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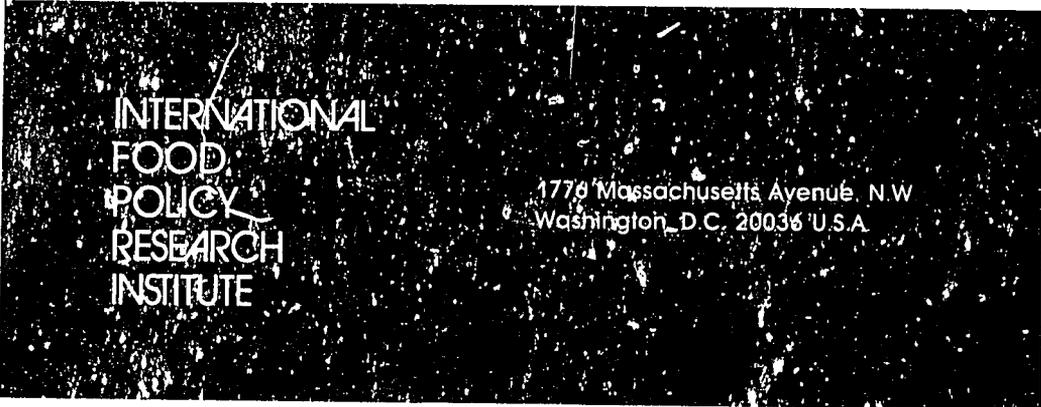
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# Changes in the Living Standards of the Poor in Sri Lanka During a Period of Macroeconomic Restructuring

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# Changes in the Living Standards of the Poor in Sri Lanka During a Period of Macroeconomic Restructuring

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**Summary.** — Beginning in 1977, Sri Lanka moved away from its welfare-oriented economy characterized by extensive government intervention in controlling prices and expensive consumer subsidies toward a more market-oriented, outward-looking liberalized economy. Investment increased due largely to dramatic increases in the inflow of foreign capital combined with greater deficit financing. Unemployment declined and the rate of growth of GDP increased. The major increase in foreign assistance, coupled with deficit spending, enabled the government to undertake the ambitious infrastructure projects that stimulated demand. However, this policy change had deleterious consequences for the poor. Rapid inflation which resulted in a decline of real wages, coupled with dramatic decreases in the value of the food stamp scheme, brought about a decline in caloric consumption for lower expenditure groups. In addition, levels of malnutrition, as measured by acute wasting, were higher after the policy change.

## 1. INTRODUCTION

Many developing countries will not resolve the problems of poverty and malnutrition during this century (Reutlinger and Selowsky, 1976, p. 7). This may be attributable to a combination of factors, some of which emanate from the conflicts embodied in promoting short-term welfare at the expense of economic growth. It has been observed that in the course of economic development, there is initially an increase in the disparity between the rich and the poor (Kuznets, 1972). Even in countries that have successfully raised per capita income, the welfare of individuals in the lower deciles of the income distribution has sometimes deteriorated (Adelman, Adelman, and Taft, 1973; Cline, 1975, p. 359). Therefore, the question remains as to what strategies can potentially lead countries out of the trap of poverty and malnutrition.

One model for addressing the problem of undernutrition has variously been described as the basic human needs or equity-oriented strategy to economic development. The fundamental tenet of this approach is to place priority on a macro-policy set concerned less with growth in the aggregate and more with the assurance of access to education, food, health care, and so forth. This emphasis on social

development at the expense of growth in the GNP was perhaps best embodied in the case of Sri Lanka from 1960 to 1977. That year marked the ascendancy of a newly elected government which abandoned what Lal (1983) refers to as the *dirigiste* dogma, characterized by the government controlling wages, trade, prices, and distribution of productive assets, in favor of promoting a more market-oriented, outward-looking economy. While the details of the policy change are discussed below, the shift from a welfare to a more growth-oriented macro-policy set raises the question as to what has been the effect on the nutritional status and levels of consumption among the poor. This will be addressed, without attempting to distinguish to what extent the basic needs accomplishments of Sri Lanka in the 1970s were facilitated by the initial conditions inherited

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from the pre-independence period or from the policies of post-independence government.<sup>1</sup>

## 2. THE SURVEYS

Results from four consumption and expenditures and two nutritional status surveys conducted at various points in time are compared in order to gain insight into the changes which have occurred in nutrition, consumption, and poverty in Sri Lanka. In performing any static comparative analysis, it is important to recognize that due to a combination of government policies (for example, those concerning subsidies, pricing, exchange rates, budget deficits, and imports), international economic forces (such as the terms of trade) and climatic variability, there are year-to-year instability and cyclical patterns in consumption and poverty (Mellor and Desai, 1985). This serves as a warning that interpreting survey findings requires that they be placed in the

context of the time in which the data were collected.

Chronologically, the first survey in the series reported on in this paper is the 1969/70 Socio-Economic Survey.<sup>2</sup> From the food production indices, it can be seen that rice production was at a peak at the time of the survey, although this performance was not matched by production of other crops, such as coconuts and tea, whose production was below trend levels in 1970 (see Table 1). Therefore, total agricultural production was not outstandingly high as compared to the years which followed. The aggregate figures on the availability of total food and calorie intake (derived from FAO food balance sheets) indicate that this survey was performed at a culmination in the trend of increase that occurred in these variables during the 1960s. The real value of the food subsidy program, however, was in fact lower than the years which followed the survey period (see Table 2).

The second survey reported on is the 1975/76

Table 1. Sri Lanka volume indices of total agricultural production and major components and per capita calorie intake, 1960-82 (1970 = 100)

Year	Tea	Rubber	Coconut	Paddy	Other domestic food crops	Total agricultural production*	Calorie intake (per capita)
1960	92.9	62.3	87.0	55.5	64.0	72.3	2,183
1961	97.2	61.6	79.7	55.8	68.3	73.8	2,168
1962	100.0	65.4	112.0	62.1	63.3	78.8	2,012
1963	103.8	66.1	101.8	63.5	79.5	84.0	2,118
1964	102.9	70.4	119.5	65.2	78.1	86.4	2,086
1965	107.5	71.8	106.8	46.9	73.4	80.9	2,154
1966	104.7	82.4	98.0	59.0	72.0	81.7	2,229
1967	104.3	89.9	96.3	71.1	85.8	89.1	2,184
1968	106.1	93.7	103.6	83.6	87.7	94.0	2,169
1969	103.8	95.0	97.2	85.1	93.5	94.9	2,179
1970	100.0	100.0	100.0	100.0	100.0	100.0	2,371
1971	102.9	88.7	104.0	86.3	105.5	99.2	2,231
1972	100.5	88.0	118.0	81.2	111.6	101.4	2,158
1973	99.5	97.5	77.0	81.2	121.8	99.9	2,169
1974	96.3	83.0	80.9	99.1	128.3	104.2	2,136
1975	100.9	93.7	95.5	71.4	136.1	105.0	2,127
1976	92.9	95.6	92.8	77.5	141.7	105.9	2,172
1977	98.6	91.8	72.5	103.8	154.8	114.1	2,343
1978	93.9	98.1	87.9	117.0	155.9	118.5	2,325
1979	97.2	96.2	95.3	128.6	156.2	122.7	2,317
1980	90.1	83.6	80.7	132.0	163.5	121.0	2,169
1981	99.1	78.0	89.9	138.0	176.6	129.5	2,200
1982	88.7	78.6	100.0	133.4	188.5	131.3	2,189

\*The overall agricultural output index is the weighted average of the five component indices, using as weights the estimated share of each group in the value of total agricultural output in 1969-71 (average), i.e., tea (0.246), rubber (0.086), coconut (0.133), paddy (0.207), and domestic food products (0.328).  
Sources: Thorbecke and Svejnar (1984); Ministry of Plan Implementation (1982); *Statistical Abstract* (1982) and FAO Food Balance Sheets.

Table 2. *Macroeconomic statistics, 1970-84 (in Rs 000,000)*

Year	GDP				Budget deficits		Public debt outstanding		Balance of trade		Foreign financing of cash deficit		Total aid commitments (\$)	Price of terms of trade (1978 = 100)	Savings ratio†	Percent current expenditures on health and education	Percent current expenditures on food subsidies
	GDP deflator	Nominal	Real*	Real rate of change	Nominal	Real	Nominal	Real	Nominal	Real	Nominal	Real					
1970	1.00	13,187	13,187	...	956	936	7,237	7,237	-316	-316	235	235	92.2	106	15.8	...	...
1971‡	1.02	13,674	13,406	1.7	1,083	1,062	8,108	7,949	-287	-281	235	230	125.6	98	...	25	16
1972§	1.06	14,720	13,887	3.6	1,036	977	7,558	7,130	-255	-241	284	268	132.9	94	...	25	17
1973	1.25	17,920	14,336	3.2	992	794	10,281	8,225	-299	-239	179	143	87.5	82	...	24	11
1974	1.60	22,300	13,938	2.8	1,599	999	11,027	6,892	-1,267	-792	378	236	161.8	72	...	22	16
1975	1.73	25,691	14,850	6.5	2,699	1,560	12,960	7,491	-1,318	-762	714	413	376.8	58	8.1	21	17
1976	1.83	28,032	15,318	3.2	3,576	1,954	15,621	8,536	170	93	957	523	198.2	78	13.9	22	11
1977	2.16	34,684	16,057	4.8	3,074	1,423	22,434	10,386	631	292	1,255	581	249.5	102	18.1	22	16
1978	2.33	40,479	17,373	8.2	7,165	3,075	27,746	11,908	-1,481	-636	3,953	1,697	400.1	100	15.3	13	12
1979	2.69	49,782	18,506	6.5	8,791	3,268	31,512	11,714	-7,287	-2,709	3,738	1,390	568.7	72	13.8	15	14
1980	3.18	62,246	19,574	5.8	16,274	5,118	46,779	14,710	-16,347	-5,141	6,136	1,930	627.5	58	11.2	14	7
1981	3.83	79,337	20,715	5.8	14,866	3,881	58,569	15,292	-15,539	-4,057	7,601	1,985	815.3	46	11.7	15	7
1982	4.21	92,398	21,947	5.9	20,091	4,772	71,250	16,924	-20,492	-4,867	8,121	1,929	554.4	38	11.8	17	5
1983	4.87	112,173	23,033	4.9	21,606	4,436	86,423	17,746	-20,461	-4,201	9,785	2,009	368.3	44	13.8	16	4
1984	5.72	138,181	24,158	4.9	16,543	2,892	95,741	16,738	-10,194	-1,782	10,653	1,862	...	50	20.0	...	3

Source: Central Bank of Ceylon, *Annual Reports* and Department of Census and Statistics, *Economic and Social Statistics of Sri Lanka, 1978-84*.

