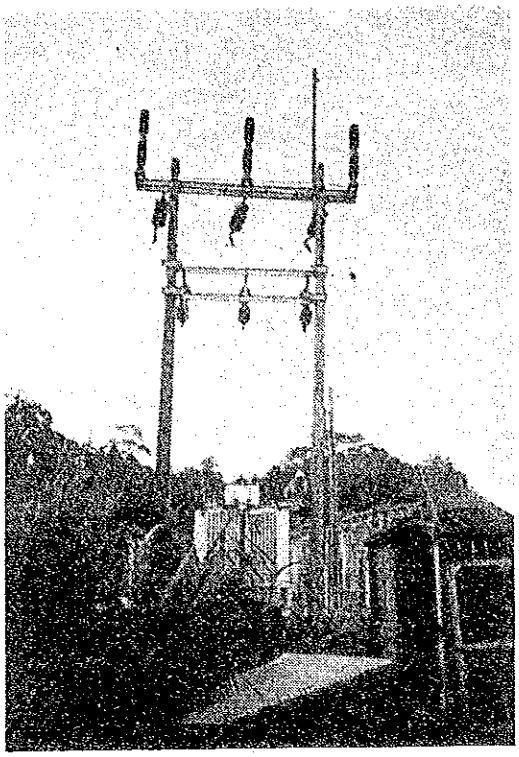
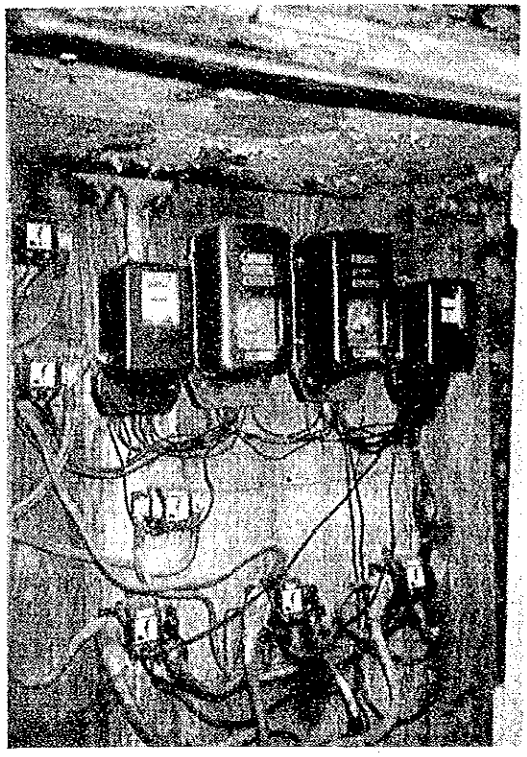
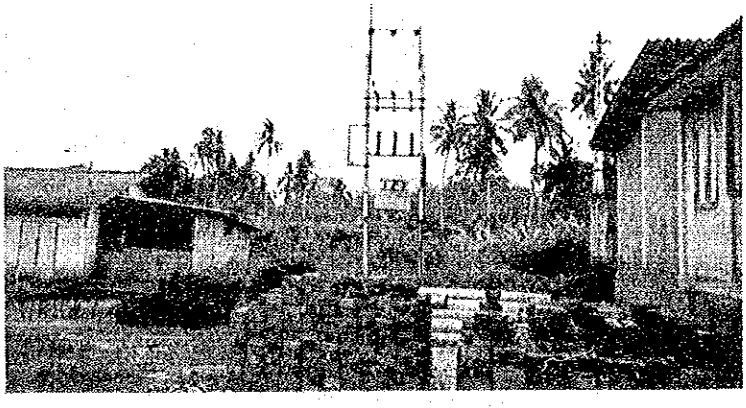
Present condition of transeformers in CARI



Transeformer

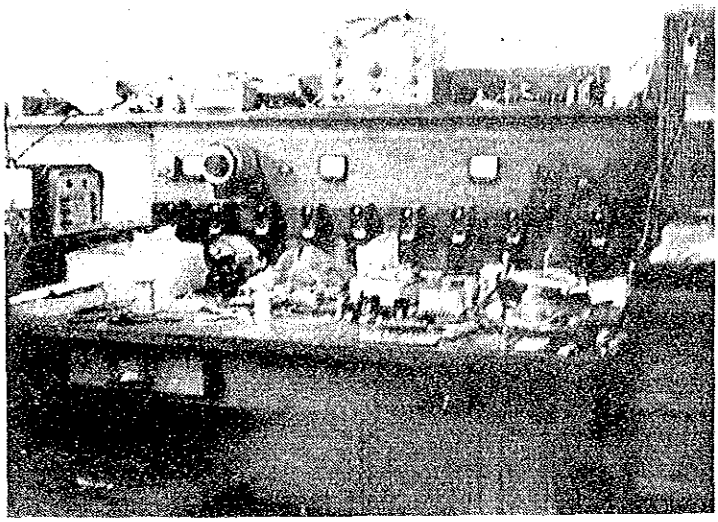


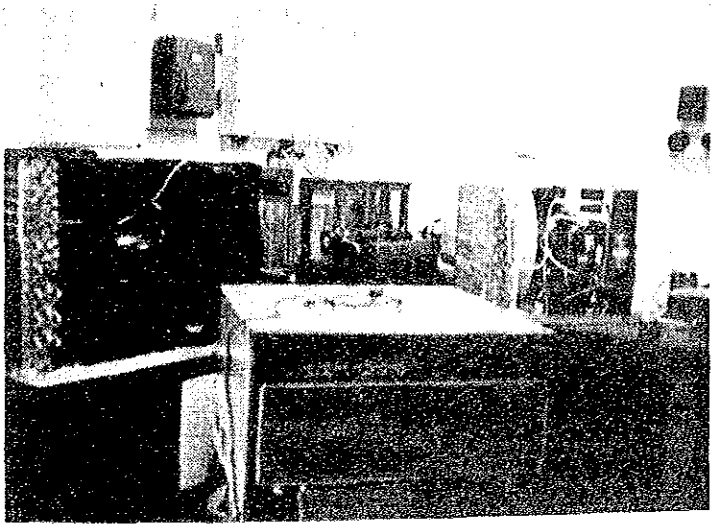
Laying condition of electric line



Transeformer

Maintenance work shop in CARI





Carries out repair and mending of refrigerator, air,conditioner, simple laboratory equipment, motor, etc. Capable of repairing electronic circuits of precision instruments with simple transistors. However, it has difficulty in repairing circuits of I.C., L.S.I. and the like.

There is no problem with the knowledge and technical skill of the technical staff to repair various basic mechnical systems but because of the difficulty in acquiring spare parts, they are frequently precluded from putting their skill to use. Paticularly because most of the laboratory equipment are made by manufacturers who have no local agent, acquisition of the necessary parts is practically impossible.

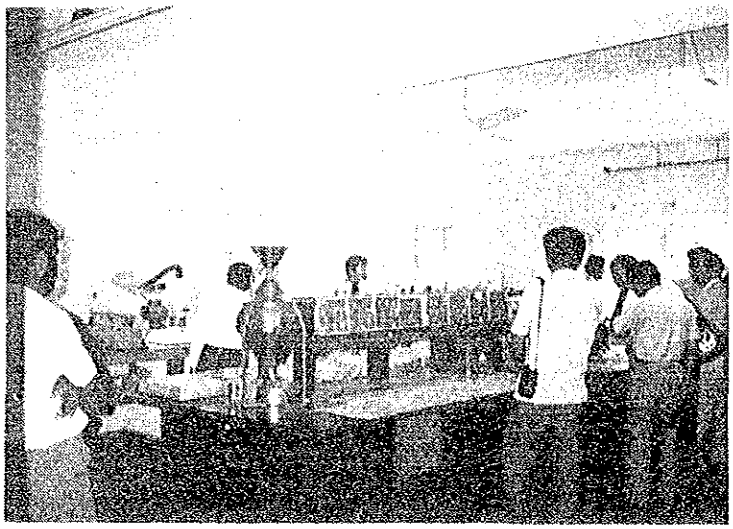
Central Rice Breeding Station

Department of Agriculture

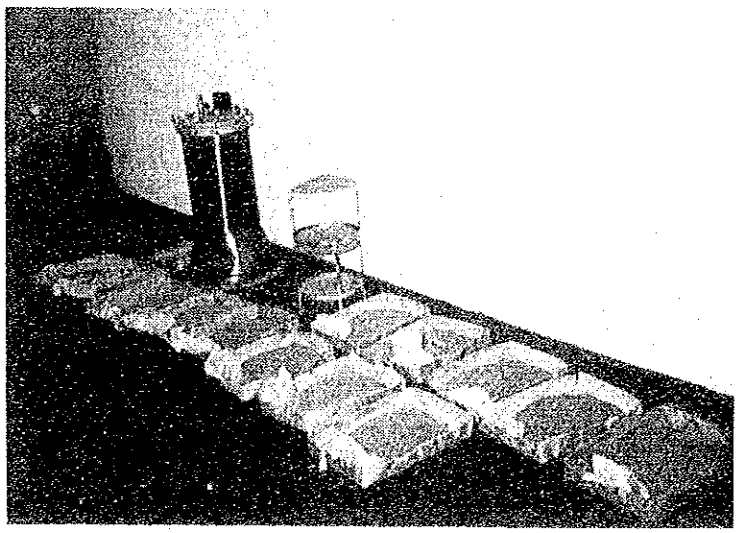
Location: Batalagoda Ibbagamuwa, Kurunegala District

It was established in 1952, and the total land area is 127 acre.

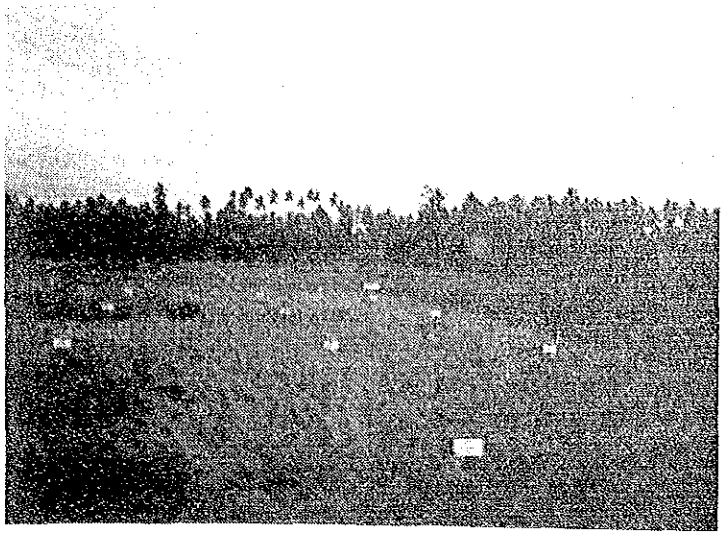
Laboratory building



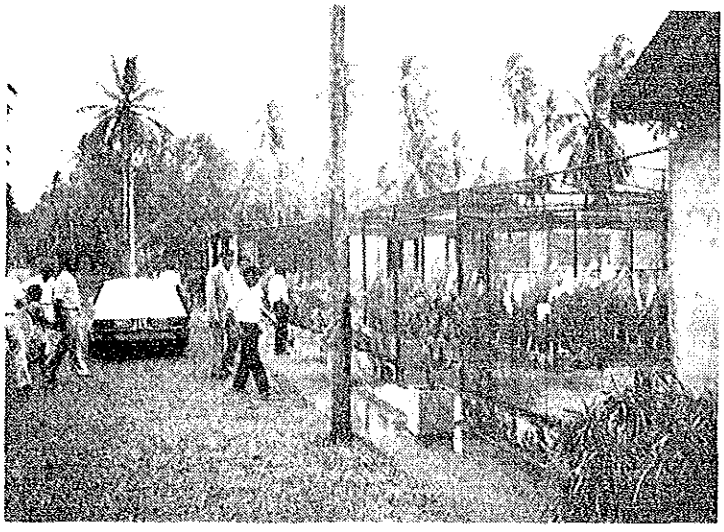
Seed inspection laboratory



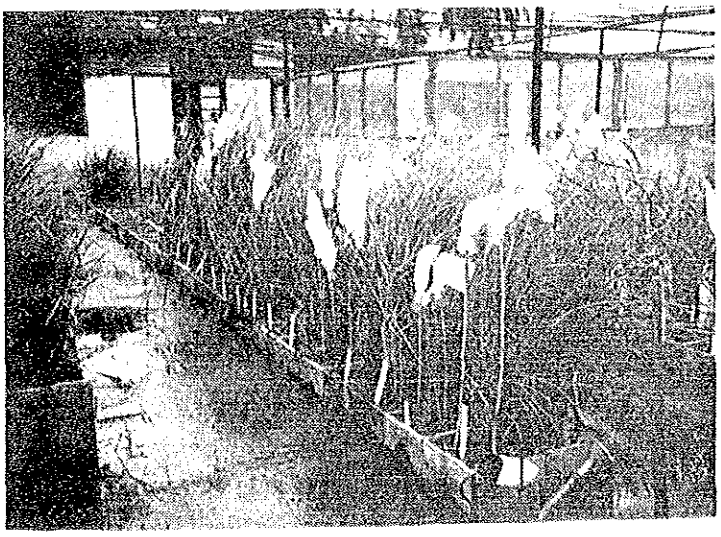
Seed inspection laboratory



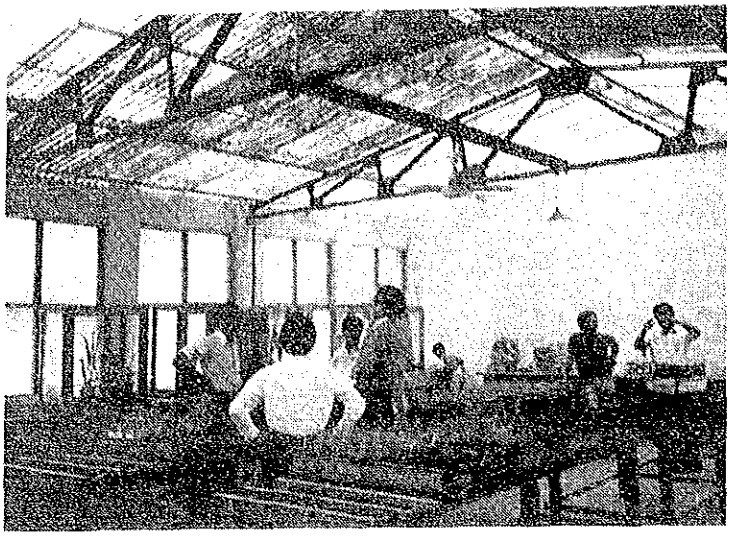
Experimental Field (50 acre)
For experiment (25 acre)
For propagation (25 acre)



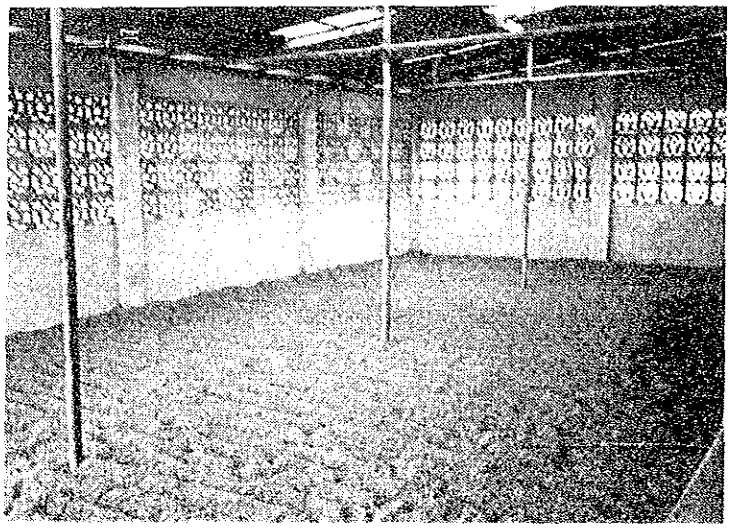
Experimental screen house



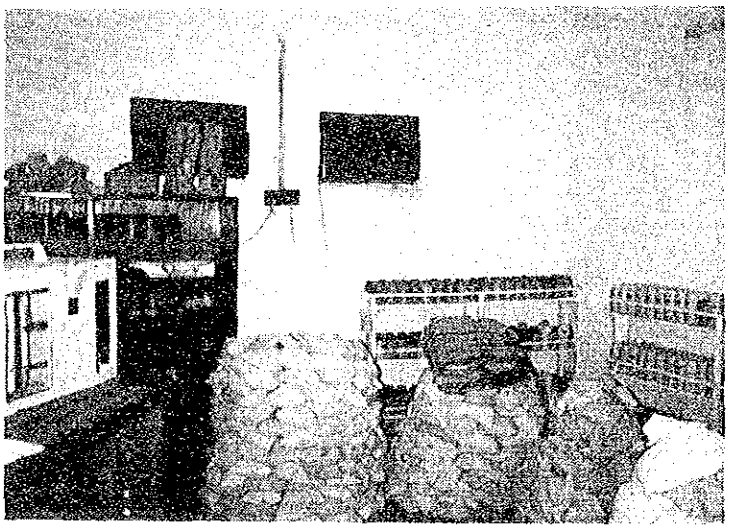
Inside the screen house
Experimental cultivation surrounded
with net roof and screen



