroded during the conflict years. Before the conflict paddy, onions, chillies, tobacco, fruits, dairy products, and fish were sold in significant quantities to other parts of the country. However, due to transportation difficulties and the trade embargo commercial agriculture in the North and East was transformed into subsistence agriculture.

30. Paddy is the major agriculture product of the North and East. Paddy production accounted for almost one-third of total paddy production in the country in 1980. However, this share had shrunk to less than one-quarter in 2000. Following the cease-fire, paddy production in 2002 more than doubled in the North and more than tripled in Batticaloa district in the East (see Table A-7.1, Annex 7).

31. Fishing has historically been a major economic activity in the North and East especially for Jaffna. In 1980, more than one-half of the total fish catch in the country was from the North and East (56 percent). However, during the past decades, mainly because of restrictions imposed on fishing for security reasons, the region's share in the total fish catch of the country dropped to 33 percent by 1990, and to just 16 percent in 2000. Encouragingly, once fishing restrictions were relaxed in 2002 following the cease-fire the share of the North and East almost doubled to 31 percent in 2002 from 2000 (see Table A-7.2, Annex 7). Unfortunately, data is not available on the impact of the tsunami on fishing in the North and East.

### **Poor economic infrastructure**

32. **Roads.** Like some of the other poorer areas in the country, the North and East suffer from a severe lack of economic infrastructure to support economic growth and reduce poverty. Although several 'A' and 'B' class roads have been repaired in the past four years, several rural roads are out of service. The inadequacy of the road network is reflected in the low accessibility potential in the region (see Figure 3-6, Chapter 3). Information on the quality of road is unavailable, but they are likely to be in poor condition due to years of inadequate maintenance.

33. Even where roads are available, lack of adequate transport facilities make it difficult for people in the interior to take their produce to market. For example, in the Vanni region of the North a barebones bus service connects towns and villages. While there is frequent bus service between Omanthai (Vavuniya) and Muhamalai (Jaffna), no bus serves interior routes. Also no rail service is available in the North beyond Vavuniya.

34. Similarly, minimal *power and telecommunications facilities* in certain areas of the North and East deprive agricultural producers and fisherpersons access to information and markets.

35. According to the CFSES 2003/04 only 64 percent of total households in the North and East have *power*, while the average for the island is 73 percent. This figure for the North is likely to be an overestimate because the CFSES could not cover the remote districts of Kilinochchi, Mannar, and Mullaitivu where estimates suggest that up to 90 percent of the households may not have power. Similarly, only about 20 percent of households in the North and 14 percent in the East have either a land or cellular *phone* while nationally about one-quarter of households has one or the other. Access to telecom in the North and East is better than in Uva (9 percent) and Sabaragamuwa (13 percent), but worse than other provinces.

### **7.3. Vulnerability and human development outcomes**

36. **Savings and borrowings as an indication of vulnerability.** The North and East region has the lowest percentage of households with positive savings. Only 34 percent of households in the East and 38 percent of households in the North have positive savings, while the average for all provinces was 53 percent in 2003/04. Households in the North and East also have higher borrowing rates than the rest of

the country. On average, households in the East borrow as much as 44 percent of their total household income and the corresponding rate in the North is 39 percent, while the national average is only 22 percent. About 65 percent of households in the East and 58 percent of those in the North are indebted, compared to 49 percent of all households in Sri Lanka. The number and average size of loans taken is also much higher in the North and East than in the rest of the country and usually used for consumption (CFSES 2003/04).

37. Lower savings and higher incidence of borrowing among North and East households compared with the rest of Sri Lanka may be indicative of greater vulnerability. Indebtedness and negative savings often result when households borrow or run down their savings to cope with income shocks. Available information is not enough to conclusively link these averages with the incidence of such shocks, but is consistent with the intuition that households in conflict areas are likely to be exposed to more frequent economic shocks.

38. Studies using different methodologies also support the idea that vulnerability is pervasive in the North and East. A World Food Programme (WFP) study—on islandwide vulnerability focused on *food insecurity* at the District Secretariat (DS) Division level using secondary data, Geographic Information Systems (GIS), and statistical tools—reported these two regions as the most vulnerable in terms of food access and utilization (Box 7-1). Of the 29 percent or 94 DS divisions in Sri Lanka that are most vulnerable to food insecurity, 43 percent were located in the North and East. In addition, all but 5 DS areas in the North were identified among the most vulnerable to food insecurity.

**Box 7-1: Islandwide vulnerability study by the World Food Programme**

In 2003, the World Food Program (WFP) undertook an islandwide vulnerability study focused on food insecurity at the District Secretariat (DS) Division level using secondary data, Geographic Information Science (GIS), and statistical tools. The study collected information on availability, access, and utilization of food for its analysis:

(a) *Variables on food availability*: percentage of area under paddy cultivation, percentage of area with moisture availability of 0.68 or less, percentage of area with slope of 8 percent or less, average yield of paddy per farmer from minor tanks, percentage of paddy cultivation area under major irrigation schemes.

(b) *Variables on access to food*: average per capita income per household, average per capita consumption expenditure per person, average per capita expenditure per person on nonfood, percentage of housing units with better floor materials, percentage of housing units with better toilet facilities, average distance to nearest major tank, average distance to nearest major river, average distance to nearest major river with irrigation schemes, average distance to nearest Type A or B road, and index on access to power supply.

(c) *Variables on infrastructure facilities*: percentage of national schools, type 1 AB or type 1C schools, schools with power supply, schools with safe drinking water facility, schools with telephone facility; and percentage of professionally qualified and graduate teachers.

(d) *Variables on food utilization*: infant deaths per 1,000 live births, under-5 year deaths per 1,000 live births, percentage of children attending preschools, percentage of children failing their class, percentage of children quitting school, percentage of school enrolment.

*Source*: World Food Programme (2003). *Identification of DS Divisions of Sri Lanka: Vulnerable for food insecurity*.

39. Welfare and economic outcomes vary significantly *among areas within the North and East* as shown in the Vulnerability and Poverty Profile (VPP) of the North and East conducted by the Center for Information Resources Management (CIRM) of the Northeast Provincial Council in 2004 and 2005 (see Box 7-2). The study attempts to identify the poverty status of villages in different DS divisions within the North and East along four dimensions: economic, health, education, and vulnerability. According to these criteria a large majority of villages in all DS divisions of Batticaloa, Trincomalee, Mannar, and Vavuniya are categorized as “extremely” or “highly” poor.

#### Box 7-2: Vulnerability and village poverty profiles (VPPs) in the North and East

The VPP study conducted in 2004 and 2005 at the village level in the North and East (except for the district of Mullativu) attempts to identify poverty and vulnerability along the following dimensions:

- *Economic*: living condition, power supply, and employment potential for agriculture & fishing
- *Health*: access to a dispensary, mobile health service, and maternity clinic
- *Education*: access to nursery and primary schools, and number of schooling years
- *Vulnerability*: food production, household consumption, availability of food ration, refugees, displacement, war effects, women-headed households, orphans, incidence of child labor and dependents.

Based on these indicators all the villages in a DS division were classified under the following categories: displaced villages, lower prevalence of poverty (Code 1), prevalence of poverty (Code 2), high prevalence of poverty (Code 3), very high prevalence of poverty (Code 4), and destitute situation or extreme poverty (Code 5). These VPPs are based on *relative* poverty of each village within each DS division. VPPs for Ampara, Jaffna, and Kilinochchi districts are still underway.

In Batticaloa district, Koralaipattu South (60 percent of total villages in area) and Koralaipattu North (55 percent of total villages in area) DS divisions have the largest share of “extremely poor” villages. In Trincomalee, Eachchilampattai (58 percent) and Kuchchaveli (43 percent) DS divisions have the largest share of “extremely poor” villages. In Mannar, Madhu (40 percent) and Manthai West (32 percent) DS divisions have the largest share of “extremely poor” villages. Finally, in Vavuniya, Vavuniya North DS division has the largest share of “extremely poor” villages (38 percent) (see Table A-7.5, Annex 7). However, since the ranking of villages is *relative within each DS division*, one cannot conclude which districts are better/worse off when compared with each other, based on these findings.

*Source*: Centre for Information Resources Management (2004). Vulnerability Poverty Profile: Batticaloa District, December, North East Provincial Council, Trincomalee.

#### The aftermath of the tsunami

40. As the North and East were slowly emerging out of the protracted civil conflict (since early 2002) the tsunami on December 26, 2004 devastated coastal populations. Coastal communities in the North and East now face the double burden of hardships from the conflict as well as the tsunami. The districts of Ampara and Batticaloa in the East, in particular, suffered the most lost lives, displacement, and damage to infrastructure and housing.

41. **Losses.** According to the census of tsunami affected areas conducted by the Department of Census and Statistics, out of the estimated 35,000 lives lost to the tsunami, 63 percent or 22,000 victims were from the North and East. About 347,000 persons were also displaced in the North and East by the tsunami. Of the 100,134 buildings either partially or completely damaged, around 89 percent were private dwellings. The East sustained the most building damage—48 percent of buildings destroyed islandwide were in Ampara and Batticaloa.

42. Fishing was the most severely affected *livelihood* sector in the North and fishing, micro and small enterprises, and tourism was severely affected in the East. Although the tsunami had a marginal impact on the country’s overall macroeconomic performance, the regional economies of the affected areas were hard hit.<sup>8</sup> Since the populations in the North and East are mostly engaged in agriculture and fishing the tsunami is also likely to have worsened livelihoods and the incidence of poverty in these areas.

#### Lagging education and health outcomes

43. Lagging educational and health outcomes have a strong bearing on the likelihood of future generations falling into poverty. In terms of health and educational outcomes, the conflict has clearly caused the North and East to lag behind on these dimensions. Schools and health clinics have been destroyed, maintenance of these assets has fallen short, and there have been shortages in necessary human

<sup>8</sup> ADB/IBIC/JICA/WB (2005).

capital due to security fears. This is even more serious given that the child dependency ratio in the North and East is higher than in other provinces, 45 and 55 percent, respectively, while the national average is about 40 percent (CFSES, 2003–04).

**Table 7-5: Selected social indicators**

| Indicator                          | Sri Lanka<br>excluding<br>N&E | North & East | Ampara | Batticaloa | Trincomalee | Jaffna | Kilinochchi | Mannar | Mullaitivu | Vavuniya |
|------------------------------------|-------------------------------|--------------|--------|------------|-------------|--------|-------------|--------|------------|----------|
| Low birthweight<br>< 2.5 kg*       | 18.0                          | 25.7         | 22.7   | 24.3       | 30.5        | 30.5   | N.A         | 12.7   | N.A        | 38.8     |
| Underweight<br>3–59 months*        | 29.4                          | 46.2         | 44.1   | 53.2       | 44.7        | 43.1   | N.A         | 38.3   | N.A        | 50.6     |
| Access to safe<br>drinking water** | 61.9                          | 45.9         | –      | –          | –           | –      | –           | –      | –          | –        |
| No latrine**                       | 5.6                           | 5.0          | 29.2   | 7.3        | 14.4        | 4.6    | 2.7         | 3.4    | 4.6        | 1.0      |

Note: \* 2001; \*\* 2003–04.

Source: Department of Census and Statistics (2004), Poverty Statistics / Indicators for Sri Lanka, Colombo, pp 4 and 42; Central Bank of Sri Lanka (2005), CFSES 2003/04.

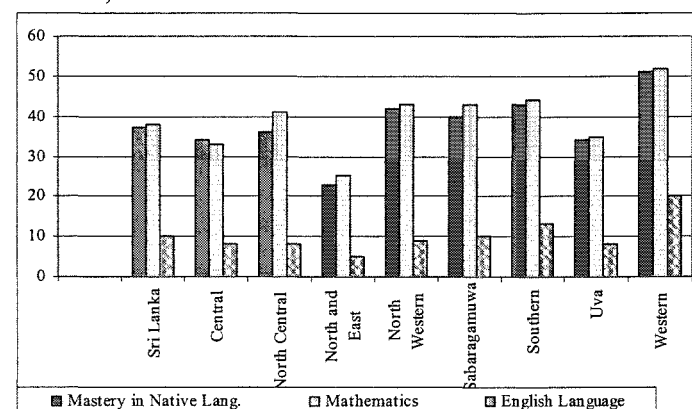
44. In terms of *health outcomes*, 46 percent of children below five years of age in the North and East are underweight, compared to 29 percent for the rest of the country. The percentage rate of babies born underweight in the country is 18 percent, but the proportion is 26 percent for the North and East. The figures are even worse in districts like Batticaloa and Vavuniya, where over one-half of the children are underweight, and Trincomalee, Jaffna, and Vavuniya where more than 30 percent of babies born are underweight (Table 7-5).

45. Access to *safe drinking water and safe sanitary facilities* are also inadequate. Nationally 62 percent of households have access to safe drinking water, but only 46 percent of those in the North and East have such access. About 80 percent of households in Sri Lanka have access to water seal latrines, while less than one-half of households in the North and East have such access (the lowest two among all provinces) (Table 7-5).

46. Serious access and quality issues in the education sector affect *education outcomes*. Eastern province has the lowest literacy rate in the country (87 percent): female literacy is higher than male literacy, a significantly larger share of population has no schooling, and a lower share of population has secondary or tertiary education, compared with the country averages. In contrast, literacy and education outcomes in Northern province are closer to those for the country as a whole; tertiary education attainment is much higher (28 cent of the Northern population) than the average for the island (21 percent).

47. The North and East have higher than average student drop out rates and lower learning outcomes. According to the Census of Schools undertaken in 2003 the repetition and drop out rates in the North and East were among the highest in

**Figure 7-4: Education Mastery Skills of Primary School Students, 2003**



Source: National Assessment of Grade 4 Cognitive Achievement, University of Colombo, cited in World Bank (2005).



the country after Sabaragamuwa and Uva provinces. At Grade One level, Sabaragamuwa province had the highest repetition rate (2.6 percent) followed by Eastern (1.9 percent), and Uva and Northern (1.8 percent) provinces.

48. Primary school (Grade 4) children in the North and East also have the poorest mastery of skills in their mother tongue, the English language, and mathematics. The share of Grade 4 children in 2003 in the North and East achieving mastery in their native language was only 23 percent compared to the national share at 37 percent. Likewise, the share of Grade 4 children in the North and East achieving mastery in the English language was only 5 percent which is one-half the national figure. In mathematics only 25 percent of Grade 4 children achieved mastery compared to 38 percent of the children nationally (Figure 7-4).

49. The gaps in achievement, school retention, and repetition between the North and East and the rest of the country indicate a serious problem with the quality of education in conflict-affected areas. Even more than lagging educational outcomes, the conflict may have affected the quality of basic services supporting the creation of human capital, which in turn may have exacerbated conditions leading to poverty.

#### ***7.4. Remaining impediments to growth and poverty reduction in the North and East***

50. The cessation of conflict in 2002 clearly benefited the local economies of the North and East. However, despite measures that improved security, and the slow reintegration of these areas with the rest of the country, as well as higher economic growth, the North and East's economic contribution to national GDP remains low. The sustainability of future high growth in these regions also remains questionable. This section will explore institutional impediments to growth and poverty reduction affecting the North and East.

51. ***Constraints to mobility.*** A number of rigidities in the current institutional setup continue to impede the mobility of populations between the North and East and the rest of the country, imposing additional costs on economic activity and welfare. High security zones in the North and East still bar access to civilians and prevent the undertaking of productive activities. For example, one-third of the Jaffna peninsula is a high security zone. Restrictions and occupation of prime commercial properties in Jaffna seriously hampers business development in the North and East since Jaffna has historically been the commercial hub of these two provinces.

52. ***Fishing restrictions.*** Certain time and geographic restrictions on fishing still exist in the Northern and Eastern provinces, particularly in Jaffna, despite some relaxation after the cease-fire. Fishing is one of the primary economic activities in the North and East, and prior to the conflict used to account for one-half of the total fish catch in the country. Security motivated fishing restrictions have also resulted in poaching within Sri Lankan maritime boundaries by fishermen from India, Japan, Taiwan, and Thailand.

53. ***Restrictions on road use.*** Although the A9 highway reopened in 2002, it was only open for vehicular and civilian traffic Monday through Saturday each week and 10 hours a day. Moreover, goods transported to and from the North and East had to go through four checkpoints and the quality of the A9 highway remains poor. At each checkpoint, the entire consignment was offloaded, checked, and reloaded. Entrepreneurs from Jaffna complain that it took them three days to transport goods to and from Colombo via the A9 highway, which added to the cost of doing business. Thereafter, the A9 highway has been closed beginning the second half of 2006 due to the worsening security situation.

54. ***Access to credit.*** Businesses based in the North and East have poor access to bank credit. Because they are unable to open a Letter of Credit (LC) at their local banks, traders in the province have to purchase goods from Colombo-based importers, which again adds to transaction costs and retail prices. In addition, there is anecdotal evidence of capital flight from the North and East to the rest of the country because of fears that savings are not secure in banks located in these provinces. Since banks in the North and East only lend what they obtain in deposits from local clients, the issue of capital flight constrains the



availability of credit in the area to create a vicious cycle, further exacerbated by more stringent in disbursement of loans by local banks to farmers, fishermen, and traders, and collateral requirements that are higher than in other parts of the country.

55. ***Out-migration.*** Despite a large influx of internally displaced persons (IDPs) to Jaffna in recent times, the total number of people leaving the North and East may be higher due to obstacles in banking, fishing, and transport. As mentioned earlier, the unemployment rate among the educated is very high in the North and East, and it appears that the bulk of those migrating out are relatively better educated and skilled – a migration pattern similar to other parts of Sri Lanka (Chapter 4). Also, as indicated in Chapter 4, the cease-fire of 2002 has made it possible for people in the North and East to migrate in greater numbers to Colombo in search of economic opportunities. Therefore, out-migration is further depleting the human capital urgently needed for the rehabilitation and revival of these areas.

56. In conclusion, during the past four years of cease-fire several critical infrastructure facilities—roads and bridges, power supply and telecommunications, and schools and hospitals— have been rebuilt and restored, but to realize fully the growth potential in the North and East, the institutional constraints described above must be addressed.

### ***7.5. Concluding remarks***

57. Despite less than perfect data it is clear that the conflict has severely affected the welfare, social, and economic conditions of people residing in the North and East. The tsunami aggravated existing poverty and welfare challenges. That is why the peace dividends from the cease-fire in 2002 are so encouraging. The worsening security situation in 2006 would have added to the challenges in the region, although the impact of the deterioration of security on the economic welfare of people in the North and East is unclear at this point.

58. Undoubtedly, no amount of investments by the government, various donors, and private investment can fully compensate for the shortfalls in economic infrastructure, incomes, health, education, and social challenges in the North and East region until lasting peace is achieved. Without peace the institutional rigidities and obstacles to sustained growth in the North and East and prospects for significant poverty reduction will remain distant.

## 8. Poverty Traps in the Estates and the Way Forward

1. The estate population represents the most significant challenge to poverty reduction in Sri Lanka.<sup>1</sup> Consumption poverty in the estates was higher in 2002 than in 1990–91, contrary to the trend for the country as a whole. In 2002 the estates were the poorest sector with a poverty rate 7 percentage points higher than the national average (chapter 2), and constituted about 5 percent of the country's total population but 8 percent of the poor. This chapter will examine the nature and determinants of persistent poverty in estates.
2. A wide range of factors contribute to poverty traps in Sri Lanka—from geographical isolation and lack of access to infrastructure to individual attributes like lack of education and occupation (chapter 3). These factors contribute to a persistent cycle of low capability, minimal earning potential, and poverty among the estate population. Although many of these factors operate in remote, rural areas of Sri Lanka as well (see chapters 3 and 6), the challenges in the estates are especially acute.
3. Many key human development indicators in the estates lag far behind even those in rural areas (chapter 5). Deficiencies in education are part of the reason why the opportunities available through internal migration—an avenue out of poverty for many households in remote areas (chapter 4)—are limited for estate households. The estate population has lower rates of out-migration, self-employment, and participation in other sectors. In addition, even when estate residents are able to diversify their income sources by working in jobs outside the estate or migrating to urban areas, the economic benefits are often limited because of their inability to find better-paying employment.
4. The persistence of poverty traps in the estates is also a result of long history of social and economic isolation of estate residents over generations. The sector developed as an enclave, employing workers from outside the country who not offered citizenship rights until 1988. The unique employment structure of estates persists to this day, and much of the workforce continues to be isolated to a large degree from the national mainstream.
5. Current national household surveys provide limited data to examine these issues more deeply. HIES and CFSES data do not distinguish among types of estates—type of crop or management, size, or location—to discern underlying patterns. They do not adequately cover issues such as location and connectivity of estates, type of work done on estates, or coverage of social programs and availability of services critical for welfare of estate households.
6. A comprehensive household survey, conducted especially for this study, is used to provide data for the estate analysis. A complementary qualitative study explores underlying perceptions and attitudes of estate residents and the relationships between management, trade unions, and households. The analysis asks two key questions: what explains the persistence of poverty traps in the estates, and what characteristics enable some poor people move out of poverty and stay out of poverty while others fall into poverty or remain trapped in chronic poverty? Findings from quantitative data are triangulated with qualitative insights on perceptions of estate residents on what they see as drivers of positive change. While the household survey was *not designed to be representative of the estate population*, it was based on a large sample (of over 1,000 households in 43 estates) with wide coverage in terms of location and characteristics of estates to allow for rich analysis.<sup>2</sup>

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<sup>1</sup> The definition of estates in this report is identical to that used by DCS: plantation areas, which are more than 20 acres in area and employing not less than 10 residential laborers

<sup>2</sup> Both the studies covered only tea and rubber plantations. Since coconut plantations constitute only a small proportion of the estate population they were excluded. The qualitative study was conducted as a

### 8.1. *Setting the context: the estate sector*

7. Large plantations growing tea, rubber, and coconut—started during the British colonial period—were self-sufficient enclaves apart from the national socioeconomy. Workers, primarily from South India, were confined to the plantation and were completely dependent on the management for all services related to daily life. Since independence the importance of plantation crops in the national economy has declined, ownership has shifted from foreign to national, the labor force has become Sri Lankan citizens, and the estate structure has become less rigid.

#### **Origin and development of the estate sector**

8. The British colonial administration introduced the cultivation of tea and rubber as commercial crops in the late 1800s. Changes in the world commodity market as well as within the estate sector in Sri Lanka gradually reduced the importance of tea and rubber exports. By 2004, textile and garments had taken over as the leading foreign exchange earner, although tea remained an important export crop. Rubber diversified into a local manufacturing base in the 1950s and expanded rapidly after the introduction of free trade policies and investment promotion zones in the late 1970s.

9. Due to a range of sociopolitical and commercial reasons, the British transferred most of the plantation labor from South India. Today, estate residents usually earn most of their income in wage employment on a plantation. Over the past two decades, the labor force in plantations has declined by more than 50 percent, from a peak of 542,000 workers in 1980 to an estimated current figure of less than 269,000.<sup>3</sup> Over a similar period, the proportion of smallholdings (*not* classified as estates) in the tea sector has more than doubled (from 19 to 44 percent during 1982–2002), and smallholdings for rubber are rapidly catching up with the estates despite a fall in the total area cultivated for rubber. The estate sector share of agriculture has dropped from 27 percent in 1982 to 20 percent in 2002. These trends, along with the declining size of the estate labor force, indicate that the estates are in decline.

10. *Policy changes affecting ownership and management.* The Land Reform Law of 1975 nationalized foreign-owned estates in two phases. Phase 1 in 1992 privatized management only by creating state-owned Regional Plantation Companies (RPCs) where each RPC entered into an agreement with a private company, the Management Agent (MA). Phase 2 in 1995 sold controlling interests in the RPCs to MAs subject to restrictions that allowed the government to exercise control over certain affairs (see Annex 8, section I). These policy shifts are likely to have had profound impact on estate management, workers, and the relationships between these actors.

#### **Poverty and human development in the estates**

11. *Poverty incidence.* The estate sector has the highest incidence of poverty, with a headcount rate of 30 percent in 2002. Unlike the trend in national poverty, estate poverty in 2002 was *significantly above* 1990–91 levels.<sup>4</sup> Consumption in the estates has also become more highly concentrated in a narrow interval around the poverty line—again in contrast to the country, the concentration in estates has increased between 1990–91 and 2002 (see chapter 2). This suggests that even small changes or shocks to the estate economy can produce large shifts in poverty

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combination of focus group discussions (FGDs), key informant and household interviews in a sample of 20 estates, 13 of which belonged to the survey sample (see Annex 8, Section III for details).

<sup>3</sup> Statistical Abstract, DCS (2004)

<sup>4</sup> Even when the standard errors of poverty headcount are taken into account in computing 95 percent confidence intervals, the headcount in the estate sector clearly increased between 1990–91 and 2002, and are also clearly higher than the national headcount in 2002 (see Annex 2).

headcount rate, and overstate actual changes in welfare. Therefore, this poverty trend analysis takes into account the change in the entire distribution, rather than just the headcount.

12. Bearing in mind the full density of consumption, the story in the estates seems to be one of little movement *over time*, and relatively low variance *within the sector*. A significant majority of the estate population consumes just enough to approach the poverty line; and over time, a slight worsening in the situation appears to have affected almost the entire distribution range. These two snapshots in time say little about movements in and out of poverty, but they do hint at the likelihood that *poverty in the estates is endemic and linked to factors that affect the sector as a whole and to factors that have changed little over time*. Insights from the qualitative study support this view. There is much agreement in the characterization of poverty between households across different types of estates; and in most cases, the perceptions and explanations of poverty by respondents were restricted to factors operating within the particular estate sector.

13. Poverty in the estates is multidimensional, a characterization that also comes through clearly in respondents' qualitative interviews. While earnings and consumption are at the core of the households' own understanding of poverty, other elements such as health and education also figure strongly. At the same time, there is some divergence between time trends of consumption poverty and other indicators of welfare. Unlike consumption poverty, many aspects of health, education, and housing have improved in the estates—especially in recent years thanks to initiatives undertaken by the government with various development partners.

14. *Health and education.* The Estate Sector Health Bulletin documents a gradual improvement in the health trends among RPC estates working with the Trust.<sup>5</sup> For example, the crude birth rate, crude death rate and infant mortality rates have declined steadily during the past 15 years. The gap in average literacy rates between the estate sector and the urban and rural sectors has also narrowed over the past two decades (Table 8-1).

15. In spite of these gains, the estates still lag well behind the rest of the country and the rural sector on key indicators of health and education. Male and female literacy rates in 2003-04 are 6 and 16 percentage points lower than the rural averages, respectively (Table 8-1). As reported in chapter 5 (Table 5-2), 30 percent of estate children were low birthweight babies, compared with 17 percent of rural children. Also 37 and 46 percent of estate children are stunted and underweight, respectively, compared with 14 and 31 percent of rural children; and 48 percent of estate mothers have low body mass index (BMI), compared with 23 percent of rural mothers.

