2. Present Status and Problems on Human Resource Management and Development

2.1 Human Resources Situation at Present

The number of SLT staff in the year 1994 is 7516 and the number of DELs at the end of 1994 is 180,724 lines. Therefore, the Productivity (No. of staff/1000 DELs=7516/180.7) is 42 (41.59).

2.1.1 Situation before 1991 (SLTD)

According to the Ewbank Preece Ltd. report issued in June 1990, the number of staff/1000 DELs in 1986 was 94 and that in 1988 was 87 (9083 staff/104,197 DELs).

Ewbank Preece commented that the telecommunications equipment to be introduced in accordance with the long term plan up to the year 2005 will be solid state construction, which has a high degree of reliability. Also the polythene insulated, jelly filled, polythene sheathed underground cables that will be installed, have a much better fault reliability than the lead covered, paper insulated cables they are replacing.

Consequently, Ewbank Preece estimated the Productivity can be expected to rise to around 50 DELs per member of staff by the year 2005 (No. of staff/1000 DELs=17100/857 is 20). The forecasted productivity at the year 1990 is 40 (10000/250.7) and that in 1995 is 30 (11400/375.7).

Ewbank Preece recommended to apply following strategy to improve productivity:

a) Need training of Senior management, commercial accounting, marketing, financial management,
b) Need training of external workforce,
c) Use of casual staff is reduced as much as possible,
d) Telephonists should be trained as computer operators according to digitisation progress,
e) Introduction of PC and regional clerks can improve productivity,
f) External maintenance staff can improve productivity by increase of vehicles.

2.1.2 Situation in 1992-1993

SOFRECOM made an Operation and Maintenance study in 1992-1994. In December 1992, SOFRECOM issued a report regarding the present situation and made some guide lines. In the report the following comments were made:

"Actually , the over staffing compensates the weakness of the logistical aspects and support services as well. Assuming that in the field of O&M the evolution of the techniques will partially compensate for the growth of customers, from a staffing point of view, O&M staff may be slowly decreasing in quantity. thus, the skills of such staff will be developed.

The need for training and refresher training courses have been expressed, although people seems reluctant to attend at training courses, without the possibility to make attendance mandatory. The main reason appears to be the absence of facilities at the training centre. The up-dating of the training programme appears to be an urgent requirement. This does not assume the training policy should be defined.

The structure and contents could be modified later when the main objective is Quality of Service provided to the customer and the new services."

In the field of O&M, staff sizing may be assessed from world-wide standards, nevertheless the Sri Lankan custom.

Regarding the future manpower requirements, SOFRECOM made calculations based on two scenario:

a) The first scenario is built up, to show the nonsensical evolution, with the hypothesis that the fault ratio and the productivity ratio will not be improved. In this case the number of personnel should increase as the subscribers increase and reach the total number of Technical staff of 20,000 by year 2005 (assumed number of subscribers is 920,000). That clearly identifies the urgency to undertake action for reduce the number of faults.

b) The second scenario is built up reflecting a reasonable progress in terms of fault ratio and in term of productivity compatible with maintaining a constant number of operations staff. In this case the total staff must be kept near stable, while the executive upon workers' ratio will increase. The overload during the years 94 to

97 on new connections works can be absorbed by contracting some work in line constructions. Total number of Technical staff will be 4,500 in 2005 in this case.

SOFRECOM commented that the fault ratio [No. of faults/month/100 DELs] of 14 in 1992 (170 per year) and that of 2.5 in 2005 (30 per year)] would be obtained if the works in preventive maintenance and in rehabilitation would be properly carried out.

The actual fault ratio in 1994 was 26, it means that the preventive maintenance and rehabilitation were not carried out satisfactorily due to lack of outside plant technical staff.

2.1.3 Situation at Present

According to the SLT Manpower Plan Report issued in 1994, the Number of SLT staff per 1000 DELs is 42 as mentioned above.

Following Table shows aggregation of the above status:

Table 12-2-1 No. of SLT Staff per 1000 DELs

Item/Year	1991	1992	1993	1994
No. of DELs	125,834	135,504	157,774	180,724
No. of Staff	7,141	7,572	7,466	7,516
No. of Staff/1000 DEL	57	56	47	42

2.2 Staffing

(1) Improvement of Productivity

As seen in the Table 12-1-1 Improvement of Productivity in some Western European Countries and Table 12-1-2 Improvement of Productivity in Asian Countries, the values of productivity in the developed countries are 4 to 10/1000 DELs.

Considering the high pace of facilities expansions (No. of DELs will be reached to approximately 1.7 million lines in the year 2015 which is 9 times higher than that in 1994), replacement of obsolete facilities by new highly reliable facilities, high speed of technology evolution in the telecommunications sector, expected drastic decrease of cable faults by means of distribution network expansion by PE/JF cables and replacement of old paper insulated cables with PE/JF cables and replacement of obsolete overhead facilities, the

Productivity in the future will be greatly improved from the present value of 42 to the level which developed countries have been reached.

(2) Staff Structure by Categories

Telecommunications Common Carriers' staff are categorised as follows according to the definitions in the "Yearbook of Common Carrier Telecommunication Statistics" issued by ITU, 1993:

Operating Staff :

a) Setting up of telephone and telex calls and transmission and distribution of telegrams,
b) Answering requests for information in the switching exchanges (e.g. Directory assistance),
c) Auxiliary work directly related to the above tasks and performed by the same grade of staff (e.g. exchange clerical work performed by operating staff),
d) Supervisory duties.

Technical Staff :

a) Installation, upkeep, maintenance and repair of telecoms plant and lines.

Other Staff :

a) Management and Administration,
b) Research and Development,
c) Public relations,
d) Budgeting and accounting,
e) Other support functions.

Following Table shows breakdown of the SLT staff according to the above position category.

Table 12-2-2 SLT Staff Situation by Category in 1994

Category	Present No. of Staff	Rate
Operating Staff	**903**	**12 %**
1. Operating Staff	903	(12 %)
Technical Staff	**4,125**	**55 %**
2. Middle Level Technicians	925	(12 %)
3. Skilled Workmen	3,200	(43 %)
Other Staff	**2,488**	**33 %**
4. Managers	263	(3.5 %)
5. Administration Staff	31	(0.5 %)
6. Clerical and Allied	1,197	(16 %)
7. Unskilled Workmen	997	(13 %)
8. Total	**7,516**	**100 %**

As seen from the above Table, over a half of the SLT staff are the technical staff. On the other hand, the following Table shows the Telecom staff's structural rates among staff categories and the total number of staff in some developed countries, i.e., Australia, Denmark, Spain, Norway, U.K., Sweden and Switzerland:

Table 12-2-3 No. of Telecom Staff in Developed Countries

Unit: x1000

Country	Main Telephone Lines					Total Staff (Ratio:Staff/1000MTL)					Operating Staff (Ratio:Op/Totalx100)					Technical Staff (Ratio:Tech/Totalx100)					Other Staff (Ratio:Othr/Totalx100)				
	1983	1985	1987	1989	1991	1983	1985	1987	1989	1991	1983	1985	1987	1989	1991	1983	1985	1987	1989	1991	1983	1985	1987	1989	1991
Australia	5720	6361	6965	7603	8046	89	92	93	88	79	8	8	7	7		51	47	46	44		30	37	40	37	
(Ratio)						16	14	13	12	10	9	9	7	8		57	51	50	50		33	41	43	42	
Denmark	2403	2543	2711	2848	2972			19	18				2	2				8	8				8	8	
(Ratio)								7	6				11	11				42	44				42	44	
Spain	8457	9340	10240	11800	13264	72	72	63	71	76	18	17	12	6	6	33	34	38	45	47	20	21	14	21	22
(Ratio)						8	8	6	6	6	26	23	18	8	8	46	48	60	63	62	28	29	22	29	30
Norway	1554	1758	1949	2070	2198	18	17	18	16	15	2	2	1	1	1	9	9	9	8	6	7	7	8	8	7
(Ratio)						12	10	9	8	7	12	9	8	7	7	51	51	48	46	43	37	41	45	47	49
U.K.	20190	21650	22770	24910	25595	242	227	237	246	211	34	30				110	106				97	91			
(Ratio)						12	10	10	10	8	14	13				46	47				40	40			
Sweden	5017	5242	5481	5716	5948	40	42	43	42	39	4	4	4	3	3			23	22	22			17	17	14
(Ratio)						8	8	8	7	7	9	8	8	8	8			54	53	57			38	39	35
Switzerland	3095	3277	3500	3785	4082	18	18	19	21	22	3	3	3	3	4	9	10	10	12	12	5	5	6	6	5
(Ratio)						6	6	5	5	5	18	17	18	16	18	53	53	53	57	56	29	30	29	26	25

Note : 1. Operating staff : Setting up of telephone and telex calls and transmission and distribution of telegrams,
Answering requests for information in the switching exchanges (e.g. directory assistance),
Auxiliary work directly related to the above tasks and performed by the same grade of staff (e.g. exchange clerical work performed by operating staff),
Supervisory duties.

2. Technical staff : Installation, upkeep, maintenance and repair of telecoms plant and lines.

3. Other staff : Management and administration,
Research and development,
Public relations,
Budgeting and accounting,
Other support functions.

Note : 4. Data extracted from "World Telecom Visual Data" issued by New Japan ITU Association, "Asia-Pacific Telecommunication Indicators" issued by ITU May 1993,
"Yearbook of Common Carrier Telecommunication Statistics" issued by ITU 1993.

(3) Expected Staff Structure by Categories

According to the foregoing data, the structural rates between the number of each staff category and total number of staff in the developed countries are summarised below:

Rate of Operating staff to Total staff : 7 - 8%
Rate of Technical staff to Total staff : 40 - 60%
Rate of Other staff to Total staff : 25 - 50%

At present, the rates of staff structure in SLT consist of 12% of Operating staff, 55% of Technical staff and 33% of Other staff.

a) SLT's Operating Staff:

Regarding the Operating Staff, the number of staff may not be so largely decreased because of a large number of new subscriber connections (No. of DELs will become 1663,000 in 2015 which is 9 times higher than No. of DELs 181,000 in 1994) and still rather low rate of penetrations of 7.73% in 2015 in spite of the development of digitisation of the switching system, i.e., 100% of the existing exchanges will be automatised by digital system up to the year 2000.
Operator services are International telephone booking service, Local and Trunk bookings, Directory enquiries, Faults reports, Priority service, Time announces, etc. These operator services will be concentrated to Colombo (No. of operating staff in Colombo in 1994 is 176), and other TSCs.
Phonogram service, booking, receiving, transmitting services will be remaining but the handling volume will not be increased (No. of operating staff in Colombo in 1994 is 163).
Therefore, the present rate of 12% of Operating staff is expected to be gradually decreased and to be reached to the level of the developed countries i.e., 7%, at the time of year 2015.

b) SLT's Technical Staff:

Regarding the Technical staff, present rate of 55% will be increased considering the importance of having necessary number of technical staff because of the SLT's features of Hi-Tech oriented company. Importance is to upgrade the capabilities of the Technical staff.

Absolute number of technical staff for the faults repairing will not be so much increased because of the sharp decrease of faults rates of telecommunications facilities, especially in the field of outside plant, in spite of a large increase of the quantity of telecommunications facilities.

Number of faults/month in 1994 was 47,000 (26 of faults/month/100 DELs) and the expected number of faults/month in 2015 will be 88,000 (5 of faults/month/100 DELs) according to the operation and maintenance target. In spite of the facilities increase by 9 times, increase of the number of faults will be only 1.9 times. Considering the decrease of the rate of technicians per facility in switching and transmission fields and small rate of the absolute increase of faults, mostly in outside plant parts, the increase of technicians through the years from 1994 to 2015 will be limited to less than the double.

If a portion of the relevant work is transferred to and carried out by outside organisations, it will be possible for SLT to suppress the rate of increase of the number of technical staff.

c) SLT's Other Staff:

The present rate of 33% for the Other Staff needs to be decreased gradually till 2015 by the following ways.

- Keeping the number of Managers and Administration Staff at the present level through the rationalisation of SLT's organisation,
- Minimising the increase of the number of Clerical & Allied Staff and Unskilled workmen or even keep it at the present level if possible by transferring a considerable portion of the relevant work to outside organisations as well as through the rationalisation of SLT's organisation and working system like introduction of the Office Automation system.

Further it will be necessary for SLT to transfer a certain number of the Other Staff to such important divisions as Marketing and Customers Services in order to strengthen the functions of these divisions.

(4) Expected Number of Technical Staff by Specialities

Staffing study of the required number of technical staff in SLT for each speciality, i.e., switching, transmission, power/air-conditioning and outside plant, are made and also the number of technicians and skilled workers are broken down based on the following conditions:

a) Switching and transmission systems are fully digitised up to the year 2000 according to the foregoing expansion plan.
Operation and maintenance of future new services will be done by the same technical staff by receiving various trainings.

b) A number of Attendant exchanges in each SSC in regional areas will be limited to one (1) in order to minimise the number of maintenance staff by concentrating maintenance staff at SSC and to increase mobilisation efficiency.
Other main exchanges and RSUs will be Non-attendant exchanges.

c) A number of Attendant exchanges in Colombo SSC area will be nine (9) up to the year 2009 and after that eight (8).
Ratmalana exchange will become Non-attendant exchange in the year 2010.

d) Maintenance staff of switching, transmission, power and outside plant are stationing at Attendant exchange and not stationing at Non-attendant exchanges.
Each SSC area will be the one (1) maintenance area except Colombo area.
Colombo maintenance area is divided into Attendant exchanges/RTEE.

e) Network management system will be provided in each TSC up to the year 2000.

f) Number of faults of digital switching and transmission systems will become minimum level and the faults will be recovered by mostly replacing the faulty cards.

g) Site inspection schedule to Non-attendant exchanges and wireless loop systems/digital radio multi-access subscriber systems will be once/week ~ once/month according to the status of the facilities.

h) Outside plant faults rates are being decreased according to Target faults rates, at the years 2000, 2005, 2010 and 2015, described in the Chapter 11 "Operation and Maintenance Plan".

i) Repair of underground or overhead parts are assumed to be completed within one (1) day.
Present status of clearance rate of average 55% within 24 hours (more than 1 day time of repair period) are expected to be improved to 1 day completion.

j) New connections should be carried out by private contractors.
SLT should assign supervisors/inspectors for their works, assumed 1 supervisor for 10 connections/day.

Number of DELs, Attendant (main) exchanges, Non-attendant exchanges/stations (Main exchange, RSU, WILL, DRMASS), Cables & Subscribers line faults and New connections by SSC area basis for each 5 year periods (2000, 2005, 2010 and 2015) are shown in the attached Annex, Table A-12-1 No. of DELs, Exchanges and Faults by SSC Area. Following Table is a summary of the above:

Table 12-2-4 No. of DELs, Exchanges and Faults by SSC Area, Summary

SSC	Item	2000	2005	2010	2015
Colombo	No. of DELs	379,988	567,180	768,617	979,929
(1 SSC)	Attendant (Main)	9	9	8	8
	Non-attend (Main)	9	16	17	21
	Non-attend (RSU)	14	7	7	3
	Non-attend (WILL, DRM)	0	0	0	0
	No. of Cable faults/year	58,680	63,090	61,335	56,097
	No.of Sub.line faults/year	541,160	581,830	565,645	517,339
	No. of new connection	42,659	37,438	40,287	42,262
Other SSCs	No. of DELs	287,012	411,356	542,178	683,244
(27 SSCs)	Attendant (Main)	27	27	27	27
	Non-attend (Main)	81	81	81	81
	Non-attend (RSU)	248	248	248	248
	Non-attend (WILL,DRM)	43	43	43	43
	No. of Cable faults/year	44,307	45,792	43,254	39,141
	No.of Sub.line faults/year	408,609	422,304	398,898	360,967
	No.of new connection	38,391	24,869	26,165	28,214
Total	No. of DELs	*667,000	978,536	1,310,795	1,663,173
	Attendant (Main)	36	36	35	35
	Non-attend (Main)	90	97	98	102
	Non-attend (RSU)	262	255	255	251
	Non-attend (WILL,DRM)	43	43	43	43
	No.of Cable faults/year	102,987	108,882	104,589	95,238
	No.of Sub.line faults/year	949,769	1,004,134	964,543	878,306
	No.of new connection	81,050	62,307	66,452	70,476

Note *: This figure is different from the No. of demand 676,345 in the year 2000 because some waiting applicants have still been remaining, they will be connected in the year 2001.