Inside the screen house
Screen house with corrugated plastic sheet



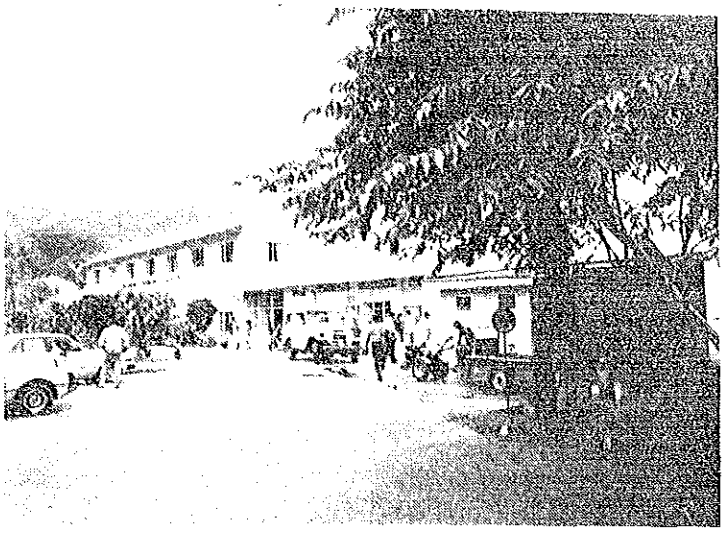
Indoor drying yard for paddy



Seed storage room ($20m^2$) constructed by USAID
Temperature is 60°F.
Humidity is not controlled.
600 strains of rice seed are preserved in this storage, presently.

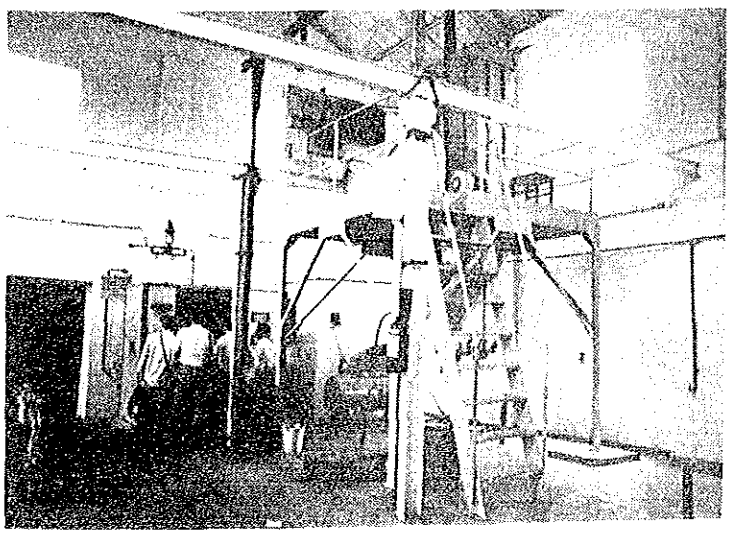
Soy Bean Research Institute (S.R.I.)

The building is locating next to the CARI.



Outside view of S.R.I.

Food processing facilities in S.R.I.



Inside view of S.R.I.

APPENDIX III

Item of collected data

Item of collected data

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54. Map of Sri Lanka Showing Areas of Collection of Traditional Varieties during 1984 Maha

55. Zonal and District Boundaries of Sri Lanka

Data 1. Gross Domestic Product by Industrial Origin 1985, 1986, 1987 & 1990

(Rs. Billion at constant 1984 prices)

	1985	1986	1987	1990	Average Annual growth rate 1985–1990
1. Tea growing	6.5	6.5	6.5	6.8	0.7
2. Rubber growing	1.1	1.1	1.1	1.1	0.7
3. Coconut growing	6.2	6.0	5.4	6.0	–0.6
4. Paddy inclusive of processing	9.1	9.4	9.7	10.1	2.1
5. Other agriculture	20.7	21.7	22.8	26.9	5.4
6. Total Agriculture	43.6	44.7	45.5	50.9	3.2
7. Mining and Quarrying	3.3	3.5	3.7	4.4	5.7
8. Tea, Rubber and Coconut processing	6.4	6.4	6.4	6.6	0.6
9. Other industries	15.5	16.1	16.7	18.8	4.0
10. Total industries	21.9	22.5	23.1	25.4	3.1
11. Construction	11.2	11.7	12.2	13.7	4.1
12. Services	67.3	71.0	74.9	88.6	5.7
13. GDP at constant factor cost prices	147.3	153.4	159.4	183.0	4.4

Data 2. Real Growth Rate at Constat (1970) Factor Cost Prices

	1977	1978	1979	1980	1981	1982	1983	1984	1985
1. Agriculture, Forestry and Fishing ...	10.4	5.4	2.0	3.1	6.9	2.6	5.0	–0.2	8.4
1.1 Agriculture	11.4	5.0	1.5	2.6	6.6	2.6	5.3	2.2	
1.1.1 Tea	6.1	–4.3	3.5	–7.5	10.0	–10.7	–4.5	10.2	
1.1.2 Rubber	–8.2	5.6	–0.9	–13.0	–6.7	0.6	12.1	2.0	
1.1.3 Coconut	–7.0	1.5	6.4	–11.0	11.5	11.3	8.4	–14.3	
1.1.4 Paddy	3.7	12.7	1.4	11.9	3.6	–3.4	15.2	–2.4	
1.1.5 Other	9.2	0.7	0.2	4.7	8.0	6.7	6.2	7.2	
1.2 Forestry	–6.5	8.4	7.1	9.0	3.9	3.7	6.2	3.0	
1.3 Fishing	5.3	12.3	8.0	9.2	15.2	2.9	1.8	–35.7	
2. Mining and Quarrying	–9.8	20.2	5.3	4.9	4.2	4.1	7.8	1.5	5.0
3. Manufacturing	9.9	7.8	4.6	0.8	5.2	4.8	0.8	12.3	4.7
3.1 Export Processing	–4.3	2.1	4.4	–9.8	7.6	–5.3	–4.6	9.9	5.2
3.2 Factory Industry	1.1	11.0	4.0	5.0	4.0	8.9	2.0	15.0	
3.3 Small Industry	2.2	13.2	9.8	0.0	5.1	10.1	4.0	4.2	4.5
3.4 Other	4.4	5.9	4.0	28.5	4.2	9.8	2.6	3.1	
4. Construction	–9.6	28.3	20.9	11.0	–3.0	–2.0	1.0	–0.1	0.5
5. Electricity Gas Water and Sanitary Services ...	7.4	20.6	20.2	10.0	12.0	9.8	6.6	6.6	
6. Transport, Storage and Communication ...	5.1	7.3	6.8	7.1	6.5	6.2	4.5	10.2	
7. Wholesale and Retail Trade ...	2.4	8.9	8.7	8.4	4.8	6.0	5.3	6.2	
7.1 Imports	28.0	36.8	23.1	14.0	2.0	2.1	1.9	2.0	
7.2 Exports	–7.4	5.7	1.1	0.0	2.0	9.8	–2.6	11.6	
7.3 Domestic	0.6	2.2	6.1	8.9	7.0	6.5	10.5	9.0	4.0
8. Banking Insurance and Real Estate ...	19.9	7.8	10.1	14.9	14.9	11.9	21.5	11.0	
9. Ownership of Dwellings	1.7	5.1	3.8	6.0	5.5	5.5	2.0	2.1	
10. Public Administration and Defence ...	4.1	8.0	6.0	6.0	4.0	10.5	30.6	10.0	
11. Services (n.e.s.)	7.0	5.4	7.5	8.2	8.0	7.0	–0.3	1.0	
12. G.D.P.	4.2	8.2	6.3	5.8	5.8	5.1	5.0	5.1	5.1

Sources : Public Investment 1986 - 1990
National Planning Division
Ministry of Finance and Planning
May 1986

Data 3. Saving And Investment 1970-1985

						Annual Average				Annual Average
				1970	1977	1970–1977	1978	1984	1985	1978–1985
Gross Domestic Investment	Rs. Million	...	...	2589	5259	3523	8554	38162	41364	26974
National Savings	Rs. Million	...	...	1930	6539	2799	6622	31644	26094	16209
	Percentages of G.D.P. at Current Market Prices.									
Gross Domestic Investment	...	...	...	18.9	14.4	16.0	20.0	20.0	25.7	27.3
Private Investment ...	...	...	...	10.7	7.2	8.3	8.1	10.2	10.8	11.0
Public Investment ...	...	...	...	8.2	7.2	7.7	11.9	14.8	14.9	16.3
Of which Budgetary	...	...	...	–	–	–	10.9	13.5	13.6	14.0
Financed by-										
Foreign Savings ...	...	...	...	4.8	-3.6	3.3	4.5	4.3	9.5	10.5
National Savings ...	...	...	...	14.1	18.0	12.7	15.5	20.7	16.2	16.8
Private ...	...	..	...	–	–	–	12.1	14.7	13.7	14.1
Public ...	...	...	...	–	–	–	3.4	6.0	2.5	2.7
Of which Budgetary	...	...	...	–	–	–	2.4	5.6	1.8	1.6

Sources : Public Investment 1986 - 1990
National Planning Division
Ministry of Finnance and Planning
May 1986

Data 4. Charges in GDP 1970 - 1985 at Constant 1970 Factor Prices

	Values Rs. Million				Average Rate of Growth		Contribution to Change in GDP		Percentage Shares of increase –	
	1970	1977	1978	1985	1971–77	1978–85	1971–77	1978–85	1971–77	1978–85
GDP	13187	16078	17401	25383	2.9	5.87	2891	9305	100	100
GDP per Capita	1054	1153	1226	1592	1.3	4.12	99			
Value Added in Agriculture	3732	4299	4532	5840	2.1	3.90	567	1541	19.6	16.56
of which										
(a) Tea, Rubber & Coconut	1191	1052	1111	1217	-1.7	1.84	-139	165	-4.8	1.77
(b) Paddy & Other	2541	3247	3421	4623	3.5	4.52	706	1376	24.4	14.79
Mining & Quarrying	95	515	619	820	27.1	5.99	420	305	14.5	3.28
Manufacturing	2193	2357	2541	3513	1.0	5.12	160	1156	5.5	12.42
of Which										
Industries other than Tea, Rubber and Coconut Processing	1304	1534	1701	2584	2.3	6.74	230	1050	7.9	11.28
Construction	744	619	794	1020	-2.6	6.44	-125	401	-4.3	4.31
Services	6419	8288	8915	14190	3.7	6.95	1869	5902	64.6	63.43

Source. Annual Reports of the Central Bank.
Public Investment 1986 -1990
National Planning Division
Ministry of Finnance and Planning
May 1986

Data 5. Employed Population Classified by Industry (Major Divisions) and Sex

Socio-Economic Survey 1980/81

Industry (Major Division)	Number (Thousands)			Percentage		
	Total	Male	Female	Total	Male	Female
Total employed	4,737.7	3,555.9	1,181.8	100.0	75.0	24.9
Agriculture, hunting, forestry and fishing	2,172.7	1,570.4	602.3	45.8	33.1	12.7
Mining and quarrying	63.7	58.7	4.9	1.3	1.2	0.1
Manufacturing	568.2	381.4	186.8	12.0	8.0	3.9
Electricity, gas and water	18.0	16.2	1.9	0.4	0.3	-
Construction	229.1	216.3	12.8	4.8	4.6	0.3
Wholesale and retail trade and restaurants and hotels	490.8	405.6	85.2	10.4	8.6	1.8
Transport, storage and communications	197.4	189.1	8.3	4.2	4.0	0.2
Financing, insurance, real estate and business	52.9	38.4	14.5	1.1	0.8	0.3
Community, social and personal services	648.1	430.3	217.9	13.7	9.1	4.6
Activities not adequately defined	296.7	249.5	47.2	6.3	5.3	1.0

Source: Dept. of Census and Statistics.
Ministry of Planning Implementation
SRI LANKA, 1985

Data 6. Balance of Payments 1978 - 1985 *(SDR Million)*

	1978	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Exports	675	795	818	903	981	993	1439	1284
Imports	819	1121	1596	1596	1794	1984	1864	1981
Trade Balance	-144	-362	-752	-693	-890	-801	-425	-697
Services	6	37	40	10	-16	-57	-60	-127
Receipts	99	149	214	261	303	320	330	325
Payments	93	112	174	251	319	377	390	452
Goods and Services	-138	-325	-718	-638	-906	-857	-485	-824
Private Transfers	17	37	105	172	240	256	270	265
Current Account Balance ...	-121	-288	-613	-511	-666	-602	-215	-559
Financing								
Grants	46	111	106	136	147	160	150	140
Direct Investment	1	36	33	42	58	35	35	29
Other private Long Term (Net) ...	7	7	33	66	182	-125	-29	37
Central Government (Net) ...	125	121	125	225	231	260	321	272
Short Term (Net)	0	0	115	8	0	0	0	0
SDR Allocations ...	0	12	12	12	0	0	0	0
Errors & Ommissions	7	36	23	-4	24	22	35	-30
Overall Balance	65	35	-166	-26	-24	0	297	-111
Monetary Movements	-65	-35	166	26	24	0	-297	111

Sources : Public Investment 1986 - 1990
National Planning Division
Ministry of Finnance and Planning
May 1986