16. Potential reasons for the relatively high incidence of malnutrition in the estates include inadequate access to food and poor nutritional and dietary practices. The Estate Survey indicates that 13 percent of sample households report food shortage. Moreover, food shortages appear poverty related—of those who reported experiencing a shortage, most attributed it to lack of income, as opposed to nonavailability of food.

| Table 8-1: Literacy rates by sector<br>(percent) |              |               |                    |
|--------------------------------------------------|--------------|---------------|--------------------|
|                                                  | <i>Rural</i> | <i>Estate</i> | <i>All sectors</i> |
| <b>1986–87</b>                                   | <b>89.5</b>  | <b>68.5</b>   | <b>88.6</b>        |
| Male                                             | 92.8         | 80.0          | 92.2               |
| Female                                           | 86.5         | 58.1          | 85.2               |
| <b>1996–97</b>                                   | <b>92.3</b>  | <b>76.9</b>   | <b>91.8</b>        |
| Male                                             | 94.4         | 87.2          | 94.3               |
| Female                                           | 90.4         | 67.3          | 89.4               |
| <b>2003–04</b>                                   | <b>92.8</b>  | <b>81.3</b>   | <b>92.5</b>        |
| Male                                             | 94.7         | 88.3          | 94.5               |
| Female                                           | 91.1         | 74.7          | 90.6               |
| <i>Source: CFSES report (2003–04).</i>           |              |               |                    |

<sup>5</sup> Plantation Human Development Trust (2005). This captures only RPC estates working with the Trust.

17. *Housing conditions.* The estate housing stock consists of single houses, attached houses and annexes, line rooms and row houses, and shanties. Single houses are clearly the most desirable form of living arrangements; and the CFSES shows that the proportion of single houses in total housing stock in the estate sector increased almost threefold from 1996–97 to 2003–04 (Table 8-2). This reflects recent efforts

by the government and estate management to allocate more resources in this area. However, the proportion of line rooms is still much higher than the country average, and a

| <b>Table 8-2: Changing pattern of housing stock in estates (percent)</b> |                |                |                    |                |
|--------------------------------------------------------------------------|----------------|----------------|--------------------|----------------|
| <i>Type of housing unit</i>                                              | <i>Estate</i>  |                | <i>All sectors</i> |                |
|                                                                          | <i>1996–97</i> | <i>2003–04</i> | <i>1996–97</i>     | <i>2003–04</i> |
| Single house                                                             | 10.2           | 28.1           | 88.5               | 91.2           |
| Attached house/annex                                                     | 0.0            | 7.9            | 9.7                | 2.8            |
| Line room/row house                                                      | 83.2           | 63.4           | 0.0                | 3.9            |
| Shanty                                                                   | 0.2            | 0.5            | 0.3                | 0.8            |
| Other                                                                    | 6.4            | 0.2            | 1.5                | 1.4            |

*Source:* CFSES report, CBSL (2005).

sustained effort is needed to close the gap between living conditions in the estates and other sectors.

## **8.2. A profile of poverty in the estate sector: household and community attributes**

18. The Estate Survey conducted for this report explores a wide range of household and community/estate characteristics. The insights from the survey data can be triangulated with results from the qualitative analysis of factors influencing households' movements in and out of poverty. Since the Estate Survey lacks consumption data, the poverty status of households is measured using an Asset Index (AI) score, which should be interpreted as a proxy for wealth rather than a flow of income.<sup>6</sup> To distinguish this measure from the consumption-based estimate of poverty used elsewhere in this report, the welfare measure calculated from the AI will be referred to as AI-Poverty Rate, defined as the percentage of households whose AI scores lie below the 30th percentile. The 30<sup>th</sup> percentile is a reasonable choice for the "AI-poverty line," given that the poverty headcount for the estate sector is 30 percent (HIES, 2002).

19. *Demographic characteristics.* The average dependency ratio—the ratio of number of dependents (family members below the age of 15 and older than 64) to number of working age family members (ages 15–64)—in estate households is 55 percent, compared to the national average of 49 percent.<sup>7</sup> Multivariate analysis using the Estate Survey data indicates that households with higher dependency ratios have lower AI, and conversely, households with more earners tend to be better off (see regression results in Annex, Table A-8.1). In the qualitative study, the demographic cycle of a household—from the birth of children into a family, through schooling, to reaching the age of employment, marriage, and death—is identified by the households as having a strong impact on their current economic status and future prospects.

20. *Education.* According to HIES (2002), 14 percent of estate household heads have no schooling, compared to 6 percent for Sri Lanka as a whole; 24 percent of estate household heads attained grade 6–9 compared to 37 percent among all household heads. In the Estate Survey sample, 17 percent of household heads have no schooling, and only 7 percent have had education of O-level or above. AI-poverty rate among households whose heads have had no education is 41 percent, compared with less than 11 percent among those with O-level and above (Table 8-3). The multivariate model shows that household head's education beyond grade 5 has a significant

<sup>6</sup> The method employed to construct asset indices is similar to the approach adopted by DHS surveys around the world, including Sri Lanka, and in the health section of chapter 5 of this report (for details, see Annex 8, Section II).

<sup>7</sup> Poverty statistics/indicators for Sri Lanka, DCS (2004)..

positive effect on the household's AI score and poverty (Annex 8, Table A-8.1). As seen later, education attainment is related to better employment opportunities and higher earnings, especially in occupations outside the estate.

21. The qualitative study reveals that estate households recognize education as a driver of upward mobility. Households perceived improvements in access to better quality education over the past 15 years—both within the estate and in the larger towns, and saw that as a force for positive change. Doubts were expressed about whether education actually creates employment opportunities for estate residents, probably because there are so few examples in some of the estates, as well as a feeling of marginalization that often clouds perceptions in the estates. At the same time, the role of education in enabling greater participation in the national socioeconomy was strongly articulated, particularly by youth. However, cost of education, as well as the quality of schools in the estates—including a shortage of teachers—was frequently identified as a concern.

**Table 8-3: Selected attributes of estate households and asset index-poverty**

|                                                                                                                 | <i>Asset index</i> | <i>Poverty rate (percent)</i> | <i>Sample distribution (percent)</i> |
|-----------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------|--------------------------------------|
| Head of household's education attainment                                                                        |                    |                               |                                      |
| No schooling                                                                                                    | −0.32              | 41                            | 17                                   |
| Grade 1–5                                                                                                       | −0.19              | 35                            | 44                                   |
| Grade 6–9                                                                                                       | 0.11               | 23                            | 31                                   |
| O-level                                                                                                         | 0.85               | 13                            | 5                                    |
| A-level and beyond                                                                                              | 1.68               | 4                             | 2                                    |
| Head of household has National ID card                                                                          |                    |                               |                                      |
| No                                                                                                              | −0.47              | 51                            | 12                                   |
| Yes                                                                                                             | 0.04               | 28                            | 88                                   |
| Total                                                                                                           | −0.02              | 30                            | 100                                  |
| <i>Note:</i> The results are applicable to sample estates only, and are not representative of the estate sector |                    |                               |                                      |
| <i>Source:</i> MOP Estate Survey (2005).                                                                        |                    |                               |                                      |

22. **National Identification Card (NIC).** There is a close association between AI poverty and the possession of NICs. A sizeable proportion of household heads (12 percent) do not have a NIC, and the AI-poverty rate among these households is 23 percentage points higher than among the rest (Table 8-3). In the multivariate regressions, this correlation remains strong even after considering other attributes. The regressions also reveal that households with a higher proportion of family members with a NIC are less likely to be AI-poor. Ownership of NICs is particularly low among youth (age 16–19), and seems to be related to accessibility to towns, lower education, gender or ethnic characteristics of household head, all indicative of the degree of isolation of an estate households (Box 8-1).

**Box 8-1: What factors determine possession of NICs in estates?**

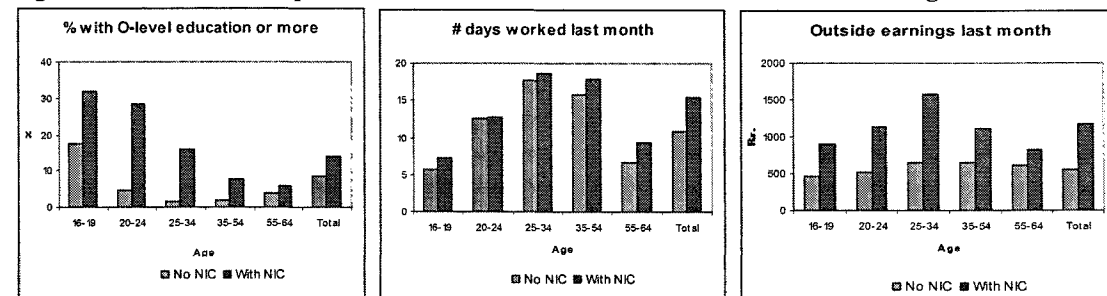
Legally anyone can obtain a NIC when he/she reaches the age of 16. The ownership of a NIC increases with age in the estates—the average NIC ownership among youth 16–19 years of age is only 35 percent but levels out at around 85–90 percent after they reach 25 years old (*Annex, Figure A-8.1*). Why does a substantial section of the estate population not have NICs? It turns out that NIC ownership is related to factors that indicate the level of isolation of communities and households. A probit regression of the probability of NIC ownership among estate residents 16 years of age and older suggests an increased likelihood of obtaining a NIC is associated with a household *head* with more education or one who possesses a NIC. The likelihood of obtaining a NIC is reduced if the household head is a woman, or comes from an Indian Tamil background. Such individuals or households are more likely to reinforcing the pernicious effects of isolation.

*Source:* MOP Estate Survey (2005).

23. **Why is possession of a NIC linked to welfare?** It turns out that having a NIC has statistically significant links with key determinants of welfare, like education and economic opportunities, particularly outside the estates. Estate residents with a NIC are on average better

educated, work more days, and earn more from outside sources than those without a NIC (see Figure 8-1).

**Figure 8-1: NIC ownership in estates is associated with better education and earnings**



*Note:* The results are applicable to sample estate only, and are not representative of the estate sector.

*Source:* MOP Estate quantitative survey (2005).

24. The difference in education attainment is particularly high among the 16–19 and 20–24 age groups: around 30 percent of youths with a NIC attain an O-level education or higher, compared to 18 and 5 percent of non-NIC youths in the two age groups, respectively. Given that the NIC ownership rate is low among youths, this difference means that NIC ownership has critical socioeconomic implications for estate youth, especially. Ownership of NIC also appears to be associated with more opportunities for employment outside estates. The estate residents of age 16–34 who have NICs earn more from sources outside the estates, unlike those from their age group *without* NIC or the older generation, who rely heavily on estate wages (see Annex 8, Table A-8.2 for more details). Regressions show that, even after controlling for gender, education, ethnicity and location, having a NIC yields a significant premium to earnings.

#### **Diversification of the household livelihood portfolio**

25. Qualitative findings indicate that the most successful way to move out of poverty is by diversifying the household livelihood portfolio beyond estate employment—incorporating non-estate sources of income including skilled work, and internal or external migration (see Box 8-2). Data from the Estate Survey clearly indicates that the ability to diversify income sources is associated with higher welfare and lower poverty for households, particularly when the sources include income from enterprises, regular and skilled employment outside the estate, and overseas migration.

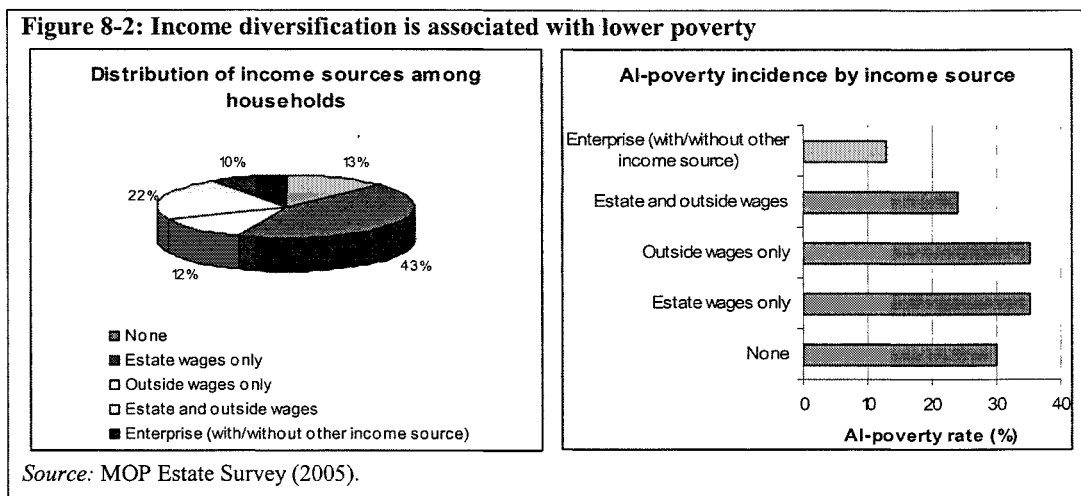
#### **Box 8-2: External employment as a means to achieve economic mobility**

Excerpts from a life history (respondent: age 39, male, married; rubber, RPC, Kalutara district):

“...Until 1990 mother was the only registered earner of the family since father was ill and whatever she earned was not enough to sustain the family of six. Could not receive a satisfactory education: only up to the 5<sup>th</sup> grade because parents were facing difficulties in supporting our studies.....Tried wage labor in the estate until 1990 but it was not paying enough to cope with the gradually increasing expenses of the family. From 1990 to 1994 through the help of a known mudalali (trader) I was in Moratuwa (suburb of Colombo) working in a ‘tea kade’ (roadside tea kiosk).....Managed to come home twice a month and could save Rs. 2000 but the boutique closed due to a road-widening project that cleared all roadside vendors.....In 1993 my sister left for Lebanon for two years and it is with her help that we built the house to its present status. Realizing that the estate will not help me come up I started my current business as a pavement vendor of selling toys in 1995. I got the opportunity through a friend in the estate. As the estate community does not own any assets, it is always hard to get a loan from a bank and it was Janasaviya (state’s previous poverty alleviation program) that helped us save some money to start the business. Now I have something that I can call my own and my next desire is to buy a vehicle and improve on the same business, since I cannot come back to estate work or sell kadala (gram)....”

*Source:* CEPA (2005).

26. ***Income diversification of estate residents.*** Estate households earn their income from three broad categories: estate wages, outside wages, and enterprise incomes—that includes income from nonagricultural household businesses and from sales of crops, livestock, and livestock products. More than 40 percent of estate households rely *solely* on estate wages for earned income, with “estate and outside wages” a distant second. The *AI-poverty rates are highest among households that receive wage incomes from only one source*; and lowest for households with incomes from all three sources (Figure 8-2).



27. Multivariate regressions are useful to gauge the effect of diversification *net* of household attributes that may correlate with both the household’s ability to diversify and AI. The regressions show that households earning both off-estate and estate wages are *not significantly different* in terms of AI from those whose incomes are only from estates. In contrast, households that *receive income from enterprises*—whether singly or along with other income sources—fare significantly better (Annex 8, Table A-8.1). The same is true of *rural households*—those owning a nonfarm enterprise have a significantly lower poverty rate compared to those without one (chapter 6).

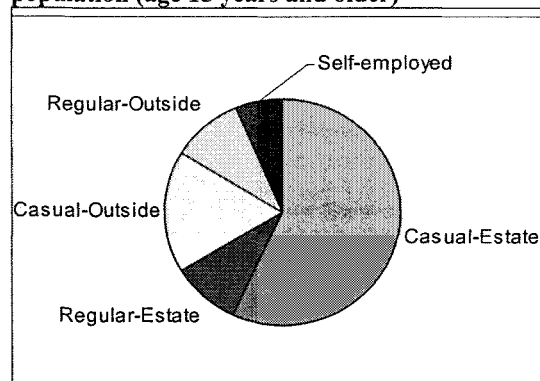
28. Why is diversification into *any type of employment* outside the estate not enough to increase household welfare? A disaggregated look at occupations is useful to understand why. Primary employment of estate residents can be divided into 3 broad groups—estate, non-estate wage, and self-employed; and these can be further broken down by location or nature of employment (Figure 8-3).<sup>8</sup> Employees can also be classified as casual and regular (salaried) workers. Self-employed—those who derive their incomes from enterprises—account for about 6 percent of workers.

29. Earnings from different primary occupations differ substantially (Figure 8-3). Workers in regular estate wage employment are better educated and earn almost a thousand rupees more per month than casual estate workers do, even though the number of days worked per month is almost the same (see Annex 8, Table A-8.3). Similar gaps in earnings and education also exist between casual and regular workers *outside* the estates. Working outside the estates thus does not necessarily imply higher earnings. Earnings from casual wage labor outside the estates are only slightly higher than that on estates, and even that may not translate into a welfare gap, since estates provide workers with numerous benefits. Regular employment inside or outside the estate and self-employment inside and outside the estate, on the other hand, are clearly associated with higher earnings.

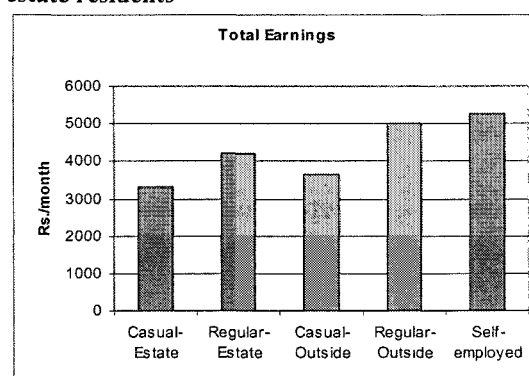
<sup>8</sup> It is sufficient to focus on primary employment exclusively because less than 7 percent of workers living on estates have secondary employment, and less than 5 percent are employed outside the estates.



**Figure 8-3: (a) Primary occupation of estate population (age 15 years and older)**



**(b) Monthly earnings by primary occupation of estate residents**



Source: MOP Estate Survey (2005).

30. Thus, *certain types* of income diversification are associated with higher welfare of estate households. Diversification of income sources among household members represents significant improvements in welfare *only* when the outside income sources include self-employment and/or regular (salaried) employment. Conversely, a reliance on casual employment—be that on or outside estates—seem to be associated with higher AI poverty. Notably, better education outcomes seem to lead to more remunerative employment, and especially so outside the estate. Successful households also often make a conscious decision to include estate work in their livelihood portfolio to access benefits such as housing.

31. **Migration as a driver of economic mobility.** Diversification appears to offer the most successful strategy out of poverty, and qualitative findings indicate that migration is an important component of the “ideal” diversified livelihood portfolio. Of the different types of migration, which is more prevalent among the estate population? What are their welfare impacts? What are the characteristics that determine the pattern of migration and its effects?

32. *Trend and pattern of migration from the estate sector.* The CFSES reports that migration from the estate sector increased considerably during the past decade. The rate of external migration from estates increased from 42 to 49 per 1,000 households between 1996–97 and 2003–04. During the same period, internal migration also grew, from 4 to 20 per 1,000 households. The Estate Survey shows a much higher internal migration rate—257 per 1,000—probably because it covers a five-year window.

33. Migrants from estate sectors are diverse in their characteristics. A majority of migrants have gone to urban areas of Sri Lanka to find work in the past 5 years, and a sizeable

**Table 8-4: Profile of migrants from estates**  
(last 5 years before the survey)

|                     | Distribution<br>(percent) | Average<br>number of<br>months spent<br>in estate | Remits<br>regularly<br>(percent) | Average<br>age<br>(years) |
|---------------------|---------------------------|---------------------------------------------------|----------------------------------|---------------------------|
| <i>Gender</i>       |                           |                                                   |                                  |                           |
| Male                | 60                        | 2.3                                               | 77                               | 29                        |
| Female              | 40                        | 2.5                                               | 58                               | 28                        |
| <i>Type</i>         |                           |                                                   |                                  |                           |
| Permanent           | 6                         | n.a.                                              | 73                               | 34                        |
| Temporary           | 94                        | 2.3                                               | 70                               | 28                        |
| <i>Destination</i>  |                           |                                                   |                                  |                           |
| Rural               | 6                         | 3.4                                               | 80                               | 28                        |
| Urban               | 77                        | 2.3                                               | 74                               | 28                        |
| Abroad              | 17                        | 2.7                                               | 51                               | 32                        |
| <i>All migrants</i> | 100                       | 2.4                                               | 70                               | 28                        |

n.a. Not applicable.

Note: The results are applicable to sample estates only, not representative of the estate sector.

Source: MOP Estate Survey (2005).

proportion to other countries (Table 8-4). Most are temporary migrants, returning home for a little more than 2 months per year on average. Overseas workers are almost exclusively female, following the national pattern: women accounted for 64 and 53 percent of all external migrants in 1996 and 2003, respectively (SLBFE, 2004). Most of overseas employment is unskilled; domestic employment (primarily in the Middle East) accounted for 82 percent of the jobs taken by female migrants overseas.

34. The pattern of migration is also linked to migrants' life cycle—particularly internal migration, which is high among estate youth (Annex 8, Figure A-8.2). Migration for employment is most common among those in their twenties—13 percent of this cohort lives outside estates. The qualitative study suggests that many residents work out of estate during their prime years, and then return. Male migrants start returning home around the age of 30, while female migrants might return home sooner to marry.

35. Evidence from the Estate Survey makes it clear that the two groups of migrants—overseas and internal (mostly to urban areas)—are distinct in terms of characteristics of the migrants themselves as well as their households of origin. The two groups are also almost mutually exclusive—at the time of the survey, less than 1 percent of households had *both* internal and overseas migrants. Overall, 17 percent of estate households had some form of migration activity within the past five years, with internal (predominantly migration to *urban* areas) and overseas migration accounting for 13 and 4 percent, respectively (Annex 8, Table A-8.4).

36. *Foreign migration, remittances and welfare.* Remittances from migrants living overseas seem to have high benefits for households. Multivariate regressions show a higher AI associated with recipient households

(controlling for a number of household, estate and location characteristics). But *netting out* the impact of remittances, a family member working abroad has almost no effect (Annex 8, Table A-8.5). Table 8-5 shows

| Table 8-5: Welfare of households with migrants                                                                     |                 |      |       |        |       |       |            |
|--------------------------------------------------------------------------------------------------------------------|-----------------|------|-------|--------|-------|-------|------------|
| Remit regularly                                                                                                    | Urban Sri Lanka |      |       | Abroad |       |       | No migrant |
|                                                                                                                    | Yes             | No   | Total | Yes    | No    | Total |            |
| Average asset index                                                                                                | -0.02           | 0.04 | -0.01 | 0.56   | -0.19 | 0.20  | -0.02      |
| Note: Results applicable to sample estates, not representative of the sector.<br>Source: MOP Estate Survey (2005). |                 |      |       |        |       |       |            |

that households receiving overseas remittances have significantly higher average AI compared to all other households.

37. *Who is most likely to migrate overseas?*<sup>9</sup> Members of larger households are more likely to migrate overseas, probably because larger families have a greater ability to diversify their income sources.<sup>10</sup> Overseas migration also tends to be more common in larger estates, perhaps because of better access to networks and recruitment efforts. Overseas migrants also tend to come from households whose heads are less educated, probably reflecting the unskilled nature of most of these jobs (Annex 8, Table A-8.4).

38. Interestingly, the average earnings of family members (excluding migrants) of households with overseas migrants are higher than that of other estate households. Their livelihoods are also more diversified and secure—a higher percentages of members work off-estate in industry, trade, and services, and hold regular employment in the estates—and even more so for households of foreign migrants who send remittances regularly (Annex 8, Table A-8.7).<sup>11</sup>

<sup>9</sup> For regression results pertaining to results in this paragraph, see Annex 8, Table A-8.6.

<sup>10</sup> Household size in this particular analysis refers to the size *before* migration.

<sup>11</sup> In this context off-estate employment refers to employment while living on estate, not employment as migrants.

39. There are *two* possible explanations for these findings. First, qualitative evidence suggests that overseas remittances help develop other livelihoods among recipient households, by financing activities such as starting retail shops, hiring three-wheeler vehicles, and migration of other members to urban areas. Second, since the cost of overseas migration tends to be high, households receiving remittances could have had more financial resources *to start with* which enables them to invest in migration, thus weakening the observed link between overseas remittances and welfare. Both these explanations are likely to be true to some degree, but a definitive answer requires more information. The high cost of migration also helps explain the selective pattern of overseas migration. Evidence from qualitative interviews of estate residents indicate that overseas migration is seen more as a temporary diversification strategy than as a coping strategy by households, and the indication that households with more resources are likely to finance migration is consistent with this evidence.

40. *Internal (urban) migration and welfare.* Multivariate regressions show that having a household member who has migrated to an urban area has *no significant association* with the household's AI, irrespective of whether the migrant sends remittances regularly or not (Annex 8, Table A-8.5). The average AI is very similar for households with remitting and nonremitting urban migrants (Table 8-5).

41. What makes receiving remittances from internal/urban migrants *uncorrelated* with higher AI in the Estate Survey sample, even though most conventional wisdom suggests that remittances are used to add to household assets, which is precisely what the AI indicator measures? The answer partly lies in the more heterogeneous nature of internal migrants and their households. The evidence suggests that urban migrants who remit regularly come from relatively poor households, and their remittances are often insufficient, given their limited earning capacity, to lift their household members out of poverty. This would explain why looking across households with remittances from internal/urban migrants and those without, there is no discernable difference in average AI. Furthermore, migration to urban areas seems to be motivated by more than short-term monetary benefits, unlike most overseas migration. The qualitative study indicates that urban migrants hope to find opportunities for employment, develop skills, or escape working in estates, which is deemed degrading by many, particularly youth. Such factors would weaken the link between having urban migrants from a household and the household's wealth or poverty status.

42. *Who is most likely to migrate internally?*<sup>12</sup> Migrants to urban areas, unlike overseas migrants, belong to households with relatively high education levels, and a higher education most likely increases access to information, linkages, and networks necessary to find urban jobs. Larger household size and residency in estates for more than 20 years is associated with higher likelihood of migration to urban areas, while the presence of young children reduces the likelihood. Unlike households with overseas migrants, the nonmigrant members of households with urban migrants do *not* have significantly higher earnings or more diversified employment than those with no migrants.

43. *Overall*, the analysis of migration suggests that households consider overseas migration as an investment in a strategy to diversify income sources, with remittances being the "returns" to that investment. While remittances seem to improve welfare, better-off households are better able to afford the initial cost of overseas migration. In comparison, internal (mostly urban) migration is more heterogeneous in terms of the motivation to migrate and the characteristics of migrants and their households. In addition to the motivation to diversify households' sources of livelihood, urban migration occurs for reasons as diverse as seeking future opportunities, coping with poverty or seasonal unemployment in the estates, and escaping the much-stigmatized estate employment.

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<sup>12</sup> Refer to Annex 8, Tables A-8.6 and A-8.7 for results to support this paragraph.

Qualitative insights also indicate that longer-term internal migration is more successful as a driver of positive change, as it allows the households to develop sustainable sources of income as well as social networks.

44. Nevertheless, significant obstacles to mobility or diversification remain, which is apparent from looking at the simple statistics on migration. In spite of the rapid increase in migration from estates reported by CFSES in recent years, both internal and external migration rates are well below that for the rest of the country, even though poverty rates in the estates are much higher and as such should provide greater incentives to migrate. Constraints to mobility of the estate population are likely to be linked to a long history of geographic, social, and economic isolation. The Estate Survey finds that 81 percent of households sampled have lived in the estates for more than 20 years, indicating that a large share of the population will probably have minimal links with networks and information sources in the outside world, which are often critical to migrate or find outside employment.

45. The correlates of poverty described so far are consistent with much of the qualitative evidence on the different economic groups and their characteristics. Focus group discussions (FGDs) revealed three categories of households and that attributes of the bottom group include high dependency, unstable or limited source of income and ill-health, poor quality housing and facilities, and frequent mention of alcoholism. By contrast, attributes of the top group include well-diversified and stable sources of income, regular remittances from abroad, and access to productive networks.<sup>13</sup>

#### Estate or community characteristics that matter for welfare

##### 46. *Location, crop, and management type.*

The Estate Survey sample is drawn from five districts with significant estate populations. Table 8-6 shows that the AI-poverty rates are much higher for the estates in Ratnapura and Kegalle, and lowest for Kandy. This pattern persists even after controlling for other correlates of poverty, while the correlations between crop or management type and AI poverty disappear (see Annex 8, Table A-8.1). Table 8-6 shows that the associations between type of crop or management and AI-poverty incidence are ambiguous. This is also consistent with the findings of the qualitative study.

