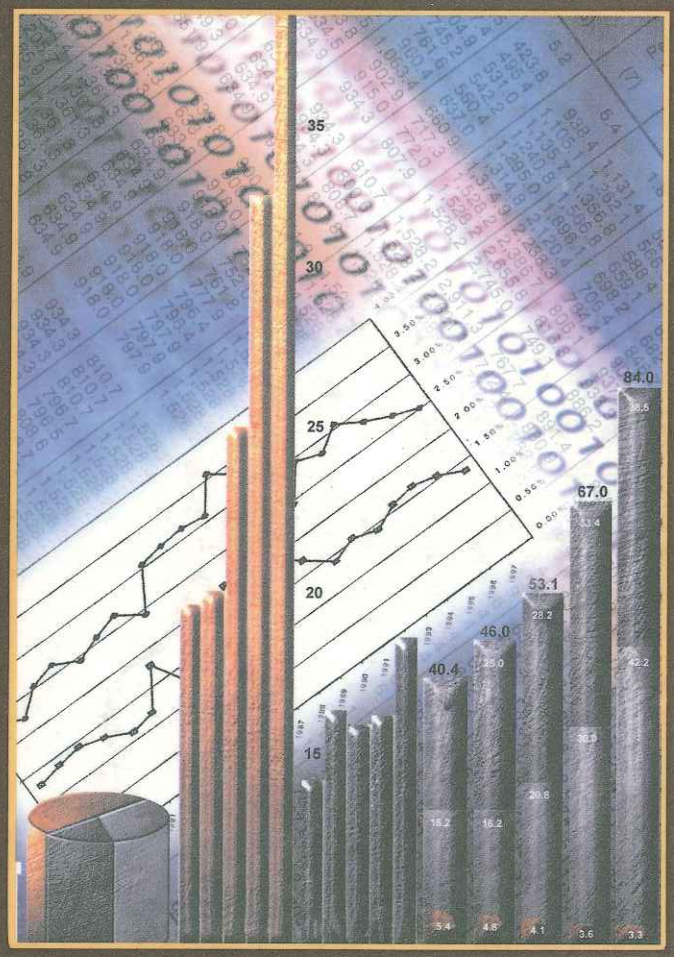
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Review of Poverty Related Data and Data Sources in Sri Lanka



Indra Tudawe

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INSTITUTE OF POLICY STUDIES
99 St Michael's Road, Colombo 3, Sri Lanka

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The Micro Impacts of Macroeconomic and Adjustment Policies **(MIMAP)** program is an initiative of the IDRC, Canada with projects currently operational in several Asian and African countries. MIMAP is based on the idea that macroeconomic policies need to be guided by the final outcomes at the micro level. Hence, MIMAP program initiatives seek to increase the understanding of the links between macroeconomic policies and household income and wealth; and the 'feedback loop' that alters the efficacy of the original policy and its design.

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1. Introduction

Attempts to assess and monitor poverty in Sri Lanka in a systematic manner is a recent activity spanning over two decades. The gain in momentum for information for the purposes of anti-poverty policy formulation, appears largely to be due to the adoption of structural adjustment policies in the 1970s. The advocacy to reallocate state resources from welfare-oriented programmes to growth promotion programmes led to the reduction in welfare-oriented expenditure. The withdrawal of expenditure from welfare-oriented programmes was to coincide with the accrual of economic benefits to the population through economic growth. However, the accrual of benefits did not occur to the extent planned. The experience in Sri Lanka appears to be common in terms of a number of other developing countries.

A great deal of attention is devoted in the literature to the 'short-term' negative impact of Structural Adjustment Polices (SAP) in developing economies. Although many countries have attempted to cushion the negative impact on the vulnerable groups by improving the targeting of welfare benefits, the inadequacy of such measures is highlighted in the literature.

The documented 'short-term' impact of SAP is an increase in prices, a decline in real wages, a reduction in food consumption, a high prevalence rate of undernutrition and worsening of income distribution (UNICEF 1985; Cornia *et al.* 1987; Sahn 1984:1987; Pinstrup-Andersen 1988:1989; Behrman 1991). Although there is no consensus on the poor[1] having suffered disproportionately to the others (Behrman 1990a; Lipton *et al.* 1995) some studies indicate such tendencies (Michalopoulos 1987; Cornia *et al.* 1987; Sahn 1984: 1987; Pinstrup-Andersen 1988:1989:1993:1993a; Pinstrup-Andersen *et al.* 1994a; Behrman 1991; Lipton *et al.* 1995). Further, the initial slow economic growth rates in the early years of SAP implementation (Dornbusch 1990; Lipton *et al.* 1995) is considered to have a negative impact on the purchasing power and food entitlement in particular, of the poorer households. Furthermore, economic stagnation has set in some countries despite SAP (Dornbusch 1990).

Structural adjustment policies change the ratio prices of tradables to non-tradables through expenditure-shifting and expenditure-reducing policies. Therefore, each economic sector of the country will be differentially affected. The macro policies that change the incentive structure and re-direct the resource flow among sectors that are not protected and competitive will gain, whilst the relatively less competitive sectors may indicate declining growth.

[1]The poor do not form a homogenous group but include a wide range of categories such as semi-subsistence farmers, low-income market-oriented farmers, self-employed individuals and urban workers in tradable sectors, urban and self-employed individuals in non-tradable sectors (Pinstrup-Ansersen *et al.* 1994).

The importance and the need for monitoring and regular assessment of the effect of macro economic policies on resource poor households is well established. Therefore, the need to track poverty over time and the development of relevant poverty indicators to guide anti-poverty policies in the country has been identified as a priority.

As a result of such concern, several state as well as private institutions and individuals have begun to examine suitable poverty indicators and sustainable poverty monitoring systems for the country. Apart from reviewing and analysing the existing data sources, these attempts also try to identify existing methods for maximising the use of present data collecting mechanisms to build into a macro and micro poverty monitoring system. The aim of such work is to enhance the existing data collecting system of poverty monitoring within existing structures at minimum additional costs, to ensure sustainability of these efforts. The present literature review is an attempt to add to the existing body of knowledge.

2. Conceptual Framework to Identify Indicators

Macroeconomic policies affect the household mainly by changing the income and prices in three ways (Lipton *et al.* 1995): altering prices (including wages) so that the real income is increased; changing the income-earning characteristics of the poor; and improved targeting of available welfare spending to the poor (Glewwe and Gaag 1988).

The resource base of the household determines the ability of the household to respond to changes in resource allocation at the national/sectoral level. Therefore incentives provided and expenditure reductions by the state will affect households differentially depending on the resources of the household. As structural adjustment policies promote investments in tradables with minimum/no protection, those households engaged in non-tradable activities as well as in formerly protected tradables, are likely to be negatively affected. The negative effects may be higher among households who are unable to immediately shift resources to take advantage of new investment/incentive opportunities but are in activities where returns to investments are diminishing.

Figure 1 in the Annex provides a diagram to trace the effects of macro policy change on household welfare. The macro policies have been broadly classified into two categories (World Bank 1993):

- Policies that affect economic growth and demand for labour such as trade policies (tariffs, taxes and subsidies), regulatory policies (labour laws, minimum wages, and industrial laws) and fiscal and monetary policies (exchange rates, devaluation).

- Policies that affect accumulation and sustainability of assets such as human capital development policies (education, health) and policies affecting access to resources (credit, land and environment).

The influence of these policies affects national income, expenditure and employment creation. The policies affect the households through policy transmission channels. The channels as identified by Lamberte *et al* (1992) are: factor markets (labour in particular, land and capital); product market (goods and services); and public goods (education, health and other facilities). Changes in these transmission channels will impact households through transmission mechanisms, which are: relative prices of goods and services; household income/wages/returns; and availability and quality of public goods and services.

Changes in household income, relative prices and availability of public goods will finally affect the purchasing power of the household. For instance, if the increase in income is inadequate to compensate for the increase in relative prices and reduction in the availability of public services, then the overall purchasing power of the household will deteriorate. A deterioration of purchasing power will in turn negatively affect the household resource base thus increasing the vulnerability and risk of the household becoming poor. Based on the resources of the household, the magnitude of resources invested in human capital formation will vary -- this in turn will have an impact on labour productivity. For instance, a vicious cyclical process begins when a resource poor household makes low investments in human capital formation, which will lead, to low returns.

The extent of resource deprivation of the household varies according to the districts in the country, occupational groups, education status, gender and a number of other variables. Economic theory does not provide guidance to the magnitude or the likely differential impact of the policy matrix on different resource-base households. Therefore, the extent of gains or losses to the household as a result of reallocation of resources from the less productive to more productive sectors/households can only be assessed empirically.

The conceptual framework indicates a need for a timely and comprehensive information system to capture effects of policy on different sectors as well as households; vulnerable households in particular so that negative consequences can be minimised. Therefore, various indicators need to be identified (and monitored) at each level/sector to assess the differential impact. Such a monitoring system will identify the problem areas so that projects/programmes can be developed to cushion the negative effects on the households. Such short-term interim projects can be implemented until the full economic benefits from macro policies are accrued to the vulnerable households.

3. Definition of Poverty and Poverty Line

The construction of a poverty line to show the extent to which poverty varies across population sub groups is a pre-requisite to formulate anti-poverty programmes (Ravallion *et al* 1994). Information at the outset on the percentage of the population below the poverty line indicates the magnitude of the problem.

A household is defined as being poor when resource deprivation occurs. In international literature, a number of methodologies have been examined to assess poverty. However, a critical review of the these methodologies is beyond the scope of this study. Sri Lankan estimation of the poverty line has generally been based on consumption aspects of poverty. Therefore, the present study will examine the indicators of consumption poverty utilised to assess the poverty line in the country.

A general definition of consumption poverty states that the poor are those who do not have adequate resources to meet their basic needs[2]. The World Bank has adopted five items[3] as the core set of basic needs food and nutrition, drinking water, health, shelter and education (Streeten 1981). Although the basic needs components are identified, the limits or boundaries in terms of quantum to be provided of each of these core components are not specified. This is because decisions on such thresholds/boundaries have to be made by each society based on their resource endowment and priorities. As the magnitude of the selected cut-off point for the poverty line is dependent on the general resource base of the country — a mechanism needs to be established to institute changes to the poverty line accordingly.

The usual data used to define poverty line are based on either consumption or income from which indicators such as per capita or household income or/and per capita dietary intake are estimated. In terms of consumption, poverty has been defined as those consuming less the recommended daily allowance of dietary energy or as fulfillment of a percentage of that requirement such as that defined by Michael Lipton (1988) as 'poor', 'ultra poor' and 'nutritionally-at-risk'.