Data 7. Allocation of Government Capital Expenditure 1984 - 1988

(A) Summary - All Sectors

	1984		1985		1986		1987		1988		1984-1988			
	T	FA	T	FA	T	FA	T	FA	T	FA	F	L	T	FA
1. Total Public Investment	20959	—	22232	—	21976	—	20477	—	20663	—	—	—	106307	—
2. Add Adjustment for Capital Transfers	340	—	378	—	411	—	399	—	387	—	—	—	1915	—
3. Total Capital Expenditure (Public Sector) of Which	21299	—	22610	—	22387	—	20876	—	21050	—	—	—	108222	—
(i) Extra Budgetary Resources	3900	—	4095	—	4320	—	4460	—	4565	—	—	—	21330	—
(ii) Non Expansionary Resources available to the Govt. Budget	18842	—	18515	—	18067	—	16426	—	16485	—	—	—	88335	—
(iii) Supplementary financing required for investment programme	1 43	—	—	—	—	—	—	—	—	—	—	—	1443	—
4. Total Budgetary Provision after adjustments	17399	—	18515	—	18067	—	16426	—	16485	—	—	—	86892	—
5. Sector Summary														
(i) Agriculture	9028	6626	10572	7008	9263	6103	4779	3018	2688	1490	16986	19344	36330	24245
(1) Mahaweli	6017	4900	6845	4570	5672	3979	1919	1442	734	479	11862	9325	21187	15370
(2) Other Irrigation	632	405	718	505	707	483	538	338	155	110	1080	1670	2750	1841
(3) Field & Minor Crops	859	413	1019	559	987	358	790	183	554	86	1370	2830	4200	1599
(4) Forestry & Lands	316	114	308	151	301	154	296	146	254	120	533	942	1475	685
(5) Plantations	883	587	1295	955	1209	847	864	646	806	589	1301	3756	5057	3624
(6) Animal Husbandry	122	84	174	124	188	135	195	151	23	3	378	324	702	497
(7) Fisheries	199	123	213	144	208	147	177	112	162	103	462	497	959	629
(ii) Industry	125	36	54	14	35	2	33	—	33	—	108	172	280	51
(iii) Housing, Water Supply & Urban Development	2057	460	2315	711	1440	326	1069	134	915	99	2758	5038	7796	1730
(1) Housing	584	2	592	3	583	3	583	3	583	3	600	2325	2925	14
(2) Other Construction	368	40	466	51	291	—	255	—	185	—	464	1101	1565	91
(3) Water Supply	1105	418	1257	657	566	323	231	131	147	96	1694	1612	3306	1625
(iv) Economic Overheads	4168	1955	6291	2659	7640	3585	6528	2978	5073	2189	16623	13077	29700	13366
(1) Transport	650	250	1218	145	1091	—	1217	—	1329	—	2476	3029	5505	395
(2) Power	747	657	1674	1553	2464	2398	2202	2185	1950	1933	6991	2046	9037	8726
(3) Posts & Telecom.	497	258	700	299	848	363	346	145	80	—	1766	705	2471	1065
(4) I.R.D. & Others M/P.I.	441	327	543	421	527	417	476	370	268	226	730	1525	2255	1761
(5) Other Programmes	1348	463	1710	241	2236	407	1759	278	830	30	3327	4556	7883	1419
(6) Administrative Overheads	485	202	446	403	474	215	528	109	616	51	1333	1216	2549	979
(v) Social Overheads	962	202	1503	403	1224	215	1100	109	1105	50	2417	3477	5894	979
(1) Education	642	81	849	262	587	85	480	15	488	11	1174	1872	3046	454
(2) Health	244	96	517	85	501	76	532	60	519	5	1008	1296	2304	322
(3) Others	76	25	137	56	136	54	97	34	98	34	235	309	544	203
(vi) HD. Miscellaneous (M/F & P)	3149	53	2000	41	2000	18	2000	—	2000	11	123	11026	11149	123
(vii) New Projects (Unidentified)	—	—	956	—	1729	—	915	—	4661	—			18261	—
6 Sector Total of which ...	19493	9332	23681	10836	23189	10250	16426	6239	16485	3839			99274	40496
(i) On going Capital Projects	19493	9332	21259	10292	18923	9620	12707	5615	9302	3250		—	81684	38109
7. Recurrent Provision	28650	—	30400	—	32300	—	34000	—	36000	—	—	—	161350	—
8. 10%reduction on ongoing capital and recurrent provision 1985 & 1986 ...	—	—	5166	—	5122	—	—	—	—	—	—	—	—	—
9. Total Capital on-going after above reduction ...	19493	9332	18093	10292	13801	9620	12707	5615	9302	3250	—	—	71396	38109
10. New Projects														
(1) Approved ...	—	—	1476	544	2679	630	2804	624	2522	589	—	—	9481	2387
(2) Unidentified	—	—	946	—	1587	—	915	—	4661	4661	—	—	8109	—
(3) Total provision new Projects	—	—	2422	544	4266	630	3719	624	7183	589	—	—	17590	2387

T = Total Cost FA = Foreign Aid F = Foreign Cost L = Local Cost

Explanatory Note:

1. Allocation from 1985 onwards have been worked out on the basis of an exchange rate of US $ 1 = Rs. 25/-. Figures from 1985 onwards are at 1984 constant prices. The Committee of Development Secretaries has decided that an overall reduction of 10% should be made on the 1985 and 1986 budgetary expenditure (capital and recurrent). The allocation of this 10% cut will be decided by the line Ministries before 31st May, 1984.

2. New Projects. Provision has been made to accomodate new projects from the Plantation and Power Sector Programmes starting in 1985. Other new projects to be admitted from 1985 will be decided by the Committee of Development Secretaries taking into account the resource position after the 10% reductic is effected.

Data 8. Fiscal Performance 1978 - 1985

(Rs. Million at current Prices)

	1978	1979	1980	1981	1982	1983	1984	1985
1. Current Receipts	...10979	11816	13155	15073	16493	22806	33475	32923
2. Current Expenditure	... 9967	10887	12730	15253	18907	20654	25143	30004
3. Current A/c Surplus (+) Deficit (–) ...	... 1012	929	425	–180	–2414	2152	8332	2919
4. Capital Receipts	... 153	213	107	186	117	159	538	290
5. Advance A/c net out payments ...	... 1742	1021	3040	1488	–879	12120	2632	2014
6. Capital Expenditure net of repayment of Public Debt	... 5266	7347	12860	11757	15886	16708	19562	23575
Of which Investment	...(4640)	(7120)	(12604)	(11500)	(15580)	(15870)	(20648)	(21919
7. Over all surplus (+)/Deficit (–) ...	...–5843	–7226	–15368	–13239	–17304	–15517	–13324	–22380
8. Financing								
8.1 Net foreign financing	... 3953	3738	6136	7602	8121	9748	9760	11600
8.2 Net domestic non bank financing ...	... 1717	2854	2203	1790	5508	3055	4710	6967
8.3 Administrative Borrowing ...	... 0	0	0	0	0	2239	820	0
8.4 Borrowing from monetary system ...	... 173	634	7029	3847	3675	474	–1966	3813
9. GDP at market price	...42665	52387	66527	85005	100140	121664	152615	160893
As percentage of GDP at current market prices								
1. Current Receipts	... 25.73	22.56	19.77	17.73	16.47	18.75	21.93	20.46
2. Current Expenditure	... 23.36	20.78	19.14	17.94	18.88	16.98	16.47	18.65
3. Current A/c Surplus (+) Deficit (–) ...	... 2.37	1.77	.64	–.21	–2.41	1.77	5.46	1.81
4. Capital Expenditure net of repayment of public debt	... 12.34	14.02	19.33	13.83	15.86	13.73	12.82	14.65
5. Overall surplus/Deficit	... 13.70	–13.79	–23.10	–15.57	–17.28	–12.75	–8.73	–13.91
6. Financing								
6.1 Net foreign financing	... 9.27	7.14	9.22	8.94	8.11	8.01	6.40	7.21
6.2 Net domestic non bank financing ...	... 4.02	5.45	3.31	2.11	5.50	2.51	3.09	4.33
6.3 Borrowing from monetary system ...	... .41	1.21	10.57	4.53	3.67	.39	–1.29	2.37

TABLE

Data 9. Saving and Investment 1970 - 1985

					Annual Average				Annual Average
			1970	1977	1970–1977	1978	1984	1985	1978–1985
Gross Domestic Investment	Rs. Million		2589	5259	3523	8554	38162	41364	26974
National Savings	Rs. Million		1930	6539	2799	5622	31644	26094	16209
	Percentages of G.D.P. at Current Market Prices.								
Gross Domestic Investment	... ...		18.9	14.4	16.0	20.0	20.0	25.7	27.3
Private Invsetment ...	... ...		10.7	7.2	8.3	8.1	10.2	10.8	11.0
Public Investment ...	... ...		8.2	7.2	7.7	11.9	14.8	14.9	16.3
Of which Budgetary	... ...		–	–	–	10.9	13.5	13.6	14.0
Financed by-									
Foreign Savings ...	... ...		4.8	–3.6	3.3	4.5	4.3	9.5	10.5
National Savings ...	... ...		14.1	18.0	12.7	15.5	20.7	16.2	16.8
Private ...	... ...		–	–	–	12.1	14.7	13.7	14.1
Public ...	... ...		–	–	–	3.4	6.0	2.5	2.7
Of which Budgetary	... ...		–	–	–	2.4	5.6	1.8	1.6

Data 10. Export and Imports 1985, 1986, 1987 and 1990

(SDR Million)

			1985	1986	1987	1990
(A)	Exports					
1.	Tea	- Volume Ml. kg.	198	200	200	206
		- Value ...	433.6	342.0	356.0	432.6
2.	Rubber	- Vol. Ml. kg.	120	126	126	128
		- Value	93.6	98.3	95.8	112.6
3.	Coconut	- Vol. Ml. Nuts	935	1075	770	960
		- Value	86.0	48.4	60.8	96.0
4.	Gems ...	... ...	32.0	35.0	40.0	55.0
5.	Petroleum Products	- Value ...	140.1	96.0	109.7	120.3
6.	Industrial Goods	- Value ...	366.2	380.2	407.5	543.3
7.	Minor Agricultural Products	...	75.2	83.2	96.9	129.2
8.	Other Exports ...	...	83.6	45.1	49.6	49.6
9.	Statistical discrepancy...	...	-27.0	0.0	0.0	0.0
	Total Exports f.o.b. ...	...	1283.3	1128.2	1216.2	1538.6
(B)	Imports					
1.	Rice	- Vol. Th. Mt. ...	211	190	0	0
		- Value ...	39.2	28.1	0	0
2.	Sugar	- Vol. Th. Mt. ...	388	240	225	180
		- Value ...	72.2	43.9	43.2	40.0
3.	Wheat	- Vol. Th. Mt. ...	665	605	600	550
		- Value ...	103.7	79.9	79.2	79.2
4.	Fertilizer	- Vol. Th. Mt. ...	434	435	462	552
		- Value ...	57.3	47.9	50.8	64.6
5.	Petroleum i. Crude Oil	- Vol. Th. Mt.	1661	1648	1852	2043
		- Value ...	343.0	193.6	236.7	313.4
	ii. Products	- Value ...	53.9	40.1	26.8	29.7
6.	Other Consumer Goods	- Value ...	267.7	265.4	273.4	289.5
	Other Intermediate Goods	- Value ...	541.3	561.0	587.0	668.0
8.	Investment Goods	- Value ...	376.1	354.2	360.4	400.6
9.	Unclassified	- Value ...	99.0	65.0	49.9	50.1
10.	Statistical discrepancy	...	27.0	0	0	0
	Total Imports C.I.F.	... ...	1980.4	1679.0	1707.4	1935.1

Sources: Public Investment 1986 - 1990
National Planning Division
Ministry of Finance and Planning
SRI LANKA, May 1986

Data 11. Area planted in high yielding Varieties (as % of total rice area)

Year	- Length of cropping season - 3-3 1/2 months (early maturing)	4-4 1/2 months (late maturing)	Total
1975	30	42	72
1976	30	43	73
1977	38	37	75
1978	43	40	83
1979	38	34	72
1980	49	31	80
1981	59	26	85
1982	68	30	98
1983	65	32	97

Source: Department of Agriculture, Sri Lanka
Ministry of Agricultural Development and Research
SRI LANKA, 1985

Data 12. Area and Production of Rice in Sri Lankna

Year	Area sown (1000 ha)	Production (1000 mt)	Average yield mt/ha
1975	6.96	1.18	2.27
1976	7.24	1.28	2.31
1977	8.30	1.71	2.52
1978	8.72	1.93	2.61
1979	8.40	1.96	2.75
1980	8.45	2.18	2.93
1981	8.77	1.58	3.00
1982	8.45	2.20	3.26
1983	8.25	2.54	3.60
1984	9.90	2.41	3.07

Source: Department of Census and Statistics,
Ministry of Planning Implementation
SRI LANKA, 1985

1. Increased area planted in rice
2. Adoption of high yielding varieties (HYV's)
3. Increased use of fertilizer
4. A favourable guaranteed price
5. A broadly based extension service

Data 13. National Average Yield of Paddy

(Mt/ha)

Year	Maha	Yala	Agriculture Year
1960/61	1.9	1.9	1.8
61/62	1.9	1.9	1.9
62/63	2.0	2.0	1.9
63/64	2.0	2.1	2.0
64/65	1.8	1.8	1.7
65/66	1.9	1.8	1.8
66/67	2.1	2.2	2.1
67/68	2.5	2.3	2.4
68/69	2.7	2.5	2.5
69/70	2.7	2.6	2.6
70/71	2.3	2.5	2.3
71/72	2.5	2.3	2.4
72/73	2.4	2.2	2.3
73/74	2.5	2.2	2.3
74/75	2.4	2.1	2.2
75/76	2.4	2.1	2.3
76/77	2.7	2.3	2.5
77/78	2.7	2.4	2.6
78/79	2.8	2.6	2.7
79/80	3.0	2.9	2.9
80/81	3.0	3.0	2.9
81/82	3.2	3.4	3.2
82/83	3.7	3.7	3.5
83/84	3.0	3.1	3.1

Source: Department of census and statistics.
Ministry of Planning Implementation
SRI LANKA 1985

Data 14. Trend in Volume of Exports of Minor Export Crops

(Mn. kg)

Crop		1976	1980	1981	1982	1983	1984	1985
Pepper	....	0.10	0.95	2.22	1.30	1.29	2.77	1.12
Cinnamon	....	6.80	7.94	9.16	6.26	5.65	8.89	6.85
Cardamom	....	0.16	0.16	0.21	0.21	0.13	0.18	0.19
Coffee	....	1.71	0.91	2.03	2.92	3.12	3.65	3.90
Cocoa	....	1.11	0.90	0.90	0.14	0.73	0.62	0.97
Clove	....	0.48	1.19	1.34	0.97	1.77	0.97	0.27
Arecanuts	....	2.37	5.48	2.10	2.41	3.26	2.20	0.29

Sources: Public Investment 1986 - 1990
National Planning Division
Ministry of Finance and Planning
SRI LANKA
May 1986

Data 15. Trends in Sugar Production and Imports

	1970	1975	1980	1981	1982	1983	1984	1985
Extent Planted under Estate ('000 ha)	4.3	5.9	6.0	5.7	5.4	5.7	4.7	4.5
Factory Production ('000 tons)	8.5	18.0	23.5	23.7	22.7	21.5	18.3	19.5
Imports ('000 tons) ...	240	56	209	238	133	315	26.3	36.3
Imports Value (Mn. $) ...	29	38	122	147	45	79	51	69
Per Capita availability (kg.) ...	19.6	5.5	15.9	17.6	10.3	21.8	18.0	24.5

Sources: Public Investment 1986 - 1990
National Planning Division
Ministry of Finance and Planning
SRI LANKA, May 1986

Data 16. Trade of Major Agricultural Products (Export)

(1) Export

Unit: Quantity: 1,000 M/T
Value : US$1,000,000

Item	1981		1982		1983		1984		1985	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Tea	183.4	313.6	181.0	297.5	157.8	331.8	204.0	601.7	198.0	438.1
Rubber	132.5	140.6	131.3	108.9	125.2	114.1	126.2	126.0	120.2	93.7
Coconut in shell	NA	NA	8.2	1.3	5.8	0.9	4.1	1.1	9.3	1.3
Desicated Coconut	NA	NA	41.7	28.0	42.0	36.1	31.8	44.9	53.0	48.7
Copra	2.1	2.1	3.5	2.7	4.1	3.0	2.4	2.8	7.1	3.6
Sesame Seeds	2.0	6.2	2.3	11.0	5.5	2.7	0.6	0.4	2.3	1.1
Caster seed	NA	NA	2.9	0.9	2.5	0.8	2.5	1.1	1.9	0.6
Cocoa Beans	NA	NA	-	-	0.4	0.5	0.1	0.3	0.1	0.2
Coffee	NA	NA	2.9	5.2	3.1	6.5	3.7	8.9	0.0	0.0
Total	320.0	462.5	373.8	455.5	346.4	496.4	375.4	787.2	391.9	587.3

Data 17. Trade of Major Agricultural Products (Import)

(2) Import

Unit: Quantity: 1,000 M/T
Value : US$1,000,000

Item	1981		1982		1983		1984		1985	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Rice	157.0	45.5	160.9	38.5	123.2	24.3	26.5	4.9	182.4	33.9
Suger	168.3	101.1	11.6	22.0	170.3	39.5	95.7	17.5	161.3	30.2
Wheat	510.0	91.1	365.5	61.8	423.6	64.9	615.1	58.2	226.3	41.3
Chillies	0.6	0.5	3.4	2.7	9.3	6.5	8.2	9.7	4.1	4.3
Potatoes	1.0	0.1	0.1	0.5	0.9	0.2	0.2	0.1	-	-
Onion	4.0	0.7	6.1	1.7	7.7	1.9	47.6	11.3	61.6	12.9
Maize	2.0	0.5	2.5	0.6	2.1	0.3	4.2	0.7	11.3	1.7
Pulses	-	-	9.2	6.6	22.5	6.7	57.2	2.6	32.9	2.2
Corriander	3.3	3.1	4.3	3.0	8.2	4.7	7.7	3.8	5.3	2.1
Garlic	2.1	0.6	2.7	1.3	3.0	1.2	4.6	1.8	3.7	1.4
Total	848.3	243.2	566.3	138.7	770.8	150.2	867.0	110.6	688.9	130.0

