

Agricultural Frameworks of Sri Lanka

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Agricultural Frameworks of Sri Lanka

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SUMMARY

Agriculture, broadly defined as the work of cultivating the soil, producing crops, and raising livestock, is the human activity that has had the greatest impact upon the global environment. Agriculture still plays a dominant roll in the Sri Lankan economy, contributing more than 20% of its Gross Domestic Product. During the past few decades the Sri Lankan agricultural sector in particular has undergone accelerated change. This agricultural development, i. e. , the so-called Green Revolution, has been realized through the intensification of agricultural production and an expansion of agricultural land use. The fact that high input farming methods (while sustaining the growth in agricultural production) are undermining the ecological resource base upon which agriculture depends and are contributing to environmantal degradation is, however, a matter of prime concern at present.

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Introduction

Sri Lanka is a tropical island nation in the Indian ocean situated between 6-10 North latitude and 79-81 East longitude. The total area of the country is 65610 km² and the per-capita area is 0.36 ha. At least 2.7 million ha are under cultivation, of which one third is under perennial plantation tea, rubber and coconuts. The rest is under annual crops.

The population of Sri Lanka is approximately 17.9 million, about 72% of whom live in rural areas. The ethnic composition in 1981 was: Sinhalese 74.0%; Tamils 18.2%; Muslims 7.1%; and Others 0.7%. Administratively, the country is divided in to 9 provinces and 25 districts. With the implementation of the Provincial Council Act of 1987, land administration, irrigation and agriculture have devolved to the provincial councils. Religious affiliations are: Buddhist 69.3%; Hindu 15.5%; Muslim 7.6%; Christian 7.5%; and Others 0.1%.

Natural resources include limestone, graphite, mineral sands, and phosphates. The country is a petroleum refiner and also processes and exports tea, rubber, and other agricultural commodities.

Sri Lanka is richly endowed with more than 700 indigenous species of wild life. The country has a long and proud tradition of natural resource conservation dating back over 23 centuries. Over 40% of the land has protected status, although poaching is a continuing threat, and the government is encouraging the achievement of sustainability at the commiunity leval. Loss of the forest cover caused by the collection of timber for export, wood for fuel and continuing for agricultural expansion is a serious problem. Coastal degradation has been caused by the mining of coral for lime production; and Sri Lanka's freshwater resources are dwindling due to drought as well as sewage and irrigation system problems.

RESULTS

1) Climate

Proximity to the equator dictates a tropical climate, and the island's location in relation to the

monsoon winds largely determines its pattern of rainfall. The rising and setting of the sun varies little more than ten or twenty minutes throughout the year; sunrise being a little before six in the morning and sunset a few minutes after six in the evening. The island enjoys an equitable climate. The day time temperature varies from 20-32 °C in the low country and in coastal areas, 10-23 °C in the hill country. The highest temperatures are generally experienced in the dry zone, especially in the northern part of the island. A succession of seasons is completely unknown. Except by the change of wind, the difference of a few degrees in temperature, and the transition from dry to rainy weather and vice versa, a perennial summer prevails.

According to climatologists the rainfall follows a bi-model pattern of conventional rains and depressional rains. Bi-model pattern are the northeast monsoons from October to February (Maha season) and the southwest monsoons from April to September (Yala season). Conventional rains caused by the difference in temperatures between sea and land occur during the transitional periods between monsoons. Depressional rainfall occurs mainly from October to December bringing heavy and widespread precipitation to the country. Based on rainfall, three major agroclimatic zones are identified: a wet zone, receiving a rainfall of over 2540mm per annum; an intermediate zone of 1905 to 2540mm per annum; and a dry zone receiving a rainfall of 1270 to 1905mm per annum.

2) Topography

The principal feature of the island's topography is a mountain area, commonly called the hill country, in the South Central part. The average elevation of this area is 1128.5 meters. Surrounding it is an upland area ranging between 305-915 meters. The rest of the island is a coastal plain, quite broad to the north but narrow to the east and west, and very restricted to the south. The rivers start in the hill country and flow in a radial pattern outwards to the ocean.