Although Sri Lanka has a long record of being a "welfare state", the country does not have a defined poverty line. This is because there is no officially designated poverty line, which is applicable across all sectors/programmes[4] (Alailima 1997). This is a major problem in

[2] The theoretical basis for the use of basic needs as an approach to evaluate public policy is developed by Harberger (1978; 1983) and by Scandizzo and Knudsen (1980). The difficulty in defining basic needs lies in the identification of some consumer goods and services as a core set of basic goods and others as non-basic goods.

[3] It should be noted that since it is the interaction between these components that will finally produce a healthy and productive population.

[4] See Poverty and Unemployment in Sri Lanka by Pat Alailima (1997) for a critical review on various definitions used for a poverty line.

obtaining information on changes in poverty status in the country. Many of the proxy indicators on poverty that are available from various studies, are not comparable since each researcher has used different poverty lines[5]. The following example is used to highlight the problems of comparing poverty over time.

Table 1 gives the percentage of households below the poverty line as calculated by various studies using different definitions of poverty. Basically the studies use household income/expenditure or dietary energy intake to define the poverty line. The use of nominal income or expenditure as a cut-off point creates problems in comparing studies over time; this to an extent is solved by the use of dietary energy to define the poverty line. However, the cut-off points for dietary energy used also vary with nearly all studies. The difference in cut-off points used to identify the poor is reflected in the wide variation observed in the incidence of poverty among the studies.

The income based poverty cut-off points used in the country over time varied with the poverty alleviation programme -- the food subsidy programme (food stamp scheme) or income transfer programmes (Janasaviya and Samurdhi) for the poor. The income based poverty cut-off point appears to have been selected on a rather *ad hoc* basis.

For instance, the cut-off point of Rs.3600 per household per annum was calculated from a basket of food that provided 2100 Kcal per capita/day. Welfare benefits were provided under the Janasaviya programme in 1989 to those receiving less than Rs.700 per month. The Samurdhi programme of 1994 considered those below a monthly income of Rs.1500/month as beneficiaries. At present the Samurdhi Programme has selected nearly one half of the households in the country as being entitled to benefits thus identified as poor (Ratnayake 1998; Central Bank Annual Report 1998).

A number of independent studies have found that under each of the income transfer schemes, the beneficiaries selected under each programme (based on income criteria) consisted of a relatively high percentage of non-poor households (Gavan *et al* 1979; Edirisinghe 1987). These studies highlight the difficulty of using an income-based cut-off point for the selection of poor beneficiaries for welfare programmes due to the unreliability/inaccuracy of income information provided by households.

[5] Although in the literature poverty is defined in terms of "absolute" and "relative", the majority of Sri Lankan data based studies that have identified the poor have used "absolute" poverty as a definition.

Table 1: Estimates of the Proportion of Population in Poverty (1969/1991)

Year	Study	All	Urban	Rural	Estate
1969/70	(1)**	11.2	5.0	12.8	11.1
1969/70	(2)*	52	58.3	52.3	38.5
1973	(3)**	27.6	22.7	31.6	8.1
1973	(4)**	19.1	6.4	26.1	1.7
1978/79	(3)**	22.7	24.4	23.8	8.9
1978/79	(5)**	19.5	16	22.7	5.9
1980/81	(1)**	24.1	16.9	25.9	25
1980/81	(6)*	-	49	42.9	32.6
1981/82	(3)**	21.9	19.6	23.2	13.8
1981/82	(4)**	23.6	17.7	26.1	12.3
1985/86	(9)*	39.4	27.6	45.7	5.7
1985/86	(5)*	27.4	12.3	32.4	5.9
1986/87	(8)*	24.1	10.48	28.7	11.1
1990/91	(7)*	30.4	18.2	34.7	20.5

Notes: ** - An income/ expenditure cut-off point taken as poverty line.
* - A dietary energy cut-off point taken as poverty line.
(1) and (4) Use reference energy value of 2500kcal per adult equivalent/day; (2) Reference standards are not given; (3) Reference of 2200 kcal per capita/day; (5) Reference Standard of 2200kcal per adult equivalent/day.

Sources: (1) Bhalla & Glewwe (1986); (2) Visaria 1981); (3) Anand & Harris (1990); (4) Marga (1981); (5) Gunaratne (1985); (6) Sahn (1985); (7) Dept. Census & Statistics (1994); (8) Edirisinghe (1990).

Recently, Nanayakkara and Premaratne (1987) of the Department of Census & Statistics, using the Labour Force and Socio-Economic Survey (LFSS) data, attempted to estimate a food poverty line utilising household monthly expenditure. They have estimated a poverty line at a monthly per capita food expenditure of Rs.202.49 at 1985/86 prices. The estimated expenditure was to secure a daily nutritional intake of 2500 Kcals and 53 gms of protein per adult male (age 20-39) equivalent.

This was further refined to allow for basic non-food expenditure estimated from national Engel function for the same period. This estimation provided a national reference poverty line of Rs.242.06 of monthly per capita expenditure (without consumer durables) at 1986/87 prices. This value was updated to 1990/91 values using the Greater Colombo Consumer Price Index (GCCPI).

The adjustment for inflation gave a poverty line of Rs.421.20 per capita/month and a 20 per cent higher poverty line of Rs.565.44 per capita/month. The Poverty Assessment Study conducted by the World Bank (1994) has utilised the criteria and poverty line described above. The World Bank (1994) study on Poverty Assessment of Sri Lanka identifies the poor according to the low and high poverty line and is given in Table 2.

Table 2: Incidence of Poverty by Sector and National

	1985/86			1990/91		
	Incidence of poverty (Head count index)	Depth of poverty (Poverty gap index)	Severity of poverty (Poverty gap index squared)	Incidence of poverty (Head count index)	Depth of poverty (Poverty gap index)	Severity of poverty (Poverty gap index squared)
	Poverty line Rs.421.20 per capita/Month*					
Sri Lanka	27.33	6.54	2.31	22.36	4.82	1.62
Urban	16.43	3.48	1.11	18.31	4.14	1.37
Rural	31.67	7.67	2.75	24.41	5.27	1.78
Estate	14.31	3.81	1.37	12.62	2.11	0.60
	Poverty line Rs.565.44 per capita/Month*					
Sri Lanka	40.60	11.09	4.30	35.34	8.80	3.20
Urban	26.78	6.52	2.29	28.43	7.34	2.70
Rural	45.48	12.81	5.04	38.05	9.55	3.49
Estate	30.85	6.79	2.54	27.51	5.17	1.50

Note*: at 1990/91 prices;
Source: World Bank (1994) Sri Lanka Poverty Assessment, Report No.13431-CE.

A pressing task, therefore, is to establish a consensus among data producers and users of a method to estimate a national poverty line. The poverty line thus defined should be able to establish criteria to identify the "poor" and the "poorest" so that differential action can be taken for each group -- this will permit prioritisation of limited state resources to the most needy. Thereafter, an institution has to be identified to update the poverty line taking into account the effect of inflation and any changes in demand in relation to the basic basket of goods.

4. Characteristics of the Poor - A Poverty Profile

"The poverty profile is an analytical device for summarising information on income, consumption patterns, economic activities and living conditions of the poor" (World Bank pp.16, 1993). Therefore, a poverty profile identifies the characteristics of the poor and allows poverty to be placed in the country's economic, social and institutional context.

Characteristics of the poor are available from a number of independent studies that have analysed some of the national household surveys. The Department of Census and Statistics has provided a

poverty profile using the 1990/91 data based on a consumption poverty line[6]. However, one of the problems of obtaining a profile of the poor from the different studies stems from the fact that poverty lines used to define the poor vary. Some contradictions are also found in segments of population identified as poor and their profile across studies. Nevertheless, some common characteristics of the poor emerge on examining these studies.

The characteristics of the poor are: (Marga 1981:1994; Sahn 1987; Edirisinghe 1990; Dept. of Census and Statistics 1993; UNDP 1990:1998; World Bank 1994; Alailima 1997; Ministry of Plan Implementation 1997)

- Household size on average still remains larger than the non-poor households with 7.12 persons per household (1990)
- High proportion of poor (two thirds in 1990) have only attained primary level of education
- Increase in the incidence of poor female-headed households
- No correlation between poverty and ethnicity
- Unemployment and underemployment rates higher (no consensus among studies on this aspect[7])
- The poor do not form a homogenous group but include a wide-range of occupation categories such as semi-subsistence farmers, low-income market-oriented farmers, self-employed individuals and urban workers in tradable sectors, urban and self-employed individuals in non-tradable sectors
- Seasonal nature in employment opportunities
- Lack of productivity assets
- Unskilled labour
- High dependency ratio
- Very limited access to outside resources

In general, the characteristics of the poor have not changed dramatically since 1970's. However, closer monitoring of the poor is required to assess changes in their socio-economic standards. Furthermore, as the poor do not consist of a homogenous group but consist of those from a number of occupation groups, poverty alleviation policies cannot be one that provides blanket coverage. In designing of programmes and projects information is needed to address the specific problems or limiting factors that prevent these populations from moving out of poverty. Therefore, a system that monitors poverty of the poor first needs to;

- identify the poor through a critical review/re-analysis of existing data sources, particularly the household surveys conducted during the last two decades (since implementing SAP)

[6] The poverty line used in this analysis is different to that of Nanayakkara and Premaratne of 1987.

[7] See Alailima pp.20 (1997) for details.

- once the vulnerable groups are identified, rank groups based on criteria of resource deprivation
- establish focus group studies to monitor the socio-economic and behavioural changes of these selected households

Information gathered through this process should aid the line ministries to design better targeted poverty alleviation programmes for the different segments of population in poverty.

The UNDP (1998) has published a district/provincial development profile. The analysis shows that some districts within the same province are much more backward in development than others. Furthermore, there is a marked difference between districts as well. The degree of economic growth was examined through per capita GDP growth. The report ranks districts according to a number of composite indices developed to examine aspects of relative adequacy of public goods through education and health related indicators. Therefore, information is available through this report to identify districts that need more for investments in areas of both financial and human capital development.

5. Indicators to Monitor Changes in Policy

The need to incorporate both macro and micro indicators is apparent from the conceptual framework. Therefore, critical process and outcome indicators in the transmission paths from changes in macroeconomic policies to their effects on firms, households and individuals need to be monitored.