\*Real values are calculated using the GDP deflator reported by the Central Bank of Ceylon.

†The ratio of gross domestic savings to GDF. It is noteworthy that while domestic savings actually declined, national savings actually increased by a small amount, the difference being net private transfers from abroad and net factor income from abroad.

‡Refers to 1970/71 since prior to 1973 data were not available by calendar year.

§Refers to 1971/72 since prior to 1973 data were not available by calendar year.

Nutritional Status survey.<sup>3</sup> It took place at the time of an upturn in the economy following the first oil shock and world food crises of 1972-74. This improvement beginning in 1975 is represented by a moderation in food prices, improving terms of trade, higher levels of food production, increasing value of food subsidies, and generally better economic performance than that which characterized the period 1972-74 (see Table 2 and Figure 1).<sup>4</sup>

The third survey discussed in this paper is the 1978/79 Consumer Finance Survey (CFS).<sup>5</sup> It was conducted subsequent to the change in government which occurred in late 1977 and during a period of rapid increase in paddy production which had begun in 1976. Total agricultural production was growing at a slower pace than the paddy sector due to the continued lethargic performance of the estate sector crops — tea, rubber, and coconuts. The amount of subsidized rice provided to consumers had also begun to decline,<sup>6</sup> and the quantity food rationing scheme was retargeted in 1978 to include only the lower half of the income distribution. The percent of current expenditures on health and education dropped from 22%, which had prevailed for the previous few years, to 14% in 1978/79. The upward trend in consumer prices, which continued in earnest for the next three years, had also begun. But most important was the con-

tinuance of the accelerating rate of economic growth which had begun in 1976 and 1977 before the change in government. This reflected the factors such as improving terms of trade, a rise in foreign investment mostly in the form of aid, and the increased domestic food production that was recorded during this survey period.

The 1980/81 Socio-Economic Survey,<sup>7</sup> as well as the 1980/82 Nutrition Status Survey,<sup>8</sup> were conducted amidst a period of rapidly rising food prices. The terms of trade were also deteriorating, and the government began to curtail public spending and adopt other austerity measures to reduce budget deficits and a negative balance of trade. Nevertheless, GDP growth continued to be strong. Paddy production continued to increase although there were actual declines noted in per capita food availability. The tea sector's stagnant level of production was in keeping with that experienced from 1976 through 1982, as was the case of the other major export crops, rubber and coconut. The cuts in the value of food subsidies in the form of the food stamp program were by now severe.

The most recent consumption survey was the 1981/82 Consumer Finance Survey.<sup>9</sup> Inflation and the consequent erosion in the value of food subsidies continued. The rather high rate of GDP growth was slowing, and the precipitous increase in net receipts of foreign assistance had leveled

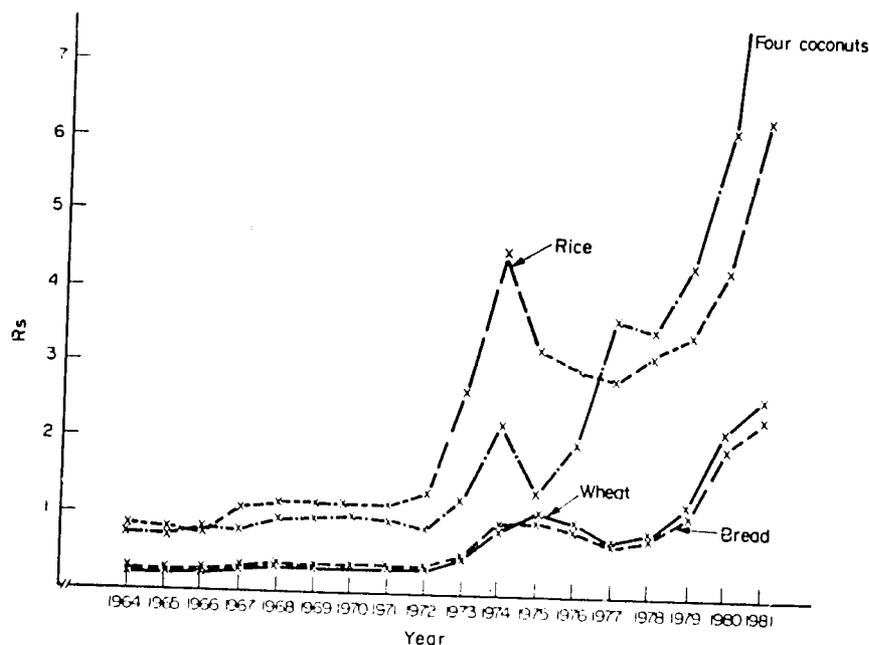


Figure 1. Retail prices — Colombo annual average. Source: Ministry of Plan Implementation (1982).

off. The terms of trade continued to decline, the traditional export sector failed to exhibit increased levels of output, and public debt grew to over Rs 70 million in the face of increased borrowing to sustain domestic spending programs. New austerity measures, including exchange depreciation, were adopted.

### 3. RESULTS OF COMPARISONS

#### (a) *Nutritional status surveys*

Malnutrition in a population is usually measured using two indicators derived from anthropometric data on the weight and height of children. The first, height-for-age, indicates whether growth has been stunted and how many children suffer from chronic undernutrition due to previous periods of inadequate dietary intake and/or episodes of infection. The second, weight-for-height, indicates the degree of wasting. It is used to estimate the extent of acute malnutrition. Weight-for-height measures present nutritional status; children who suffer from wasting are usually in need of immediate attention. In addition, the percentage of the population whose weight-for-height and height-for-age are both below standards is an indicator of concurrent chronic stunting and acute wasting.

The anthropometric data collected from the 1975/76 and 1980/82 surveys were analyzed in accordance with the recommendations of the World Health Organization (WHO, 1983) using the reference population of the National Center for Health Statistics as a standard of comparison (US Public Health Service, 1976).<sup>10</sup>

The comparison of the two surveys in Table 3 distinguishes between rural areas and estates, in addition to the more customary distinction between urban and rural areas. No data on urban areas were collected in 1975/76. In Sri Lanka, the estates that produce export crops, such as tea, as well as rubber and coconut, are worked primarily by ethnic Tamils.<sup>11</sup> These agricultural laborers, who live in communities attached to their work places, comprise 7.3% of the households in Sri Lanka. This is in contrast to other workers in rural areas, who produce primarily food and fiber for the domestic economy.

The two surveys show that the problem of stunting on the estates is most severe, and increases rapidly with each age cohort. This reflects the accumulation of previous episodes of growth failure due to undernutrition. Wasting is most severe among children 12-23 months, reflecting their vulnerability to diseases such as diarrhea during the weaning period, when breast

milk is no longer adequate for growth. There were fewer stunted children found in 1980/82 than in 1975/76. This reflects that the height-for-age data from the 1975/76 survey would have captured the effects of the stunting that resulted from dietary shortfalls in 1972-74 which, as discussed below, is when domestic harvests were poor, food prices were high, and the world food crisis occurred. The data on stunting from 1980/82, on the other hand, reflect the relatively better degree of food security for the poor in Sri Lanka during 1976-79. At that time, the quantity rationing food subsidy scheme was still in effect, the value of food transfers had not eroded, and the prices of important food crops had yet to increase dramatically.

The percentage of children suffering from acute malnutrition was higher in 1980/82 than in 1975/76. Overall, there was a 64% increase in wasting in the rural sector from one survey to the next. The increase was especially high among the 6-11 month-old age cohort. This undoubtedly reflects a combination of a decline in dietary intake, more episodes of infection, and less favorable birth outcomes conditioned by the mother's health and nutritional status. The prevalence of concurrent wasting and stunting is also higher in 1980/82 than in 1975/76, although the difference is less than for wasting alone due to the countervailing effect of the lower levels of stunting in the latter survey period.

#### (b) *Income, expenditure and consumption survey*

Four national surveys collected food consumption data over a seven-day period, with expenditures on semi-durables and durables reflecting purchases during either the last month, last six months or last year, depending on the item. In addition, information on income and employment as well as a variety of demographic data were collected. All survey data were cleaned and analyzed using identical procedures. Data collection employed a nearly identical questionnaire to gather the food consumption data, although there were slight differences in the definition of some minor food items and changes in units of measurement from one survey to the next. The sampling frames were all based on the existing census blocks, as determined by the most recent population censuses. So although the 1969/70 and 1980/81 surveys were conducted by the Department of Census and Statistics, and the 1978/79 and 1981/82 by the Central Bank, the findings of the consumption data are indeed comparable.