3) Soil

Sri Lanka lies within the broad zone of latosolic soils which circle the earth at the equator. Latosols are found on four-fifths of the area of the island. Other soils found include laterite, terra rossa, alluvial and other regosol groups.

The latosols in the island are deeply weathered and strongly leached; as a result they are low in plant nutrients and organic matter. They have physical properties favourable for tillage and other plant growth, but modern scientific management is needed for sustained crop production.

The laterite soils occur mainly in the southwestern part of the island and are closely associated with the latosols. The profiles of these soils are marked by laterite layers known as cabook which interfere with the penetration of roots and water. Moreover since these soils are also weathered and low in plant nutrients, they are poor for crop production. The laterite layers or cabook are quarried into bricks for use as building materials¹.

The terra rossa soil along the northwest coast has less favourable physical properties and is less easily penetrated by water or roots than other latosols. Terra rossa, however, being formed from limestone rock, is more fertile. It occurs under the lowest rainfall on the island and needs irrigation for successful crop production, except during the northeast monsoon.

The alluvial soils and regosols are widely distributed around the coastline and river sides. Alluvial soils occur along nearly every stream. Since they contribute much of the fertility for paddy production, they produce much more food than other soil groups in Sri Lanka².

The regosols hold very little water and consist of sand along the East and West coasts. They are very helpful to coconut production in Sri Lanka.

4) Land Utilization

There is no reliable information available about the land use practices in ancient Sri Lanka.

However, it seems certain that, but for a few coconut and spice bushes here and there, agriculture in the early period was restricted primarily to paddies. From the description given by Robert Knox³, it is evident that the standard of living of the people was very simple, and the self supporting non-exchange economy had very little need of trade either foreign or domestic. According to the Sarker³ the staple food was rice which was neither imported nor exported except in negligible quantities³. The utilization committee's study of the past historical data of Sri Lanka is summarized in Table 1.

At present Sri Lanka's land is utilized for the cultivation of a wide range of crops. Paddy is cultivated throughout the country except at high elevations. Tea, rubber and coconut are the leading crops in the wet zone. Spices and beverage crops are raised primarily in gardens throughout the wet and intermediate zone. Annual crops are predominant in the wet, intermediate and rainless dry zone⁴. (see Table 2).

5) Main features of Sri Lanka Agriculture

Agriculture still plays a dominant role in the Sri Lankan economy. In 1994, agriculture contributed 21% to the Gross National Product (GNP) and 22% to total export earnings, giving employment to 42% of the workforce. Before 1950, the relative contribution of agriculture to Gross Domestic Production (GDP) was more than 40%, but from the 1960's and onward, this relative contribution gradually decreased; the rate of decrease was higher after 1977 when the political situation allowed for the introduction of an

Table 1. Cultivated Area and Population in Sri Lanka

Year	Total Cultivated area (000ha)	Population millions	Per capita cultivated area (ha)
1830	169	0.96	0.174
1840	238	1.40	0.170
1850	292	1.59	0.182
1860	376	1.88	0.198
1871	435	2.41	0.182
1881	679	2.76	0.247
1891	706	3.01	0.234
1901	860	3.57	0.243
1911	1017	4.11	0.247
1921	1133	4.50	0.251
1931	1305	5.31	0.247
1946	1305	6.66	0.194
1962	1468	10.34	0.141
1972	2013	13.30	0.151
1982	2282	15.19	0.150
1994	2700	17.87	0.151

Source : Report of the Land Utilization Committee and Census of Agriculture 1962, 1972

Table 2. Agricultural Land Use (Thousand Hectares)