Number of technical staff by specialities, i.e., switching, transmission, power & air-conditioning, outside plant, broken down by technicians and skilled workers, for each SSC area basis and for each 5 year periods (2000, 2005, 2010 and 2015) are shown in the Supporting Document. Following Table is a summary of the above:

Table 12-2-5 No. of Technical Staff by Specialities & by SSC Area

SSC	Item	2000	2005	2010	2015
Colombo	SW Technician	59	77	95	115
(1 SSC)	SW Skilled worker	53	70	89	110
	TR Technician	40	49	58	67
	TR Skilled worker	31	40	48	59
	Power Technician	11	11	10	10
	Power Skilled worker	12	12	11	11
	OSP Technician	612	775	922	1063
	OSP Skilled worker	1,960	2,230	2,337	2,354
	Sub-total	2,778	3,264	3,570	3,789
Other SSCs	SW Technician	120	128	142	159
(27 SSCs)	SW Skilled worker	166	174	190	202
	TR Technician	116	123	137	151
	TR Skilled worker	90	94	99	109
	Power Technician	54	54	54	54
	Power Skilled worker	81	81	81	81
	OSP Technician	541	637	730	816
	OSP Skilled worker	1,507	1,643	1,673	1,665
	Sub-total	2,611	2,867	3,026	3,153
Total	Technician total	1,539	1,838	2,121	2,402
(28 SSCs)	Skilled worker total	3,850	4,293	4,475	4,540
	Total	5,389	6,131	6,596	6,942

(5) Staffing Plan according to the Categories

Accordingly, the number of staff of each category in the future should be as shown in the Table below:

Table 12-2-6 Staffing Plan Breakdown to Each Category

Staff Category	1994	1995	2000	2005	2010	2015
Operating staff	903	910	890	860	830	820
(Ope/Ttl x 100)	12	12	10	9	8	7
Technical staff	4,125	4,249	5,390	6,130	6,600	6,940
(Tec/Ttl x 100)	55	55	58	61	63	64
Other staff	2,488	2,541	2,920	3,010	3,070	3,140
(Oth/Ttl x 100)	33	33	32	30	30	29
Total staff	7,516	7,700	9,200	10,000	10,500	10,900
Rate	100	100	100	100	100	100
Staff Ratio	**100**	**102**	**122**	**133**	**140**	**145**
No.of DELs (x1000)	181	237	667	979	1,311	1,663
DEL Ratio	**100**	**131**	**342**	**541**	**725**	**920**
Contractors' work, No.of connection/day	100	224	360	252	248	308
Contractors' No.of workers	500	1,120	1,800	1,260	1,240	1,540

(6) Staffing Plan and the Productivity

As shown in the above Table, the target productivity for each 5 year period up to the year 2015 are calculated as shown in the following Table:

Table 12-2-7 Long Term Staffing Plan and the Productivity

Item	1994	1995	2000	2005	2010	2015
No.of DELs (x1000)	181	237	667	979	1,311	1,663
No.of Staff /1000 DELs	42	33	14	10	8	7
No.of Staff Total	7,516	7,700	9,200	10,000	10,500	10,900

Accordingly, it is recommended to improve the productivity continuously, target values of the productivity are started from 42 staff/1000 DELs at the year 1994 toward 7 staff/1000 DELs at the year 2015.

(7) Reference to Detailed Staffing Planning

In preparation of detailed staffing planning, SLT is recommended to study actually required number of staff sub-divided by each Speciality (i.e., Switching, Transmission, Power & Air-conditioning, Outside plant, Other fields, Common area), Level classification, and the number of staff in each SSC/RTE area.

In case of switching and transmission equipment maintenance, the number of technical staff stationing in each telephone exchange and terminal/repeater station will be varied according to the switching and transmission system capacities, type/model of the equipment, number of Non attendant exchanges(Main and RSUs)/transmission stations in the same maintenance area, fault rate of the equipment, maintenance items, SLT organisational classification, required shifting system, environment and location, availability of transport, etc.

In case of outside plant maintenance, the number of technical staff stationing in a maintenance centre will be varied according to the maintenance items, number of faults per day, number of new concoctions per day, amount of small scale projects, repairing productivity including skills of staff, environment/dimension of the maintenance area, availability of transports, availability of machines, road traffic conditions, SLT organisational classification, etc.

Items to be studied for the technical staff manpower planning are as follows:

a) Staff level classification

Necessary human resources have to be classified into categories:

- Level 1 : Professional engineers
- Level 2 : Engineers, Graduate entry
- Level 3 : Technicians
- Level 4 : Skilled workers
- Level 5 : Unskilled workers

b) Specialities identification

Technical staff are identified into following categories:

- Telecommunications,
- Switching, Digital, Analogue, Data network, New services (B-ISDN, IN, etc.)
- Transmission, Digital, Analogue,
- Satellite transmission,
- Outside Plant, Optical fibre cables, Trunk cables, Local cables,
- Telex, Telegram,
- Power plant and air-conditioning,
- Others.

c) Workload Indicators

Workload indicators have to be defined.

Following indicators may be accepted to apply:

- Telecommunications:	No. of subscribers,
- Switching, Digital, Analogue, etc. :	No. of Attendant exchanges, Non-attendant exchanges, exchange capacities/No. of DELs,
- Transmission, Digital, Analogue:	No. of channels, No. of stations, No. of 2 Mbps channels,
- Satellite transmission:	No. of channels,
- Outside Plant, Optical fibre cables, Trunk cables, Local cables:	No. of subscribers, cable length, No. of faults,
- Telex, Telegram:	Exchange capacity,
- Power plant and air-conditioning:	Allocation separately,

d) Clarification of present status, No. of Staff & Size of each exchange/station

Present status have to be surveyed and evaluated and may find some features at each station. The evaluation of present staff situations based on the intended productivity may be able to obtain useful data for future arrangement.

e) Establishment of future staffing standard
Based on the above evaluation, calculation method of the future staffing standard will be established. Accordingly, SSC by SSC or RTE by RTE future staffing calculation can be made.

It is considered that the present SSC/RTE maintenance area size is appropriate as one maintenance area in general. However, clarification on the area by area may be needed.

Average dimension of one SSC/RTE area is about 45km x 45km square or 25km radius circle (66,000 km^2 of Sri Lanka area size/33RTEE=2,000 km^2/RTE).

(8) Reference to Staffing Standard

As for reference, ITU expert made a Report in April, 1994, regarding setting up of Technical staff manpower standards for digital switching and transmission equipment which equipment are being used in the SLT network.

Followings are the reference staffing standards according to the ITU report:

a) Levels/Categories of Staff

Engineers,	DIT,	IPT,	Workers -	Supervisors/Minor Supervisors	
				E-Grade	Skilled
				M-Grade	Semi skilled
				N-	Unskilled

b) Operating Switching Equipment
E10B, OCB 283, 5ESS, NEAX-61, DX210/220, MILT64

Following Table shows the Staffing Standards for digital switching equipment.

Table 12-2-8 Reference Staffing Standard for Switching

Item	Capacity	Engineer	DIT	IPT	Worker
Small Ex.	up to 500 Lines	-	-	1	1
Small Ex.	500 - 2,000	-	-	1	2
Medium Ex.	2,000 - 5,000	-	1	2	1
Additional	+RSUs	-	-	-	+1
Large Ex.	5,000-10,000	1	2	5	5
Additional	<25,000	+1	-	-	-
Additional	for every +10,000	-	+1 (max. 5)	+1	-
Tandem Ex.	LS Cap. x 1.25	-	-	-	-

c) Transmission equipment

Multi-access rural radio system, PCM system working on cable, Digital radio system, Digital optical fibre system and Satellite system.

Table 12-2-9 Reference Staffing Standard for Transmission-1

Item	Capacity	Engineer	DIT	IPT	Worker
DRAMASS	1 base station	-	-	1	1
PCM station	5 - 15 PCM system	-	-	1	1 for 2 st.
	16 - 20	-	-	1	1
	21 - 40	-	-	2	1
	41 - 70	-	-	3	1
	71 - 100	-	-	4	1
	101 - 110	-	-	4	2
	111 - 150	-	-	5	2
	151 - 200	-	-	6	2
	beyond 200	-	-	7	3

Table 12-2-9 Reference Staffing Standard for Transmission-2

Item	Capacity	Engineer	DIT	IPT	Worker
Digital Radio	up to 4 terminals	-	-	1	1
	1+1 system	-	-	3	1
	Add 1 radio ch.	-	-	+1	-
	For 1st 20 PCM	-	-	1	1
	Add 20 PCM sys.	-	-	+1	-
	up to 6 work sys.	-	1	-	-
	Add 6 work sys.	-	+1	-	+1
	4 repeater/200 km	-	1	1	1 driver
	1,000 km	1	-	-	-

Table 12-2-9 Reference Staffing Standard for Transmission-3

Item	Capacity	Engineer	DIT	IPT	Worker
Optical Fibre					
120 ch (4x2Mbps)	for each station	-	-	-	1
1,920 ch (64x2Mbps)	for each station	-	-	1	1
more than 1,920 ch	for every additional 960 ch	-	-	+1	-
	for every 32 nos.of 2Mbps ports work	-	-	+1	-
	for every station	-	-	-	+2
	for every drop st.	-	1	-	-
	for every terminal	-	1	-	-
	for every 200 km	-	-	2	1 splicer
Satellite	for every station	1	2	5	3

2.3 Present Status of Human Resources

As described in the former Chapter 11 "Operation and Maintenance Plan", the following items should be reminded:

a) Shortage of staff in some RTEs,
b) Not enough utilisation of trained SLT staff,
c) Effective utilisation of vehicles,
d) Salary level.

Following description is a suggestion to the above items a) shortage of staff in some RTEs and b) Not enough utilisation of trained SLT staff.

GMM of Outside plant, Switching and Transmission systems will assist GM Human Resources in making technical staff assignment/arrangement at each exchange office/station. Because without assistance by managers of technical positions, it will be rather difficult to select really appropriate staff to fit with the characteristic workloads required for the position. Database of each trained technical staff should be delivered to the GMM Technical Managers whenever they have been assigned to new work place.

Request for assignment of new staff and Information of vacant positions will be issued by RTEE for external plant concerned and Region Engineers for switching and transmission systems. GM Human Resources will consult with GMM Technical Managers whenever the new Requests received from RTEE and Engineers.

GMM Technical Managers will know what kind of job is required on the proposed position and requirements to the staff to be assigned, i.e., knowledge, experience, career and capability. Appropriate capable staff will be found from the Database. Inquiry will be sent to RTE/Engineer who hold the proposed staff about the possibility to pick him up.

Based on the above information provided by GMM Technical Managers, GM Human Resources will issue new assignment to the competent staff.

For assignment of new position to a staff, personal reasons/particular individual and family conditions will not be taken into consideration in general. Prior to the official issue of the assignment, however, listening of such conditions on unofficial basis is advisable.

2.4 Training

Telecommunication is a speciality with few parallels in industry, and is an area of fast changing technology. It cannot, therefore, tap normal manpower sources for managing its services, installation, maintenance and operation of very diverse types of equipment. The training pattern has to be specially tailored to meet these inventions and their implementation is ever decreasing, as a result of which, a large re-training effort, to up-date the knowledge and skills is required.

2.4.1 Training Centres

There are at present two main Telecommunications Training Centres at Welisara and Moratuwa, and three Regional Training Centres at Galle, Peradeniya and Anuradhapura.

(1) Welisara Telecom Training Centre

Welisara Telecom Training Centre conducts training courses on Switching, Radio and Transmission, Power & Air Conditioning, Instrumentation and Management & Computer.

Welisara Training Centre is provided with the following demonstration equipment:

- OCB 283 training switching equipment (latest version of E10B),
- NEAX-61 K training switching equipment,
- DX 200 training switching equipment,
- Transmission equipment (Analogue and Digital systems),
- Testing Equipment (mainly analogue type),
- Personal Computers.

Hostel, canteen and restaurant facilities are provided in Welisara Training Centre.

(2) Moratuwa Telecom Training Centre

Moratuwa Telecom Training Centre conducts training courses on Outside Plant, Subscriber Apparatus and Management.

Moratuwa Training Centre is provided with the following demonstration facilities:

- Optical fibre cable jointing, splicing and testing facilities,

- Polythene cable with/without Jelly filled jointing and splicing,
- Paper insulated lead sheathed cable jointing and splicing,
- Overhead line structures,
- Telephone instrument.

Hostel facility is not provided at Moratuwa Training Centre.

(3) Regional Telecom Training Centres

The Regional Training Centres conduct training courses on External Plant and Subscriber Apparatus and basic courses on Electronics and Telecommunication Power Systems.

Regional Training Centre is provided with the following demonstration facilities:

- Polythene cable with/without Jelly filled jointing and splicing,
- Paper insulated lead sheathed cable jointing and splicing,
- Overhead line structures,
- Telephone instrument.

Application for Training can be made/received by following three organisations:

- RTEs/Sectional Engineers,
- DGMs,
- Supervising Officer/Staff Officer.

Nominations are made by DGMs according to the priority. A few applications for training from External Agencies are accepted each year.

2.4.2 Performed Number of Trainees in 1994

Reported number of trainees in each Training Centres are as follows:

Table 12-2-10 Performed No. of Trainees in 1994(Domestic Training)

DGM/TRD Div.*	No. of Trainees Achieved	No. of Trainees Target	Trainee Weeks Achieved	Trainee Weeks Target
TTC/Welisara				
Switching	303	280	559	530
Transmission	362	414	601	816
Power & Air-con.	212	311	420	529
Instrumentation	88	217	109	283
Management	210	250	264	101
Computer	183	254	181	274
Welisara Total	1,358	1,726	2,134	2,733
TTC/Moratuwa	782	1,282	1,544	2,496
RTTC/Galle	234	470	398	917
RTTC/Peradeniya	245	440	376	705
RTTC/Anuradhapura	236	408	364	586
Total	2,855	4,326	4,816	7,237
Achieved/Target	66%	100%	66%	100%
Welisara/External Trainees	175		342	

*TRD Div. : Training Research and Development Division.

Table 12-2-11 Performed Foreign Training in 1994

Field	No. of Participant	Trainee Days
TRAINING & FACTORY INSPECTION		
Coin Box Telephones	Nil	Nil
Power & Air-conditioning	21	320
International Transmission	4	86
Management Development	5	148
Computer & Civil	6	52
Cables & Local Line Plant	105	1,294
Customer Services & Training	1	18
Data Communication	5	140
General Telecommunication Engineering	11	509
Network Management/Traffic & Switching	32	1,077
Transmission	104	3,548
SEMINAR/WORKSHOP/STUDY TOURS & CONFERENCES		
Network Management/Traffic & Switching	3	49
Management Development & Customer Services	6	54
International Transmission	6	48
Computer & Transmission	1	4
General Telecommunication Engineering	13	107
Total	323	7,454

2.4.3 Training Programme in 1995

Training Programme in January to June 1995 is shown in the below Tables (TTC/Welisara, TTC/Moratuwa, RTC/Peradeniya, Galle and Anuradhapura).