The selected indicators for the monitoring system were in keeping with the following features:

- to include indicators that are highly sensitive to changes in macro policies and that permit simulation models to be developed to guide the direction and magnitude of impact on households (Lamberte *et al* 1992).
- to make use of existing data gathering systems and institutions with minimal additional indicators to be collected regularly as a rider to existing surveys (Lamberte *et al* 1992).
- Apart from the existing data collecting mechanisms, a more regular monitoring of the selected vulnerable or at-risk households is required. Therefore, the establishing of a mechanism to collect data from such population groups (e.g. a few focus group studies) for a short time.

5.1 Selection of Indicators

The indicators to be selected can be viewed under four categories:

1. Indicators that determine the magnitude of input to the system – policies and programmes
2. Indicators that measure inputs provided to a system – relative prices of goods and services, relative returns to input sectoral and provincial distribution of state expenditure.
3. Indicators that measure outcome as a result of input.
4. Indicators that measure effects or impact on the system – household health status, food and nutritional status, housing status, educational status, magnitude of violence etc.

5.1.1 Indicators that determine the magnitude of input to the system

Macroeconomic Policies and Variables

(a) Macroeconomic Policies

- Monetary and fiscal policies
- Exchange rate policies
- Trade policies
- Human capital development policies
- Regulatory policies

(b) Macroeconomic Variables

- exchange rate
- interest rates
- wage indices
- price indices
- money supply
- government expenditure/revenue/deficit
- aggregate demand/supply

(c) Macroeconomic Indicators[8]

A few examples are:

- rate of growth of Gross Domestic Product (GDP) - national and by sector
- government expenditure on subsidies, welfare payments and social services as proportion of total state expenditure
- the proportion of investments relative to GDP
- the proportion of savings to GDP
- the proportion of exports to GDP
- inflation rate
- budget deficit relative to GDP

[8] Details of macroeconomic indicators need to be identified with the assistance of a macroeconomist.

- wage indices – national and by sector
- Price indices – food and non-food (separately)
- ratio of value of imports to exports (terms of trade)
- ratio of food imports to total imports

5.1.2 Indicators that measure inputs provided to a system

(a) relative prices of foods by main categories
(b) relative prices of non-foods by category
(c) real price of food categories and non-food (deflated prices)
(d) relative prices of input to different production sectors
(e) relative wages (daily) of different sectors –both formal and informal
(f) relative rents for factors
(g) sectoral allocation of government expenditure
(h) provincial allocation of state expenditure – by sector
(i) provincial allocation for welfare and social sector expenditure
(j) provincial distribution of public goods and services
(k) provision of credit/capital by formal and informal markets
(l) distribution of off-farm industries by province
(m) distribution of infrastructure facilities by province

5.1.3 Indicators that measure outcome as a result of input

(a) unemployment/underemployment rate by sector, province, gender, income group, educational status and age group
(b) occupation category by sector, province, gender, income group, educational status and age group
(c) use of informal and formal credit by income group and purpose
(d) cost of production for agricultural products and industrial products
(e) change in real income/return to investment from agricultural products and industrial products
(f) market margin of products in agriculture and non-farm sector
(g) productivity levels for agricultural and industrial sector by crop/category
(h) change in magnitude of land cultivated by each main crop
(i) main food items consumed (food basket) by urban/rural/estate by income category
(j) cost of food basket by urban/rural/estate by income category
(k) ownership of land and other assets by urban/rural/estate , income category

5.1.4 Indicators that measure effects or impact on the system

(a) Health and Nutritional Status
- under five mortality and morbidity rates by disease by urban/rural/estate and by province

- incidence of low birth weight infants by urban/rural/estate and by province
- prevalence of undernourished (classification of undernutrition) children by age-group, gender, household income groups, urban/rural/estate and by province
- incidence of maternal mortality
- prevalence of iron, vitamin A and iodine prevalence of population groups, age-group, gender, household income groups urban/rural/estate and by province
- prevalence of adult malnutrition by population groups, age-group, gender, household income groups urban/rural/estate and by province
- incidence of disease for adults by type

(b) Food Security and Household Expenditure Patterns

- food expenditure as a percentage of total household (food ratio) expenditure by household size/number of children, income/occupation groups urban/rural/estate and by province
- quantities of food consumed by category (food basket) by income/occupation groups urban/rural/estate and by province
- households categorised by number of meals taken and isolate those with two meals or less a day by income/occupation groups urban/rural/estate and by province
- proportion of households with dietary energy intake of less than 90 per cent and 80 per cent of Recommended Daily Allowance (RDA) by household size/number, income/occupation groups/urban/rural/estate and by province
- household expenditure by items and as percentage of total expenditure by household size/number of children, income/occupation groups urban/rural/estate and by province

(c) Housing Conditions

- percentage of households with makeshift houses and material used[9] by income/occupation groups ,urban/rural/estate and by province.
- proportion of households with safe water and sanitary facilities[10]

(d) Access to Public and other Services

- educational status of household members by gender, income/occupation groups, urban/rural/estate and by province
- school enrolment and drop out rates income/occupation groups, urban/rural/estate and by province
- teacher/pupil ratio by district/province
- distance to nearest school and medical facilities (by type)

[9] A scale or ranking system needs to be developed to evaluate condition of house – if possible a composite index.

[10] A scale or ranking system needs to be developed to evaluate water and sanitary facilities – a composite index.

- proportion of households utilising state health facilities
- type of roads (classification) at provincial level
- adequacy of public transport facilities
- personal/community problems/queries (by type) addressed /attended to by government officials by occupation groups, urban/rural/estate and by province and *vice versa*
- type of extension services available to the community and ranking of services provided (agriculture, health, Samurdhi and other)
- percentage of households with electricity services

(e) Adequacy of Income and Income Distribution

- distribution of income within income deciles urban/rural/estate and by province
- mean income of income deciles (above)
- income distribution as expressed with Gini coefficient by urban/rural/estate and by province
- extent of indebtedness and source and use of credit (formal/informal)
- economic dependency ratio by households for different sectors and income groups
- sources of household income by sector, province, gender, income group, educational status and age group
- percentage contribution from each income source towards total household income by occupation, sector, province , gender, income group educational status and age group, urban/rural/estate
- population below poverty line by occupation, sector, province, gender, income group educational status and age group, urban/rural/estate
- type of employment of those below poverty and income generating sources
- daily wage rates for different economic sectors and number of days employed for a year (seasonality of employment)
- ownership of household items (categorised as luxury and essential) by selected variables
- extent of rural-urban migration and overseas migration by selected variables

(f) Access to Information and Empowerment

- source of information on selected items (to be identified- such as information on new state incentives for cultivation and other investments) by selected variables such as occupation, sector, province , gender, income group, educational status and age group, urban/rural/estate
- programmes and information accessed from TV, radio and newspapers, peer groups, community organisations by selected variables
- frequency of participation in different community activities and programmes – such as road cleaning of village, health and nutrition programmes, women's organisations and other non-village based NGO activities

- Type and number of NGOs at the village level and kind of service provided

(g) Personal and Community Security

- incidence of violence by type by variables

(h) Population in Poverty and Poverty Profile

- population in absolute poverty (need define empirical cut-off points for absolute poverty) by selected variables such as urban/rural/estate and by province
- population in relative poverty (need define empirical cut-off points for relative poverty) by selected variables
- incidence of poverty - population in extreme poverty and poverty by selected variables (need define empirical cut-off points)
- depth of poverty[11] (poverty gap index)
- severity of poverty (poverty gap index squared)
- distribution of poor/extremely poor by district/province, occupation group,. educational status, gender and ownership of land/assets
- percentage of state transfers/subsidies as percentage of household income in poor households
- other indicators listed from (a) to (g) in relation to poor households

6. Availability of Secondary Data Sources to Monitor Poverty

Information required to formulate indicators on macro policies, macro variables and transmission activities at the market level can be gathered from secondary data. Generation of primary data at the household level will be through surveys conducted by the Department of Census and Statistics in particular, and where possible Central Bank Survey as well. Additional data requirements will be collected through rider modules to the regular surveys.

More regular data requirements on identified vulnerable segments of the population on issues such as intra-household allocation of resources and environmental issues will be through specific studies. These studies should use a sub-sample of the main survey samples of the Deptartment of Census and Statistics. The use of a sub-sample will permit longitudinal assessment of the selected segment of the vulnerable population by merging the two sets of data, from national surveys and sub-studies. In addition, the merging of two such data sets will permit the examination of dynamic issues in intra-household allocation of resources in terms of both gains and losses. Many presently available data sets do not permit the study of the dynamics of resource allocation within the household, which is crucial to understand household behavioural patterns.

[11] A definition has been provided by the World Bank (1995) study. However, a consensus of data producers and users need to be obtained prior to deciding on this cut-off point.

As explained before, although welfare-oriented programmes have been implemented in the country since independence, the assessment and monitoring of poverty, at household level, on a systematic basis is a relatively new activity in Sri Lanka. Both the Department of Census and Statistics and the Central Bank of Sri Lanka have been collecting household data regularly through surveys for the last four decades. However, the analysis of data had been in keeping with the objectives of the surveys, which at the time did not consider aspects of poverty in detail. With the shift in emphasis by policy-makers towards anti-poverty policies and programmes, the need for poverty related information was highlighted. Therefore, analysis of household surveys for poverty indicators is at present being formalised.

The data gathering agencies have been sensitised to the new needs of policy-makers and some have begun to report information on extent and depth of poverty. However, since it is still quite early in the process of developing poverty related indicators, including poverty profile, further refinement of methodological issues is needed. The data from these household surveys need to be analysed in a manner so that the 'vulnerable' groups within the population subgroups can be identified. As was shown before, the general characteristics of the poor are well documented. The process however, that needs to be developed is the identification of the poor within the subgroups.

Further, the extent and the depth of poverty among households will vary with the changes in income and prices faced by these households, as explained in the conceptual section of the paper. Therefore, analyses of the household surveys need to be able to capture the dynamism of poverty at household level.

Furthermore, the following section that reviews the existing data sources shows that although a great deal of data is collected from all line ministries, data is mostly restricted to implementation aspects of programmes. As a result, only a few 'impact' indicators can be formulated from the regular information gathering process of these ministries. Therefore, the main gap in the data collected from ministries is the limited availability of indicators to assess the effect of policy changes on the recipient population that each ministry serves.