Item	1978	1990	1991	1992	1993
Main Agri. Crops					
Paddy	876	828	791	766	820
Tea	243	222	222	222	n.a.
Rubber	226	199	198	195	195
Minor Export Crops					
Cocoa	8.2	8.5	7.6	7.7	7.8
Cinnamon	22.2	20.2	16.0	16.0	16.0
Cardamon	4.6	4.4	5.3	5.4	5.4
Cloves	N.A.	6.0	7.8	7.8	7.8
Pepper	7.3	15.6	10.0	10.5	11.0
Selected Other Crops					
Manioc	39.8	43.2	39.7	N.A.	N.A.
Maize	28.6	47.9	40.1	41.1	49.9
Chilies	33.8	38.1	34.2	31.4	42.7
Red Onions	6.2	8.5	6.3	8.1	8.7
Potates	2.6	7.7	3.5	5.3	7.7
Gingerlily	16.9	17.7	16.3	10.7	11.8
Suger Cane	5.3	10.5	12.9	14.4	12.9
Coffee	N.A.	13.3	10.6	10.7	10.8

Sources : Sri Lanka Socio-Economic Data Report 1994

*N.A.: not available

Table 3. Contribution of the Agriculture Sector to GNP at Current Factor Cost Prices

Items	1970	1975	1980	1985	1990	1994
Agriculture	3,392	7,173	14,210	35,069	25,729	27,596
Tea	423	660	1,635	5,269	3,004	3,116
Rubber	233	328	873	1,164	718	668
Coconuts	535	973	2,368	3,342	3,261	3,376
Paddy	951	1,501	3,791	9,379	6,378	6,750
Other	1,250	3,711	5,543	16,445	12,368	13,666
Forestry	180	249	1,127	2,530	2,030	2,147
Fishing	160	376	1,714	2,940	2,252	2,850
Total	3,732	7,798	17,151	41,069	30,011	32,593
*GDP	13,187	25,691	62,246	148,321	129,244	159,269
Share of Agr in GDP (%)	25.7	27.9	22.8	24.0	23.2	20.4

Source : Ministry of Agriculture Land and Forestry of Sri Lanka Statistical Pocket Book 1993

*Gross Domestic Production

open instead of a closed economy⁵. The contribution of agriculture to GDP is shown in Table 3.

6) Background

The Sri Lankan economy of the 1950s and 1960s depended primarily on export-oriented commercial plantations of tea, rubber, and coconut. In the rural subsistence sector cultivation of paddy and other subsidiary food crops became increasingly important no significant manufacturing existed prior to 1950. In the first few years after 1950, the economy was highly liquid due to the outbreak of Korean war which stimulated the rubber boom, coupled with the tea boom. As a result the country enjoyed balance of payment surpluses. During that time no severe economic or social problem irrupted, economic policy makers neglected the importance of economic diversification or shift to industrialization. By the late 1950 favourable economic condition changed unfavourable balance of payment, unemployment problem and failure to earn sufficient foreign exchange occurred. To overcome these problems the government established several agriculture projects and various industrial ventures under its supervision. Successive governments maintained the primary objectives of self-sufficiency in food, specially in rice production. Most governments sought to increase the industry's role in national economy, and they encouraged land settlement in the dry zone to reduce unemployment and population pressure in urban areas and to increase food production. In 1970-77 government introduced five year plan and their macro-economic policy was inward-oriented economy concept. Import substitution and export expansion were the primary means to achieve economic growth. That government exercised vast control over economic activities. Most industries were government operated monopolies⁶. They initiate the import control program while introducing import licences for the most essential commodities. All these steps did not success as they thought. Most of the industries were paralyzed without having investment and proper management. The balance of the agricultural sector and industrial sector slightly collapsed, the average GDP growth rate were 2% during 1970-77. In 1977 new political party came into power they changed the structure of the economy by introducing market-oriented policies through economic liberalization. They removed the trade barriers, enhanced the free market mechanism and reduced the government subsidies in

most areas. Although these policies helped to reduce unemployment during the initial period, there are indications that the rate of unemployment has again been on the increase, especially since 1983, thus showing the basic weakness of depending too much of service-oriented development experienced since 1977. During last 15 years most of the problem occur due to youth unrest of the Sri Lankan Southern part and ethnic problem in the Northern part. In 1994 again the government change but they continue liberalized economic trade policy.