As a measure of changes in consumption,

Table 3. *Malnutrition among children, by age and sector, 1980-82 and 1975/76*

Measure of malnutrition/ Sector	Age of children											
	6-11 Months		12-23 Months		24-35 Months		36-47 Months		48-60 Months		Average	
	1980-82	1975/76	1980-82	1975/76	1980-82	1975/76	1980-82	1975/76	1980-82	1975/76	1980-82	1975/76
Percentage stunted*												
Urban areas	15.8	...	32.9	...	34.1	...	38.0	...	40.8	...	33.6	...
Rural areas	15.8	19.3	33.9	38.6	34.8	43.2	42.5	50.3	48.5	60.1	36.3	44.0
Estates	41.5	44.3	59.6	67.4	64.3	74.2	62.6	79.0	68.0	85.1	60.6	72.0
All island	17.7	...	35.3	...	36.6	...	42.7	...	48.0	...	37.3	...
Percentage wasted†												
Urban areas	12.4	...	14.2	...	10.5	...	4.5	...	4.7	...	10.5	...
Rural areas	13.4	5.2	24.3	18.1	16.1	9.8	6.7	4.4	5.9	3.1	13.8	8.4
Estates	14.2	3.8	24.6	23.6	18.0	12.6	6.7	8.1	5.1	4.6	14.3	11.2
All island	13.2	...	23.1	...	14.9	...	6.2	...	5.6	...	13.1	...
Percentage stunted and wasted‡												
Urban areas	1.1	...	7.9	...	5.6	...	2.4	...	1.4	...	4.1	...
Rural areas	1.4	1.8	8.8	8.8	8.3	6.7	4.2	4.0	2.3	1.9	5.5	4.9
Estates	4.7	2.9	16.9	17.7	12.5	11.1	5.6	0.8	3.3	0.5	9.4	7.1
All island	1.5	...	9.1	...	8.0	...	3.9	...	2.2	...	5.4	...

Notes: A Z-score is the standard deviation of a given indicator for an individual. Children with Z-scores less than -2 are classified as malnourished. Z-scores are calculated as

$$Z_j = (W_j - M_j)/S_j$$

where

$W_j$  = the measurement (for example, height-for-age or weight-for-height);

$M_j$  = the median value of the measurement in the reference population,  $j$ ; and

$S_j$  = one standard deviation above the median for the measurement, derived from the reference population,  $j$ .

Ellipses ( . . . ) indicate that data were not available.

\*Percentages based on height-for-age  $\leq -2$  Z-score cutoff point.

†Percentages based on weight-for-height  $\leq -2$  Z-score cutoff point.

‡Percentages based on height-for-age and weight-for-height  $\leq -2$  Z-score cutoff point; the children in this category are a subset (i.e., intersection) of the sets of stunted and wasted children.

calories are employed in this analysis. This is done because of the interest in nutrition as well as to avoid the problems with employing cost-of-living deflators required to generate income-determined poverty lines, as will be discussed below.

There are a number of patterns and trends that emerge from the comparison of calorie intake per adult equivalent, by expenditure groups in the four surveys (see Table 4). First, for a given expenditure decile, calorie consumption is highest in the estate sector, and lowest in urban areas. This reflects that urban households have a preference for luxury commodities (e.g., meat, milk) that provide fewer calories per rupee spent, coupled with the fact that urban households allocate a smaller share of their total budget to food (Sahn, 1987). Second, calorie intake is markedly higher in 1969/70 than in any other survey year. More interesting is the steady decline from one survey period to the next in calorie intake among lower income households, especially for the bottom three deciles of the population. This decline, especially between 1978/79 and 1981/82 Central Bank Surveys, occurred while the intake among higher expenditure groups was generally rising, resulting in little net change in aggregate intake among all households (see Figure 2). In fact, the same data by sector indicate that in the rural, urban, and estate sectors, calorie intake was higher in 1978/79 than 1981/82 for the bottom three deciles. Concurrently, the higher intake in the upper two deciles in 1981/82 is largely driven by increases in the rural sector.

Table 5 shows the cumulative percentage of the individuals and households consuming below certain levels of calories per adult equivalent unit. In 1978/79, 7% of the individuals lived in households where the intake of food energy was less than 1,600 calories per adult equivalent (AE) per day. This figure increased in the subsequent two surveys. In 1981/82, 10.2% of the individuals lived in households consuming less than 1,600 calories per AE. This represented a 45% increase over the 1978/79 figure.

There is an important distinction to be made in the interpretation of the decline in food energy consumption among the lower expenditure deciles between 1970 and 1978, as juxtaposed with the unambiguous picture of the declining trend between 1978 and 1982. To amplify, there is evidence that the high calorie intakes of 1969/70 partially reflect a transitory component in consumption due to a combination of imports and domestic production of foodgrains, especially rice, exceeding trend levels. Bhalla and Glewwe (1986) argue that for this survey, unlike the

others, the deviation from trend levels of food availability, and presumably consumption, is sufficiently large to warrant statistical adjustments.

This transitory component of food availability may affect consumption in two important ways: through lower prices and higher incomes. Given that prices were administered, and retail rice and wheat prices in 1970 were not below trend levels (see Figure 1), and that the rice equivalents of subsidized food distributed by the Food Commissioner was lower than the amount in the three succeeding years, it draws into question how much the transitory component of food availability translated into higher consumption, especially for the poor. Nevertheless, on the basis of the rough estimates derived from food balance sheets data (see Table 3), one observes that calorie consumption per capita was at a pinnacle.

There are several ways of statistically adjusting for this transitory level of food availability. Bhalla and Glewwe (1986) fitted a trend line and estimated the value of the transitory component of income to equal 4% of the average total household expenditures. If one assumes that the marginal propensity to consume is the same as for other income, one can simply apply estimated expenditure elasticities<sup>12</sup> to predict that the transient component of incomes raised calorie intake by 2.6% above trend levels, or approximately 65 calories per day per adult equivalent unit.<sup>13</sup>

As an alternative, a centered moving average can be applied to actual calorie consumption data derived from FAO food balance sheets. Although imperfect, they are the only source of yearly estimates of calorie intake. This technique can smooth out any major deviations, such as a four-year electoral cycle, while not dramatically altering the picture revealed by the survey data. It was used to estimate that, in the aggregate, consumption was 93 calories (nearly 4%) above trend during the 1969/70 survey data.

While estimating the transitory calorie intake on the average is thus somewhat subjective, a more vexing problem concerns how to distribute the quantity of calories above trend level in 1969/70 among the various expenditure groups. For example, it could be distributed in proportion to the actual intake, or simply distributed equally among all households. But regardless of how one adjusts the 1969/70 data (i.e., based on a moving average of food balance sheet data or a transitory component of income based on trend lines), and how one distributes that transitory value across households, the net effect on consumption will be such that calorie intake during the 1969/70 survey period remains markedly

Table 4. *Per adult equivalent calorie consumption by expenditure decile by sector, 1969/70, 1978/79, 1980/81, and 1981/82*

Per capita expenditure decile	1969/70				1978/79				1980/81				1981/82			
	Urban	Rural	Estate	All	Urban	Rural	Estate	All	Urban	Rural	Estate	All	Urban	Rural	Estate	All
				island				island				island				island
	(calories/adult equivalent/day)															
1	1,848	2,183	2,209	2,156	1,656	1,749	1,712	1,730	1,477	1,613	1,564	1,587	1,521	1,570	1,617	1,566
2	2,192	2,482	2,691	2,500	2,089	2,142	2,432	2,147	1,853	2,076	2,088	2,047	1,771	2,062	2,186	2,031
3	2,361	2,760	3,009	2,774	2,213	2,366	2,764	2,376	2,099	2,309	2,322	2,280	1,982	2,326	2,584	2,305
4	2,481	2,969	3,178	2,964	2,340	2,566	2,963	2,575	2,282	2,525	2,217	2,525	2,316	2,574	2,836	2,562
5	2,612	3,115	3,449	3,134	2,468	2,761	3,296	2,783	2,375	2,696	2,864	2,661	2,486	2,778	3,047	2,768
6	2,771	3,252	3,608	3,279	2,586	2,978	3,515	2,983	2,517	2,914	3,314	2,890	2,624	3,009	3,377	2,983
7	2,864	3,322	3,864	3,391	2,797	3,070	3,822	3,118	2,678	3,211	3,272	3,124	2,793	3,202	2,748	3,175
8	3,010	3,666	4,090	3,686	3,037	3,369	3,908	3,353	2,816	3,339	3,935	3,286	3,092	3,520	4,084	3,494
9	3,210	3,728	4,302	3,798	3,317	3,663	4,756	3,690	3,082	3,765	4,269	3,627	3,261	3,866	4,546	3,760
10	3,625	4,194	5,042	4,316	3,589	3,797	4,600	3,762	3,372	4,248	4,104	3,877	3,550	4,153	4,394	3,905
Average	2,913	3,121	3,452	3,180	2,755	2,784	3,546	2,852	2,629	2,807	2,994	2,791	2,796	2,823	3,344	2,855

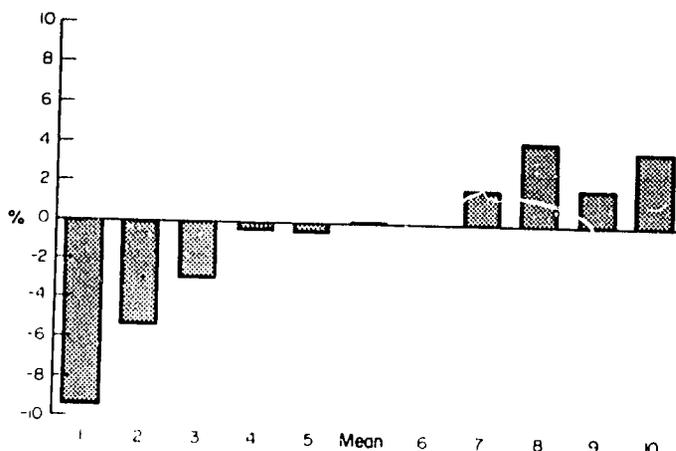


Figure 2. Percentage change in calories consumed daily per adult equivalent by income decile: Sri Lanka, 1978/79 to 1981/82.

higher than subsequent surveys. This is illustrated by the fact that removing a transitory component of 93 calories equally from all households will have only a minor overall effect on the high food energy intakes recorded. For example, the lowest expenditure decile would have consumed 1,755 calories per AE, which is still considerably higher than the 1,656 calories consumed in 1978/79.

