DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

MINISTRY OF LANDS, IRRIGATION AND MAHAWELI DEVELOPMENT

THE STUDY ON EXTENSION OF THE MORAGAHAKANDA AGRICULTURAL DEVELOPMENT PROJECT

MASTER PLAN

(PHASE-II)

VOLUME-II ANNEXES

JULY 1989

JAPAN INTERNATIONAL COOPERATION AGENCY

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ABBREVIATIONS

CB	Central Bank of Sri Lanka
CEB	Ceylon Electricity Board
CECB	Central Engineering Consultancy Bureau
DA	Department of Agriculture
DCS	Department of Census and Statistics
FAO	Food and Agriculture Organization, United Nations
FD	Forest Department
GDP	Gross Domestic Product
GNP	Gross National Product
GOJ	Government of Japan
GOSL	Government of Sri Lanka
IBRD	International Bank for Reconstruction and Development (World Bank)
ID	Irrigation Department
IDB	Industrial Development Board
JICA	Japan International Cooperation Agency
MADR	Ministry of Agricultural Development and Research
MASL	Mahaweli Authority of Sri Lanka
MEA	Mahaweli Economic Agency
MECA	Mahaweli Engineering and Construction Agency
MFP	Ministry of Finance and Planning
MLLD	Ministry of Lands and Land Development
MMD	Ministry of Mahaweli Development
MTI	Ministry of Trade and Industries
NCP	North Central Province
NCRB	North Central River Basin
NWDZ	North-Western Dry Zone
SEDZ	South-Eastern Dry Zone
SD	Survey Department
UNDP	United Nations Development Programme
WMP	Water Management Secretariat
GA	Government Agent Division
AGA	Assistant Government Agent Division
GS	Grama Sevaka Division

REPORTS

MGDP	Master Plan Mahaweli Ganga Development Project (UNDP/FAO, 1968)
AMDP	Accelerated Mahaweli Development Programme (NEDECO, 1977)
ISS	Implementation Strategy Study (NEDECO,1978)
HCP	Hydrological Crash Programme (NEDECO, 1981)
TDS	Transbasin Diversion Study (Electrowatt, 1981 & 1984)
MWRMP	Mahaweli Water Resources Management Project (ACRES,1986)

ABBREVIATIONS OF MEASUREMENT

Length

cm = Centimeter
m = Meter
km = Kilometer
ft = Foot
yd = Yard

Area

cm^2 = sq.cm = Square centimeter
m^2 = sq.m = Square meter
ha = Hectare
km^2 = sq.km = Square kilometer

Volume

cm^3 = cu.cm = Cubic centimeter
l = lit = liter
kl = Kiloliter
m^3 = cu.m = Cubic meter
gal. = Gallon
MCM = Million Cubic Meters

Weight

mg = Milligram
g = Gram
kg = Kilogram
ton = Metric ton
lb = Pound

Time

sec = s = Second
min = Minute
h = Hour
d = Day
y = Year

Electrical Measures

V = Volt
A = Ampere
Hz = Hertz (cycle)
W = Watt
kW = Kilowatt
MW = Megawatt
GW = Gigawatt

Other Measures

% = Percent
PS = Horsepower
° = Degree
' = Minute
" = Second
°C = Degree centigrade
10^3 = Thousand
10^6 = Million
10^9 = Billion (milliard)

Derived Measures

m^3/s = m^3/sec = Cubic meter per second
cusec = Cubic feet per second
mgd = Million gallon per day
kWh = Kilowatt hour
MWh = Megawatt hour
GWh = Gigawatt hour
kWh/y = Kilowatt hour per year
kVA = Kilovolt ampere
BTU = British thermal unit

Money

Rs. = Sri Lanka Rupees
US$ = US dollar
Yen = Japanese Yen

CONVERSION FACTORS

	From Metric System			To Metric System		
Length	1 cm	=	0.394 inch	1 inch	=	2.54 cm
	1 m	=	3.28 ft = 1.094 yd	1 ft	=	30.48 cm
	1 km	=	0.621 mile	1 yd	=	91.44 cm
				1 mile	=	1.609 km
Area	1 cm^2	=	0.155 sq.in	1 sq.ft	=	0.0929 m^2
	1 m^2	=	10.76 sq.ft.	1 sq.yd	=	0.835 m^2
	1 ha	=	2.471 acres	1 acre	=	0.4047 ha
	1 km^2	=	0.386 sq.mile	1 sq.mile	=	2.59 km^2
Volume	1 cm^3	=	0.0610 cu.in	1 cu.ft	=	28.32 lit
	1 lit	=	0.220 gal. (imp.)	1 cu.yd	=	0.765 m^3
	1 kl	=	6.29 barrels	1 gal. (imp.)	=	4.55 lit
	1 m^3	=	35.3 cu.ft	1 gal. (US)	=	3.79 lit
	10^6 m^3	=	811 acre-ft	1 acre-ft	=	1,233.5 m^2
Energy	1 kWh	=	3,413 BTU	1 BTU	=	0.293 Wh
Temperature	°C	=	(°F-32) 5/9	°F	=	1.8°C + 32
Derived Measures						
	1 m^3/s	=	35.3 cusec	1 cusec	=	0.0283 m^3/s
	1 kg/cm^2	=	14.2 psi	1 psi	=	0.703 kg/cm^2
	1 ton/ha	=	891 lb/acre	1 lb/acre	=	1.12 kg/ha
	10^6 m^3	=	810.7 acre-ft	1 acre-ft	=	1,233.5 m^3
	1 m^3/s	=	19.0 mgd	1 mgd	=	0.0526 m^3/s

EXCHANGE RATE

US$1.0 = J. Yen 140.0 = Rs. 32.5

ANNEX–A

GENERAL ECONOMY

ANNEX - A

GENERAL ECONOMY

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ANNEX-A GENERAL ECONOMY

A.1 INTRODUCTION

In this annex, the overall project background is described and projections of agro-economic conditions are made for understanding of the basic concept of project schemes. The background of the project is divided into phases; social-condition, macro-economy and agro-economy. Projections are made with the intention of evaluating the proposed master plan schemes. A summary of the contents of this ANNEX is given below:

Chapter two presents the administration of Sri Lanka. It gives both physical conditions and administrative conditions. Administrative conditions are always unstable, so they are depicted on the basis of conditions in Census years or in October 1988 if possible.

Chapters three to five describe the present conditions of social aspects, macro-economic aspects and agro-economic aspects. The present conditions are based whenever possible on the latest figures, but some old data were occasionally used because of data availability. These conditions are bases for projections done in the next chapter.

Chapter six focuses on projection in terms of population, GDP and food demand as of the target year 2020. The national development policy was related to the projection as well as present conditions mentioned in previous chapters. Some projections made by international organization and other local agencies were also used to justify the projections in this annex.

A.2 ADMINISTRATIVE CONDITION

Sri Lanka is located in the tropical zone, and extends from 5.5 to 9.5 north latitude and from 79.4 and 81.5 east longitude, and is only 29 km away from India across Palk Strait. The total land area of the country is about 65,610 km^2. The main land is about 430 km at the longest part from north to south and about 220 km from east to west.

The current system of administration demarcations has been a gradual development since established in 1833 by British rule. Based on compass directions, the country is demarcated into 9 Provinces. Each Province is constituted of several District which are called Government Agent (GA) divisions. The hierarchy of administrative sub divisions within Districts is the Assistant Government Agent (AGA) divisions, Grama Sevaka (GS) divisions and villages. As of the census year 1981, there were 9 Provinces in the country. In 9 Provinces, there were 24 Districts, 245 AGA divisions, 4,113 GS divisions and 25,435 villages. Recently, one new District was established, so there are 25 Districts and 250 AGA divisions as of 1988.

From the autonomous point of view, the Administrative District is the first unit below the national administration. Each District has a District Minister who is appointed from Members of Parliament (MP) by the President and a Government Agent (GA) who is in charge of local administration as a head of the national administrative branch office, and as a Secretary of the District Minister. Under District, AGA division has a division chief who is controlled by a GA and who carries out civic services for local residents. Within the administrative district, each District has a District Development Council which is constituted by representatives selected by local residents. The Council is doing its own civil services for rural residents independent of a GA, which is under the umbrella of the Ministry of Local Government, Housing and Construction.

Besides administrative district, there are 12 Municipal Councils and 39 Urban Councils in the country. These Councils are established to carry out administrative services for residents within their own autonomous territories. They are established in the urban areas independent of District Development Councils.

A.3 SOCIAL CONDITIONS

A.3.1 Population

Sri Lanka had a population of $16,361 \times 10^3$ in 1987 according to the provisional estimate by Central Bank of Sri Lanka. The growth in population was about $1,514 \times 10^3$ as compared with the 1981 census, i.e., the average growth rate was 1.63% per annum during the period from 1981 to 1987, as shown in Table A.3.1. This growth rate was a little higher by 0.05% compared with that between the census years 1971 and 1981.

The sex composition of the national population keeps the almost the same rate since 1971 census year, as shown in Table A.3.1. 51% of the population is male and the rest or 49%, female. The proportion of urban and rural population seems to remain the same since 1971, as shown in Table A.3.1. Notwithstanding, it is said that centralization to major cities such as Colombo and Kandy is gradually proceeding and that new residents are forming the urban poor, in certain areas as urban squatters. However, it is not more serious than in other Asian countries such as Thailand and Indonesia.

The population density of the country was 249 persons per km^2 in 1987, higher by 56 and 23 persons than those in the 1971 and 1981 census years. This density corresponds to about 70% of the Japanese density of 350 persons per km^2.

A.3.2 Labour Force

The populations between 15 and 54 years old in the years 1971, 1981 and 1986 were $6,586 \times 10^3$, $8,225 \times 10^3$ and $9,012 \times 10^3$ respectively, as shown in Table A.3.1. According to the table, the economically active population (or labour force) was estimated at $5,093 \times 10^3$ in 1981 and at $6,610 \times 10^3$ in 1987. Therefore, labour participation rates in both years were 34.3% and 40.4%, respectively. This rate increased by 6.1% for six years mainly because of increasing participation of female workers in the labour market.

Yet, the unemployed population has rapidly increased from 594×10^3 in 1981 to $1,190 \times 10^3$ in 1987, as shown in Table A.3.1. Translated into unemployment rates, they correspond to 11.7% and 18.0%, respectively. The "Report by the High Level Committee of Officials on Poverty Alleviation through People-based Development" (Ref.033) forecasts that the unemployment rate would increase to 21% by 1990 without any radical counter-measures.

Table A.3.2 shows the employed population classified by major industrial sector in 1971 and 1981. The agricultural sector, including agriculture, stock farming, fishery and forestry, employed the largest number of workers of $1,876 \times 10^3$ or 45.5% of the total. It has grown by only 47×10^3 between 1971 and 1981. The proportion of agricultural workers in the total decreased from 50.1% in 1971 to 45.5% in 1981. The growth rate of this sector was 0.3% per annum on average. After the agricultural sector, the following three sub-sectors are the major employment divisions: (1) Private and public services such as community, social and personal services, which employed 588×10^3 or 14.3% of the total in 1981; (2) trade services such as wholesale an retail trade including restaurants and hotels, 437×10^3 or 10.6%; and (3) manufacturing industry, 409×10^3 or 9.9%. Though other sub-sectors such as mining and quarrying, finance, and electricity, gas and water supply recorded high growth rates, their numbers employed are so small that the absorption of workers have little impact on employment.

A.3.3 Educational Attainment

In the stage of project implementation, a project occasionally comes to a standstill due to difficulties of obtaining concerned in a socially backward area. Introducing a technical innovation, people are sometimes opposed to the rationalization of production due to lack of knowledge. These kinds of occasion are seen in many cases such as management, introduction of new technique and rationalization of machinery. In these cases, global knowledge and experience supported by education might work to promote the improvement. From this point of view, the educational attainment of people concerned may be an important factor, especially in projects which need a consensus of opinion.