7) Reasoanal trends in Agriculture

The agricultural sector grew by 3.3% in 1994 following its strong recovery in 1993 with a growth of 4.9%. In spite of a decline of about 0.1% in the other agricultural subsectors, which account for about 50% of total agriculture, the sustained increase in production of tea, paddy, and coconuts

Table 4. Composition and Growth Rate of Agriculture
1992-1994 at Constant (1982) Factor Cost Prices

Item	Amount (Rs. Million)			Growth Rate		
	1992	1993	1994	1992	1993	1994
Agriculture Forestry & Fishing	30,090	31,554	32,593	-1.6	4.9	3.3
Tea	2,303	2,985	3,116	-25.7	29.6	4.4
Rubber	669	681	688	2.1	1.8	1.0
Coconuts	2,971	2,799	3,376	5.1	-5.8	20.6
Paddy	5,582	6,447	6,750	-2.0	9.6	4.7
*Other	18,265	18,642	18,663	1.6	2.1	0.1

Source : Annual Report Central Bank of Sri Lanka, 1994

*Other Agriculture, Forestry & Fishing

contributed to the overall 1994 increase⁵. The salient feature was that the better production performance continued under favourable weather conditions. In plantation agriculture, the production of tea, rubber, and coconuts recorded growth rates of 4.8%, 1.0%, and 20.6%, respectively, in 1994. Among the field crops, paddy production in-

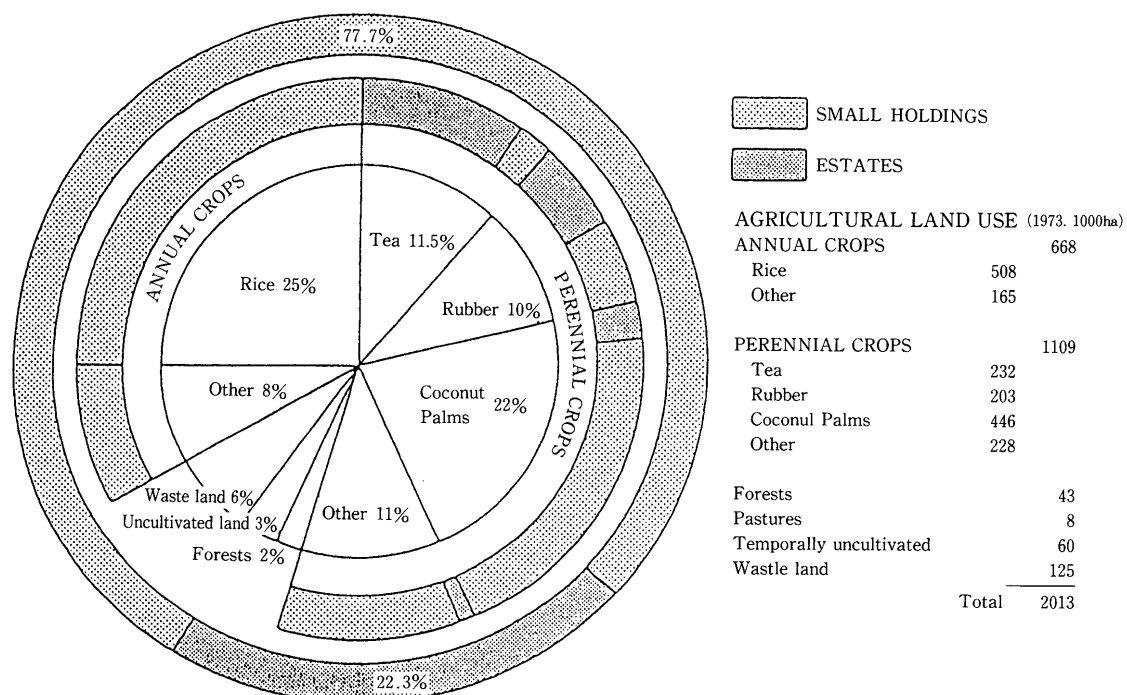


Figure (a) Distribution of Agriculture Land in Sri Lanka, according to different crops and holdings (Census of Agriculture 1973)

Source : Climate & Agricultural Land Use in Sri Lanka by Masatoshi M. Yoshino.

creased by 4.7%. While significant production gains were made in these major crops, the sub-sectors showed weaker performance, with an aggregate output declined of 0.1%⁷ (Table 4).