There is a second important issue that arises in interpreting the calorie consumption data between 1969/70 and 1978/79, even when adjusted for the transitory component in 1969/70. Specifically, while the decline in calorie intake among the bottom quintile is quite marked, it is not likely that a straight line connects the two points in time. Rather, a trough in consumption in 1973 is hypothesized. This contention is supported by food price, rice production, and food balance sheet data.

To amplify, 1973-74 was characterized by low levels of domestic food production, high international rice prices which discouraged food imports, and overall low levels of food availability according to food balance sheets. From household survey data, it is also known that unemployment soared to unparalleled levels in 1973 (see Figure 3). In addition, Anand and Harris (1985) use cell mean data to compute income-determined poverty lines. They employed two different income-determined poverty cutoff levels. When the higher one was used, poverty declined between 1973 and 1978. When the lower poverty line was used, poverty increased between surveys. One can also infer from the nutritional status data presented earlier that the high percentage of stunting in 1975/76 reflects

low levels of consumption and food stress which resulted from higher food prices, poor harvests, and deteriorating terms of trade in 1973-74. Thus, it is likely that there was a trough in consumption occurring sometime between the 1969/70 and 1978/79 surveys.

In considering the decline in calorie consumption and the increase in the percentage of households consuming diets low in food energy, much of this is attributable to the skewing of calorie intake and consumption expenditures. The share of food energy consumed by the lowest expenditure deciles has fallen steadily (see Table 6). In 1969/70, the bottom decile of the expenditure distribution consumed 6.5% of the calories. This fell to 5.1% in 1981/82.

The shares of calories consumed by expenditure deciles is only one of many measures of equity. In fact, measuring the degree of inequality is somewhat subjective. Choices include: (1) whether one uses the household or individual as the unit of analysis; (2) which variable is employed (income, expenditures, or calories); and (3) what indicator is selected (e.g., shares of incomes or calories, Gini coefficients, Theil's inequality measure, Theil's alternative inequality measure, variance of logarithm of incomes). While it is not possible to detail the divergence in the results from the different techniques of measuring inequality, this point is illustrated in Table 6. Both Theil's indices indicate that income equality declines steadily from one survey period to the next. The same general pattern of declining equity with time is presented by the log of income and Gini coefficient indicators. The data on income shares show no trend, although there is an exceptionally low share to the bottom two

Table 5. Cumulative percentage distribution of calorie consumption per adult equivalent (AE)

Year of survey/ Subject of data	Cumulative percent of individuals/households consuming less than:				
	1,600 Calories per AE per day	1,800 Calories per AE per day	2,000 Calories per AE per day	2,200 Calories per AE per day	2,400 Calories per AE per day
1969/70					
Individuals	2.6	5.8	11.5	19.2	20.5
Households	2.0	4.5	8.8	14.9	22.8
1978/79					
Individuals	7.0	12.6	20.8	31.1	40.9
Households	5.9	10.6	17.5	26.5	35.2
1980/81					
Individuals	9.8	16.1	24.2	32.4	42.8
Households	8.2	13.5	20.5	29.0	38.4
1981/82					
Individuals	10.2	15.5	22.7	31.1	40.5
Households	8.4	12.9	19.2	26.8	35.3

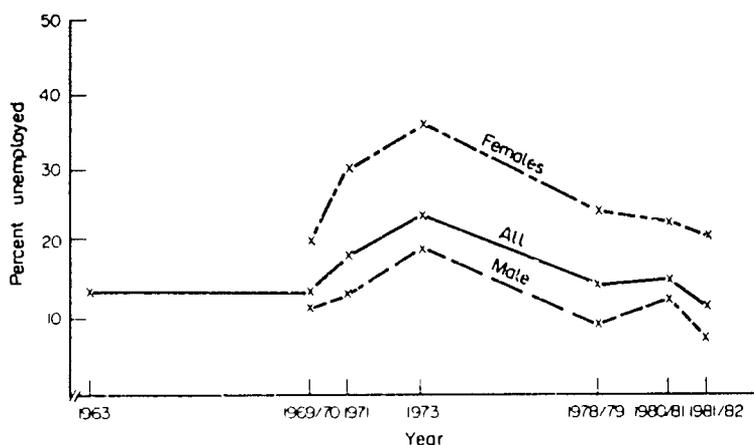


Figure 3. *Unemployment as percent of labor force.* Sources: 1963 — Reported in Central Bank of Ceylon, *Consumer Finances and Socio Economic Survey, 1973* (Colombo, Sri Lanka: n.d.). Calculated from the 1963 *Consumer Finance Survey*. 1969/70 — Calculated from the 1969/70 *Socio Economic Survey*. 1971 — Reported in Department of Census and Statistics, *Labour Force and Socio Economic Survey 1980/81* (Colombo, Sri Lanka: 1982). Calculated from the 1971 *Census of the Population*. 1973 — Reported in Central Bank of Ceylon, *Consumer Finances and Socio Economic Survey 1978/79* (Colombo, Sri Lanka: 1983). Calculated from the 1973 *Consumer Finance Survey*. 1980/81 — Calculated from the 1980/81 *Socio Economic Survey*. 1978/79 and 1981/82 — Reported in Central Bank of Ceylon, *Report on Consumer Finances and Socio Economic Survey, 1981/82* (Colombo, Sri Lanka: 1984). Calculated from the 1978/79 and 1981/82 *Consumer Finance Surveys*.

Table 6. *Changes in level of inequality, by ranking of household by per capita incomes and expenditures*

Measure	By income ranking				By expenditure ranking			
	1969/70	1978/79	1980/81	1981/82	1969/70	1978/79	1980/81	1981/82
Theil's	0.213	0.315	0.321	0.409	0.181	0.289	0.289	0.225
Theil's alternative	0.177	0.241	0.274	0.289	0.152	0.200	0.200	0.182
Log of inc./exp.	0.303	0.382	0.480	0.436	0.259	0.301	0.301	0.307
Gini coefficient	0.400	0.398	0.408	0.436	0.334	0.372	0.332	0.364
<b>Income shares</b>								
Bottom 10%	2.8	3.0	2.3	2.8	...	...	...	...
2nd Decile	4.2	3.9	4.0	4.0	...	...	...	...
3rd Decile	5.1	4.8	4.9	4.8	...	...	...	...
4th Decile	5.8	4.8	5.7	5.7	...	...	...	...
<b>Expenditure shares</b>								
Bottom 10%	...	...	...	...	4.0	3.4	3.7	3.3
2nd Decile	...	...	...	...	5.3	4.5	5.0	4.6
3rd Decile	...	...	...	...	6.3	5.4	6.0	5.6
4th Decile	...	...	...	...	7.1	6.3	6.8	6.5
<b>Calorie shares</b>								
Bottom 10%	...	...	...	...	6.5	5.6	5.4	5.1
2nd Decile	...	...	...	...	7.5	7.2	7.1	6.8
3rd Decile	...	...	...	...	8.4	8.0	8.0	7.8
4th Decile	...	...	...	...	9.1	8.7	8.8	8.8

Sources of Theil's index and log of income: Glewwe (1986).

deciles in 1980/81. Concerning the expenditure distribution, all indices portray an increase in inequality between 1969/70 and 1978/79. Three of the four indices show an improvement in equity between the 1978/79 and 1981/82 survey period, the exception being the log of income. Concurrently, the expenditure shares show little change between 1978/79 and 1981/82.

A number of explanations can be posited for the divergence among the measures of expenditure distribution, and between the income and expenditure distribution figures. The former reflects the fact that each index is constructed differently and would therefore, for example, give a different weight to inequality at the bottom (or top) end of the expenditure distribution. Concerning the dissonance between the equity indicators of income and expenditures, one reason may be that errors in sampling and the extent of misreporting of income or expenditures may differ from one survey to the next. Another compelling hypothesis is that subsequent to opening up the economy, there is a surge in consumption in 1978/79, especially for upper expenditure deciles, increasing the disparity in expenditures between the rich and the poor. By 1981/82, the pent-up demand for consumer goods was largely relieved, and savings increased among the rich reducing the extent of inequality in the expenditure distribution relative to the income distribution. This explanation finds sup-

port in the fact that the survey data indicate that there was less per capita savings reported by the upper expenditure deciles in 1978/79 than in 1981/82.<sup>14,15</sup>

It is not possible to isolate the precise explanation for the dissonance among measures of equity. Nonetheless, the finding of a trend toward greater or lesser inequality in consumption, expenditure and income distribution, in and of itself, does not necessarily explain the decline in food energy intake, especially given the rate of growth of GDP reported for Sri Lanka between 1978-82. Therefore, changes in real expenditures can be estimated.