7. Sources of Data

The following section examines the sources of information from where data can be obtained to compile the indicators listed in section 5. The main sources are:

1. Department of Census and Statistics
2. Department of National Planning of the Ministry of Finance and Planning
3. Department of Agriculture, Ministry of Agriculture and Lands

4. Ministry of Health and Indigenous Medicine
5. Central Bank of Sri Lanka
6. Regional Development Division of the Ministry of Plan Implementation, Parliamentary Affairs and other divisions such as Progress Review Division
7. Monitoring and Evaluation (M&E) Cells in each line ministry and some departments
8. Administrative records of ministries (information of which are often available through the M&E Cells)
9. Registrar General's Department
10. Samurdhi Authority records on beneficiaries of the Poverty Alleviation Programme
11. Research Institutes –public and private
12. Non-governmental Organisations-both national and international

7.1 Department of Census and Statistics

The Department of Census and Statistics has the mandate to be the main supplier of information to the public sector in particular. National level data are collected mainly by the Department of Census and Statistics, which conducts a number of surveys such as:

- Household income and expenditure survey [12](every five years)
- Labour force survey (now conducted every quarter)
- Agricultural household survey[13] (usually every ten years)
- Demographic survey (usually every three years)
- Health status survey (usually every five years)
- Population Census survey (every ten years)
- Survey of Industries (usually annual)
- Other surveys (either national or on district level)– contraceptive survey, livestock and highland crops survey, milk production survey , manufacturing industry survey, public and corporation sector employment.

Apart from household surveys the Department also provides information from administrative records of public institutions such as:

- Food balance sheet (annual)
- National Accounts and prices (annual)

[12] The Labour Force component of the Labour Force and Socio-Economic Survey, as formerly known, was pulled out in 1990 where now the Labour Force component is conducted on a quarterly basis whereas the household income and expenditure survey is conducted every five years. The recent most, published household income and expenditure survey is for 1995/96.

[13] Agricultural Census Survey – conducted every 10 years – since 1940. Information collected relates to crops cultivated, land tenure and ownership, socio-economic information, labour utilisation, inputs and output, assets, sales, livestock, subsidies, loans, cost of production.

- Administrative report of Director Census (annual)
- Statistical Abstracts (annual)

Many of the household surveys conducted by the Department are designed in such a manner to cover a large enough population to permit sectoral analysis of data. For instance, the samples selected for national level surveys include sectors and sub-sectors such as agriculture, livestock, fisheries, agro-industries, transport, communication, energy, credit, water supply and sanitation, urban development, education, health and population.

The Income and Expenditure Survey that is conducted every five years is one of the best sources of national level household sample available to monitor poverty and policy impact. This is the only survey (except the agricultural survey which is limited to agricultural households) conducted by the Department of Census which collects information on household income, expenditure on food and non-food.

The 1990/91 survey was the sixth in the series of such surveys[14]. One main advantage in using the data generated by this survey is the large sample — the survey covers 25,000 households covering all districts. A sample of 25,000 was selected for 1985/86 and 1990/91 surveys, whereas that of 1980/81 was 12,000.

A two stage stratified random sampling design was adopted. The sample was selected from 2,500 census block units that covered the country — from each census block 10 households were selected. For administrative purposes, these 2,500 census blocks are formed into 168 electorates. The country can be divided into three sectors, urban, rural and estate; of the 25,000 sample (in 1990/91) the urban sector accounted for 9,380, rural for 14,380 and estate for 1,320 households. The survey was conducted in each of the provinces over a period of one-year (May 1985 to April 1986 and May 1990 to April 1991). It should be noted that the data collection method of the survey permits examination of seasonality. However, the seasonal aspect of data are not examined or published by the data producers. Re-analysis of data is required to capture the seasonal aspect of household behavioural changes.

The Surveys collected information on the following aspects of the household:

(a) Household identification information including location by urban, rural and estate sectors and by government administrative units, electorates.

(b) Household members (including lodgers and domestic aides), their relationship to head of household, age, sex, ethnicity, religion, marital status, educational levels, employment status, occupation (both primary and secondary) of members.

[14] Refer the survey reports to obtain definitions used for the variables.

(c) Daily consumption and expenditure on food, drink and tobacco for a period of seven days. Each item was recorded in terms of quantity consumed, and cost of each food item (in Rupees).

(d) Household expenditure on housing, fuel and light (for the month previous to the survey), non-durable goods (clothes, household textiles, foot wear and other personal effects over the past six month; soaps, cooking-ware, toys etc. for the previous month), services (such as personal care, health expenses, transport, communication, education for the previous month), consumer durables (household equipment for the past 12 months) and miscellaneous (such as gifts, servicing loans, taxes etc. for the last 12 months).

(e) Income information was collected for both primary and secondary sources of employment. Information on income of the household from all sources was collected. Income categories collected are : income from paid-employment for the previous month; other cash of the household over the last 12 months; income in kind over the previous month; income from non-agricultural activities over the previous month; income from agricultural activities for the last cultivation year; income from other agricultural activities for the last calendar month. The total income from all the sources was then calculated to obtain an average monthly income.

Apart from the Income and Expenditure survey, the Department of Census & Statistics conducts a number of surveys relating to agriculture, health and nutrition, demography and population. However, one of the main problems in combining the different survey data is the difference in sample used and the difference in the time periods of surveys. Although detailed information is available that is adequate to build a comprehensive profile of the segments of the population that needs to be studied, certain changes need to be instituted at the data producers level. Changes required are, as far as possible, to use the same or a sub-sample of the 25,000 households used for the Income-Expenditure Survey in the other surveys as well. This will provide, at least a sample of households, where the data generated under different surveys can be merged and analysed. Furthermore, with the use of 'Small Area Estimation' technique in Statistical Methods, data from small samples can be used to obtain statistically significant analysis[15].

It should be noted that the 1990/91 survey results were analysed to examine the extent of poverty in the country and to determine characteristics of these households. However, the definition used at the time to identify the poor[16] -- as 'poor 1' and 'poor 2' is different to that used by other researchers including the 1994 World Bank definition. Therefore, comparison across time is not possible.

[15] See Barrios,E.B. (1998) Small Area and Sub-Domain Estimation of Selected Socio-Economic Indicators, MIMAP-Philippines Research Paper Series No.36, Philippines Policy and Development Foundation, Manila.

[16] See Income and Expenditure Survey –final report of the Department of Census and Statistics 1993.

7.2 Central Bank of Sri Lanka

The Central Bank generates information that can be utilised to formulate macro and micro indicators. The annual report provides information on economic growth and related indices. For instance, most of the data related to macro-economic indices required for monitoring of changes can be calculated through collation of information from the annual reports.

The Consumer Finance Survey conducted by the Central Bank every five years is a household survey that collects information on all household related activities. Surveys have been conducted in 1973(5088)[17], 1978/79 (7617), 1981/82 (7927) and 1986/87 (7065) -- the latest is the survey of 1996/97. The information gathered through these surveys are much more extensive than the Department of Census & Statistics survey on Income and Expenditure. However, as the sample size is much smaller, disaggregated analysis becomes a limiting factor, especially at the present level of disaggregation done by the producers (see section 8 for details).

7.3 Department of National Planning of the Ministry of Finance and Planning

This department collects information from all ministries as the main source of information for policy planning. A regular activity is the formulation of the Five-Year Public Investment Programme. This programme, produced by this department gives a summary of activities and therefore one can obtain a profile of information collected by them.

There exits a system for periodic transfer of selected information to this department from all the line ministries. The department collects both administrative related data as well as impact measuring data for their work. Many of the data are now available in a computerised manner. Furthermore, this authority also commissions studies in areas where either data or analysis is required as input for policy planning if, so required. The type of such studies available with the department covers all sectors.

Information on policy effect/impact on households can be obtained from the special studies commissioned and/or conducted by the department. The present study draws on a number of such studies.

7.4 Department of Agriculture, Ministry of Agriculture and Lands

The department publishes an annual plan for cultivation of non-plantation crops. Data in relation to agricultural production is generated for every cultivation season. The cost of production data together with farm gate prices will provide an indication of the likely household income for

[17] Values given in parenthesis is the sample size of each survey.

households farming different crop regimes. This can be taken as an indicator to examine likely increase/decline in income of these agricultural households.

The department does not regularly collect information to examine effect or impact of change in policies on agricultural households. However, the Socio-Economic Policy Division of the department conducts studies relating to different social and economic aspects relating to farmers. Information from the studies that examine policy implications on the farmer can be used to build up an information base on agricultural households.

7.5 Administrative records and information from Monitoring and Evaluation (M&E) Cells in each line ministry and some departments

Most of the information that is collected regularly across ministries pertain to data/indicators that assist in monitoring progress of programmes/projects that are implemented by each. This information is obtained mainly from the administrative records of the divisions within the ministry. Many of the ministries have a M&E cell, which usually collates this information and formulates indicators. These indicators are vital to assess performance of each ministry in adhering to the annual programmes/projects. Some of the M&E cells conduct impact evaluations when the need arises but not regularly. Such evaluations are conducted by:

- Mahaweli Ministry
- Plantation Industries Ministry

7.6 Ministry of Health and Indigenous Medicine

This ministry has a number of divisions/departments/bureaus that generate information that can be used to monitor programme/policy effects. The Medical Research Institute, Family Health Bureau, Health Education Bureau, Epidemiology Unit are among the key sections of the ministry that generate information. As with the other line agencies, this ministry also conducts specialised surveys to obtain information on national nutritional status including micro-nutrient deficiencies, effect of health education/information programmes on behavioural changes, family health related studies, analysis of disease incidence and so on. Most of the monitoring indicators listed can be collected through these surveys and administrative records. At present the ministry is in the process of establishing a database and strengthening its Monitoring and Evaluation cell.

Although most of the data generated are for monitoring of delivery of services rather than impact indicators, there are a number of sources that collect data regularly which can be used as impact indicators. For instance, the data on birth weight, nutritional status of children under five and their immunisation status is collected monthly by the Public Health Midwives. The Family Health

Bureau through the network of Mother and Child clinics can collect this information monthly within the existing structure without any additional costs.

7.7 Ministry of Education

This ministry also has a great deal of administrative data that are collected regularly for implementation of programmes/projects. However, some of the routinely collected information can also be used to assess impact on households. Such data are:

- School drop out rates - that can be collected quarterly from each district
- Teacher/pupil ratio by school category and district
- State expenditure per child in different categories of schools

Furthermore, there are a number of studies done on various aspects of educational reforms and its impact on the student population and employment opportunities.