8) Structure of Sri Lankan Agriculture

Sri Lankan the agricultural structure consists of a wide range of crops, fishery, and livestock and forestry. The crop sector includes both perennial and annual crops. Perennial crops are further categorized into major export crops (tea, rubber, coconuts) and minor export crops (spices and beverages). Annual crops are further categorized as major foodcrops (paddy and sugar cane) and minor food crops (subsidiary crops). The fishery sector includes inland fishing and sea fishing, while the livestock sector include eggs, milk and meat. Forestry sector embraces state forest, forest plantation, jungle corridors. For the distribution of agriculture land in Sri Lanka according to different crops and holdings⁸, see fig.a). Agriculture in Sri Lanka has many divergent features indicating a wide gap between traditional and modern methods, both in cultivation practices and farming systems. The widely cultivated crops are produced for the local and export markets. The farming systems, together with the extent per holdings, vary extremely. Although Permanent cultivation is prevalent shifting cultivation is also fairly important in some regions. In addition, the wide range of agricultural holding and farming systems includes mono-cultivation plantations, mixed cultivated small holdings, and homestead gardens. The method of cultivation depends upon precipitation or artificial irrigation⁸. Agriculture land use in different districts in Sri Lanka are shown in fig ,b.

8.1) Perennial crops

(a) Major export crops

Major export crops include tea, rubber and coconuts (also called plantation crops). These three items together represents 43% of the area under cultivation. Tea came to be the principle crop in Sri Lanka in the early 1870s. It was first experimentally grown by a Scottish plantation manager, James Taylor, in 1867 at a time when coffee diseases spread and brought cultivation to a halt. British rulers started tea as an alternative crop and planted the first commercial acreage this laid the for foundation the tea industry today. The area under tea from just 101.2 ha in 1873 to 185,000 ha by 1931, reaching 222,000 ha in 1994. Tea is the major agricultural export product, accounting for 60% of the value of all agricultural exports and 13% of total export earnings in 1994. Sri Lanka's major tea buyers are Syria, the United Arab Emirates and the United Kindom.

Rubber, although a late comer, eventually caught up when the area under cultivation went from

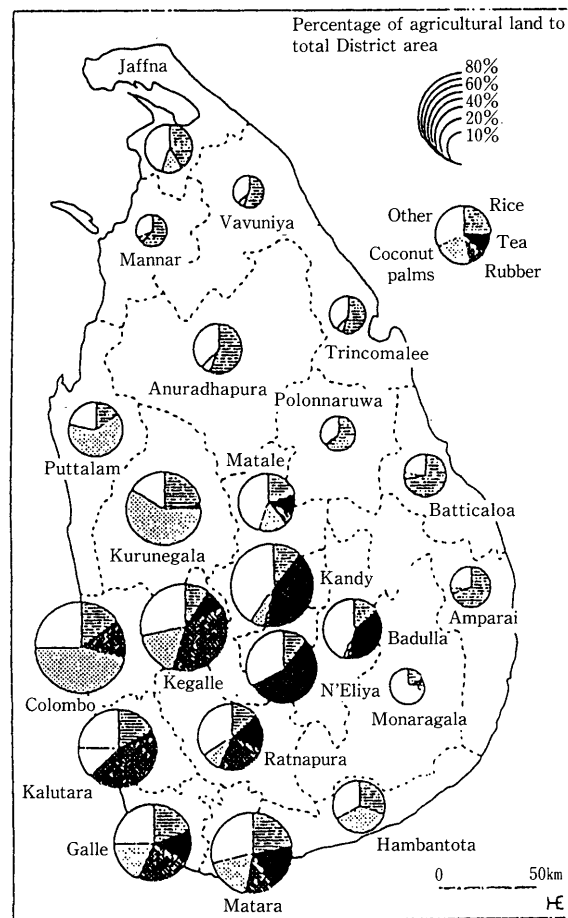


Figure (b) Agricultural Land Use in Sri Lanka. Proportion of Cultivated land (Under Tea, rubber, coconut, rice, and crops) of the total cultivated land per districts (Census of Agriculture 1973).