Table 12-2-12 Training Programme (January - June 1995), TTC/Welisara (1/2)

Course Title	Duration	Course Title	Duration
Computer Division			
Computer Programming Common Module	1 week	Disk Operating System	1 week
MS-DOS Advance	1	LOTUS 123	1
Introduction of Foxpro 2	1	C Programming Module I	1
C Programming Module II	1	Auto Cad	1
LOTUS 123 Basic (External)	2		
		Total	**10 weeks**
Instrumentation Division			
Digital Techniques	2 weeks	Electronic Instrumentation	1 week
Digital Instrumentation	1	Fundamentals of Microprocessor	1
Basic Electronics Module I	1	Basic Amplifiers	1
Introduction to Oscilloscope	1		
		Total	**8 weeks**
Management Division			
Team Working	1 day	Public Relations	1 day
Management Development for Middle Level Managers	1	Management	1
Budgeting	1	Investment Appraisal	1
Investment Priorities & Decision Making	1	Management Information System	1
New Technology	3	Marketing	1
Seminar on Current Procedures in SLT	3	Supervisory Skills	3
Accounting Practices	4	Stores Accounting	4
		Total	**26 days**
Power & Air-Conditioning Div.			
Induction Programme New Recruit	4 weeks	Basic DC Telecom Power System	2 weeks
Introduction to Telecom Power System	2	Elementary Air conditioning I & II	4
Electrical Wiring & Installation	2	Electrical Installation & Design	2
Diesel Engineer Maintenance	1		
		Total	**17 weeks**

Table 12-2-12 Training Programme (January - June 1995), TTC/Welisara (2/2)

Course Title	Duration	Course Title	Duration
Radio & Transmission Division			
Induction Training	3 weeks	Modern Electronic Components	2 weeks
Fundamentals of Transmission	2	Radio Techniques	2
PCM I & II	3	Digital Radio System	2
Fundamentals of Microwave Components	1	Digital MW Link Measurements	1
Multi Access Radio System	2	Data Communication	1
Basic Electronics	1	Technical Training for Service Personnel	1
		Total	**20 weeks**
Switching Division			
Induction Training for New Recruits	4 weeks	E-10B Basic	3 weeks
Introduction to OCB 283	1	OCB 283 Operation & Maintenance	2
C23SE Cross-bar Switching System	2	NEAX-61K Switching System	3
NEAX Office Data Modification	2	NEAX Remote Switching Unit	2
NOKIA DX-200 Switching System	2	Technical Training for Service Personnel	1
		Total	**22 weeks**

Table 12-2-13 Training Programme (January - June 1995), TTC/Moratuwa (1/2)

Course Title	Duration	Course Title	Duration
External Plant Division			
Overhead Construction	4 weeks	Basic Course in External Plant	2 weeks
Lead Cable Jointing & Plumbing	1	Polythene Cable Jointing	2
Coaxial Cable Jointing	1	UG Cables	2
Cable Jointing & Closure Techniques	2	Introduction to Optical Fibre	4
Cable Fault Location	2		
		Total	**20 weeks**
Subscriber Apparatus Division			
Basic Telephone Maintenance	7 weeks	Introduction to Electronic Components	1
Maintenance of Telephones	6	Logic Circuits in Tel. Instruments	1
PMBX Maintenance	3	Induction Training for new Recruits	4
		Total	**22 weeks**

Table 12-2-13 Training Programme (January - June 1995), TTC/Moratuwa (2/2)

Course Title	Duration	Course Title	Duration
NAITA Craft Apprentices			
Basic Telephone Maintenance	3 weeks	Telephone & Switching Board Maintenance	5 weeks
Overhead Construction	3	Cable Jointing & Construction	2
		Total	**13 weeks**

Table 12-2-14 Training Programme (January - June 1995), RTC/Peradeniya, Galle & Anuradhapura (1/2)

Course Title	Peradeniya Duration	Galle Duration	Anuradhapura Duration
External Plant & Subscriber Apparatus Div.			
Overhead Construction	3 weeks	1 week	3 weeks
Telephone Maintenance	10	8	8
DC Power	2	2	-
Electronics	2	-	-
Polythene Cable Jointing	2	2	2
Basic/UG Cables	1	1	1
Introduction to Electronic Components	1	1	1
Fault Location	2	-	2
Circuit Theory	2	2	-
Electrical Wiring & Installation	-	2	-
NEAX-61 Rectifier & Battery Maintenance	2	-	-
PMBX Maintenance	-	2	-
Total	**27 weeks**	**21 weeks**	**17 weeks**

Table 12-2-14 Training Programme (January - June 1995), RTC/Peradeniya, Galle & Anuradhapura(2/2)

Course Title	Peradeniya Duration	Galle Duration	Anuradhapura Duration
NAITA Craft Apprentices			
Telephone & Switch Board Maintenance	4 weeks	7 weeks	6 weeks
Overhead Line Construction	-	2	-
Cable Jointing & Construction	-	2	-
Telephone Maintenance	-	-	3
Introduction to Electronic Telephones	1	-	-
Electronics	2	-	-
Total	**7 weeks**	**11 weeks**	**9 weeks**

2.4.4 Training Problems before 1993

(1) Ewbank Preece Report issued in June 1990

At the time of Sri Lanka telecommunications development study made by Ewbank Preece in 1988-1990, Sri Lanka public telecommunications network had been operated by Sri Lanka Telecommunications Department (SLTD), Ministry of Posts and Telecommunications. Sri Lanka Telecom (SLT) was established in 1991 under Sri Lanka Telecommunications Act.

Ewbank Preece pointed out following problems:

a) Unsatisfactory Attendance: Unsatisfactory attendance figure of training courses (44%) which was partly due to low level of subsistence paid per day by SLTD and loss of overtime as wages were low, officers in SLTD use overtime to increase their take home pay,

b) Management Training: Need to develop senior and middle managers were stressed because of expected change of SLTD from the government organisation to autonomous corporation.

(2) SOFRECOM Report issued in December 1992

SOFRECOM pointed out the following problems in their report:

a) Lack of Manpower: Less attendance was mainly due to no motivation (subsistence),

b) Reluctance to attend Training Course: Need for training and refresher training courses was expressed although people seemed reluctant to attend at training courses, without possibility to make attendance mandatory. The main reason appears to be the absence of facilities at the Training Centre,

c) Up-dating of Training Programme: Up-dating of the Training Programme appears to be an urgent requirement.

2.4.5 Training Problems at Present (May 1995)

JICA Mission made survey and interview at Galle Regional Training Centre in April 1995 and Welisara and Moratuwa Training Centres in May 1995. Findings through the above survey and interviews are as follows:

(1) Essential Elements to O&M Training

Training Centre should be provided with following essential elements:

a) Instructors' Knowledge Development
Instructors have to be refreshed about their technical knowledge, and have to obtain the latest technical knowledge, otherwise their maintained knowledge by which the instructors educate their trainees, will become obsolete.

b) Latest Digital Equipment Provision
Latest digital switching equipment and digital transmission equipment which are to be operated in Sri Lanka, and digital type measuring equipment, e.g., digital oscillator, logic analyser, have to be provided at Welisara Training Centre so that the trainees can obtain practical hardware/software knowledge through manipulating the actual equipment prepared for training purpose.

c) Outside Plant Testing Equipment for Corrective and Preventive Maintenance

In case of subscribers' cables, insulation resistance and loop resistance should be periodically measured manually or automatically by Subscriber Line Management and Operation System. Maintenance team will analyse those data and make measurements for fault localising and repairing those faulty places. Therefore, External Plant Maintenance staff should be accustomed to use those testing equipment, pulse fault locators, cable repairing equipment tools.

For maintenance of optical fibre cables, optical fault locator, LED light source, optical power meter, optical attenuator, optical cable identifier, optical cable talk set, optical inspection microscope, fusion splice machine, joint kit, tools, etc. are required.

d) Text Book/Manual

New text book to cope with the above digital equipment will be required when new system is introduced in SLT.

e) OCB 283, new version of E10B switching equipment was installed in 1994.

NEAX-61 K and DX200 were installed in 1989. Motherboard of Assistant Service Control of NEAX-61 K was burned in December 1994 due to air-conditioning faults and the motherboard is not repaired yet. Replacement of those digital exchanges to new version is required. Installation of AXE-10 training exchange is required because AXE-10 switching equipment will be installed under 150K Suppliers Credit Project.

(2) Management System Utilising Computer

a) Use of computers for all fields of administration and management systems is the matter of course. Management Information System will be widely applied in SLT.

b) Enhanced Personal Computers

Enhancement speed of personal computers by manufacturers is very high, year by year new models of computers with more capacities of memories are appearing. Popular software of the Windows Version 3.1, for instance, will require for hardware with a minimum capacity of 5.6 Megabytes memory and more than 100 Megabytes of hard-disc capacity. A certain number of new model computers have to be provided to cope with the new administration system demand.

(3) Trainees' Problem

a) Hostel facility at Moratuwa Training Centre is required with the capacity of 30 - 40 trainees.

b) Difference of number of trainees between Target and Achieved numbers is due to that:
Difficulty to obtain approval because of difficulty by RTE to obtain replacement staff at site after dispatch of his staff to training course,
For intended trainees, decrease of work allowance.

2.4.6 Improvement of Telecom Training Facilities

SLT applied for Japan's Grant Aid in an amount of US$ equivalent 10 million (Rs.500 million).

Problems which should be solved as soon as possible are as follows:

The expansion and development of the telecommunication network in Sri Lanka undertaken with financial assistance from the world Bank and bilateral sources has resulted in substantial increase in telephone lines and modernisation of the network. New and sophisticated technologies have been introduced on a large scale to derive the benefits and economics of modernisation.

These development efforts which are on-going had placed a heavy strain on the SLT's training resources. Not only for the re-training and upgrading of the technical capabilities of its depleted trained manpower resources but also for the training and development of its large intake of new recruits.

Items requested to be provided under this Proposal are as mentioned below:

a) Provision of Model exchanges, Transmission equipment, Instruments, Power equipment, External plant & subscriber apparatus, Computer network and Training aids,
b) Provision of short term Experts (Kokusai Radio equipment, NEAX 61E, AT&T, AXE10 Switching equipment, Switch mode rectifiers), long term Experts and Consultants,

c) Provision of Instructional techniques training to Engineers & IPTT daily instruction duties at Telecom Training Centres,
d) Provision of Fellowships for development of instructional and management staff,
e) Provision of Text books and Magazines.

2.5 Recruit

Network expansion scale during 1995 - 2007 period is 7 - 8% per annum and the scale during 2008 - 2015 period is 5 - 6% per annum. During the same period, recruit rate of technical staff should be 3 - 5% and about 1%. Besides, retirement rate should be added to the above. Recruit of cadet engineers is also required. In the year 1997, installation of 150K Suppliers Credit Project will be completed and the exchange capacity will become 3 times bigger than the present capacity.

Table 12-2-15 Recruit Scheme

Staff Category	1994	1995	2000	2005	2010	2015
Operating staff	903	910	890	860	830	820
Increase		7	-20	-30	-30	-10
Technical staff	4,125	4,249	5,390	6,130	6,600	6,940
Increase		124	1,141	740	470	340
Other staff	2,488	2,541	2,920	3,010	3,070	3,140
Increase		53	379	90	60	70
Total staff	7,516	7,700	9,200	10,000	10,500	10,900
Total increase		**184**	**1,500**	**800**	**500**	**400**

Following Table shows the staff structure in connection with the age group in July 1995 according to sample survey:

Table 12-2-16 Staff Structure by Age Group, July 1995

Age group	<19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	Total
Staff (%)	0	3	9	24	28	17	10	6	3	0	100

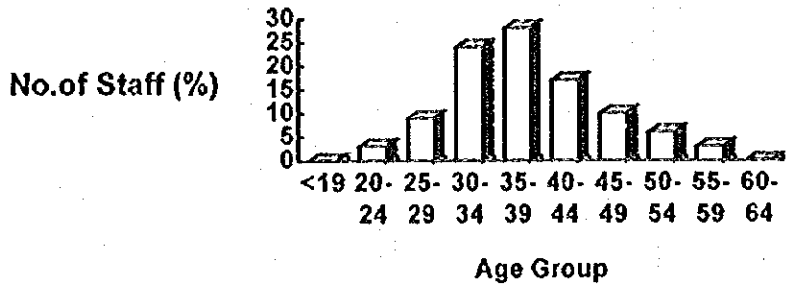

Figure 12-2-1 Staff Structure by Age Group

As seen from the above Tables, 1,900 staff/5 years period (1995-2000) of net increase and 200 staff/5 years period (1995-2000) of retires with age limits plus some % of middle aged retires, i.e., (400+α staff)/year, should be considered as annual basis recruit plan.

3. Urgent Human Resource Development Plan

3.1 Improvement of Telecommunication Training Facilities

To cope with rapid expansion of telecommunications network using advanced technologies, human resource development is quite essential. From a view of whole telecommunications sector, shortage of highly educated telecommunications engineers and workers will affect future telecommunications development. In addition, re-training and upgrading of the available technical capabilities are also essential. Accordingly, human resource development for telecommunications is to be promoted from both in operating entities and in an educational sector i.e. universities, high schools and specific collages.

Considering the above mentioned condition, SLT is planning to improve the training facilities. An application to Japan's Grant Aid was submitted to Japanese government in October 1994. This project in the short run seeks to develop appropriate skills and professional competence on a continuing basis through the two Telecommunication Training Centres, functioning at Moratuwa and Welisara. In the medium and in the long-term, the management capabilities relating training functions of SLT will be strengthened. Also the Training Institute will be upgraded and developed. It is expected that the above project will much contribute to the telecommunications development in Sri Lanka.

3.2 Necessity to Review Human Resources Development Policy

So as to completely follow up the objective of the Corporate Plan, Business target indexes, digital system expansion programme and new technology development plan, it is necessary to endeavour to make up new human resources development policy.

For this purpose, clarification of the capabilities of staff, aptitude, need of promotion, assigned conditions, salary system, morale, etc., will be required and stored those data as Database.

Introduction of many types of digital switching system will cause difficulties of operation and maintenance and training on both software and hardware aspects. Limitation of the number of types of digital switching system, say, 2 ~ 3 types will be required.

Training plans have to be prepared for each type of switching system in accordance with facilities expansion plan by exchange types. Training Syllabus for technical fields have to be prepared by Technical personnel.

Based on the above data and results of analysis, more realistic human resources development plan including new training plans for domestic and foreign training should be prepared on annual basis.

3.3 Improvement of Staff Allocation System

Management is at present facing a problem that utilisation of the trained staff is not enough. For instance, the trainee who took the switching course assigned to transmission operation due to no vacancy of the position at switching operation, or there is a request to send him back to original office even though there is a shortage in position at other office/area.

Assignment of each personnel to most suitable place is rather complicated job to responsible officer. For assignment of technical staff to new position from time to time basis, some suggestion was made in the foregoing Sub-section 2.3 Human Resources Present Status. For assignment and nomination of trainees who are newly graduated from the Telecom Training Centres, therefore, following conditions should be taken into consideration:

a) Demand and assignment of trained staff are fully SLT management's decision (mandatory),
b) Trained staff allocation procedure should be established and the procedure should be well informed to each management who despatch their staff as trainee,
c) Switching, transmission engineers and outside plant engineers (RTEE) should prepare Staff Request List periodically address to GM Human Resources,
d) GM Human Resources should organise **Trained Staff Allocation Committee** by which allocation of all trainees to demanded positions will be decided.

3.4 Call for Foreign Instructors and Training in Foreign Countries

For training of local instructors and providing advanced technologies, there will be worth to consider a few ways of training:

a) To invite foreign instructors to Central Telecom Training Centre under foreign aid base,
b) To dispatch SLT staff as trainees to foreign countries to obtain knowledge regarding advanced technologies, financing, management aspects,
c) To attend Seminars in the advanced countries.

We would like to draw attentions to the training being executed under Technical Assistance, JICA, "The third country's training programme".

3.5 Improvement of Trainees Basic Conditions and Subsistence

In order to encourage the staff's willingness to get training (to improve his knowledge and eventually to obtain the success of his life), and in order to obtain a necessary number of qualified technical staff by SLT, it may be necessary to study the difference of circumstances between the period of training and of ordinary work period, and accordingly if it is considered necessary to improve the basic conditions and subsistence.

4. Future Human Resource Development Plan

4.1 Human Resources Development Policy

Human resources development policy should be established considering the changes of environments, say, technology evolution, socio economic conditions, circumstances within SLT, i.e., facilities expansion strategy, operation and maintenance organisation, job transaction procedures, management system, availability of facilities (tools, test equipment, vehicles), etc.