Remark: NA --- No static Figures.
Sources: Custum Statistics, Sri Lanka, 1986

Data 18. Extend of Available Rainfed Lands in the Dry and Intermediate Zone

('000 acres)

District	*Lands with immediate potential*	*Lands under forests with good soils*	*Future potential lands with technical advances*	*Lands with low agricultural potential*	*Irrigated lands*	*Permanent Crops*
Anuradhapura	395	232	12	353	198	324
Amparai	143	163	12	464	54	156
Badulla	124	—	—	180	111	185
Batticaloa	111	50	74	188	111	185
Hambantota	148	14	5	173	74	198
Jaffna	40	15	222	10	27	148
Kurunegala	235	—	—	54	25	662
Mannar	62	67	230	49	20	30
Matale	188	—	—	89	10	161
Monaregala	277	173	—	524	7	79
Mullaitivu	44	218	128	96	12	74
Polonnaruwa	27	97	—	346	198	86
Puttalam	198	53	180	188	7	230
Ratnapura	143	—	—	49	25	420
Trincomalee	99	177	20	116	62	94
Vavuniya	128	260	—	20	12	74
Total	2363	1519	884	2899	953	3105

Sources : National Agriculture, Food and Nutrition
National Planning Division
Ministry of Finance and Planning
June 1984

Data 19. Distribution of Land Use

Land Use	Hectars ha	Percent %
1. Settlement and associaced non-agricultural land	19,534	0.3
2. Horticulture	586,309	9.0
3. Tea and other crops:		
a) Tea	259,473	3.9
b) Rubber [1]	227,373	3.5
c) Coconut [1]	250,464	3.8
d) Other	54,029	0.7
4. Cropland :		
a) Paddy	510,677	7.3
b) Land under development	43,412	0.7
c) Other	1,009,704	15.3
5. Improved permanent pasture	2,492	-
6. Grassland and scrubland	425,733	6.4
7. Woodland	2,899,457	44.2
8. Swamp and marsh	32,787	0.5
9. Unused land	43,147	0.7
10. Inland waters including salterns	204,734	3.2

Sources : Aerialsurvey based on a Canada-Colombo Plan Project-1961

Remarks : 1) It is possible that small holdings and mixed plantations have been included under items 2,3(d) and 4(c). The aerial survey figures may, therefore, differ from the figures obtained at the Census of Agriculture-1962.

Sources : Statistical Pocket Book of the Democratic Socialist Republic of SRI LANKA-1985.

Data 20. Crop Cultivated Area and Production in Sri Lanka (1982 - 1983)

Crop	Cultivated Area (Ha)	Production (M/T)
Paddy	856,665	2,580,346
Tea	242,130	179,287
Rubber	205,640	139,997
Coconut	451,472	22,362 Mn.nut
Chili	26,582	28,179
Red onion	11,416	132,260
Sorghum	18,640	12,865
Maize	47,040	51,268
Cow pea	45,606	40,290
Blackgram	17,476	12,897
Greengram	26,759	20,484
Peanut	15,177	20,099
Sesame	35,770	27,863
Soyabean	12,889	8,657
Manioc	44,853	717,846
Sweet potato	9,630	86,366
Potato	5,712	71,637

Remarks: *Tea, rubber and coconut are indicated the produced figures in 1983.
*Cultivated area of coconut is estimated from the figure of sensus in 1973.

Sources : Statistical Pocket Book of the Democratic Socialist Republic of Sri Lanka.

Data 21. Paddy : Trends in Area, Yield and Production

	1970	1977	1979	1980	1981	1982	1983
Area (,000 acres)	1876	2046	2072	2087	2166	2086	2037
Yield (Bushels/acre)	50.9	47.7	52.3	56.5	57.6	62.8	69.7
Production (Mn Bushels)	77.3	80.3	91.8	102.1	106.7	103.2	118.7

Sources : National Agriculture, Food and Nutrition Strategy
National Planning Division
Ministry of Finance and Planning, Sri Lanka
June 1984

Data 22. Rice Requirement

Item	1985	1990	2000
Population (millions)	15.0	17.0	20.0
Per. capita demand (bu.)	8.5	8.5	8.5
Consumption requirement (bu. million)	127.5	144.5	170.5
Seed requirement (bu. million)	4.0	4.5	5.0
Waste 2% (bu. million)	2.5	2.9	3.4
Total requirement (bu. million)	134.0	151.9	178.4

Data 23. Area of Land under Principal Crops (Excluding Paddy)

(Hectares)

	1977	1978	1979	1980	1981	1982	1983
Tea	242,012	242,899	244,099	244,710	244,918	242,141	242,130
Rubber	226,563	226,323	226,599	222,312	230,451	205,606	205,645
Coconut(2)	451,472	451,472	451,472	451,472	451,472	451,472	451,472
Kurakkan	34,600	32,500	23,200	21,400	19,600	20,400	19,700
Maize	27,500	24,800	19,500	19,400	24,000	26,700	26,200
Chillies	51,700	50,200	36,000	38,300	40,900	37,100	34,800
Red Onions	8,400	8,300	9,000	8,700	8,700	9,100	9,600
Potatoes	3,100	2,900	4,100	4,500	5,300	6,200	6,800
Manioc	95,800	74,300	53,600	51,000	56,100	59,100	55,400
Sweet Potatoes	27,700	20,700	16,300	14,300	16,600	16,300	14,400

Source: Dept. of Census and Statistics.

(1) The annual extent under other crops except tea, rubber and coconut was arrived at by adding together area under cultivation during Maha and Yala Seasons. These figures are rounded off to the nearest hundred hectares.

(2) Estimated from the 1973 Agricultural Census.

Statistical Pocket Book of the Democratic Socialist Republic of SRI LANKA, 1985
Ministry of Plan Implementation

Data 24. Requested Facilities and Equipment for the Plant Genetic Resources Centre

TOTAL FLOOR AREA 2400 M²

TOP FLOOR

* Tissue Culture and Genetic Engineering Lab.	M² Floor Area	
Washing Room (Brick Walls)	35	
Sterilization Room (Brick Walls)	30	
Preparation Room (See Through Type)	30	
⅄ Media Storage (" " ")	10	
⅄ Inoculation Work (" " ")	20	
Incubation Room	80	→ 445
Partitions for the Staff (See Through Type) (Number of partitions 3)	60	
⅄ Paition for Electron microscopy and Photomicrography Work	50	→ Common Facility
⅄ Analytical Work 3 Partitions 30 M², 30 M², 40 M²	100	
Store Room	30	

* Biochemistry Lab.		
Working space with washing facilities	60	
Partitions for the staff (See through type) (Number of partitions 3)	50	→ 170
⅄ Partition for special type of work	30	
Store Room	30	

* Administration Office		
Room for the Botanist	40	
Room for the Assistants (See through type) (Number of partitions 4)	75	→ 205
Store-Room	30	
Visitors-Room	60	

* Musium and Demonstration Room		
(Number of partitions 3 (see through type)	140	> 140

	M² Floor Area		
* Plant Breeding Lab.			
Work Space with washing facility	50		
Space for the staff 2 Partitions (See through type)	35		
Space for induce mutation technology (For the preparatory work)	40	→	155
Store Room	30		
* Reading and Lecture room Partitions 2, 50M², 90M²	140	>	140
*▲Auditorium with 2 ante rooms, 1 stage and veranda	700	>	700
Bath Rooms for the Floor	100	>	100
Other Space for Corridoors, Balcony, Lobby and a Level Path From the Ground to the Top Floor.		→	345

*** Note: The Symbol ▲ indicate Air-conditioning.
All other rooms need adequate ventilation.

TOTAL FLOOR AREA 2400 M²

Ground Floor	M² Floor Area		
* Plant Physiology Lab.			
Washing Room	35		
Working Spacefor general work	50		
Room for large apparatus	60	→	285
▲ Working space for special type of work	50		
Store Room	40		
Partitions for the Staff }	50		

	M^2 Floor Area	
* Photography Unit		
⅄ Dark Room	30	
Ante Room	15	→ 65
Store Room	20	
* Germ Plasm Lab.		
Space for the Staff (3 partitions)	60	
Working space with washing facility	80	→ 140
* Agronomy Lab.		
Space for the Staff (3 partitions)	60	
Lab space for analytical work with washing facility	40	
Space for general work with washing facility	40	→ 250
⅄ Space for special work	35	
Crop storage facility	35	
STore Room	40	
* Meteorology Unit		
Room with 2 partitions $30M^2$ Each	60	
Room for the staff 2 Partitions	40	→ 100
* Computer Data Bank		
⅄ - Room with 3 Partitions	80	> 80
* Weed Science Unit		
Space for the staff (2 partitions	40	
Working space with washing facility	40	→ 190
Herbarium	40	
Store Room	30	
* Micro Biology Unit		
Space for the Staff (2 partitions)	40	
Washing Room	30	→ 160
⅄ Culture room with 3 partitions	60	
Store Room	30	

	M² Floor Area		
* Laboratory for the Visiting Scientists			
Space for the staff (2 partitions)	40		
Room with washing facility	50	→	160
⅄ Space for the special work	40		
Store Room	30		
* Central Stores (2 Rooms annexed)	100	>	100
Bath rooms for the Floor	80	>	80
* Radio Isotope Unit			
Space for the staff (3 rooms)	60		
Preparation room	60		
Room for other work	40	→	255
⅄ Room for special Work	35		
Store Room	30		
Waste disposal purposes	30		
* Laboratory space for future expansion			
Space for the staff (3 partitions)	60		
General Laboratory	80	→	200
Washing Room	30		
STore Room	30		
Other space for Corridoors, Lobby and etc.	335	>	335

- Annexure 1 -

Structural works and Utilities
****

1. Main research building:

   a two storied complex on a building area of 2400 m^2 with a total floor area of 4800 m^2, housing fully furnished and appropriately fitted and equipped laboratories and other facilities as indicated below:

   -- Germplasm laboratory - air conditioned;
   -- Tissue culture and Genetic engineering laboratory - air conditioned;
   -- Plant breeding laboratory;
   -- Plant physiology laboratory - air conditioned;
   -- Biochemistry laboratory - air conditioned;
   -- Agronomy laboratory;
   -- Isotope laboratory;
   -- Computer data bank - air conditioned;
   -- Meteorology recording systems unit;
   -- Photography unit - air conditioned;
   -- Auditorium - air conditioned;
   -- Reading and lecture room;
   -- Museum and demonstration room;
   -- Administration office.

2. Germplasm conservation Centre:

   Designed, constructed and equipoed to include the following:

   -- long term storage unit, (-10°C, 35% RH);
   -- Medium term storage unit, (2 to 3 °C, 40% RH);
   -- Short term storage unit, (19°C, 50% RH);
   -- Air conditioned and dehumidified buffer area;
   -- Germination test room;
   -- Drying and packing area - low humidity and dust free;
   -- Processing area - low humidity area,
   -- Lumber room,
   -- refrigeration and machinary unit,
   -- stand by refrigeration facilities.

Annexure I continued...

3. Green house, screen house and phytotron complex:
   -- Green houses for plant physiology research-3 units, each unit 4m X 8m X 2.5m high, galvanized light-guage steel/alluminium alloy structured, with ferroconcrete foundation, concrete flooring, acryllic sheet roofing, light and heat interception and insulation,central partition to provide two separate compartments. Equipped with ventilation control, over head misting system and facilities for recording temperature, air humidity and light influx;
   -- General research purpose green houses - 4 units, each unit 4m X 16m X 3m high;
   -- Screen houses - 2 units, each unit 4m X 16m X 2.5m high with facilities for Pests and diseases screening.
   -- Dome shaped green house - one unit;
   -- Phytotron.
4. Research field management buildings:
   -- Seed processing shed;
   -- Sampling room;
   -- Storage room with shelves;
   -- Agrochemical storage room;
   -- Farm Machinary and Garage.
5. Supporting servies unit:
   -- equipment maintenance unit;
   -- stand by generator unit;
   -- Pumphouse and over head tank etc.
6. Staff housing :
   -- Housing for the officers - 3 units;
   -- Housing for Japanese consultants expected in phase II of the project - 2 units;
   -- Circuit bungalow to accomodate Japanese engineers during construction phase and subsequently to be utilised as bachelors quarters.
7. Irrigation facilities for research fields:
   -- construction of channel net work;
   -- Sprinkler hydrant system.
8. Water electricity, Communications out lay:
   I.Water supply:
   -- Water intake, filtration and treatment plant, storage and hydrants system.

Annexure I continued....

II. electricity supply:

-- Strengthening of the transformer and cable system;

-- Extension of electrical supply to research fields;

-- Installation of stand by generator, complete with change over switch gear and circuit breakers, cross connecting cable systems etc.

III. communications:

-- Telephone exchange system PABX with 5 lines capacity and extension to laboratories.

9. Waste disposal system:

-- Restructure the present sewage disposal system inclusive of a bio-gas production unit, treatment plant, disposal pumps etc;

-- treatment & disposal of chemical and other toxic effluents from laboratories;

-- Wood fired incinerator of brick and Mortar construction.

10. Road way:

-- Connecting laboratories, and research fields.

11. Recreational facilities:

-- health club facilities;

-- indoor and out door games facilities.

****

Annexure II.

I. LABORATORY INSTRUMENTS AND EQUIPMENT REQUISITES.

I.1. Germplassm collection, conservation, evaluation:

--Field collectors kit including cameras,.altimeter, cassette recorders, camping equipment etc.

--Seed material cleaning,processing equipment including separators,graders, scarifiers etc.

--Automatic seed counters, electronic balances, seed moisture meters etc.

--Drying equipment - vacuum drying, drying with dehumidified and chilled air draughts, freeze drying etc.

--Sealing equipment - vacuum sealers, can sealers, poly sealers etc.

--Labelling equipment.

--Germination, viability testing equiomeht, incubators.

--Plant growth cabinets.

--Portable dehumidifiers, dessicating cabinets.

--Storage cans (non rusting), glass Jars (1 gallon capacity) with metal screw caps and rubber seals, laminated aluminium foil envelops, coin envelops etc.

--Color charts, silica gel with color indicators measuring tapes,vernier calipers.

--Refrigerators, deep freezers.

--Portable humidity, temperature measurement meters, potable pH meter,Salinity meters, Portable leafarea meters etc.

--Microscopes, Magnifiers etc.

--Electronic typewritter.

I.2. Tissue culture & genetic engineering:

--Photomicrographic system;

--Cooled incubator,with interior illumination and time cycling,

--Incubator,cooled,

--Oven,sterilizer (small),

--Microscope inverted,

--Microscope with illuminator,

--Still,double distillation,

--Orbit shaker,

--Incubating orbit shaker, environ.

--Ultra centrifuge,

--Electronic top loading balance

- -Platforms for orbit shaker,
- -Plant growth cabinet
- ---Refrigerator, 15 cu.ft.
- -Refrigerator (low-temp.)
- -Autoclave (large)direct steam
- -Centrifuge with tubes (various capacity
- -Drying cabinet,glassware(large)
- -Clean bench(Laminar flow work bench)
- -Laboratory air cleaner,
- -Stereo zoom microscope,with graticules
- -Electronic analytical balance.
- ---Camera,with stands & slose-up lens,

Annexure II continued...