Source : Climate & Agricultural Land Use in Sri Lanka by Masatoshi M. Yoshino. 216-217.

709 ha in 1900 to 243,810 ha in 1934, and 343,200 ha in 1994. Rubber is grown well in the wet zone and has spread to the intermediate zone under both state ownership and many smallholdings. In 1994, total rubber production is estimated at 105 million kg, a 1% growth over the previous year. Rubber contributed 2.3% of total export earnings in 1994.

Coconuts are by far the oldest crop in the island and still accounts for the largest area under cultivation with 88% of coconut lands operated as small holdings (less than 8 ha). According to the available records, the area under this crop steadily increased from 101,000 ha in 1860 to 435,000 ha in 1929, and 1,553,000 ha in 1994. Coconut production is estimated as 2610 million nuts in 1994, which is the highest level of production recorded since 1986, increased production is due to favourable weather conditions in the past two years. Total export earnings from coconut products rose by 29% and contributed 2.4% of total export earnings in 1994.

(b) Minor export crops

All export crops other than tea, rubber, and coconuts have been broadly classified as minor export crops. These consist of a wide range of economically important spice and beverage crops. They are mainly grown as mixed crops in home gardens and in smallholdings throughout the country. It is therefore difficult to obtain accurate data on the extent of land under these crops or their production levels. However, given the fact that the bulk of the output of these crops is exported, export volumes are used as a proxy for production. The production estimates of minor export crops are somewhat tentative since local consumption and stock change are assumed to be negligible. Minor export crops include pepper, cashew nuts, cinnamon, cocoa, cardamom, cloves, nutmeg, coffee, etc. Export data indicate that the output of most of the minor export crops recorded impressive growth from 1988 to the present. They represent 4% of the total export earnings in 1994. According to the estimates of the Department of Export Agriculture, the total extent under important minor export crops reached 68,315 ha in 1994. Under the Minor Export Crop Assistance Scheme (MECAS), new planting, replanting and rehabilitation increased significantly in the last few years.

8.2) Annual crops

1. Major food crops

(i) Paddy

Paddy is grown throughout the country except at higher elevations. Paddy is the main staple food. Approximately 45% of the total cultivated land is given to paddy, based on the rainfall and irrigation schemes during the two growing seasons called Yala and Maha. The annual cultivated area varying with availability of water. After 1977, the ruling political party in Sri Lanka conducted many projects under foreign direct investment schemes and foreign donations which made water available. Water shortages were rather alleviated by a major irrigation scheme (the accelerated Mahaveli project) and minor irrigation development programmes, (Kirindi Oya Irrigation, Minipe-Nagadeepa Irrigation and various national projects). Therefore, as irrigation succeeded, the area under cultivation increased. In 1994, the area under paddy cultivation is estimated at 930,000 ha and paddy production is estimated as 2.68 million metric tons. The paddy self-sufficiency ratio is estimated as 87 in 1994.

(ii) Sugar

Sugar cane extends mainly throughout the dry zone. Out of total sugar production 56% is produced by the private sector and the remainder by the state sector. Total cultivated area of sugar cane is estimated at 12,535 ha and total sugar production in Sri Lanka at 72,275 metric tons in 1994.

2. Minor food crops

Minor food crops include a wide range of food crops, mostly vegetables, yams or tubers, grams,

etc. . Minor food crops other than potatoes, chillies, big onions and red onions are grown under a slash and burn (Chana) type of cultivation or in home gardens, often as mixed crops. Therefore, reliable and consistent data on minor food crops are not available, and most available data are based on crude estimates. According to provisional data provided by the Ministry of Agriculture Land and Forestry, the minor food crop sector showed a mixed performance in 1994. Most of the time, no rainfall or lower than usual rainfall in the rainy season, may adversely affect paddy cultivation, and so induce an expansion in the extant under minor food crops, particularly in the wet zone during the Maha season. The extent to which these annual subsidiary food crops are cultivated depends on the weather pattern and government policy. Minor food crops account for 6.2% of the Gross Domestic Production⁹. The kinds of minor food crops and the area under cultivation are in Table 5.