7.8 Regional Development Division of the Ministry of Plan Implementation, Parliamentary Affairs and other divisions such as Progress Review Division

The ministry of Plan Implementation is responsible for the monitoring of all performance activities across the line ministries. This ministry, therefore, routinely collects a large amount of information, again, on implementation aspects of programmes/projects. However, within this ministry, there are a number of units that undertakes impact analyses as well.

The Regional Development Division is primarily responsible for the implementation of projects related to rural development. The division is well known for its implementation of Integrated Rural Development Projects (IRDP). These projects were introduced in the 1970s as a strategy to neutralise the effects of capital intensive large-scale projects in the economy and also to invest in the backward rural areas, which were not benefiting from the lead projects. The initial emphasis of developing the infrastructure of rural areas through IRDP has shifted to developing projects to enhance the economy of the rural areas. The implementation/operational information is available through regular progress review reports, which highlight physical and financial input, output and targets.

Although, this division also has information on implementation aspects of the projects, there is also regional level impact information.
The sources of impact or development indicators are from:

- feasibility studies of projects
- baseline survey reports
- mid-term, post and ex-post evaluation reports

- special studies commissioned to examine a problem/bottleneck causing delays in achieving project benefits

However, availability of some of the impact information is dated as some of these projects were completed a while ago. Nevertheless, recent information can be used to supplement the national level data, provided similar definitions are used in selecting variables and indicators. In relation to identifying the poor from these studies, the problems highlighted with the other data sources also apply here. Different definitions of poverty and poor are used across studies. With the given limitations the data available in the division can be used for monitoring activities at regional level. Furthermore, additional data required can be collected through a rider model being incorporated into surveys to be conducted.

Apart from IRDP projects the division also:

- commissions or conducts studies in areas where they need more detailed information on developmental aspects as, opposed to operational data.
- computed a 'resource profile' for each AGA division (1980s) and is planning to update it
- published financial allocations made under different funding sources to each district/province. This is a very useful document for monitoring investment flow into each region. The officials also hope to develop this activity further to incorporate the sectors in which these funds are invested so that impact analyses can be designed.

Under the Progress Review Division of the ministry, a unit known as the Impact Evaluation Unit conducts various impact evaluations of projects/programmes monitored by the ministry. Furthermore, this unit is in the process of developing indicators to measure input, output, impact and goal of various projects and programmes conducted by line ministries. The process has been initiated to develop a logical framework where the indicators developed will be sent to each ministry for their comments. Once the indicators to be collected are established, the unit will be able to measure effect/impact of programmes on a more regular basis rather than on an *ad hoc* study basis.

7.9 Samurdhi Authority Records on Beneficiaries of the Poverty Alleviation Programme

The Samurdhi Authority is responsible to monitor the new Poverty Alleviation Programme launched by the government in 1994. The Authority has socio-economic data of all the beneficiaries (nearly one third of households in the country) who obtain welfare benefits through this programme. Once the beneficiaries are identified, through an initial survey, they continue being beneficiaries in the programme. The programme has a monitoring and evaluation system built in to measure the implementation and operational aspects of the programme. These

indicators measure the extent to which the annual community work plans are implemented and the performance of staff in the programme. The programme is participatory in nature, where community projects implemented are to fulfil the needs of the community. However, the benefits of such programme towards poverty alleviation are not monitored regularly through the existing monitoring system. However, a couple of independent evaluations on the impact of the programme on alleviating poverty are available.

Furthermore, a study is also available where baseline data of about 30,000 beneficiary households that were collected at the time of selecting recipients for the programme have been analysed. This study attempts to establish a profile for the poor. The database of the Samurdhi beneficiaries is a good source to conduct analyses of the characteristics of the poor and identify resource constraints that prevent them from moving out of poverty. However, reliability of data may be an issue that needs further investigation.

7.10 Registrar General's Department

Population related data could be obtained from the administrative records of this office. The data are available for each district/AGA unit and can be analysed to obtain district profiles. Some of this data are published annually in the Statistical Abstracts published by the Department of Census and Statistics and other ministries that utilise this data.

7.11 Research Institutes –Public and private

The research institutes have conducted a large number of studies where monitoring and evaluations of projects/programmes as well as specific problems in the society have been addressed. The Agrarian Research and Training Institute and the Economic Policy division under the Ministry of Agriculture examine the Agrarian issues. The Council for Agricultural Research is in the process of building a database, which lists the different research work in agriculture. The main research Institute under the Ministry of Health is the Medical Research Institute. There are a number of research activities that are conducted at the Universities in the country. The research conducted is as part of postgraduate studies as well as independent research conducted for private and state institutions.

There are a number of private research institutes that conduct impact evaluations and feasibility studies both for the government and foreign funding agencies. However, some of these findings are not available for study as they have been produced exclusively for the client that commissioned the work.

7.12 Non-Governmental Organisations: National and international

Sri Lanka has a large number of NGOs located in all parts of the country. According to data available there are 47 foreign NGOs and 295 indigenous NGOs in Sri Lanka (IRED 1995).

Table 3: Indigenous NGOS by Objectives

Objective	No. Of NGOs	Objective	No. Of NGOs
Agriculture/ Peasantry Development	29	Irrigation/water management	11
Animal husbandry	22	Legal aid and counselling	10
Appropriate technology	7	Management/training	13
Awareness creation/Consientisation	41	Marketing	6
Charity	3	Medical aids	10
Child care	9	Networking	8
Children	15	Organic farming	4
Community development	19	Peace and harmony	2
Counselling	6	Research/consultancies	28
Cultural activities	7	Relief and rehabilitation	53
Development innovations	2	Religious activities	32
Education, Adult education	25	Rural development	35
Elder's homes/Orphanages	12	Rural dev. infrastructure	3
Energy management	1	Savings/credit/banking	42
Entrepreneur development	3	Self-employment/income generation	42
Environmental protection	31	Shramadana	28
Experimental dev. prog	4	Small enterprise development	36
Family Planning	5	Social welfare	58
Fisheries	9	Sports services	21
Handicrafts	18	Training (HRD)	30
Health and nutrition	39	Training (vocational skills)	73
Housing	23	Upliftment of disabled	9
Human rights	15	Urban poor	8
International relations	2	Water and sanitation	15
Information/communication	30	Women in development	14
Indigenous medicine	4	Workshops/seminars	30
Health and education	13	Workers rights	4
Youth activities	48		

Source: IRED (1995), Development NGOs of Sri Lanka: A Directory, Colombo.

Some NGOs have one objective whereas others have several. IRED (1995) have categorised both foreign and local NGOs according to their said objectives. The categorisation of local NGOs by objective is given in Table 3. As can be observed from the objectives, nearly all have a bearing on poverty of the household. As these NGOs are likely to help households with low resource availability, all successful projects launched by the NGO will impact on these households. Some of the NGOs do maintain a good monitoring and evaluation system or obtain assistance to

conduct evaluations. However, it is a huge data source that can be tapped to monitor poverty of vulnerable segments of the population.

One example where the NGOs were encouraged to monitor and evaluate the projects was in the Janasaviya programme. The NGO sector was utilised to implement the government programme to alleviate poverty under the Janasaviya Poverty Alleviation Programme that was implemented from 1989 to 1994. Selected NGOs were partner organisations in implementing five components to alleviate poverty and malnutrition.

NGOs such as Sarvodaya and Artacharya Foundation are among those who maintain baseline information, especially of funded projects. These organisations also conduct evaluations of the projects to assess benefits gained. There is a great deal of potential in the incorporation of the NGO to monitor selected segments of the population. However, a more detailed study first needs to be done on the capacity available within the NGO to undertake such activity and produce reliable data.

8 Data Limitations and Quality Constraints

This section examines some of the problems that affect data quality as well as problems in conducting spatial comparisons of indicators to assess changes in poverty and poverty profile.

8.1 Limitation to merging of indicators from different sources

In the context of Sri Lanka, many of the data needed to compile the indicators identified in the previous sections are already available in the country. However, the data, particularly relating to household level information, are gathered through a number of different surveys conducted at different time intervals and on different samples. Therefore, merging of data to obtain the necessary set of indicators that are comparable spatially and within selected population groups to formulate a poverty profile is not possible with the existing data sets. However, if the ability existed to merge the cross-sectional data, it would permit to:

(a) analyse the behavioural aspects of the poor
(b) predict the consequences of policy/programme changes on the vulnerable poor by estimating a series of elasticities/coefficient for key input to household welfare through the development of a number of econometric models.

One of the reasons that prevents merging of indicators is also the differences in definitions of indicators used in different surveys. An example is the non-existence of a clearly defined poverty line for the country. This, as explained before has resulted in various poverty lines been defined by different surveys.

8.2 Implementation indicators versus development indicators

One of the major limitations in the available data in the administrative records of M & E Cells is that most of it relates to physical and financial target progress review indicators, such as implementation indicators of projects and programmes in keeping with the annual/project plan of a ministry/department. The regular collection of development or impact indicators through line ministries to conduct periodic evaluation of the 'living conditions' of the population served by these programmes/projects are scarce.

8.3 Non-reconciliation of data from macro and micro sources

Kahn (1989 – cited in Alailima 1997) compared the mean income and expenditure estimates for each of the surveys [18] with mean private consumption estimated from the National Accounts. He reported that both average per capita income and expenditure was lower than the national mean of personal consumption — the reported difference is 75 per cent less. He concluded that the reported surveys are likely to have underestimated both income and expenditure significantly (Alailima 1997).

Alailima (1997) however, points out that some of the reasons for underestimation by the surveys are:

- non-incorporation of displaced individuals in the surveys
- non-capturing of the cost of free educational and health services provided by the government -- this aspect is difficult to estimate unless an approximation is made by the data producer estimating a fixed computed value/coefficient which is then applied to each individual (by age and sex) in estimating household expenditure.

However, Glewwe (1985) concluded that the use of income data is less reliable than household expenditure data, particularly due to a high degree of under reporting of non-wage income. It should be noted that short-comings in data due to under reporting of income and expenditure by the households can be attributed to a number of factors — these are examined in 8.5 onwards.

8.4 Non- comparability of income data over time

The two main surveys, which compile household socio-economic information (Department of Census and Statistics and Central Bank), report income of households in nominal income groups. For instance, the following Table 4 gives the number of income groups used in the analysis of data.

[18] Kahn (1989) examined five surveys conducted between the Department of Census & Statistics and the Central Bank of Sri Lanka.