Such an exercise, however, is limited due to the discrepancy among the available consumer price indexes for Sri Lanka. The first is the Colombo Consumer Price Index (CCPI) from the Central Bank of Ceylon (*Annual Report*, 1984). The second is the alternative index (ACPI) developed by Bhalla and Gilewwe and the Department of Census and Statistics.<sup>16</sup> This alternative index (ACPI) indicates a much more rapid increase in the cost of living. It is more accurate because it is based on actual prices in markets, rather than on administered prices as was the case for the Central Bank index.<sup>17</sup>

Employing the CCPI, real expenditures increased markedly between 1969/70 and 1978/79 for the bottom 40% of the expenditure distribution (see Table 7). Between 1978/79 and 1981/82,

Table 7. *Real and nominal per capita monthly expenditures (Ks), All island*

Expenditure decile		1969/70	1978/79	1980/81	1981/82
1	Real (CCPI)	24.3	36.8	37.1	36.6
	Real (ACPI)	24.3	21.3	21.8	19.3
	Nominal	24.3	66.4	97.1	109.0
2	Real (CCPI)	32.8	49.6	50.6	51.5
	Real (ACPI)	32.8	28.9	28.8	27.1
	Nominal	32.8	90.0	132.3	153.3
3	Real (CCPI)	37.9	59.5	60.3	61.9
	Real (ACPI)	37.9	34.5	34.4	32.7
	Nominal	37.9	107.5	157.7	184.5
4	Real (CCPI)	43.3	68.6	68.6	71.9
	Real (ACPI)	43.3	39.8	39.1	38.0
	Nominal	43.3	123.9	177.5	214.3
Mean of poorest 40%					
	Real (CCPI)	34.6	53.6	53.9	55.5
	Real (ACPI)	34.6	31.1	30.7	29.3
	Nominal	34.6	96.9	140.9	165.3
	Deflator — CCPI	1.000	1.808	2.616	2.979
	Deflator — ACPI	1.000	3.115	4.586	5.647

the CCPI indicates that aggregate real expenditures increased only slightly, with a drop in the intervening survey period. The CCPI shows no loss in real expenditures among the poor between 1978/79 and 1981/82. When the ACPI is employed, a different story emerges. There is a drop in real expenditures between 1969/70 and 1978/79, and 1978/79 and 1981/82. Overall, real expenditures fall 9.4% between 1978/79 and 1981/82 for the lowest expenditure decile, and 5.8% for the lowest 40% of the household expenditure distribution.<sup>15</sup>

The divergence in the picture of growth in real expenditures has important implications for this analysis. It draws into question the validity of GDP growth figures based on Central Bank GDP deflators. To the extent that these deflators suffer from the same understatement of price increases found in the CCPI, the real growth rates in Table 1, both for the pre- and post-liberalization period, are overstated. This serves to partially explain why calorie intake has not increased despite the reported increases in GDP. The related lesson is that the discrepancy in deflators commends the use of calories as an indicator of actual changes in levels of consumption and poverty as well as nutrition.

There is also a need to reconcile the lack of increase in average calorie consumption and the fall in real expenditures among the poor with the data that the unemployment rate has actually declined from 14.7% to 11.7% between 1978/79 and 1981/82 (see Figure 2). The stimulative effects of spending associated with the large externally funded investments in construction, coupled with the growth in employment in the Middle East and improved output in the paddy sector, clearly generated new jobs in the post-liberalization period. The explanation, however, for the decline in consumption among the poor is largely found by examining how real wage rates have fallen between 1978 and 1984. This is pronounced for workers in the organized sectors — government employees, school teachers and trades in the private sectors governed by Wage Boards (see Table 8). For the poor in the unorganized sector, wage rates of agricultural workers in paddy and coconut also showed no increase between 1979 and 1984. Wages of plantation workers in tea and rubber also fell, while workers in construction showed no gains. Similarly, it has been suggested that landless laborers and small farmers are especially hard hit by the type of rapid inflation that occurred during the early 1980s, even if income per head remains constant (Sen, 1985). Thus, possible explanations for the disparity between the aggregate growth figures and the calorie intake of the poor parallel

those postulated by Bardhan (1985) for the inverse relationship between poverty and agricultural performance in rural India. They deserve to be the subject of further research.

#### 4. DISCUSSION

Prior to 1977, the welfare-oriented approach to development attracted much acclaim in Sri Lanka. According to proponents, it contributed to achieving "remarkable social progress for a country with a very modest economic base and relatively low per capita income" (Gavan and Chandrasekera, 1979, p. 11). High literacy rates, low infant mortality, and long life expectancy were among the most visible manifestations of the "... general governmental political commitment to the poor majority" (Gwatkin, 1979, p. 4). Morris' (1979, p. 104) work on the Physical Quality of Life Index (PQLI), based on these three indicators, singled out Sri Lanka as the "most dramatic example of a country which was able to achieve remarkable life quality results at startlingly low levels of income."

Despite this acclaim, others have not been so sanguine about the accomplishments of the pre-1977 welfare state. Specifically, it has been shown that the roots of Sri Lanka's accomplishments as measured during the 1970s indeed are deep. They date back to before independence. Isenman (1980, pp. 237-258) notes the importance of the predominantly Buddhist heritage and ample endowment of natural resources, the latter of which enabled the British colonial government to develop the foreign exchange-earning export crops of tea and rubber which were subsequently to finance an expensive social welfare system. But at what cost? Myint (1985) and Bhalla (1980a) suggest that Sri Lanka's economic and social position at the time of independence was more comparable to what are now the middle-income countries of Southeast Asia. It has also been asserted that the pursuit of inappropriate *welfare* policies did not have exceptional results in terms of living standards and precipitated the decline whereby Sri Lanka's economic standing as measured in terms of GNP is more like its low-income South Asian neighbors (Bhalla and Glewwe, 1986). While the contention by Bhalla and Glewwe (1986) that Sri Lanka's welfare expenditures did not yield marked basic needs achievements has provoked considerable controversy and refutation (Sen, 1986; Isenman, forthcoming; Pyatt, forthcoming), the fact remains that the central pillar of Sri Lanka's equity-oriented policies and social achievements, its much heralded food subsidy scheme,<sup>19</sup> was

Table 8. Minimum wage rate indices and average daily wages, All island, 1978-84

Period	Government employees					Workers in wage boards trade			Laborers in the unorganized sector								
	Non-executive officers			All non-executive officers	All minor employees	Workers in:			Paddy		Coconut		Tea		Construction (Carpenter)	Construction (Mason)	
	Clerical employees	Skilled employees	Unskilled employees			Agriculture	Industry & commerce	Services	Male	Female	Male	Female	Male	Female	Male	Male	
	Minimum wage rate index (December 1978 = 100)										Average daily wages (1978 = 1)						
<i>Nominal</i>																	
1978				100.0	100.0	94.2	98.8										
1979	112.4	113.3	117.9	115.6	118.7	123.1	111.3	113.9	16.82	11.77	16.71	9.44	13.51	9.49	27.51	27.08	
1980	121.0	122.1	129.5	126.0	132.0	153.6	138.8	130.5	22.35	15.49	21.65	12.50	17.89	12.67	36.95	35.85	
1981	133.4	135.2	146.2	140.9	151.1	153.9	151.0	136.4	27.78	19.82	27.01	16.07	20.80	15.17	46.85	45.90	
1982	164.5	168.8	191.8	180.6	194.7	181.2	161.0	169.7	30.80	22.15	32.26	18.31	21.79	15.49	53.81	52.42	
1983	184.3	189.8	218.2	204.6	226.2	198.7	163.1	177.8	36.61	26.94	37.78	21.52	23.81	16.78	59.94	58.31	
1984	207.1	213.4	248.4	231.4	260.9	250.2	168.3	179.7	40.19	29.68	38.25	23.21	27.61	21.47	65.41	63.57	
<i>Real*</i>																	
1978				100.0	100.0	94.2	98.8										
1979	94.4	95.2	99.1	97.1	99.7	103.4	93.5	95.7	14.13	9.89	14.04	7.93	11.35	7.97	23.11	22.75	
1980	77.5	78.2	83.0	80.7	84.6	98.4	88.9	83.6	14.32	9.92	13.87	8.01	11.46	8.12	23.68	22.98	
1981	68.7	69.7	75.3	72.6	77.8	79.3	77.8	75.4	14.31	10.21	13.92	8.28	10.56	7.82	24.15	23.65	
1982	77.9	80.0	90.9	85.6	92.2	85.8	75.3	80.4	14.59	10.49	15.28	8.68	10.32	7.34	25.50	24.84	
1983	72.5	74.7	85.9	80.5	89.0	78.2	64.2	70.0	14.41	10.61	14.87	8.47	9.37	6.60	23.59	22.95	
1984	69.4	71.6	83.3	77.7	87.5	83.9	56.4	60.3	13.48	9.95	12.83	7.78	9.26	7.20	21.94	21.33	

Source: Central Bank of Ceylon.

\*Based on Alternative Consumer Price Index.

paid for largely out of rents extracted from the export sector. Thus, the equity-oriented policies, consisting largely of the food subsidy, administered prices and health and educational services, which were to command widespread acclaim, were implemented coincident with policies which discriminated against and discouraged growth of exports and, in general, impeded economic vitality (de Melo, 1981).

Nevertheless, claims that have portrayed Sri Lanka's economic performance between 1970 and 1977 as dismal, and attributable primarily to the recurrent expenditures on basic needs, as opposed to the plethora of other government interventions in the economy, require careful scrutiny. For example, the work by Sen (1980) shows that growth of GDP during the 1970s would have been two or more times greater than that observed, contingent upon the unrealistic scenario of totally eliminating the entire health, welfare, education, and food subsidy budget which had already dropped from 11.8% of GNP in 1960-61 to 8.7% in 1977 (Sen, 1986). In addition, the externalities of welfare achievements, such as the drop in fertility, improved education bringing about increased productivity and willingness to adopt new agricultural technology, better health leading to more productive workers, and so forth cannot be ignored.<sup>20</sup> Furthermore, a series of events outside of the government's control, such as the insurgency in 1971, a series of poor harvests and the oil shock of the early 1970s, the deterioration in the terms of trade from 1970-75, and the low levels of foreign assistance all contributed to a level of economic performance which was less than expected.

So while it is beyond the purview of this paper to resolve the debate over the extent to which spending on basic human needs contributed to a poor economic performance during the 1970s, it is clear that the high levels of unemployment, the shortage of formal sector employment for the highly educated population, and the frustration of the large capitalist class whose activities had been limited due to the plethora of state controls over foreign currency and the general expansion of the government into economic activity, collectively contributed to a change in government in 1977 (Moore, 1985; Nelson, 1984; Sahn and Edirisinghe, 1985). The electoral victory of the United National Party (UNP) over the Sri Lanka Freedom Party (SLFP) was also partially attributable to the disintegration of the coalition of left-of-center parties that helped the SLFP come to power, coupled with the UNP's promises of economic prosperity and an end to shortages, queues, and state controls which has character-

ized Sri Lanka during the 1970s. Even though the country was not facing the type of economic crisis characterized by severe balance-of-payments problems which precipitate a major structural adjustment program, the election was to have far-reaching implications in terms of dismantling the welfare state.