Sri Lanka is one of the most advanced countries in terms of literacy. At the 1981 census, 87.2% of the people 10 years old or more in the country is reported to be literate, which is quite high rate in regional terms. This remarkable decrease in illiteracy is due to the popularization of primary education from earlier times.

Table A.3.3 shows the percentage distribution by level of education. Generally, a person's level of education is necessarily a function of age, particularly for young people who are in the process of gaining education. Elder people, however, have reached the highest levels of education which they will reach in their lives. Specifically, children in the 10-14 age group should be in Grade 5 to 9 in secondary level if they enter school at age 5 in Sri Lanka, although 24.5% of them are in the class below this range. In the elder age groups, they can receive a high level of education. In fact, a certain number of people in these age groups have complete high education than the younger group. However, the adult population 30 years old or over is by and large a secondary school educated group (Grade 5 to 9), more than half of whom is in this group. The following majority have never been to school accounting for 18.0% of the population in these ages. 14.6% of them has never progressed beyond primary level.

A.3.4 Social Welfare

Sri Lanka is well known as a welfare oriented country, though such policies on welfare and growth are a controversial matter. In general, Sri Lanka employs the following categories in the discussion of anti-poverty policies: (1) Land policies such as peasant resettlement schemes and tenancy reform; (2) Integrated rural development programmes; (3) Target-group oriented programs such as supplementary feeding programmes; and (4) General minimum needs programmes. Among the several welfare programmes, the General Minimum Needs Programmes are the most important, which consists of the following schemes: (1) food stamp scheme; (2) free education; and (3) free health services.

The food stamp scheme was introduced instead of the former programme of food subsidy and rice ration scheme in September 1979. The former scheme used to guarantee the supply of a minimum quantity of food on a regular basis to all households in the country. The new scheme, however, is a target-group oriented programme and its policy was converted to an income-support scheme for people who are in need. The eligibility for food stamps is based on total household income and the level of support varies with household size to some extent. The present eligibility for a typical household is that its income is Rs.700 or less per month.

The policies of free public education and free health services have improved the people's living standard. The free education system has led to marked gains in school enrollment and literacy rates. The health policy has resulted in a reduction in mortality rates and increased life expectancy. These programmes seem to reach rural families who cannot secure work opportunities.

A.4 ECONOMIC CONDITIONS

A.4.1 Gross Domestic Product

The Gross Domestic Product (GDP) of Sri Lanka was estimated at Rs. 177.7×10^9 in 1987, as shown in Table A.4.1. Though the national economy has achieved a stable economic performance of almost 5.0% per annum for recent years up to 1986, the GDP in 1987 increased only by 1.5% in real terms as shown in Table A.4.2, which is the lowest since the economic reforms started in 1977. This might be mainly due to adverse weather conditions in 1987, intensified ethnic hostilities in Northern and Eastern Provinces and disturbance in other areas especially in South. Thus, the agricultural sub-sector was given the most serious impact on its production. The value added in this sub-sector declined sharply by 8.1% in real terms in 1987, as shown in the table.

Per capita GDP was estimated at Rs. 10,863 (about US$353) in 1987. In real terms, its value declined by 0.1% as compared with that in the previous year, because economic growth did not exceed population growth in 1987.

A.4.2 Economic Profile

A.4.2.1 Agricultural Sector

The agricultural sector has contributed nearly one-third of the GDP and has been the dominant sector in Sri Lanka's economy. It provides employment for 45% of labour force, as mentioned before and accounts for over 40% of total export earnings. Thus, it has a significant effect on the development of other sectors of the economy.

The average growth rate of the agricultural sub-sectors for the period 1978-87 is given in Table A.4.3. All sub-sectors excluding forestry and fishery have grown at less than the GDP average in 1987, in contrast to steady continual growth for the period 1978-86. In particular, the plantation sector declined by 14% and the paddy sector declined 18%. This poor performance contributed to a decline in the growth rate of the overall agricultural sector by 6% in 1987.

Paddy has been a staple food for Sri Lanka people and a major component of the field crops sector. In 1987, paddy production decline to 2.13×10^6 tons as shown in Table A.4.4, which was the lowest since 1979. The main reason for the decline in paddy production in 1987 was the prolonged drought conditions. Water shortages not only delayed the commencement of cultivation and reduced the extent sown, but also led to a reduction in fertilizer application and the extent harvested. The government had increased the Guaranteed Price Scheme (GPS) to Rs.85 per bushel (Rs. 4.07/kg) from Rs. 70 per bushel (Rs. 3.35/kg) in July 1988, to compensate for fertilizer and other cost increases and to give an incentive for paddy production.

The total production of several field crops, other than paddy, showed an upward trend in 1987. The drought condition might make many Dry Zone farmers shift to minor crop cultivation and to increase the extent under such crops to ensure a minimum level of income and food security. On the other hand, the production of chillies, manioc and potatoes declined. Chillie cultivation was severely affected by the drought conditions, leading to a decline of 39%, as shown in Table A.3.4.

The national economy has been dependent on the performance of the plantation crops: tea, rubber and coconut. However, the role of these crops has diminished substantially. This is mainly because of the success in generating new manufacturing industries and partly because of the stagnant volume of output. In 1987, though tea production showed a marginal increase of 0.9%, production of both rubber and coconut declined sharply as shown in Table A.4.4. This sharp drop was a disappointing feature of the national export performance.

The contribution of livestock to the GDP is negligibly small. The government aims at achievement of self sufficiency in milk production in the country. As of 1987, milk production was $275x10^3$ liters.

The contribution of the fishery sub-sector has been about 2% of the GDP. In 1987, the production was estimated at $190x10^3$ tons, an increase of 4% more than the previous year. The performance of the fishery sub-sector is still short of demand. There are many problems confronting the sub-sector, such as distribution problems, high fuel cost, high cost of preservation, etc.

The value added of the forestry sub-sector increased by 13% in 1987, which is the highest growth in the agricultural sector. However, its share accounted for only 2% of GDP, so the sub-sector did not contribute much to increase the GDP. The sub-sector is now focused on both production and conservation through reforestation project.

A.4.2.2 Industrial and Services' Sectors

The contribution of the industrial sector to economic growth and structural change has remained unaltered during the last six years. The share of industrial sector to GDP has maintained an almost constant rate of around 26%, indicating that little structural change has occurred in the economy. In 1987, however, value added of the industrial sector slightly exceeded that of the agricultural sector as shown in Table A.4.1. In real terms, the value of the industrial sector grew at the rate of 6.3% per annum in 1987, as shown in Table A.4.2, which is the largest among three main sectors. Overall growth of the sector for last five years recorded 4.9% per annum.

Within the industrial sector, the manufacturing sub-sector has played the leading role. Its value added accounted for 16% of GDP and it has grown at a higher rate than that of the GDP for last five years. Within the manufacturing sub-sector, the following product groups have recorded remarkable production for last ten years as shown in Table 4.5: (1) food, beverages and tobacco, accounting for 26.7% of total manufacturing production and 38.9% of total value added of the sub-sector in 1987; (2) textiles, wearing apparel and leather, 31.8% and 23.8%; and (3) chemicals, petroleum, coal, rubber and plastics, 27.8% and 18.2% respectively. In this group, textile and leather manufacturing industry has performed the most considerable growth for the last five years. Incidentally, the overall rate of value added in manufacturing sub-sector recorded 38% in 1987.

The services' sector also contributed to GDP growth in 1987, accounting for 45.6% of the GDP and a growth rate of 2.7%. A relatively high growth rate is observed in the financial sub-sector, which recorded of 6.1%. Overall growth of the services' sector has been 4.9% for last five years as shown in Table A.4.2, although its growth has diminished year by year.

A.4.3 Public Finance

The policy of the government budget is fundamentally aimed at ensuring macro-economic stability and improving prospects for economic growth. Especially, the government makes an effort to attain an increase of both employment opportunities and family incomes to improve living standards in the country. However, in view of the unexpected drought and escalation of defence expenditure, budgetary adjustment must be compelled to cope with those emergent work, so the macro-economic growth would be scaled down.

Table A.4.6 shows the government fiscal performance during the period 1982-1987, characterized recent government policy as follows:

(1) Expenditure has increased since 1977 and kept a high ratio of expenditure to the GDP. In these years, the ratio of capital expenditure to the GDP was around 20% except in 1984, which was about 9% in 1977;

(2) To meet the budget deficit, the government finance has depended on domestic and foreign loans. However, owing to retrenchment in expenditure, the ratio of net cash deficit to GDP has declined gradually. Recognizing these budgetary constraints, the government makes an effort to commit economic development policy, reducing in the budget deficit and overcoming the economic exerting pressure.

(3) Capital investment for Mahaweli development reached a peak amount of Rs. 7.3×10^9 in 1982 and thereafter went down to Rs. 4.6×10^9 in 1987. The ratio of Mahaweli investment to government capital expenditure was recorded at 40% in the peak year of 1982 and down to 13% in 1987.

(4) In current expenditure in 1987, Rs. 12.7×10^9, or one third, was distributed to social services such as education, health, welfare, housing and community services. Of the social services 99% was used for the former three categories. Of this amount, Rs. 2.0×10^9 was channelled to food stamps and special welfare payments, which registered a growth of 26% due to the provision of drought relief in 1987.

(5) The composition of capital expenditure of the government underwent a significant change in the last six years. Allocation for agriculture and irrigation fell from 55% (Rs. 8.9×10^9) of capital expenditure down to 23% (Rs. 8.2×10^9).

A.4.4 Foreign Trade

One of the salient features in Sri Lanka's economy is the high dependence upon foreign trade since the economic restructure in 1977. The outline structure of foreign trade is (1) main products for export are agricultural goods of both plantation such as tea, rubber and coconut, and minor crops such as cinnamon and cocoa, and (2) main products for import are categorized into three major parts, i.e., (a) consumer goods such as rice and sugar; (b) intermediate goods such as fertilizer and petroleum; and (c) investment goods such as machinery and vehicles. Though imbalance of trade rapidly increased since the implementation of the import liberalization policy, it has gradually decreased since 1982, when it was at its in peak SDR terms.

In the export component, the earnings from agricultural products had the largest share up to the year 1985. In 1978, they accounted for 76.6% of the total, but thereafter they declined to 42.4% in 1987 as shown in Table A.4.7. In particular, the share of tea exports declined from about a half of total exports to a quarter in 1987. This was not only because of slow increase in production but also because of the stagnant price of the product in a competitive world market. On the other hand, industrial products, textiles and garments in particular, have grown to a major export item. Their share was only 18.7% in 1978, but has grown to a half of total exports in 1987. In particular, textiles and garments have increased from 3.6% in 1978 to 31.4% in 1987. This might be due to government encouragement to create employment, as they are labour intensive industries.

In the import component, the distribution has not changed as drastically as in exports in recent years. The share of consumer goods increased from 20.5% in 1982 to 36.3% in 1987. The increase of textiles and clothing had the effect of pushing up the import of consumer goods, despite the fact that rice imports marginally declined from 2.2% in 1982 to 1.1% in 1987 in accordance with improve of self-sufficiency on rice. The share of intermediate goods which had declined from 51.6% in 1982 to 40.8% in 1986, increased to 43.6% in 1987. This was a reflection of the increased share of petroleum imports. On the other hand, the share of investment goods in 1987 which had sharply declined from 27.6% in 1982 to 19.3% in 1986 remained at the same level as in the previous year.

A.4.5 Prices

Among the principal measures of price movements, the followings are commonly used in Sri Lanka: (1) the Colombo Consumer Price Index (CCPI); (2) the Wholesale Price Index (WPI); and (3) the implicit GDP deflator. The CCPI reflects the cost of living implications of price movements. During the last five years 1982-1987, the price level showed a comparatively stable trend and a price increase of 56.9%, or an average increase of 9.3% per annum, as shown in A.4.8. The implicit GDP deflator shows the same trend as the CCPI, but the WPI provides different figures from the others. In 1985 the WPI declined by 14.7% and in 1986 by 2.9%. These declines were caused by the drop in export price of tea and coconut products. Then, the WPI increased 46.5% for last five years, or an average increase of 7.9% per annum.