(1) Technology Evolution

ISDN is to be introduced in the capital Colombo at the first stage of ISDN era, Narrowband ISDN service will be operated by the year 2000 and expanded to Kandy, Negombo and Galle areas by the year 2005 and to all district capitals by the year 2015.
Broadband ISDN will be introduced by the year 2015 in major cities making use of the ATM technology. In order to cope with the above circumstances, research and development division will be essential.

Intelligent Network (IN) will be introduced after an ISDN becomes available by 2000. Cellular mobile communications, Public payphones, Radio paging, Trunked mobile radio services, have been operated. Electronic mail will be operated in 1995. Voice mail, Video text, Audio conference and Video conference will be introduced in Colombo by the year 2000.

(2) Decrease of Fault Rate

The number of faults/month/100 DELs in 1994 was 26. Target figure in the year 2015 is 5. According to the faults statistics, 80% of the faults are occurring at outside plant portion (cable and drop wires). The number of faults caused by outside plant portion will be drastically decreased by replacement of overhead part with reliable new drop wires and expansion of underground part by Polythene insulated and sheathed jelly filled cables and replacement of paper insulated lead sheathed cables with PE/JF cables.

The number of faults of switching and transmission equipment are being decreased by replacement of existing analogue equipment with the digital system. By application of network management system, subscriber line management system, MIS, a number of

operation and maintenance personnel can be minimised and their productivity are improved. Calculated number of faults per month in future are shown in the Table below:

Table 12-4-1 Calculated No. of Faults in Future

Year	1994	2000	2005	2010	2015
No.of Faults/month/100 DELs	26	15	10	7.5	5
Ratio of No.of Faults/year (%)	100	203	215	206	188

4.2 Improvement of Productivity

Accordingly, past improvement of the productivity and the future improvement of the productivity are as shown in the Tables below:

Table 12-4-2 No. of SLT Staff per 1000 DELs

Year	1991	1992	1993	1994
No. of DELs (x1000)	126	136	158	181
No.of Staff	7,141	7,572	7,466	7,516
No.of Staff/1000 DEL	57	56	47	42

Year	1995	2000	2005	2010	2015
No.of DELs (x1000)	237	667	979	1,311	1,663
No.of staff	7,700	9,200	10,000	10,500	10,900
No.of Staff/1000 DEL	33	14	10	8	7

CHAPTER 13

INSTITUTION, ORGANISATION AND MANAGEMENT PLAN

CHAPTER 13

INSTITUTION, ORGANISATION AND MANAGEMENT PLAN

1. General

One of the recent subjects of the institutional reform in the world telecommunications sector has been the establishment of regulatory organisation and operational one independent from each other. The Telecommunications Act 1991 gave birth to Sri Lanka Telecommunications Authority (SLTA) under the Ministry of Posts and Telecommunications (MOPT), the regulatory organisation to the telecommunications activities in Sri Lanka, and Sri Lanka Telecom (SLT), the monopolistic operator of the basic telecommunications services, like local, long-distance and international telephone, facsimile, telegram, telex, and this is quite reasonable and is in full conformity with this world-wide tendency in the telecommunications sector.

Advanced telecommunications services other than basic services, i.e., Cellular mobile communications (4 companies), Radio paging (5), Stored and forward facsimile (2), Trunked mobile radio services (1), Data transmission (3) and Public payphone (3) are opened to private entities. It is, however, necessary to look at some basic matters to be improved of the telecommunications in Sri Lanka despite above-mentioned positive aspect. The government of Sri Lanka set the following main objectives in the field of telecommunications.

a) To provide the telecommunications services throughout the country;
b) To improve the quality of the telecommunications services;
c) To satisfy the demand for the telecommunications services and to improve the efficiency of the telecommunications operations.

Our study is made to SLT organisation based on this overall institutional framework of the telecommunications sector in Sri Lanka according to the following basic concepts.

- Organisation structure has to be reviewed according to the new environment,
- Organisation structure has to follow up the company's strategic business policy,
- Strategic business policy of Sri Lanka Telecom is promptly expressed in the Corporate Plan of SLT.

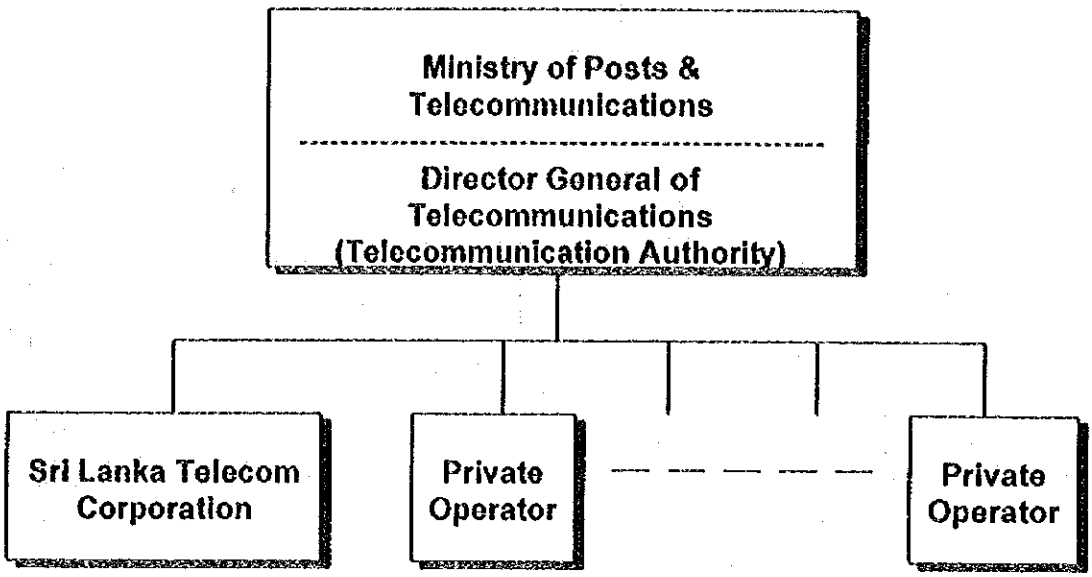

Figure 13-1-1 Present Organisation of Telecommunications Sector in Sri Lanka

The business will be able to function when those following three essential elements are mutually well complemented and harmonised.

- Organisation,
- Management Procedures and
- Human Resources.

2. Corporate Plan

The direction of SLT's telecommunications business promotion and the basic concepts to establishment of SLT are well described in the Corporate Plan of SLT as briefly shown below:

Corporate Mission ..... Provide Quality telecom services so that customers are satisfied

Quality means:

- the service is available when desired,
- high percentage of successful calls,
- a clear, good quality connection,
- value added services are available.

Satisfied customers mean:

- meeting customer's needs timely and conveniently,
- the services are reasonably priced,
- problems are resolved quickly and courteously.

Strategy & Programme revealed in the Corporate Plan

(1) Government Relations/Procedure

a) Arrange for blanket approval from the committee of Development Secretaries,
b) Minimise procedural delays to keep to set targets.

(2) Network Configuration

c) Increase capacity of the system to meet the projected demand,
d) Short term development as an interim measure to meet immediate demand,
e) Augmentation of plant to meet ad-hoc development requirements,
f) System design and augmentation to improve quality and grade of service,
g) Improve reliability and diversity by providing backup/redundancy in the network,
h) Upgrade technical management to improve plan utilisation,
i) Set up Engineering Standards/Technical Management in respect of Installation, Maintenance and Operation of Network,
j) Improvement, reorganisation of the work by introducing computer based Management Information System (MIS).

(3) Personnel

k) Identify skills/abilities to ensure effective use of available Human Resources,
l) Step up training programmes,
m) Staff motivation by improving working conditions,
n) Improve productivity by incentive (schemes),
0) Better prospects for promotions etc.,
p) Control absenteeism.

(4) Support Services

q) Improve Material Management,
r) Improve utilisation of available transport facilities,
s) Improve efficiency and cost effectiveness of the existing Workshop and Repair Centre services.

(5) Finance and Computer based Management

t) Improve financial control and management by computer based system

u) Capital funds

v) Establish internal audit

(6) International Services

w) Existing international facilities to be improved by establishing a fully Digital International Communication Network (ICN).

(7) Infrastructural Requirements

x) Procure /construct fixed assets (land/building) in time and optimise the use

3. Present Status and Problems on SLT Organisation and Management

By the Law and Regulations and under supervision of Sri Lanka Telecommunications Authority of the Ministry of Posts and Telecommunications, Sri Lanka Telecom (SLT) has been operating the public telecommunication services, after SLT took over the operation from SLTD in 1991.

According to the current SLT organisation, which is effective since October 1994, four (4) Directorates, i.e., Network Development, Operations, Administration Supporting Services and Finance, and Corporate Planning, Secretary to the Board, Chief Legal Officer, Chief Internal Auditor and General Manager Suppliers Credit Project are operating under jurisdiction of the Managing Director and the Board of Directors. The organisation of SLT is referred to in Figure 13-1-2.

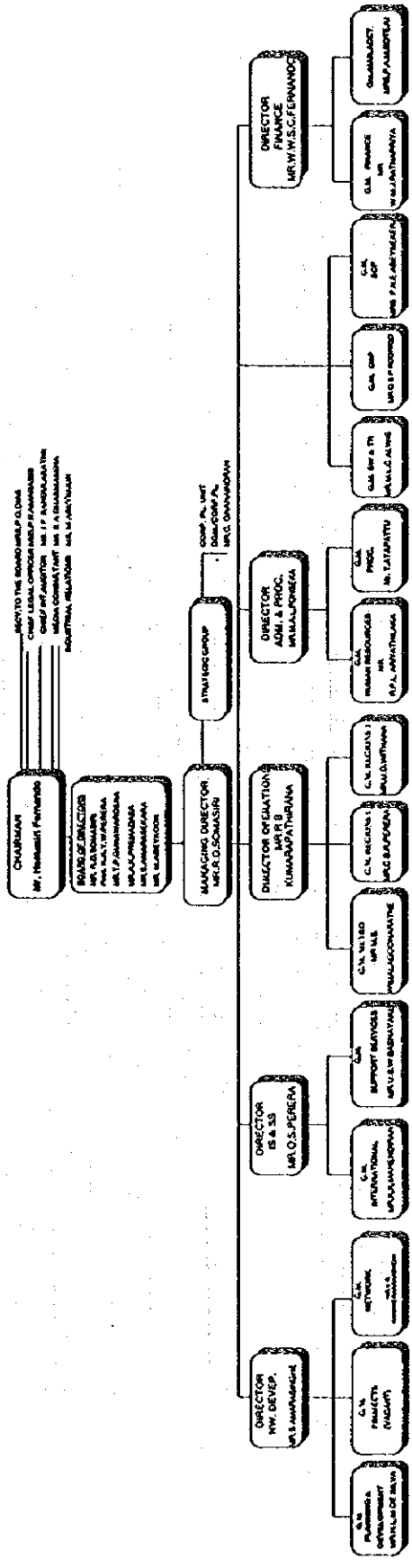

Figure 13-1-2 Organisation Chart of Sri Lanka Telecom

3.1 Headquarters Organisation

Corporate Planning is the strategic staff function to the Managing Director.

a) Formulation of Short/Medium/Long-term Corporate Plans
Co-ordinate with Finance, Planning, O&M and Human Resources Divisions to formulate Short/Medium/Long term Plans.

b) Study of Strategic Policies
- Study and examine the effects on financial performance of alternative policies with respect to investment, tariff, finance sources, pace of programme implementation, etc.
- Analyse interactions of financial requirements, investment options and human resource requirements and make recommendations.
- Co-ordinate with Department of National Planning and Ministry of Policy Planning and implementation in regard to new projects.
- Respond to Government's needs and priorities.

c) Monitoring, Collection of Data and Actions
- Monitor fulfilment of corporate objectives and plans.
- Collect data in integrating SLT's financial planning and budgeting into MIS.
- Act as main information bureau to identify data requirements.
- Identify income, expenditure and cost factors within SLT's control and dependency on programme implementation.
- Network performance and staff productivity.

d) Establishment of Reporting System
- Establish reporting formats to monitor the fulfilment's of corporate objectives and plans.

(1) Network Development

Director (Network Development) controls 2 General Managers (GMM), Planning & Development, Projects, and co-ordinates with GM Suppliers Credit Project.

GM (Planning and Development) controls 5 Deputy General Managers (DGMM), Information Technology, Training, Research & Development, Network Planning, Training Planing and Marketing.

a) Network Planning
- Mid-term and Short-term network planning,
- Individual project planning,
- Fundamental technical planning,
- Engineering,
- Standardisation,
- Traffic analysis (At present Traffic analysis for operational purposes are done by DGM Traffic. The Network Planning division does analyse the results only for the planning purpose).

b) Marketing
- Sales promotion,
- Traffic revision,
- Forecasting the new services,
- Campaigning for customer awareness programs (advertising, etc.),
- Preparing Annual Reports.

c) Information Technology
- Domestic Billing Data collection,
- Charging & Preparing the bills for local & international telephone, telex calls,
- Distribution of bills,
- Providing the management information with respect to billing.

d) Training, Research and Development (TRD)
- Course development of all training programme,
- Administration of 2 Central Training Centres and 3 Regional Training Centres,
- Administration of R&D,
- Providing the management information with respect to training carried out at SLT Training Centres.

e) Training Planning
- Arranging Overseas & External Training Programs,
- Selecting the appropriate candidates for the above programs,
- Providing the management information with respect to overseas seminars & training.

1 GMM Project controls 5 DGMM, External Plant Projects, Switching Projects, International Projects, Radio & Transmission Projects, Power & Air-conditioning Projects.

a) Design, Contract, Implementation
- Designing,

- Preparation of tender specifications,
- Evaluation and Contracting,
- Project progress control and supervision.

b) Each Speciality Field
- For External plant projects,
- Switching projects,
- International projects,
- Radio and Transmission projects,
- Power and Air-conditioning projects.

c) Particular Projects
- GM Suppliers Credit Project
  - Suppliers Credit projects

(2) Operations

Director Operations controls 6 GMM, International, Metro, Regions, Switching & Transmission, Outside Plant & Customers and Networks.

GM International controls 5 DGMM, Switching International, Transmission International, Operations and International Relations & Traffic and data networks.

a) Switching International
- Administration of operation of International switching equipment and International Gateway Exchange.

b) Transmission International
- International transmission system including earth station, SEA-ME-WE submarine cable system
- Analysis & administration of international circuits,
- Forecasting the circuits requirements,
- Providing Data Communication & E-Mail services.

c) International Relations & Traffic
- Administration of international billing & settlement,
- Negotiation with other international operators for traffic routing & related matters,
- Providing the management information with respect to overseas services.

d) Operations
- Administration of Maritime Services,

- Providing the management information with respect to maritime services.

e) Data Networks
- Providing data communication services, E-mail, packet switches

2 GMM Operation and Maintenance of Network and Customer Services (Metro and Regions) control 9 DGMM for 2 Metro areas and 7 Regions.

DGMM controls RTEE, Engineers of Switching & Power, Radio & Transmission, Outside Plant and Assistant Administration secretary (AAS)

a) Administration and supervision of O&M activities in Metro & Regions
- Metro : Metro North, Metro South,
- Regions : Uva, North & East, South, Sabaragamuwa, Central, North West & North Central, Western provinces.

b) Analysis of business indicators
- Quality of services,
- New installations,
- Income from customers.

c) Analysis of Productivity
- Productivity, Efficiency,
- Staffing needs.

d) Services for Customer Premises Equipment
- Complaints of PABX, DEL, Payphones,
- Review of traffic of PABX in Metro.

GM O&M of Switching and Transmission Equipment controls 3 DGMM, Switching & Power Maintenance, Radio & Transmission Maintenance and Repair Centre.

a) Switching and Power
- Administration of maintenance of switching equipment and associated power plant.

b) Radio and Transmission
- Administration of maintenance of radio and transmission equipment.

c) Repair Centre
- Administration of switching and transmission equipment repair activities.

GM O&M of Outside Plant and Customer Services controls 3 DGMM, Customer Line & Services, Key Customers and Distribution Network.

a) Outside Plant
- Administration of maintenance status of outside plant (off-line basis).

b) Customer Service
- Administration of maintenance status of customer services (Off-line basis),
- Identifying the Key customers & improve the Service Quality,
- Providing the key customers with enhanced facilities, etc.