In 1977 the new government brought about a myriad of changes in policies. They centered on liberalizing markets and reducing social welfareism as measured by current expenditures on health, education, and food subsidies, in order to achieve more rapid aggregate economic growth. The most visible were devaluation of the currency, reduction in the value of food subsidies, interest rate reform, lifting of most price controls, liberalizing import restrictions, establishing a free trade zone to promote exports, and reducing public sector monopolies. These changes took place in stages beginning in 1977, commencing with a more than 40% currency devaluation in November of that year. Thereafter, a series of devaluations ensued in the years which followed. In addition, spending on health, education and food subsidies declined from 38% of current expenditures in 1977 to 22% during the years 1980-82. The overall stated purposes of adjustments in the value of the currency changes in capital markets, removal of price controls, reducing welfare expenditures, and so forth were to increase private sector involvement in the economy, increase competition by promoting an outward-looking economy, and encourage budgetary savings to be used for productive investment.

Despite these policy changes, which have been detailed elsewhere (Central Bank of Ceylon *Annual Reports*, 1979-84; Morrison and Arreaga Rojas, 1981; UNICEF, 1985), the fiscal management by Sri Lanka's new government came into conflict with the shift to a market-oriented economy. Specifically, such economic reforms are generally characterized by less government intervention and monetarists' prescriptions whereby budgetary restraint is central. The UNP followed an expansionist monetary policy partially paid for by deficit financing (see Table 1).<sup>21</sup> But more striking was the response of the international community to the adoption of a freer market policy. Specifically, there was a voluminous increase in foreign aid (see Table 1). Between 1977 and 1978, net receipt of foreign assistance to finance the deficit trebled from Rs 581 million to Rs 1,697 million. In addition, an increased percentage of these funds was in the form of outright grants. At the same time, the total aid commitments to Sri Lanka increased approximately two and one-half times between

1977 and 1980, from \$250 million to \$628 million. This rise in external resources bolstered by inflow of remittances from the growing employment of Sri Lankans working in the Gulf, rather than an increase in the national savings rate, facilitated the increased rate of growth in GDP and the UNP's ambitious investment program. This included dramatic increases in capital-intensive, infrastructure-oriented public investment such as the accelerated Mahaweli irrigation scheme<sup>22</sup> and construction of housing and a free-trade zone. Thus, despite cutbacks in government outlays on food subsidies and other health, education, and welfare expenditures, budget deficits and public debt grew, and the balance of trade deteriorated after liberalization, reaching a high of over Rs 16,000 million in 1980 (see Table 1). In 1981, partially in response to pressures from the International Monetary Fund and the donor community, Sri Lanka instituted some austerity measures which included further devaluing the currency, reducing current expenditures, and cutting budget deficits (Herring, 1985). These partially tempered the expansion of the economy.

While it is not possible to put forth a counterfactual argument as to what would have been the consumption and nutritional consequences if a change in policy regimes had not taken place in 1977, the data available on employment and wages, like the information on nutritional status, calorie intake, and real expenditure levels show that the four lowest expenditure deciles have seen a decline in their food energy intake. In fact, the decline in calorie consumption, especially between 1978 and 1982, fails to reflect the aggregate GDP growth rates reported for the period in official statistics. It can thus be inferred that subsequent to the policy changes in 1977, a combination of only limited growth in earnings among the poor coupled with real income losses due to the reduction in food-related subsidies, resulted in an overall decline in the levels of consumption of the poorest expenditure deciles. Therefore, despite the economic performance in the aggregate between 1978 and 1982, there has been increasing inequality in levels of consumption, and the benefits of the economic growth have not trickled down to the poor. In the face of the changes in government policies which began in 1977, further consideration of how to preclude dislocation among the poor is warranted.

First, the process of liberalization must not become distorted toward policies which discriminate implicitly against the poor. For example, the present policy in Sri Lanka whereby domestic prices of imported wheat and sugar are being kept above world market prices needs to be

reconsidered. The justification for following a high wheat price policy is to discourage its consumption, in lieu of rice, in order to contain foreign exchange costs and support the paddy sector. This implicit subsidy benefits directly producers with a marked surplus, most of which are in the upper expenditure groups (Sahn, 1987). Concurrently, the policy has potentially serious nutritional implications for the bottom 20% of the expenditure distribution who, as a result, face a higher price for the wage goods — wheat and bread — which in combination comprise 7.2% of household calorie intake among the rural poor, around 16% for the urban poor, and over 20% for the lowest quintile of the expenditure distribution on the estates. Similarly, the stated purpose of taxing sugar imports is to provide a subsidy to domestic production and make it more competitive so that a greater level of self-sufficiency is achieved. Unfortunately, a high sugar price policy lowers the real incomes of the poor, given that it represents 6.2% of the budgetary expenditures of households in the lowest quintile of the rural expenditure distribution. Domestic factory production of sugar is approximately 10% of the national requirement. The Ministry of Finance and Planning (1984) makes clear the need for protection for this industry as well as expatriate expertise if it is to develop. There is a need to carefully assess any policy which promotes domestic sugar production given low international prices, and thereafter examine how the required protectionist measures can be designed not to implicitly tax the poor.

Second, intervention through wage policy to secure adequate income for the poor can help to raise their calorie consumption and should be considered further. The expansive infrastructure-oriented lead projects undertaken by the government between 1978 and 1982 were effective in creating jobs. However, inflationary pressures from removing price controls coupled with the rapid increase in the money supply needed for deficit financing resulted in a coincident loss in terms of real wages which offset the positive impact of the modest decline in unemployment. This suggests the persistence of under- and unemployment, and/or structural problems in labor markets whereby the urban and rural poor who are concentrated in the nontradable sector have not benefited from the improvement in the performance of the paddy sector, and the estate workers have continued to suffer the consequences of the poor performance of the traditional export crops and the vagaries of international commodity prices. The need to adopt investment choices and construction practices

that more effectively create jobs for the urban and rural poor, and the potential of instituting labor and wage policies to counter the trend of declining real wages and increase mobility of those poor workers deserves consideration. In addition, increasing the flow of resources to arrest the decline of the traditional export sector must form the basis for raising employment opportunities, wages, and services to the estate workers who have also seen a decline in their levels of food energy intake during the past few years.

Enhancing transfer programs to increase food-energy intake among vulnerable groups is also worth exploring. The share of the value of food subsidies as a percent of total expenditures by sector and expenditure class is found in Table 9. It shows that the value of the transfer to households fell by nearly one-half in the three years following economic policy changes. This is a consequence of the fixed nominal budget allocation to the new food stamp scheme. In the face of the rapid inflation between 1979 and 1982, the real value of these transfers has eroded rapidly (Edirisinghe, 1986). This had the largest effect on households residing in the estates where, for example, the contribution of food subsidies as a percent of total expenditures fell from 26% to 10% in just three years.

Increasing the value of food-related income transfers to the poor can be achieved either through increasing the actual budgetary allocations to welfare payments or through improving the operations of the present food stamp program. Concerning the former, the decision not to

index food subsidies, i.e., food stamps, has brought about marked budgetary savings (see Table 1). Spending on food subsidies as a percent of recurrent expenditures declined from 16% in 1977 to only 5% in 1982. The questions remain as to how these savings were spent and to whom the benefits accrued. It is noteworthy, for example, that there have been large increases in capital transfers to public corporations concurrent with the decline in transfers that take the form of food subsidies. The nominal value of food subsidies, including food stamps, declined slightly from Rs 2,163 million to Rs 1,802 million between 1978 and 1984, while the capital transfers to public corporations increased six-fold from Rs 2,070 million to Rs 13,334 million in the same period. Judging to what extent the subsidies to public corporations yield a rate of return high enough to compensate for the short-term welfare losses and long-term human capital losses of reducing health and education expenditures, and food subsidies, is a question beyond the scope of this paper. However, the figures amply serve to illustrate the type of trade-offs that governments may face in allocating scarce resources.

It is also noteworthy that regardless of the budgetary allocation to food-related income transfers, policymakers still can strive to better target the existing stock of food stamps. In 1978, approximately half of the households participating in the old quantity rationing scheme were in the top 60% of the expenditure distribution. This declined such that only one-third of the recipients were in the upper three quintiles in 1981/82, two years after the switch to food stamps (Ediri-

Table 9. *Subsidies as a percent of total expenditures by sector and expenditure class, 1978/79 and 1981/82*

		Expenditure quintile					
		1	2	3	4	5	All
<i>All island</i>							
Rice ration recipients	(1978/79)	24.58	18.53	14.98	11.80	8.67	17.99
Food stamp recipients	(1981/82)	15.09	9.55	6.56	4.96	3.27	9.66
<i>Urban sector</i>							
Rice ration recipients	(1978/79)	26.18	17.74	14.14	11.07	7.73	17.76
Food stamp recipients	(1981/82)	13.27	8.80	6.17	5.00	3.03	8.21
<i>Rural sector</i>							
Rice ration recipients	(1978/79)	24.18	18.57	14.97	11.61	8.92	17.99
Food stamp recipients	(1981/82)	15.41	9.67	6.66	4.96	3.34	9.92
<i>Estate sector</i>							
Rice ration recipients	(1978/79)	25.92	20.50	18.68	16.71	9.20	19.22
Food stamp recipients	(1981/82)	10.17	7.86	4.82	4.53	2.67	7.14

Source: Edirisinghe (1986).

singhe, 1986).<sup>23</sup> While a recent act of the Sri Lankan parliament was designed to further refine the targeting of the food stamps in order to raise the intake of the most vulnerable households,<sup>24</sup> the scheme was thwarted for a combination of political and administrative reasons. Therefore, selecting among possible targeting criteria deserves further study.<sup>25</sup> This should involve carefully weighing the costs of such targeting against benefits, recognizing the trade-offs between leakage to non-needy households and an inordinately expensive screening procedure.