The price of rice or paddy has many phases at stages of circulation. As seen in Table A.4.8, the producer price (farm gate price) of paddy was Rs.4.27/kg on average in the free market in 1987, though the guarantee price was Rs.3.35/kg. Meanwhile, the producer purchased seed paddy at Rs. 98.95 - Rs. 92.31 per bushel (Rs. 4.74 - Rs. 4.42 per kg) in 1986. The consumers bought rice at unit prices of Rs. 10.81 - 7.64 per kg depending on quality in 1987. The government, however, provided rice at Rs. 7.22/kg for low income people under the food stamp scheme in 1987. The government also imported rice at the average CIF price of Rs. 5.93/kg in 1987, through the Food Commissioner's Office.

Wheat flour was sold at Rs.7.90/kg in the public market in 1987, which is called the "administered price", and bread was priced at Rs. 6.89/kg. On the other hand, wheat flour was imported at an average CIF price of Rs. 3.33/kg in 1987.

In 1987, wages in agricultural work changed at different stages, which might reflect drought conditions. Wages in construction work, however, recorded around 8% increase, which is slightly higher than the previous years.

A.4.6 Income and Expenditure

According to Table A.4.9, the estimated average monthly income per income receiver was Rs.1,111 in 1981/1982. The table shows the distribution of monthly income of income receivers. More than two thirds (68.1%) of income receivers earned an income less than Rs. 1,000 per month, which is 10% below the average. Meanwhile, about one-third of income receivers had a monthly income of over Rs. 2,000. Almost a half the total income (46.8%) was earned by more than 30% of total income receivers. More than 30% of total income was earned by only 5% of income receivers.

Table A.4.10 shows consumer expenditure by expenditure items and by income groups in 1981/1982. Per capita expenditure on food accounted for 57.5% (Engel's co-efficient) on average. The proportion of expenditure devoted to food declined sharply for incomes exceeding Rs. 1,000 per month. For the highest income group (over Rs. 3,000) this co-efficient accounted for 35% as compared to over 70% for the lower income groups. On the other hand, the percentage of other items excluding fuel and light tended to increase with income. Expenditure on cereals such as rice, wheat flour and bread declined for higher income groups. Protein rich food items such as meat, fish and eggs might have significance in the budgets, so their proportion does not declined as sharply as grain items with income.

Table A.4.11 shows expenditure per capita by income groups. Average per capita expenditure on food items was Rs.180.4 per month in 1981/82. The per capita expenditure on rice ranged from Rs. 31.5% for the lowest group to 58.7% for the over Rs. 3,000 group. Expenditure on rice remained constant at around 20% of total expenditure with monthly incomes between Rs. 100 and Rs. 1,500 as seen in Table A.4.10 and thereafter declined.

Wheat flour tended to be consumed in similar proportion to income increase as rice. However, there was a marginal decline over the monthly income level of Rs. 601-800. Thereafter, expenditure on wheat flour increased again over the income level of Rs. 1,000. The pattern of per capita expenditure on wheat flour indicates that it is one of inferior goods in this country.

A.5 AGRO-ECONOMIC CONDITIONS

A.5.1 General Situation

Agriculture has always played an important role in Sri Lanka's economy. It contributes nearly one-third of GDP and has a significant impact on the development activities of other industries. Therefore, slower growth in agriculture is a key factor behind the setbacks in the economy.

The structure of the agricultural sector is categorized into three major sub-sectors: (1) agricultural sub-sector; (2) fishery; and (3) forestry. The agricultural sub-sector, furthermore is divided into five divisions; (1) plantation or major export crops, consisting of tea, rubber and coconuts (2) minor export crops, consisting of cinnamon, pepper, cocoa etc., (3) domestic food crops, including paddy and other field crops; (4) livestock; and (5) hunting. Production and trends of sub-sectors and divisions are described in section A.4.2.

Population in the agricultural sector in Sri Lanka was compiled through three main sub-sectors based on the census statistics: (1) plantation sub-sector, (2) traditional sub-sector comprising paddy cultivation and other agriculture; and (3) fishing industry. Table A.5.1 shows the distribution of agricultural population in these sub-sectors. In the plantation sub-sector employment substantially declined by $74x10^3$ or 10% of 1971 workers between two census years. This reduction stemmed from the decline in tea estate workers whose number had been reduced by about $73x10^3$ in the same period. Paddy cultivation also became a smaller employer losing about $18x10^3$ or 2% of 1971 workers. In contrast, other agricultural workers increased from $231x10^3$ to 351x or by $120x10^3$ between the two censuses, an average growth rate of 4.3% per annum. Total population within agricultural sector grew at the annual rate of 0.3%.

A.5.2 Agricultural Land Use

Agricultural land use data came from the area of land in agricultural holdings. These data were collected on a sample basis at the Census of Agriculture in 1982. Land use was classified into nine categories: asweddumized paddy land, land under temporary crops other than asweddumized paddy, major plantation crops, other permanent crops, wood or forest land, pasture land, cultivable lands but not cultivated, land under roads and buildings, and lastly rocky and waste land.

Table A.5.2 shows land use based on the aforesaid census in 1982 and the change of the land use between 1962 and 1982. The table mainly shows the change of crop land which consists of arable land and land under permanent crops, accounted for about 86% of the total land under agricultural holdings in 1982 and also about 26% of the national territory.

According to the table, arable land increased over the 20 years, whereas land under permanent crops declined. There might be a shift from the major plantation crops to other permanent crops and temporary crops. The share of arable land in total national land recorded an increase from 8% in 1962 to 11.5% in 1982. On the other hand, the share of land under permanent crops dropped from 16.3% to 14.9%. Although both land under paddy and land under other temporary crops increased during 20 years, the latter increased at the higher rate of 5.5% per annum on average.

Table A.5.3 shows the latest land use of the whole country in 1987. Categorization of the table is different from Table A.5.2, so they cannot be compared. The table shows that crop land accounted for 29.1×10^3 km^2 or 44.4% of the total land area. Of the crop land, paddy land was 7.7×10^3 km^2 or 11.8% of the total land. Of the asweddumized paddy field, 5.45×10^3 km^2 or 70% was cultivated for paddy production in 1987/88 Maha season.

A.5.3 Support Systems

A.5.3.1 Research

Innovative research sustains steady agricultural growth in general. Agricultural research has been conducted by 15 separate research institutes under seven Ministries and the Office of the President. (1) Those within the Departments of individual line ministries; and (2) Those which are statutory bodies set up by Acts of Parliament and governed by boards. The latter are semi-autonomous units operating within Ministries.

Research institutes are enumerated as follows, with names of responsible Ministry :

1. Ministry of Agricultural Department and Research (MADR)
   1) Department of Agriculture (DA)
   2) Department of Minor Export Crops (DMEC)
   3) Agrarian Research and Training Institute (ARTI)
   4) Sugarcane Research Institute (SRI)

2. Ministry of Lands and Land Development (MLLD)
   1) Forest Department, Research Division
   2) Irrigation Department, Land Use Division

3. Ministry of Rural Industrial Development (MRID)
   1) Department of Animal Production and Health (DAPH)

4. Ministry of Plantation Industries (MPI)
   1) Rubber Research Institute (RRI)

5. Ministry of Coconut Industries (MCI)
   1) Coconut Research Institute (CRI)

6. Ministry of Fisheries (MF)
   1) National Aquatic Resources Agency (NARA)

7. Ministry of Higher Education (MHE)
    1) Faculties of Agriculture, University of Peradeniya (UPDA)
    2) University College of Ruhuna and Batticaloa; Faculty of Veterinary Medicine and Animal Science, University of Peradeniya (UPFVMAS)
    3) Postgraduate Institute of Agriculture, Peradeniya (PGIA)

8. Office of President
    1) National Resources, Energy and Science Authority (NARESA)

In 1987, the agricultural research project was implemented with World Bank assistance. It is intended to improve the capacity and performance of the national agricultural research system. Then, Council for Agricultural Research Policy was approved by the parliament in 1987.

A.5.3.2 Extension Services

There are six major organizations concerned with extension services in the Government. They are as follows:

1. Ministry of Agricultural Development and Research
    1) Department of Agriculture (DA)
    2) Department of Agrarian-Service (DAS)
    3) Department of Minor Export Crops (DMEC)
    4) Agricultural Development Authority (ADA)

2. Ministry of Rural Development (MRD)
    1) Department of Animal Husbandry Production

3. Ministry of Mahaweli Development (MMD)
    1) Mahaweli Authority of Sri Lanka (MASL)

4. Ministry of Lands and Land Development
    1) Land Commissioner's Department (LDC)
    2) Irrigation Department

5. Ministry of Coconut Industries
    1) Coconut Cultivation Board

6. Ministry of Plantation Industries

Among these organizations, the DA is dominantly in charge of extension services for paddy and upland production in the country. Although the ADA is mainly in charge of distribution of agricultural input, it instructs farmers in extension besides input services. In this respect, private firms distributing agricultural input such as fertilizer and pesticide give extension information to farmers as well. Their extension services are not functioning systematically, but seem to be practical and efficient information sources for farmers.

A.5.3.3 Seed Multiplication

Improved crop varieties are developed by the research programmes of the DA. The main seeds of the improved varieties are produced by the Seed Division of the DA. Basic seeds of all crops are produced in 32 seed production farms attached to this division. Almost all the certified seeds are produced through select contract growers particularly seed of paddy, tomatoes, beans and potatoes. Seed processing is done by 14 original seed processing units and complexes of the Seed Division covering every district. The Seed Division produces about 10% of the total paddy seed requirements.

A.5.3.4 Marketing

A number of institutions are active in marketing in the country. Although private marketing channels are prevailing since the economic reforms, the following 6 major agricultural marketing public bodies are still active.

1. Paddy Marketing Board (PMB)
2. Food Commissioner's Department (FCD)
3. Marketing Department (MD)
4. Multipurpose Co-operative Societies (MPCS or Co-operatives)
5. Co-operative Marketing Federation (MARKFED)
6. Co-operative Wholesale Establishment (CWE)

PMB was established in 1971 as the public organization to stabilize market prices of paddy, maize, chillies soybeans, and groundnuts by maintaining floor prices. While, FCD holds ceiling retail prices of food grain by importing and distributing at fixed prices. PMB's share of handling in paddy has been reduced to about 10% of the production due to the liberalization policy in agricultural marketing of the Government. PMB collects paddy through agents such as Co-operatives, Agrarian Services Committee and private trades. Afterward, PMB mills the collected paddy through rice mills on the contracts basis. The milled rice is sold to Co-operatives, army, navy, police, hospitals, etc., as well as the Rice Sales Centres for individual consumers.

MD, which is under Ministry of Trade and Shipping, involves in the marketing if the agricultural commodities particularly vegetables. Since MD's handling volume is small, it has little impact in the market.

MARKFED collects nearly 8-10% of fruits and vegetables traded through Co-operatives, and sells them in the principal markets in cities. MARKFED also handles chillies, pepper, potatoes, onions, rice, spices and fruits.

CWE is the most important state organization for both import from abroad, and local procurement and distribution of chillies, onions and lentils. CWE distributes through Co-operatives and their retail shops. Co-operatives are still the popular public organization in paddy procurement from farmers. In these days, Co-operatives work as an agent of PMB in most cases in paddy procurement.

In private marketing channels, rice millers, village boutique owners, local assemblers, commission agents, wholesalers, and retailers play important rolls. They handle about 90% of the marketed agricultural products. Rice millers are the largest market outlet for paddy producers. In case of coarse grains, village boutiques are the biggest market outlets for producers.

The local assemblers sell the collected products to wholesalers through commission agents in cities or purchase agricultural products on behalf of the traders in big cities. Nowadays, the largest outlet of the marketed fruits and vegetables are these local assemblers.