8.3) Livestock

According to estimates of the Department of Census and Statistics, milk production in 1994 (including buffalo milk) reached 333 million litres, an increase of 2% compared with previous year. Recent trend in milk production is collection of milk decline this is severe in the Northern and Eastern provinces, and the price of milk increase very often.

The Department of Animal Production and Health and the National Livestock Development Board under the Ministry of Rural Industrial Development is responsible for the activities breeding materials, veterinary services, pasture development and training of personnel in animal husbandry, in 1988 with the view to increasing the production of meat, milk and eggs several special development projects were financed with both foreign aid and domestic funds. Egg production was estimated at 857 million in 1993 and 858 million in 1994¹⁰. For recently available data for other live stock see Table 6.

Table 5. Performance of the Minor Food Crop Sector

Crop	Extent Cultivated (hectares)				
	1990	1991	1992	1993	1994
Maize	47,885	40,195	40,087	49,863	54,541
Chillies	38,095	34,176	31,399	42,753	36,453
Red Onions	8,485	6,269	8,147	8,752	7,537
Ground nuts	11,653	10,139	9,583	10,615	14,046
Greenbram	38,107	42,683	48,445	33,185	28,897
Soyabean	5,868	2,852	2,020	1,479	2,456
Potatoes	7,699	3,499	5,310	7,733	8,480
Big Onions	1,776	2,400	2,460	3,514	7,806
Kurakkan	7,248	7,298	10,750	11,818	5,320
Gingelly	17,731	16,322	10,750	11,818	5,320
Cowpea	28,141	27,602	25,859	22,341	21,348
Blackgram	17,832	10,232	8,759	15,700	17,340

Source : Review of the Economy Central Bank of Sri Lanka 1988

Table 6. Livestock (Including Poultry)

Livestock	NUMBER				
	1973	1979	1980	1981	1982
Cattle	1,016,173	1,622,500	1,644,300	1,720,400	1,698,600
Buffaloes	384,337	843,700	843,100	898,100	879,200
Goats	290,610	461,000	492,600	512,200	511,600
Sheep	17,985	24,400	28,000	29,500	28,000
Pigs	47,254	48,700	71,300	93,700	75,100
Poultry	3,828,546	5,897,700	6,340,600	6,296,400	6,248,500

Source : Economic and Social Statistic of Sri Lanka

8.4) Forestry

Sri Lanka was originally covered by various types of forests, classified as tropical rain forest and subtypes and dry monsoon forests. These different forest types, although spatially varying according to the temperature and rainfall conditions, clearly express the great climatic potential for forestry. According to Wild Life Conservation Department of Sri Lanka in 1980 state forest and forest plantation accounted for 937,000 ha.

9) Framework of Agriculture

As mentioned above agriculture dominates every aspect of economic activity in Sri Lanka. It is the vital livelihood of the low income sector of the rural peasant society. Its contribution to the national income is very prominent and it ranks as the most important sector. Over 90% of the rural population directly or indirectly depends on agriculture. Traditionally agriculture has consisted of the export-oriented plantation sector primarily tea, rubber, and coconut, and the household farmer sector, growing mainly paddy and other subsidiary crops for domestic consumption. Many varieties of fruits, vegetables are also grown in productive home garden system in many small holding farmers. Plantation agriculture sector which is dependant on the world market continues to play a major role as a source of employment and income for the large part of the population. Available information indicates that 27% of the rural households are landless, 42% of the holdings are less than half a hectare. Plantation crops spread over about 800,000 ha hill country and the wet and intermediate climatic zones. Sri Lankan agriculture contributes significantly to the development of the national economy by supplying food, raw materials and labour to the rest of the economy and by providing an important market for many industrial products. Moreover, agriculture is perceived by many of the Sri Lankan people to be essential in terms of food security and stability and preservation of national land and environment. Social progress however can not be achieved without sustained development in agriculture, as agriculture development is a pre-requisite to industrialization.