Over time, with inflation, the monetary value of the lower income groups becomes very small, as does the amount of households that belong to each of these groups. Although the data producers have attempted to remain within the same nominal value of income groups over time, it does not permit comparison over time. This is mainly because of:

- Over time the sample of lowest category of (nominal) income group has become very small -- with inflation the earlier demarcation of lower income groups becomes almost non-functional.
- Conversion of the given nominal income to real income which permits spatial comparison is not always possible as income of the groups is given as a range of income as opposed to group mean income.
- Since analysis of income/expenditure/consumption data is not conducted to identify those below a poverty line, the existing indicators cannot be used to identify the poor.

Table 4: Income Group categories used in the Consumer Finance Surveys from 1973- 1987

Year of survey	Number of income groups	Monetary value of lowest income group (Rs)	Monetary value of highest income group (Rs)
1973	27	0-25	Over 10,000
1978/79	28	0-50	Over 10,000
1980/81	25	0-50	Over 10,000
1986/87	29	0-50	Over 10,000

Source: Part II Consumer and Finance Survey reports of the Central Bank.

As a result of these shortfalls, the use of income data to indicate the resource distribution among the poor is restricted to analysis of variables within the income deciles or quintiles. An example is given in Table 5, which gives data from Central Bank and Department of Census & Statistics surveys.

These surveys have analysed a number of variables by income deciles/quintiles, which permit some degree of spatial comparison. However, it is not possible to identify the poor groups through deciles/quintiles analysis -- except perhaps through *ad hoc* selection such as considering the lowest decile or two as low-income groups.

Table 5: Relative Income Distribution from 1963-1991
(The percentage of total income received by each ten per cent of income receivers)

Income Decile	Income Receivers							
	1963*	1973*	1978/79*	1980/81**	1981/82*	1985/86**	1986/87*	1990/91**
1	1.17	1.8	1.2	1.4	1.21	1.4	1.09	1.9
2	2.7	3.17	2.56	3.1	2.49	2.1	2.45	3.3
3	3.56	4.38	3.6	4.4	3.47	4.22	3.4	4.3
4	4.57	5.7	4.76	7.4	4.61	3.6	4.39	5.3
5	5.55	7.1	5.93	5.8	5.57	4.9	5.69	6.4
6	6.82	8.75	7.29	8.1	6.93	6.8	6.79	7.5
7	8.98	10.56	9.12	8.6	8.56	8.1	8.37	9.2
8	11.46	12.65	11.23	13.7	10.64	11.1	11.08	10.8
9	16.01	15.26	15.26	13.7	14.82	12.7	15.37	14.8
10	32.24	29.98	39.05	33.8	41.7	45.1	41.37	36.5
Cumulative income of lowest 30%	7.43	9.35	7.36	8.9	7.17	7.72	6.94	9.5

Source: *Central Bank and **Department of Census and Statistics.

8.5 Use of expenditure data to compute consumption

A number of studies in Sri Lanka have used minimum dietary energy intake as a cut-off point to identify the poor. However, as the data used for such purpose are expenditure data which measure apparent consumption and not actual consumption, several errors can be introduced.

(a). The expenditure surveys do not collect information on those who actually participated at each meal, that is those household members who were absent for each meal and visitors who were included at each meal. As a result this can cause an overestimation in per capita consumption.

(b). Household expenditure surveys collect data on food purchases and quantities that are purchased during the week but not necessarily consumed in the survey week. For example, there can be instances where a bag of flour or a can of oil may be consumed over several weeks rather than within the week of purchase (Horton and Campbell 1991). Therefore, the use of expenditure data under such circumstances will overestimate consumption.

(c) Data from expenditure surveys is largely based on the householder's memory and his/her ability to recall; therefore, accuracy of such data will vary with each household (Hallfrisch 1994).

(d) Some carefully planned food consumption surveys also take note of food wastage. In such instances, expenditure data will overstate consumption. A study in the U.S.A showed that edible food in the refuse added up to nearly 8 per cent of the total weight of household garbage (Rathje 1978).

(e) In 'better-off' households in Sri Lanka, a substantial amount of food of the household is supplied to guests, domestic help and the poor. Therefore, examining total food nutrient available to the household without accounting for the persons present for meals will overestimate the actual consumption of the members of rich household. Similarly, the poor who obtain food as part of their wages will understate their food consumption levels (Subramanian and Deaton 1996).

Therefore, with available evidence, it is likely that typical food expenditure surveys may overestimate food and nutrient consumption. The use of dietary energy as a cut-off point to identify the poor will underestimate the population in poverty.

8.6 Effects of seasonal variation in food intakes

Most income/expenditure analyses in Sri Lanka have not taken into account the seasonal variation in resource availability. Therefore, depending on the time-period of data collection, there can be wide-variation in income and expenditure of the household.

A series of studies have been conducted on the issues of seasonality effects on household income, wages, food and nutrient consumption, nutritional status and food prices of rural households in particular which highlight the significant seasonal differences that exist in the developing countries (Sahn 1989). For instance, a study conducted in Sri Lanka shows that dietary energy intake amongst low-income households of a rural area in the pre-harvest period was 1400 kcals compared to 1580 in the post-harvest period (Tudawe 1986). Also the percentage of households that consumed between 60-80 per cent of adequacy (intake as a percentage of requirement) increased from 21 per cent in the 'peak food' period to 36 per cent in the 'lean food' period (Tudawe 1993).

8.7 Intra-household allocation of resources and effects on individual members

Majority of the studies examined for the present review examines availability of resources at the household level. These studies assume that any change in demand is divided equally according to some concept of 'needs'. For instance, this approach assumes that intra-household distribution of food is according to each member's nutritional need; that there is no 'discrimination' against any members of the household in distributing the available resources.

However, in reality a change in total household consumption may affect the welfare of different household members in different ways. This has implications for both measurements and policy (Haddad and Kanbur 1990,1993; Nelson 1993 cited in Lipton *et al.* 1995). Researchers have noted that except in times of famines in developing countries, malnutrition/undernutrition does not affect all members of the household equally (Pelto 1984; Gittelsohn 1991).

For instance, when resource availability within the household is less than that required to fulfil the nutritional needs of all members, it leads to discriminatory methods being adopted in allocating the resources among members. Certain household members are favoured through increased resource quantity or quality, as in foods (Gittelsohn 1991). The literature reports preferential food distribution based on the member's sex where males are favoured over females in countries such as Bangladesh (Koenig *et al.* 1986); Brazil (Gross *et al.* 1971); Great Britain (Deaton 1988); Ivory Coast (Taha 1978). Some of the reasons are discussed below.

Some children are given preferential treatment based on their parents' perceptions on future contributions to the household by the child (Kumar 1983). Results from an Indian study show that children who are expected to be more economically productive -- often males -- receive a larger share of family resources and have a greater propensity to survive (Rosenzweig and Schultz 1982). Behrman *et al.* (1990) show that there is parental bias towards low-birth order children in South India. Similarly some older children are nutritionally better provided for than younger children (Horton 1988). Adult males receive preferential food allocation and adult women least in rural Nepal (Gittelsohn 1991).

In most of the above instances, such preferential or discriminatory intra-household distribution of resources is a mechanism by which the household allocates resources in what is perceived to be the most rational way within the existing resource constraints and socio-economic environment (Lipton 1983; Edirisinghe 1988).

Preferential or discriminatory intra-household distribution of food also seems to be determined by the source of household income. Empirical evidence such as that from Senauer (1988), based on Filipino data, indicates that the mother's earned income has a positive impact on the relative calorie allocation of both herself and her children -- but a negative effect on the husband's allocation. However, an increase in income of the father or husband leads to an increase in his own and his wife's calorie intake but reduces the children's calorie intake. Similar evidence is available that expenditure pattern is affected by the share of the household income accruing to women -- and these results tend to hold for both earned and non-labour income (Hopkins *et al.* 1994). The findings that women tend to be better at distributing resources more equitably among children have given rise to the debate as to whether child benefit should be paid to the mother at a

welfare office or to the father via tax exemption on wages. Such debate has led policy makers to consider women as the target group for credit and small enterprise programmes (Hopkins *et al.* 1994).

Therefore, a need exists for information on intra-household allocation, particularly of the poor to reduce the vulnerable members of the population such as women and children being affected more from negative impact of policies.

9. Recommendations

1. One of the main and immediate tasks needed is to first establish a consensus among data producers and users of a method to estimate a national poverty line. The poverty line thus defined should be able to establish criteria to identify the "poor" and the "poorest" so that differential action can be taken for each group -- this will permit prioritisation of limited state resources to the most needy. Thereafter, an institution has to be identified to update the poverty line taking into account the effect of inflation and any changes in demand in relation to the basic basket of goods.

2. In general, the characteristics of the poor have not changed dramatically since 1970's. However, a clear profile of the poor is required as well as a mechanism to update the profile over time. Furthermore, as the poor do not consist of a homogenous group but consist of those from a number of occupation groups, close monitoring would provide information needed to address the specific problems or limiting factors that prevent these populations from moving out of poverty. Therefore, a system that monitors poverty of the poor first needs to:
   - identify the poor through a critical review/re-analysis of existing data sources, particularly the household surveys conducted during the last two decades (since implementing SAP)
   - once the vulnerable groups are identified, rank groups based on criteria of resource deprivation
   - establish focus group studies to monitor the socio-economic and behavioural changes of these selected households.

3. Conduct a workshop to obtain a consensus among data producers and users on definitions of variables used in collecting data from surveys. A selection of core indicators, with clear definition, to be covered by both Income/Expenditure Survey and Consumer Finance Surveys is needed. As the two surveys do not overlap in time, once similar core indicators are

provided, an 'almost' time-series analysis can be done to monitor poverty and related indicators and vulnerable segments of the population over time.

4. Re-analyse existing data from the Department of Census and Statistics in particular to build a data base of required indicators so that monitoring of changes of selected vulnerable households as well as time-series analysis will be possible. This can be done at a minimum cost as cost required is only for re-analysis of data.

   A poverty profile for Sri Lanka needs to be developed with the re-analysis of data . This will permit observation of any changes in the profile of the poor over time and understand to some extent the dynamics of poverty. The output of this exercise can then be an input to the process of selecting a number of population segments for detailed studies to capture the dynamics of poverty.

5. Attempt to build a network of information producers and users so that duplication is minimum and required additional data can be collected with riders.

6. Explore the possibility of adopting "small sample technique" to extrapolate data from a small sub-sample from the main survey so that findings of the small sample will be representative for that segment of the population under study.