GM O&M of Network controls 2 DGMM, Internal Plant and Traffic.

a) Internal Plant
- Administration of maintenance status of internal plant (Off-line basis).

b) Traffic
- Administration of traffic measurements (Off-line basis),
- Preparing the standards to improve the Quality of Service of the network (Some of the QS indicators are GER, OIR, IIR, UC1-5, US1-3, GUS).

(3) Administration and Supporting Services

Director Administration and Supporting Services controls 2 GMM, Human Resources and Support Services.

GM Human Resources controls 2 DGMM, Personnel & Administration and Industrial Relations.

a) Personnel and Administration
- Manpower planning,
- Recruitment,
- Salary policy and upgrading,
- Administration of personnel, human resources development and promotion of staff.

b) Industrial Relations
- Disciplinary inquiries and investigations,
- Administration of medical scheme and outpayment,
- Communication with and information to staff and unions.
- Welfare of SLT staff

GM Support Services controls 4 DGMM, Transport & Workshop, Civil works, Power & Air-conditioning and Material Management.

a) Transport and Workshop
- Administration of Vehicles and mechanical aids, purchase, operation and maintenance,
- Administration of Workshops, water supplies, pumps, fans, bicycles, etc.,
- Arrangement of drivers test and certification.

b) Civil Works
- Administration of civil works, buildings.

c) Power and Air-conditioning
- Preparation of Specifications, Designs, Tender documents,
- Administration of Power & Air-conditioning equipment.

d) Material Management
- Development and application of Indicators, Tied up capital, Turnover stock outs, Service level,
- Administration of procurement and distribution of materials,
- Administration of Stores.

(4) Finance

Director Finance controls 1 GM, Finance, and 1 DGM, Management Accounting.

GM Finance controls 2 DGMM, Expenditure and Revenue.

a) Expenditure
- Effects of payment for Goods, Services and International agencies,
- Liaison with External parties, Tax, Auditor, Treasury, Central Bank, Others,
- Receiving funds to meet expenditure,
- Administration of Cash outflows,
- Accountant book keeping.

b) Revenue
- Monitoring of Collection and Billing process,
- Administration of Income and budget,
- Attending to Customers complaints related to collections.

c) Management Accounting
- Issuance of Instructions for Budget works,

- Follow up of Consumed money and Deviations,
- Supervision of Book keeping procedures and provision of management information,
- Planning for Start-up of establishing Fixed assets register, New projects,
- Monitoring of Cash flow and preparation of Liquidity plan,
- Co-ordination with Store accountant,
- Establishment of Costing procedure.

3.2 Regions

(1) Regional Telecom Engineers

33 RTEE are assigned under DGMM. Metro and Regions. RTE controls District Inspector Telecom (DIT), Inspector Telecom (IPT), Staff Assistant, Clerks of Establishment, Accounts, Telegraph, Records, Telecom Revenue, Assistant Supervisor, and Store Keeper.

Table 13-3-1 List of Regions and RTEE

Region	RTE
Metro North	Colombo Central, Maradana, Wattala
Metro South	Havelock town, Mt.Lavinia, Nugegoda, Kotte
Central	Kandy, Matale, Nawarapitiya (SSC)
North & East	Ampara, Battikaloa, Kalmune, Polonnaruwa, Trincomalee, Vavuniya (including Mannar), Jaffna
North Central & North Western	Anuradhapura, Chilaw, Kurunegala
Sabaragamuwa	Avissawella, Kegalle, Ratnapura
Southern	Galle, Hambantota, Matara
Uva	Badulla, Bandarawela, Hatton, Nuwara Eliya
Western	Gampaha, Kalutara, Negombo

a) Maintenance
- Maintenance of telecommunications network, Switching, Transmission, Power, Outside plant, Building and attending customer quarries.

b) New Connections
- Provision of new connections and removals.

c) Small Scale Project
- Preparation of small scale local works and implementation thereof,
- Administration of Regional Sub-stores, keep buffer stock level.

d) Collections
- Collection of revenues on Bills, Recover expenses of damaged plants from other parties.

e) Budget and Expenditure
- Preparation of Budget, control of Expenditures.

f) Management of Staff
- Management of Staff in Region, Welfare of the staff.

g) Reporting
- Preparation and Sending of Reports and Information to Headquarters.

3.3 Organisational and Managerial Situation at Present

(1) SOFRECOM's Report

SOFRECOM made a study in 1992-1993 regarding O&M status and appealed some problems and advised countermeasures in their report. They were described in the Sub-section 2.1 Chapter 11. Operation and Maintenance Plan.

Findings and advises with respect to SLT organisation concerned are as follows:

a) SLT should organise Operation and Maintenance activity into four levels of functionality, supported by METHODS and PROCEDURES.

- Operation and Maintenance Headquarters (HQ level) at the national level, with functional activities and monitoring logic and technical support services. National network management system (NMS) may be set up at headquarters level of the size of the country.

- Regional O&M (Provinces and Metro level), in charge of operation and maintenance for the province where it is located and the regional network management.
- Local Operation and Maintenance (RTE level), in charge of operation and maintenance for one or several exchange areas (being understood that customer activities are re-organised under a commercial directorate).
- Fault Handling Unit (DIT level), taking care of the local loop and outside plant from MDF up to instrument set.

b) SLT should clearly define the tasks, the functions for each level and the associated resources.

c) SLT should set up Procedures giving guarantee that:
- Projects and Operations are closely co-ordinating and aiming at the SLT's objectives.
- Small projects are a part of the Operations,
- O&M Programmes are involved in the planning process,
- The management of the technical resources of the network is fully set up.

d) SLT should review and re-define the RTE functions and associated procedures.
- Re-engineer the RTE tasks,
- Set up an information system for production, waiting list, QoS, budget,
- Develop autonomy for OSP operation (small projects),
- Set up a waiting list management,
- Set up a fault analysis and follow up for subscriber lines and cables as well as for switching and transmission,
- Develop an annual maintenance programme in OSP,
- Develop a preventive maintenance for subscriber lines,
- Set up technical data base and record files,
- Set up a local and Head office organisation for customers' service.

e) SLT should organise a complete and adequate materials management.

The situations are under the status of improving and strengthening of the organisation and procedures as reported in Sub-sections 2.2 O&M Situation at Present (1) Improved Items and (2) Items to be Improved, of Chapter 11 Operation and Maintenance Plan.

(2) UNDP/ITU Report on Materials Management

A number of documents and reports highlight that non availability of materials is a serious impediment to the completion of work in SLT. Even though the status of availability of installation materials at storehouse have been improved in some extent according to our survey and interview result, further improvements are required as explained in the Sub-sections 2.2 and 3.1 of Chapter 11.

ITU consultant made a survey and analysis regarding "Re-organisation of Stores /Materials Management" and made report titled "Report for Sri Lanka Telecom Corporation on Reorganisation of Stores (Materials Management)" issued in October 1993. According to our study to the ITU report, the recommendation is agreeable and considered quite important to take further actions by SLT.

The following is the brief description of the ITU report:

The ITU Consultant referred and supported two Reports studied by a local consultant, regarding investigation results of the present system and recommendation to improve/change present situations. Two Reports were produced by the local consultants, Someswaran, Jayawickreme, Manthri & Co. (S.J.M.).

- Reorganisation of Stores Procedures/System, dated February 1993,
- Reorganisation of Procurement Division and Procedures, dated May 1993.

The ITU Consultant recommended to split the Materials organisation into three functional divisions.

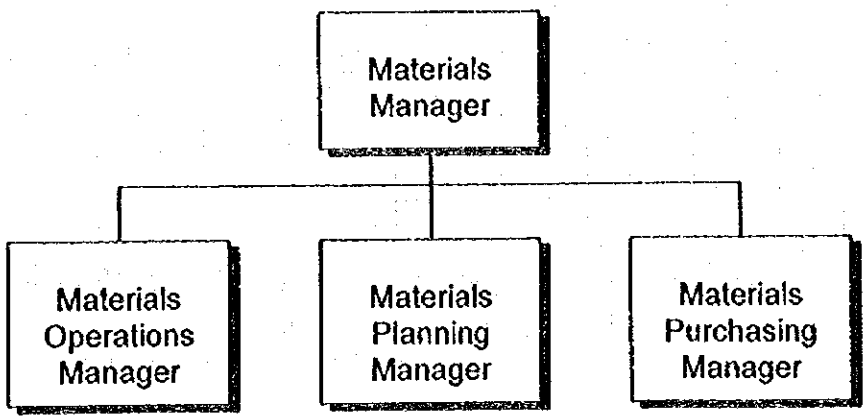

Figure 13-3-1 Proposed Functional Organisation of Materials Management

The objective of the organisation should be:

- To maximise service levels,
- To minimise stock holding value.

Proposed Materials Managers Job Descriptions are as follows:

- Materials Planning Manager
Production of materials plans, Maintenance of inventory control parameters, Production of ABC analysis.

- Materials Operations Manager
Custody and movement of all stocks, Management of stores and stockyards, Maintenance of stock records, Disposal of unwanted stocks, Quality assurance of incoming stock.

- Materials Procurement Manager
Tendering, quotation & contract negotiations, Supply contracts, Foreign clearance, Expediting of overdue orders, Maintenance of supplier register, Identification of new suppliers, Sales of unwanted stores, Provision of purchase statistics.

Recommendations other than the above are as follows:

a) Crash Programme for Disposal of Unwanted Stock,
b) Inventory Control Procedures,
c) Introduction of Standard Pricing,
d) Codification of Stores items,
e) Production of Materials catalogue,
f) Introduction of new procedures for
   - Requisition and return,
   - Stocktaking,
   - Purchasing.
g) Production of Monthly Accounts Statements (Stock value and Stock throughput value),
h) Production of Management Information System (MIS) with performance indicators down to supervisor level,
i) Expansion of Materials Dept. Boundaries to include all regions,

To review the needs for each sub/regional store and to close those considered unnecessary,

j) Training to provide specialist training for functional managers:
   - Materials management,
   - New procedures.

k) Computerisation,
   - To provide additional workstation for Materials planning.

l) Documentation of all procedures,
   - To commence compilation of procedures manual,

m) Layout of the new Maradana Depot should be properly planned.

3.4 Business Management Indexes

One of the main tasks of the management is to continuously observe and assess the status of quality of service, efficiency and effectiveness of SLT's business operations and consequently to improve them by taking necessary actions considering the balance with the costs required. In order to achieve the above mentioned subject, it is necessary to monitor business performances utilising some Performance Indicators such as Quality of Service and Efficiency indicators.

3.4.1 Quality of Service

Table 13-3-2 Performance Report shows SLT's achievements in the year 1994, i.e., New connections, Registration of new telephones, No. of faults per month per 100 DELs, Faults cleared within 24 hours, Call completion rates.

Sub-section 2.3 Quality of Service and Network Performance in the Chapter 11 Operation and Maintenance Plan described about the matters in detail.

(1) Call Completion Rate

The "Call Completion Rate" is one of the most important performance indicators to assess the status of telephone service quality. The call completion rates in the year 1994 were 26% - 31% for SLT. In good networks, it should achieve the rate with more than 60%. However, the rate of "Unsuccessful Calls due to called number busy" shows a quite high figure of about 50% and "Unsuccessful Calls due to customer error" 30%. Therefore, the following countermeasures were recommended in Sub-section 2.3, Chapter 11 as urgent ACTIONS to be taken:

a) Increase a number of DELs for high traffic subscribers,
b) Apply Pilot numbers and Call waiting service,
c) Campaign to reduce incorrect dialling by subscribers,
d) Expand trunk links.

(2) Faults Occurrence

The "Number of Faults per month per 100 DELs in SLT in 1994 was 26% in average and 17% in Metro and 35% in other Regions. This means that a subscriber will have 2 times of troubles in a year in Metro and 4 times in Regions which are quite often. Therefore, it is an urgent request to improve this serious situation by applying the following countermeasures:

a) Replace unreliable overhead lines with new ones,
b) Upgrade maintenance staff skill, etc.

(3) Fault Clearance

The rate of "Fault Clearance within 24 Hours" was about **55%** in 1994, which is low rate compared with the rates in other countries in Asia. Considering about **70%** of the faults have been occupied by the faults at "**Overhead portion**", the above countermeasure of replacing the overhead drop wires with the new ones and accordingly to drastically reduce the faults rate, will be the effective measures to improve fault clearance rate also.

3.4.2 New Connections

To strengthen the new connection capability of SLT in hard and software aspects is one of the very important items requested to SLT management to take an urgent action as explained in the Sub-section 2.4 New Connections and Sub-section 3.2 Strengthening of New Connections Capability in the Chapter 11 Operation and Maintenance Plan.

(1) Present Status

SLT has achieved 25,000 new connections in 1994. On the other hand, the cumulated number of waiters are counted to 186,000 at the end of 1994. If the new connections capability did not be strengthened drastically, more than 7 years would be required for the connection of the cumulated 186,000 waiters.

(2) Target Number of New Connections

On annual basis, 56,000 new connections in 1995, 70,000 new connections in 1996 and 90,000 new connections from 1997 to 2000 have to be planned in order to solve long period of waiting time. Therefore, the Reinforcement of expansion of Marketing Division and Customer Services Division will be an urgent request.

(3) Connection Waiting Period

At present an average waiting period of new connections is about 5 years and the longest waiters are 10 years long waiting. It is intended to realise the target of "Within one year of Waiting period since Application registered" up to the year 2000/2001 by applying the above mentioned large number of new connections as target figures.

Table 13-3-2 Demand, No. of DELs, New Connections & Waiters

Unit: x1000

No.	Item	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Demand	481	511	546	586	630	678	732	788	850	916	979	1045	1116	1182	1250	1311	1375	1442	1512	1586	1663
2	Demand Increase	98	30	35	40	44	48	54	56	62	66	63	66	71	66	68	61	64	67	70	74	77
3	No.of DELs	237	307	397	487	577	667	732	788	850	916	979	1045	1116	1182	1250	1311	1375	1442	1512	1586	1663
4	No.of New Connections	56	70	90	90	90	90	65	56	62	66	63	66	71	66	68	61	64	67	70	74	77
5	No.of Cumult. Waiters	244	204	149	99	53	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note : 1. Demand Increase = Demand in the year - Demand in the former year.
2. No. of DELs = No. of DELs in the former year + No. of New Connections in the year.
3. No. of Cumulated Waiters = No. of Cumulated Waiters in the former year + Demand Increase in the year - No. of New Connections in the year.
4. No. of cumulated waiters in the year 1995 (244,000) = No. of cumulated waiters up to 1993 (100,000) + Newly registered applicants in 1994 (86,000) + Assumed No. of new waiters in 1995 (58,000).

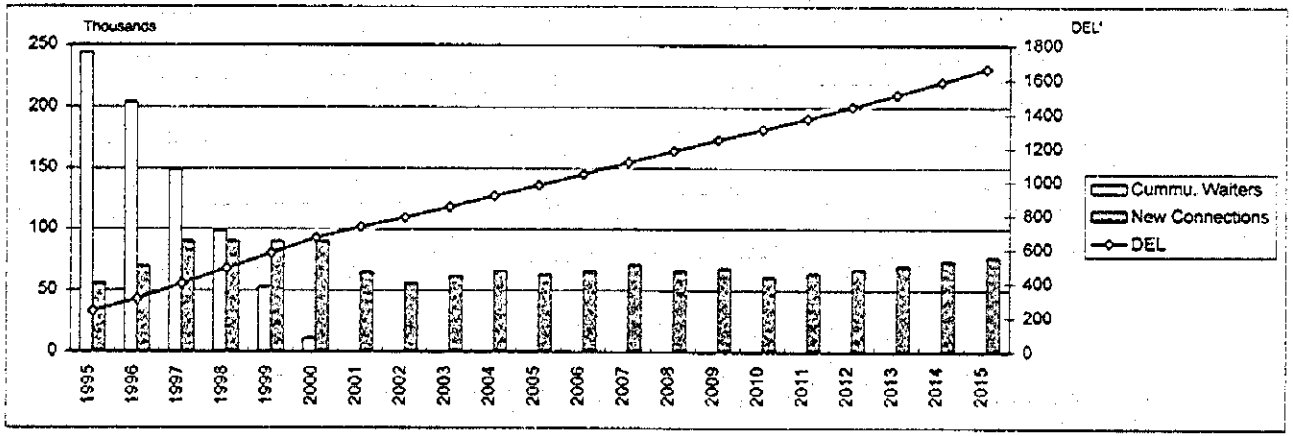

Figure 13-3-2 Demand, No. of DELs, New Connections & No. of Cumulated Waiters

4. Urgent Organisation and Management Improvement for SLT

As shown in the foregoing chapters, forthcoming 2 decades will be the era of huge telecommunications expansions and the severe competitions era among telecommunications service providers. Therefore, requests for strengthening of SLT organisations as explained in this Sub-section 4 and the next Sub-section 5 are the important issues.