A.5.3.5 Credit

The rural banking and credit system is implemented through two schemes, namely a cultivation loan scheme and a marketing loan scheme. The former scheme loans to farmers to undertake cultivation through commercial banks. The latter scheme provides loans for marketing agricultural products.

Agricultural credit is generally provided through the following channels:

(1) The People's Bank provides cultivation loans to farmers through the Comprehensive Rural Credit Scheme (CRCS) which has been in operation since 1973. The CRCS has been effective with a large number of loans being granted to farmers for the purpose of cultivation. This scheme has been operated through Co-operatives, which acted as channeling agencies for credit under the CRCS.

(2) The Bank of Ceylon provides loans through Agrarian Service Centres (ASC). It started agricultural credit services in 1973, when the CRCS was introduced. Its service channel is small, so it does not cover the whole island of Sri Lanka.

(3) The Hatton National Bank provides loans directly to farmers under the CRCS. The service area is limited to particular towns and their suburbs.

(4) In 1986, the New Comprehensive Rural Credit Scheme (NCRCS) was introduced in place of CRCS. A loan provided under the NCRCS is not a crop specific loan. A farmer is allowed the flexibility to undertake the cultivation of any crop he prefers, taking into consideration the availability of water, the market prices of products and profitability. The NCRCS is provided through Regional Rural Development Banks (RRDB) and the Thrift and Credit Co-operative Societies (TCCSs).

A.5.3.6 Co-operatives

The Co-operatives are functioning as various channel for rural people, but its social role diminishes as other public and private channels spread over the rural areas since introduction of the government's free-marketing policy. Originally the Co-operatives provided such services as credit, input supply, extension and marketing to their members. Nowadays they are understood to deal with the following services for their members:

(1) Supplying foodstuff and kerosene to low income people free of charge through the Food Stamp Scheme. In 1987, 3,437x10^3 food stamps were issued, distributed as follows: 657x10^3 for 0-8 years old; 298x10^3 for 8-12 years old; 2,271x10^3 for 12 years old and over; and 835x10^3 for kerosene stamps;

(2) Furnishing farmers with cultivation loans through the Rural Bank under CRCS. This credit channel is still popular for rural farmers;

(3) Supplying household commodities for rural families. In particular, the Co-operatives are only the channel distributing commodities in undeveloped rural areas; and

(4) Functioning as an information channel not only for domestic affairs but also for agricultural extension services. It is not officially interwoven with official agricultural extension services, but it is still functioning in some rural areas because of its long historical background.

A.5.4 Food Balance

A food balance sheet is published annually by the Department of Census and Statistics based on guidelines laid down by FAO with some modifications. It shows a clear picture of the degree of dependance on foreign countries, and the quantum of imports and exports for the major food items. It can also assist in nutrition planning for the future.

Table A.5.4 shows the food balance of crops in 1987. In that year, paddy production decreased by 461x10^3 tons as compared with the previous year because of drought conditions. The stock of paddy decreased by 226x10^3 tons to meet the demand for paddy consumption. Consumption of paddy for food also shrank by 179x10^3 tons and the total consumption went down to 2,272x10^3 tons in 1987. Meanwhile, consumption of wheat flour increase by 21x10^3 tons and reached to 479x10^3 tons in total in 1987, which was supplied by release from stock.

Table A.5.5 shows the per capita consumption of crops. The table shows the per capita availability of crops in both 1986 and 1987. The consumption of both rice and wheat flour looks to be in the relation of trade off, as mentioned in the previous paragraph. The table shows the same data from FAO compilation. Although the basic composition is the same, the categorization of each food seems to be different in vegetables and fruits, in particular.

A.6 MACRO-ECONOMIC ASPECTS

A.6.1 National Development Policy

A.6.1.1 National Development Plan

"Public Investment, 1988-1992" provides the latest national economic development policy for the coming five years, and is revised every year by the government as a rolling plan. It is the latest version, announced in May 1988. In this programme, the following perspective during the medium term from 1988 to 1992 is envisaged to reconstruct and to accelerate the growth of the national economy.

(1) The next five years are expected to be a period of recovery from the effects of the recession in 1987. The policy, therefore, aims at (a) a well balanced and speedy reconstruction and stabilization programme in the first three years and (b) reactivation of economic growth and the development process in the period beyond.

(2) Agricultural output will return to normal levels owing to the normal weather conditions in 1988. Then, paddy output will increase at a rate that will enable the achievement of the self sufficiency target in the near future. Plantations are not expected to add significantly to increased output because of the world market situation. In other agricultural sub-sectors, considerable output would be expected through improved productivity of cultivated land, to generate exports and to create incomes and employment opportunities. These are implemented as a key component of the overall development plan of "the National Agricultural Food and Nutrition Strategy".

(3) The manufacturing sector has the potential to alleviate the country's unemployment problem and to improve export earnings significantly. The basic policy of future strategy for industrial development is in "the Industrial Policy Statement". There is also expected a noticeable development in the services' sector, especially in the following fields: internal and external trade; transport; tourism communication; and financial and allied services.

(4) Employment opportunities have not been growing at rates adequate to absorb the growing labour force. It is necessary for the government to maintain on overall economic growth enough to make an applicable reduction in the rate of unemployment.

(5) In this context, GDP is expected to grow at an average growth rate of 5.3% per annum during the period from 1988 to 1992, as shown in Table A.6.1. Each economic sector is expected to grow at the following annual rate: (a) 4.1% in the agricultural sector; (b) 6.3% in the industrial sector; and (c) 5.4% in the services' sector. In the construction sub-sector, the growth rate of 5.4% takes into account rends in the Mahaweli Settlement Scheme in particular.

(6) Domestic prices are expected to move moderately. Inflation rate has been recorded at less than 8.5% and is expected down to 4.0% in 1992. Stability with growth is expected not only to safeguard the real income of the people, but also to maintain a stable Rupee and to improve the balance of payment.

A.6.1.2 Regional Development Plans

Integrated Rural Development Programmes (IRDP) are conducted in 15 districts as of 1987, which are enumerated as follows: Kurunegala (1979); Matara (1979); Hambantota (1979); Nuwara Eliya (1980); Matale (1981); Puttalam (1981); Badulla (1982); Vavuniya (1984); Mannar (1984); Ratnapura (1984); Moneragala (1984); Mullaitivu (1985); Kegalle(1986); Kalutara (1987); and Kandy (1987). Figures in parenthesis denote the start year of implementation. The IRDPs are supported by the World Bank, International Fund of Agricultural Development (IFAD) and Western European governments such as Sweden, Norway, the Netherlands, Finland and West Germany. Every scheme is designed as a long term development programme covering a period of 3 - 15 years.

The objective of the programmes is to achieve sustained social, economic and environmental development by reducing present socio-economic disparities. The approach of the project is to support the rural poor as well as other disadvantaged groups in their efforts to improve living conditions. The main procedure of the programme is to provide a rural development plan from the integrated point of view and to implement the plan in different phases. In this context, the programme has many schemes such as irrigation, fishery, forestry, agricultural extension, soil conservation, housing, education, health care, rural road, water supply, electrification and telecommunication.

A.6.2 Gross Projections

A.6.2.1 Population

The official population projections were reported in "General Report, Census of Population and housing 1981" (Ref. 010) by the Department of Census and Statistics (DCS), published in March 1986. The projections were based on the results of the 1981 census and covered the period 1981-2001.

The projections were estimated in three scenarios, which are based on three alternative fertility levels. Other assumptions such as mortality, migration and life-expectancy were based on the 1981 census. The projected population in 2001 was reported as follows: (1) 20.0×10^6 in the low scenario; (2) 20.7×10^6 in medium; and (3) 21.3×10^6 in high.

In this current study, a population for the future up to the year 2020 is projected on the basis of the aforesaid projections. Other assumptions for the population projection are as follows: (1) the base year for projection is 1987, when the population is estimated at 16.4×10^6; (2) growth rates for three scenarios up to the year 2000 are applied at the same rates as the projection of the DCS; and (3)thereafter, growth rates during every ten years for each scenario decrease at the same percentage as the abatement during 1990-2000 estimated in the projection of the DOS.

Table A.6.2 and Fig. A.6-1 shows the projected population up to the year 2020, based on the foregoing assumptions. The projected populations of three scenarios in the year 2020 are as follows: (1) 21.4×10^6 by the low scenario; (2) 24.0×10^6 by the medium scenario, and (3) 26.7×10^6 by the high scenario. In this current study, the future population by the medium scenario has been adopted for further studies and plans.

A.6.2.2 Gross Domestic Product

"Public Investment, 1988-1992" projects GDP growth for a time period of five years as shown in Table A.6.1. Projections of GDP for longer periods are not available officially. In this current study, the GDP projection is estimated referring to the following articles: (1) the World Development Report (Ref.031); (2) Long-term Trends in Economic Development Report of the Secretary General of the United Nations (Ref. 043); and (3) "Master plan for the Electricity Study of Sri Lanka" by CEB, CECB and GDZ (German Agency for Technical Cooperation), which is under preparation.

The GDP growth rates for projection up to the year 2020 are estimated by the following assumptions : (1) The base GDP is set in 1987 and the future GDP is estimated at the constant 1987 prices; (2) The expected growth till 1992 is adopted from "Public Investment", at 5.3% per annum on average; (3) Thereafter, the growth remains close to the previous levels, i.e., moves at the average rate of 5.0% per annum; and (4) Beyond 2000, the growth will slow down to a stable rate of 4.0% per annum on average.

Table A.6.3 shows projected GDP up to the year 2020, based on the aforesaid assumptions. Projected GDP in the year 2020 is Rs. 745.5×10^9 at constant 1987 prices. Taking the population growth as mentioned in the previous section, the per capita GDP in 2020 is estimated at Rs. 31.1×10^3 or US$1,012 at constant 1987 prices.

A.6.2.3 Food Demand

Food demand in the future is one of the important key factors for the agricultural development plan. At present, a food demand projection is not available even for the short period from official services. Thus, in this current study, it is estimated through the following procedures, referring to the "National Agricultural Food and Nutrition Strategy": (1) Estimates of present food demand are based on food consumption per capita available through Food Balance Sheet (Ref. 008 and Ref. 038); (2) Using the most suitable country regarding food consumption, considering future levels of income in Sri Lanka; and (3) Estimates of future food demand in the year 2020 are based on the food consumption per capita of the country selected and on the projected population estimated in the former section.

The reasons why the foregoing methodology is employed in this study are mainly as follows:

(1) Average per capita consumption of calorie, protein and fat has reached at a certain level, though there seems to be seen maldistribution on nutrition because of income distribution. Then, the problem is not how to increase availability of basic food for

nutrition but how to cope with the taste propensity for food from the long-run view point.

(2) The trend methodology through using (a) per capita consumption in the past, (b) per capita income growth and (c) income elasticity for foods is not applicable to projection of food demand for lang-term, especially in the case income substantially grows beyond a certain level and that it seems inappropriate to apply available income elasticity beyond the confines of the trend.

(3) In general, taste preference for foods diversifies in accordance with growth of living standard. However, people's tastes do not change so quickly that taste propensity in the future in Sri Lanka will be similar as some Asian countries which are economically advanced.

Table A.6.4 shows comparisons of cereal consumption in some selected Asian countries. As per capita GDP in the year 2020 in Sri Lanka is expected at around US$1,000 as estimated before, the per capita income level might be roughly similar to Malaysia and Korea. Between these two countries, Malaysia case might be more appropriate than Korea case, because of climate and geographical conditions. Therefore, per capita food consumption in Malaysia is recommended for projection of food demand of Sri Lanka in the future. Fig. A.6-2 depicts the trend of calorie consumption from rice in major Asian countries and the projected future trend in Sri Lanka.