7. With existing data from the various sources attempt to draw district profiles with indicators, including state expenditure on each district, available so that ranking of districts is possible. The ranking of districts or the development of a composite index for this task will help identify and prioritise districts for both state and foreign assistance needed for further social and economic updating. Most of the initial work required has been already done in the UNDP (1998) report but this needs updating and further refining.

8. Although most of the data generated are for monitoring of delivery of services rather than impact indicators, there are a number of sources that collect data regularly which can be used as impact indicators. For instance, the data on birth weight, nutritional status of children under five and their immunisation status is collected monthly by the Public Health Midwives. The Family Health Bureau through the network of Mother and Child clinics can collect this information monthly within the existing structure without any additional costs.

9. The importance of obtaining data to assess intra-household allocation of resources was highlighted earlier. At present, data on this aspect is negligible. Although data on this aspect

is difficult to obtain, an attempt should be made to collect such data through the intended focus group studies.

10. Many of the data collected and indicators formulated pertain to quantitative aspects of monitoring poverty. Although difficult, qualitative data on social aspects of poverty needs to be incorporated into the monitoring mechanism.

11. Develop Econometric models to predict effect of changes in relative prices, income and public goods on the different segments of population.

12. Identify common methods for analysing data by income groups – i.e. income deciles, income value as opposed to a range so that it would permit spatial comparisons.

13. Increase accuracy of data collection as far as possible.

14. Identify NGOs working in areas of at-risk or vulnerable population groups and utilise them to monitor poverty related indicators of these groups with minimal additional costs.

References

Alailima, P. (1997) *Poverty and Unemployment in Sri Lanka*, Department of National Planning, Ministry of Finance and Planning, Colombo.

Anand, S. and C. Harris (1990) "Food and Standard of Living: An Analysis Based on Sri Lanka Data" In J. Dreze and A.Sen, (ed). *The Political Economy of Hunger,* Oxford University Press. pp. 297-350, Oxford.

Barrios,E.B. (1998) "Small Area and Sub-Domain Estimation of Selected Socio-Economic Indicators", *MIMAP-Philippines Research Paper Series No.36*, Philippines Policy and Development Foundation, Manila.

Behrman, J.R. (1990) "The Action of Human Resources and Poverty on One Another", *Living Standards Measurement Study Working Paper No. 74*, World Bank, Washington.

Behrman, J.R. (1991) "Nutrition, Health and Development", in G. Psachacharopoulos (ed.). *Essays on Poverty, Equity and Growth*, pp. 79-17, World Bank, Persimmon Press, New York.

Bhalla, S and P. Glewwe (1986) "Growth and Equity in Developing Countries: A Reinterpretation of the Sri Lankan Experience", *World Bank Economic Review*, 1:35-63.

Central Bank (1969), *Report on Consumer Finances and Socio-economic Survey of 1963: Part I*, Statistics Department, Central Bank of Sri Lanka, Colombo, Sri Lanka.

Central Bank (1970-1993) *Annual Report*, Central Bank of Sri Lanka, Colombo, Sri Lanka.

Central Bank (1978) *Report on Consumer Finances and Socio-economic Survey of 1973: Part I*, Statistics Department, Central Bank of Sri Lanka, Colombo, Sri Lanka.

Central Bank (1982) *Report on Consumer Finances and Socio-economic Survey of 1978/79: Part I*, Statistics Department, Central Bank of Sri Lanka, Colombo, Sri Lanka.

Central Bank (1985) *Report on Consumer Finances and Socio-economic Survey of 1981/82: Part I*, Statistics Department, Central Bank of Sri Lanka, Colombo, Sri Lanka.

Central Bank (1993) *Report on Consumer Finances and Socio-economic Survey of 1986/87: Part I*, Statistics Department, Central Bank of Sri Lanka, Colombo, Sri Lanka.

Cornia, G.A, R. Jolly, and F. Stewart (1987) *Adjustments with a Human Face*, Volume I and II, Clarendon Press, Oxford.

D.L.Kumaradasa (1998) *Monitoring and Evaluation for the Samurdhi Programme*, Monitoring and Evaluation Unit, Samurdhi Authority, Colombo, Sri Lanka.

De Vega, M.C. and B.S. Fisher (1983) *An Empirical Study of Food Consumption in Rural and Urban Household of the Philippines*, Research Report No. 9, Department of Agriculture.

Deaton, A. and J. Muellbauer (1980) "An Almost Ideal Demand System", *American Economic Review,* 70: 312-326.

Deaton, A. (1981) *Three Essays in a Sri Lankan Household Survey,* Living Standard Measurement Study, Working Paper No.11, World Bank ,Washington.

Deaton, A. (1988) "The Allocation of Goods within the Households: Adults", *Children and Gender: Living Standards Measurement Study*, Working Paper No.39, World Bank, Washington.

Deaton, A. (1989) "Household Survey Data and Pricing Policies in Developing Countries", *World Bank Economic Review*, 3:183-210.

Department of Census and Statistics (1950- 1993) *Annual Food Balance Sheet*, Department of Census and Statistics, Ministry of Finance, Planning and Ethnic Affairs, Sri Lanka.

Department of Census and Statistics (1983) *Labour Force and Socio-Economic Survey 1980/81 Sri Lanka; Household Income and Expenditure*, Department of Census and Statistics Ministry of Plan Implementation, Sri Lanka.

Department of Census and Statistics (1987a) *Labour Force and Socio-Economic Survey 1985/86 Sri Lanka;* Preliminary Report, Department of Census and Statistics, Ministry of Plan Implementation, Sri Lanka.

Department of Census and Statistics (1987b) *Socio-Economic Indicators of Sri Lanka*, Ministry of Finance and Planning, Colombo.

Department of Census and Statistics (1988) *Income Distribution and Poverty in Sri Lanka*, Department of Census and Statistics, Ministry of Plan Implementation, Sri Lanka.

Department of Census and Statistics (1993a) *Household Income and Expenditure Survey 1990/91*, Final Report, Department and Census and Statistics, Ministry of Policy Planning and Implementation, Sri Lanka.

Department of Census and Statistics (1993b) *Weekly Retail Prices*, Department of Census and Statistics, Ministry of Plan Implementation, Sri Lanka.

Department of Census and Statistics (1994) *Quarterly Report of the Labour Force Survey of Sri Lanka*, Department of Census and Statistics, Ministry of Finance, Planning and Ethnic Affairs, Sri Lanka.

Department of Census and Statistics (1996) *Demographic Survey 1994 of Sri Lanka*, Ministry of Finance and Planning, Colombo.

Department of Census and Statistics (1997) *Statistical Abstract*, Ministry of Finance and Planning, Colombo.

Department of Health, U.K. (1991) *Dietary Reference Values for Food Energy and Nutrients for the United Kingdom,* Report on Health and Social Subjects 41, HMSO London.

Department of National Planning (1997) *Public Investment Programme 1997-2001*, Ministry of Finance and Planning, Colombo, Sri Lanka.

Edirisinghe, N. (1987) *The Food Stamp Scheme in Sri Lanka: Costs, Benefits and Options for Modification*, Research Report 58, International Food Policy Research Institute, Washington.

Edirisinghe, N. (1988) "Food Subsidy Changes in Sri Lanka: The Short-run Effects on the Poor", in P. Pinstrup-Andersen (ed.). *Food Subsidies in Developing Countries: Costs, benefits and Policy Options,* Johns Hopkins University Press, pp. 253-266, Baltimore.

Edirisinghe, N. (1990) Poverty in Sri Lanka: Its Extent, Distribution and Characteristics of the Poor, (mimeo) paper submitted to the World Bank for the Sri Lanka Poverty Alleviation and Employment Project.

Gittelsohn, J. (1991) "Opening the Box: Intra-household Food Allocation in Rural Nepal", *Social Science and Medicine*, 33: 1141-15-154.

Glewwe, P. (1985) *The Distribution of Income in Sri Lanka*, 1969-70 and 1980-81, World Bank, Mimeo.

Glewwe, P. and V.D.J. Gaag (1988) *Confronting Poverty in Developing Countries: Definition, Information and Policies*, Living Standard Measurement Study Working Paper No. 48, The World Bank, Washington.

Gross, D.R. and B.A.Underwood (1971) "Technological Change and Calorie Costs: Sisal Agriculture in North-eastern Brazil", *American Anthropology*, 73(3) :725-740.

Gunaratne, I. (1985) *Present Status of Knowledge on Poverty, Income Distribution and Welfare in Sri Lanka: A Statistical Review*, Colombo, Mimeo.

Haddad, L. and R. Kanbur (1992) "Intra-household Inequality and Theory of Targeting", *European Economic Review*, 36 :372-378.

Hallfrisch, J. (1994) "What are People Really Eating ? Comparison of Dietary Intake Methods", I. M. Wahlqvist *et al* (ed), *Nutrition in a Sustainable Environment*, Proceedings of the XV International Congress of Nutrition, pp. 826-829, Gordon-Smith, United Kingdom.

Harberger, A.C. (1978) "On the use of Distributional Weights in Social Cost-Benefit Analysis". *Journal of Political Economy*, 86(supplement): S87-S120.

Harberger, A.C. (1983) "Basic Needs Versus Social Cost-Benefit Analysis", in R.H.Haveman and J. Margolis (ed.), *Public Expenditure and Policy Analysis*, Houghton Muffin Company, Boston.

Hopkins, J., C. Levin and L. Haddad (1994) "Women's Income and Household Expenditure Patterns: Gender or Flow - Evidence from Niger", *American Journal of Agricultural Economics*, 76 : 1219 - 1225.

Horton, S. (1988) "Birth Order and Child Nutritional Status: Evidence from the Philippines". *Economic Development and Cultural Change*, 5 :341-354.

Horton, S. and C. Campbell (1991) "Wife's Employment, Food Expenditure and Apparent Nutrient Intake: Evidence from Canada", *American Journal of Agricultural Economics*, 73:784 Employment Project.

IRED (1995) *Development NGOs of Sri Lanka: A Directory*, Colombo.

Koenig, M.A. and S. D'Souza (1986) "Sex Differences and Childhood Mortality Rates in Rural Bangladesh", *Social Science and Medicine*, 22:15-22.

Kumar, S.L.A. (1983) "A Framework for Tracing Policy Effects on Intra-household Food Distribution", *Food and Nutrition Bulletin*, 5:13-15.

Lamberte, M.B., G. M. Llanto and C. O. Orbeta (1992) *Micro Impacts of Macroeconomic Adjustment Policies:Phase II Integrative Report*, MIMAP Research Paper No.2 MIMAP-Philippines, Manila.