**Table 8-6: Asset index-poverty rates**  
(percent of population below 30<sup>th</sup> percentile of asset index)

| Districts    | RPC |        | Non-RPC | All |
|--------------|-----|--------|---------|-----|
|              | Tea | Rubber | Tea     |     |
| Kandy        | –   | –      | 19      | 19  |
| Nuwara Eliya | 21  | –      | –       | 21  |
| Badulla      | 24  | –      | –       | 24  |
| Ratnapura    | 50  | 60     | 31      | 51  |
| Kegalle      | 70  | 53     | –       | 55  |
| Total        | 26  | 56     | 22      | 30  |

–: no sample

Note: The results are applicable to sample estates only, not representative of the estate sector.

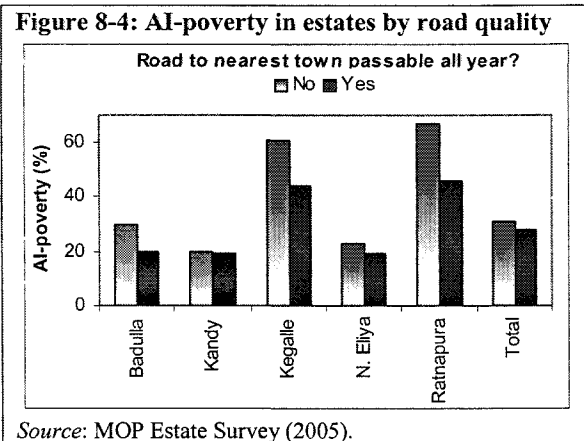
Source: MOP Estate Survey (2005).

47. *Remoteness of estates.* Although 77 percent of estate households in the sample live within 10 km. of a town, 42 percent of households cannot use the road to the town all year round. This indicates a high degree of isolation of estates from markets and employment opportunities. Recognizing that the quality of roads also depends on the geography of the locale, Figure 8-4 shows the AI-poverty rate by district and road quality. In all districts, households in estates where roads to town are passable all year tend to be better off. Moreover, after controlling for other estate, location, and household attributes, having an all-weather road connecting the estate to the nearest

<sup>13</sup> The households assessed as being at the “bottom” reported long-term deprivation and felt that they were at the bottom of the community group. The “middle” group reported that rather than face key deprivations they were constantly balancing the upward and downward pressures. The “top” level reported themselves as progressive “movers” and better-off than most in the community.

town is associated with a 10-percent lower probability of a household in the estate being AI-poor (Annex 8, Table A-8.1).

48. These results suggest that lack of road connectivity of an estate (throughout the year) with a town or market is an important constraint to the residents' upward mobility. The negative impact of poor connectivity also came up in qualitative interviews—especially in the context of factors that contribute to isolation from job opportunities and services outside, and the mainstream economy in general. The results also suggest that poverty incidence in the estates is higher when they are located in poorer districts, such as Ratnapura and Kegalle (see chapter 2).



### What determines economic mobility of households

49. The correlates of AI poverty, supported in some cases by qualitative insights on what households identify as drivers of change, point to factors likely to affect economic mobility of estate households. *Diversifying the household livelihood* portfolio appears to be an effective path out of poverty, particularly when incorporating income from enterprises and regular and skilled employment outside the estate. *Overseas migration*, and the remittances it generates for households, is also an effective diversification strategy. *Internal migration to urban areas* may not yield significant remittances, but can provide other benefits in the form of future opportunities, skill development, and as a strategy to cope with poverty or seasonal unemployment in the estates. A number of other factors also play a role, primarily by affecting households' ability to diversify or improve income sources. *Education* improves the prospect of more regular and remunerative employment, particularly outside the estate; and qualitative findings indicate that households perceive these benefits and look upon improvements in access to and quality of education as a force for positive change. *Not having a NIC* appears to hinder education and employment prospects outside the estate, especially among youth. *Lack of connectivity to towns* by a road that is useable throughout the year—a relatively common problem in the estates—limits opportunities for households to access markets and employment.

50. The qualitative study also suggests additional factors that communities and households themselves describe as important for households' upward or downward mobility. *Wages, availability of work and cost-of-living* appears to be one set of factors: rising cost of living unmatched by wage increases and lower availability of work were frequently mentioned as strong constraints to upward mobility. There were some differences between the tea and the rubber sector as the workers in the rubber sector reported improved work availability due to changes in agricultural techniques and marketing.

51. *Health shocks and access to healthcare.* Ill health and death of a family member were identified by households as important downward drivers, so much so that these can frequently override strong upward drivers such as a diversified livelihood portfolio and low number of dependents. The risk of chronic illnesses, especially among income earners is a critical determining factor in the household's economic future. The type and quality of healthcare available within the estate were also identified as influencing the direction of welfare change.

52. While there are gaps between the estate sector and the rest of the country, overall access to basic health services in estates seems fairly high. The Estate Survey shows that availability of a

doctor, nurse, or midwife is high but far from universal, and that it varies across different types of estates. Utilization of maternal and child health services are high too, although lower than the rest of the country. Ailments that require hospital visits pose special problems. The average travel time for a one-way trip to the hospital can often be over an hour, and more than 1.5 hours for those who live more than 5 kilometers from the nearest town, no surprise given the connectivity problems above. Furthermore, the qualitative study indicates a high degree of dissatisfaction with the quality of health services, and a perception that quality declined after privatization of estates (see Box 8-3).

**Box 8-3: Access to and quality of health facilities in the estates**

*Access.* About 80 percent of communities in the survey report access to a doctor and a midwife; around 50 percent have access to a nurse; and 77 percent have a health clinic located on the estate. Despite variations in availability of medical personnel and health facilities across different types of estates, women's use of maternal and child health services is high, although lower than the rest of Sri Lanka. Most children have health cards and undergo growth monitoring, and have completed their vaccinations by the age of one. In case of ailments, estate households were most likely to consult a government-run facility (40 percent as compared to 14 percent who consulted an estate-run facility). Utilization of preventive health services is lower in estates than in other sectors (DHS, 2000). Estate mothers are less likely to receive prenatal or postnatal visits by a midwife or medical officer, or be advised on symptoms of pregnancy complications. Although 80 percent of estate women give birth in a hospital, this compares poorly with almost 100 percent in other sectors.

*Quality.* The qualitative study also reveals widespread dissatisfaction with quality of health services: many viewed the lack of trained staff, drugs and functioning equipment as a factor contributing to the deterioration of health care in the estates. A direct link was often perceived between privatization and the deterioration of health facilities. The female focus groups were particularly critical of the elimination of free nutritional supplements to children and changes in maternity care in some estates, which they associated with productivity standards and rules introduced by the privatized management in recent years. Privately owned and managed estates were most likely to be the most poorly served. The Estate Survey partly validates this observation—privately managed estates have lower availability of doctors and health clinics (but not midwives) than Regional Plantation Companies.

*Source:* MOP Estate Survey (2005); CEPA (2005); DHS (2000)

53. *Housing and sanitation.* At the community level, the general condition of estate housing (particularly line rooms) is seen as a contributing factor to poverty. However, at the household level housing, together with related facilities of toilets, water supply and electricity were frequently seen as improving and contributing to upward mobility. This is consistent with the evidence presented earlier indicating improvements in estate housing conditions (Table 8-2). The improvements in housing stock were generally attributed to households' own efforts, although some acknowledge contributions from management. The Estate Survey indicates that housing programs have benefited only 15 percent of households in the sample in the past two years, which seems to be consistent with these perceptions. Sanitation programs turn out to be far more prevalent, with 24 percent of households reporting benefits. The qualitative study indicates perceptions that sanitation conditions have improved in the estates over the last 15 years, which was also linked to improvements in education and awareness (Box 8-4).

**Box 8-4: Improvements in sanitation and health in the last 15 years: Key informants' perspectives**

Key informants in RPC estates and in Colombo pointed out that health and sanitation conditions had improved considerably in the last 15 years. In the tea sector a significant minority also acknowledged the role of NGOs in improving living conditions, health, sanitation, and education in estates. In the FGDs, women, in particular, pointed to significant positive changes in health and education facilities as important drivers for communitywide improvement.

“..... There have been significant changes over the past 10 to 15 years. The incidence of diseases such as diarrhea, dysentery tuberculosis and scabies has lessened. Those days the estate was a breeding ground for infection, now

the situation has improved, there is a better interest, awareness and receptivity for family planning, births are spaced out and family planning practices have improved. Improvements can be attributed to education (especially of youth) and the media; almost every house has a TV....” (CTL, Rubber, RPC, Ratnapura). “Two new schools were started in 1993 and 1995. In 1998 we got electricity. In 2000 the government took over our hospital and upgraded it to a rural hospital for the area....” (Female FGD, Tea, RPC, Nuwara Eliya).

Success of welfare interventions were measured by improved levels of awareness – especially in relation to health practices and placing high priority on the schooling of children. Programs that focused on changing current attitudes and behavior patterns were identified as important contributors to change.

“In the past, general awareness levels were very poor, there was no knowledge of safe sanitation and related practices, children did not attend school. This lack of knowledge was identified as a key gap and we worked to fill this need. This year, a volunteer group of youth has been trained to conduct awareness workshops. These groups organized nutrition interventions and competitions for home gardens.” (CTL, Rubber, RPC, Kegalle)

Source: CEPA (2005).

54. *Alcoholism* was widely seen as hindering upward mobility at the community and household level. Alcoholism adversely affects households’ earning capacity, expenditure, and education of children, creating intrahousehold conflict and disrupting community life. Men—who are the primary consumers—tended to underplay alcohol consumption, abuse, and its effects; while women, youth, welfare officers and the estate management discussed it at length. About 80 percent of respondents in the Estate Survey report that alcoholism is a problem in their estates, and 75 percent of community informants report no improvement over the last 15 years. The increasing availability or supply of alcohol was viewed as creating and increasing the problem; and a majority of community informants identified the sources to be illicit brews inside and outside the estates. Many better-managed RPCs are attempting community-level solutions to the problem, and frequently sought the participation of young people in such programs (see Box 8-5).

#### **Box 8-5: The negative consequences of alcoholism in the estates**

Women, youth, management and welfare officers were particularly critical of parental and adult alcohol consumption (with the associated negative social consequences), and the increasing availability and supply of alcohol as a direct reason for deterioration within a given community. Better-managed RPCs are attempting community-level solutions to the problem, including frequent involvement and participation of youth.

“Within the estate we have two bars. When men get their salary, the first thing they do is to go to the bar. The family comes after that. People are addicted to ‘kassippu’ (moonshine).” (Female FGD, Tea, RPC, Nuwara Eliya). “Most of the parents are addicted to alcohol and children face lots of problems due to this. ....This causes lot of problems in the night and children can’t even study properly. The problem is getting worse day by day. In some families both parents drink.” (Youth FGD, Tea, RPC)

“When talking of poverty, alcohol is a big issue.....Kassippu (moonshine) is brewed and sold in the neighboring villages, now even ‘iced packs’ are available. Lax laws contribute to its continuance. The fine (for brewing and sale) is Rs 10,000—the dealer sends one of his assistants to prison and continues to sell. The vendors are seen hovering around on paydays to collect debts.....” (CTL, Rubber, RPC, Ratnapura).

“Though both males and females drink, the incidence is lower here than other estates. We worked with the people and took the initiative to arrange for police interventions. Children’s education and awareness has led to them playing a lead role on educating their parents on the ill effects of alcohol. The police station is close to this division—this may have also contributed to the success of the programs.” (CTL, Rubber, RPC, Kegalle)

Source: CEPA (2005).

55. *Organizational structure of the estate sector.* The empirical evidence on the nature of poverty in the estates and the qualitative insights from households, management, and other key stakeholders seem to suggest that the organizational structure of the sector is a critical constraint to poverty reduction. The structure of the “plantation system” marginalizes estate residents from the mainstream, as seen from the perceptions of estate residents themselves, as well as actual evidence on lack of connectivity to towns, spotty coverage of NICs, and inadequate services

including welfare programs (see section 8.3). The qualitative analysis finds that the sense of marginalization adversely affects economic decisions of individuals; for example, leading them to reject estate work even when it makes sense economically, because it is regarded as degrading.

56. The system also tends to create tensions arising out of an adversarial but dependent relationship between workers and estate management, which explain fundamental issues of mistrust between workers and management. The qualitative interviews revealed little satisfaction among residents with regard to any form of estate management—lack of competence in production and lack of care in human resource management were mentioned repeatedly as downward drivers in all but a few estates. Trade unions were acknowledged for their role as representatives of the workers to the management, but there was strong criticism of what was perceived to be the self-serving nature of the unions and leaders, as well as the lack of representation (see Box 8-6).

**Box 8-6: Perceptions on management and trade unions in the estates**

Little satisfaction was expressed with regard to any form of estate management. A considerable numbers of focus group discussions reflected the view that the estate was deteriorating as a productive enterprise due to the management's overall lack of care and competence. There were a few individual instances of managers who successfully managed the workforce and were seen by the community as a positive influence on their lives. In these cases, the workers related to the specific manager rather than management at-large.

"We cannot hope for a good future for the estate. The management is responsible for that. They are not caring for the tea bushes (no pruning, fertilizing) and the crop is going down every year. Along with that, our income is going down too. The management has no knowledge and the bushes are not maintained properly. They have grown tall and it is difficult to pluck....." (Male FGD, Tea, RPC, Badulla). "The management is not proper. 10 do work that can be done by 4. The estate is running at a loss. That's why we're not given any facilities. The company estates are better. That's because they maintain them well. For 5 years we didn't get EPF (Employees' Provident Fund) because it hadn't been entered." (Male FGD, Tea, State, Kandy)

"Compared to other factories this factory is better because the officers take care of us. If someone does not have a job they provide them with some job in the estate...." (Female FGD, Rubber, RPC, Kegalle). "After the new manager came, he made a lot of facilities, housing loans, sport ground; he has an idea of building a *kovil*." (59, F, Rubber, RPC, Ratnapura)

Concerns were often expressed about the effectiveness of representatives, transparency, and fairness in trade union dealings with members.

"..... Having votes here is not democracy. We are given votes only for the benefits of the politicians and trade unions." (Male FGD, Tea, RPC, Badulla). "All of us have to be members, but we don't get help worth of Rs. 35 per month. If two different members go to the Thalevar [union leader] to solve a problem, the decision may depend on whether he or she is a friend of the Thalevar." (Male FGD, Rubber, RPC, Ratnapura).

Source: CEPA (2005).

**Evidence and perceptions on estate poverty trends**

57. The discussion so far also has some implications for the question of what may have contributed to the increase in consumption poverty in estates from 1990–91 to 2002 (as reported in the HIES). These "snapshot" views of economic conditions cannot fully explain time trends, but they can provide useful clues. The perceptions of estate residents themselves on the direction of change bring a fuller understanding of dynamic shifts within the sector.

58. As mentioned above, the full distribution of consumption is a far better indicator of welfare changes than the poverty headcount. And this suggests a small shift, rather than a drastic worsening of the entire distribution from 1990–91 to 2002. The CFSES does not offer a clear story on *why* this occurred. On the one hand, the proportion of self-employed workers in the estate sector increased from 3 percent in 1996–97 to 10 percent in 2003–04; and more workers from estates now work in outside sectors like services and industry. On the other hand, regular employment in estates has shrunk from 68 to 49 percent, while casual employment has grown



from 29 to 41 percent. This trend also appears to be consistent with households' perceptions about lower availability of work (as reported above)—probably due to some estates preferring to employ more casual labor than registered labor, which allows them more flexibility during less profitable periods. Given the analysis in section 8.2, the first trend is consistent with a *reduction* in poverty, and the second with an *increase* in poverty.

59. The CFSES reports that the number of income earners per household fell in the estates from 1996–97 to 2003–04 (from 2.3 to 1.7 per household), but remained unchanged for the country as a whole. This trend may have contributed to the rise in poverty in the estates during the 1990s, given that the analysis here indicates that number of income earners in a household is associated with higher AI poverty. Interestingly, this has occurred even as the age dependency ratio has declined in the estates (58 percent in 1996–97 to 55 percent in 2003–04), as it has for the rest of the country. The fall in the number of income earners has meant that even as (age) dependency has declined, the dependency *per income earner* has increased for the estates, while it declined for the rest of the country. More analysis is necessary to understand why the number of income earners declined, what effect this has had on household welfare, and whether it is a trend likely to continue.

60. *Perceptions of changes within the estate sector.* Overall, the residents perceived deterioration in living conditions on the estates over the last 15 years. In contrast to this, there was strong consensus among individual households that housing, sanitation, and access to education had improved. The difference in the perception at the community versus household level is partly explained by the increasing role of non-estate employment, as seen by the employment trends from CFSES. This may have served to de-link the fortunes of the household from that of the estate community to a certain extent—namely, when the estate is not doing well, households can still increase their income from external sources. There is a clear pattern of positive perceptions about improvements in community and households for RPCs versus privately managed estates (see Box 8-7). The qualitative study often refers to poorer quality and availability of housing and healthcare facilities in private estates, which are consistent with these perceptions. While the Estate Survey results do not suggest actual systematic differences in availability of facilities or outcomes by management type, these numbers also do not capture intangible issues, like poor quality of services or management competence, that often drive perceptions.

**Box 8-7: Perceptions about changes in communities and households over last 15 years**

The perception of *community deterioration* was particularly strong in the tea sector, whereas in the rubber sector, opinion was divided equally between deteriorating and improving conditions. The strongest differences in perception was seen between RPCs and privately owned and managed estates: 6 out of 9 community FGDs in private-owned estates described conditions as deteriorating, compared with 9 out of 27 RPCs and 1 out of 2 state-managed estates. In contrast to the assessment of communities at FGD level, *household-level interviews* in the qualitative study as well as the Estate Survey revealed that a significant majority perceived an improvement or no change in the last 15 years: 45 percent of the Estate Survey respondents reported improvements in the position from 15 years ago, while 21 percent reported deterioration. While 47 percent of respondents in RPC estates stated that conditions have improved, 24 and 34 percent of those under state and private ownership, respectively, felt the same, and 56 percent of residents of the state-managed estates reported their conditions as “unchanged,” indicating a strong sense of stagnation.

Source: CEPA (2005); MOP Estate Survey.

61. *Attitudes of youth as an indicator of trends.* An important insight that emerged from the qualitative analysis and the statistics on migration (section 8.2), is that educated estate youth are often not willing to work on the estate, primarily due to the stigma associated with it. At the same time, salaried employment in the non-estate sectors was not easily available to the estate youth,

relegating most to unskilled or semi-skilled jobs. This could explain why urban migration may not result in immediate welfare improvements for households. Outside employment may not lead to increase in earnings, although it still may be attractive to an estate youth as a longer-term investment to develop skills and links with outside markets.

62. The dislike for estate work was so strong that a number of youth FGD respondents reported remaining voluntarily unemployed waiting for a job that matched their aspirations, or taking temporary employment. This phenomenon might explain the fall in number of income earners reported in the CFSES, and is consistent with the labor shortages reported by some estate managers. The general perception was also that youth mobility has improved, especially in the rubber sector where the estates are located close to rapidly developing townships. The empirical results in this section suggest that low educational attainment is a key obstacle to any such mobility. The youth respondents themselves cited marginalization due to their Indian Tamil heritage as “estate worker” as an obstacle to gaining opportunities, even in instances where they possessed the required qualifications and expertise.

63. Thus, perceptions of estate residents about their own direction of change are somewhat at odds with the statistical poverty trends reported in this chapter. This may just be due to the small sample in the qualitative study and the possibility that may not be representative of the population. Another explanation could lie in the trend of increasing *opportunities* for estate residents (including youth) to diversify their livelihoods and migrate outside the estates over the last 15 years. Although outside employment may not have resulted in an improvement in household’s earnings, they tend to represent greater integration with the outside world as well as expectations for better employment in future, both of which may translate to better perceptions among households about their current economic prospects.

64. At the same time, the perceptions were largely negative about conditions in the estates, on past and future prospects. This must be understood in the context of factors discussed above: the adversarial relationship with management, disillusionment with trade unions, and a deep sense of marginalization caused by historical factors as well as the negative view of estate work. The *perceived* way out of poverty therefore seems to primarily rest in households’ ability to diversify out of estate work, particularly among the younger generation; and the empirical evidence in this chapter largely supports such perceptions. However, the evidence also indicates that there are a number of constraints to households’ ability to diversify effectively, which could be addressed by appropriate policy initiatives.

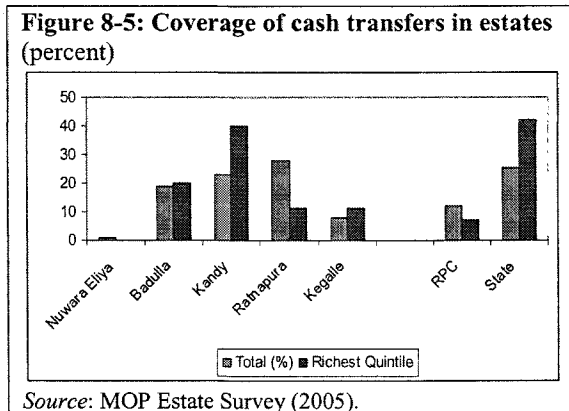
### **8.3. Social and welfare programs in the estates**

65. Given the poverty and human development challenges faced by the estate population, social and antipoverty programs can also serve as critical drivers of change. It is therefore important to examine the coverage and access to such programs in the estates—to identify patterns and potential gaps in coverage. This will also help us understand whether such programs can reduce the extent of exclusion and marginalization reported by estate residents.

66. **Cash transfers: Samurdhi and social welfare.** Samurdhi cash transfers—as described in chapter 2—constitute the largest welfare program in the country. Coverage of the estate population by Samurdhi and social welfare transfers (combined) appears to be low. Only 13 percent of households in the Estate Survey sample report receiving any cash transfers from the government—less than one-half of the HIES-based poverty headcount rate of the sector, and in stark contrast to the 40-percent coverage of Samurdhi for the entire country. The transfers do not appear to be well-targeted (Annex 8, Table A-8.8). While AI is less accurate as a measure of poverty status than consumption expenditure, one would still expect better incidence than what is

seen here: 28 percent of beneficiaries belong to the bottom two AI quintiles, compared to 23 percent in the top two AI quintiles.

67. There is wide disparity in coverage by district and management type (Annex 8, Table A-8.8). For example, 25 percent of sample households in state-managed estates receive transfers, compared to 12–13 percent in RPCs and private estates. The extent of mistargeting also varies widely by district and management type: 42 percent of state-managed estate households in the top AI-quintile receive the transfer, compared to only 7 percent of RPC-managed estate households of the same quintile; and 40 percent of households in the top quintile in Kandy receive transfers, compared with 11 percent in Kegalle and Ratnapura (Figure 8-5).



68. Possession of a NIC appears to matter for coverage: 13 percent of households whose head has a NIC receive transfers, compared to 9 percent of those who do not. Interestingly, the coverage of the bottom three quintiles are noticeably higher for households whose heads have NICs than those who do not (Annex 8, Figure A-8.3).

69. *Nutritional supplement through Triposha.* Given the prevalence of malnutrition among estate women and children, the Triposha Program (see Chapter 2 for a description) is highly relevant. The Estate Survey indicates Triposha coverage is high in the estates: about 80 percent of new mothers and 66 percent of young children reported receiving this supplement, although the proportion was lower in privately managed estates (62 and 47 percent, respectively).

70. *Other social programs.* The Estate Survey covered six broad types of social program: housing, toilet and water supply (sanitation), training and awareness, microcredit, crèche/child care facility, and early childhood development services. Government programs are found to be the most prevalent. With the exception of sanitation programs—which are relatively abundant and regarded positively by many households (as reported earlier)—every other type of program is available to less than 50 percent of the sample households, and has a participation rate of 15 percent or less.<sup>14</sup> The least established programs are microcredit and childcare/crèche, with participation by only 10 percent of households (Annex 8, Tables A-8.9 and A-8.10). 54 percent of households are found to not participate in or benefit from *any* program.

#### 8.4. Implications for poverty reduction policies for the estate sector

71. The long-term economic prospects of the estate population are closely linked to the broader issues about future of the industry, which would be the subject of a separate study. Although structural changes in the sector can occur only in the medium to long term, more immediate welfare gains can come from addressing factors identified as critical drivers of economic mobility. The analysis in this chapter suggests that these can be broadly characterized as facilitating *mobility and migration*, encouraging *self-employment and alternative skills development*, and expanding the provision of *state welfare services and other social programs*. A wide range of interventions can support these objectives: connecting estates better with nearby

<sup>14</sup> A program is considered “available” to all households in the community if at least one household from the community participates in or benefits from the program.

towns; improving the coverage of NICs, particularly among the youth; increasing access to and quality of health and education; developing programs to increase knowledge and skills in alternative economic activities; and tackling alcoholism by involving communities and women and youth in particular.

72. *Social and welfare programs can also play an important role in effecting these changes.* The coverage of public social assistance programs, with the exception of Triposha, is inadequate. The coverage of Samurdhi and other transfer programs are much below the poverty rate of the sector. The proposed revamping of the Samurdhi targeting system (see chapter 2) may increase coverage and improve targeting among the estate population. Other social programs—such as housing, livelihood generation, childcare and early childhood development—also seem to have wide gaps in coverage. *Expansion of microfinance* in particular, which currently benefits only 10 percent of households (in the Estate Survey sample), can yield sizeable benefits. This chapter suggests at least two areas where better access to finance can have significant impact: setting up microenterprises and financing overseas migration, both of which are likely to have initial fixed costs that prevent poor households from making optimal choices.

73. Low rates of participation by households, even when the programs are available in their communities, raises more questions: the problem may involve inadequate scales of these programs or difficulties in mobilizing estate communities—especially for programs like microcredit that rely on community participation—or a combination of both. The success of such programs will depend on sorting out such issues of access, scale and participation, and design interventions accordingly. It will also be important to learn from success stories—identified by communities in the qualitative study as the programs that built awareness to change attitudes and behavior patterns relating to sanitation, nutrition, and schooling.

74. *Role of the estate management.* The estate management's incentives to facilitate such changes may be limited, because of perceptions that these may further reduce the availability of labor for the estate. On the other hand, by actively encouraging the drivers of change identified above, the estates can contribute to a positive image as an employer and improve the status of estate work. This would be in the long-term interest of the sector, which needs to be able to attract workers from the labor market. The qualitative study revealed encouraging signs that some well-managed estates are increasingly seeing the value in taking such steps.

75. The long-term solution to poverty in the estates clearly lies in *mainstreaming the sector*. Perhaps the most enduring link between the current system and the enclave plantation past is labor living within the commercial property, which limits movement of workers and marginalizes the population. Severing this link, perhaps by providing land rights to long-term residents, would relieve management of welfare responsibility toward residents and the obligation of residents to provide labor to the estate. This would help mainstream the sector by changing the current parameters of the employer-employee relationship.