4.1 Strengthening of Customer Services Division

SLT hold a large number of long period waiters as explained above. According to the above mentioned target figures, 90,000 new connections/year should be achieved in 1997, which figure is 3.6 times bigger than the connections performed in the year 1994.

Increase of the new connections requires increase of some software works in the SLT organisation such as procedures, tests and administrative jobs, e.g., public relations, reception of applications, registrations, checking the availability of the facilities, survey of site conditions, testing of existing facilities, designing for extension of pole lines, installation material management, testing and registration of new subscribers, preparation of bills as well as hardware installation works.

The increased procedural and administrative works and technical works, testing and designing, will be given to RTEE and DIPP. These works have to be absorbed by strengthening RTE's Customer Services groups. Strengthening of human resources with the aid of computers (Office Automation) are the urgent requests.

The increased hardware works have to be absorbed by contractors by entrusting the pole line extension, cable/drop wire laying, new telephone installation and connection works to the contractors. RTEE have to increase the number of supervisors to supervise the contractors' works, to reinforce installation materials management works and to proceed with contracting procedures with the contractors.

For the purpose of fully supporting RTEE activities, Customer Services and Network Divisions in Headquarters level have to take all necessary preparatory actions to make ease RTEE's work environments such as, further improvement and simplification of new connection procedures, promotion of Office Automation system at RTEE level, introduction of Subscribers Line Management System (SLMS) as well as Network Management System (TNM/NMS).

4.2 Preparation of Job Transaction Procedures

(1) Vertical Procedural Communications

The organisation should always be supported by management procedures. They have a relation to complement each other. Border lines of responsibilities of related Divisions in Headquarters, related organisations among HQ, Regions and RTEs are clearly distinguished in the Job transaction procedures.

Routine jobs in SLT are going on daily, monthly and yearly basis. Present SLT organisation is mainly Line organisation and some Line & Functional combined organisation but not Service oriented organisation. For instance:

a) Switching and transmission O&M organisations at telephone exchange level are linked vertically with Switching and transmission Divisions at Headquarters via Regional switching and transmission engineers,
b) Outside plant organisation at RTE level is linked with Metro and Regional Divisions at HQ by on-line basis,
c) Suppliers Credit Project Division combines all sub-system sectors as functional organisation,
d) International Division is more likely functional organisation.

Divisions under Line organisation have daily relations among organisations, such as up/down streams, HQ, Region, RTE, DIP, and between sections in HQ, for implementation of one subject, a series of tasks. Vertical communications in Line organisation have usually better communications.

If the tasks proceeded without Job Transaction Procedures, however, efficiency would be largely different according to different way of the work processing by different personnel. There might be missing of some essential process, some person might not be informed of important decision. Without preparation of standardised Procedures, thus improved procedures developed by experienced people may not be able to be succeeded by the followers.

Therefore, it is important to prepare and standardise the Job Transaction Procedures. The followings items are some examples of Procedures for the Vertical tasks:

a) Preparation of Annual programme,

b) Preparation of Annual budget, approval, revise and monitoring,

c) New connection approval procedure,

d) Small project approval procedure.

(2) Cross-sectional/Lateral Procedural Communications

Some tasks require the cross-sectional works and co-ordination by several lateral Divisions (Trans-divisional tasks).

For implementation of some Functional tasks, sometimes organising of functional relations such as Committee or Task force establishment will be required. The Project implementation organisation such as Suppliers Credit Project Division is a functional organisation and not permanent organisation, once the Project will be completed then the purpose of establishment of the Division will be achieved and dissolved.

Divisions under Line organisation are usually requested for corporate works (team-work) among related Divisions, such as among Planning, O&M, Finance, and among Sub-systems, i.e., Switching, Transmission, Outside plant, Power plant, for implementation of the one subject, or a series of tasks.

In case the tasks require cross-sectional relations between different Divisions, such kind of tasks usually require a clear Boundary of responsibilities among those Divisions participated. Without specifying the Job Transaction Procedures, some confusions such as work overlap, negligence of some items, unexpected modulation of the purpose, might be occurred during process of the requested tasks.

Therefore, it is important to prepare and standardise the Job Transaction Procedures. The followings items are some examples of Procedures for Lateral cross-sectional tasks:

a) Operation and Maintenance Division oriented projects that the budgeting request originated by RTE, O&M Division approved, and arrangement to be made by Planning Division, and informed to Financing Division,

b) Warehouse inventory control information that the material requests provided by O&M Division, and response to the request and succeeding information regarding consumed quantities to be provided by Material Management Division, and sent to O&M Division,

c) Project Files that describe all necessary information regarding implementation of the expansion project, finance source as well as existing facilities status, prepared by Planning Division, and circulated to O&M Division, and Finance Division,

d) Facilities status change information that the change derived from the completion of expansion project or rehabilitation work, informed by the Project Division, sent to O&M Drawing Office,

e) Various Job Transaction Procedures during a Project cycle that the project initiated by Planning Division based on Long/Short term Plan, engineered, tendered and executed by Project Division, project close out by Project and attended by O&M Divisions, operation and maintenance by O&M Division.

A typical Project Cycle diagram is shown in Figure 13-4-1 Project Cycle.

The Job Transaction Procedures are recommended to be incorporated into MIS.

4.3 Completion of Job Descriptions

Job Descriptions describe responsibilities and rights of the Division or the personnel. Procedure is the combination of the job descriptions of all related Divisions so as to form a complete series of tasks or functional tasks. Therefore, it is necessary the both, Procedures and Job Descriptions, have to be provided so that any kind of jobs, tasks and functions can be implemented without confusion/problem. At present 80% of Divisions have completed their Job Descriptions.

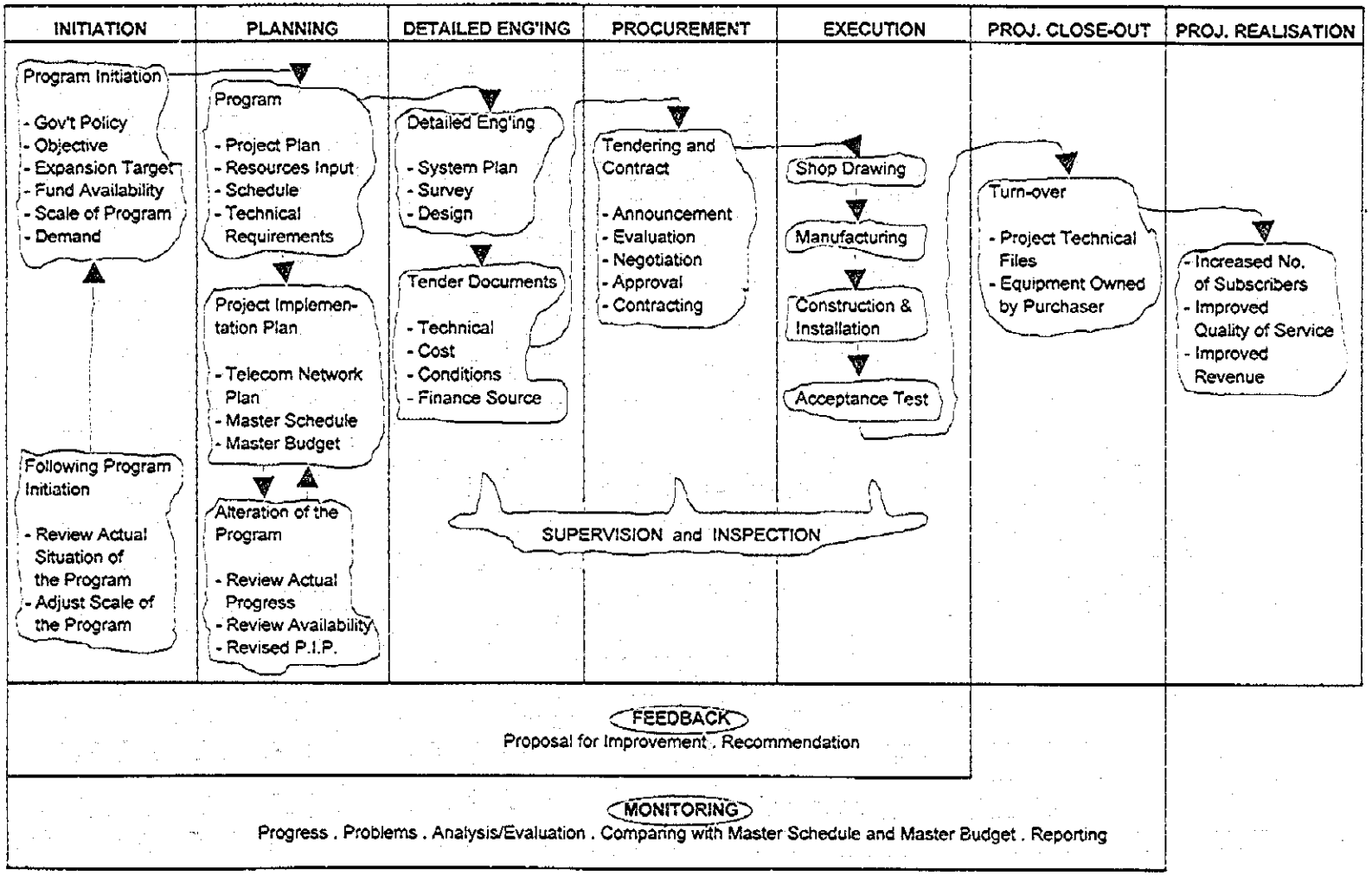

Figure 13-4-1 Project Cycle

4.4 Expansion of MIS throughout the SLT Organisation

4.4.1 Present Situation

(1) Billing System

Monthly Billing of national and international telephone calls and telex calls is carried out by means of the Burroughs B3955 computer system located in SLT Headquarters. The computer system also provides data base of Subscriber Data in Colombo metropolitan area.

This computer system provides:

a) All directory, technical and accounting data for each subscriber to be maintained on a centralised subscriber data base,
b) On-line subscriber Directory enquiry,
c) On-line enquiry into a subscriber's International Deposits,
d) Enquiry into subscribers plant data,
e) Monthly billing for national, international and telex billing and accounting,
f) Maintenance of a computerised ledger for each subscriber,
g) Telephone and telex international account settlement statements,
h) Traffic analysis from E10B and NEAX exchanges.

Burroughs B3955 computer system was installed in 1982 and commissioned in 1985. According to increase of the number of subscribers, the work loads being processed by the computer became over-loaded. Besides, two memory areas are faulty, only one memory area is working and procurement of spare parts is quite difficult.

Up to the year 1994, billing process could be completed in the following month. At present, however, the issuances of Bills are delaying about three months (Bill for February 1995 issued in May 1995) due to overload, slow processing speed, small capacity of memories, slow printing speed.

4.4.2 Provision of New Computer System

Expansion of the MIS project is required by the following reasons:

a) To include the subscriber data for entire country and to link all RTE areas with the central computers of the MIS,

b) To enhance the subscriber management functions to be provided by the MIS,
c) To generate the necessary information required for planning purposes.

Therefore, SLT is planning to purchase a new computer system with a capacity to cope with 400,000 subscribers connected and possible to upgrade up to the capacity of 800,000 subscribers. The new computer system covers all telephone exchanges in Colombo, Kandy, Galle, Negombo and Ratunapura areas. The new main frame will be installed at Information and Technology Office and to be linked OTS, old building and Colombo Central with LAN (Local Area Network) system. The system will be spread to 40 Billing Centres by means of extending data links (off-line base) in phase-2 stage.

In detail, SLT will need for the following additional systems to be provided:

a) Reporting of data concerning Quality of Services, Call completion rate, Faults statistics, New connections, etc., sent from RTEE/TSC/SSC,
b) Financial system using the Financial, Personnel and Supplies Database which would comprise:
   - Financial control,
   - General ledger,
   - Works order costing,
   - Financial forecasting,
   - Revenue and Expenditure accounting.
c) Personnel and payroll system,
d) Material Management system for stores and procurements,
e) Management information system which would be structured so that information could be accessed by various levels of management and which provide reports and information appropriate to their level of seniority,
f) Planning, change of facilities status, statistical data,
g) Training has to be provided to all personnel concerned with MIS.

The current methods of structuring of the computer system are based on distributed computers linked via fast networks. This approach requires the sequence of the work to be carried out in terms of processing but the sharing of common database. In this respect, EWBANK PREECE recommended that "It may be found to be more attractive, both in terms of cost and processing speed, to consider having separate CPUs for the Accounting/Payroll section, the Maintenance/Stock Control section, the Billing and Technical data and the Management information section."

In planning the future MIS, it is recommended to have thorough studies regarding functions, systems, specifications, etc., with assistance by specialists and to decide the framework of the MIS to be expanded.

5. Future Organisation and Management Improvement for SLT

5.1 Reform of Organisation of the Headquarters of SLT

(1) Finance

One of the key functions of Finance is the ability to raise fund and to get loan from financial institutions on conditions as favourable as possible. Given the present and future necessity of investing huge amount in the enlargement and reinforcement of the telecommunications infrastructure and the improvement of the quality of the telecommunications services in Sri Lanka Finance must always play a vital role. Particularly in case the privatisation of SLT is realised in the future, SLT will be put in a situation to get necessary funds and loans by itself through this function of Finance.

In view of securing the revenue consisting principally of telephone subscribers fee, it is of great importance to improve and strengthen the billing and collection function and process attributed to Finance Division. To modernise and rationalise the billing system and to improve rate of bill collection is an urgent and indispensable action to be taken.

(2) Accounting

As severer competition is foreseen in the telecommunications sector in Sri Lanka as a result of opening the market to private enterprises, it is requested for SLT to clearly grasp the financial status of SLT itself and the function of Accounting Unit of SLT to carry out precise settlement of accounts needs to be strengthened. It is considered necessary that the present organisational hierarchy of the Unit Accounting will be upgraded to GM Accounting instead of DGM Accounting.

In general, it seems necessary that the Finance Division of SLT re-analyses and re-adjusts as the first step the present role of each group under the control of Director Finance. Given a future possibility of the privatisation of SLT, this is a very important issue, but concrete steps and shapes of the re-organisation of the Finance Division of SLT should be

planned and implemented by SLT itself by taking into consideration the organisational history and the managerial customs of SLT.

(3) Corporate Planning

At present, Corporate Planning Unit consisting of a small number of staff is under the direct control of Managing Director, this being a sound and reasonable system given its lateral and cross-sectional character. The fact that this Unit is composed of few staff is also reasonable because the function and the role required to this Unit is "Small numbers and exceptional talents". What needs to be carried out in this Unit is to have a GM. To guide SLT properly and to achieve its sound development, the role of Corporate Planning Unit seems to have more room to act in the near future.

(4) Marketing and Public Relations

From the standpoint that the telecommunications services are international merchandises the demand for which is expected to be ever-growing under hard competition, the marketing of these merchandises produced by SLT and the proper public relations with regards to the activities and the services provided by SLT is of indispensable nature. This is even more important given a future possibility of the privatisation of SLT which will force SLT to act as a private company one of which characteristic is continuous marketing of its own products.