DISCUSSION

Policies and measures to be implemented which aim at raising agricultural production need to take account of the linkages between agriculture and other sectors of the economy. The link with the industrial sector is especially important since industry is a source of farm inputs and of consumer goods among the rural population as well as a source of demand for agricultural products. Agro-industries and processing industries located in the rural areas can provide both a stimulus to agriculture and a means of employment for underutilized labour. The present Sri Lankan agricultural sector labour force is declining compared to previous years, thus reducing the agricultural sector contribution to the GNP¹¹. Success in realizing the potential for greater agriculture productivity requires a farming population aware of the incentives and the means required for this purpose. Improving the knowledge and skill of farmers calls for the diffusion of technology relating to agriculture practices and the use of improved plant varieties as well as for the continued development and adaptation of technology through research¹². This presumes both an effective extension efforts and services to enhance the capabilities of agricultural research institutions. The successful adoption of better methods and technologies is significantly dependent on incentives which link the use of superior methods to prospects for an improved standard of living. Price incentives are also really important, particularly in the context of the transition from subsistence farming to modern agriculture. Policies which depress the price of farm product in order to protect or subsidize living costs for the population at large are often counterproductive. A policy framework that permits more realistic prices more reflective of market institutions often yields better results¹³. Such a framework

must also remove the shortcomings in marketing and distribution, as well as shortages that lead to an excessive gap between retail and farm prices. Economic units of land under a secure system of tenure are often prerequisites for agricultural process. Facilities for irrigation and a strong infrastructure of transport, communications and power as well as of other services that the remoteness of rural areas are among the others. A strong network of rural banking and cooperatives is also vital to help farmers procure inputs and make the investments needed for raising production. Schemes for rural self-help and for the mobilisation of labour for community development and for the upgrading and maintenance of the rural infrastructure can also play an important part in the drive for agricultural progress. A number of steps are also needed at the international level. Investment in the agricultural sector and technical assistance should form part of the programmes for the development cooperation, both bilateral and multilateral. The removal of existing distortions in international trade in agriculture is also essential^(14,15,16,17).

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スリランカの農業構造

チラカラタネ・ラル・柳田洋吉

生産流通管理学講座

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要 約

農業部門はスリランカ経済の中で、GDPの20%を占め、なお優勢な役割を演じている。その1は、輸出を目的とする国有地のプランテーション農業であり、その2は小農によって営まれている伝統的な水田農業である。後者は日本と同様、数十戸の農家から成る農村社会を構成している。そこではなお依然として家族労働と水牛による畜力中心の稲作が行われている。ここでは、灌漑排水体系の整備が必要であり、機械化や規模拡大を進めるため伝統的な農業形態の改革が歴史的課題である。

スリランカは、熱帯モンスーン地帯に属し、Maha season (10—2月)の10・11月とYala season (4—9月)の4・5月に雨期があり、これまでこの気象条件に適応した稲の二期作と茶、ゴム、ココナツの栽培が盛んに行われて来た。ところが、日本における農業発展ほどないにしても、この2～30年間にスリランカの農業部門は、急激な変化を被った。つまり、第二次世界大戦後のプランテーションの全面的な国有化と「緑の革命」と呼ばれた技術革新がスリランカ農業の生産性を高め、農業的土地利用の拡大を促進した。その結果、新たな問題が発生してきた。それは、1. 伝統的な水田農業の近代化が必要になってきたが、それに対応する灌漑排水設備導入をはじめとするインフラ整備の遅れ、農家・農村の資金不足、農産物の市場流通組織整備の遅れなどのため、この新たな段階に対応する構造変革が実現していないこと、2. 農業生産の成長を全体として支えている高投入農法(機械・肥料・農薬の投入)の進行が水田稲作小農経営と紅茶、ゴム、ココナツ等のプランテーション農業の生態学的な資源基礎をひどく悪化させていることである。この2つの新たな問題の解決が、現在のスリランカにおける基本課題となっている。

岐阜大農研報 (60): 53—63, 1995