76. Such a solution will however not be easy to implement, and it is likely that large increases in labor productivity will be required for the industry to remain viable. To achieve that, it will be necessary to take a broad view of the sector and identify the changes that will be required. Current shifts in tea and rubber production occurring naturally in Sri Lanka—seen in the higher productivity and increasing share of smallholdings in total production—hint at the kind of restructuring that may be necessary. The survival of the industry, as well as the long-term welfare of its labor force, will depend on its ability to re-invent itself to achieve higher productivity.

## Epilogue

1. Many studies show that Sri Lanka has been more successful at achieving human development and less successful at reducing income poverty. Certainly economic growth has been slower than East Asian countries with comparable levels of per capita income in the 1960s and a similar trajectory of human development. Poverty reduction has been troublingly slow even for the growth achieved (averaging around 3 percent *per capita annually* during 1991–2002) due to widening inequalities between households and across regions. Western Province experienced growth three times that of the rest of the country (excluding the North and East) during 1997–2003.
2. A primary focus of this report has been to understand what explain the high and widening inequality *between* and *within* regions or sectors; and how can economic growth be made more inclusive of lagging regions and sectors. Individual or household-specific factors associated with the economic status of a household include education, employment or occupation and family size. Taking the differences across individuals/households and combining this information with *where* a household is located yielded the best insights. The spatial disparities in poverty mirror differences between districts (or at a more disaggregated level, DS divisions) in attributes like connectivity to towns, access to infrastructure such as electricity, and average educational attainment. Another study by the ADB and World Bank (2005) also identifies similar factors, like energy availability and transport, as constraints to business development – and therefore limiting economic growth – outside the Colombo area.
3. The poor suffer from specific disadvantages that limit their future productivity and incomes and thus contribute to poverty traps. High dropouts among children of poor families at secondary and tertiary levels destine this population to low educational attainment, and low lifetime earning potential. Low birthweight and malnutrition among poor children and mothers often affect lifelong and cross-generational earnings. While the incidence of malnutrition links to poverty, more in-depth analysis will yield useful information on its types, patterns and causes. For example, many poor children drop out of school before Grade 5. Further evidence is also necessary to understand what factors cause many poor children to drop out of school even before Grade 5 – low quality of schools, particularly outside urban areas, and the inability of the poor to compensate for poor schooling with private tutoring can be one explanation. Improving the quality of learning among the poor thus constitute a significant policy challenge, along with other factors that may contribute to low educational attainment and nutritional status.
4. Concentration of poverty in particular regions or sectors stems from constraints specific to that group (chapters 6 to 8). At the same time, a few crosscutting issues affect all sectors and regions (chapters 3 to 5). Improvements in quality of education, connectivity to markets and urban centers, quality, and availability of infrastructure like electricity and financing for micro-enterprises all expand opportunities for the poor and lagging regions/sectors. Such opportunities can occur in different forms – by finding work in higher-paying jobs perhaps or by migrating to urban areas, or starting up microenterprises, or expanding enterprises to access to larger markets.
5. Many of these opportunities have cross-sectoral implications and require coordination across sectors. The issue of migration from lagging areas to Western Province underscores why. Migration offers a viable means for upward mobility to those living in lagging regions, and improving the quality of education in these areas is likely to improve the ability of people to take advantage of this opportunity. But part of the welfare and growth potential from the migration process is lost because of “costs” associated with overconcentration in the Colombo urban area, where almost all the in-migration occurs (chapter 4). Thus, the development of alternate growth centers or secondary cities and a strategy for better urban planning must be coordinated with rural and estate development strategies to bring lagging regions into the path of economic growth.

6. At the sector-specific level, limited and skewed growth in agricultural incomes has clearly limited poverty reduction and increased inequality sharply in rural areas. Improving agricultural productivity is thus a key issue, given that 88 percent of the poor live in rural areas and 58 percent of rural households derive at least some income from agriculture. The rural nonfarm sector is a bright light on the horizon and has great potential for creating employment and raising incomes. Addressing the constraints that face rural entrepreneurs – which includes those mentioned in paragraph 2 above – is thus critically important for poverty reduction (chapter 6).

7. The conflict-affected areas of North and East are characterized by various economic and social gaps between this region and the rest of the country (chapter 7). The challenges are especially severe in the case of Eastern Province, which suffered extensive damage by the tsunami in 2004. The cease-fire of 2002 brought enormous economic benefits to the region, which underscores the importance of sustaining peace. Improvements in the security situation will also permit better data collection from households in the region, which will greatly aid future analysis and policymaking.

8. The high vulnerability and stagnant incomes of the estate population are closely related to their social, geographic, and economic isolation. Structural changes in the sector that will address these issues permanently, such as moving away from the resident labor structure, can occur in the medium to long term, as constraints to productivity and profitability of the industries are overcome. In the interim, welfare improvements in the estates can be achieved through drivers of positive change that, broadly speaking, facilitate mobility and diversification of livelihoods among estate residents (chapter 8).

9. Many of the issues highlighted in the report are broadly consistent with key elements of the government's strategic vision for development articulated in the President's manifesto *Mahinda Chintana*. The *Chintana's* vision for regional development—of improving road networks and access to electricity and finance in rural areas—is consistent with the needs of lagging areas and sectors outlined in the report. Specific actions arising from this strategic plan include the government's efforts to improve the poverty impact of public expenditures, including its plans to improve the targeting of the Samurdhi transfers program countrywide. Any improvements in the effectiveness of welfare expenditures will directly benefit the poor.

10. The upcoming surveys planned by the government, such as the DHS 2006-07 and the HIES 2006-07, will add a wealth of new information to fill existing knowledge gaps and advance the necessary policy debates and strategic thinking on economic development that will arise in the years ahead.

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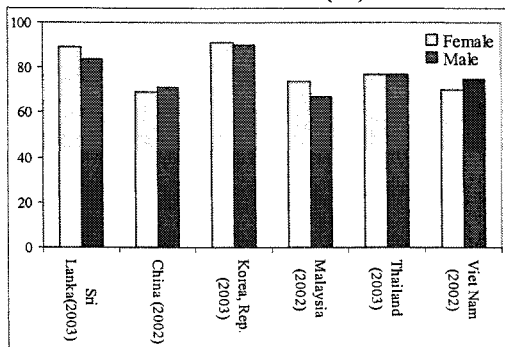
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## Annex 1

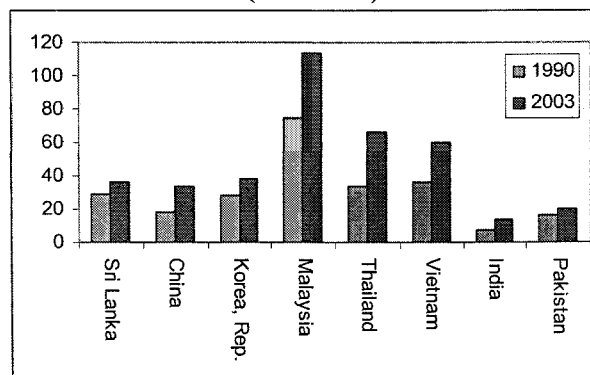
### Figures and tables referred to in Chapter 1

**Figure A-1.1. Gross Secondary School Enrollment Rate (%)**



Source: ADB, Key Indicators 2005

**Figure A-1.2: Exports of goods and services (% of GDP)**



Source: World Bank, WDI 2005

**Table A-1.1: MDGs and Sri Lanka's position**

| MDG goals                                                                                                                          | Sri Lanka's position                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Reduce the proportion of people living in extreme poverty by half between 1990 and 2015</b>                                     | <b>Poverty headcount ratio fell from 26% in 1990-91 to 23% in 2002</b>                                                     |
| Enroll all children in primary school by 2015                                                                                      | Net enrollment ratio in primary education (for age 6-10 years) reached 96% in 2002                                         |
| Make progress towards gender equality and empowering women by eliminating gender disparity in primary and secondary school by 2005 | Ratios of girls to boys in primary, secondary, and tertiary education reached 95%, 102% and 114%, respectively             |
| Reduce infant and child mortality rates by two-thirds between 1990 and 2015                                                        | Infant mortality rate fell down from 18 in 1991 to 11 in 2002; child mortality rate declined from 22 in 1991 to 14 in 2002 |
| Reduce maternal mortality rates by three-quarters between 1990 and 2015                                                            | Maternal mortality ratio declined from 42 in 1991 to 28 in 2002                                                            |
| Provide access for all who need reproductive health services by 2015                                                               | Contraceptive prevalence rate is high at 70 in 2000; 96% of births are attended by health staff                            |

Sources: Selected Millennium development Goals Indicators, Department of Census and Statistics, Sri Lanka.

**Table A-1.2: Poverty and Inequality in the South Asia region**

|                                  | Periods            | Consumption inequality<br>(Gini coefficient) |      | Poverty headcount rate |      |
|----------------------------------|--------------------|----------------------------------------------|------|------------------------|------|
|                                  | Start --- End year | Start                                        | End  | Start                  | End  |
| <b>Bangladesh</b> <sup>(1)</sup> | 91/92 --- 2000     | 25.9                                         | 30.6 | 58.8                   | 49.8 |
| <b>India</b> <sup>(2)</sup>      | 93/94 --- 99/00    | 29.0                                         | 32.0 | 29.2                   | 22.7 |
| <b>Nepal</b> <sup>(4)</sup>      | 95/96 --- 03/04    | 34.2                                         | 41.4 | 41.8                   | 30.9 |
| <b>Pakistan</b> <sup>(5)</sup>   | 01/02 --- 04/05    | 28.0                                         | 30.1 | 34.4                   | 29.2 |
| <b>Sri Lanka</b> <sup>(6)</sup>  | 90/91 --- 2002     | 32                                           | 40.0 | 26.1                   | 22.7 |

*Source:* (1) World Bank and ADB (2002); (2) Staff Estimation based on Deaton and Dreze (2002); (3) World Bank (2006g); (4) World Bank staff estimation based on PIHS 2000-01 and 2004-05; (5) HIES surveys (DCS)

*Note:* Poverty lines are defined differently across countries; so poverty headcount ratios are not comparable across countries.

**Table A-1.3: Military Spending (% of GDP)**

|                  | 1995       | 2003       |
|------------------|------------|------------|
| <b>Sri Lanka</b> | <b>5.3</b> | <b>2.5</b> |
| China            | 1.8        | 2.3        |
| Korea, Rep       | 2.8        | 2.4        |
| Malaysia         | 2.8        | 2.3        |
| Thailand         | 2.1        | 1.3        |
| Vietnam          | NA         | NA         |

*Source:* WDI 2005

*Note:* The definition of military expenditures is slightly different from Annual Report 2004 to make international comparisons comparable.

**Table A-1.4: Comparisons on rigidity of labor regulation in  
January 2005**

|                  | <i>Difficulty<br/>of hiring<br/>index</i> | <i>Rigidity<br/>of hours<br/>index</i> | <i>Difficulty<br/>of firing<br/>index</i> | <i>Firing costs<br/>(weeks of<br/>wages)</i> |
|------------------|-------------------------------------------|----------------------------------------|-------------------------------------------|----------------------------------------------|
| <b>Sri Lanka</b> | <b>0</b>                                  | <b>40</b>                              | <b>80</b>                                 | <b>176</b>                                   |
| China            | 11                                        | 40                                     | 40                                        | 90                                           |
| Korea, Rep       | 44                                        | 60                                     | 30                                        | 90                                           |
| Malaysia         | 0                                         | 20                                     | 10                                        | 65                                           |
| Thailand         | 33                                        | 20                                     | 0                                         | 47                                           |
| Vietnam          | 44                                        | 40                                     | 70                                        | 98                                           |

*Source:* Doing business in 2006

**Table A-1.5: Interest Rates in 2003 (%)<sup>1</sup>**

|                  | Lending | Real |
|------------------|---------|------|
| <b>Sri Lanka</b> | 10.3    | 5.1  |
| China            | 5.3     | 3    |
| Korea, Rep       | 6.2     | 3.9  |
| Malaysia         | 6.3     | 2.7  |
| Thailand         | 5.9     | 3.8  |
| Vietnam          | 9.5     | 3.9  |

Source: WDI 2005

**Table A-1.6: Public expenditure for the social sector  
(% of GDP)**

| Country          | Education<br>(2002/03) | Health<br>(2002) |
|------------------|------------------------|------------------|
| <b>Sri Lanka</b> | <b>2.2</b>             | <b>1.5</b>       |
| China            | NA                     | 2.6              |
| Korea, Rep       | 4.3                    | 2.6              |
| Malaysia         | 7.9                    | 2                |
| Thailand         | 5.2                    | 3.1              |
| Vietnam          | NA                     | 1.5              |

Source: CBSL Annual Report 2004 for Sri Lanka and WDI 2005

Note: Current and capital expenditure expressed as a percentage of GDP

<sup>1</sup> Lending rates are collected by the IMF as representative interest rates offered by banks to residents. The terms and conditions attached to these rates differ by country, however, limiting their comparability.



## Annex 2

### I. Projecting the rate poverty reduction: elasticity of poverty reduction to growth

Although economic growth is the most powerful force for reducing income poverty, the extent of poverty reduction would be limited if benefits of the growth were skewed in favor of the rich. Therefore, projection of poverty reduction needs to estimate the impacts on poverty reduction of economic growth (growth effect) as well as of a change in income/consumption distribution (distributional effect).

Various methods are proposed to estimate the impacts: Datt and Ravallion (1992) propose a method based on an identity among poverty reduction, a change in mean income, and a change in its distribution. The method does not require any assumption on the income/consumption distribution but needs at least two household surveys for reference and comparison years. To estimate the growth effect, this method shifts the reference year's distribution so that its mean is equal to that of the comparison year. The difference in poverty rates between the reference distribution and the shifted one represents the sole impact of growth of mean income/consumption on poverty reduction. To estimate the distributional effect, the comparison year's distribution is shifted so that its mean is equal to the reference year's one. Since the reference year's distribution does not differ from the shifted one in mean income/consumption but in distribution, the difference in poverty rates between the reference distribution and the shifted one represents the sole impact of a distributional change on poverty reduction. The advantage of this approach is that no assumption is needed for the income/consumption distribution.

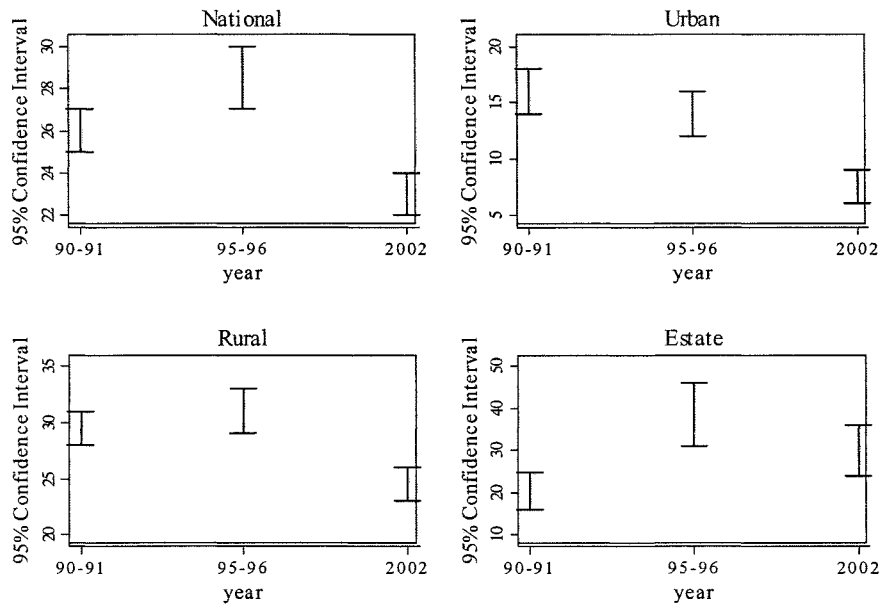
Bourguignon (2003) also proposes a method based on the growth-poverty-inequality identity. By assuming the income/consumption distribution is log normal, where the distribution is simply defined by its mean and standard deviation, the growth effect and the distributional effect can be represented as a simple function of a change in mean and standard error, respectively. This method has several advantages over others. First, it is parsimonious in that it needs only two parameters to estimate the effects, namely the mean and standard error of income/consumption distribution at the reference year. This means, in addition, that only one year of household survey is necessary for estimation. The extent of poverty reduction can be estimated by a bunch of poverty predictors; however, the more information a projection needs, the more likely the projection is to contain errors. Second, the formulas for both growth and distributional impacts are simple, as shown in Bourguignon (2003). Third, Bourguignon (2003) shows this method outperforms other methods in predicting the extent of poverty reduction. He found, using a cross-country and time series database, that the predicted rates of poverty reduction by his method fit to the actual rates better than those by other methods. This implies that the assumption on income/consumption distribution is not harmful in predicting poverty reduction. The innocuousness of the assumption is also enhanced by the fact that the growth effect between 1990-91 and 2002 in Sri Lanka estimated by this method is very similar to that of Datt and Ravallion's approach.

Quentin (2002) raises a question on independence between growth rates and distributional changes. For example, assuming a high growth rate and no change in income distribution could be unrealistic. He proposes to estimate the correlation between growth rates and changes in income distribution, and then compounds the direct impact from economic growth with the indirect impact through a distributional change caused by the growth. The downside of this approach is that the correlation needs to be estimated with very limited observations. In Sri Lanka, only three household surveys are currently comparable in estimating poverty headcount rates, implying the maximum two observations to estimate the correlation. Another concern is about whether the correlation from the previous surveys can predict future relationship between

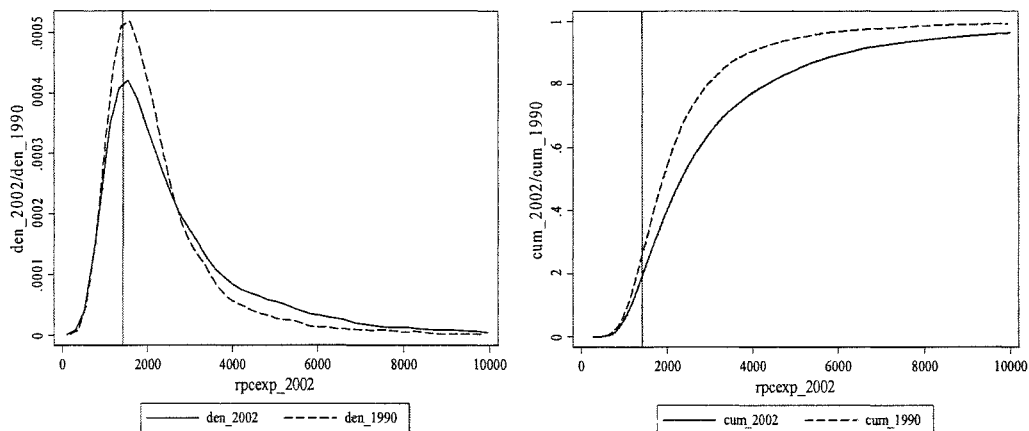
growth rates and distributional changes. Structural changes in growth and inequality are often observed in a long time span.

## II. Figures and tables referred to in Chapter 2

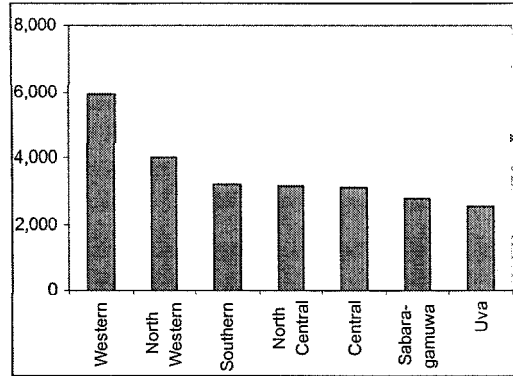
**Figure A-2.1: 95 percent confidence intervals of headcount ratios**



**Figure A-2.2: Density and cumulative distribution of per capita expenditure**  
Pline=Rs. 1423

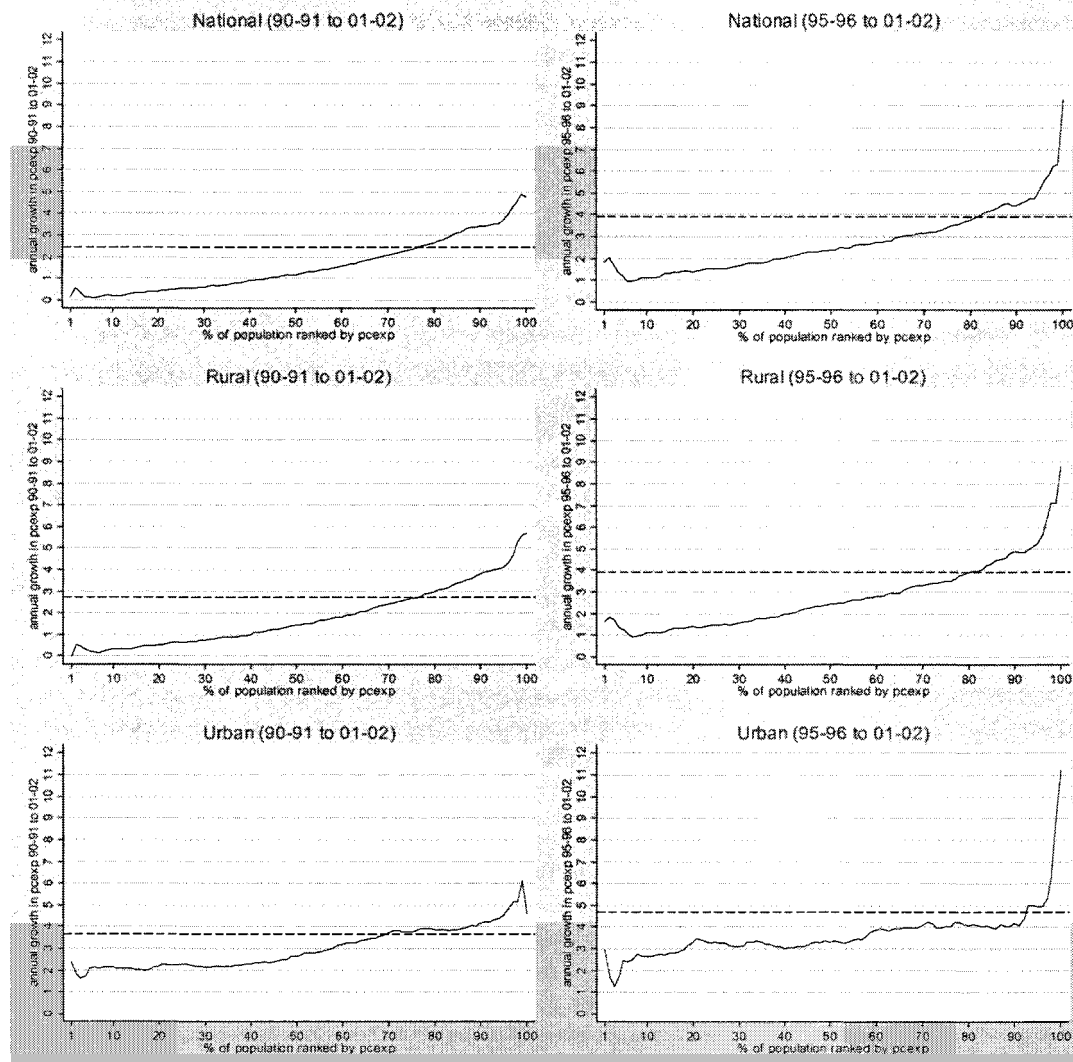


**Figure A-2.3: Per capita nominal consumption expenditure (2003-04)**



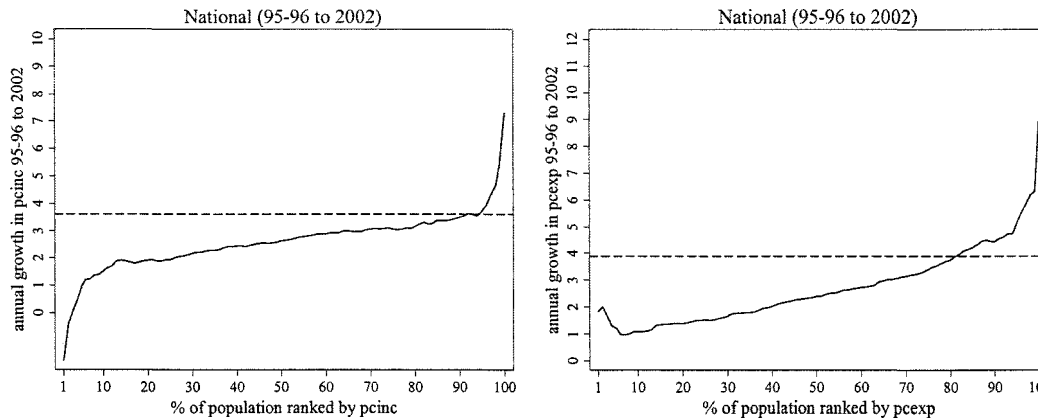
Source: CFSES report (2003-04)

**Figure A-2.4: Growth incidence curves for per capita consumption**

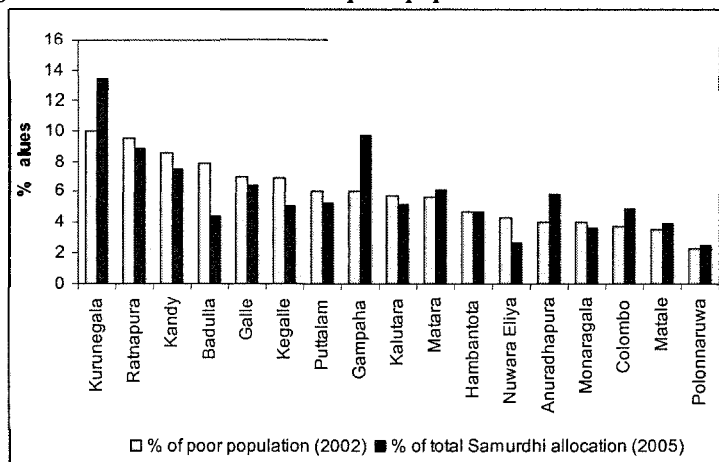


Source: World Bank staff calculations using HIES (different years).