Table A.6.5 shows the food demand for major crop items both at present and in the year 2020. The projected annual food demand and increment by the year 2020 are summarized as follows:

Unit:10^3 tons/annum

Food Item	Demand		Increment
	1987	2020	
Paddy	2,367	4,220	1,853
Wheat Flour	788	835	7
Maize	25	61	6
Sweet Potatoes	161	115	-46
Sugar	399	899	500
Pulses	46	145	99
Chillie	50	74	24
Onion	79	124	45
Vegetables & Fruits	2,119	2,249	130

Incidentally, FAO's data of per capita consumption unit is used to estimate present food demand in the country to (1) keep a consistency of estimation between present and future and (2) there is no big difference in data between "Department of Census and Statistics" and "Food and Agriculture Organization" as seen in Table A.5.5. Paddy demand in 2020 will increase 1.9×10^6 tons or 78% more than that at present. Meanwhile, wheat flour will remain at almost the same level as present consumption, in spite of proportion growth. Sugar consumption will drastically increase by 2020 as seen in the above table. Consumption of pulses and maize will also increase at much higher growth rate than that of sugar, through its volume is smaller than sugar. Demand of other crops will grow at reasonable rate in proportion to population increase except sweet potatoes.

LIST OF REFERENCES

No.	Title	Issued on	Issued by
001	Statistical Abstract of Democratic Socialist Republic of Sri Lanka 1985	Jan.1987	Dept. of Census and Statistic MPI
002	Census of Population and Housing 1981 Population Data for Words and Grama Sevaka Divisions	Sept.1987	Dept. of Census and Statistic MPI
003	Review of the Economy 1987	Oct.1988	Central Bank of Sri Lanka
004	Economic & Social Statistics of Sri Lanka	Dec. 1986	Central Bank of Sri Lanka
005	Report on Consumer Finances and Socio-Economic Survey 1981/1982 Sri Lanka Part I	Oct.1984	Central Bank of Sri Lanka
006	Public Investment 1988 - 1992	May 1987	National Planning Division, Ministry of Finance and Planning
007	Central Bank of Sri Lanka Bulletin	June 1988	Central Bank of Sri Lanka
008	Agricultural Statistics of Sri Lanka 1988	July 1988	Dept. of Census and Statistics
009	Census of Industry Preliminary Report	1983, Dec.1985	- Dept. of Census and Statistics - Ministry of Plan Implementation
010	Census of Population and Housing 1981, General Report, Volume 3	Mar.1986	- Dept. of Census and Statistics - Ministry of Plan Implementation
011	Census of Population and Housing 198, Matale District Report, Volume 1 - Para V	Oct.1985	Dept. of Census and Statistics
012	Census of Population Housing 1981, Mannar District Volume 1-Part XI	Dec. 1984	Dept. of Census and Statistics
013	Census of Population Housing 1981, Vavuniya District Volume 1-Part XII	Dec.1984	Dept. of Census and Statistics

No.	Title	Issued on	Issued by
014	Census of Population and Housing 1981, Batticaloa District Volume 1-Part XIV	Feb.1985	Dept. of Census and Statistics
015	Census of Population and Housing 1981, Ampara District Volume 1-Part XV	Feb.1985	Dept. of Census and Statistics
016	Census of Population and Housing 1981, Kurunegala District Volume 1-Part XVI	Mar.1985	Dept. of Census and Statistics
017	Census of Population and Housing 1981, Puttalam District Volume 1-Part XVIII	Mar.1985	Dept. of Census and Statistics
018	Census of Population and Housing 1981, Anuradhapura District Volume 1-Part XIX	Mar.1985	Dept. of Census and Statistics
019	Census of Population and Housing 1981, Polonnaruwa District Volume 1-Part XX	Apr.1985	Dept. of Census and Statistics
020	Census of Agriculture 1982 Central Report	Dec.1986	- Dept. of Census and Statistics - Ministry of Plan Implementation
021	Census of Agriculture 1982, (Small Holding Sector) Matale District Report	Sept.1984	Dept. of Census and Statistics
022	Census of Agriculture 1982, (Small Holding Sector) Mannar District Report		Dept. of Census and Statistics
023	Census of Agriculture 1982, (Small Holding Sector) Vavuniya District Report	Oct.1984	Dept. of Census and Statistics
024	Census of Agriculture 1982, (Small Holding Sector) Batticaloa District Report	Aug.1985	Dept. of Census and Statistics
025	Census of Agriculture 1982, (Small Holding Sector) Ampara District Report	Nov.1985	Dept. of Census and Statistics

No.	Title	Issued on	Issued by
026	Census of Agriculture 1982, (Small Holding Sector) Kurunegala District Report	Jun.1985	Dept. of Census and Statistics
027	Census of Agriculture 1982, (Small Holding Sector) Puttalam District Report	Jan.1985	Dept. of Census and Statistics
028	Census of Agriculture 1982, (Small Holding Sector) Anuradhapura District Report	Sep.1985	Dept. of Census and Statistics
029	Census of Agriculture 1982, (Small Holding Sector) Polonnaruwa District Report	Oct.1985	Dept. of Census and Statistics
030	Census of Agriculture 1982, (Small Holding Sector) Preliminary Report	Feb.1983	- Dept. of Census and Statistics - Ministry of Plan and Implementation
031	World Development Report 1988	Jun.1988	World Bank
032	Sri Lanka-1981, Housing Tables Based on a ten percent Samples	Jun.1982	Dept. of Census and Statistics
033	Report by the High Level Committee of on poverty officials Alleviation through people-based Development Final Report on an Action Programme	Jun.1988	The High Level Committee of officials
034	A Thesis-Assessing Irrigation System Programme, A Methodological Study with Application to Gal Oya Scheme, Sri Lanka	Jun.1986	C.M.Wijayaratna
035	Agricultural Statistics Volume IV	Dec.1986	- Dept.of Rural Credit - Central Bank of Sri Lanka
036	1987 Country Tables	1987	FAO Economic and Social Policy Department
037	Food Balance Sheets (1975-1977 Average) and Per Capita Food Supplies (1961-65 Average; 1967-1977)	1980	FAO
038	Food Balance Sheets (1979-81) Average)	1984	FAO
039	Census of Population and Housing 1981, Mullaitive District Report Volume 1 - Part XIII	Feb.1985	Dept. of Census and Statistics

No.	Title	Issued on	Issued by
040	Census of Population and Housing 1981, Trincomalee District Report Volume 1-Part XVI	Feb.1985	Dept. of Census and Statistics
041	Census of Agriculture 1982, (Small Holding Sector) Mullaitive District Report	Nov.1985	Dept. of Census and Statistics
042	Census of Agriculture 1982, (Small Holding Sector) Trincomalee District Report	Aug.1986	Dept. of Census and Statistics
043	Long-term Trends in Development Report of the Secretary General	May 1982	United Nation
044	Food Balance Sheet 1986	Nov.1986	Dept. of Census and Statistics
045	Annual Health Bulletin Sri Lanka 1987	1987	Ministry of health

TABLES

Table A.3.1 POPULATION BY SEX, URBAN/RURAL RESIDENT AND LABOUR FORCE : 1971, 1981 AND 1987

Item	Population (Thousand)			Percentage Distribution (%)			Annual Growth Rate (%)	
	1971	1981	1987	1971	1981	1987	71/81	81/87
1. Population	12,690	14,847	16,361	100.0	100.0	100.0	1.58	1.63
2. Sex Distribution								
Male	6,531	7,568	8,339	51.5	51.0	51.0	1.48	1.63
Female	6,159	7,279	8,022	48.5	49.0	49.0	1.68	1.63
3. Spatial Distribution								
Urban	2,848	3,195	-	22.4	21.5	-	1.16	-
Rural	9,842	11,652	-	77.6	78.5	-	1.70	-
4. Labour Condition								
15-54 Years Old	6,586	8,225	9,012	51.9	55.4	55.1	2.25	1.53
Labour Force	-	5,093	6,610	-	34.3	40.4	-	4.44
Gainful Worker	-	4,499	5,420	-	30.3	33.1	-	3.15
Unemployment	-	594	1,190	-	4.0	7.3	-	12.28
Labour Participation Rate	-	34.3%	40.4%	-	-	-	-	-
Employment Rate	-	88.3%	82.0%	-	-	-	-	-
Unemployment Rate	-	11.7%	18.0%	-	-	-	-	-
				-	-	-	-	-
5. Population Density	193	226	249	-	-	-	-	-

Remarks : 1) 1987 population figures are provisionally estimated by Central Bank of Sri Lanka.
2) Rural population includes estate population.
3) 1981 data of labour participation rate of 34.3% and percentage distribution of unemployment are qouted from Ref.005.
4) 1987 data of labour participation rate of 40.4% and unemployment rate of 18.0% are derived from Ref.023.

Sources : Ref.001, 003, 004, 005 and 023

Table A.3.2 EMPLOYED POPULATION BY INDUSTRY : 1971 AND 1981

Industrial Sector	Population (Thousand) 1971	1981	Percentage (%) 1971	1981	Ave. Annual Growth Rate (%)
1. Agriculture	1,829	1,876	50.1	45.5	0.3
2. Industry	466	593	12.8	14.4	2.4
Mining & Quarring	13	34	0.4	0.8	10.1
Manuafacturing	339	409	9.3	9.9	1.9
Construction	104	134	2.8	3.3	2.6
Elec., gas & Water	10	16	0.3	0.4	4.8
3. Services	1,041	1,282	28.5	31.1	2.1
Transport & Communic.	179	200	4.9	4.9	1.1
Trade	344	437	9.4	10.6	2.4
Finance	25	57	0.7	1.4	8.6
Other Services	493	588	13.5	14.3	1.8
4. Not Defined	314	369	8.6	9.0	1.6
Total	3,650	4,120	100.0	100.0	1.2

Source : Ref.010

Table A.3.3 DISTRIBUTION OF POPULATION 10 YEARS OLD AND OVER BY BROAD EDUCATION GROUP : 1981

(Unit: %)

Attending School	Age Group 10-14	15-19	20-24	25-29	30 & Over
No Schooling	0.4	0.3	0.6	1.3	18.0
Below Primary	24.1				14.6
Grades 5 to 9	75.2	62.1	18.9	29.1	50.1
G.C.E.(O/L) Less than 6 Subjects	0.1	20.5	28.8	19.1	6.2
G.C.E.(O/L) 6 or More Subjects or (A/L) Less than 3 Subjects	0.0	13.6	36.8	24.1	7.6
G.C.E/(A/L) 3 or More Subjects or below Degree or Equivalent		1.2	11.3	14.5	1.5
Degree or Equivalent or Post-graduate		0.0	1.0	3.8	1.1
Unspecified	0.2	0.1	0.1	0.1	1.0
Total	100.0	100.0	100.0	100.0	100.0