-- Incubator,(Solution warming & Storage cabinet).
-- Micro wave oven,
-- Flask shaker
-- Salinity meter
-- Roller tube incubator,
-- Water still
-- Spatula,180mm
-- Scalpel,
-- Pipet cans,60 x 75 x 400,
-- Automatic dispenser,
-- Hemacytometer,
-- Cupboard,wall storage,
-- Stand with clamps,
-- Mini dispenser, 0.2 - 0.8ml
, 0.8 - 3.0ml
, 3.0 -10.0ml
-- Dispenser pipettesswith adaptors for 50,100,200ul
-- Interval timer,
-- Filter holder micro sylinge,
-- Tank, polyethylene, 50
-- Cork borers set, for 12 pcs.
-- Petridish illuminator
-- Aluminium foils,
-- Magnifier, x4, x10, x15, x22
-- Selection filter membrane, pHtype 100 pcs/pkt,
-- Gloves,
-- Bacticinerator,
-- Dish, aluminium with cover,
-- ~~Analytical balance,~~
-- pH Meter
-- Incubator (Propagator)
-- Ultrasonic cleaner,
-- Magnetic stirrer with Hot plate,
-- Needles, stainless steel, 5 kinds
1ml ,2ml , 3ml 5ml, 10ml,
-- Forceps,180,stainless steel,
-- Dish aluminium,100m depth = 22mm
-- Slant ruler (Measures tilting with heads)
-- Sylinge pipettes, 0 - 1ml
0 - 4ml
0 - 10ml
-- Blender,
-- Drawer unit,
-- Air pump (small) 5 /min.
-- Micro pipettes with dispensable tips
5 - 20µl 5 pcs.
25 - 100µl= 5 pcs.
tip, 5 - 100µl= 1,000 pcs.
-- Timer,
-- Filter holders, stainless steel & Funnel, stainless stell for 25 mm/filter,
-- Monitor matched with aerosol filter,
-- Stirrer (spin mix)
-- Shelf, stainless steel,
-- Plant pot, ploypropylene 2520 x 300 mm
-- Trolley,
-- Test tube rack aluminium for 50
-- Tweezers pic up triceps,
-- Brushes,test tube,
-- Cabinet (large),
-- Scissors,180 mm,SUS

Annexure II continued...

-- Trays, enameled,320 x 370 x 60
-- Dissecting set micro
-- Ultra microtome with knife maker for electron microscope,
-- Knife & hone for Microtome,
-- Floating out bath,
-- Microscope with closed circuit television
-- Test tube rack, aluminium for 50 pcs,
-- Typewriter English,
-- Microhammer cutter mill,
-- Kjeldahl apparatus scrubber distillation and titrator
-- Atomic absorption spectrophotometer
-- Electron Microscope
-- Oxygen meter, digital
-- Illuminator,dual gooose neck
-- Illuminometer, single head,
-- High intensity magnifier,100x
-- Ultraniolet water sterilizer,
-- Tubing connector, straight type,PP
Tubing polyethylene,ID 13 mm, 10m
-- Student microscope
-- Small table microtome swisft, for general microscope,
-- Macerator,
-- "L" could with plate,
-- Test tube rack,plastic for 12 pcs.
-- Water Bath,
-- Forcep warmer,
-- Muffle furnace,
-- Spectrophotometer UV-VIS, dig-tal
-- Etraction apparatus,
-- Infrared theromometer,
-- Illuminator,
-- Table top magnifier,
-- Cold plate with stirrer,
-- Turbidimeter triple range,
--

I.3. Plant breeding:

-- Vacume emasculator,
-- Refrigerator 15 cu.ft.
-- Seed counting machine, electronic,
-- pH meter,
-- Infrared thermometer,
-- Top loading electronic balance, cap. 5,000g, 1g
-- Balance-compression spring
-- Porometer,
-- Incubator,
-- Threshing machine,
-- Dessicator center plate dia.210 mm
-- Leaf area meter,
-- Balance-spring dial (50kg x 100g),
-- Dryer,

Annexure II continued...

1.4. Plant physiology:

-- Seed testing bath,
-- Microscope student type portable
-- Microscope large,
-- High pressure sterilizer,
-- Oven,
-- Sprayer,
-- Infrared therometer,
-- Refrigerator,
-- Magnetic stirrer with hot plate,
-- Blender,
-- Analytical balance 4 decimals
-- Constant temp. shaking bath,
-- Ultrasonic cleaner,
-- Salinity meter,
-- Digital thermometer,
-- Vacuum pump,
-- Safety cabinet,
-- Fume absorber,
-- Water bath,temp.controlled,
-- Shaker (flask),,
-- Centrifuge table model,
-- UV-VIS Spectrophotometer,
-- High performance liquid chromatograph,
-- Polarimeter,
-- Microscope large,
-- Microscope stereo,
-- Oxygen meter,
-- Dryer,
-- Incubator (light & timecycling)
-- Light intensity meter,
-- pH meter,
-- Rotary evaporator,
-- Microhammer cutter mill,
-- Balance top loading,
-- Psychrometer assmann,
-- Distil apparatus,
-- Precision magnifier,x4,x10,x15, x22,
-- Colorimeter,
-- Air pump,
-- Leak proof safety can, 10 SUS,
-- Pipette dispensers,
-- Water bath with a shaker,
-- Horizontal orbit shaker,
-- Leaf area meter,
-- Gas analyzer,
-- Thin layer chromatography unit,

--

1.5. Biochemistry:

-- Balances, semimicro,
-- Micro balance electronic,
-- Cooling water circulator,
-- Chromatography apparatus
--- Electrophoresis apparatus,
-- Pipette basket,
-- Metabolic shaking incubator,
-- Micropipette,autoclavable, 1, 2, 5, 10, 20, 25, 50,& 100µl
-- Balance top loading,
-- Vibrospatula,
-- Centrifuge hand driver,
-- Distillary apppratus, glass,
-- Support pipettes,
-- Themostatis water bath,
-- Ultrasonic cleaner,
-- Repetitive dispenser,

Annexure II continued ...

--Micro sylinge disoenser, 10, 25 & 100µl with spare sylinge, & tip,
--Lab-line anaerobic chamber,
--Fraction collector,
--Fume absorber replicant filter
--Thermometer digital
-- Silicone rubber extruded tapes portable heat sealer operating temp.180°c,max. 240°c, 5m
-- 6-unit heating and extration rack,
-- Cold plate stirrer,
-- storage cabinet,
-- Spectrophotometer, digital,
-- Autoclave (Digesdahl apparatus)
-- Rotary evaporator,
-- Disperser (Votex mixture)
-- Oven constant temp.with blower,
-- pH meter,digital,
-- Microwave oven,

-- Jet-pipet small volume repetitive dispenser sample Cap. 10 - 100µl,
-- Rotary vacuum evaporator,
-- Fume hood 1,200mm width,
-- Single block heater, Triple block heater,
-- Flexible electric heating tubes max.230°c.1
-- Single head illuminator,
-- Glassware cart,
-- Bench stirrer,
-- Gas chromatograph, TCD & FID,
-- Centrifuge,
-- Amino acid analyzer,
-- Oven gravity convection,
-- Incubator,
-- Drying cabinet,
-- Freeze dryer with stoppering chamber,

I.6. Agronomy:
-- Hand held anemometer,
-- Maximum & minimum thermometer,
-- Actinograph (Albedometer),
-- Hygrograph,
-- Micro hammer cutter mill,
-- Leaf area meter,
-- Sieve shaker portable,
-- Porometer,

-- Sensitive anemometer,
-- Pyrheliometer,
-- Sunshine recorder (Solar integrater),
-- Oven,
-- Portable leaf area meter,
-- Hygrometer/Psychrometer,
-- Transducer for hygrometer and psychrometer,
-- Grain moisture meter,

Annexure II continued...

-- Soil thermometer 0 -300 mm 5 pcs/set,
-- Hygrograph,
-- Soil moisture tester and tensiometer with insertion tool (augh)
-- Auto analyzer,
-- Balance top loading electronic,
-- Balance heavy duty, 50kg - 100g,
-- Light weight platform truck, cap. 1,000kg
-- Hand truck,
-- Air conditioner,
-- Magnetic stirrer,
-- Chemicals,
-- Water bath,
-- Refrigerator, 15 cu.ft.
-- Muffle furnace,
-- Mortar and pestle, o.D. 240 mm
-- High pressure, vauuum rubber tubing I,D, 12 mm, 10 m.

I.7 Isotope studies:

-- Necessary equipment for radio isotope research in crop science.

I.8 Meterology:

Automatic weather station complete with all sensors, data logger and mast - operating on a solar panel generater, 12v battery, system and comprising:

-- cup animometer,
-- wind direction sensor,
-- Net radio-meter,
-- Solarimeter,
-- Tipping bucket raingauge,
-- Thermal radiation screen,
-- Thermister,
-- solid state relative humidity sensor,
-- Barometer,

1.9 Photography:

-- Camera with a stand & flash light system,
-- Camera with wide angle, close up, telephoto lenses and filters,
-- Enlarger and the Easel 14" x 17",
-- Lamp red, yellow white,
-- Aristo magic light box,

Annexure II continued...

-- Paper trimmer,
-- Glazer dryer,
-- facilities for colour photography, processing,

I.19 Museum:

-- specimentbottles 210 dia x 300 mm,
-- Cylinders, 1,000 l,
-- tanks glass,
-- slide projector with stand,
-- other furniture,
-- wall cupboards see through type,
-- Epidias-cope,
-- Calculater,
-- Other facilities,
-- vacuum cleaner,

II Computer system:

II.1 Hardware:

-- Central processor 16 bit address capacity,minimum memory capacity I MB with multiuser capacity/ 32 bit data pulse.
-- 20 MB of hard Disk storage,
-- I MB of floppy Disk storage,
-- 3 terminals 1 terminal having graphics capacity,
-- 1 printer - 150 CPS (able to handle graphics)

II.2 Software:

-- UNIX or varient of UNIX operating system,
-- language FORTRAN 77,PASCAL,
-- Data base management system,
-- Graphics software,
-- Word processing software,

III Calculators:

-- calculators, with scientific/statistical functions, programable, both portable and desk top models for all divisions,

IV Office equipment;

-- Electric type writers,
-- Furniture,

Annexure II continued...

-- Steel cupboards (small and large)
-- Drawer units,
-- Tray units,
-- Wall clocks
-- photocopiers (with reduction and Enlargement facilities),
-- Graphic Arts supplies,
-- off-set printer,,
-- Vacuum cleaner,
-- Floor polisher,
-- Micro filing system,
-- Automatic duplicating machine,
-- Book binding machines,

V. Vehicales & Farm machinary:

-- Land cruiser 4WD diesel, air conditioned and equipped for germplasm collection purpose - 2 Nos. - 2 Nos.
-- Jeeps 4WD diesel - 2 Nos.
-- Double cab pickup - 2 Nos.
-- Minibus (30 seater) - 1 Nos.
-- Cars diesel - 3 Nos.
-- Mobile laboratory vehicle - 1 Nos.
-- Tractor 4 wheels with accessories - 2 Nos.
-- Tractor 2 wheels " " - 2 Nos.
-- Motorbikes - 5 Nos.
-- Other machinary,

Vi. Workshop tools:

-- For maintenance of
- Mechanical equipment;
- Electrical equipment;
- Electronic equipment;
- Refrigeration and air conditioning.

Vii. Field equipment :

---- Knapsack, power, ULV sprayers & dusters,
-- Field preparation, levelling equipment.

Annexure II continued...

Vii. Audio-Visual Equipment (Auditorium):

-- Fully air conditioned,
-- Moviefilm projectors,
-- Screen,
-- Slide projecters,
-- TV colour with video cassettes,
-- Microphones speakers Amplifiers etc.
-- Electric type writers,
-- Tape recorders,
-- Electric wall clocks,
-- Epidiascope,
-- Over head projecter,
-- Vacuum cleaner,
-- Floor polisher,

****
****

Data 25. Production (MT'ooo) of Subsidiary Food Crops (1974 - 1983)

Crops	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Coupea	2.02	7.56	11.9	21.13	22.51	18.77	23.51	39.32	37.68	26.12
Green gram	5.89	5.93	9.70	7.00	8.40	9.68	12.93	18.90	18.99	15.13
Ground nuts	7.36	7.61	6.09	6.56	7.47	5.40	14.05	14.48	14.79	17.27
Black gram	0.65	1.05	2.36	11.7	8.64	6.05	5.51	7.35	9.23	12.86
Soya bean	1.0	1.15	6.77	1.11	2.87	1.33	1.08	2.39	11.14	10.61
Pigeon pea	1.662	0.227	0.041	0.001	0.038	0.054	-	-	-	-
Maize	23.85	34.55	31.07	41.95	35.20	26.03	31.37	35.30	45.00	51.02
Kurakkan	19.56	20.56	15.59	22.72	14.61	10.76	6.74	62.52	13.31	11.67
Sorghum	3.13	6.40	1.66	2.00	0.54	0.18	0.08	0.16	-	-
Meneri	n.a.	0.49	0.84	1.08	0.52	0.10	0.79	0.78	1.29	-

Source: Agric. Implementation Programme, Ministry of Agricultural Development & Research.

Data 26. Other Field Crops-Extent Planted

('000 ha)

Crop	1976	1982	1983	1984	1985	Growth Rate (Z) 1976-85
Coarse Grains						
Maize ...	30.4	49.9	47.3	45.4	34.8	1.4
Kurakkan ...	n.a.	16.1	19.9	11.3*	n.a.	-1.5
Pulses						
Greengram ...	8.4	21.2	28.6	29.6	21.3	10.9
Blackgram ...	5.1	9.9	17.5	33.4	12.5	10.5
Coupea	19.2	38.8	45.0	31.3	29.3	4.8
Oil Seeds						
Sesame	19.0	32.7	31.6	5.0	14.3	-3.2
Ground Nuts ...	6.7	14.4	13.8	7.6	8.3	2.4
Soya Bean ...	0.7	17.4	14.6	11.8	2.3	15.3
Spices						
Chillies... ...	43.3	28.4	32.1	30.8	23.5	-6.8
Onions	7.7	8.2	11.7	8.3	5.9	-3.0
Root & Tubers						
Manioc	69.4	52.9	37.8	38.3	22.6	-13.5
Sweet Potatoes ...	15.0	9.1	1.0	9.6	4.9*	-13.3
Potatoes... ...	2.8	5.7	6.6	7.9	8.3	12.8
Total ... 12.8 ...	227.7	304.7	307.5	270.3	208.9	-0.9

* shifting cultivation

Sources: Public Investment 1986 - 1990
National Planning Division
Ministry of Finnance and Planning
SRI LANKA, May 1986.

Data 27. Staff Allocation and Expenditure for Related Institutes - 1983

(Unit: person, Rs: ,000)

Research Institute	Number of Staffs			Research Expenditure	
	PhD	Master	BS	Capital Expenditure	Current Expenditure
Department of Agriculture Research Division (Note-1)	29	74	155	16,891	31,979
Central Agricultural Research Institute	6	21	17		
Central Rice Breeding Station	1	4	6		
Regional Agricultural Research Center	17	52	74		
Others Institute	3	11	10		
Sugar Cane Research Institute	1	2	8	3,045	9,453
Department of Minor Export Crops	1	8	14	5,777	3,177
Agricultural Soil Research and In Service Training Institute	4	15	18	75	12,562
Coconut Research Institute	6	14	17	11,492	21,833
Agricultural Research Institute	9	7	15	3,466	21,399
Rubber Research Institute	10	10	11	965	11,962
Veterinary Research Institute	11	10	9	4,921	3,826
Reference to Forestry and Irrigation	2	3	10	2,120	3,853
National Fishery Resource Research Institute	5	10	18	5,000	4,000
Reference to University (Note-2)	22	27	28		2,250
Sub Total	78	153	275	53,752	124,040
Grand Total	506			Rs. 77,792 ≈ US$ 7,408,000	

Note 1. Subtotal number of research staff is not same as other subtotal, because the every year end is different.
2. It does not contain all of universities' research staff
3. It contain research staffs of the forestry and fishery research institute.
4. There are experimental offices (102) and research assistants (115) other than research staffs in the Department of Agriculture, Research Divison. (Not knowing the year end)

Data 28. Staff Allocation of the Existing Research Facilities under the Department of Agriculture

Research Centre/Station	Staff Strength			
	RO	EO	RA	Total
1. CARI-Peradeniya	55	21	45	121
Plant Quarantine	3	2	-	5
2. RARC - M.I.	34	12	15	61
3. RARC - Bombuwela	16	7	9	32
PRS - Bentota	1	2	1	4
ARS - Labuduwa	-	-	1	1
4. RARC - Angunakola - Pelessa	20	5	11	36
PRS - Amblantota	1	2	1	4
5. RARC - Kilinochchi	14	11	5	30
ARS - Tinnevely	3	2	2	7
PRS - Paranthan	3	-	-	3
PRS - Murunkan	1	1	-	2
6. PARC - Bandarawela	13	7	2	22
ARS - Rahangala	1	2	-	3
ARS - Moneragala	2	2	-	4
ARS - Sitaeliya	5	6	4	15
7. RARC - Mahakandura	8	9	-	17
ARS - Eluvankulam	2	2	-	4
ARS - Kandakuliya	1	-	-	1
ARS - Kalpitiya	-	1	-	1
8. RARC -				
9. CRSS - Batalagoda	10	1	-	11
10. DDA (R) Office	2	1	-	3
Land & Water use	4	1	3	8
Soil conservation	3	-	-	3
Under training	-	-	14	14
11. Floriculture	1	1	1	3
12. Systematic Botany	2	1	1	4
13. Seed certification service	-	1	-	1
Total	205	100	115	420

R.O. = Research Officers - BSc or MSc or PhD qualified
E.O. = Experimental Officers - BSc or MSc qualified
R.A. = Research Assistants - Two years special training after high school.