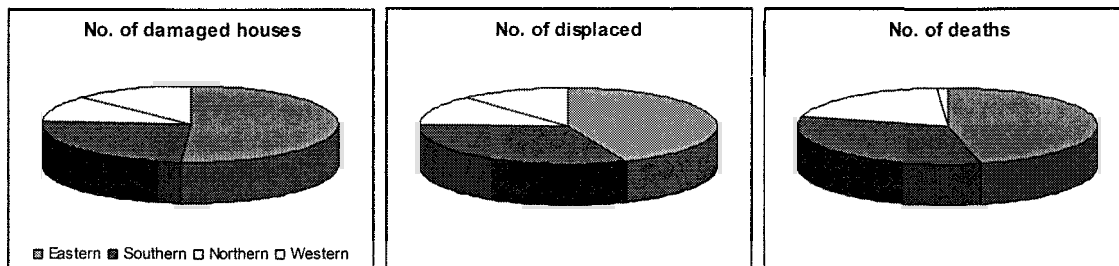
**Figure A-2.5: GICs of per capita income (pcinc) and consumption (pcexp) between 1995-96 and 2002**



**Figure A-2.6: Share of districts in poor population and Samurdhi budget**



Source: DCS, HIES (2002); Ministry of Samurdhi (2005)



Sources: DCS (January, 2005); Government of Sri Lanka and Development Partners (December 2005)

| <b>Table A-2.1: Ranking of districts by poverty headcount by districts</b> |                 |                       |                       |                    |
|----------------------------------------------------------------------------|-----------------|-----------------------|-----------------------|--------------------|
| <i>Province</i>                                                            | <i>District</i> | <i>Rank (1990-91)</i> | <i>Rank (1995-96)</i> | <i>Rank (2002)</i> |
| Western                                                                    | Colombo         | 2                     | 1                     | 1                  |
|                                                                            | Gampaha         | 1                     | 2                     | 2                  |
|                                                                            | Kalutara        | 14                    | 6                     | 4                  |
| Central                                                                    | Kandy           | 17                    | 13                    | 8                  |
|                                                                            | Matale          | 8                     | 15                    | 11                 |
|                                                                            | Nuwara Eliya    | 3                     | 9                     | 5                  |
| Southern                                                                   | Galle           | 10                    | 10                    | 9                  |
|                                                                            | Matara          | 9                     | 11                    | 10                 |
|                                                                            | Hambantota      | 15                    | 8                     | 13                 |
| North-West                                                                 | Kurunegala      | 7                     | 4                     | 7                  |
|                                                                            | Puttalam        | 4                     | 7                     | 12                 |
| North-Central                                                              | Anuradhapura    | 5                     | 5                     | 3                  |
|                                                                            | Polonnaruwa     | 6                     | 3                     | 6                  |
| Uva                                                                        | Badulla         | 11                    | 14                    | 16                 |
|                                                                            | Monaragala      | 16                    | 17                    | 17                 |
| Sabaragamuwa                                                               | Ratnapura       | 12                    | 16                    | 15                 |
|                                                                            | Kegalle         | 13                    | 12                    | 14                 |

Source: HIES 90-91, 95-96, and 2002 (DCS)

Note: Districts in the Northern and Eastern provinces are excluded since no data are available from HIES

**Table A-2.2: Comparison between per capita income**

| Quintile | Per capita income |      | Per Capita consumption |      |
|----------|-------------------|------|------------------------|------|
|          | 95-96             | 2002 | 95-96                  | 2002 |
| 1        | 703               | 766  | 991                    | 1068 |
| 2        | 1215              | 1381 | 1445                   | 1596 |
| 3        | 1698              | 1984 | 1881                   | 2168 |
| 4        | 2472              | 2952 | 2578                   | 3117 |
| 5        | 5966              | 7809 | 5274                   | 7325 |
| Total    | 2411              | 2978 | 2434                   | 3055 |
| GINI     | 0.43              | 0.46 | 0.32                   | 0.40 |

Source: IES 95-96 and 2002

Note: Quintiles of per capita consumption expenditure

## **Annex 3**

### **I. The role of poverty maps in analysis**

There are good reasons to believe that poverty rates much higher than the national average can be found in specific areas in Sri Lanka, even within districts that on the aggregate show a relatively low incidence of poverty. Thus there is a long-standing demand for an understanding of poverty and inequality at finer levels of spatial disaggregation than what is available as direct estimates using HIES data (district level). Reasonably accurate estimates of poverty, at the DS Division or lower administrative level, can greatly facilitate monitoring and evaluation of the existing poverty alleviation programs and geographic targeting of future government interventions. This is possible through an exercise in Poverty Mapping – a technique developed in Elbers et al (2003) and since implemented in many countries around the world – with the objective to provide statistically reliable estimates of consumption-based welfare indicators. The DCS of Sri Lanka has initiated this exercise – the first-ever attempted in South Asia – with technical assistance from the World Bank.

The poverty mapping method takes advantage of strengths of both the HIES – that includes consumption aggregates but lacks enough sample size to estimate poverty at the geographical unit below district – and the Population CENSUS – that has enough sample size but lacks consumption aggregates. Using this method, members of the DCS and World Bank staff produced a map of poverty headcount ratios at the DS division level, for the year 2002. The results of this exercise, some of which are presented in this report, suggest the important role that poverty maps can play in the analysis of spatial inequality and its correlates.

Perhaps most importantly, such maps allows policymakers to draw visual and statistical links between poverty and spatial factors that are not apparent from more aggregated analysis. At the same time, it is important to bear in mind that poverty mapping uses statistical techniques to circumvent the absence of statistically representative household data, which can introduce errors in the poverty estimates. Given this, it is best to use the poverty maps in conjunction with other tools available to policymakers to get a handle on spatial distribution and correlates of poverty, rather than rely exclusively on the precise ranking of geographical areas indicated by the map to guide policy.

## II. Tables referred to in Chapter 3

| <b>Table A: Results of multivariate probit regression: probability of a household being poor</b><br>(all coefficients represent a change in probability for a marginal increase in an explanatory variable) |                                |          |                                            |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------|--------------------------------------------|----------|
|                                                                                                                                                                                                             | <b>Only District variables</b> |          | <b>District &amp; Divisional variables</b> |          |
|                                                                                                                                                                                                             | (1)                            | (2)      | (3)                                        | (4)      |
| <b>Household characteristics:</b>                                                                                                                                                                           |                                |          |                                            |          |
| Presence of elderly                                                                                                                                                                                         | -0.013+                        | -0.014*  | -0.012+                                    | -0.012+  |
| Family member abroad                                                                                                                                                                                        | -0.077**                       | -0.077** | -0.078**                                   | -0.077** |
| Presence of a child or children                                                                                                                                                                             | 0.054**                        | 0.053**  | 0.054**                                    | 0.053**  |
| Unemployment of the youth                                                                                                                                                                                   | 0.047**                        | 0.048**  | 0.046**                                    | 0.047**  |
| Household size of 4-6 members                                                                                                                                                                               | 0.093**                        | 0.093**  | 0.093**                                    | 0.092**  |
| Household size > 6 members                                                                                                                                                                                  | 0.239**                        | 0.237**  | 0.238**                                    | 0.236**  |
| Located in the rural sector                                                                                                                                                                                 | 0.093**                        | 0.093**  | 0.091**                                    | 0.087**  |
| Located in the estate sector                                                                                                                                                                                | 0.037*                         | 0.015    | 0.035*                                     | 0.008    |
| At least one formal sector worker                                                                                                                                                                           | -0.085**                       | -0.085** | -0.083**                                   | -0.082** |
| At least one informal sector worker                                                                                                                                                                         | 0.064**                        | 0.064**  | 0.067**                                    | 0.068**  |
| <b>Household head:</b>                                                                                                                                                                                      |                                |          |                                            |          |
| Male                                                                                                                                                                                                        | 0.014+                         | 0.015+   | 0.015+                                     | 0.016+   |
| Unemployed                                                                                                                                                                                                  | 0.037+                         | 0.038+   | 0.036+                                     | 0.038*   |
| Inactive                                                                                                                                                                                                    | 0.026**                        | 0.026**  | 0.027**                                    | 0.027**  |
| Completed 5 grade or less                                                                                                                                                                                   | 0.178**                        | 0.176**  | 0.175**                                    | 0.171**  |
| Completed 6-9 grades                                                                                                                                                                                        | 0.092**                        | 0.092**  | 0.092**                                    | 0.091**  |
| Completed A/L or above                                                                                                                                                                                      | -0.076**                       | -0.076** | -0.075**                                   | -0.074** |
| Working as ag wage worker                                                                                                                                                                                   | 0.044**                        | 0.042**  | 0.038**                                    | 0.034**  |
| <b>District characteristics:</b>                                                                                                                                                                            |                                |          |                                            |          |
| Share of agricultural employment in total paid employment of HHheads                                                                                                                                        |                                | 0.001*   |                                            | 0.001**  |
| Unemployment Rate                                                                                                                                                                                           | 0.005**                        | 0.000    | 0.004**                                    | 0.005**  |
| Share of electricity use for lighting                                                                                                                                                                       | -0.002**                       | -0.001*  |                                            |          |
| Share of HHheads with primary education                                                                                                                                                                     |                                | 0.006**  |                                            |          |
| Accessibility index                                                                                                                                                                                         | -0.026*                        |          |                                            |          |
| <b>Characteristics of DS divisions:</b>                                                                                                                                                                     |                                |          |                                            |          |
| Accessibility index                                                                                                                                                                                         |                                |          | -0.016**                                   |          |
| Share of using electricity                                                                                                                                                                                  |                                |          | -0.001**                                   | -0.001** |
| Share of HHheads with primary education                                                                                                                                                                     |                                |          |                                            | 0.002**  |
| # Observations                                                                                                                                                                                              | 16924                          | 16924    | 16924                                      | 16924    |
| Source: Staff estimation based on HIES 2002 data                                                                                                                                                            |                                |          |                                            |          |
| Notes: ** refers to 1 % significance, * 5%, and + 10%.                                                                                                                                                      |                                |          |                                            |          |
| Accessibility index is omitted from the regressions with average educational attainment (for district or DS division) due to multicollinearity                                                              |                                |          |                                            |          |

**Table A-3.1: Poverty Headcount Ratio by gender of household heads (%)**

|        | 1990-91 | 1995-96 | 2002 |
|--------|---------|---------|------|
| Male   | 26.0    | 29.1    | 23.0 |
| Female | 26.6    | 27.6    | 21.5 |

**Table A-3.2: Poverty Headcount Ratio by ethnicity of household heads (%)**

| ETHNICITY       | 1990-91 | 1995-96 | 2002 |
|-----------------|---------|---------|------|
| Sinhala         | 26.3    | 28.3    | 22.3 |
| Sri Lanka Tamil | 26.2    | 30.8    | 26.8 |
| Indian Tamil    | 18.8    | 37.3    | 25.7 |
| Sri Lanka Moors | 27.7    | 30.4    | 24.6 |

**Table A-3.3: Poverty Headcount Ratio by religion of household heads (%)**

| RELIGION  | 1990-91 | 1995-96 | 2002 |
|-----------|---------|---------|------|
| Buddhist  | 27.5    | 29.7    | 23.3 |
| Hindu     | 22.3    | 35.4    | 27.8 |
| Islam     | 26.5    | 29.4    | 23.3 |
| Christian | 15.1    | 13.5    | 11.0 |

**Table A-3.4: Poverty incidence and access to infrastructure by district**

| District name                   | Poverty Headcount Ratio (%) | Average accessibility index | Average time to Colombo (min) | % of housing using electricity for lighting | % of housing units using gas for cooking fuel |
|---------------------------------|-----------------------------|-----------------------------|-------------------------------|---------------------------------------------|-----------------------------------------------|
| Colombo                         | 6                           | 3.9                         | 43                            | 86                                          | 48                                            |
| Gampaha                         | 11                          | 3.8                         | 58                            | 83                                          | 24                                            |
| Kalutara                        | 20                          | 4.0                         | 99                            | 72                                          | 17                                            |
| Kandy                           | 25                          | 3.2                         | 184                           | 71                                          | 14                                            |
| Matale                          | 30                          | 3.1                         | 219                           | 51                                          | 6                                             |
| Nuwara El                       | 23                          | 3.0                         | 195                           | 54                                          | 7                                             |
| Galle                           | 26                          | 3.3                         | 152                           | 73                                          | 11                                            |
| Matara                          | 27                          | 3.1                         | 210                           | 72                                          | 9                                             |
| Hambantot                       | 32                          | 2.9                         | 286                           | 49                                          | 4                                             |
| Kurunegal                       | 25                          | 3.2                         | 166                           | 52                                          | 4                                             |
| Puttalam                        | 31                          | 3.0                         | 195                           | 52                                          | 8                                             |
| Anuradhapura                    | 20                          | 2.9                         | 309                           | 49                                          | 6                                             |
| Polonnaru                       | 24                          | 2.9                         | 292                           | 46                                          | 4                                             |
| Badulla                         | 37                          | 2.9                         | 251                           | 59                                          | 6                                             |
| Moneragal                       | 37                          | 2.7                         | 316                           | 31                                          | 3                                             |
| Ratnapura                       | 34                          | 3.1                         | 168                           | 45                                          | 5                                             |
| Kegalle                         | 32                          | 3.5                         | 120                           | 57                                          | 5                                             |
| <b>Correlation with HCR (%)</b> |                             | <b>-70</b>                  | <b>61</b>                     | <b>-71</b>                                  | <b>-81</b>                                    |



| Source                                                                                                                                                                                                                                                                                        | HIES 2002<br>WB | ICS | ICS | CENSUS 2001 | CENSUS 2001 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----|-----|-------------|-------------|
| <i>Notes:</i>                                                                                                                                                                                                                                                                                 |                 |     |     |             |             |
| 1. The accessibility index is calculated for every point as the sum of the population totals of surrounding cities and towns, inversely weighted by the road network travel time to each town. The numbers show the mean of the access values for all points that fall into a given district. |                 |     |     |             |             |
| 2. The average travel time to Colombo city is estimated travel time to each town based on geographical information of road network. The numbers show the mean of the travel time for all points that fall into a given district.                                                              |                 |     |     |             |             |
| 3. "HIES 2002 WB" denotes that the world bank staff calculated these figures using HIES 2002; "ICS" refers to "Sri Lanka: Improving the Rural and Urban Investment Climate (2004)".                                                                                                           |                 |     |     |             |             |

**Table A-3.5: Poverty and Educational Attainment of household heads**

| District name                   | Poverty Headcount Ratio (%) | % of hheads with tertiary education (higher than G.C.E. (O/L)) | % of household heads with no schooling  | Share of employed population in the agricultural sector |
|---------------------------------|-----------------------------|----------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------|
| Colombo                         | 6                           | 42                                                             | 3                                       | 2                                                       |
| Gampaha                         | 11                          | 30                                                             | 3                                       | 9                                                       |
| Kalutara                        | 20                          | 30                                                             | 3                                       | 20                                                      |
| Kandy                           | 25                          | 25                                                             | 7                                       | 28                                                      |
| Matale                          | 30                          | 18                                                             | 7                                       | 43                                                      |
| Nuwara Eliya                    | 23                          | 10                                                             | 11                                      | 76                                                      |
| Galle                           | 26                          | 20                                                             | 8                                       | 32                                                      |
| Matara                          | 27                          | 19                                                             | 9                                       | 44                                                      |
| Hambantota                      | 32                          | 15                                                             | 9                                       | 48                                                      |
| Kurunegala                      | 25                          | 21                                                             | 5                                       | 37                                                      |
| Puttalam                        | 31                          | 16                                                             | 5                                       | 36                                                      |
| Anuradhapura                    | 20                          | 20                                                             | 6                                       | 59                                                      |
| Polonnaruwa                     | 24                          | 12                                                             | 7                                       | 53                                                      |
| Badulla                         | 37                          | 17                                                             | 14                                      | 69                                                      |
| Monaragala                      | 37                          | 13                                                             | 13                                      | 71                                                      |
| Ratnapura                       | 34                          | 16                                                             | 10                                      | 47                                                      |
| Kegalle                         | 32                          | 18                                                             | 6                                       | 31                                                      |
| <b>Correlation with HCR (%)</b> |                             | <b>-78</b>                                                     | <b>71</b>                               | <b>66</b>                                               |
| <i>Source:</i>                  |                             | DCS (2004)                                                     | Author's calculation based on HIES 2002 | LFS 2002                                                |

**Table A-3.6:**

|                                                                                        | Poverty Headcount Ratio (%) | Unemployment rate (%) |
|----------------------------------------------------------------------------------------|-----------------------------|-----------------------|
| Western                                                                                | 11                          | 8.9                   |
| North Central                                                                          | 21                          | 8.4                   |
| Central                                                                                | 25                          | 8.9                   |
| North Western                                                                          | 27                          | 7.8                   |
| Southern                                                                               | 28                          | 10.6                  |
| Sabaragamuwa                                                                           | 35                          | 9.8                   |
| Uva                                                                                    | 37                          | 6.0                   |
| <b>Correlation with HCR (%)</b>                                                        |                             | <b>-23.9</b>          |
| <i>Source</i>                                                                          | HIES 2002 WB                | LFS 2002              |
| <i>Notes:</i> LFS 2002 refers to "Annual Report of Sri Lanka Labor Force Survey 2002". |                             |                       |

**Table A-3.7: Poverty and unemployment rates by district**

| District name                   | HCR | Unemployment rate          |
|---------------------------------|-----|----------------------------|
| Colombo                         | 6   | 9.1                        |
| Gampaha                         | 11  | 8.2                        |
| Kalutara                        | 20  | 9.8                        |
| Kandy                           | 25  | 11.6                       |
| Matale                          | 30  | 7.6                        |
| Nuwara Eliya                    | 23  | 5.4                        |
| Galle                           | 26  | 8.8                        |
| Matara                          | 27  | 11.0                       |
| Hambantota                      | 32  | 13.3                       |
| Kurunegala                      | 25  | 7.9                        |
| Puttalam                        | 31  | 7.5                        |
| Anuradhapura                    | 20  | 7.1                        |
| Polonnaruwa                     | 24  | 11.7                       |
| Ratnapura                       | 34  | 9.2                        |
| Kegalle                         | 32  | 10.6                       |
| Badulla                         | 37  | 6.3                        |
| Monaragala                      | 37  | 5.2                        |
| <b>Correlation with HCR (%)</b> |     | <b>-8.3</b>                |
| <i>Source:</i>                  |     | HIES 2002 WB      LFS 2002 |

**Table A-3.8: Poverty and paid employees in the agricultural sector by district**

| District name                   | Poverty Headcount Ratio (%) | Share of agricultural paid employees in total employment (%) | Per capita monthly household income for households with heads working in the agricultural sector as paid employees |
|---------------------------------|-----------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Colombo                         | 6                           | 2                                                            | 2463                                                                                                               |
| Gampaha                         | 11                          | 4                                                            | 2873                                                                                                               |
| Kalutara                        | 20                          | 6                                                            | 1907                                                                                                               |
| Kandy                           | 25                          | 10                                                           | 2001                                                                                                               |
| Matale                          | 30                          | 5                                                            | 2435                                                                                                               |
| Nuwara El                       | 23                          | 48                                                           | 1996                                                                                                               |
| Galle                           | 26                          | 16                                                           | 2017                                                                                                               |
| Matara                          | 27                          | 15                                                           | 1811                                                                                                               |
| Hambantot                       | 32                          | 14                                                           | 1920                                                                                                               |
| Kurunegal                       | 25                          | 6                                                            | 2212                                                                                                               |
| Puttalam                        | 31                          | 12                                                           | 2280                                                                                                               |
| Anuradhapura                    | 20                          | 19                                                           | 2262                                                                                                               |
| Polonnaru                       | 24                          | 12                                                           | 1960                                                                                                               |
| Badulla                         | 37                          | 27                                                           | 2003                                                                                                               |
| Moneragal                       | 37                          | 14                                                           | 2088                                                                                                               |
| Ratnapura                       | 34                          | 12                                                           | 1467                                                                                                               |
| Kegalle                         | 32                          | 10                                                           | 1468                                                                                                               |
| <b>Correlation with HCR (%)</b> |                             | <b>26</b>                                                    | <b>-59</b>                                                                                                         |

Source: World Bank staff calculations using HIES 2002

Notes: The agricultural sector includes fishing and forest workers

**Table A-3.9: Results of multivariate probit regression: probability of a household being poor**  
(all coefficients represent a change in probability for a marginal increase in an explanatory variable)  
*Sample excludes Colombo district*

|                                              | <i>With access variable</i> | <i>With education &amp; share of agri emp</i> |
|----------------------------------------------|-----------------------------|-----------------------------------------------|
| <b>Household characteristics</b>             |                             |                                               |
| Presence of elderly                          | -0.016<br>(1.89)+           | -0.016<br>(1.90)+                             |
| Family member abroad                         | -0.091<br>(8.41)**          | -0.091<br>(8.40)**                            |
| Presence of a child or children              | 0.065<br>(7.83)**           | 0.065<br>(7.78)**                             |
| Unemployment of the youth                    | 0.048<br>(5.00)**           | 0.049<br>(5.14)**                             |
| Household size of 4-6 members                | 0.105<br>(12.10)**          | 0.105<br>(12.07)**                            |
| Household size more than 6 members           | 0.260<br>(20.74)**          | 0.258<br>(20.61)**                            |
| Located in the rural sector                  | 0.092<br>(8.27)**           | 0.089<br>(7.98)**                             |
| Located in the estate sector                 | 0.021<br>(1.07)             | -0.002<br>(0.10)                              |
| At least one formal sector worker            | -0.095<br>(9.87)**          | -0.094<br>(9.74)**                            |
| At least one informal sector worker          | 0.075<br>(9.74)**           | 0.076<br>(9.90)**                             |
| <b>Characteristics of the household head</b> |                             |                                               |
| Male                                         | 0.014<br>(1.44)             | 0.015<br>(1.59)                               |
| Unemployed                                   | 0.033<br>(1.48)             | 0.035<br>(1.54)                               |
| Inactive                                     | 0.034<br>(3.22)**           | 0.033<br>(3.19)**                             |
| Completed 5 grade or less                    | 0.186<br>(13.55)**          | 0.183<br>(13.29)**                            |
| Completed 6-9 grades                         | 0.100<br>(7.31)**           | 0.100<br>(7.28)**                             |
| Completed A/L or above                       | -0.087<br>(3.98)**          | -0.087<br>(3.98)**                            |
| Working as agricultural wage worker          | 0.044<br>(3.85)**           | 0.040<br>(3.48)**                             |
| <b>District characteristics</b>              |                             |                                               |
| Share of agricultural employment of HHheads  |                             | 0.000<br>(0.84)                               |
| Unemployment Rate                            | 0.004<br>(2.79)**           | 0.004<br>(2.27)*                              |
| <b>Characteristics of DS divisions</b>       |                             |                                               |
| Accessibility index                          | -0.012<br>(2.14)*           |                                               |
| Share of households using electricity        | -0.001<br>(5.76)**          | -0.001<br>(2.53)*                             |
| Share of HHheads with primary education      |                             | 0.002<br>(3.73)**                             |
| Observations                                 | 14880                       | 14880                                         |

*Source:* Staff estimation based on HIES 2002 data

*Notes:* \*\* refers to 1 % significance, \* 5%, and + 10%.

Z-statistics are in parentheses

**Table A-3.10: Regression of accessibility index of DS divisions**

|                                                                 |                    |
|-----------------------------------------------------------------|--------------------|
| <b>DS division characteristics</b>                              |                    |
| Share of using electricity                                      | 0.022<br>(7.01)**  |
| Share of HHheads with primary education                         | -0.001<br>(0.18)   |
| <b>District characteristics</b>                                 |                    |
| Share of agricultural employment of HHheads                     | -0.029<br>(7.87)** |
| Unemployment Rate                                               | -0.058<br>(3.15)** |
| Constant                                                        | 8.211<br>(23.99)** |
| Observations                                                    | 249                |
| R-squared                                                       | 0.71               |
| <i>Source:</i>                                                  |                    |
| Absolute value of t statistics in parentheses                   |                    |
| + significant at 10%; * significant at 5%; ** significant at 1% |                    |

## Annex 4

### I. Comparison of data sources for information on migration and remittance

*Census of Population and Housing Condition 2001:* The Census is supposed to be an authentic statutory record of all people resident in Sri Lanka. It not only provides the usual information on individual characteristics, availability of physical infrastructure, and housing conditions, etc., but also enquires about “leaving home”. The questionnaire asks about the place of birth, the place of previous residence, and the length of stay in the current location. From Census data, migrants can be defined as someone who has previously resided somewhere other than the district of current residence. In principle, the Census covers all migration flows except for international migrants who went left Sri Lanka, and people who moved from one place to another within a district. The Census has been used in studies of internal migration focusing on patterns of inter-regional and rural-urban migration. Another major limitation of using the Census for migration analysis is its lack of information on remittances. The Census does ask whether there are any household members residing outside, but nothing is asked related to remittances received from them.

*HIES and CFSES:* HIES provides information on remittance from internal and international migrations. Households are asked whether there are any household members residing outside, and if so, how much remittances they sent in the last year. Such information is useful to measure the impact of remittance and migration on rural development and economic disparities among districts. Both surveys and especially CFSES provide information on demographic characteristics of internal and international migrants. Since the Census does not include this, the information from surveys is valuable in complementing the Census.

One potential issue is that the household surveys likely underestimate the size of migration. Migrants in these surveys are only those who live outside the current residence of the other members of the same household. Therefore, in contrast with the Census, if a household as a whole moved somewhere, these surveys would not treat them as migrants. In fact, the census indicates 80 percent of migrants into Colombo city moved with their household heads, suggesting a high probability that all household members moved into Colombo city. The HIES and the CFSES cannot elicit any information regarding such migrants, which may significantly bias profiles of migrants if they were exclusively relied upon for this information.

### II. Population growth and congestion in Colombo

Congestion in Colombo MC is a growing concern in Sri Lanka (see Figure A-4.6 below). Population in Colombo MC has increased since 1871 and reached 0.6 million in 2001. Colombo MC’s over-concentration issue is evident when looking at its extremely high population density. Colombo MC’s population density grew from around 15 thousand per square km in 1981 to around 17 thousand in 2001, which are much higher than Sri Lanka and even Colombo District. The high population density may explain why population growth in Colombo MC slowed down since 1970s and is much lower than the national growth rate (Figure i). It is also the likely reason for high population growth in the broader metropolitan area – Colombo District – and Western Province: over-concentration in Colombo pushes many residents outwards, at the cost of long daily commutes.

In fact, congestion in Colombo MC is much worse than the population density figures suggest during daytime when population in the MC area expands to more than 2 million. Severe traffic congestions are caused by the high traffic volume, and aggravated by factors such as shortage of parking areas and poor public transport facilities. As a result, average vehicle speed is only around 10 kilometers per hour within most parts of the city during the day.

### III. Cross-country evidence on the economic costs of over-concentration

Henderson (2000) provides an estimate of economic loss due to over-concentration in the largest city or the largest metropolitan area in a country. He examines the cost imposed by excessive concentration (interacted by per capita income and national scale) on economic growth using a panel of 80-100 countries every 5 years from 1960 to 1995. Henderson confirms that there are “optimal” primacy points—urban concentration in the largest city—that depends on income and scale. Specifically, efficient urban primacy levels rise up to an income per capita of \$5,000 (1985 PPP), then peak, and decline. The rise is rapid, but the decline after the peak is modest. For example, for a country with national urban population of 8 million, the optimal primacy rate changes from 15, 28, to 26 percent as the country’s GDP per capita rises from \$850, \$3000, to \$17200.

Henderson (2000) shows the list of countries with highly excessive urban primacy in 1990. The list includes the usual suspects, such as Argentina, Panama, Costa Rica, Chile, Korea and Thailand. On the other hand, 30 countries belong to a group of countries with satisfactory urban concentration, which includes USA, Canada, Australia, and New Zealand.

### IV. What constitutes Colombo urban area: estimate using population density pattern

In Figure A-4.7, each dot represents population density for a GN division in urban areas of Colombo District. Larger dots refer to population density for Colombo MC, while smaller dots for other GN divisions. It is clear from that the distribution of population density changes dramatically at around 10 km from the center of Colombo city. Inside 10 km from Colombo MC, the variation of population density is large and the average population density is high and declining with distance from the center. On the other hand, outside 10 km, the *variation in population density is small and does not change much with distance*. This suggests that there is a structural difference in habitation between inside and outside 10 km from the center. A satellite image also indicates that there is a clear continuation of habitation till 10 km from the center of Colombo city. This is actually a conservative estimate of the Colombo urban area, since it is smaller than the Core Area of the Colombo Metropolitan Region (CMR), also known as Capital Territory, which consists of the municipal councils of the City of Colombo, Dehiwala, Mt. Lavinia, and Sri Jayawardena Pura-Kotte, and a few local authorities in the Western Province. CMR, on the other hand, consists of the entire Western Province.<sup>i</sup>

### V. Improving urban services in Sri Lanka

Based on analysis on data available in Sri Lanka and international experience, the Service Delivery Report (2006) made several recommendations to rejuvenate/enhance urban functions of Colombo Metropolitan areas as well as other urban areas.