Source : Ref.010

Table A.4.1 GROSS DOMESTIC PRODUCT AT CURRENT PRICES : 1982 - 1987

Industrial Sector	Gross Domestic Product (Rs.10^9)						Percentage Distribution (%)					
	1982	1983	1984	1985	1986	1987	1982	1983	1984	1985	1986	1987
1. Agriculture	25.0	32.2	40.1	41.1	44.4	47.9	26.4	28.3	28.7	27.7	27.1	27.0
Agriculture	20.8	27.1	35.1	35.6	37.9	40.6	21.9	23.8	25.0	24.0	23.1	22.8
Forestry	1.7	1.9	2.2	2.5	3.1	3.6	1.8	1.7	1.6	1.7	1.9	2.0
Fishing	2.5	3.2	2.9	2.9	3.4	3.7	2.6	2.8	2.1	2.0	2.1	2.1
2. Industry	24.9	30.0	36.9	38.9	43.5	48.8	26.3	26.3	26.3	26.2	26.6	27.4
Mining & Quarring	2.2	2.8	3.2	3.3	4.2	4.9	2.4	2.5	2.3	2.2	2.5	2.8
Manufacturing	13.6	16.0	20.9	21.8	24.9	28.5	14.4	14.0	14.9	14.7	15.2	16.0
Construction	8.0	9.8	11.2	11.6	12.3	13.0	8.4	8.6	8.0	7.8	7.5	7.3
Elec., gas & Water	1.1	1.4	1.6	2.0	2.3	2.3	1.2	1.3	1.2	1.4	1.4	1.3
3. Services	44.8	51.7	63.0	68.4	75.8	81.0	47.3	45.4	45.0	46.1	46.3	45.6
Transport & Communic.	10.7	12.6	15.5	16.6	17.9	18.7	11.3	11.0	11.1	11.2	10.9	10.5
Trade	19.7	21.8	27.2	29.3	31.8	34.5	20.8	19.1	19.4	19.7	19.4	19.4
Finance	3.7	4.2	4.7	5.7	6.8	7.5	3.9	3.7	3.4	3.8	4.2	4.2
Other Services	10.8	13.2	15.6	16.9	19.3	20.4	11.4	11.6	11.2	11.4	11.8	11.5
Total	94.7	113.9	140.0	148.3	163.7	177.7	100.0	100.0	100.0	100.0	100.0	100.0
GDP per Capita (Rs.)	6,233	7,387	8,977	9,365	10,158	10,863	-	-	-	-	-	-
(US$)	292	296	342	342	356	353	-	-	-	-	-	-

Source : Ref.003

Table A.4.2 GROSS DOMESTIC PRODUCT AT CONSTANT 1982 PRICES : 1982 - 1987

Industrial Sector	Domestic Product (Rs.10^6)						Annual Growth Rate (%)					Average Rate(%)
	1982	1983	1984	1985	1986	1987	1983	1984	1985	1986	1987	82-87
1. Agriculture	25.0	26.2	26.1	28.4	29.1	27.4	5.0	-0.4	8.6	2.6	-5.8	1.9
Agriculture	20.8	21.9	22.3	24.5	25.0	23.0	5.3	2.0	9.9	2.2	-8.1	2.1
Forestry	1.7	1.8	1.9	1.9	2.0	2.2	6.2	4.0	1.8	1.8	13.1	5.3
Fishing	2.5	2.5	1.9	1.9	2.1	2.2	1.8	-23.9	0.8	8.9	3.8	-2.5
2. Industry	24.9	25.3	27.1	28.1	29.8	31.6	1.8	7.0	3.5	6.1	6.3	4.9
Mining & Quarring	2.2	2.4	2.4	2.5	2.6	3.1	7.8	1.5	1.5	5.2	19.0	6.8
Manuafacturing	13.6	13.7	15.4	16.2	17.6	18.7	0.8	12.3	5.2	8.4	6.8	6.6
Construction	8.0	8.0	8.0	8.1	8.2	8.3	1.0	-0.1	0.5	1.5	1.8	0.9
Elec., gas & Water	1.1	1.2	1.2	1.3	1.4	1.4	6.6	6.7	6.0	7.1	3.0	5.9
3. Services	44.8	47.8	51.2	53.1	55.4	56.9	6.7	7.0	3.8	4.2	2.7	4.9
Transport & Communic.	10.7	11.3	12.4	13.0	13.4	13.5	5.8	10.2	4.2	3.2	1.2	4.9
Trade	19.7	20.7	22.0	22.9	23.8	24.5	5.3	6.2	4.1	3.9	2.8	4.5
Finance	3.7	4.1	4.5	5.0	5.2	5.5	11.2	9.6	9.9	4.0	6.1	8.1
Other Services	10.8	11.7	12.2	12.3	13.0	13.3	8.7	4.2	0.8	5.9	2.5	4.4
Total	94.7	99.4	104.4	109.6	114.3	115.9	5.0	5.1	5.0	4.3	1.5	4.1
GDP per Capita (Rs.)	6,233	6,446	6,692	6,919	7,089	7,085	3.4	3.8	3.4	2.5	-0.1	2.6

Source : Ref.003

Table A.4.3 SECTORIAL COMPOSITION OF AGRICULTURE IN GDP AND GROWTH RATES : 1978 - 1987

Item	Sectorial Composition in GDP (%)				Average Annual Growth Rate (%)		
	1978	1982	1986	1987	78/82	82/86	86/87
Agricultural Sector	30.5	26.4	27.1	27.0	3.7	3.9	-5.8
1. Agriculture	27.1	21.9	23.1	22.8	3.3	4.8	-8.1
1) Major Export Crop	9.0	6.8	4.9	6.0	0.4	3.9	-13.7
Tea	2.8	2.6	2.8	3.3	-1.5	3.0	1.0
Rubber	1.8	0.8	0.8	0.7	-5.2	2.7	-10.6
Coconut	4.4	3.4	1.4	2.0	4.1	4.8	-24.6
2) Food Crop	18.1	15.1	18.2	16.9	4.3	5.2	-5.7
Paddy	5.4	5.8	6.1	4.7	3.3	4.8	-18.0
Others	12.7	9.3	12.1	12.2	4.9	5.4	1.7
2. Forestry	1.4	1.8	1.9	2.0	5.9	3.4	13.1
3. Fishery	2.0	2.6	2.1	2.1	8.7	-4.0	3.8

Sources : Ref.003 and the Same Review of 1982 Year Version

Table A.4.4 PRODUCTION OF MAJOR CROPS : 1978 - 1987

Item	Unit	Production				Ave. Annual Growth Rate (%)		
		1978	1982	1986	1987	78/82	82/86	86/87
1. Major Export Crop								
Tea	10^6 kg	199	188	211	213	-1.4	2.9	0.9
Rubber	10^6 kg	156	125	138	122	-5.4	2.5	-11.6
Coconut	10^6 nuts	-	2,521	3,039	2,291	-	4.8	-24.6
2. Minor Export Crop								
Cinamon	10^3 ton	26	32	14	-	5.3	-18.7	-
Pepper	10^3 ton	17	18	9	-	1.4	-15.9	-
Cocoa	10^3 ton	12	14	6	-	3.9	-19.1	-
3. Food Crop								
Paddy	10^3 ton	1,891	2,156	2,588	2,128	3.3	4.7	-17.8
Manioc	10^3 ton	499	638	503	348	6.3	-5.8	-30.8
Potetoes	10^3 ton	30	65	108	103	21.3	13.5	-4.6
Red Onion	10^3 ton	72	93	77	96	6.6	-4.6	24.7
Maize	10^3 ton	35	45	41	45	6.5	-2.3	9.8
Chillies	10^3 ton	28	27	46	28	-0.9	14.2	-39.1
Cowpea	10^3 ton	23	36	17	23	11.9	-17.1	35.3

Sources : Ref.003 and 004

Table A.4.5 PRODUCTION AND VALUE ADDED IN MANUFACTURING INDUSTRY : 1978 - 1987

Category	Value (Rs.10^6)				Percentage Distribution (%)				Ann. Growth Rate (%)		
	1978	1982	1986	1987	1978	1982	1986	1987	78/82	82/86	86/87
1. Value of Manufacturing Production											
Food, Beverages & Tobacco	2,609	5,246	12,129	12,962	29.5	20.3	29.3	26.7	19.1	23.3	6.9
Textile & Leather	1,008	3,863	12,088	15,428	11.4	14.9	29.2	31.8	39.9	33.0	27.6
Wood & Wood Products	124	361	632	677	1.4	1.4	1.5	1.4	30.6	15.0	7.1
Paper & Paper Products	376	725	1,289	1,372	4.2	2.8	3.1	2.8	17.8	15.5	6.4
Chemical Products	3,279	13,099	11,088	13,477	37.0	50.6	26.7	27.8	41.4	-4.1	21.5
Non-Metalic Products	592	1,370	2,053	2,156	6.7	5.3	5.0	4.4	23.3	10.6	5.0
Basic Metal	219	262	281	307	2.5	1.0	0.7	0.6	4.6	1.8	9.3
Machinery & Equipment	590	904	1,757	2,006	6.7	3.5	4.2	4.1	11.3	18.1	14.2
Other Manufacturing	55	74	136	155	0.6	0.3	0.3	0.3	7.7	16.4	14.0
Total	8,852	25,904	41,453	48,540	100.0	100.0	100.0	100.0	30.8	12.5	17.1
2. Value Added in Manufacturing Industry											
Food, Beverages & Tobacco	1,366	2,259	6,850	7,194	43.9	33.4	42.8	38.9	13.4	32.0	5.0
Textile & Leather	214	488	3,104	4,409	6.9	7.2	19.4	23.8	22.9	58.8	42.0
Wood & Wood Products	63	134	393	408	2.0	2.0	2.5	2.2	20.8	30.9	3.8
Paper & Paper Products	191	257	626	692	6.1	3.8	3.9	3.7	7.7	24.9	10.5
Chemical Products	526	1,927	2,705	3,371	16.9	28.5	16.9	18.2	38.3	8.8	24.6
Non-Metalic Products	390	862	1,117	1,104	12.5	12.8	7.0	6.0	21.9	6.7	-1.2
Basic Metal	55	14	37	49	1.8	0.2	0.2	0.3	-29.0	27.5	32.4
Machinery & Equipment	292	790	1,116	1,204	9.4	11.7	7.0	6.5	28.3	9.0	7.9
Other Manufacturing	12	29	71	82	0.4	0.4	0.4	0.4	24.7	25.1	15.5
Total	3,109	6,760	16,019	18,513	100.0	100.0	100.0	100.0	21.4	24.1	15.6
3. Overall Rate of Value Added	35.1%	26.1%	38.6%	38.1%	-	-	-	-	-	-	-

Remark : Excluding state industries of 27 corporations
Source : Ref.003

Table A.4.6 GOVERNMENT FISCAL PERFORMANCE : 1982 - 1987

(Unit : Million Rupees)

Item	1982	1983	1984	1985	1986	1987
1. Current Receipt	17,809	25,210	37,731	39,010	41,644	44,900
2. Recurrent Expenditure	20,110	23,963	28,926	33,842	34,772	38,816
(a) Social Services	6,789	7,739	8,897	10,323	11,004	12,714
-Education	2,127	2,437	2,672	3,523	3,775	4,066
-Health	989	1,310	1,580	1,773	1,841	2,401
-Welfare	3,576	3,871	4,518	4,889	5,254	6,098
.Food Stamps etc.	1,652	1,586	1,578	1,514	1,549	1,666
(b) Agric. & Irrigation -Mahaweli Development	192	301	1,508	1,851	708	483
3. Advance Account	-879	1,120	2,916	314	-170	-1,180
4. Recurrent Account ((1)-(2)+(3))	1,422	127	5,889	4,854	7,042	7,264
5. Capital Expenditure	18,669	21,733	21,750	30,529	35,112	34,606
(a) Agric. & Irrigation	8,916	8,252	9,400	9,370	8,217	8,484
-Mahaweli Development	7,313	6,952	5,568	5,385	4,716	4,625
6. Budget Deficit	20,091	21,606	15,861	25,676	28,070	27,342
7. Debt Repayment	2,612	5,025	2,229	6,897	7,529	5,592
8. Net Cash Deficit	17,479	16,580	13,632	18,779	20,541	21,749
9. Public Debt Outstanding	70,942	85,839	95,155	123,134	149,690	183,865
10. Share of Capital Expenditure to GDP (%)	18.8	17.9	14.1	18.8	19.6	19.5
11. Share of Net Cash Deficit to GDP (%)	18.5	14.6	9.7	12.7	9.2	12.2