* The total approved cadres of RO and EO, and RA up to 1990 are 577 and 160 respectively. Annual recruitments will be done according to requirements and provisions available.

Data 29. Recurrent Research Expenditure an Agricultural Commodities in 1983

	Production value (million Rs) A)	Percentage of total production value	Research B) Expenditure (thousand Rs)	Percentage of total research expenditure	Congruence Ratio C)	Research expenditure per thousand Rs production value (Rs)
Food cross research						
Paddy	5,482	23.3	26,547	20.6	0.88	4.84
Other food crops	2,409D)	10.3	3,032	2.4	0.23	1.26
Sugarcane	1,299	5.5	9,455	7.3	1.33	7.28
Resource management E)			2,749	2.1		
Socio-economic F)			13,821	10.7		
Total food crops	9,190	39.1	55,604	43.1	1.10	6.05
Export crops research						
Coconut	3,283	14.0	21,833	16.9	1.21	7.65
Tea	2,302	9.7	21,399	16.6	1.71	9.30
Rubber	1,024	4.4	11,962	9.3	2.11	11.68
Minor export crops	1,645	7.0	3,177	2.5	0.36	1.93
Other grants G)			6,000	4.7		
Total export crops	8,254	35.1	64,371	49.9	1.42	7.80
Total all crops	17,444	74.2	119,975	93.1	1.25	6.88
Livestock H)	1,455	6.2	3,826	3.0	0.48	2.15
Fisheries	2,903	12.3	4,000	3.1	0.25	1.38
Forestry	1,710	7.3	1,104	0.9	0.12	0.65
Total all commodities	23,512	100.0	128,905	100.0	1.00	5.48

NOTES:

A) Value in 1983 constant prices. Source of most data, Department of Agricultural Economics, MADR.
B) Research expenditure based on recurrent costs only. Capital costs add at least Rs 50 million, to the total Rs. 130 million recurrent costs. The total expenditure for agricultural research would thus be about Rs 180 million or about US$7.5 million. This is 0.77$ of gross production value.
C) The congruence ratio is the ratio of the percentage of research expenditure on a comodity of the total research budget to the percentage of the production value of that commodity of the total value of agricultural production. A perfect match of research expenditure to production value is 1.00.
D) Value estimated.
E) Land and Water Management, MLLD.
F) Includes economic research at ARTI, and Irrigation/Survey Research.
G) Includes cashew, silk, and also some university grants.
H) Value of livestock production includes sales of meat, milk, eggs, hides and skins, and estimated value animal draft, and manure.

Sources: ISNAR (International Service for National Agricultural Research The Hague, Netherland), June 1984

Data 30. Genealogy of Newly Bred Rice Varieties

Year *	Variety	Age class	Pedigree
1958	H_4	4 - 4 1/2	M 302/Mas
1960	H_8	4 - 4 1/2	
1964	H_7	3 1/2	PP/Max/H_5
1968	H_9	5 - 6	CIO4/Max/Panduruwee
1969	62-355	3	PP/H_5
1970	Bg 11-11	4 - 4 1/2	Engatek *2/H_8
1970	Bg 34-6	3 1/2	IR8-246//PP/Mas///H501
1970	LD 66	4 - 4 1/2	H501/DGWG
1971	Bg 34-8	3	IR8-246//PP/Mas///H501
1971	H_4 mutant	4 1/2	
1973	Bg 3-5	5-6	Panduruwee/Mas/Engatek
1975	Bg 90-2	4 - 4 1/2	IR262/Remadja
1975	Bg 94-1	3 1/2	IR262/LD66
1975	AT 16	3 1/2	IR8/H_4
1975	Bw 78	4 - 4 1/2	
1978	Bg 94-2	3 1/2	IR262/LD66
1979	Bg 400-1	4 - 4 1/2	ob678//IR20/H_4
1979	Bg 276-5	3	ob678*2/Bg 34-8
1979	Bw 100	4 - 4 1/2	H_{501}/podiwee A8/H_5*2
1979	Bg 12-1	4 - 4 1/2	ob678/Bg 11-11
1979	Bg 304-1	3 1/2	Bg 94-1*2/ob678
1980	Bg 379-2	4 - 4 1/2	Bg 96-3*2/Ptb33
1981	Bw 267-3	3 1/2	LD125/Bw248-1
1981	Bw 266-7	3 1/2	Bw 242-5-5/ob677/Bg 902*2
1981	Bw 272-6b	3	Bw 259-3/Bw 242-5-5
1981	Bg 750	2 - 2 1/2	Ainansao//75-1870/PP
1981	Bg 407	6	IR5/Panduru wee
1982	Bg 745	6	71-554/Podiwee A-8
1982	Bg 380	4	Bg 90-2*2/ob677
1986	Bg 573	4 - 4 1/2	Bg 12-1*2/IR42
1986	Bg 94-IR	3 1/2	Bg 94-1///Bg 401-1/ 80-3717(F_2)//Bg 94-1
1986	Bw 288-1-3	3 1/2	Bg 90-2/Bg 401-1

Sources: Questionnaires, witten by CARI, Peradeniya

Data 31. Available Germplasm Collection in Food Legumes and Coarse Grains

Crop	Germplasm	Number of Varieties cultivated
Mungbean	225	4
Cowpea	220	4
Black gram	34	2
Groundnut	132	4
Pigeon pea	38	1
Soybean	300	4
Maize	98	3
Sorghum	118	1
Kurakkan	12	3
Miner millets	15	5

Sources: Conservation of Food Crop Genetic Resources in SRI LANKA

By S.D.G. Jayawardene etc. CARI, 1985

Data 32. Yields of Grain Legumes and Coarse Grains obtained by an Average Farmer and Potential Yields under High Management

Crop	Average Farmer Kg/ha	High Management Kg/ha
Green gram	850	2200
Cowpea	1000	2500
Groudnut	1000	3000
Black gram	650	2000
Soybean	1000	3500
Pigeon pea	800	1200
Maize	1000	5600
Sorghum	1200	3500
Kurakkan	900	2900

Sources: Conservation of Food Crop Genetic Resources in SRI LANKA

By S.D.G. Jayawardene etc.

Data 33. Grain Yield and Agronomic Data of Eight Local Varieties of Maize Evaluated during the Rainy Season of 1981/82

Variety	Days to 50% Silking	Plant Ht. cms.	Ear Ht. cms.	Lodging % Root	Lodging % Stalk	Yield Kg/ha
Local 1 (Mahiyangana)	71	247	156	20	0	4470
Local 2 (Walapane)	68	320	155	7	1	4800
Local 3 (Nildandahinna)	69	236	129	10	2	3867
Local 4 (Mapakada)	68	358	164	13	1	3841
Local 5 (Tabbowa)	62	203	121	21	1	3339
Local 6 (Moneragala)	62	254	151	15	0	3779
Local 7 (Masspanna)	62	257	159	8	2	4369
Local 8 (Anuradhapura)	66	191	93	19	7	2332
Bhadra 1 (Check)	64	195	104	0	10	4972
C.V.%						22.65
L.S.D. (P=0.05)						352 Kg/ha

Sources: Experimental Data of CARI 1983

Data 34. The Stations Participating in the On-Going National Co-ordinated Research Programmes for Grain Legumes and Coarse Grains

Crop	Aralaganwila	Angunakolapelessa	Cannoruwa	Cirandurukotta	Karadiyan Aru	Killinochchili	Maha Illuppallama	Makandure	Moneragala	Thirunelvely	Vanathavillu
Green gram	*	*		*	*	*	**	*	*	*	*
Cowpea	*	*		*	*	*	**	*	*	*	*
Groundnut	*	**		*	*	*	*	*	*		*
Soybean	*	*	*	*	*	*	**	*		*	
Maize	*	*		*			**		*		*
Kurakkan	*	*		*	**	*	*				

* Participating Station ** Co-ordinating Station

Data 35. Number of Original Accessions, Dupli-cates and Distinct Accessions of ct Tropical Root & Tuber Crops

Source of Origin	Number of Acquired Materials					
	Ca[a]	Sp	Di	Co.	In.	etc.
Sri Lanka						
Kalutara District	9	11	12	10	9	2
Galle District	11	16	20	9	2	2
Nuwara Eliya District	4	1	-	-	-	3
Kegalle District	3	-	4	1	-	-
Monaragala District	-	-	5	2	-	-
Baticaloa District	5	-	-	-	-	-
Anuradhapura District	1	-	-	-	-	-
Kurunegala District	-		5			
Badulla District	-	-	3	2	-	-
Kandy District	90	48	10	10	1	4
CIAT (Colombia)	50	-	-	-	-	-
AVRDC (Taiwan)	-	10	-	-	-	-
IITA (Nigeria)	-	3				
VISCA (Philippines)		3				
Indunisia	-	-	-	-	01	-
Total	190	97	65	38	20	11
No. of duplicates	?[b]	-	26	14	?	3
No. of distinct	?	97	39	24	?	3

a - Ca - Cassava, Sp - Sweet potato
Di - Dioscorea, Co - Co (yam) & other Aroids.
In - Innala (Coleus)
etc. - Ginger, Turmeric, Artichoke, canna spps.

b - Not catergorised.

Sources: Conservation of Food Crop Genetic Resources in SRI LANKA.
By S.D.G. Jayawardene etc.

Data 36. Rice Germ Plasm Evaluations

Character/Problem traits	Varieties with high degree of Tolerance/Resistance.
Brown Planthopper	Ptb 33, MR 1523, Suduru Samba, Heen Rathkunda, Sudu Heenetti.
Gall midge	Ob 677, Ob 678, Leaunng 152, Ptb. 18, Ptb 21.
Thrips	Dhanala.
Green Leafhopper	Bg line (on going screening)
Blast	Murungakayan 302, Tadukan, Tetep, Tres Marias, Carreon Dissi Hatif, DNJ 129, Ta-poo-cho-z, Engatek, Remadja, C46-15.
Bacterial leaf blight	Bj-1, DZ 192, Malagkit Sung Song, RL Gophar, Zenith.
Submergence at Seedling stage	Karammana, Soola, Maduluwa, Molligoda, Dewareddiri.
Salinity	Pokkali, Bw 272-8.
Iron Toxicity	H_4, Dewareddiri, Bw 267-3, Bw 78, Bw 100.

Data 37. Improved Varieties of Coarse Grain & Grain Legumes

Year	Crop	Variety	Parents	Age (months)
1977	Maize	Bhadra-1	composite of 35 varieties	3 1/2
	Finger millet	Co-10		
	Green gram	Local varieties selections		2 1/2
1982	Green gram	Type 77	Eg-Mg-16/ML3// Eg-Mg-16	2-2 1/2
1982	Green gram	MI-4		2-2 1/2
1982	Green gram	MI-5	Eg3/MI 2	2-2 1/2
1982	Cowpea	IITA	TV/930-01B	2-2 1/2
1982	Cowpea	Selection 75	Arlington/Floricream	2-2 1/2
1982	Cowpea	Bombay	introduction	3
1982	Cowpea	MI-35	Arlington/floricream	2
1982	Cowpea	Arlington	introduction	2 1/2-3
1982	Groundnut	X-14	Introduction KRISAT	3-3 1/2
1961	Groundnut	Red spanish	introduction	3-4
1982	Groundnut	MI-1		3-3 1/2
1982	Gro-ndnut	No.45		3-3 1/2

Sources: Questionnaires at CARI, 1986

Data 38. Paddy Varieties Cultivated in Sri Lanka (1984 - 1985)

Rice Variety	Cultivated Area (ha)	Ratio (%)	
BG 94-1	224,210	22.9	88.6%
BG 34-8	155,000	15.8	
BG 400-1	143,355	14.7	
BG 276-5	106,745	10.9	
BG 34-6	91,005	9.3	
BG 11-11	68,035	6.9	
BG 379-2	38,375	3.9	
BW 272-6B	13,185	1.3	
BG 380	12,190	1.2	
BW 100	4,775	0.5	
BG 90-2	4,510	0.4	
BW 267-3	4,005	0.4	
BG 3-5	2,575	0.3	
BG 94-2	1,390	0.1	
BW 266-7	420	0.04	
BW 78	215	0.02	88.66%
H 4	48,550	4.9	
62-355	7,285	0.7	5.6%
Tradit ional Var.	49,695	5.1	5.1%
Total			99.36%

Data 39. Progress of Systematic Germplasm Collection & Evaluation Activities

Crop	Accessions Assembled	Characters/Problem Traits evaluated	Accessions screened	Sources identified	Utilization	Problems
1. Rice	2745	Resistance to Pests.				
		1a. Brown plant hopper	600	5	3 used as donor parents.	
		1b. Gall midge	450	8	5 used as donor parents.	
		1c. Thrips	250	7	Poor combining ability.	
		1d. Stem borar	280	-		
		1e. Green leaf hopper	250	1	Utilized in breeding programs.	Lack of suitable techniques to evaluate & select for desired characters in segregating populations.
		Resistance to Diseases.				
		2a. Blast	850	11	Utilized in breeding programs.	
		2b. Bacterial leaf blight	800	5	Utilized in breeding programs.	
		Eco-edaphic stresses				
		3a. Submergence tolerance	80	6	3 used as donor parents.	
		3b. Cold tolerance at seedling stage	95	13	To be included in breeding programs.	
		3c. Salinity	150	1	Poor combining ability.	
		3d. Phosphorus deficiency	346	4		
		3e. Iron toxicity	350	6	2 used as donor parents.	
2. Root & Tuber						
a. Cassava	190	Preliminary evaluations on yield performance.				
b. Sweet potato	97					
c. Dioscorea	65					
d. Aroids	38					
e. Others	31					
3. Other crops						
a. Minor cereals						
b. Legumes						
c. Horticultural Crops		Systematic conservation efforts needs to be implemenced.				
d. Spices.						

Data 40. Allocation of Government Capital Expenditure 1986 - 1990
(A) Summary

	1986	1987	1988	1989	1990	1986-90
1. Total Public Investment	24850	24883	26573	28190	29920	134416
2. Add Adjustment for Capital Transfers	1987	920	692	342	330	4271
3. Total Capital Expenditure (Public Sector)	26837	25803	27265	28532	30250	138687
of which						
(i) Extra Budgetary Resources	2260	2415	2585	2765	2960	12985
(ii) Non Expensionary Resources available to Government Budget	21457	20288	23243	25767	26619	117374
(iii) Supplementary financing required for investment programme	3120	3100	1487	-	671	8326
4. Total Budgetary Provision after adjustments	24577	23388	24680	25767	27290	125702
of which						
(i) Ongoing Projects	22990	21234	21361	18948	14105	98638
(ii) New Projects	11587	2154	3319	6819	13185	27064

(i) Includes items for which supplementary provision will be required.