First, financing urban services by levying a tax on the annual rental value of land or any species of immovable property will make urban services more demand driven. This is especially the case for urban areas outside the Colombo Metropolitan regions. This would not only enhance local governments’ own source of revenues, but also foster more efficient pricing of local services, aligns costs with benefits more closely, and make infrastructure services more demand-driven.

Second, there will be likely benefits from expanding the role of private sector in urban planning. This would involve the government reducing its role in making decisions about land use by auctioning off public lands, and focusing on planning, provision of urban services and infrastructure, and levying an appropriate tax on land holdings. By doing this, the government can help markets to allocate resources efficiently to mitigate the risk of market failures.

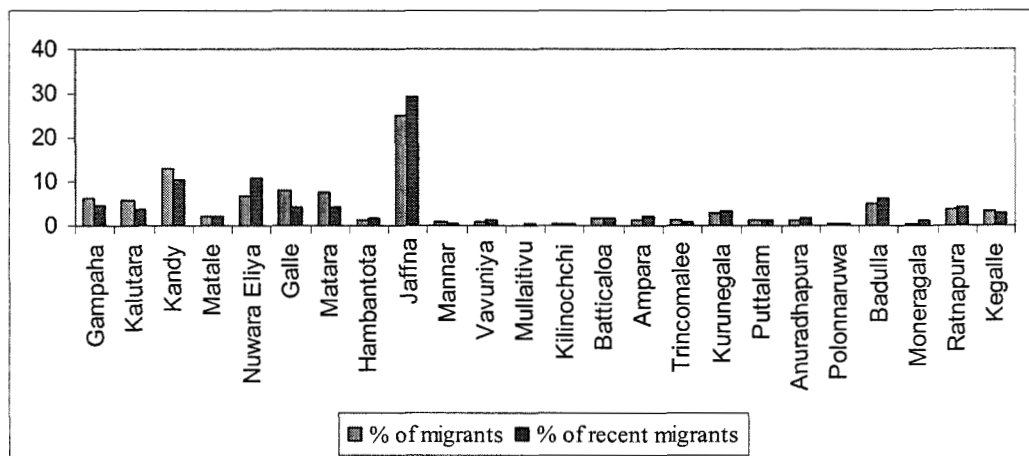
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<sup>i</sup> See <http://www.buildsrilanka.com/CDP/>

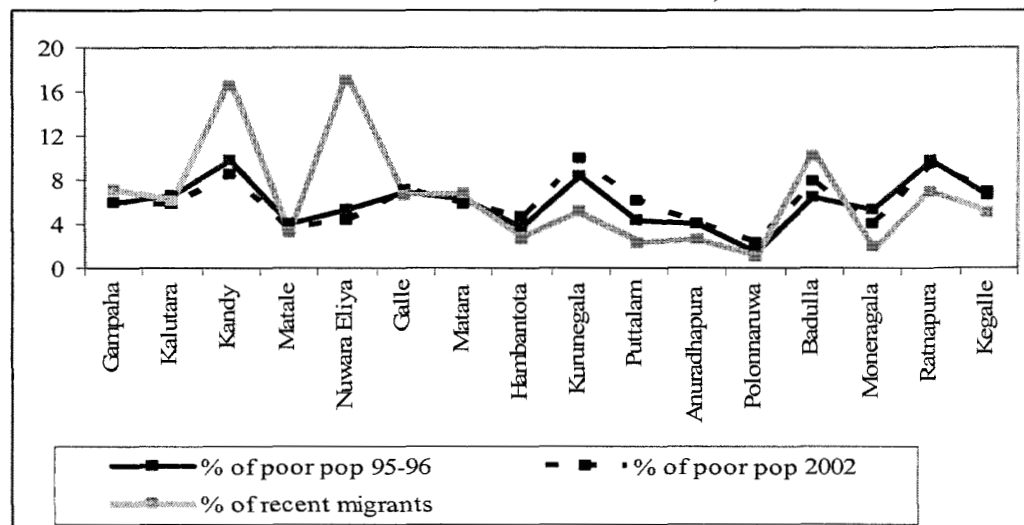
Third, in the Western Province, some form of integrated metropolitan urban planning and land management is worth exploring. Urban development of Colombo MC is closely linked to that of neighboring areas. Integrated metropolitan urban planning will help mitigate the cost of over-concentration of Colombo MC as well as foster economic growth in Western Province as a whole. Indeed, the city of Colombo Development Plan devised by UDA appears to be consistent with this approach, although it is not clear when this plan will be translated into action.

## VI. Figures and tables referred to in Chapter 4

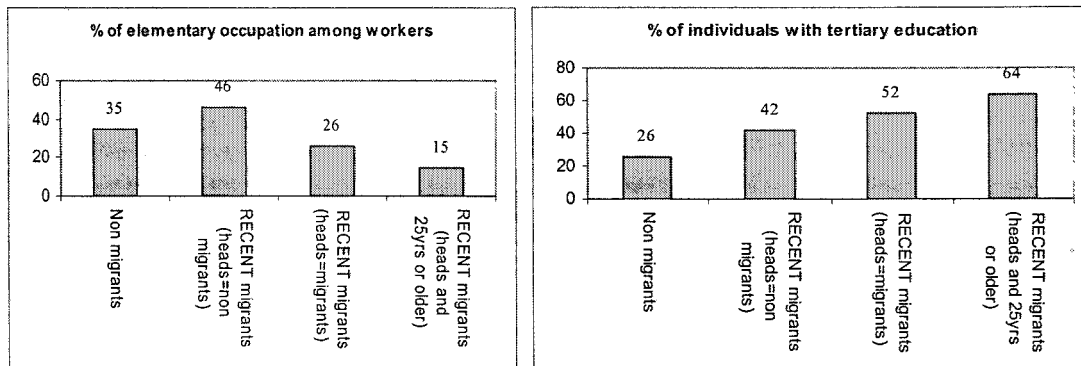
**Figure A-4.1: The shares of domestic migrants and recent migrants (with less than 5 years of residence in Colombo city) by origin district**



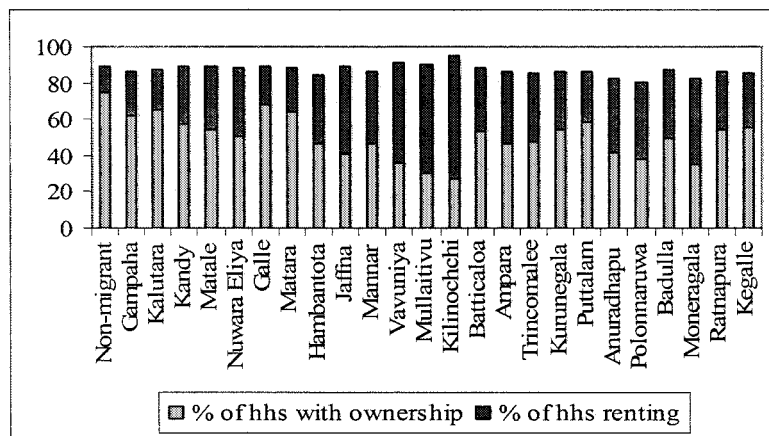
**Figure A-4.2: The shares of poor population and recent migrants by origin districts (except for Northern and Eastern Provinces)**



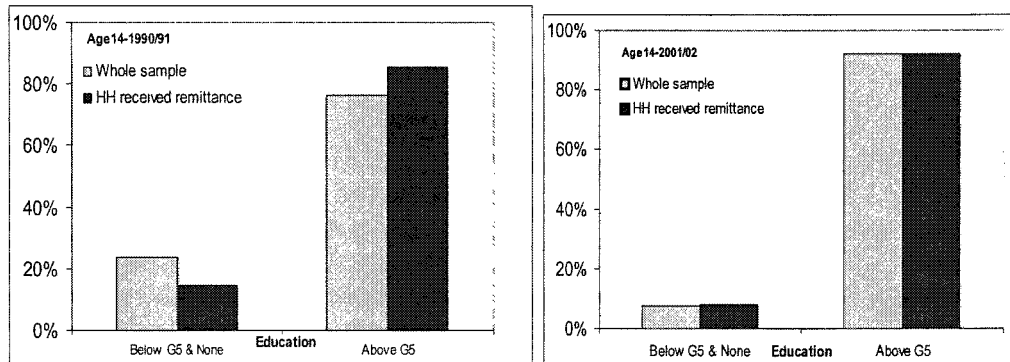
**Figure A-4.3: Educational attainments and occupation for non-migrants and recent migrants**



**Figure A-4.4: Housing ownership by household heads' origin district**



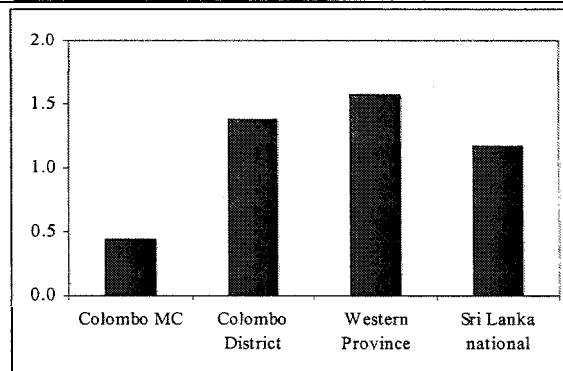
**Figure A-4.5: Enrollment in secondary school for age 14 in 1990/91 and 2002**



Source: Staff estimation based on HIES 1990/91 and 2002

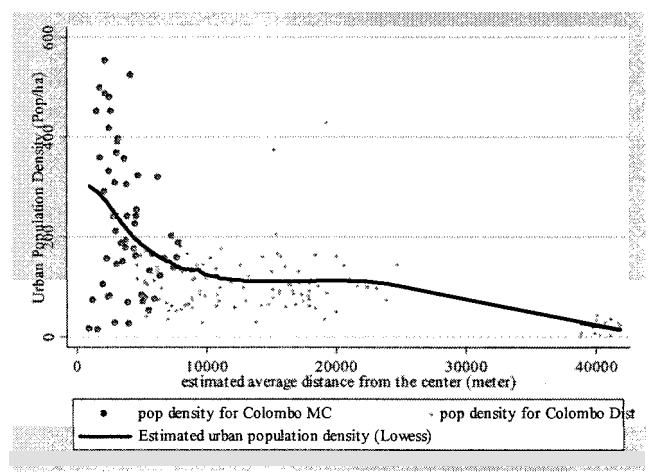


**Figure A-4.6: Average annual population growth between 1981 and 2001**



*Source:* Indrasiri (2006) and DCS (2004)

**Figure A-4.7: Population density for urban areas in Colombo District**



|                 | 1990/91                            |                                      |                  |                      | 2001/02                            |                                      |                  |                      |
|-----------------|------------------------------------|--------------------------------------|------------------|----------------------|------------------------------------|--------------------------------------|------------------|----------------------|
|                 | <i>Remittance only from Abroad</i> | <i>Remittance only from Domestic</i> | <i>From Both</i> | <i>No remittance</i> | <i>Remittance only from Abroad</i> | <i>Remittance only from Domestic</i> | <i>From Both</i> | <i>No remittance</i> |
| No schooling    | 9%                                 | 13%                                  | 10%              | 11%                  | 5%                                 | 7%                                   | 6%               | 6%                   |
| Up to G5        | 37%                                | 41%                                  | 70%              | 43%                  | 30%                                | 37%                                  | 26%              | 34%                  |
| G6-8            | 24%                                | 21%                                  | 3%               | 23%                  | 23%                                | 21%                                  | 28%              | 22%                  |
| G9&below degree | 28%                                | 24%                                  | 17%              | 22%                  | 41%                                | 35%                                  | 37%              | 36%                  |
| Degree&above    | 1%                                 | 1%                                   | N/A              | 1%                   | 0%                                 | 0%                                   | 3%               | 2%                   |

**Table A-4.2: The average size of remittances (Rs per capita per month) in 2002**

| Consumption quintile | All households |          |       | Households with remittance |          |       |
|----------------------|----------------|----------|-------|----------------------------|----------|-------|
|                      | International  | Internal | Total | International              | Internal | Total |
| Poorest              | 6              | 7        | 13    | 131                        | 140      | 271   |
| 2nd                  | 14             | 8        | 22    | 205                        | 127      | 332   |
| 3rd                  | 32             | 18       | 50    | 378                        | 211      | 589   |
| 4th                  | 71             | 29       | 100   | 626                        | 255      | 882   |
| Richest              | 168            | 59       | 226   | 1377                       | 482      | 1859  |
| Overall              | 58             | 24       | 82    | 668                        | 278      | 946   |

*Source:* Staff estimation using HIES 2002

## Annex 5

### I. The Health System in Sri Lanka

The government system consists of a network of hospitals providing both inpatient and outpatient care. This network includes three broad tiers of types of curative care institutions. The primary care institutions include Peripheral Units, Maternity Homes, Central Dispensaries and Maternity Homes, District Hospitals and Rural Hospitals. These primary care health facilities have maternity wards and offer basic medical care. A network of smaller facilities, called Central Dispensaries, provide mainly outpatient care such as treatment of minor injuries. Base and Provincial Hospitals, located mainly in large towns, provide secondary level care. Teaching and Special Hospitals provide tertiary care including treatment of cancer, tuberculosis, leprosy and other chronic diseases. At the end of 2002, there were 576 hospitals and 411 Central Dispensaries (Annual Health Bulletin, 2002). The primary, secondary and tertiary government health institutions together provided about 3 beds per 1000 individuals in 2002. This is higher than the South Asian average but comparable to other countries with GNP per capita similar to Sri Lanka's.

A breakdown of number of hospitals by provinces and districts shows that government health facilities are widely available throughout the island (Annual Health Bulletin, 2002). According to Hsiao (2000), the expansion in hospitals took place not on the basis on some planning criteria by the Ministry of Health but in response to demands from legislators (Hsiao (2000), page 37). Despite the good availability of facilities across districts, the availability of beds per 1000 population varies widely within provinces and across districts. Measured on a per thousand capita basis, Colombo has the highest availability of hospital beds at nearly 5 per 1000 capita while Vavuniya and Kilinochchi have the lowest availability at about 2 beds per 1000 capita.

The government health system does not include health facilities on estates. Health facilities on privately owned estates are managed by Regional Plantation Companies. Facilities on nationalized estates are managed by Janatha Estates Development Board and State Plantations Corporation. The estates have 52 hospitals, 192 Maternity Wards and 405 dispensaries. In 2001, the government took over 15 estate hospitals (Annual Health Bulletin, 2002).

The private sector in Sri Lanka consists of medical clinics and private hospitals. Since the government provides free inpatient care, the private sector mainly provides outpatient care and higher cost care to those who can pay. In 1997, private hospitals comprised less than 5 percent of total bed capacity (Hsiao, 2000).<sup>1</sup> There are an estimated 500 to 800 full-time private general practitioners who provide outpatient care from private clinics (Hsiao, 2000). Some of the private clinics are staffed by government medical officers working part time outside duty hours (before 8 am and after 4 pm) (Hsiao, 2000). Public sector doctors were granted right to private practice by the medical department in the 19<sup>th</sup> century since it was difficult to raise official salaries. This is similar to the practice in UK, Jamaica and Singapore. Public sector physicians have historically been paid wages below the market wage and senior government physicians obtain the bulk of their income from private practice. Full time private doctors and medical practitioners are concentrated in Western province, mainly in Colombo.

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<sup>1</sup> Ministry of Health does not gather data on private health institutions. Hsiao (2000) reports statistics for the private sector based on a survey conducted in 1998.

## II. Tables referred to in Chapter 5

**Table A-5.1: Use of Maternal Health Services, by Wealth Quintiles and by Sector**

|                                                            | <i>Wealth Quintiles</i> |         | <i>Sector</i> |       |        | Population Average |
|------------------------------------------------------------|-------------------------|---------|---------------|-------|--------|--------------------|
|                                                            | Poorest                 | Richest | Urban         | Rural | Estate |                    |
| %who received Tetanus Toxoid Immunization                  | 93.2                    | 95.5    | 92.8          | 96.3  | 91.3   | 95.1               |
| % who received Drugs to prevent Malaria                    | 34.9                    | 12.5    | 12.4          | 26.0  | 31.8   | 23.8               |
| % who gave birth in an institution                         | 91.4                    | 99.2    | 98.9          | 98.2  | 81.2   | 96.7               |
| % giving birth in Private Hospital                         | 0.2                     | 20.0    | 17.6          | 2.6   | 0.5    | 5.5                |
| % who received prenatal visits by Midwife                  | 75.6                    | 80.7    | 76.8          | 89.0  | 41.3   | 82.9               |
| % who visited facility for prenatal care                   | 93.1                    | 94.1    | 93.5          | 94.8  | 86.5   | 93.9               |
| % advised on Complicated pregnancy symptoms                | 65.3                    | 86.3    | 78.7          | 83.4  | 36.8   | 79.0               |
| % receiving postnatal visits by midwife or medical officer | 69.0                    | 68.8    | 67.2          | 76.3  | 52.5   | 72.6               |

Notes: World Bank staff calculations using Sri Lanka Demographic and Health Survey (2000). Refers to maternal health services utilized during pregnancy by currently women aged 15-49 years with births within 5 years preceding the survey.

**Table A-5.2: Children with Health Record, by Wealth Quintiles and by Sector**

|                            | % with Child Health Development Record | Of those with Health Record |                          |
|----------------------------|----------------------------------------|-----------------------------|--------------------------|
|                            |                                        | Number of times weighed     | Percentage Never weighed |
| <i>By Wealth Quintiles</i> |                                        |                             |                          |
| Poorest                    | 96.0                                   | 5.7                         | 4.9                      |
| Richest                    | 99.6                                   | 6.2                         | 1.5                      |
| <i>By Sector</i>           |                                        |                             |                          |
| Urban                      | 99.3                                   | 5.9                         | 1.8                      |
| Rural                      | 99.2                                   | 6.4                         | 1.2                      |
| Estate                     | 90.5                                   | 6.1                         | 9.9                      |
| <i>Population Average</i>  | <i>98.5</i>                            | <i>6.1</i>                  | <i>2.2</i>               |

Notes: World Bank staff calculations using Sri Lanka DHS (2000). Refers to children aged 3-59 months. Includes cases where the mother was not able to show the card. Number of times child was weighed obtained by enumerators' count of the number of dots on the growth chart in the health card.

## Annex 6

### Tables referred to in Chapter 6

**Table A-6.1: Shares of Monthly Per Capita Incomes by Rural Expenditure Deciles & Source (2001/02)**

Note: Other income includes incomes from Samurdhi, food Stamps, other cash receipts and rental income.

| Deciles of Rural Per Capita Expenditures | Share of monthly per capita income from: |                    |                      |                         |             |       | Total Monthly Per Capita Income (Rs) |
|------------------------------------------|------------------------------------------|--------------------|----------------------|-------------------------|-------------|-------|--------------------------------------|
|                                          | Agriculture                              | Agricultural Wages | Non-farm Enterprises | Non-farm Wages/Salaries | Remittances | Other |                                      |
| Lowest                                   | 14%                                      | 14%                | 5%                   | 39%                     | 1%          | 27%   | 1,088                                |
| 2                                        | 16%                                      | 10%                | 9%                   | 38%                     | 2%          | 25%   | 1,364                                |
| 3                                        | 18%                                      | 9%                 | 10%                  | 38%                     | 1%          | 25%   | 1,586                                |
| 4                                        | 18%                                      | 8%                 | 10%                  | 38%                     | 2%          | 24%   | 1,799                                |
| 5                                        | 17%                                      | 5%                 | 13%                  | 38%                     | 3%          | 25%   | 2,125                                |
| 6                                        | 17%                                      | 4%                 | 10%                  | 39%                     | 2%          | 28%   | 2,433                                |
| 7                                        | 13%                                      | 3%                 | 12%                  | 41%                     | 3%          | 28%   | 2,768                                |
| 8                                        | 13%                                      | 1%                 | 14%                  | 39%                     | 4%          | 29%   | 3,381                                |
| 9                                        | 10%                                      | 1%                 | 12%                  | 42%                     | 4%          | 31%   | 4,231                                |
| Highest                                  | 7%                                       | 0%                 | 14%                  | 41%                     | 4%          | 34%   | 7,077                                |
| All                                      | 12%                                      | 3%                 | 12%                  | 40%                     | 3%          | 29%   | 2,864                                |

Source: Authors' calculations from HIES 2001/02.

**Table A-6.2: Average annual growth in number employed, 1998-2002**

| Sector/Province | Labor employed in Agriculture |                      |              |       | Labor employed in Non-agricultural Sector |                      |              |       |
|-----------------|-------------------------------|----------------------|--------------|-------|-------------------------------------------|----------------------|--------------|-------|
|                 | Self employed                 | Unpaid family worker | Wage workers | Total | Self employed                             | Unpaid family worker | Wage workers | Total |
| Total Rural     | 3%                            | -7%                  | 4%           | 0%    | 1%                                        | -7%                  | 4%           | 3%    |
| Province        |                               |                      |              |       |                                           |                      |              |       |
| Western         | -5%                           | -5%                  | -13%         | -10%  | 7%                                        | -5%                  | 6%           | 6%    |
| Central         | -5%                           | -18%                 | 66%          | 7%    | -1%                                       | -18%                 | 3%           | 0%    |
| Southern        | 8%                            | 22%                  | -1%          | 2%    | 4%                                        | 22%                  | 4%           | 5%    |
| North-Western   | 43%                           | 22%                  | 0%           | 12%   | 5%                                        | 22%                  | 4%           | 4%    |
| North-Central   | -5%                           | 10%                  | -24%         | -8%   | 5%                                        | 10%                  | 0%           | 1%    |
| Uva             | 8%                            | -26%                 | 4%           | 4%    | -14%                                      | -26%                 | 13%          | -2%   |
| Sabaragamuwa    | 10%                           | 0%                   | -1%          | 6%    | -7%                                       | 0%                   | 4%           | 1%    |

Source: Authors calculations using Sri Lanka Annual Labor Force Survey data.

**Table A-6.3: Access to Technical Assistance from Extension Agencies by Source and Province, 1999/2000**

| Source of Agric. Extension Assistance   | Percentage of Households With Access to Technical Assistance |         |          |               |               |               |     |              |       |
|-----------------------------------------|--------------------------------------------------------------|---------|----------|---------------|---------------|---------------|-----|--------------|-------|
|                                         | Western                                                      | Central | Southern | North Eastern | North Western | North Central | Uva | Sabaragamuwa | Total |
| All agencies (government, NGOs, others) | 4.6                                                          | 16.7    | 4.6      | 4.6           | 17.1          | 36.3          | 5.2 | 14.6         | 15    |
| Government                              | 3.7                                                          | 15.7    | 4.6      | 3.8           | 13.3          | 32.9          | 4.8 | 12.7         | 13.2  |

Source: World Bank 2003, based on SLIS 1999/2000.

**Table A-6.4: Access to Irrigation by Farm Size**

|                                                    | Farm Size |          |       |        |       | Total |
|----------------------------------------------------|-----------|----------|-------|--------|-------|-------|
|                                                    | Landless  | Marginal | Small | Medium | Large |       |
| <i>Rural Sri Lanka (distribution by farm size)</i> |           |          |       |        |       |       |
| Distribution of gross cultivated area (%)          | 13.2      | 8.8      | 19.7  | 42.5   | 15.7  | 100   |
| Distribution of gross irrigated area (%)           | 11.0      | 7.0      | 17.1  | 49.8   | 15.0  | 100   |
| Distribution of major scheme irrigated area (%)    | 12.0      | 3.1      | 11.1  | 54.3   | 19.5  | 100   |
| Distribution of minor scheme irrigated area (%)    | 9.3       | 13.3     | 19.4  | 48.4   | 9.6   | 100   |
| <i>Average agricultural household</i>              |           |          |       |        |       |       |
| Gross irrigated land (acres)                       | 1.1       | 0.5      | 1.1   | 2.9    | 4.2   | 1.7   |
| % irrigated to gross cultivated area               | 49.1      | 39.8     | 47.3  | 63.8   | 48.6  | 50.6  |
| Distribution of gross irrigated area (%)           |           |          |       |        |       |       |
| Major scheme                                       | 53.3      | 23.5     | 34.2  | 56.6   | 51.0  | 44.2  |
| Minor scheme                                       | 30.1      | 51.4     | 47.0  | 35.3   | 40.3  | 40.7  |
| Lift irrigation                                    | 5.6       | 12.5     | 9.7   | 4.2    | 5.0   | 7.4   |
| Well irrigation                                    | 10.9      | 12.6     | 9.0   | 3.9    | 3.7   | 7.8   |
| Total                                              | 100       | 100      | 100   | 100    | 100   | 100   |

Note: Cultivated and irrigated lands are calculated from land used, not necessary owned by households. Note: Farm size is based on land owned exclusively by households. Marginal: own less than 1 acre, small: own between 1 to 2 acres, medium: own between 2 to 4 acres, and large: own more than 4 acres

**Table A-6.5: Access to Irrigation by Expenditure Quintile**

|                                                   | Quintile of Real Per Capita Expenditure |                 |                 |                 |                              | Total |
|---------------------------------------------------|-----------------------------------------|-----------------|-----------------|-----------------|------------------------------|-------|
|                                                   | 1 <sup>st</sup><br>(poorest)            | 2 <sup>nd</sup> | 3 <sup>rd</sup> | 4 <sup>th</sup> | 5 <sup>th</sup><br>(richest) |       |
| <i>Rural Sri Lanka (distribution by quintile)</i> |                                         |                 |                 |                 |                              |       |
| Distribution of gross cultivated area (%)         | 17.1                                    | 15.8            | 20.3            | 20.3            | 26.5                         | 100   |
| Distribution of gross irrigated area (%)          | 17.0                                    | 15.9            | 20.5            | 20.1            | 26.4                         | 100   |
| Distribution of major scheme irrigated area (%)   | 14.8                                    | 14.7            | 21.1            | 22.3            | 27.0                         | 100   |
| Distribution of minor scheme irrigated area (%)   | 24.1                                    | 18.0            | 16.0            | 15.5            | 26.3                         | 100   |
| <i>Average agricultural household</i>             |                                         |                 |                 |                 |                              |       |
| Gross irrigated land (acres)                      | 1.4                                     | 1.3             | 1.7             | 1.7             | 2.2                          | 1.7   |
| % irrigated to gross cultivated area              | 48.4                                    | 48.9            | 50.3            | 55.8            | 49.7                         | 50.6  |
| Distribution of gross irrigated area (%)          |                                         |                 |                 |                 |                              |       |
| Major scheme                                      | 34.0                                    | 44.9            | 46.9            | 50.1            | 43.3                         | 44.1  |
| Minor scheme                                      | 61.1                                    | 35.0            | 38.2            | 29.7            | 42.3                         | 40.8  |
| Lift irrigation                                   | 3.2                                     | 12.6            | 9.5             | 7.4             | 3.8                          | 7.3   |
| Well irrigation                                   | 1.8                                     | 7.4             | 5.4             | 12.8            | 10.5                         | 7.8   |
| Total                                             | 100                                     | 100             | 100             | 100             | 100                          | 100   |