Source : Ref.003

Table A.4.7 COMPONENT OF EXPORT AND IMPORT : 1978 - 1987

Item	Amount (Rs.10^6)				Percentage Distribution (%)				Annual Growth Rate (%)		
	1978	1982	1986	1987	1978	1982	1986	1987	78/82	82/86	86/87
I. Export											
1. Agricultural Export	10,117	11,656	15,764	17,437	76.7	54.3	46.3	42.4	3.6	7.8	10.6
Tea	6,401	6,342	9,253	10,654	48.5	29.6	27.2	25.9	-0.2	9.9	15.1
Rubber	2,021	2,323	2,622	2,929	15.3	10.8	7.7	7.1	3.5	3.1	11.7
Coconut	972	1,496	2,389	2,140	7.4	7.0	7.0	5.2	11.4	12.4	-10.4
Minor Crops	723	1,495	1,500	1,714	5.5	7.0	4.4	4.2	19.9	0.1	14.3
2. Industrial Export	2,475	8,271	15,878	20,004	18.8	38.6	46.6	48.6	35.2	17.7	26.0
Textile & Garments	481	3,502	9,629	12,897	3.6	16.3	28.3	31.4	64.3	28.8	33.9
Petroleum Products	945	3,280	2,358	2,592	7.2	15.3	6.9	6.3	36.5	-7.9	9.9
Others	1,049	1,489	3,891	4,515	8.0	6.9	11.4	11.0	9.2	27.1	16.0
3. Mineral Export	-	859	1,182	1,759	-	4.0	3.5	4.3	-	8.3	48.8
Gems	531	685	755	1,447	4.0	3.2	2.2	3.5	6.6	2.5	91.7
Others	-	174	427	311	-	0.8	1.3	0.8	-	25.2	-27.2
4. Un-classified	-	668	1,249	1,933	-	3.1	3.7	4.7	-	16.9	54.8
Total	13,193	21,454	34,073	41,133	100.0	100.0	100.0	100.0	12.9	12.3	20.7
	*673	*934	*1,036	*1,080	-	-	-	-	*8.5	*2.6	*4.3
II. Import											
1. Consumer Goods	5,618	8,616	18,609	21,900	37.2	20.5	34.1	36.3	11.3	21.2	17.7
Rice	689	925	1,052	687	4.6	2.2	1.9	1.1	7.6	3.3	-34.7
(Quantity 1000ton)	(-)	(174)	(231)	(113)					(-)	(7.3)	(-51.1)
Wheat Flour	-	62	90	96	-	0.1	0.2	0.2	-	9.8	6.7
Sugar	620	970	1,764	2,389	4.1	2.3	3.2	4.0	11.8	16.1	35.4
(Quantity 1000ton)	(-)	(134)	(322)	(376)					(-)	(24.5)	(16.8)
Textile & Clothing	531	2,167	6,353	8,086	3.5	5.2	11.6	13.4	42.1	30.9	27.3
2. Intermediate Goods	5,591	21,640	22,265	26,310	37.0	51.6	40.8	43.6	40.3	0.7	18.2
Wheat	-	1,787	2,371	1,924	-	4.3	4.3	3.2	-	7.3	-18.9
(Quantity 1000ton)	(-)	(495)	(681)	(578)					(-)	(8.3)	(-15.1)
Fertilizer	252	560	1,282	1,074	1.7	1.3	2.3	1.8	22.1	23.0	-16.2
Chemical	446	729	1,587	1,587	3.0	1.7	2.9	2.6	13.1	21.5	0.0
Petroleum	2,403	12,274	6,293	8,716	15.9	29.3	11.5	14.5	50.3	-15.4	38.5
3. Investment Goods	3,367	11,591	10,556	11,332	22.3	27.6	19.3	18.8	36.2	-2.3	7.4
4. Un-classified	110	114	3,130	762	0.7	0.3	5.7	1.3	0.9	128.9	-75.7
Total	15,100	41,961	54,560	60,304	100.0	100.0	100.0	100.0	30.0	6.8	10.5
	*771	*1,826	*1,658	*1,583	-	-	-	-	*24.0	*-2.4	*-4.5
III. Balance of Trade	(1,907)	(20,507)	(20,487)	(19,171)	-	-	-	-	81.1	0.0	-6.4
	*-97	*-892	*-623	*503	-	-	-	-	74.1	-8.6	-19.3

Remark : "*" denotes SDR million prices.
Source : Ref.003

Table A.4.8 PRICE INDICES AND WAGE ESCALATION : 1982 -1987

Item	Index / Price					Annual Percentage Change (%)			
	1983	1984	1985	1986	1987	83/84	84/85	85/86	86/87
I. Price Index (1982=100)									
1 Consumers Price Index (in Colombo Consumers' Price Index)	114.0	132.9	134.9	145.6	156.9	16.6	1.5	7.9	7.8
2 Wholesale Price Index	125.0	156.0	133.1	129.2	146.5	24.8	-14.7	-2.9	13.4
3 Construction Cost Index (Housing Construction)	105.1	115.7	124.5	125.0	-	10.1	7.6	0.4	-
4 Implicit GDP Deflator	114.6	134.1	135.4	143.3	153.3	17.0	1.0	5.8	7.0
II. Producer Price (Rs./kg)									
1 Paddy	3.60	3.75	3.98	4.03	4.27	4.2	6.1	1.3	6.0
-Garanteed Price	3.0	3.0	3.0	3.4	3.4	3.4	3.4	3.4	3.4
2 Dried Chillie	25.98	28.94	33.20	28.60	32.14	11.4	14.7	-13.9	12.4
3 Red Onion	6.10	3.66	11.21	11.90	8.59	-40.0	206.3	6.2	-27.8
4 Green Gram	11.74	12.86	14.81	14.99	-	9.5	15.2	1.2	-
III. Retail Prices of Agricultural Input (Rs.)									
1 Seed Paddy (Bushel)									
-Improved Seed	86.65	93.41	95.41	98.95	-	7.8	2.1	3.7	-
-Traditional Seed	83.35	87.83	88.44	92.31	-	5.4	0.7	4.4	-
2 Urea (50kg)	155.43	152.25	152.30	156.41	-	-2.0	0.0	2.7	-
3 C.P.D. (50kg)	155.90	159.63	158.59	156.94	-	2.4	-0.7	-1.0	-
IV. Retail Prices of Food (Rs./kg)									
1 Rice Parboiled									
-Samba	8.11	9.94	10.09	9.97	10.81	22.6	1.5	-1.2	8.4
-Ordinary	6.28	6.63	7.19	7.34	7.64	5.6	8.4	2.1	4.1
2 Red Onion	9.91	28.82	17.25	16.71	12.77	190.8	-40.1	-3.1	-23.6
3 Dried Chillie	34.66	38.20	49.10	41.79	42.93	10.2	28.5	-14.9	2.7
4 Administered Price									
-Rice for Food Stamp	6.16	6.52	6.72	7.22	7.22	5.8	3.1	7.4	0.0
-Wheat	6.46	7.36	7.75	7.90	7.90	13.9	5.3	1.9	0.0
-Bread	5.90	6.46	6.78	6.89	6.89	9.5	5.0	1.6	0.0
V. Daily Wage Rate (Rs./day)									
1 Paddy Farming									
-Ploughing	41.91	45.20	48.54	40.40	43.05	7.9	7.4	-16.8	6.6
-Transplanting	35.22	35.04	37.08	39.33	43.52	-0.5	5.8	6.1	10.7
-Harvesting	34.83	37.81	39.14	41.68	41.09	8.6	3.5	6.5	-1.4
-Threshing	41.02	41.26	41.32	43.48	-	0.6	0.1	5.2	-
2 Construction (Masonry)									
-Master	58.36	63.50	68.41	72.29	78.02	8.8	7.7	5.7	7.9
-Skilled Helper	41.11	43.83	47.04	49.57	53.79	6.6	7.3	5.4	8.5
-Unskilled Helper	30.15	33.11	35.39	37.34	40.36	9.8	6.9	5.5	8.1
VI. Import Price (Food Commissioner's Price : Rs./kg CIF)									
1 Rice	4.91	4.88	5.11	4.54	5.93	-0.7	4.8	-11.3	30.8
2 Wheat Flour	4.04	4.33	4.16	3.48	3.33	6.9	-3.9	-16.3	-4.3
3 Sugar	5.79	4.92	5.10	5.68	6.21	-15.1	3.8	11.2	9.4

Sources : Ref.003, 004 and 007

Table A.4.9 DISTRIBUTION OF TOTAL INCOME FOR ONE MONTH BY INCOME GROUP : 1981/82

Income Group	Number of Income Receiver	As a % of Total No. of Income Receiver	Total Income (Rs.1000)	As a % of Total Income
0- 100	374	3.03	22	0.16
101- 200	781	6.32	126	0.92
201- 400	2,126	17.22	653	4.76
401- 600	2,070	16.76	1,042	7.60
601- 800	1,731	14.03	1,210	8.82
801-1000	1,327	10.75	1,190	8.68
1001-1500	1,797	14.56	2,171	15.83
1501-2000	867	7.03	1,499	10.94
2001-2500	413	3.35	919	6.70
2501-3000	227	1.84	623	4.54
over 3000	631	5.11	4,257	31.05
Total	12,344	100.00	13,713	100.00
Average	-	-	Rs.1,111	-

Source: Ref.005

Table A.4.10 EXPENDITURE ON SELECTED ITEMS AS PERCENTAGE OF TOTAL CURRENT EXPENDITURE BY INCOME GROUP : 1981/82

(Unit: %)

Income Group	Food				Hous-ing	Clothing & Apparel	Fuel & Light	Others
	Rice	Other Grains	Non-grain Food	Total				
0- 100	15.97	12.87	42.19	71.03	2.82	6.20	7.44	12.51
101- 200	20.19	5.41	42.11	67.71	6.24	3.84	9.72	12.49
201- 400	21.88	7.48	43.24	72.60	4.01	4.03	7.72	11.64
401- 600	22.10	7.96	42.45	72.51	3.37	4.82	7.44	11.86
601- 800	21.37	7.84	41.55	70.76	3.73	4.98	6.87	13.66
801-1000	21.60	7.13	41.60	70.33	3.92	5.10	6.50	14.15
1001-1500	20.09	6.61	40.00	66.70	4.13	6.20	5.78	17.19
1501-2000	17.41	5.67	38.26	61.34	5.08	7.47	5.07	21.04
2001-2500	14.84	4.73	35.30	54.87	5.71	8.42	4.40	26.60
2501-3000	13.18	4.08	34.41	51.67	5.90	8.66	4.48	29.29
Over 3000	7.91	2.71	24.65	35.27	10.06	8.68	3.40	42.59
Average	16.26	5.43	35.80	57.49	5.82	7.05	5.16	24.48

Source : Ref. 005

Table A.4.11 AVERAGE EXPENDITURE FOR ONE MONTH ON FOOD ITEMS PER PERSON BY INCOME GROUP : 1981/82

(Unit : Rs.)

Income Group	Rice *1	Wheat Flour *2	Other Grains	Fugar	Pulses	Vegetables	Fruits *3	Others	Total
0- 100	31.49	24.10	1.96	6.79	2.65	11.52	0.19	61.35	140.05
101- 200	39.70	9.25	2.36	9.48	1.49	7.80	0.97	62.08	133.13
201- 400	41.94	13.12	2.17	8.05	2.27	9.15	1.14	61.32	139.16
401- 600	40.50	13.44	2.07	7.99	2.13	8.86	0.94	56.93	132.86
601- 800	43.85	15.64	1.43	8.65	2.20	9.15	1.14	63.12	145.18
801-1000	46.99	15.09	1.49	9.60	2.59	9.95	1.45	65.85	153.01
1001-1500	51.48	16.23	2.09	10.85	3.12	11.12	1.92	74.11	170.92
1501-2000	55.79	18.00	2.06	12.96	3.66	13.08	2.81	88.26	196.62
2001-2500	57.81	18.71	1.90	14.12	14.95	13.91	3.51	88.89	213.80
2501-3000	58.48	18.60	2.27	15.16	5.53	14.77	3.95	110.50	229.26
3000	58.67	20.22	3.31	17.37	6.17	16.76	6.99	132.12	261.61
Average	51.01	16.65	2.03	11.53	3.48	11.73	2.51	81.45	180.39

Remarks : *1 Include both own produce and open market products.
*2 Include bread and bakery products.
*3 Include fresh,dried and tinned.