In relation to this issue of Marketing and Public Relations, it is worth while to note and study as a middle and long term subject the possibility of re-organising the organisation of SLT according to the kinds of services as strategic business units like Long Distance Communications Unit, Cellular Mobile Communications Unit, Data Network Unit, Visual Communications Unit, etc., as some of telecommunications operations in the world are trying.

5.2 Decentralisation of Organisation

At present, a size of the network in SLT is approximately 240,000 lines. However, in the 10 years time to come, the size of SLT network will be expanded to the order of one million lines. In order to control and manage an expanded huge network, the managerial organisation should be coherent with the network organisation. Therefore, decentralisation of the SLT organisation within 5-10 years to come should be an inevitable request.

On the other hand, the Headquarters tasks should be relieved of the operational details and to be concentrated to the functional management tasks. Transfer of HQ functions to the lower level organisations should be made gradually and for O&M concerned functions should be at first, Planning should be at last.

5.3 Establishment of Regional Organisations (Intermediate Level)

(1) Three Regional Offices in the Area other than Colombo

A limited number of qualified Engineers have to be spread over to whole Regions. The Network Management system (TMN/NMS) are introduced and the remote control system of the network becomes available. Therefore, now the managerial area boundary should be enlarged based on the enlarged maintenance surveillance area of NMS.

It is considered appropriate that one managerial area will be each TSC area (Tertiary Switching Centre area). Therefore, it is recommended to merge present sub-division of 7 regions in the Regional Area into 3 TSC areas in order to greatly improve the business productivity (3 Regional Offices : Galle, Kandy and Anuradhapura).

(2) Regional Office in Greater Colombo Area

Two alternatives are considered;

- **Option 1**

  One managerial area, as the network in greater Colombo area is one self unity even though the network configuration is hierarchically consisting of NSC, TSC, SSC and LE but TSC and SSC in Colombo area are virtual,
  - Greater Colombo area is one Local Area, and integrated management under one hand is advisable.

- **Option 2**

  Two Managerial Areas, i.e., Colombo Metro & Colombo Outskirts Region, as new TSC Negombo will be established, the Colombo managerial area may be broken into two Managerial Areas.

(3) Review of SSC Area

Following conditions should be taken into consideration in case re-arrangement of SSC area boundaries, link to TSC have to be studied:

a) Existing network structure (Star link TSC - SSC - EO),
b) Geographical restrictions for maintenance,
c) Present RTE maintenance area size is considered appropriate in general.
Area size in average is 45km x 45km square or 25km radius circle.
(Sri Lanka dimension : 66,000 km^2 / 33 RTEs = 2000 km^2)

5.4 Job Assignment in Each Organisational Level

(1) Headquarters level functions

HQ level organisation should be concentrated to Administrative jobs such as:
a) Preparation of Operation and Maintenance Policies,
b) Issuance of Instructions,
c) Standardisation of Methods and Procedures,
d) Negotiation, liaison with other HQ divisions, other domestic, foreign parties,
e) Preparation, approval of Budget,
f) New projects formation,
g) Administration of budget consumption, work progress, QoS, NP improvement, network management.
h) Domestic and foreign training planning and implementation.

(2) Intermediate managerial level functions

Regional level organisation should be such as:
a) Improvement of the networks,
b) Higher level trouble shooting for operation and maintenance,
c) Monitoring, analysis and instruction for improvement of traffic, QoS and performance indicators,
d) Contracting of new connections, repair works,
e) Preparation of regional budget,
f) Regional projects formation,
g) Administration of budget, work progress, human resources.

h) Regional training planning and implementation.

(3) Maintenance area office level functions

RTE and exchange/station level organisation should be such as:

a) Day to day operation and maintenance works,
b) Customer relations,
c) Material management,
d) Small projects, and new connections,
e) Periodic measurements of traffic, QoS and performance indicators and reporting.

(4) Utilisation of Contractors for New Connection Work

It is recommended that the new connection works and project installation works should be generally entrusted to the contractors as for the reasons that SLT organisation and staff should be concentrated to customers oriented services, e.g., operation and maintenance service, customer service, planning, administration and supervision works and to improve productivity of SLT staff.

5.5 Business Target Indexes

The subject has been discussed in the Sub-section 2.3 Quality of Service and Network Performance, Chapter 11 "Operation and Maintenance".

The following table shows the target Quality of Service (QoS):

Table 13-5-1 Target Quality of Service

Item/Year	1994	2000	2005	2010	2015
Call completion rate	28%	45%	55%	63%	70%
Faults/month/100DELs	26	15	10	7.5	5
Faults clearance rate next day (24 hours)	55%	85%	90%	93%	95%

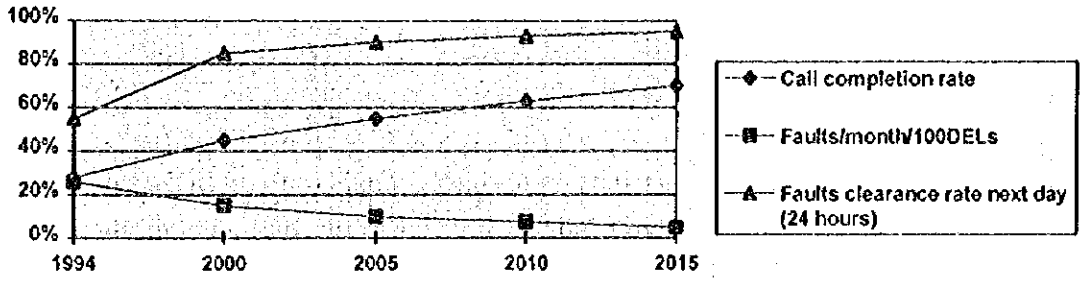

Figure 13-5-1 Target Quality of Service

6. Institutional Issues

6.1 Preface

JICA Telecom Study Team stated its basic concept on this subject in the Progress Report reviewing the past and present institutional situation of the telecommunications sector of Sri Lanka as well as its future predicted situation and the manner in which JICA Telecom Study Team would handle this subject in the Interim Report.

The central subject of Institutional Issues is how to build the framework which will facilitate the realisation of the main objectives in the telecommunications sector set out by the government of Sri Lanka and in order to attain these objectives it is important to handle the subject of how to reform, rationalise and activate SLT since SLT has been playing the dominant role and will continue to keep the key position in the telecommunications sector of Sri Lanka in the future as well.

6.2 Recommended Options for Institutional Framework

JICA Telecom Study Team recommends the following four options for the institutional framework of the telecommunications sector of Sri Lanka by taking into account the possibility of the privatisation of SLT and introduction of the principle of competition into the basic telecommunications services.

Option 1:
SLT will keep the status of public corporation and will provide the basic telecommunications services exclusively but will make continuous efforts to reform, rationalise and activate its organisation and business.

Option 2:
SLT continues to be a public corporation but private companies will be allowed to enter the field of the basic telecommunications.

Option 3:
SLT will be privatised and will keep the position of the exclusive provider of the basic telecommunications services.

Option 4:
SLT will be privatised and the participation of private companies in the basic telecommunications services will be allowed.

JICA Telecom Study Team then gives hereunder the merits and demerits of each option from the standpoint of the realisation of the objectives of the telecommunications set up by the government of Sri Lanka.

6.2.1 Option 1

SLT will continue to be a public corporation on condition that SLT will definitely keep on activating and rationalising every aspect of its organisation, management, operations, labour efficiency etc.

The basic telecommunications services like local long distance and international telephone, telegram, telex services will continue to be provided by only SLT on condition that SLT will be able to continue to provide high quality basic telecommunications services throughout Sri Lanka.

The merits of this option are:

(1) It is possible for the government of Sri Lanka to concentrate the precious resources like funds, manpower, technology etc. on a state-owned public corporation and to avoid dual investment and excessive competition in the sector concerned, which will have possibility to enable in an effective way the early realisation of the national objectives in the telecommunications sector.

(2) It is possible to promote the basic telecommunications infrastructure in the regions which have been poor in it because the government of Sri Lanka continues to keep the position to push SLT to pursue the above national objectives in the telecommunications sector.

(3) By keeping the status of state-owned public corporation it is possible for SLT to secure international official funds and loans of favourable conditions represented by ODA which have been playing an important role to satisfy the necessary fund requirement in order to attain the national objectives of the telecommunications sector.

The demerits of this option are:

(1) In this option it depends upon the capability of SLT to draw near to the goal of the national objectives since SLT is a sole operator in the basic telecommunications field. SLT needs a huge and incessant effort to enhance its capability and it cannot be denied that the self reform of SLT will be harder and will take more time than that to be pursued under the competition introduced by allowing the entry of private enterprises into the basic telecommunications field.

(2) One of the national objectives of Sri Lanka in the telecommunications sector is to enhance the quality of the services, which necessitates the introduction of advanced technologies from abroad. Objectively speaking it seems that there will be a certain limit for SLT by keeping the status of public corporation to react rapidly and efficiently to the ever-progressing technological development of the telecommunications which is taking place on a world wide scale.

(3) The improvement of the morale of SLT's staffs and employees is one of the key factors to enhance the capability of SLT to give better customers services, one of the national objectives. It seems that there will be a certain limit for SLT to provide real customer services by keeping the status of public corporation. It seems more natural and easier to react to the requirements of customers in a shape of private enterprise under the motto "The customer is the king.".

6.2.2 Option 2

Like the Option 1 SLT will keep the status of state-owned public corporation but the sector of the basic telecommunications will be opened to private companies.

The merits of this option are:

(1) In this option SLT and some private companies operate in the same field of the basic telecommunications services but the existence of SLT as a major operator is still very important from the viewpoint of the realisation of the national objectives. It can be expected that SLT will be stimulated to rapidly reform its organisation and business as a result of the competitions with some private companies.

(2) As a result of allowing private companies to act in the basic telecommunications field the total amount of investments will have possibility to increase and faster construction of the telecommunications infrastructure will have possibility to be achieved too, which will satisfy one of the national objectives.

(3) Like in the option 1 the available resources of the government will be possible to be selectively thrown into SLT, the state-owned telecommunications company, in order to strengthen and rationalise it, which will be very desirable from the standpoint of the realisation of the national objectives.

(4) SLT will continue to have possibility to get international official funds of favourable conditions, which is one of the necessary conditions to achieve the national objectives in the telecommunications sector.

(5) It can be expected that the objectives of the government of Sri Lanka will be carried through with relative easiness by making the best of SLT's position as only one state-owned telecommunications company under the government control.

The demerits are:

(1) To provide the basic telecommunications services throughout Sri Lanka is one of the national objectives in the telecommunications sector but there is a possibility that SLT will unable to afford to invest in the regions which are telecommunications-wise undeveloped since as a result of predicted competition with private companies SLT will be forced to operate mainly in the regions which already have a considerable level of the telecommunications infrastructure and do not need so much investments as the regions which are poor in the telecommunications infrastructure.

(2) To provide the better quality of the telecommunications services is one of the national objectives and it is important to rapidly catch up with the world-wide technological developments. It is somewhat questionable that SLT will be able to follow the fast technological development of the telecommunications on a world wide scale if SLT keeps the status of public corporation which is generally slower than private companies from the viewpoint of introducing new technological developments.

(3) It seems that there may be a certain limit for SLT to drastically change the morale of its employees if it continues to be a state owned public corporation because it is said

generally that public corporations are less active than private companies in this concern. The enhancement of the morale is naturally important for SLT to give better telecommunications services which is one of the national objectives.

(4) There will exist a risk of excessive competition as a result of the existence of private companies in the same field as SLT, which may lead to concentration of the operations of SLT and others in certain regions where they expect to make a profit, which will be against a national objective to spread the telecommunications services throughout the country.

6.2.3 Option 3

SLT will be privatised and the basic telecommunications services will continue to be provided by only SLT.

The merits of this option are:

(1) In this option the privatised SLT is the sole operator in the basic telecommunications services to seek for the realisation of the national objectives which depends upon the enhancement and improvement of the capability of SLT in every aspect through privatisation. If the privatisation of SLT is successful by fulfilment of certain conditions, it will be possible to rapidly and effectively activate and rationalise SLT. Those necessary conditions which are indispensable for the successful privatisation of SLT will be described later in this Section.

(2) SLT will be in need of superior technical and managerial technology as well as an access to abundant financial fund sources in order to achieve the national objectives as a single telecommunications operator in the basic telecommunications sector in Sri Lanka. SLT will have a good possibility to get those resources if it properly selects suitable partner or partners which have those merits.

(3) To provide good quality and customers-oriented services is an important national objective and it necessitates the improvement and enhancement of the management, the operation, the morale of the employees and so on of SLT. Through the privatisation SLT will have a good possibility to reform itself in this concern if certain conditions are fulfilled.

The demerits are:

(1) The privatisation of SLT will be a very strong method to achieve the national telecommunications objectives if it is successfully carried out. However there exists always a certain risk that the merits of the privatisation of SLT, the proper vitality of private entity rapid reactions to customers needs and to technological development and so on, cannot be fully realised in an institutional framework that the basic telecommunications services will continue to be provided exclusively by SLT. The institutional framework of this option has always a possibility to give room to SLT to be too dependent on this monopolistic status in the field of the basic telecommunications services.

(2) To realise the national objectives of the telecommunications in Sri Lanka needs a big amount of fund a part of which has been provided by the international official funds like ODA. In this option SLT will have a possibility not to be able to rely upon foreign official fund assistance as in the past since so far ODA has not been given to private entities. It goes without saying that SLT does not need to depend so much upon ODA if it finds a partner or partners which have enough ability of financing and funding.

6.2.4 Option 4

SLT will be privatised and the field of the basic telecommunications services will be opened to private companies.

The merits of this option are:

(1) As described above the privatised SLT has a good possibility to play a key role for realising the national objectives in the telecommunications sector of Sri Lanka. The privatised SLT will have a possibility to fully exercise its merits as a private entity under the situation that the introduced competition into the field of the basic telecommunications services will induce SLT to make the best of the privatisation like superior management and operations, high technical level, high morale of the employees and strong capacity of funding and financing etc. which are necessary conditions for meeting the customers demands for the provision of the high quality telecommunications services throughout the country.

(2) To achieve the national objectives of the Sri Lanka telecommunications needs a big amount of investments. This option will have a possibility to increase the investments in the infrastructure of the basic telecommunications and to hasten the pace of extending the

basic telecommunications services throughout Sri Lanka through the privatisation of SLT and by the introduction of the principle of competition in the field of basic telecommunications.

The demerits are:

(1) There will be a risk of excessive competition among the private companies including SLT which has a possibility to make those competing each other unable to make enough profit to cover the cost, which then will cause another risk leading to the level down of the service quality and the shortage of the necessary investments etc., all of which are against the national objectives of the telecommunications sector.

(2) There will be a risk that SLT and other private companies will concentrate their investments and services on certain regions where they will be able to make enough profit in order to keep on existing in competing each other and this may lead to a situation that the regions which have been so far poor in the basic telecommunications infrastructure will continue to stay unimproved in this concern, which is naturally against the national objectives of the sector.

(3) The international official funds like ODA has been playing an important role in achieving the national objectives of telecommunications in Sri Lanka by meeting the investments demands of the telecommunications infrastructure. This option will have a risk that SLT will not be able to secure ODA as before as a result of the privatisation since ODA has not been provided to private entities.

6.3 Conditions to attain the National Objectives

It is necessary to carefully study each of the above institutional options and to compare each other to establish the base which will ultimately make it possible to attain the national objectives and it is also of significance to describe hereunder some important conditions in relation to the above options to realise the national objectives of the telecommunications sector in Sri Lanka.

(1) Keeping of the influence of the government of Sri Lanka: The telecommunications infrastructure in Sri Lanka has still much room to be enlarged and enhanced, which the government of Sri Lanka set out as one of the national policies. Even after SLT is privatised, it will be SLT that plays a major role in achieving these national objectives in the sector of the telecommunications. Judging from what JICA Telecom Study Team heard from some key persons on the issue of the privatisation of SLT it seems that the

government of Sri Lanka intends to keep a certain percentage, 70-90%, of the equities of the privatised SLT from the standpoint to keep the leading position in the management of the privatised SLT to achieve the national objectives. In view of still low teledensity it is vital to keep the influence of the government of Sri Lanka in SLT even after it will be privatised.