Table A-6.6: Share of Monthly Household Income Sources, 2001/02

| Source of Income                             | Agricultural Households <sup>1</sup> | Paddy farmers | Tea/Rubber farmers | Fruit/Veg farmers | Coconut farmers | Other farmers | Other agricultural households | Non-agricultural households |
|----------------------------------------------|--------------------------------------|---------------|--------------------|-------------------|-----------------|---------------|-------------------------------|-----------------------------|
| <b>AGRICULTURAL INCOME</b>                   | 31.6%                                | 31.9%         | 47.4%              | 42.1%             | 21.6%           | 26.2%         | 34.3%                         | 0.0%                        |
| Field income                                 | 7.1%                                 | 19.6%         | 0.7%               | 21.5%             | 1.3%            | 5.6%          | 0.8%                          | 0.0%                        |
| Plantation income                            | 11.1%                                | 6.9%          | 41.3%              | 2.7%              | 16.8%           | 11.1%         | 0.6%                          | 0.0%                        |
| Livestock income                             | 1.1%                                 | 0.7%          | 0.1%               | 2.6%              | 0.5%            | 0.5%          | 2.7%                          | 0.0%                        |
| Fisheries income                             | 0.4%                                 | 0.0%          | 0.0%               | 0.0%              | 0.0%            | 0.0%          | 1.7%                          | 0.0%                        |
| Other agricultural income                    | 2.0%                                 | 1.5%          | 0.9%               | 1.8%              | 0.9%            | 4.1%          | 1.6%                          | 0.0%                        |
| Agricultural Labourers Salaries and Wages    | 9.8%                                 | 3.3%          | 4.4%               | 13.4%             | 2.1%            | 4.9%          | 27.0%                         | 0.0%                        |
| <b>NON-AGRICULTURAL INCOME</b>               | 41.9%                                | 43.3%         | 32.3%              | 30.5%             | 48.2%           | 43.8%         | 41.2%                         | 68.5%                       |
| Non-agricultural wages and salaries          | 31.7%                                | 32.5%         | 24.1%              | 23.6%             | 34.3%           | 33.2%         | 32.6%                         | 52.4%                       |
| Non-agricultural activity income             | 10.2%                                | 10.8%         | 8.2%               | 6.9%              | 14.0%           | 10.6%         | 8.6%                          | 16.1%                       |
| <b>TRANSFERS</b>                             | 5.1%                                 | 4.8%          | 4.4%               | 4.2%              | 6.7%            | 6.0%          | 3.8%                          | 5.2%                        |
| Samudhi/Food Stamps                          | 1.9%                                 | 1.8%          | 1.6%               | 2.7%              | 1.2%            | 2.1%          | 2.0%                          | 1.1%                        |
| Other cash receipts (pension and disability) | 3.2%                                 | 3.1%          | 2.8%               | 1.5%              | 5.5%            | 3.8%          | 1.8%                          | 4.1%                        |
| <b>REMITTANCES</b>                           | 2.6%                                 | 2.5%          | 1.6%               | 3.5%              | 1.8%            | 3.5%          | 2.3%                          | 3.0%                        |
| Aboard                                       | 1.4%                                 | 1.4%          | 0.9%               | 2.1%              | 1.1%            | 1.9%          | 1.3%                          | 2.4%                        |
| Local                                        | 1.1%                                 | 1.0%          | 0.6%               | 1.3%              | 0.7%            | 1.6%          | 1.1%                          | 0.6%                        |
| <b>OTHER INCOME</b>                          | 18.8%                                | 17.5%         | 14.3%              | 19.8%             | 21.7%           | 20.4%         | 18.4%                         | 23.2%                       |
| Sample size:                                 | 8454                                 | 1831          | 768                | 565               | 773             | 2033          | 2484                          | 4999                        |
| Poverty rate                                 | 24.1%                                | 20.3%         | 20.2%              | 30.3%             | 13.9%           | 24.5%         | 30.3%                         | 19.0%                       |

**Table A-6.7: Business Obstacles Identified as “Most Important” Constraint by Rural Enterprises**

|                              | Electricity | Financial infrastructure | Market Demand | Market Information | Road Access | Road Quality | Water Supply |
|------------------------------|-------------|--------------------------|---------------|--------------------|-------------|--------------|--------------|
| <b>Entire Sample</b>         | 25%         | 12%                      | 11%           | 6%                 | 8%          | 5%           | 7%           |
| <b>By Region</b>             |             |                          |               |                    |             |              |              |
| West and Central             | 16%         | 15%                      | 16%           | 3%                 | 6%          | 7%           | 8%           |
| North West and North Central | 31%         | 15%                      | 8%            | 3%                 | 17%         | 3%           | 5%           |
| South, Uva and Sabaragamuwa  | 23%         | 13%                      | 13%           | 3%                 | 10%         | 3%           | 4%           |
| North and East               | 38%         | 2%                       | 0%            | 18%                | 0%          | 8%           | 13%          |
| <b>By Industry</b>           |             |                          |               |                    |             |              |              |
| Production                   | 31%         | 8%                       | 6%            | 8%                 | 9%          | 6%           | 8%           |
| Service                      | 27%         | 15%                      | 11%           | 3%                 | 5%          | 3%           | 10%          |
| Trade                        | 19%         | 14%                      | 16%           | 5%                 | 10%         | 5%           | 5%           |
| <b>By Age</b>                |             |                          |               |                    |             |              |              |
| Less than 2 Years            | 20%         | 15%                      | 14%           | 5%                 | 11%         | 6%           | 9%           |
| 2-5 Years                    | 33%         | 13%                      | 10%           | 3%                 | 9%          | 7%           | 4%           |
| 5-10 Years                   | 23%         | 11%                      | 12%           | 7%                 | 7%          | 5%           | 10%          |
| More than 10 Years           | 24%         | 9%                       | 8%            | 9%                 | 7%          | 3%           | 8%           |
| <b>By Size</b>               |             |                          |               |                    |             |              |              |
| 1-2 Employees                | 25%         | 13%                      | 10%           | 7%                 | 9%          | 6%           | 8%           |
| 3-5 Employees                | 29%         | 11%                      | 13%           | 2%                 | 6%          | 2%           | 7%           |
| More than 5 Employees        | 26%         | 7%                       | 11%           | 2%                 | 5%          | 4%           | 3%           |
| <b>By Type</b>               |             |                          |               |                    |             |              |              |
| Household-based Enterprises  | 24%         | 8%                       | 9%            | 9%                 | 11%         | 7%           | 9%           |
| Stand-alone Enterprises      | 26%         | 15%                      | 12%           | 3%                 | 7%          | 4%           | 6%           |

Note: The numbers represent the percent of firms reporting the constraint as their most important constraint.

Source: Jin et al, 2005.



## Annex 7

### Tables referred to in Chapter 7

**Table A-7.1: Paddy Production 1980-2002**

|                          | Production (MT)  |                  |                  |                | % Share of Total |             |             |
|--------------------------|------------------|------------------|------------------|----------------|------------------|-------------|-------------|
|                          | 1980             | 1990             | 2000             | 2002           | 1980             | 1990        | 2000        |
| <b>Sri Lanka</b>         | <b>2,134,000</b> | <b>2,539,000</b> | <b>2,861,000</b> | <b>-</b>       | <b>100</b>       | <b>100</b>  | <b>100</b>  |
| <b>Northern Province</b> | <b>248,000</b>   | <b>137,000</b>   | <b>84,000</b>    | <b>181,947</b> | <b>11.6</b>      | <b>5.4</b>  | <b>3.0</b>  |
| Jaffna                   | 65,000           | 34,000           | 21,000           | 45,593         |                  | 1.3         | 0.7         |
| Kilinochchi              |                  | 43,000           | N.A.             | 36,165         | 3.0              | 1.7         | -           |
| Mannar                   | 115,000          | 33,000           | 19,000           | 25,914         | 5.4              | 1.3         | 0.7         |
| Mullaitivu               | 33,000           | 20,000           | 22,000           | 24,425         | 1.5              | 0.8         | 0.8         |
| Vavuniya                 | 36,000           | 7,000            | 22,000           | 49,850         | 1.7              | 0.3         | 0.8         |
| <b>Eastern Province</b>  | <b>439,000</b>   | <b>483,000</b>   | <b>602,000</b>   | <b>N.A.</b>    | <b>20.6</b>      | <b>19.0</b> | <b>21.0</b> |
| Ampara                   | 251,000          | 302,000          | 436,000          | N.A.           | 11.7             | 11.9        | 15.2        |
| Batticaloa               | 93,000           | 136,000          | 58,000           | 173,328        | 4.4              | 5.3         | 2.0         |
| Trincomalee              | 95,000           | 45,000           | 107,000          | 99,073         | 4.5              | 1.8         | 3.7         |

Source: Department of Census and Statistics (2003), unpublished data.

North East Provincial Council (2003:64)

Note: Kilinochchi and Mullaitivu data for 2000 and Trincomalee data for 1990 are estimates

**Table A-7.2: Fish Production 1980-2002**

|                          | Metric Ton     |                |                |                | % Share of Total |             |             |             |
|--------------------------|----------------|----------------|----------------|----------------|------------------|-------------|-------------|-------------|
|                          | 1980           | 1990           | 2000           | 2002           | 1980             | 1990        | 2000        | 2002        |
| <b>Sri Lanka</b>         | <b>167,410</b> | <b>145,790</b> | <b>267,680</b> | <b>273,280</b> | <b>100</b>       | <b>100</b>  | <b>100</b>  | <b>100</b>  |
| <b>Northern Province</b> | <b>66,580</b>  | <b>24,150</b>  | <b>8,190</b>   | <b>33,090</b>  | <b>39.8</b>      | <b>16.6</b> | <b>3.1</b>  | <b>12.1</b> |
| Jaffna                   | 41,310         | 14,450         | -              | 8,340          | 24.7             | 9.9         | N.A.        | 3.1         |
| Kilinochchi              | -              | -              | -              | -              | -                | -           | -           | -           |
| Mannar                   | 14,730         | 7,410          | -              | 20,930         | 8.8              | 5.1         | -           | 7.7         |
| Mullaitivu               | 10,540         | 2,290          | -              | 3,820          | 6.3              | 1.6         | -           | 1.4         |
| Vavuniya                 | -              | -              | -              | -              | -                | -           | -           | -           |
| <b>Eastern Province</b>  | <b>27,090</b>  | <b>23,210</b>  | <b>35,520</b>  | <b>51,870</b>  | <b>16.2</b>      | <b>15.9</b> | <b>13.3</b> | <b>19.0</b> |
| Ampara                   | -              | -              | -              | -              | -                | -           | -           | -           |
| Batticaloa               | 11,780         | 13,630         | 20,980         | 32,890         | 7.0              | 9.3         | 7.8         | 12.0        |
| Trincomalee              | 15,310         | 9,580          | 14,540         | 18,980         | 9.1              | 6.6         | 5.4         | 6.9         |

Source: Department of Census and Statistics (2003), unpublished data.

**Table A-7.3: NE Population Living in Refugee Camps as a Result of Conflict and Tsunami**

| District                 | Conflict (end 2003) | Tsunami (Jan 2005) |
|--------------------------|---------------------|--------------------|
| Ampara                   | 7,055               | 62,727             |
| Batticaloa               | 1,964 (end 2002)    | 26,827             |
| Trincomalee              | 4,630               | 19,515             |
| <b>Eastern Province</b>  | <b>13,649</b>       | <b>109,069</b>     |
| Jaffna                   | 8,194               | 10,198             |
| Kilinochchi              | 7,282 (end 2004)    | 305                |
| Mannar                   | 8,361 (end 2002)    | 0                  |
| Mullaitivu               | 8,529               | 11,993             |
| Vavuniya                 | 12,803              | 0                  |
| <b>Northern Province</b> | <b>45,169</b>       | <b>22,496</b>      |
| <b>Total</b>             | <b>58,818</b>       | <b>131,565</b>     |

Note: The figures for tsunami displaced in refugee camps may be inflated because of non-affected inmates as well.

Sources: Column 1- District Statistical Handbook, various districts, latest year available.

Column 2 - [http://www.tafren.gov.lk/pdf/ActionPlanDraft\\_new.pdf](http://www.tafren.gov.lk/pdf/ActionPlanDraft_new.pdf)

**Table A-7.4: Housing Conditions 2003/04**

|                                 | Western | Central | Southern | Northern | (a) Eastern | North Western | North Central | Uva  | Sabaragamuwa | Sri Lanka |
|---------------------------------|---------|---------|----------|----------|-------------|---------------|---------------|------|--------------|-----------|
| Type of ownership-own house     | 90.5    | 76.4    | 94.9     | 63.3     | 91.5        | 95.1          | 97.6          | 85.4 | 90.6         | 89.2      |
| Floor area per Person (Sq. Mt.) | 20.2    | 15.5    | 16.4     | 15.1     | 11.0        | 17.8          | 16.9          | 13.6 | 16.1         | 16.8      |
| Rooms per Person                | 1.2     | 1.0     | 1.0      | 0.8      | 0.8         | 1.2           | 1.1           | 1.0  | 1.0          | 1.1       |
| Wall Type - Bricks/Cement Block | 79.5    | 68.6    | 79.3     | 81.2     | 76.9        | 81.4          | 79.2          | 73.7 | 67.9         | 76.5      |
| Floor Type - Cement             | 84.4    | 73.2    | 80.3     | 81.1     | 79.6        | 81.0          | 65.3          | 63.6 | 75.4         | 77.9      |
| Roof Type -Tile/Asbestor        | 86.2    | 59.3    | 91.1     | 75.9     | 76.5        | 78.0          | 76.0          | 71.0 | 77.7         | 78.7      |

Source: The Consumer Finances and Socio Economic Survey Report 2003/04, Central Bank of Sri Lanka

(a) Excluding Killinochchi, Mannar and Mullaitivu

**Table A-7.5: Share of Selected Villages in Northeast by Level of Vulnerability 2004 (%)**

| DS divisions                | Extreme poverty: Code 5 | Very high poverty: Code 4 | High poverty: Code 3 | Poor: Code 2 | Lower poverty: Code 1 | Displaced Villages |
|-----------------------------|-------------------------|---------------------------|----------------------|--------------|-----------------------|--------------------|
| <b>Batticaloa District</b>  |                         |                           |                      |              |                       |                    |
| Koralaipattu South          | 60                      | 20                        | 8                    | 10           | 2                     | -                  |
| Koralaipattu North          | 55                      | 27                        | 10                   | 8            | -                     | -                  |
| <b>Trincomalee District</b> |                         |                           |                      |              |                       |                    |
| Eachchilampattai            | 58                      | 20                        | 4                    | -            | -                     | 18                 |
| Kuchchaveli                 | 43                      | 20                        | 10                   | 7            | 11                    | 10                 |
| <b>Mannar District</b>      |                         |                           |                      |              |                       |                    |
| Madhu                       | 40                      | 8                         | 14                   | 13           | 7                     | 18                 |
| Manthai West                | 32                      | 30                        | 20                   | 13           | 1                     | 4                  |
| <b>Vavuniya District</b>    |                         |                           |                      |              |                       |                    |
| Vavuniya North              | 38                      | 30                        | 21                   | 10           | 1                     | -                  |

Source: Centre for Information Resources Management (2004), Vulnerability Poverty Profile: Batticaloa District, December, North East Provincial Council, Trincomalee.

**Table A-7.6: Annual and Average GDP Growth Rates by Province 1997-2003**

|           | WESTERN | SOUTHERN | SABARAGAMUWA | CENTRAL | UVA    | EASTERN | NORTH WESTERN | NORTH CENTRAL | NORTHERN | SRI LANKA |
|-----------|---------|----------|--------------|---------|--------|---------|---------------|---------------|----------|-----------|
| 1997      | 7.7%    | 4.4%     | -9.9%        | 11.1%   | 4.9%   | 9.0%    | 13.1%         | -7.6%         | 20.7%    | 6.3%      |
| 1998      | 7.1%    | 10.3%    | -8.4%        | -1.9%   | 3.6%   | 16.1%   | 4.2%          | -4.9%         | 9.1%     | 4.7%      |
| 1999      | 12.3%   | 7.3%     | 0.4%         | -2.7%   | -14.1% | -4.8%   | -9.9%         | 20.2%         | -8.1%    | 4.3%      |
| 2000      | 7.9%    | 4.6%     | 10.4%        | 8.6%    | 1.9%   | -4.1%   | 6.5%          | -1.0%         | -9.1%    | 6.0%      |
| 2001      | -4.2%   | 1.3%     | -6.3%        | -1.9%   | 15.6%  | 8.2%    | 0.9%          | -5.6%         | 7.6%     | -1.5%     |
| 2002      | 3.7%    | 2.2%     | 11.0%        | 5.5%    | -4.0%  | 1.9%    | 0.3%          | 11.5%         | 17.0%    | 4.0%      |
| 2003      | 8.8%    | 8.7%     | -6.0%        | -0.7%   | 9.2%   | 19.1%   | -3.1%         | 5.0%          | 8.3%     | 6.0%      |
|           | AVERAGE |          |              |         |        |         |               |               |          |           |
| 1997-2001 | 6.0%    | 5.5%     | -3.0%        | 2.5%    | 1.9%   | 4.6%    | 2.7%          | -0.2%         | 3.4%     | 3.9%      |
| 2002-2003 | 6.2%    | 5.4%     | 2.1%         | 2.3%    | 2.4%   | 10.1%   | -1.4%         | 8.2%          | 12.6%    | 5.0%      |

Source: National Planning Department.

## Annex 8

### I. The evolution of ownership and management of estates

During the colonial period and first two decades of independence (1830 to 1972), the estates were owned by foreign (“sterling”) companies registered under British law or local (“rupee”) private companies registered under Sri Lankan law. Land was obtained through a series of Acts and Ordinances, which most often acquired land with little or no compensation paid to current owners/users. Labor was acquired through migrant labor from South India. Critics of this structure, even during the pre-independence period, saw it as an enclave of foreign capital, management and labor, which also deprived the rural population of their land and seriously affected their sustainability as peasant farmers.

**Nationalization:** These critiques culminated in the introduction of policies to end foreign ownership and unequal distribution of land. The Land Reform (Amendment) Law No.39 of 1975 resulted in the nationalization of all privately owned estates, with 417,957 acres of estate land owned or possessed by public companies vested in the Land Reform Commission. At the time, this represented about 63 percent of the country’s tea acreage, 32 percent of the rubber acreage and 11 percent of the coconut acreage. The management of these entities was handed over to government organizations. In 1976, the government established the Janatha Estate Development Board and the State Plantations Corporation for plantation-style management to exploit economies of scale.

**Re-privatization phase 1 (management):** On the recommendations of a task force, the government decided to restructure the state owned plantations in 1992. The first phase of the program transferred only the management aspects of plantation, granted at a nominal annual rent of Rs.500. The government created 23 state-owned Regional Plantation Companies (RPCs) where each RPC entered into an agreement with a private company, the Management Agent (MA), chosen through an open bid procedure, where only Sri Lankan bidders were allowed. The MAs were contracted for an initial period of 5 ½ years with provision for extending by further periods of 5 years subject to certain levels of profitability. However, due to the short-term nature of the lease agreements, the newly formed MAs found it difficult to raise money to run the plantations.

**Re-privatization phase 2 (selling controlling interest):** In February 1995, the newly elected government decided in favor of a fuller privatization of State Plantations. A program for the sale of controlling interests in the RPCs was announced in June 1995, with the following elements: (a) reduction of the lease period from 99 years to 50 years and the nominal lease rentals to be increased substantially from Rs.500 per year per estate and revised annually; (b) MAs of RPCs that had shown operational profits were eligible to purchase 51 per cent of the shares at the Colombo Stock Exchange market price on an all or nothing basis; (c) 20 per cent of the shares to be offered for sale to the general public; (d) 10 percent of the shares to be distributed free of charge among the employees of the RPCs; (e) the remaining to belong to the government for the time being; and (f) government to own a Golden Share in each RPC in order to exercise control over certain affairs.

## II. Asset index

Due to the lack of consumption information in the survey, Asset Index is used to capture the well-being of estate households.<sup>1</sup> The principal component method is used to choose appropriate weights of household assets for the index (Filmer and Pritchett, 2001). The basic idea of principal component is to find a linear combination of the asset variables that contains the most information. The assets used are listed in the footnote.<sup>2</sup> The Asset Index (AI) performs well in terms of robustness, internal coherence and external validity. The asset index is proven to be robust to the choice of assets since the ranking of households do not change much after excluding certain assets. The Spearman rank correlations of the base case asset index (including all assets) and other indices (calculated with more limited number of assets) are high and significant in all cases. The internal coherence of the Asset Index is shown by the fact that households in the higher AI quintile own more assets. External validity can be shown by comparing the Asset Index to household attributes that are conventionally correlated with poverty such as education. Households in higher AI-quintiles have higher education attainment.

## III. Survey Methodology

The quantitative survey was conducted between October and December, while the qualitative study filed work was carried out between March and May of 2005. The surveys cover estate sector, defined by the DCS as plantation areas of more than 20 acres in extent that have at least 10 residential labourers. The quantitative survey covered more estates and households, while the qualitative survey employed more instruments and hold in-dept interviews with various stake holders. Differences between methodologies of the two surveys are summarized below.

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<sup>1</sup> The asset index, or the first principal component, is expressed as

$$AssetIndex_i = \sum_{k=1}^K s_k (a_{ki} - \bar{a}_k) / s_k, \text{ where } a_{ki} \text{ is the value of asset } k \text{ that household } i \text{ has, } \bar{a}_k \text{ is the}$$

mean, and  $s_k$  is the standard deviation of the asset  $k$ .

<sup>2</sup> Own vehicle ; Own motorcycle; Own TV; Own radio or recorder; Own VCR/VCD Player; Own refrigerator; Own telephone (land or cellular); Own sewing machine; Number of water buffaloes; Number of cows; Number of goats ; Number of pigs; Number of poultry; Own farm with title; Own farm with grant or permit; Own farm without document; Own home plot with title; Own home plot with grant or permit; Own home plot without document; Own dwelling with title; Own dwelling with grant or permit; Own dwelling without document; Number of rooms; Dwelling type-Line room (DB); Dwelling type-Line room (SB); Dwelling type-Twin cottage; Dwelling type-Separate house; Dwelling type-Temporary Shed; Dwelling type-Upstairs Barrack; Cooking fuel-Firewood; Cooking fuel-Sawdust/paddy husk; Cooking fuel-Kerosene; Cooking fuel-Gas; Cooking fuel-Electricity; Wall-Brick; Wall-Mud; Wall-Wood; Wall-Metal sheet; Roof-Concrete; Roof-Tile; Roof-Tin sheet; Roof-Asbestos; Roof-Cadjan/palmyrah/thatch; Floor-Terrazzo/ tile; Floor-Cement; Floor-Wood; Floor-Dung/mud; Floor-Sand; Amenities-Electricity - Main grid; Amenities-Electricity - Non grid; Amenities-Own toilet; Amenities-Home garden plot; Source of drinking water-Inside well; Source of drinking water-Outside well; Source of drinking water-Unprotected well; Source of drinking water-Tube well; Source of drinking water-Public tap; Source of drinking water-Inside tap; Source of drinking water-River/tank; Toilet-Water seal; Toilet-Pour flush; Toilet-Pit; Toilet-Bucket latrine. Most asset variables take 0 and 1 values, unless indicated otherwise.

|                              | Qualitative Survey                                                                                                                                                                                                                                                                  | Quantitative Survey                                                                                                                                                                                                                                                                                                                   |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of estates            | 20 estates*                                                                                                                                                                                                                                                                         | 50 estates divided into 100 PSUs**                                                                                                                                                                                                                                                                                                    |
| Number of households         | 157 households                                                                                                                                                                                                                                                                      | 1030 households (1007 responded)                                                                                                                                                                                                                                                                                                      |
| Methodology                  | 3-stage sampling Level 1: district (poverty and spread of crops), Level 2: estate (based on management type, size, remoteness, and profile of labor), Level 3: household (stratify HH in selected estates into 3 categories: 'bottom', 'medium' and 'top' based on FGD assessment). | 50 estates were selected purposively from 5 districts with significant estate activity based on management type, and crop and remoteness. The DCS then applied the stratification and drew a sample of 100 PSUs from a total of 668 census blocks in the 50 estates. About 10 households per PSU were randomly drawn and interviewed. |
| Coverage: Crop               | 10 estates for each crop, over-sampled rubber estates.                                                                                                                                                                                                                              | 35 tea and 15 rubber estates, reflecting greater extent of tea estates in Sri Lanka.                                                                                                                                                                                                                                                  |
| Coverage: Districts          | Nuwara Eliya, Badulla, Kandy, Ratnapura, Kegalle and Kalutara                                                                                                                                                                                                                       | Nuwara Eliya, Badulla, Kandy, Ratnapura, and Kegalle                                                                                                                                                                                                                                                                                  |
| Coverage: Management type    | More private estates than in the quantitative survey                                                                                                                                                                                                                                | Only 4 private estates in Kandy and Ratnapura districts, out of the initial 50 estates.                                                                                                                                                                                                                                               |
| Coverage of resident workers | FGD may cover non-resident estate workers                                                                                                                                                                                                                                           | Only households located in the estates                                                                                                                                                                                                                                                                                                |
| Survey Instruments           | Office Based Information, Community Time Line, Female FGD, Male FGD, Youth FGD, Individual Life Story, and Additional Key Person Interviews.                                                                                                                                        | Household questionnaire (by a respondent within the households) and community questionnaire (by key informants). Certain topics are answered by the female household heads or spouses of heads.                                                                                                                                       |
| Remark                       | <i>The sample estates in the qualitative survey are a subset of the quantitative survey, with the exception of seven estates that do not overlap with the quantitative sample.</i>                                                                                                  |                                                                                                                                                                                                                                                                                                                                       |

Note: Number of estates. Initially, 50 estates were selected; however, the survey was conducted in fewer estates because of the difficulty in identifying small, privately owned estates. This problem resulted in the small sample size of households in privately managed estates.

\*For the community-level data collection in large estates, an estate division was defined as a 'community'; in small and medium estates, respondents viewed the entire estate as a 'community'.

\*\*In the final data set, the household survey was conducted in about 106 PSUs.