### 5. CONCLUSION

The promotion of a more market-oriented, outward looking economy, which followed reforms begun in 1977, was designed to and succeeded in spurring investment. This was primarily due to the generous response of the international aid and financial community to Sri Lanka's move toward a liberalized economy. Domestic savings as a percentage of GDP, on the other hand, did not show any increase over levels observed in the previous economic regime. This reliance on external finance to fuel economic prosperity after the policy change in 1977 was accompanied by other developments in the domestic economy that were not so favorable.

Specifically, key aspects of economic adjustment and stabilization were not implemented, and many of the desired results not realized. For example, there is evidence that the changes in tariffs and exchange rate policies of the original liberalization plan have not been maintained.<sup>26</sup> Thus, the original objective of the "neutral trade regime" has not been realized and in most sectors, the effective protection increased following the immediate post-policy reforms. Similarly, the data suggest that the performance of the manufacturing sector has been sluggish, declining as a share of GDP from 14.7% to 13.8%.<sup>27</sup> The structure and volume of exports have witnessed a decrease in the share contributed by tea, rubber, and coconuts. Nevertheless, they still dominate, comprising 65% of the total value of exports between 1978-84, as compared to 77% in the period 1971-77. This has left Sri Lanka subject to the vagaries of production and prices of the tree-crop sector whose performance since 1977 has been disappointing.<sup>28</sup>

But the most pronounced were the repercus-

sions that emanate from the fact that after the UNP was empowered in 1977, government spending was not curtailed. Rather, the share of government expenditures on subsidies and welfare programs was reduced, in lieu of promoting large infrastructure development projects. This shift to investment in physical, rather than human capital represented a policy change which was most visibly manifested in the Keynesian stimulus to the economy whereby unemployment declined and rapid rates of GDP growth were realized. However, the extremely rapid pace of the externally funded capital-intensive investment program did little to reduce poverty in the short term. This, coupled with other moves such as the huge increase in subsidies given to public corporations since 1977, especially the rapidly growing national flag carrier, Air Lanka,<sup>29</sup> has resulted in a continued drain on the country's balance of payments, exacerbated the budget deficit, and increased the debt burden. The result was that despite the reduction in social expenditures, especially the food stamp program, prices increased rapidly. The inflation, however, was not accompanied by commensurate increases in wages and the real value of the food stamp transfer eroded precipitously. In combination, this represented a threat to the welfare of the poor, whose real income declined. In response to the high rates of inflation and the growing budget deficits, further austerity measures were adopted in 1980-81, which curtailed some of the economic expansion. This further imperiled those in the lower expenditure deciles.

So while the theoretical basis for fueling development through economic reforms is sound, the policies followed in Sri Lanka have resulted in palpable losses for the poor. It is beyond this paper to put forth counter-factual arguments as to what would have transpired in the economy if, for example, a monetarily contractionist policy had been followed after 1977, or foreign assistance maintained at its low pre-1977 level. However, let it suffice to say that the expectation and realization of rapid economic growth in Sri Lanka suggests that there is a need to decouple the process of getting prices right from the process of reducing targeted subsidies. This can be accomplished by combining structural change with further support for targeted efforts to insulate the nutritionally vulnerable households from short-term dislocation.

### NOTES

1. This issue has been debated in the following: Bhalla (1986a; 1986b); Sen (1986); Pyatt (forthcoming); Isenman (forthcoming).

2. This survey was conducted by the Department of Census and Statistics of the Ministry of Plan Implementation, Colombo, Sri Lanka.

3. This survey was conducted by the Ministry of Health, Colombo, Sri Lanka, and the US Center for Disease Control, Atlanta, Georgia.

4. It was during this period of poor economic performance, largely reflecting the world food crises, that the 1973 Consumer Finance Survey was conducted. The raw data from this survey are no longer available and there is no published cell mean data by expenditure groups.

5. This survey was conducted by the Central Bank of Ceylon, Colombo, Sri Lanka.

6. The budgetary outlay for subsidized food by the government from 1977 to 1979 does not reflect accurately the actual quantity of subsidized food received by the population because the budget values capture the effect of currency adjustments and decontrol of prices. For example, between 1977 and 1978, the reported value of the government budgetary subsidy to rice increased from Rs 943.0 million to Rs 1,069.1 million. Nevertheless, the rice issued by the Food Commission declined from 676,564 to 431,783 metric tons. The reason for the dramatic increase in the budgetary costs of the subsidy in the face of a smaller amount of rice distribution was that the cost per metric ton of imported rice increased from Rs 1,742 to Rs 3,750 mainly due to currency adjustments. Therefore, the high budgetary allocation to subsidies in 1978 and 1979 does not imply that the actual quantities distributed were outstandingly large.

7. This survey was conducted by the Department of Census and Statistics, Ministry of Plan Implementation, Colombo, Sri Lanka.

8. This survey was conducted by the Food and Nutrition Policy Planning Division of the Ministry of Plan Implementation, Colombo, Sri Lanka.

9. This survey was conducted by the Central Bank of Ceylon, Colombo, Sri Lanka.

10. While the method of analysis employed for the two surveys was identical, the sampling frame was not. The two most important differences concern seasonal coverage of the samples, and the sampling units employed. The former problem will introduce a bias in the comparisons to the extent that there is a marked seasonal pattern in linear growth or leanness in Sri Lanka. It has been established from the household surveys analyzed in this paper that there is no seasonality in consumption, although the question remains whether there are seasonal patterns in anthropometric indicators. In order to address this issue, multiple regression analysis was employed with height-for-age and weight-for-height as dependent variables, and seasonal dummy variables in addition to other parameters such as income, birth order, and mother's education included as explanatory variables. The seasonal dummies all proved insignificant. It is therefore

unlikely that a significant bias is introduced by the seasonality of data collection. The latter problem of different sampling units is considered minimal because the SHS areas (administrative regions used by the Ministry of Health), which form the sampling unit for the 1975/76 survey, correspond nearly identically to one or two districts which form the sampling unit for the 1980/82 survey. As long as comparisons are limited to the aggregated sector level, this latter problem is not likely to introduce a serious bias. See also World Health Organization (1983) and footnotes on Table 3.

11. It is important to distinguish the estate Tamils, whose migration from India occurred largely during the past two generations, from the Ceylon Tamils, who have lived on the island for 2,000 years or more. The estate Tamils are poor and largely uneducated and have been predominantly without citizenship and the right to vote until recently. The present communal violence is between the Ceylon Tamils and the Sinhalese whose educational and income levels are roughly comparable.

12. The expenditure elasticity of demand for calories at the mean level of expenditures is 0.65. See Sahn (1987).

13. One major problem with such an approach is that using a trend line assumes that there is a linear relationship between consumption and time. A second problem is the difficulty of predicting how this transient component of income affects consumption expenditures. If one adopts the theoretical perspective that the marginal propensity to consume (MPC) out of transitory income is equal to zero, then one would not expect an effect on calorie intake (Friedman, 1957).

14. It should be reiterated that although real Gross Domestic Savings per capita declined between the two survey periods, using the ACPI as a deflator, this was not the case for National Savings. The main reason for this discrepancy is the large net private transfers from abroad which mainly reflect remittances from migrant workers in the Middle East. These remittances are captured in household survey data, offsetting the decline in real per capita Domestic Savings.

15. Similarly, there is a plausible explanation for calorie consumption becoming less equitable between 1978/79 and 1981/82, while this was not the case for the expenditure distribution. Specifically, Edirisinghe (1986) has shown that for the poor, the increase in the cost of their food basket lagged behind non-food price increases. This is coupled with the fact that Sahn (1987) has shown that the poor face certain non-food expenditures which are not compressible, such as shelter or transportation to work. Consequently, when incomes are squeezed, the poor may not substitute away from non-food expenditures as their price rises, as juxtaposed with the rich who may reduce discretionary non-food purchases. The end result is that food expenditures decline at the expense of maintaining non-food expenditures for the poor, while the rich may actually substitute away from non-food to food expenditures. Thus, the calorie consumption distribution may

become less equal but the total expenditure distribution does not. At the same time, the income distribution, like the calorie distribution, may become more skewed while expenditures do not because of the potential for savings.