Source : Ref 005

Table A.5.1 EMPLOYMENT IN THE MAIN SUB-SECTORS OF THE AGRICULTURAL SECTOR : 1971 AND 1981

Agricultural Sub-sector	Population (10^3) 1971	Population (10^3) 1981	Percentage (%) 1971	Percentage (%) 1981	Average Annual Growth Rate (%)
1.Estate Sector (Tea, Rubber, Coconut, Cultivation)	740	666	40.5	35.5	-1.0
2.Traditional Sector	1034	1136	56.5	60.6	0.9
(1)Paddy Cultivation	803	785	43.9	41.9	-0.2
(2)Other Agriculture	231	351	12.6	18.7	4.3
3.Fishing Industry	55	74	3	2.9	3.0
Total	1829	1876	100	99	0.3

Source: Ref. 010

Table A.5.2 CHANGES IN AGRICULTURAL LAND USE : 1962-1982

Land Use Group	1962 Extent (km^2)	1962 (%)	1982 Extent (km^2)	1982 (%)	Annual Increase Rate (%)
I. In a Scope of Agricultural Holdings	15,976	24.3	20,087	26.3	
1 Crop Land	15,976	24.3	17,266	26.3	0.39
1) Arable Land	5,275	8.0	7,520	11.5	1.79
-Asweddumized Paddy Land	4,594	7.0	5,570	8.5	0.97
-Land under Other Temporary Crops	681	1.0	1,970	3.0	5.45
2) Land under Parmanent Crops	10,701	16.3	9,746	14.9	-0.47
-Land under Major Piantation Crops	9,267	14.1	7,981	12.2	-0.74
-Land under Other Permanent Crops	1,434	2.2	1,765	2.7	1.04
2 Other Lands	-	75.7	2,821	73.7	-
1) Pasture Land	-	-	201	0.3	-
2) Forest Land	-	-	541	0.8	-
3) All Other Land *1	-	-	2,079	3.2	-
II Outside area of Holdings	49,634	-	45,523	69.4	-
Total Land	65,610	100.0	65,610	100.0	-

Remark : *1 Cultivable land but not cultivated, land under roads and buildings and rocky and waste land.

Source : Ref.020

Table A.5.3 PRESENT LAND USE : 1987

Land Use Category	Area (km^2)	Percentage Distribution(%)
1. Agricultural Area	58,670	89.4
(1) Crop Land	29,120	44.4
Plantation	8,930	13.6
Paddy(Asweddumised Extent)	7,730	11.8
Upland Crop	2,590	3.9
Sugar Cane	170	0.3
Homestead	9,700	14.8
(2) Other Land	29,550	45.0
Forest	16,310	24.9
Open Forest	7,250	11.1
Scrub	2,890	4.4
Grassland	3,100	4.7
2. Non-Agricultural Area	4,440	6.8
(1) Built-up Area	200	0.3
(2) Swamp/Marsh	350	0.5
(3) Bare Land/Not-identified	3,890	5.9
3. Inland Water	2,500	3.8
Total	65,610	100.0

Source : Adopted from Land Use Division, Irrigation Department

Table A.5.4 FOOD BALANCE OF CROPS : 1987

Commodity	Supply: Priduc-tion	Supply: Change in stock	Supply: Trade (I-E)	Availa-bility	Distribution: Food Gross	Distribution: Animal Feed	Distribution: Seed	Distribution: Waste
1.Cereals								
Paddy	2,127	-226	150	2,503	2,272	1	80	150
Wheat Flour	0	-46	438	484	479	1		4
Maize	42	0	14	56	18	35	1	2
Other	8	0	0	8	7	0	0	1
2.Roots/Tubers								
Sweet Potatoes	80	0	0	80	56	0	0	24
Manioc	427	0	0	427	299	0	0	128
Potatoes	81	0	0	81	56	0	17	8
3.Suger	47	25	339	411	411	0	0	0
4.Pulses	40	0	45	85	81	0	1	3
5.Vegitables								
Onion	61	0	34	95	54	0	12	29
Others	954	0	0	954	954	0	0	0
6.Fruits	134	0	0	134	134	0	0	0

Source : Ref.008

Table A.5.5 PER CAPITA CONSUMPTION OF CROPS

Category	Dept. of Census & Statistics: 1986	Dept. of Census & Statistics: 1987	FAO *1: '78-'81 Average
1. Cereals			
Paddy	103.4	94.4	95.3 *2
Wheat Flour	28.4	29.3	44.1
Maize	3.1	1.0	1.4
Other Cereals	0.5	0.4	0.8
2. Roots/Tubers	24.4	21.3	17.9
Sweet Potetoes	4.2	3.4	6.8
Others			
3. Suger	23.1	25.1	23.4
4. Pulses *3	5.0	4.9	2.5
5. Vegitables *4	58.5	58.3	10.3
Chillies			2.6
Onion	3.8	3.3	4.4
Others			
6. Fruits *4	8.2	8.2	78.8
Availability of Nutrition			
Calories (cal/day)	2,377	2,267	2,251
Protein (g/day)	52	51	44
Fat (g/day)	52	29	47

Remarks : *1 Food and Agriculture Organization.
*2 Extraction rate of 68% is applied.
*3 Green gram, Cowpea, Dhall, etc.
*4 Catigorization might be different between Department of Census and Statistics and FAO.

Sources : Ref. 008,038 and 044

Table A.6.1 GDP PROJECTION BY INDUSTRIAL ORIGIN AT CONSTANT 1986 PRICES : 1986 - 1992

Item	GDP (Rs.10^9)				Annual Growth Rate (%)				Ave. Annual Growth Rate 87/92 (%)
	1987	1988	1989	1992	1987	1988	1989	1992	
1. Agriculture	43.1	45.1	46.9	52.6	-5.8	4.7	3.9	3.9	4.1
Tea	4.8	4.8	4.9	5.1	1.0	1.3	0.9	1.7	1.4
Rubber	1.1	1.2	1.2	1.3	-10.6	7.0	3.9	3.1	4.0
Coconut	1.7	1.8	1.9	2.2	-24.6	4.7	8.3	4.9	5.5
Paddy	8.2	8.9	9.3	10.9	-18.0	8.8	4.5	5.2	5.8
Other Agriculture	27.3	28.4	29.6	33.1	3.5	4.0	4.0	3.8	3.9
2. Industry	43.0	45.6	48.3	58.3	6.3	6.0	5.9	6.5	6.3
Mining & Quarring	4.3	4.5	4.7	5.4	19.0	4.9	4.3	5.0	4.8
Tea, Rubber and Coconuts Processing	5.4	5.6	5.6	6.0	3.6	2.2	1.7	2.0	2.0
Other Industries	20.8	22.4	24.2	30.7	7.5	7.7	7.8	8.3	8.1
Construction	12.5	13.1	13.8	16.3	1.8	5.0	5.0	5.7	5.4
3. Services	80.1	84.6	88.8	104.4	2.7	5.6	5.0	5.5	5.4
GDP Total	166.2	175.2	183.9	215.3	1.5	5.5	5.0	5.4	5.3
GDP per Capita (Rs.)	9,869	10,255	10,604	11,901	-1.0	3.9	3.4	3.9	3.8
(US$)	353	366	379	425					

Source : Ref.006

Table A.6.2 POPULATION PROJECTION : 1987-2020

(Unit : Million)

Year	Growth Rate Hypothesis		
	Low	Medium	High
1987	16.4	16.4	16.4
1992	17.1	17.2	17.2
1995	18.3	18.6	18.8
2000	19.3	19.9	20.4
2010	20.7	22.1	23.5
2020	21.4	24.0	26.7

Remarks : (1) Population in 1987 comes from an estimation of Central Bank of Sri Lanka (See Table A.3.1).
(2) Growth Rates of three hypotheses upto the year 2000 are quoted from Ref.010.

Table A.6.3 GDP PROJECTION AT CONSTANT 1987 PRICES : 1987-2020

Year	Annual Growth Rate(%)*1	GDP (Rs.10^9)	GDP Per Capita	
			(Rs.10^3)	(US$)
1987	1.5	177.7	10.9	353
1992	5.3	230.3	13.1	425
1995	5.0	266.6	14.4	468
2000	5.0	340.2	17.1	558
2010	4.0	503.7	22.8	741
2020	4.0	745.5	31.1	1,012

Remark: *1 Growth Rate in 1987 is actual,and that upto 1992 is based on "Public Investment Plan,1988-1992"(Ref.006)

Table A.6.4 COMPARISON OF CEREAL CONSUMPTION : 1979-1981 AVERAGE

Item	Sri Lanka	Indonesia	Japan	Rep.of Korea	Malaysia	Philip-pines	Thailand
I. Per Capita Cereal Consumption (kg/capita/annum)							
Paddy	140.1	185.2	109.6	207.6	152.9	136.4	223.4
Rice *1	95.3	125.9	74.5	141.2	104.0	92.8	151.9
Wheat Flour	44.1	8.4	41.3	38.8	33.8	15.7	3.7
Other Cereals	2.2	24.4	20.3	33.0	9.3	55.6	3.3
Total	141.6	158.7	136.1	213.0	147.1	164.1	158.9
II. Per Capita Availability of Nutrition							
Calorie (cal/day)	2251.0	2372.0	2852.0	3056.0	2518.0	2405.0	2330.0
-Rice Cont.(%) *2	42.0	57.9	28.0	49.3	39.2	38.1	63.7
Protein (g/day)	44.0	48.8	88.6	84.6	56.0	53.9	46.9
Fat (g/day)	47.0	38.6	80.6	41.1	51.6	31.8	26.0
III. Gross Product (US$ per Capita)							
GDP in 1980 *3	254	480	8,909	1,634	1,730	729	719
GNP in 1986 *4	400	490	12,840	2,370	1,830	560	810

Remarks : *1 Extraction rate of 68% is applied.
*2 Rate of calories through rice to total calorie
*3 Ref.036
*4 Ref.031

Sources : Ref.031, 036 and 038

Table A.6.5 FOOD DEMAND IN MAJOR CROP ITEMS : 1987 AND 2020

Name of Food	Per Capita Net Consumption (kg/year)	Net Demand for Food (1000 tons)	Co-efficient of Gross per Net Demand	Gross Demand (1000 tons)	Increment (1000 tons)
I. 1987 Condition		Population : 16.4 million Calories per Capita : 2,251			
Paddy	140.1	2,297.6	1.03	2,366.6	-
Wheat Flour	44.1	723.2	1.09	788.3	-
Maize	1.4	23.0	1.10	25.3	-
Sweet Popetoes	6.8	111.5	1.44	160.6	-
Sugars *1	23.4	383.8	1.04	399.1	-
Pulses	2.5	41.0	1.11	45.5	-
Chillies	2.6	42.6	1.18	50.3	-
Onion	4.4	72.2	1.09	78.7	-
Vegitable and Fruits	89.1	1,461.2	1.45	2,118.8	-
II. 2020 Condition		Population : 24.0 million Calories per Capita : 2,518			
Paddy	152.9	3,669.6	1.15	4,220.0	1,853.5
Wheat Flour	33.8	811.2	1.03	835.5	47.2
Maize *2	2.3	55.2	1.10	60.7	35.5
Sweet Popetoes	1.3	31.2	3.67	114.5	-46.1
Sugars *1	36.0	864.0	1.04	898.6	499.4
Pulses	2.8	67.2	2.15	144.5	99.0
Chillies *3	2.6	62.4	1.18	73.6	23.3
Onion	5.0	120.0	1.03	123.6	44.9
Vegitable and Fruits	73.2	1,756.8	1.28	2,248.7	129.9

Remarks : *1 Sugar includes not only sugar cane but raw sugar, sugar, confectionary, etc.
*2 Co-efficient is supposed to stay at 1987 condition.
*3 Unit consumption is supposed to keep the 1987 condition, because of data availability.

Source : Ref.038