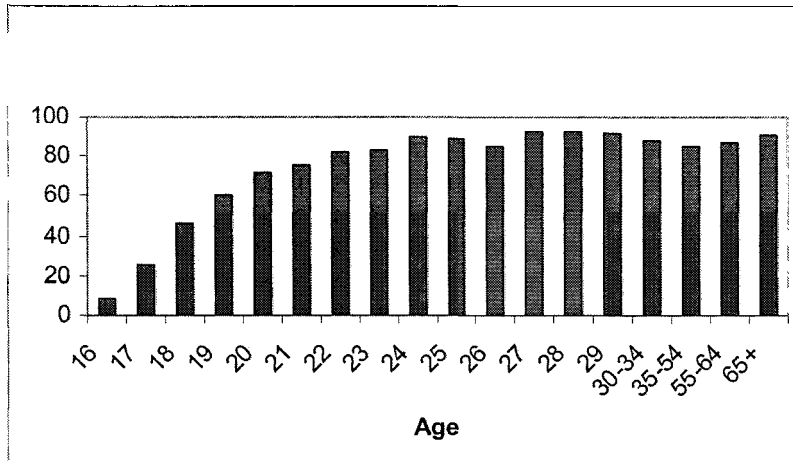


Figure A-8.2: Percentage of migrants to estate population by age group

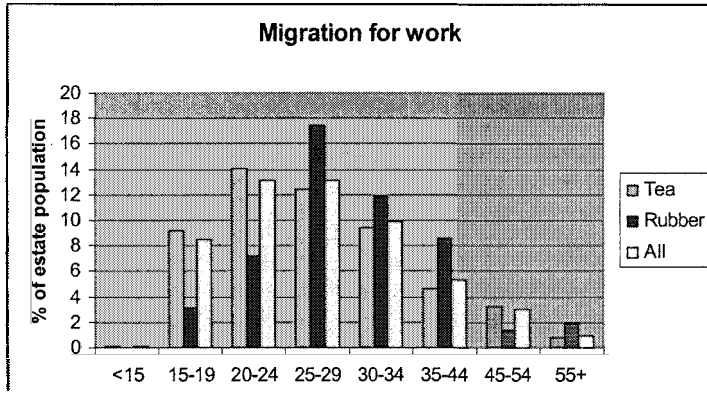
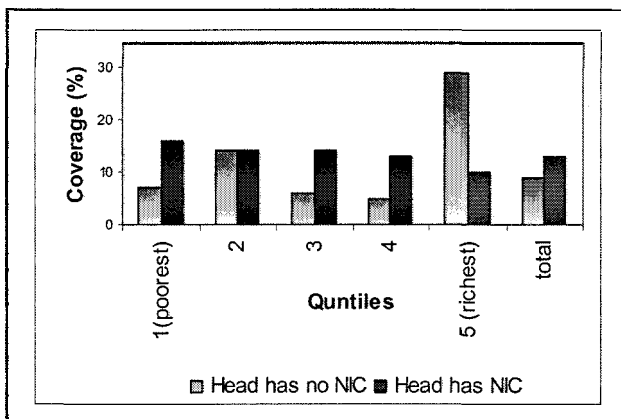


Figure A-8.3: Coverage of transfers by NIC



Source: MOP Estate quantitative survey (2005)

**Table A-8.1: Poverty profile: Multivariate regression results**

|                                                   | (1)<br>OLS         | (2)<br>Probit      | (3)<br>OLS         |
|---------------------------------------------------|--------------------|--------------------|--------------------|
| Estate's major crop is rubber                     | 0.081<br>(0.62)    | 0.099<br>(1.32)    | 0.093<br>(0.70)    |
| Estate's management: State                        | 0.417<br>(1.06)    | 0.836<br>(20.63)** | 0.357<br>(0.90)    |
| Estate's management: Private                      | 0.391<br>(2.03)*   | -0.201<br>(2.65)** | 0.415<br>(2.11)*   |
| District dummy: Kandy                             | -0.153<br>(0.40)   | -0.363<br>(.)      | -0.102<br>(0.27)   |
| District dummy: Nuwara                            | 0.280<br>(4.19)**  | -0.065<br>(1.67)   | 0.302<br>(4.27)**  |
| District dummy: Ratnapura                         | -0.352<br>(3.10)** | 0.252<br>(3.63)**  | -0.376<br>(3.16)** |
| District dummy: Kagalle                           | -0.395<br>(2.62)** | 0.134<br>(1.52)    | -0.405<br>(2.64)** |
| Road passable all year                            | 0.186<br>(3.31)**  | -0.098<br>(2.95)** | 0.185<br>(3.25)**  |
| Distance to the nearest town (Km)                 |                    |                    | -0.004<br>(0.76)   |
| HH size                                           | 0.093<br>(6.32)**  | -0.058<br>(6.00)** | 0.097<br>(6.04)**  |
| Head edu: grade 6-9                               | 0.356<br>(6.14)**  | -0.128<br>(3.96)** | 0.350<br>(6.04)**  |
| Head edu: O level or above                        | 1.251<br>(11.98)** | -0.242<br>(5.19)** | 1.254<br>(11.95)** |
| Head's age                                        | 0.006<br>(2.76)**  | -0.004<br>(2.63)** | 0.006<br>(2.41)*   |
| Head has National ID                              | 0.306<br>(3.71)**  | -0.160<br>(3.20)** | 0.291<br>(3.52)**  |
| Prop. Of female FM                                | -0.178<br>(1.44)   | -0.015<br>(0.21)   | -0.171<br>(1.38)   |
| Head is Indian Tamil                              | -0.129<br>(2.03)*  | -0.010<br>(0.26)   | -0.151<br>(2.33)*  |
| Live in estate over 20 years                      | -0.172<br>(2.50)*  | 0.063<br>(1.55)    | -0.180<br>(2.61)** |
| Prop. of employed FM                              |                    |                    | 0.078<br>(0.60)    |
| Dependency ratio                                  | -0.135<br>(3.16)** | 0.073<br>(2.98)**  | -0.125<br>(2.73)** |
| Dummy: HH has migrant(s) working abroad           | 0.416<br>(3.13)**  | -0.066<br>(0.95)   | 0.399<br>(3.00)**  |
| HH receive income from estate wages and salaries  |                    |                    | -0.140<br>(2.05)*  |
| HH receive income from outside wages and salaries |                    |                    | 0.018<br>(0.32)    |
| HH receive income from entrepreneurial sources    | 0.308<br>(3.63)**  | -0.155<br>(3.16)** | 0.295<br>(3.44)**  |
| HH is member of trade unions or political parties |                    |                    | 0.063              |

|                                                    |                    |                    |                    |
|----------------------------------------------------|--------------------|--------------------|--------------------|
|                                                    |                    |                    | (0.90)             |
| HH participated in housing program(s) (dummy)      | 0.298<br>(4.19)**  | -0.157<br>(3.88)** | 0.236<br>(3.00)**  |
| HH participated in other social program(s) (dummy) |                    |                    | 0.085<br>(1.44)    |
| Constant                                           | -1.050<br>(5.85)** |                    | -0.998<br>(4.60)** |
| Observations                                       | 951                | 951                | 951                |
| R-squared                                          | 0.30               |                    | 0.31               |

Note: \* significant at 5%; \*\* significant at 1% Absolute value of t statistics in parentheses "Prop. of emp. FM" refers to proportion of employed family members. OLS: Ordinary Least Squared Note: Model (1) is the main regression where all the essential attributes are regressed against asset index, the dependent variable, with OLS. Model (2) employs the same right hand side variables, but use poverty status (0-1) as dependent variable. Reported values in Model (2) are marginal effects or probability of getting out of poverty. Badulla is the omitted district; therefore, the coefficients are changes in welfare compared to Badulla.

**Table A-8.2: Labor market and education outcomes of estate population by NIC status**

|                    |                     | <i>Age Group</i> |              |              |              |              |              |
|--------------------|---------------------|------------------|--------------|--------------|--------------|--------------|--------------|
|                    |                     | <i>16-19</i>     | <i>20-24</i> | <i>25-34</i> | <i>35-54</i> | <i>55-64</i> | <i>Total</i> |
| NIC obtainment (%) |                     | 35               | 80           | 89           | 85           | 87           | 79           |
| <i>Education</i>   |                     |                  |              |              |              |              |              |
| No NIC             | Grade 6-9 (%)       | 68               | 54           | 24           | 22           | 14           | 45           |
|                    | O level or more (%) | 18               | 5            | 1            | 2            | 4            | 9            |
| With NIC           | Grade 6-9 (%)       | 59               | 54           | 49           | 33           | 21           | 40           |
|                    | O level or more (%) | 32               | 28           | 16           | 8            | 6            | 14           |
| Total              | Grade 6-9 (%)       | 65               | 54           | 46           | 31           | 20           | 41           |
|                    | O level or more (%) | 22               | 24           | 14           | 7            | 6            | 13           |
| <i>Employment</i>  |                     |                  |              |              |              |              |              |
| No NIC             | Employment (%)      | 28               | 65           | 94           | 81           | 41           | 56           |
|                    | Unemployment (%)    | 7                | 14           | 3            | 2            | 2            | 6            |
|                    | Days worked         | 6                | 13           | 18           | 16           | 7            | 11           |
| With NIC           | Employment (%)      | 35               | 62           | 87           | 86           | 48           | 74           |
|                    | Unemployment (%)    | 11               | 14           | 4            | 1            | 1            | 4            |
|                    | Days worked         | 7                | 13           | 19           | 18           | 9            | 16           |
| Total              | Employment (%)      | 31               | 63           | 88           | 85           | 47           | 70           |
|                    | Unemployment (%)    | 8                | 14           | 4            | 1            | 1            | 4            |
|                    | Days worked         | 6                | 13           | 19           | 18           | 9            | 15           |
| <i>Earnings</i>    |                     |                  |              |              |              |              |              |
| No NIC             | Outside earnings    | 469              | 520          | 645          | 663          | 618          | 559          |
|                    | Estate earnings     | 426              | 1,468        | 1,921        | 1,789        | 411          | 1,093        |
|                    | Total earnings      | 895              | 1,988        | 2,566        | 2,451        | 1,029        | 1,652        |
| With NIC           | Outside earnings    | 907              | 1,140        | 1,583        | 1,108        | 835          | 1,178        |
|                    | Estate earnings     | 358              | 896          | 1,666        | 1,882        | 1,007        | 1,465        |
|                    | Total earnings      | 1,265            | 2,036        | 3,249        | 2,989        | 1,842        | 2,643        |
| Total              | Outside earnings    | 623              | 1,019        | 1,480        | 1,041        | 806          | 1,046        |
|                    | Estate earnings     | 402              | 1,008        | 1,694        | 1,868        | 929          | 1,386        |
|                    | Total earnings      | 1,025            | 2,027        | 3,174        | 2,909        | 1,736        | 2,433        |

Note: Outside earnings refer to earnings from works outside estates. Earnings are in Rupees per month. Days worked refer to number of days worked last month.



**Table A-8.3: Labor market profile of estate population**

|                                          | <i>Total Earnings</i> | <i>Total days</i> | <i>% O/L +</i> | <i>% of workers</i> |
|------------------------------------------|-----------------------|-------------------|----------------|---------------------|
| <b>Work status of primary employment</b> |                       |                   |                |                     |
| Estate-casual                            | 3,327                 | 23                | 2.9            | 56.79               |
| Estate-regular                           | 4,210                 | 24                | 21.6           | 9.45                |
| Inside-casual                            | 3,222                 | 21                | 11.6           | 2.2                 |
| Outside-casual                           | 3,693                 | 19                | 10.2           | 15.07               |
| Outside-regular                          | 5,000                 | 24                | 27.3           | 10.11               |
| Inside-self                              | 6,993                 | 24                | 26.8           | 2.86                |
| Outside-self                             | 4,652                 | 25                | 21.0           | 3.17                |
| Employer                                 | 24,000                | 28                | 57.1           | 0.36                |
| All workers                              | 3,853                 | 22                | 9.9            | 100                 |
| <b>Estate job category</b>               |                       |                   |                |                     |
| Factory                                  | 3,238                 | 23                | 6.1            | 12.63               |
| Field                                    | 3,262                 | 23                | 3.0            | 75.52               |
| Sundry                                   | 4,486                 | 24                | 4.5            | 6.77                |
| Supervisor                               | 5,433                 | 27                | 51.4           | 2.69                |
| Other                                    | 5,817                 | 26                | 35.5           | 2.39                |
| All estate workers                       | 3,462                 | 23                | 5.5            | 100                 |
| <b>Non-estate sector</b>                 |                       |                   |                |                     |
| Agriculture                              | 4,003                 | 20                | 9.5            | 30.13               |
| Industry                                 | 4,303                 | 22                | 16.8           | 20.54               |
| Trade                                    | 4,757                 | 25                | 17.8           | 21.89               |
| Service                                  | 5,711                 | 23                | 26.8           | 27.44               |
| All non-estate workers                   | 4,698                 | 22                | 17.5           | 100                 |

*Note:* Services sector includes workers in "other" industries. Total earnings include earnings of the workers from all sources, be it primary, secondary or estate works. "% O/L +" refers to percentage of worker who attain O level or higher education. Tabulation is based on population 15 years and over who are gainfully employed (i.e. H108 category 1 to 8).

**Table A-8.4: Profile of estate households with migrants**

|                |                  | Destination |        |      |
|----------------|------------------|-------------|--------|------|
|                |                  | Urban       | Abroad | All* |
| Size of estate |                  |             |        |      |
|                | Smaller than 150 | 16          | 1      | 17   |
|                | 151-250 acres    | 16          | 3      | 20   |
|                | 251-500 acres    | 13          | 5      | 18   |
|                | Larger than 500  | 2           | 8      | 11   |
| District       |                  |             |        |      |
|                | Badulla          | 6           | 1      | 7    |
|                | Kandy            | 12          | 10     | 24   |
|                | Kegalle          | 6           | 12     | 19   |
|                | Nuwara Eliya     | 26          | 3      | 29   |
|                | Ratnapura        | 3           | 3      | 7    |
| Management     |                  |             |        |      |
|                | RPC              | 13          | 4      | 17   |
|                | State            | 14          | 12     | 27   |

|                                          |    |    |    |
|------------------------------------------|----|----|----|
| Private                                  | 3  | 0  | 3  |
| Major crop                               |    |    |    |
| Tea                                      | 14 | 3  | 18 |
| Rubber                                   | 5  | 10 | 17 |
| Ethnicity of head                        |    |    |    |
| Sinhala                                  | 3  | 2  | 6  |
| Sri Lankan Tamil                         | 14 | 8  | 23 |
| Indian Tamil                             | 14 | 3  | 18 |
| Muslim                                   | 0  | 0  | 0  |
| Head has National ID card                |    |    |    |
| No                                       | 12 | 4  | 20 |
| Yes                                      | 13 | 4  | 17 |
| Head of household's education attainment |    |    |    |
| No schooling                             | 11 | 4  | 18 |
| Grade 1 – 5                              | 15 | 5  | 20 |
| Grade 6 – 9                              | 11 | 3  | 13 |
| O level                                  | 17 | 2  | 21 |
| A level and beyond                       | 12 | 0  | 12 |
| Total                                    | 13 | 4  | 17 |

*Note:* Migrants refer to individuals who used to live in households in the past 5 years, migrated for work only\*. "All" includes a small group of households whose migrants work in rural areas.

**Table A-8.5: Coefficients of migration and remittance variables on asset index**

Dependent Variable: Asset Index (AI)

|                                         | Urban Migration  |                  | Overseas Migration |                   |
|-----------------------------------------|------------------|------------------|--------------------|-------------------|
|                                         | (1)              | (2)              | (3)                | (4)               |
| Work in urban areas                     | -0.121<br>(1.51) | 0.021<br>(0.14)  |                    |                   |
| Work in urban areas and remit regularly |                  | -0.192<br>(1.13) |                    |                   |
| Work abroad                             |                  |                  | 0.431<br>(3.20)**  | 0.071<br>(0.37)   |
| Work abroad and remit regularly         |                  |                  |                    | 0.684<br>(2.65)** |
| Observations                            | 970              | 970              | 970                | 970               |
| R-squared                               | 0.27             | 0.27             | 0.28               | 0.28              |

*Note:* OLS regression coefficients of migration and remittance variables on asset index. The following explanatory variables are used in all models: *Crop*; *Estate management*: State; *District dummies*: Nuwara Eliya, Ratnapura, Kegalle; *HH size*; *Head's education*: grade 6-9, O level or above; *Head's age*; *Head has National ID*; *Head is Indian Tamil*; *Length of residency* > 20 years; and *Road passable all year*.

**Table A-8.6: Probit regression of likelihood of an estate household having a migrant**

|                              | Urban Migration   | Overseas Migration |
|------------------------------|-------------------|--------------------|
|                              | (1)               | (2)                |
| Estate's management: State   | 0.535<br>(2.08)*  | 1.471<br>(4.03)**  |
| District dummy: Nuwara Eliya | 1.048<br>(6.74)** | 0.643<br>(2.05)*   |

|                                        |                    |                    |
|----------------------------------------|--------------------|--------------------|
| District dummy: Ratnapura              | -0.079<br>(0.31)   | 0.701<br>(1.89)    |
| District dummy: Kagalle                | 0.155<br>(0.64)    | 1.598<br>(4.93)**  |
| HH size                                | 0.277<br>(8.08)**  | 0.186<br>(3.81)**  |
| Head edu: grade 6-9                    | 0.012<br>(0.09)    | -0.185<br>(0.92)   |
| Head edu: O level or above             | 0.465<br>(2.02)*   | -0.708<br>(1.50)   |
| Head's age                             | -0.001<br>(0.23)   | -0.015<br>(1.88)   |
| Head has National ID                   | -0.267<br>(1.42)   | 0.144<br>(0.52)    |
| Head is Indian Tamil                   | -0.113<br>(0.77)   | -0.097<br>(0.50)   |
| Live in estate over 20 years           | 0.356<br>(2.12)*   | 0.157<br>(0.68)    |
| Prop. of female FM                     | 1.216<br>(4.02)**  | -0.424<br>(1.01)   |
| Presence of children aged 6 or younger | -0.650<br>(4.34)** | -0.292<br>(1.48)   |
| Presence of children aged 7-14         | -0.560<br>(4.07)** | -0.119<br>(0.62)   |
| Presence of FM aged 65 or more         | -0.063<br>(0.40)   | 0.209<br>(0.97)    |
| Constant                               | -3.271<br>(7.60)** | -2.606<br>(4.59)** |
| Observations                           | 1002               | 1002               |

Absolute value of z statistics in parentheses; \* significant at 5%; \*\* significant at 1%

Note: Household size before migration is the sum of current household size and number of migrants.

Dependent variables: (1) urban migration: household has any migrant(s) working in urban Sri Lanka;  
(2) overseas migration: household has any migrant(s) working abroad.

**Table A-8.7: Characteristics of households by migration destination and remittance**

| Destination<br>Remit regularly | Urban Sri Lanka |       |       | Abroad |       |       | No<br>migration |
|--------------------------------|-----------------|-------|-------|--------|-------|-------|-----------------|
|                                | Yes             | No    | Total | Yes    | No    | Total |                 |
| Asset Index                    | -0.02           | 0.04  | -0.01 | 0.56   | -0.19 | 0.20  | -0.02           |
| AI-Poverty rate (%)            | 22              | 28    | 23    | 25     | 42    | 33    | 31              |
| Earnings per worker            | 3560            | 3644  | 3581  | 4377   | 3842  | 4116  | 3469            |
| Earnings per capita            | 1740            | 2215  | 1858  | 2087   | 1674  | 1886  | 1796            |
| Total HH earnings              | 6597            | 10068 | 7458  | 8649   | 7973  | 8320  | 7220            |
| % HH members who work:         |                 |       |       |        |       |       |                 |
| off-estate in agriculture      | 6               | 8     | 6     | 3      | 14    | 8     | 10              |
| off-estate in industry         | 6               | 15    | 8     | 16     | 8     | 12    | 5               |
| off-estate in trade            | 7               | 4     | 6     | 7      | 16    | 11    | 5               |
| off-estate in services         | 4               | 14    | 6     | 8      | 10    | 9     | 3               |
| estate casual employees        | 59              | 36    | 53    | 47     | 15    | 32    | 51              |

|                                      |    |    |    |    |    |    |    |
|--------------------------------------|----|----|----|----|----|----|----|
| estate regular employees             | 1  | 6  | 3  | 13 | 18 | 15 | 10 |
| estate: total                        | 60 | 42 | 56 | 60 | 33 | 47 | 62 |
| % of HH head attained:               |    |    |    |    |    |    |    |
| grade 1-5 edu.                       | 56 | 34 | 50 | 60 | 53 | 56 | 43 |
| grade 6-9 edu.                       | 20 | 44 | 26 | 25 | 21 | 23 | 33 |
| O/L or better                        | 9  | 9  | 9  | 0  | 5  | 3  | 7  |
| % highest edu in HH is O/L or better | 23 | 19 | 22 | 20 | 11 | 15 | 22 |

**Table A-8.8: Percentages of households receiving cash transfer (Samurdhi/social welfare)**

|                                          | Asset index quintile |    |    |    |             | Total |
|------------------------------------------|----------------------|----|----|----|-------------|-------|
|                                          | 1 (poorest)          | 2  | 3  | 4  | 5 (richest) |       |
| Size of estate                           |                      |    |    |    |             |       |
| Smaller than 150                         | 8                    | 15 | 20 | 15 | 9           | 13    |
| 151-250 acres                            | 20                   | 10 | 12 | 9  | 4           | 11    |
| 251-500 acres                            | 14                   | 17 | 8  | 10 | 6           | 12    |
| Larger than 500                          | 8                    | 13 | 21 | 17 | 9           | 13    |
| District                                 |                      |    |    |    |             |       |
| Kandy                                    | 13                   | 0  | 13 | 36 | 40          | 23    |
| Nuwara Eliya                             | 0                    | 0  | 5  | 0  | 0           | 1     |
| Badulla                                  | 26                   | 15 | 15 | 23 | 20          | 19    |
| Ratnapura                                | 29                   | 39 | 32 | 17 | 11          | 28    |
| Kegalle                                  | 4                    | 13 | 8  | 9  | 11          | 8     |
| Management                               |                      |    |    |    |             |       |
| RPC                                      | 13                   | 14 | 13 | 12 | 7           | 12    |
| State                                    | 13                   | 0  | 18 | 40 | 42          | 25    |
| Private                                  | 33                   | 25 | 9  | 0  | 0           | 13    |
| Major crop                               |                      |    |    |    |             |       |
| Tea                                      | 17                   | 12 | 11 | 12 | 10          | 12    |
| Rubber                                   | 7                    | 19 | 30 | 19 | 13          | 15    |
| Ethnicity of head                        |                      |    |    |    |             |       |
| Sinhala                                  | 20                   | 25 | 30 | 20 | 11          | 17    |
| Sri Lankan Tamil                         | 15                   | 27 | 14 | 19 | 27          | 20    |
| Indian Tamil                             | 12                   | 9  | 12 | 10 | 7           | 10    |
| Muslim                                   | 100                  |    |    | 33 | 20          | 33    |
| Head has National ID card                |                      |    |    |    |             |       |
| No                                       | 7                    | 14 | 6  | 5  | 29          | 9     |
| Yes                                      | 16                   | 14 | 14 | 13 | 10          | 13    |
| Head of household's education attainment |                      |    |    |    |             |       |
| No schooling                             | 13                   | 18 | 14 | 18 | 22          | 16    |
| Grade 1 – 5                              | 14                   | 12 | 11 | 13 | 7           | 12    |
| Grade 6 – 9                              | 16                   | 15 | 14 | 10 | 15          | 14    |
| O level                                  | 0                    | 0  | 29 | 17 | 3           | 8     |
| A level and beyond                       | 0                    | 0  | 50 | 0  | 0           | 4     |
| Total                                    | 14                   | 14 | 13 | 13 | 10          | 13    |

**Table A-8.9: Access to social programs (%)**

|                  | Housing | Water/toilet | Training | Microcredit | Crech | ECD | None |
|------------------|---------|--------------|----------|-------------|-------|-----|------|
| Size of estate   |         |              |          |             |       |     |      |
| Smaller than 150 | 51      | 68           | 60       | 44          | 25    | 28  | 25   |
| 151-250 acres    | 59      | 74           | 50       | 35          | 38    | 36  | 8    |
| 251-500 acres    | 47      | 71           | 35       | 36          | 41    | 50  | 12   |
| Larger than 500  | 54      | 86           | 31       | 21          | 61    | 61  | 0    |
| District         |         |              |          |             |       |     |      |
| Kandy            | 55      | 71           | 15       | 45          | 41    | 30  | 0    |
| Nuwara Eliya     | 37      | 55           | 57       | 30          | 27    | 30  | 17   |
| Badulla          | 59      | 72           | 31       | 25          | 22    | 50  | 19   |
| Ratnapura        | 56      | 94           | 57       | 86          | 69    | 56  | 0    |
| Kegalle          | 58      | 100          | 42       | 25          | 68    | 34  | 0    |
| Management       |         |              |          |             |       |     |      |
| RPC              | 50      | 72           | 47       | 36          | 38    | 42  | 13   |
| State            | 49      | 68           | 17       | 51          | 34    | 34  | 0    |
| Private          | 74      | 100          | 26       | 51          | 49    | 29  | 0    |
| Major crop       |         |              |          |             |       |     |      |
| Tea              | 49      | 68           | 42       | 35          | 31    | 40  | 14   |
| Rubber           | 61      | 95           | 57       | 49          | 73    | 44  | 0    |
| Total            | 51      | 73           | 44       | 38          | 38    | 41  | 12   |

*Note:* The table shows percentages of households living in community where the social programs exist. ECD refers to early childhood development program. None refers to communities where none of the social program exists.

**Table A-8.10: Participation by households in social programs (%)**

|                   | Housing | Water/toilet | Training | Microcredit | Crech | ECD | None |
|-------------------|---------|--------------|----------|-------------|-------|-----|------|
| Size of estate    |         |              |          |             |       |     |      |
| Smaller than 150  | 13      | 21           | 13       | 7           | 7     | 7   | 64   |
| 151-250 acres     | 18      | 26           | 12       | 8           | 11    | 9   | 55   |
| 251-500 acres     | 18      | 23           | 8        | 9           | 12    | 14  | 48   |
| Larger than 500   | 13      | 28           | 6        | 10          | 19    | 14  | 51   |
| District          |         |              |          |             |       |     |      |
| Kandy             | 12      | 26           | 2        | 11          | 11    | 3   | 50   |
| Nuwara Eliya      | 16      | 18           | 16       | 5           | 8     | 8   | 59   |
| Badulla           | 19      | 26           | 6        | 3           | 8     | 12  | 57   |
| Ratnapura         | 14      | 28           | 11       | 36          | 21    | 19  | 35   |
| Kegalle           | 9       | 30           | 6        | 3           | 14    | 6   | 58   |
| Management        |         |              |          |             |       |     |      |
| RPC               | 16      | 24           | 11       | 9           | 11    | 11  | 54   |
| State             | 10      | 25           | 2        | 12          | 10    | 3   | 49   |
| Private           | 12      | 21           | 9        | 24          | 9     | 9   | 51   |
| Major crop        |         |              |          |             |       |     |      |
| Tea               | 16      | 23           | 11       | 8           | 10    | 11  | 54   |
| Rubber            | 13      | 28           | 8        | 15          | 17    | 10  | 52   |
| Ethnicity of head |         |              |          |             |       |     |      |
| Sinhala           | 13      | 17           | 7        | 13          | 11    | 10  | 61   |
| Sri Lankan Tamil  | 18      | 24           | 3        | 5           | 10    | 9   | 56   |
| Indian Tamil      | 15      | 25           | 13       | 10          | 11    | 11  | 52   |
| Muslim            | 10      | 10           | 0        | 20          | 0     | 10  | 60   |

|                                          |    |    |    |    |    |    |    |
|------------------------------------------|----|----|----|----|----|----|----|
| Head has National ID card                |    |    |    |    |    |    |    |
| No                                       | 18 | 25 | 7  | 9  | 9  | 9  | 55 |
| Yes                                      | 15 | 24 | 11 | 10 | 11 | 11 | 54 |
| Head of household's education attainment |    |    |    |    |    |    |    |
| No schooling                             | 17 | 25 | 11 | 8  | 9  | 11 | 56 |
| Grade 1 – 5                              | 15 | 24 | 10 | 8  | 10 | 11 | 54 |
| Grade 6 – 9                              | 15 | 25 | 9  | 12 | 13 | 11 | 50 |
| O level                                  | 12 | 19 | 10 | 13 | 12 | 4  | 60 |
| A level and beyond                       | 25 | 21 | 21 | 17 | 13 | 13 | 67 |
| Total                                    | 15 | 24 | 10 | 10 | 11 | 11 | 54 |

Note: ECD refers to early childhood development program. None refers to households that did not participated in any programs.