16. See Bhalla and Glewwe (1986) for information on how the ACPI index is constructed.
17. There is also a third index available presented by Nimal Sanderatne, the director of research at the Central Bank, which suggests prices rose even more rapidly than according to the ACPI (see Sanderatne, 1985). It is noteworthy that these costs of living and indexes are not expenditure-class specific. Edirisinghe (1986) constructed expenditure-class specific deflators based on survey data between 1978/79 and 1981/82. He found the level of price increases to be greater for the poor than for households in upper expenditure deciles. This suggests that the use of an average cost-of-living index likely understates the decline in welfare of the poor, as compared to changes in real expenditures among the rich.
18. It is noteworthy that changes in the sum of the real value of Private Consumption plus food subsidies out of Public Consumption, as derived from national accounts data, do not correspond to changes derived from the survey. For example, between 1978/79 and 1981/82, there was a 3% real increase in the sum of private consumption plus food subsidies according to the national accounts, using the ACPI, while the surveys indicate virtually no growth. The lack of correspondence can be explained by a number of factors. Most important, household expenditure surveys do not measure the same thing as consumption in national accounts. For example, subsistence consumption is not captured by national accounts data, and expenditures of corporations which are reflected in national accounts are not included in household surveys. The dissonance between survey and national accounts figures may also reflect the methodological difficulty of compiling national accounts or problems of reporting accuracy of household surveys.
19. See Berg (1981, p. 37) and Isenman (1980, p. 241) who provide empirical support that higher mortality is, in fact, related to reductions in the subsidy program, as mediated through higher food prices leading to lower consumption among the vulnerable groups.
20. See Sahn and Alderman (1986) who discuss the returns to human capital investments in Sri Lanka and show the effect of increased calorie intake on productivity and wages.
21. These contradictions have fueled the debate over whether policy changes in Sri Lanka represented a true stabilization or adjustment program. See Nelson (1984) and Moore (1985).
22. See Gunasinghe (1986) who points out that by telescoping the Mahaweli Program from the originally planned three decades to six years, serious strains were placed on management, and this resulted in resorting to employing sophisticated technology. This limited the efficiency of the effort as well as the character and extent of domestic linkages, especially in terms of jobs and income for the poor, from the predominantly foreign-financed effort.
23. See Edirisinghe (1986) for a thorough discussion of targeting options.
24. See *The Poor Relief Act of 1986*, the Parliament of Sri Lanka, Colombo, 1986.
25. For a discussion of targeting issues and experiences, see Pinstrup-Andersen (1987).
26. See Lal and Rajapatirana (1985).
27. See Central Bank of Ceylon, *Annual Reports*; also Athukorala (1986, pp. 69-106) who concludes that "the original expectation was that (as a result of liberalization) greater availability of inputs, enhanced efficiency through competition, and successful world market penetration would elevate the manufacturing sector. . . . Actual results show a clear non-fulfillment of these expectations."
28. Thorbecke and Sveinar (1984) discuss how a combination of the internal and external squeeze on the plantation sector resulted in a dismal performance over the past decade, including the period after 1977.
29. According to the Central Bank of Ceylon *Annual Report* (1984), in 1983 and 1984, levels of direct capital transfers to Air Lanka were approximately Rs 1,000 million. In addition, implicit subsidies were given to Air Lanka through the large capital transfer to Air Ports Development Authority, Air Ports and Aviation Services Co., Ltd., Ceylon Petroleum Corporation, and so forth. It is noteworthy, however, that the direct subsidy alone represented more than 50% of the entire food stamp allotment in 1983 or 1984.

#### REFERENCES

- Adelman, I., M. Adelman, and C. Tait, *Economic Growth and Social Equality in Developing Countries* (Stanford: Stanford University Press, 1973).
- Anand, Sudhir, and Christopher Harris, *Living Standards in Sri Lanka, 1973-1981/82: An Analysis of Consumer Finance Survey Data* (Washington, DC: The World Bank, 1985).
- Athukorala, Premachandra, "The impact of 1977 policy reforms on domestic industry," *Upanathi*, Vol. 1, No. 1 (1986), pp. 69-106.
- Bardhan, Pranab K., "Poverty and 'trickle-down' in rural India: A quantitative analysis," in John W. Mellor and Guntvat M. Desai (Eds.), *Agricultural Change and Rural Poverty: Variations in a Theme by*

- Dharm Narain* (Baltimore, MD: Johns Hopkins University Press, 1985).
- Berg, Alan, *Malnourished People: A Policy View*, Poverty and Basic Needs Series (Washington, DC: The World Bank, 1981), p. 37.
- Bhalla, Surgit, "Is Sri Lanka an exception? A comparative study of living standards," in T. N. Srinivasan and P. Bardhan (Eds.), *Rural Poverty in South Asia* (New York: Columbia University Press, 1980a).
- Bhalla, Surgit, "Sri Lanka's achievements: Fad and fancy?" in T. N. Srinivasan and P. Bardhan (Eds.), *Rural Poverty in South Asia* (New York: Columbia University Press, 1980b).
- Bhalla, Surgit, and Paul Glewwe, "Growth and equity in developing countries: A reinterpretation of the Sri Lankan experience," *World Bank Economic Review*, Vol. 1, No. 1 (1986), pp. 35-64.
- Central Bank of Ceylon, *Annual Reports, 1979-1984* (Colombo, Sri Lanka).
- Cline, W. R., "Distribution and development: A survey of the literature," *Journal of Development Economics*, Vol. 1 (1975), p. 359.
- Edirisinghe, Neville, "The food stamp program in Sri Lanka: Costs, benefits, and policy implications," Mimeo (Washington, DC: International Food Policy Research Institute, 1986), p. 24.
- Friedman, Milton, *A Theory of the Consumption Function* (Princeton, NJ: Princeton University Press, 1957).
- Gayan, James D., and Indrani S. Chandrasekera, *The Impact of Public Foodgrain Distribution on Food Consumption and Welfare in Sri Lanka*, Research Report 13 (Washington, DC: International Food Policy Research Institute, 1979), p. 11.
- Glewwe, Paul, "Economic liberalization and income inequality: A reexamination of the Sri Lankan experience," Mimeo (1986).
- Gunasinghe, Newton, "Open economic policy and peasant production," *Upanathi*, Vol. 1, No. 1 (1986).
- Gwatkin, D. R., "Food policy, nutrition planning and survival - The cases, Kerala and Sri Lanka," *Food Policy*, Vol. 4 (1979), p. 4.
- Herring, R., "The Janus-faced state in a dependent society: Sri Lanka's shifts in development strategy" (Evanston, IL: Northwestern University, 1985), pp. 19-20.
- Isenman, Paul, "Basic needs: The case of Sri Lanka," *World Development*, Vol. 8, No. 3 (1980), pp. 237-258.
- Isenman, Paul, "Conflict and evolution in development economies: A comment on the reinterpretation of Sri Lankan experience by Bhalla and Glewwe," *World Bank Economic Review* (forthcoming).
- Kuznets, S., *Economic Growth of Nations* (Cambridge, MA: Harvard University Press, 1972).
- Lal, D., *The Poverty of Development Economies* (London: Institute of Economic Affairs, Hobart Paperback No. 16, 1983).
- Lal, Deepak, and S. Rajapatirana, "Trade liberalization in Sri Lanka," Mimeo (London: Trade Policy Research Centre, 1985).
- Mellor, John W., and Gunvant, Desai, "Agricultural change and rural poverty -- A synthesis," in John Mellor and Gunvant Desai (Eds.), *Agricultural Change and Rural Poverty: Variations on a Theme by Dharm Narain* (Baltimore, MD: Johns Hopkins University Press, 1985).
- de Melo, Martha, "Modeling the effects of alternative approaches to basic human needs: Case study of Sri Lanka," in D. Leipziger and P. Streeten (Eds.), *Basic Needs and Development* (Cambridge, MA: Oelgeschlager, Gunn, and Hain Publishers, Inc., 1981).
- Ministry of Finance and Planning, National Planning Division, *National Agriculture, Food, and Nutrition Strategy: A Change in Perspective* (Colombo, Sri Lanka: June 1984).
- Ministry of Plan Implementation, *Food and Nutrition Statistics, 1982* (Colombo, Sri Lanka: 1982).
- Moore, Mick, "On the political economy of stabilization," *World Development*, Vol. 13, No. 9 (1985), pp. 1087-1091.
- Morris, Morris D., *Measuring the Condition of the World's Poor*, Pergamon Policy Studies No. 42, Published for the Overseas Development Council (New York: Pergamon Press, 1979).
- Morrison, Thomas K., and Luis Arreaga-Rodas, "Economic liberalization in developing countries: Some lessons from three case studies, Sri Lanka, Egypt, and Sudan," Discussion Paper No. 40 (Washington, DC: Agency for International Development, 1981).
- Myint, Hla., "Growth policies and income distribution," Discussion Paper (Washington, DC: The World Bank, 1985).
- Nelson, Joan M., "The political economy of stabilization: Commitment, capacity, and public response," *World Development*, Vol. 12, No. 10 (1984).
- Pinstrup-Andersen, Per, *Consumer-Oriented Food Subsidies: Costs, Benefits and Policy Options for Developing Countries* (submitted for publication to Johns Hopkins University Press, 1987).
- Pyatt, Graham, "Growth and equity in developing countries: A comment on the reinterpretation of the Sri Lankan experience by Bhalla and Glewwe," *World Bank Economic Review* (forthcoming).
- Reutlinger, S., and M. Selowsky, "Malnutrition and poverty: Magnitude and policy options," Staff Occasional Papers No. 23 (Washington, DC: The World Bank, 1976).
- Sahn, David E., "The effect of price and income changes on food-energy intake in Sri Lanka," *Economic Development and Cultural Change* (1987, forthcoming).
- Sahn, David E., and Harold Alderman, "The effect of human capital and nutrition on wages, and the determinants of labor in a developing country," Mimeo (Washington, DC: International Food Policy Research Institute, 1986).
- Sahn, David E., and Neville Edirisinghe, "The politics of food policy in Sri Lanka: From basic human needs to trickle down," Paper presented at the workshop on the Political Economy of Nutritional Improvement (Coolfont, West Virginia: 1985).
- Sanderatne, Nimal, "The effects of policies on real income and employment," in *Sri Lanka: The Social Impact of Economic Policies During the Last Decade* (Colombo: UNICEF, 1985).

- Sen, A., *Levels of Poverty: Policy and Change*, Staff Working Paper No. 401 (Washington, DC: The World Bank, 1980).
- Sen, A., "Dharm Naram on poverty: Concepts and basic issues," in John Mellor and Gunvant Desai (Eds.), *Agricultural Change and Rural Poverty: Variations on a Theme by Dharm Naram* (Baltimore, MD: Johns Hopkins University Press, 1985).
- Sen, A., "Sri Lanka's achievements: How and when," in T. N. Srinivasan and P. Bardhan (Eds.), *Rural Poverty in South Asia* (New York: Columbia University Press, 1986).
- Thorbecke, Erik, and Jan Svejnar, "Effects of macro-economic policies on agricultural performance in Sri Lanka, 1960-1982" Mimeo (Paris: OECD, 1984).
- UNICEF, "Sri Lanka: The social impact of economic policies during the last decade" (Colombo: UNICEF, 1985).
- United States Public Health Service, Health Resources Administration, "NCHS growth charts" (Rockville, MD: 1976).
- World Health Organization, *Measuring Change in Nutritional Status* (Geneva: WHO, 1983).