Sources: Public Investment 1986 - 1990
National Planning Division
Ministry of Finnance and Planning
SRI LANKA, May 1986

Data 41. Allocation of Government Capital Expenditure 1986 - 1990
(B) Sector Summary, Ongoing Project

Item	1986		1987		1988		1989		1990		1986-90			
		FA		FA		FA		FA		FA		FC	LC	FA
Ongoing	22990	8974	21334	7877	21458	7602	19028	5459	14369	2651	99177	43168	56009	33756
Agriculture														
(1) Mahaweli	3450	1982	3653	1857	3299	2334	2408	1271	2341	1238	15151	6405	8746	8681
(2) Other Irrigation	1005	549	645	309	465	220	376	139	355	115	2846	825	2021	1332
(3) Field & Minor Export Crops	554	208	640	264	548	198	454	195	213	3	2409	781	1628	868
(4) Forestry & Lands	371	189	367	202	402	209	349	130	272	109	1761	674	1087	839
(5) Plantations	665	345	452	191	457	131	238	1	258	1	2070	614	1456	669
(6) Animal Husbandry	127	68	136	93	176	123	160	109	70	39	669	432	237	432
(7) Fisheries	234	145	212	108	249	135	159	84	186	111	1040	471	569	583
Industry	101	8	94	3	87	3	86	1	84	1	452	13	439	16
Housing, Water Supply and Urban Development														
(1) Housing	500	-	450	23	600	23	610	20	630	-	2790	539	2251	6
(2) Other Construction	400	5	365	53	400	28	425	11	400	1	1990	666	1324	9
(3) Water Supply	823	423	800	300	276	42	70	31	-	-	1969	1004	965	79
Economic Infrastructure														
(1) Transport	1711	424	1817	275	2807	200	2540	2	756	2	9631	4662	4969	90
(2) Power	1190	1014	1373	1350	2442	2419	2325	2300	330	305	7660	7428	232	738
(3) Posts & Telecommunications	714	338	955	334	934	441	683	316	448	79	3734	2399	1335	150
(4) Airports and Ports	1594	1377	767	728	342	211	176	64	40	-	2919	2919	2113	238
Other														
(1) I.R.D.P.	427	343	635	540	933	737	845	689	759	611	3599	1080	2519	292
(2) Ad. Overheads and Other Programmes	2626	180	2083	-	2288	-	2354	-	2425	-	11776	6549	5227	18
Social Infrastructure														
(1) Education	1140	378	1139	121	899	-	947	-	1005	-	5130	1532	3598	49
(2) Health	552	172	1031	262	779	146	738	95	698	35	3798	1516	2282	71
(3) Others	235	18	220	8	75	2	85	1	99	1	714	31	683	3
Hd. Miscellaneous	4569	808	3500	856	3000	630	3000	563	3000	-	17609	3414	13655	285
Of which MTIP Plantations	(748)	(748)	(822)	(822)	(630)	(630)	(563)	(563)	-	-	-	-	-	-

Data 42. Allocation of Government Capital Expenditure 1986 - 1990

(C) Onging Projects, Agriculture, Field & Minor Export Crops

(Rs. Million)

Item	1986		1987		1988		1989		1990		1986-1990		
		FA		FA		FA		FA		FA	FC	LC	FA
Field & Minor Export Crops	554.3	208.3	640.0	263.7	547.8	197.8	453.9	195.3	212.7	3.0	2408.7	781.1	1627.6	868.1
(1) Land Reform Commission	(200)	-	(190)	-	(260.0)	-	(350.0)	-	-	-	(1000.0)	-	(1000.0)	-
(2) Anuradhapura Dry Zone Project	50	45.0	105.0	80.0	100.0	89.0	125.0	115.0	-	-	380.0	170.1	209.9	329.0
(3) M.A.D.S.A.	7.0	-	5.0	-	5.0	-	-	-	-	-	17.0	-	17.0	-
(4) Sevanagala Sugar Project	150.0	100.0	225.0	113.0	135.0	30.0	82.0	28.0	-	-	592.0	375.7	216.3	293.0
(5) Paddy Marketing Board (Rice Mill Stores)	10.0	10.0	-	-	-	-	-	-	-	-	10.6	6.0	4.0	10.0
(6) Contribution to Sugar Project	100.0	-	65.0	-	60.0	-	-	-	-	-	205.0	-	205.0	-
(7) Contribution to C.F.C	3.0	-	21.9	12.0	-	-	-	-	-	-	24.9	14.4	10.5	12.0
(8) Agriculture Extension and Adaptive Research Project	17.0	4.2	-	-	-	-	-	-	-	-	17.0	7.3	9.7	4.2
(9) Fruit Crop Assistance Scheme	8.0	-	10.0	-	15.0	-	16.0	-	15.0	-	64.0	-	64.0	
(10) Other Projects	65.9	17.1	51.4	35.4	49.3	39.0	43.0	39.0	36.0	-	245.6	111.0	134.6	130.5
(11) Diversified Agriculture Research Project	38.6	20.2	17.0	10.0	19.0	11.0	11.0	4.0	-	-	85.6	54.4	30.9	45.2
(12) Financial Assistance to M.E.C.	18.0	-	16.0	-	22.0	-	26.0	-	26.0	-	108.0	-	108.0	-
(13) Ministry	1.4	1.0	0.4	-	0.3	-	0.3	-	0.3	-	2.7	.7	2.0	1.0
(14) A.R.T.I.	1.4	1.1	0.2	-	0.2	-	0.2	-	0.2	-	2.2	1.4	8	1.1
(15) A.D.A.	0.5	-	5.0	3.5	4.0	2.5	5.5	5.5	1.0	-	16.0	9.6	6.4	11.5
(16) Sugar Cane Research Institute	5.0	4.0	7.0	6.0	6.0	5.0	4.0	3.0	4.0	3.0	26.0	16.9	9.1	21.0
(17) Agriculture Insurance Board	0.2	-	76.5	-	76.4	-	75.0	-	75.0	-	303.1	-	303.1	-
(18) Freedom from Hunger Campaign Board	3.0	3.0	0.8	0.8	0.8	0.8	0.8	0.8	-	-	5.4	4.8	6	5.4
(19) Rehabilitation and Maintenece of Capital Assets	58.4	-	49.3	-	50.3	-	61.1	-	51.2	-	270.3	-	270.3	-
(20) Acquisition of Equipments	16.9	2.7	4.5	1.0	4.5	0.5	4.0	-	4.0	-	33.9	8.5	25.4	4.2

Provided under the votes of the President

Data 43. Annual Expenditure of CARI

(1) Recurrent Expenditure

Unit: Rs. 1,000

Items	1982	1983	1984	1985	1986
1) Establishment					
Salary and Allowances for Labourers, etc.	5556.66	6057.96	5928.30	6716.66	6832.00
Travelling & Subsistance	202.80	188.43	160.00	237.00	232.00
Telephone & Postage	19.19	32.74	31.63	35.35	45.70
Electricity	240.71	279.43	221.67	309.60	400.35
Furnace Oil					
Liquefied Petroleum Gas					
Security Service					
Sectional Total	6019.36	6558.56	6341.60	7298.61	7510.05
2) Secretary					
Board Meeting					
Printing Cost					
Others					
Sectional Total					
3) Supplies					
Stationary	54.95	38.96	43.00	54.50	64.00
Fuel	186.10	215.26	200.53	225.57	250.91
Repairs to Vehicle	71.41	99.14	96.69	116.49	183.96
Building Repair	15.05	15.95	10.83	250.00	500.00
Repairs to Furniture & Office Equipment	4.95	5.71	16.52	17.25	26.33
Others					
4) Others	241.88	274.43	134.25	132.02	161.80
Sectional Total	574.34	649.45	501.82	795.83	1187.00
Total	6593.70	7208.01	6843.2	8094.44	8697.05

(2) Capital Expenditure

Unit: Rs. 1,000

Items	1982	1983	1984	1985	1986
1. Furniture, Office, Equipment, Household items, Books, Exhibits etc.	19.40	-	-	40.75	155.50
2. Vahicles *	-	-	-	-	-
3. Equipment, Machinery and Consumables **	46.35	128.50	160.56	46.00	180.00
4. Farm tools, and other related equipment	101.00	-	32.00	22.00	35.00
5. Buildings and Land development	281.00	542.62	558.80	73.69	115.00
6. Infrastructure and road repairs	-	-	43.68	520.06	25.00
7. Other	210.00	-	-	265.34	366.40
* Money for this item is from the general vote of the Director of Agriculture and Foreign aid Program.					
** Major part was under the Foreign aid and not mentioned here.					
Total	657.75	671.12	795.04	967.84	876.90

Data 44. Plan for Research Activity of PGRC

• Collection of Germplasm

	Main Subjects	Activity
1st Stage (2 years)	Paddy, Coarse grains Grain Legumes, Root and Tuber Crops, Chillies, Vegetables - Gp I	1. Collection of all the recommended varieties and varieties maintained by the local breeders. 2. Collection of indigenous varieties and wild types from different Agro-ecological regions. Most of the indigenous varieties of rice, root and tuber crops have already being collected.
2nd Stage (2 years)	Fiber Crops Medicinal plants Horticultural Crops - Gp II Oil seed Crops	Continuation of the collection of indigenous varieties of Gp I crops and introduction of germplasm from other countries. Collection of indigenous and presently cultivated varieties. (Gp. II Crops)
3rd Stage (2 years)	Green Manure Crops Spice Crops, Plantation Crops and other useful crops - Gp III	Continuation of the collection of Gp II Crops. Collection of cultivated and wild types. (Gp. III Crops)

Data 45. Plan for Research Activity of PGRC

• Germplasm Preservation

	Main Subjects	Activity
1st Stage (years)	· Seeds	Long term storage (30 years) at 1°C Medium term storage (10 years) at 10°C Short term storage (5 years) at 15-20°C
2nd Stage (years)	Vegetatively propagated Crops	Tissue culture
3rd Stage (years)		(At all stages)

Data 46. Plan for Research Activity of PGRC
• Evaluation of Germplasm

	Main Subjects	Activity
1st Stage (2 years)	Preliminary evaluvation	- Formation of working groups to evaluvate germplasm. - Morphological characterization of germplasm based on F.A. O. descriptors (Gp. 1 - Crops)
2nd Stage (2 years)	1. Preliminary evaluvation 2. Evaluvation for specific characteristics	- Morphological characterization of germplasm (Gp. I, II, III crops) - Chemo taxonomic studies. - Evaluvation for disease and insect resistance, tolerant to drought, low temperature, salinity, photosynthetic efficiency, Nitrogen fixing ability of grain legumes, quality and nutritive value (evaluvation will be done with close co-operation of different divisions of 'C.A.R.I.' and other research Centres.)
3rd Stage (2 years)	"	- Technical meetings to exchange information on germplasm and their use in crop improvement programmes.

Data 47. Plan for Research Activity of PGRC
• Items of Genetic Evaluation

Crops	Evaluation Items
1. Rice	Yield, resistance to pest and diseases, tolerance to low T°, drought, salinity, grain quality and photosynthetic efficiency.
2. Coarse grains	Yield, resistance to pest and diseases, tolerance to drought and ill drained condition, and grain quality
3. Grain legumes	Yield, plant type resistance to pest and diseases, drought tolerance, nitrogen fixation ability, photosynthetic efficiency and quality.
4. Root and Tuber Crops	High protein and starch, adaptibility, high yield, pest and diseases resistance, acceptable quality, photosynthetic efficiency under shade.
5. Vegetables	Specific adaptabilities to different growing environments, insect and disease resistance, medicinal properties of local vegetables, keeping and eating quality.
6. Chillies	Resistance to pest and diseases, specific adaptation to stress environments, quality.
7. Oil Crops	Oil content, yield, drought tolerance, pest and disease resistance.
8. Industrial Crops	Yield and adaptability
9. Fruit crops	Quality, keeping quality, resistance to pests and diseases etc.

Data 48. Plan for Research Activity of PGRC

● Tissue Culture

	Main Subjects	Activity
1st Stage (2 years)		* Perfection of cell tissue and organ culture technology for multiplication of crop species. * Perfection of methods for in vitro preservation (short term, medium term and long term) of tissue cultures, meristem tips etc.
2nd Stage (2 years)	TISSUE CULTURE (Cells, tissues & organs)	* Elimination of virus through meristem culture technology. * Development and utilization of in vitro culture technology for international exchange of germplasm (specially vegetatively propagated crops) under disease free conditions.
3rd Stage (2 years)		* Application of tissue culture technology for crop improvement. (through mutagenic sources, haploid technique etc.)

Data 49. Plan for Research Activity of PGRC

● Data & Information Recording and Processing

	Main Subjects	Activity
1st Stage (2 years)		All Data on germplasm stored in the Bank will be computerised. Data will also be recorded and stored in File Cards. Publication of Bulletins indicating important characteristics of germplasm stored in the Genebank for use by Breeders and other researchers.
2nd Stage (2 years)		(at all stages)
3rd Stage (2 years)		(at all stages)