Lipton, M. (1983) *Poverty, Undernutrition and Hunger*, World Bank Staff Working Paper, No.597, World Bank, Washington.

Lipton, M. (1988) *The Poor and the Poorest :Some Interim Findings*, World Bank Discussion Paper, No.25, World Bank, Washington.

Lipton, M. and M. Ravallion (1995) "Poverty and Policy" in J.R.Behrman and T.N. Srinivasan (eds.), *Handbook of Development Economics*, Volume IIIB, Elsevier, pp. 2553-2607, New York.

Mahaweli Authority of Sri Lanka (1997) *Mahaweli Statistical Handbook*, Planning and Monitoring Unit, Colombo, Sri Lanka.

Marga Institute (1981) *An Analytical Description of Poverty in Sri Lanka*, Colombo, Sri Lanka.

Michalopoulos, C. (1987) "World Bank Programmes for Adjustment and Growth", in V.Corbo, M.Golstein and M.Khan (eds). *Growth-Oriented Adjustment Programmes,* International Monetary Fund, pp. 15-61, Washington.

Ministry of Plan Implementation (1997a) *Poverty Among Female Headed Households in Sri Lanka*, Colombo, Sri Lanka.

Ministry of Plan Implementation (1997b) *Baseline for the Samurdhi Programme in Sri Lanka*, Colombo, Sri Lanka.

Ministry of Samurdhi, Youth Affairs and Sports (1998) *Progress for 1998 and Programmes for 1999*, Colombo, Sri Lanka.

Pelto, G. (1984) "Intrahousehold Food Distribution Patterns", in G. Davis (ed). *Malnutrition: Determinants and Consequences*, Alan R. Liss, Inc., New York.

Pinstrup-Andersen, P. (1985) "Food Prices and the Poor in Developing Countries", *European Review of Agricultural Economics*, 12:69-81.

Pinstrup-Andersen, P. (1988) "Macroeconomic Adjustments and Human Nutrition", *Food Policy*, 13(1):37-46.

Pinstrup-Andersen, P. (1989) "Impact of Macroeconomic Adjustments, Food Security and Nutrition", in (ed) S.Commander, *Structural Adjustments and Agriculture: Theory and Practice in Africa and Latin America*, Overseas Development Institute, pp.90-106, London.

Pinstrup-Andersen, P. (1993a) "Economic Crisis and Policy Reforms during the 1980s and Their Impact on the Poor", *Macroeconomic Environment and Health,* World Health Organisation, Geneva, pp. 85-114.

Pinstrup-Andersen, P. (1993b) (ed.) *The Political Economy of Food and Nutrition Policies*, Published for IFPRI, Johns Hopkins Press, Baltimore.

Pinstrup-Andersen, P. and E. Caicedo (1978) "The potential Impact of Changes in Income and Distribution on Food Demand and Human Nutrition", *American Journal Of Agricultural Economics*, 68:402-415.

Pinstrup-Andersen, P. and R. Pandya-Lorch (1994) *Poverty and Income Distribution Aspects of Changing Food and Agricultural Policies During Structural Adjustments*, Reprint No. 297, International Food Policy Research Institute, Washington.

Plantation Industries Division (1997) Plantation Sector Statistical Pocket Book, Planning Division, Ministry of Public Administration, Home Affairs and Plantation Industry, Colombo, Sri Lanka.

Rathje, W.L. (1978) "Archaeological Ethnography: Because Sometimes it is Better to Give Than to Receive". in R.A. Gould (ed). *Explorations in Ethno-archaeology*, University of New Mexico Press, pp.49-75, Albuquerque.

Ratnayake, R.M.K. (1998) *Sri Lanka: Poverty Sector Study*, Samurdhi Authority of Sri Lanka, Colombo, Sri Lanka.

Ravallion,M. and B. Bidani (1994) "How Robust is a Poverty Profile?", *World Bank Economic Review*, 8(1):75-102.

Regional Development Division (1995) *Integrate Rural Development Programmes – 15 Years Experience in Sri Lanka*, Ministry of Plan Implementation, Colombo, Sri Lanka.

Regional Development Division(1998) *District Capital Investment Programmes*, Colombo, Sri Lanka.

Rosenzweig, M.R. and P. T. Schultz (1982) "Market Opportunities, Genetic Endowments and Intra-family Resource Distribution: Child Survival in Rural India", *American Economic Review*, 72:802-813.

Sahn, D. (1984) *Food Consumption Patterns and Parameters in Sri Lanka : The Causes and Control of Malnutrition*, (mimeo), United States Agency for International Development, Sri Lanka.

Sahn, D. (1987) "Changes in the Living Standards of the Poor in Sri Lanka during a Period of Macroeconomic Restructuring", *World Development*, 15:809-830.

Sahn, D. (1988) "The Effect on Price and Income Changes on Food -Energy intake in Sri Lanka", *Economic Development and Cultural Change*, 36:315-340.

Scandizzo, P.L. and O.K. Knudsen (1980) "The Evaluation of the Benefits of the Basic Need Policies", *American Journal of Agricultural Economics*, 62:46-57.

Streeten, P., S.J. Burki., N. Hicks and F. Stewart (1981) *First Things First: Meeting Basic Needs in Developing Countries*, World Bank, Oxford University Press, Oxford.

Taha, S.A. (1979) " Household Food Consumption in Five Villages in the Sudan", *Ecology of Food and Nutrition*, 7 :137-142.

Tobin, J. (1958) "Estimation of Relationship for Limited Dependent Variables", *Econometrica*, 26:24-36.

Tudawe, P.I. (1993), *A Study on Household Food Consumption, Income and Expenditure Patterns in The Kirindi Oya Irrigation and Settlement Scheme*, mimeo, Agrarian Research and Training Institute, Sri Lanka.

UNDP (1998) *National Human Development Report*, Colombo, Sri Lanka.

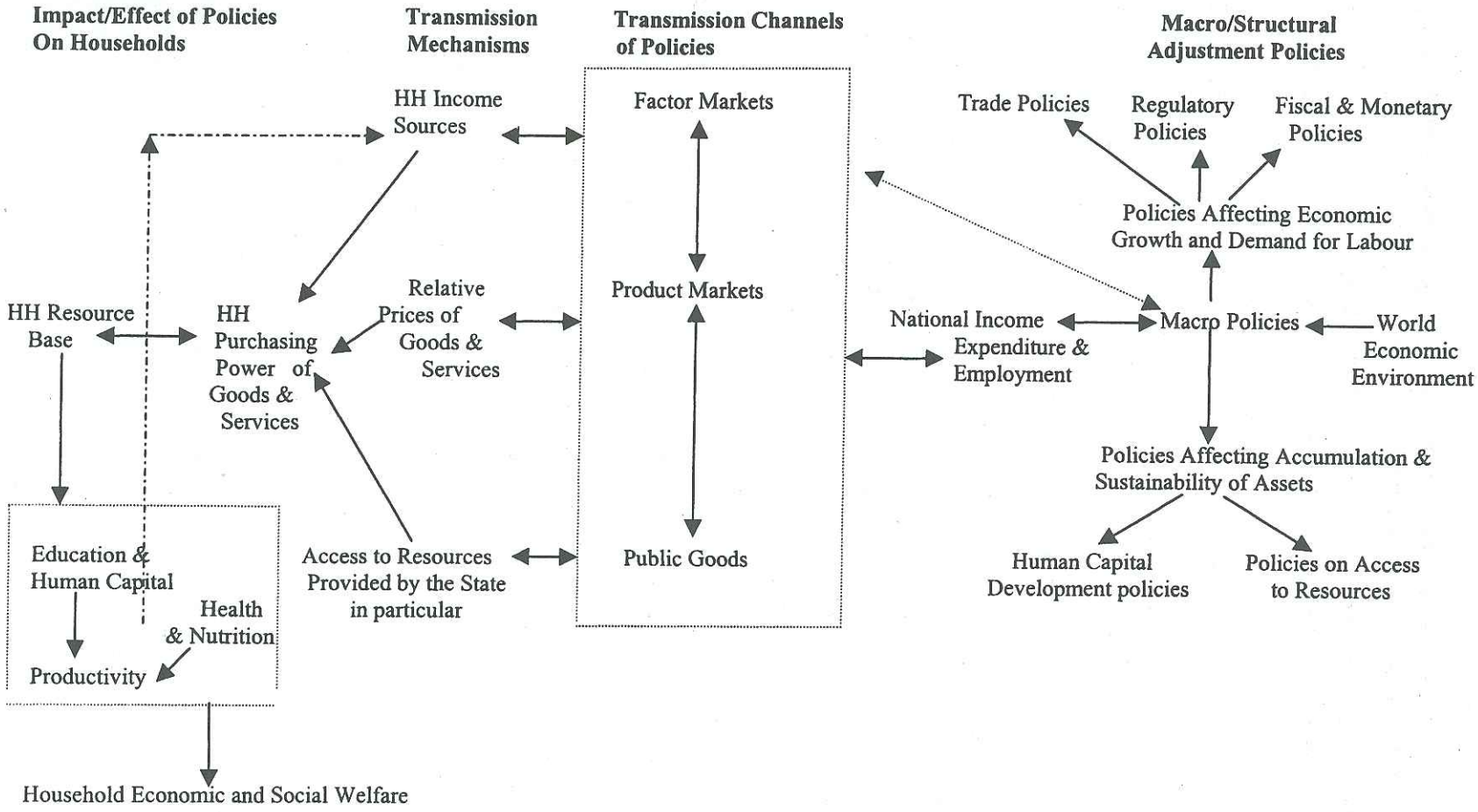
UNICEF(1987) "Sri Lanka: The Social Impact of Economic Policies During the Last Decade", in Cornia, G.A., Jolly, R. and Stewart, F. (eds). *Adjustments with a Human Face*, (Volume II) Clarendon Press, pp. 238-271, Oxford.

Visaria, P. (1981) *Some Aspects of Relative Poverty in Sri Lanka 1969- 1970,* World Bank Staff Paper, No.461, World Bank, Washington.

World Bank (1993) *Poverty Reduction Handbook*, Washington.

World Bank (1995) *Sri Lanka Poverty Assessment*, Report No.13431-CE, World Bank, Sri Lanka.

Figure 1: Micro Impact of Macroeconomic Policies: Conceptual Framework



Source: Adapted using material from (1) Lamberte et al (1991); (2) Lamberte et al (1992); (3) Poverty Reduction Handbook (1993).

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