Data 50. References

●References materials related to Agri-culture in Sri Lanka

(1) Agricultural Development Strategy	Writor or Publisher
1) Public Investment 1986-1990	National Planning Division Ministry of Finance and Planning, SRI LANKA May 1986
2) Public Investment 1984-1988	National Planning Division, Ministry of Finance and Planning, SRI LANKA May 1984
3) National Agriculture, Food and Nutrition Strategy 1984	National Planning Division, Ministry of Finance and Planning, SRI LANKA June 1984
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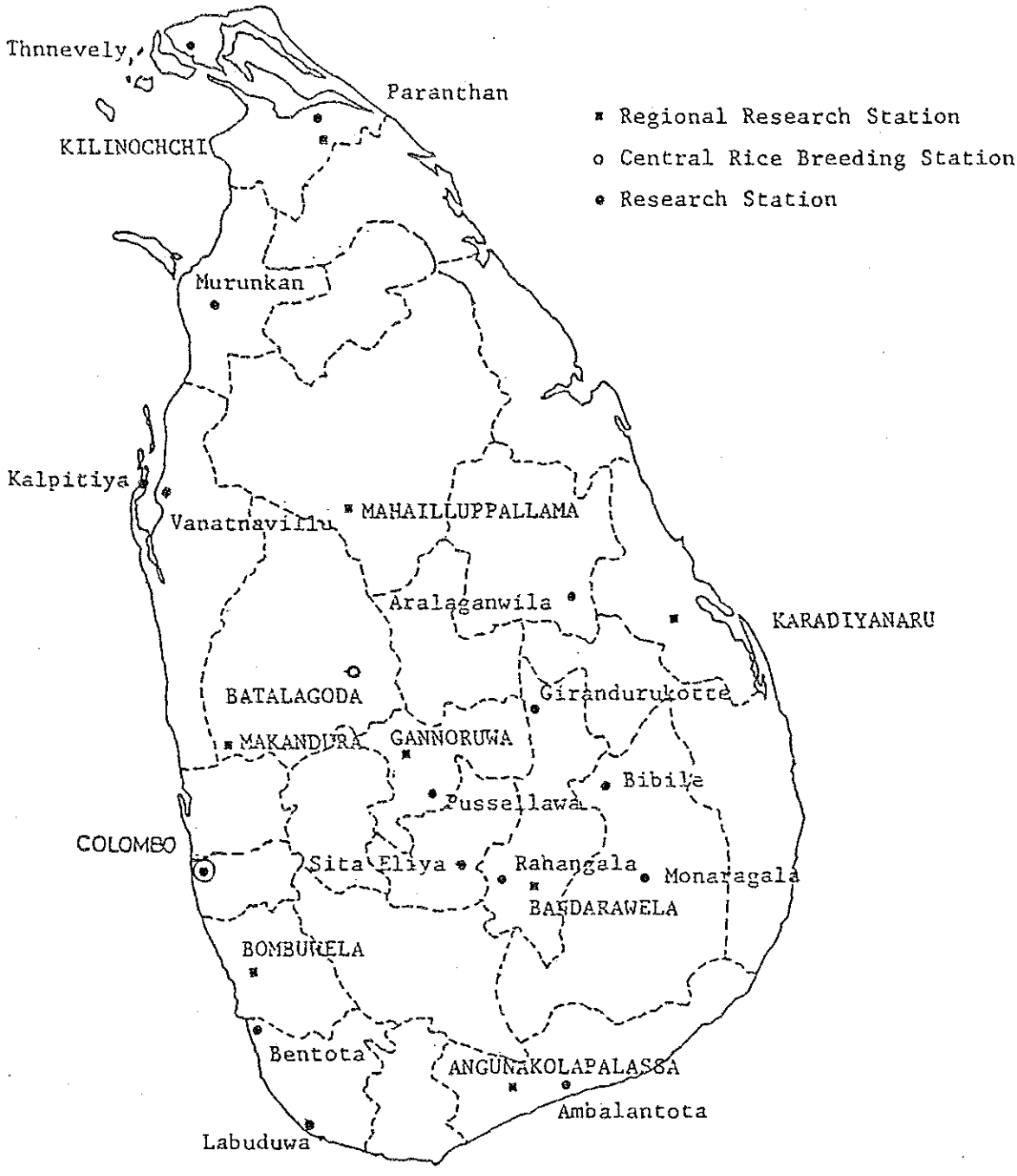
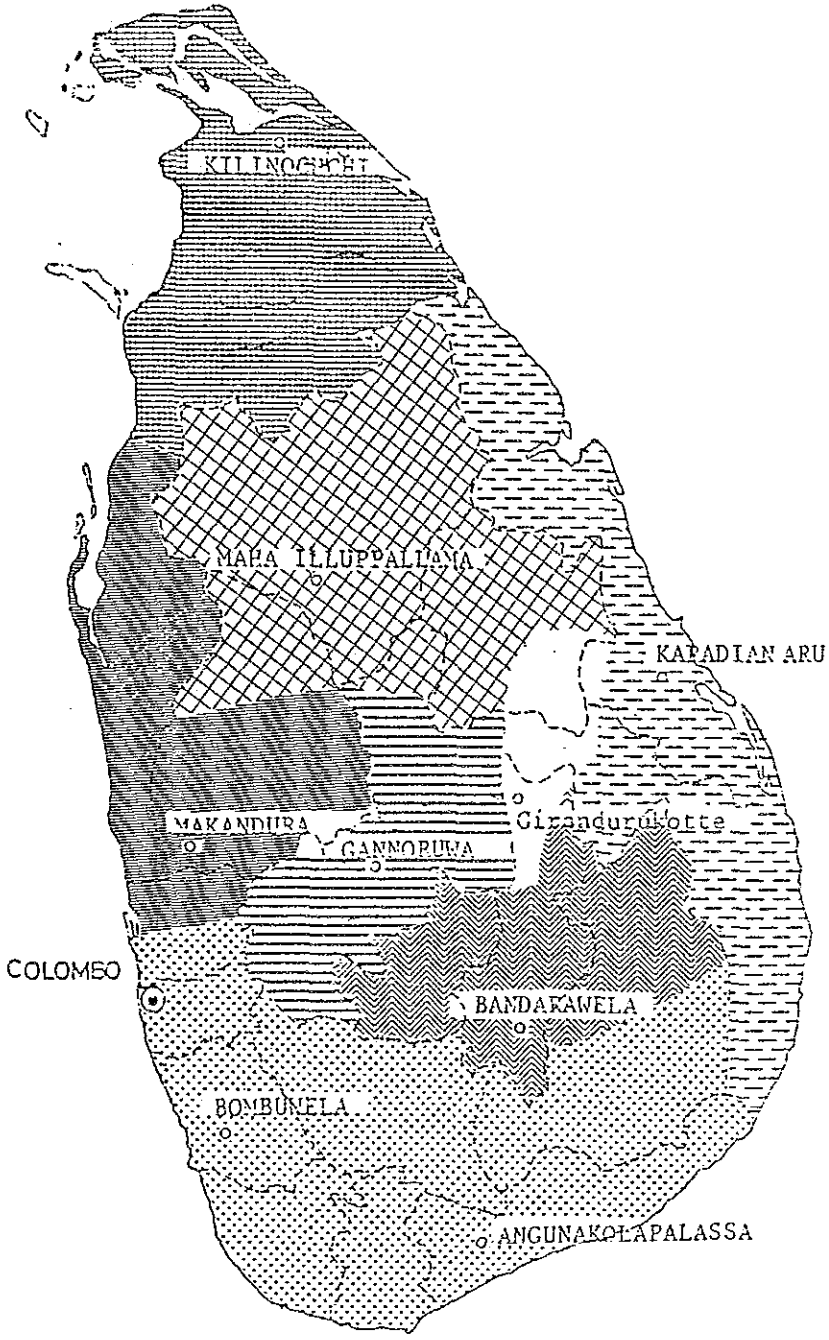


AGRICULTURAL RESEARCH STATIONS

DEPARTMENT OF AGRICULTURE

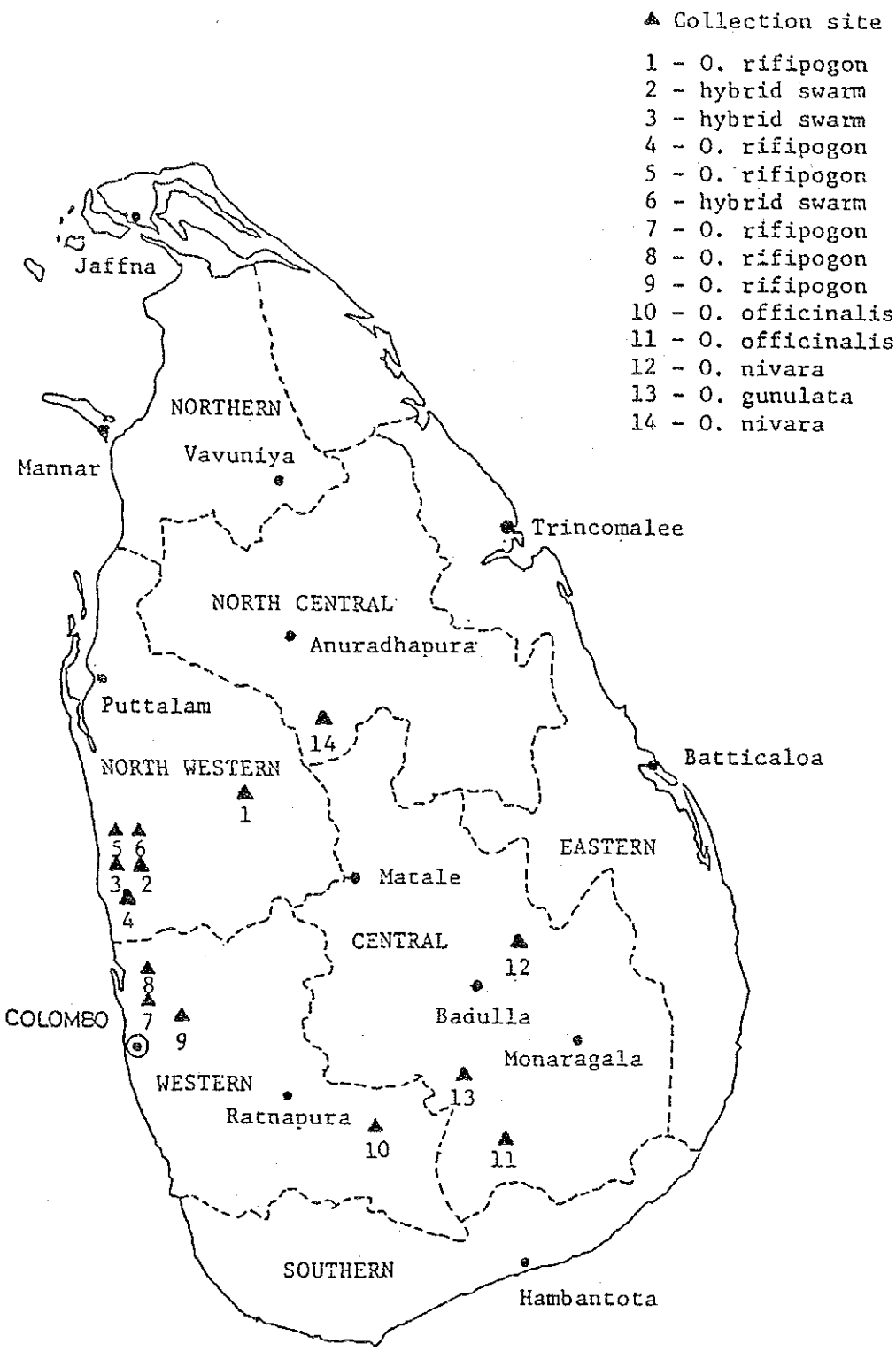
SRI LANKA

Data 52. Map showing nine regional research centres and their area of operation



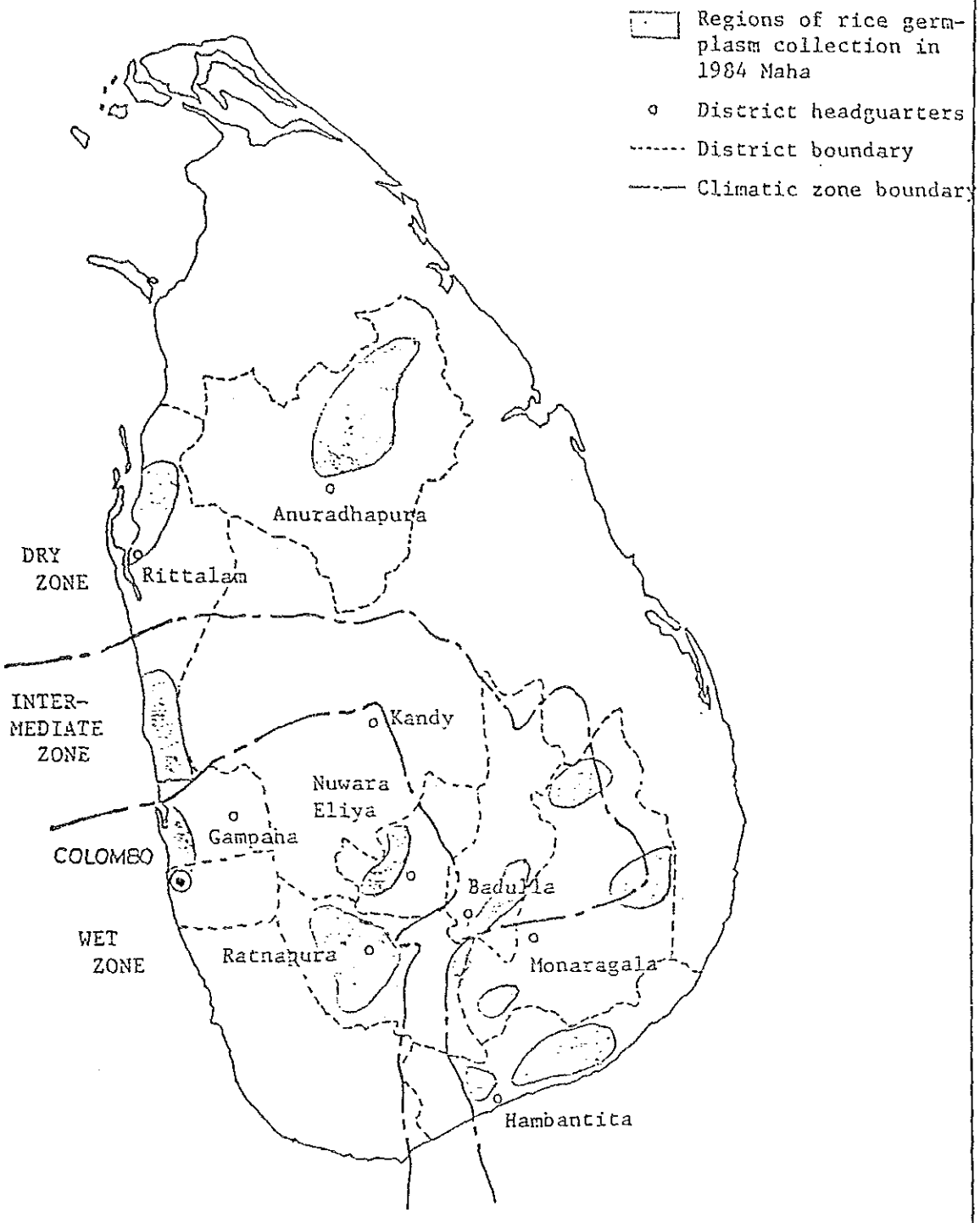
MAP SHOWING NINE REGIONAL RESEARCH CENTRES
AND THEIR AREA OF OPERATION

Data 53. Map of Sri Lanka showing collection sites of mild Oryza species during 1984 Maha



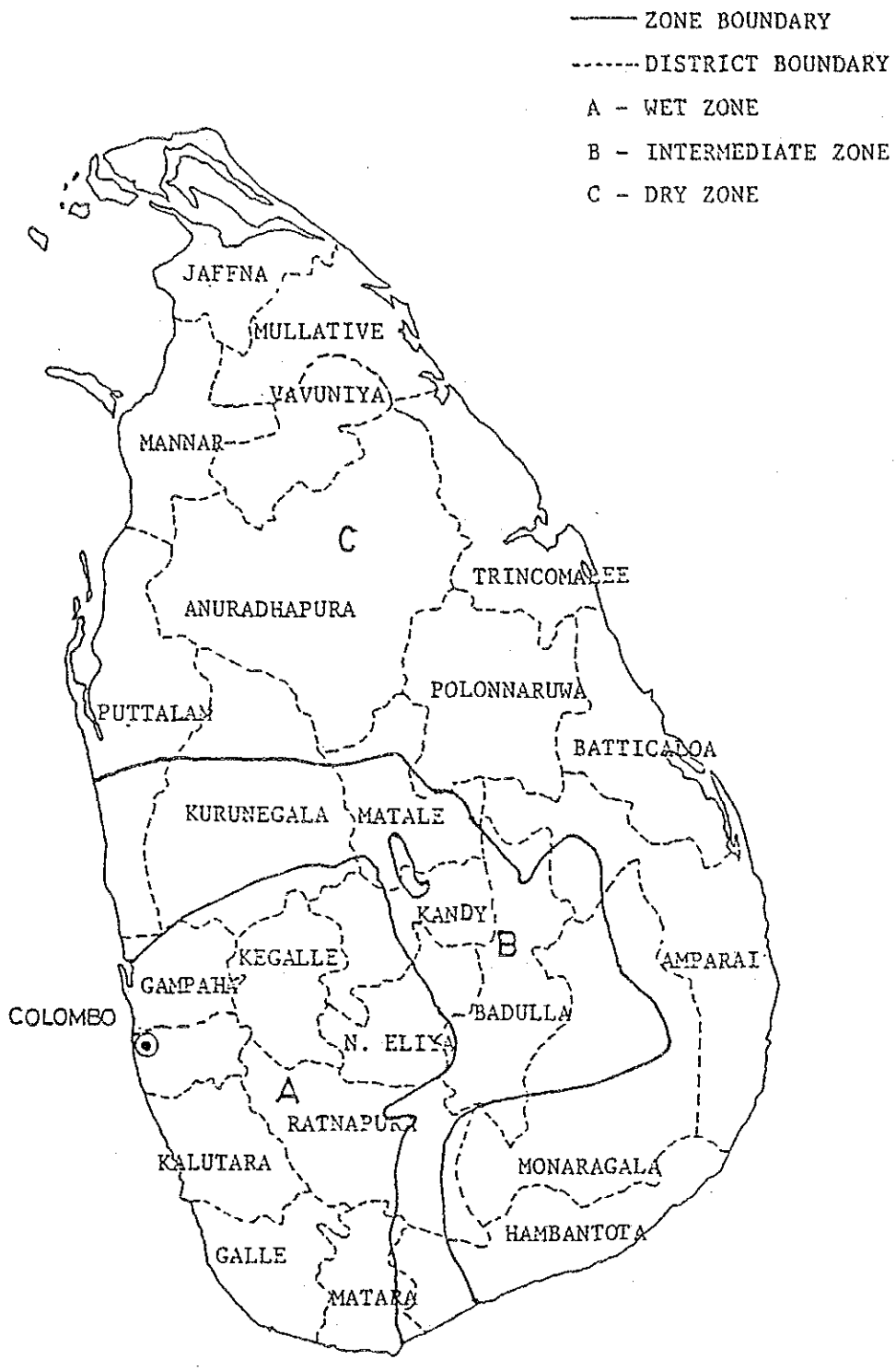
Map of Sri Lanka showing collection sites of wild Oryza species during 1984 Maha.

Data 54. Map of Sri Lanka showing areas of collection of traditional varieties during 1984 Maha



Map of Sri Lanka showing areas of collection of traditional varieties during 1984 Maha.

Data 55. Zonal and district boundaries of Sri Lanka



ZONAL AND DISTRICT BOUNDARIES OF SRI LANKA