(2) Enough consideration to be given to the regions which are poor in the telecommunications infrastructure: It will be necessary to give investment priority to the regions which are poorly equipped with the telecommunications facilities. If the privatised SLT follows only the principle of the capital i.e. profit making, SLT will not make investments in such regions and they will have a risk to stay undeveloped as far as the telecommunications services are concerned. Then the privatised SLT will be required to utilise the profit obtained from the international telephone services for the investments in the above mentioned undeveloped regions.

(3) Certain obligations to be given to private companies: In case private companies are allowed to provide the basic telecommunications services, it will be necessary for the regulatory organisation to place private companies under certain obligations when giving them the license of operation. The most important of these obligations should be to stipulate the licensed telecommunications operators to invest also in the regions which are undeveloped in the basic telecommunications infrastructure and to operate properly in those regions. By doing so it will be possible to a certain extent to avoid demerits of the options which allow the competition that the regions which are telecommunications-wise poor will be left behind the basic telecommunications services.

6.4 Conditions of Successful Privatisation

In the above mentioned 4 options the privatisation of SLT is a key subject except the Option 1 and 2. As stated above the privatisation of SLT is a very useful and strong method to enlarge, activate and enhance the telecommunication services in Sri Lanka if the privatisation of SLT is properly carried out and the merits of the privatised SLT are fully realised. It is thus very important to study and describe the necessary conditions to make the privatisation of SLT successful.

Those conditions are:

(1) Selection of the best partner: This is the start of the concrete actions for the privatisation and in a sense the most important factor and condition for SLT to be successful

in the privatisation. It is quite desirable to choose the partner or partners which wish to take part in the ownership as well as in the management and operations of SLT from among companies which have been engaged in the telecommunications services and have fine business results as well as enough experiences. In view of the enormous amount of investment which SLT is in need of it is also necessary to choose a partner or partners which have enough ability to finance and raise necessary funds.

(2) Setting the tariff of telecommunications at reasonable level: It seems that some imbalances exist in the tariffs of the telecommunications in Sri Lanka. The monthly subscription fee, approximately Rs. 80, seems too low in comparison with the relevant cost and shall be modified to a reasonable level which reflects the actual costs. Till now the financial statements of SLT have been very healthy and SLT has been making substantial amount of profit owing mainly to the revenue obtained from the international telephone services but SLT will be forced to cope with the smaller yearly growing rate of revenues as a result of the increase of private subscribers and more intense competition with other telecommunications operators especially after SLT will be privatised. To cope with such future tendency the reasonable tariff adjustment seems necessary for SLT.

(3) Reform of organisation and management: This is an indispensable subject for SLT to achieve and will be even a more vital issue in case SLT will be privatised since it is foreseen that SLT will be thrown into a severe competition. Whether or not SLT competes with other private companies, the subject of modernising and reforming the organisation and management are unavoidable issues for SLT in order to be successful in the privatisation or to get the real merits of the privatisation. The concrete recommendations on this subject are given in the preceding sections of this Chapter 13.

CHAPTER 14

FINANCE AND INVESTMENT

CHAPTER 14

FINANCE AND INVESTMENT

1. Financial Performance of SLT

To conduct a financial analysis of the entire telecommunications sector, it is essential to secure Profit and Loss Statements, Fund Flow Statements, and Balance Sheets with regard to SLT and other telecommunications operators. However, with the balance sheets of private telecommunications operators unavailable for this report, only SLT is financially analysed.

Since the figures in Balance sheets had only become credible after SLT became a Parastatal in 1991, financial analysis were possible only for the four-year period from 1991 through 1994, Also, the data in the Balance sheet for the fiscal 1991 is only for a four-month period. Result of the analysis are indicated in the Tables 14-1-1 to 14-1-4.

1.1 Stability

In order to analyse the financial stability, we have review **Solvency ratio** (equity to total assets), **Self-financing rate** (annual depreciation plus surplus to annual investment), Debt/Equity ratio (Interest bearing loans to Equity) and **Interest coverage ratio** (Interest expense plus profit before tax to Interest expense). As the investments were made on massive amounts, and their effects were reflected on the relevant financial statements of the latest four years ended December 31th, 1994, the analysis was focused on those four years.

The Solvency ratio rose from 64.5 percent in 1991 to over 70 percent in 1992 and 1993. Since the target for this ratio is 40 percent, these figures indicate that SLT can afford to increase the proportion of outside capital, that is, Long term loans and other borrowings, in its capital structure.

The Self-Financing ratio of annual capital investment reveals that the ratio of dependence on loan has been consistently low from 1991, and that investments have been mainly covered by profits, depreciation and amortisation, etc. In both 1992 and 1993, this ratio stood at 100 percent ; then in 1993 when there was a great deal of investment it was 66.82 percent. To adequately respond to telephone demand, it is indispensable to conduct

large-scale capital investment, which, in turn, requires a balanced introduction of outside capital.

Meanwhile, **the Debt Equity ratio** (the rate of interest bearing loans to net assets) indicates a recovery from 55 percent in 1991 to 47 percent in 1994. These figures not only evidence the financially stability of SLT but also indicate that it can afford to make more capital investments. Judging also from the Interest Coverage ratio of 8.64 in 1994, SLT's financial conditions seem to be flexible enough to allow a very positive evaluation.

1.2 Liquidity

The Liquidity ratio for 1994 stands admirably at 525.25 percent yet, it is necessary to analyse how this high level was achieved. Normally, the liquidity ratio should stabilise around 200 percent. Seemingly, this level has been exceeded because of greater figures in cash equivalents and debtors. An increase in the number of creditors is also part of the reason. This matter should be studied by SLT finance section, and the results need to be reflected in its future management plan.

1.3 Profitability

The profit margin which was 58 percent in 1992 and temporally dipped in 1993, recovered to 50.98 percent in 1994, demonstrating a very high profitability.

1.4 Growth Potential

One effect of the afore-mentioned high profitability is a sustainable growth potential. It was found that **the Sustainable Growth ratio** increased from 0.535 times of initial funding in FY 1992 to 1.205 times of initial funding in FY 1994, accompanied by improved profitability. This implies that current financial conditions will facilitate additional new investment in the future.

1.5 Overall Evaluation

Fixed asset turnover ratio, indicative of capital investment efficiency, stood at 0.56 in 1992; however, it has recently fallen to 0.37 due to a delay in realising revenues from capital investments made in 1994. The figure is expected to recover as these revenues are realised.

Return on capital employed, representing the total investment effects, has been gradually decreasing to 9.35% with constant capital investment. The great decline from 1992 through 1993 is attributable to synergistic factors of changes in the tariff system and increase of capital investment. However, 9.35 percent is, in itself, an excellent figure. In addition, profit margin and solvency ratio are 50.98 percent and 67.90 percent respectively.

The interest coverage ratio of 8.64 percent also indicates that it will be possible to introduce additional loans. In other words, Study team can conclude that the SLT financial management is sufficiently stable. The growth potential also represents a progressively increase (1.205 times in 1994). A comprehensive look at these figures reveals that SLT continues to maintain a sound financial condition, ready to be commercialisation.

Enhanced sustainable growth is also exemplified by a retained profit of 8.9 billion rupees from initial funds of 7.4 billion rupees. This is evaluated as indicating sufficiently equipped grounds for sound operations.

Table 14-1-1 Operating Statement

Unit: SRs ,000

Items	1991	1992	1993	1994
OPERATING REVENUE				
LOCAL CALL	519,904	1,394,724	1,759,129	2,077,729
INTERNATIONAL CALLS	435,847	1,362,193	1,718,100	2,078,382
INTERNATIONAL SETTLEMENTS	421,930	2,062,000	2,374,706	2,530,694
LEASED CIRCUITS	10,879	31,171	38,495	50,375
TELEGRAPHS	7,492	32,546	29,225	8,259
TELEX	126,120	355,371	315,172	286,835
OTHER	24,960	280,313	414,769	542,356
TOTAL	1,547,132	5,518,318	6,648,596	7,574,630
LESS SLT Telephone Cost	19,115	55,138	1,321,260	86,953
B.T.T.	54,686	260,834	699,381	881,211
NET TURN OVER	1,473,331	5,202,346	5,817,089	6,606,466
OPERATING EXPENDITURE				
PERSONNEL COST	153,090	564,409	935,597	968,906
OTHER COST	149,973	546,935	816,936	930,224
DEPRECIATION	237,424	727,869	859,709	869,892
TOTAL	540,487	1,839,213	2,612,242	2,769,022
OPERATING PROFIT	932,844	3,363,133	3,204,847	3,837,444
OTHER INCOME	30,253	368,684	617,375	528,967
NON OPERATING EXPENDITURE				
Interest on Foreign Loans	187,862	527,619	519,466	505,112
Levy to Treasury	0	0	771,818	0
NET PROFIT B. TAX	775,235	3,204,198	2,530,938	3,861,294
TAX	0	0	106,000	1,467,000
NET PROFIT A. TAX	775,235	3,204,198	2,424,938	2,394,294

Table 14-1- 2 Fund Flow Statement

Unit: Rs ,000

Items	1991	1992	1993	1994
SOURCES				
Net Profit Before Taxation	775,235	3,204,197	2,530,616	3,861,294
Depreciation for Fixed Asset & Investment	237,523	727,870	859,709	869,892
Provisions	2,900	79,784	88,353	71,343
Funds Generated from Operation	1,015,558	4,011,851	3,479,678	4,802,529
Increase in L-T debts	84,969	296,913	836,422	2,019,209
Grants	0	8,227	1,599	0
TOTAL	1,100,527	4,316,991	4,316,699	6,821,738
APPLICANTS				
Increase in Work in Progress	87,216	1,303,749	1,473,135	5,068,526
Increase in Fixed Assets	0	390,106	1,760,956	756,983
Increase in Investments	7,494	62,370	195,030	1,354,616
Adjustment to Contributed Capital	0	0	9,955	6,032
Change in Working Capital	1,005,817	25,600,766	877,623	-364,419

Table 14-1-3 Balance Sheet

Unit: Rs ,000

Items	1991	1992	1993	1994
FIXED ASSETS				
Fixed Assets	7,178,859	6,880,447	7,818,745	7,745,184
Capital Work in Progress	115,984	1,419,933	2,892,868	7,961,394
Investment	901,945	924,967	867,391	2,182,658
CURRENT ASSETS				
Stocks	193,447	150,531	421,491	563,855
Debtors	3,739,045	4,109,504	4,054,584	5,314,704
Advances & Receivable	507,028	636,031	1,066,829	1,294,413
Cash Equivalent	1,001,155	3,203,507	4,270,396	2,357,822
CURRENT LIABILITIES				
Creditors	-904,005	-569,393	-1,280,796	-1,142,661
ST-Loan	-	-502,531	-451,813	-671,861
Corporate Tax Paid	-	-	-106,000	-1,467,000
NET CURRENT ASSETS	4,536,670	7,017,649	8,080,691	7,716,272
TOTAL ASSETS LESS CURRENT LIAB.	12,733,458	16,242,796	19,553,695	24,138,504
FINANCED BY				
Contributed Capital	7,443,740	7,443,740	7,433,785	7,427,753
Grants		8,227	9,826	9,827
Retained Profit	0	775,235	3,979,462	6,559,128
Net Profit after Tax	775,235	3,204,198	2,424,938	2,394,287
CAPITAL AND RESERVES	8,218,975	11,431,400	13,848,011	16,390,995
LONG TERM LIABILITIES	4,514,483	4,798,316	5,673,963	7,693,172
DEFERRED LIABILITY	0	13,080	31,721	54,336
TOTAL	12,733,458	16,242,796	19,553,695	24,138,504

Table 14-1-4 Significant Financial Ratio

Unit: Rs ,000

Items	1991	1992	1993	1994
STABILITY RATIO				
Debt/Equity(%)	55%	42%	41%	47%
Interest Coverage Ratio	5.13	7.07	7.36	8.64
LIQUIDITY RATIO				
Current Ratio	601.84%	754.68%	566.39%	525.25%
PROFITABILITY RATIO				
Profit Margin	50.11%	58.06%	38.07%	50.98%
GROWTH RATIO				
Sustainable Growth Ratio	0.104	0.535	0.862	1.205
SOLVENCY RATIO	64.55%	70.38%	70.82%	67.90%
SELF FINANCING RATE	1072.28%	228.44%	101.15%	66.83%
L-T DEBT TO TTL CAPITALISATION	33.10%	27.71%	26.52%	28.06%
EQUITY TO TTL CAPITALISATION	60.27%	66.02%	64.73%	59.78%
RETURN ON NET FIXED ASSET	9.46%	34.73%	20.94%	13.38%
RETURN ON CAPITAL EMPLOYED	6.09%	19.73%	12.33%	9.35%
FIXED ASSET TURNOVER RATIO	0.18	0.56	0.50	0.37
ACCOUNT RECEIVABLE (DAYS)	304.54	284.37	250.92	289.60

2. Investment status

Table 14-2-1 indicates total investment and its GDP ratio from 1992 through 1994.

Table 14-2-1 Total Telecom. Investment

Unit : US$ million

Items	1992	1993	1994
GDP	8,413	9,135	10,470
SLT	38	69	143
Other operator	5	20	23
Telecom. Inv./GDP	0.51%	0.97%	1.59%

The GDP ratio has been increasing from year to year, which indicates SLT's active involvement in eliminating stagnation of demand fulfilment. Despite repeated requests by the Government of Sri Lanka (GOSL), SLT did not succeed in reducing stagnation of demand fulfilment due to a problem with raising funds, although it has done its utmost to respond to such requests. However, thanks to the realisation of such on-going projects as represented by the 150K Project and the OECF Project, it has been on the right track to eliminate stagnation of demand fulfilment since 1994.

Table 14-2-2 indicates SLT's investment plan for 1994 through 1998. Estimated from the current amount of stagnation of demand fulfilment, the current investment plan will regrettably be incapable of eliminating it within the intended time. In other words, the investment plan is too conservative to eliminate stagnation of demand fulfilment. It is therefore necessary to ask why they settled on such an investment. The reason is, after all, a lack of funds and proper planning.

The investment status of the company, as shown in 1.1 of this chapter, reveals that the interest coverage ratio was 8.64 in 1994. The future management plan projected by SLT Finance section, calls for a solvency ratio exceeding 55% in 1998 when the amount of loan will peak. These figures suggest a conservative management style, and also indicate great potential for introducing additional loans.

These phenomena seemingly contradict each other, yet together pose a problem intrinsic to any parastatal. SLT is required to submit a list of projects it intends to implement, and then has to wait for its turn to receive a distribution of external funds. In other words, necessary funds cannot be utilised at the appropriate time on the appropriate scale. The

amount of external resources given each fiscal year are not free from conditions such as the balance with other sectors and the circumstances of the country providing aid. Furthermore, there are sometimes time-lags of two to three years between the decision to grant aid and the actual implementation of projects. This reality poses certain limitations on their investment plans.

Judging from SLT's financial status and surrounding conditions, it is recommended that it obtain management independence as, for example, a state own company, instead of retaining its current status as a parastatal.

Table 14-2-2 SLT Investment Programme (1/2)

Proposed projects - funding agency not identified

Unit : million SRs

S. NO	Project Designation	Funding agency	Total Est. Cost
94011	Rural Telecommunication Project		9754.00
94013	Combined Run Phase I & II		655.00
94035	Network Management Central for Switching and Transmission		
94037	Participation and Investment in FLAG Project		
94038	Construction of a Third International Gateway Switch		
94039	Construction of a New Standard-A Earth Station		
94040	Expansion of the Trunk Transmission Project		305.00
94041	Expansion of MIS Project		
94042	Tartiary Switching Center at Negombo		
94043	Improvement of Telecommunication Training Facilities		
94044	Expansion of Colombo Metro South Exchange (French Pro. expected)		1666.00
94046	North and East Reconstruction Programme		
94047	Improvement of Telecommunication Facilities in Colombo SSC area		2240.90
	SUB TOTAL		14620.90

Proposed projects funded by SLT

Unit : million SRs

95000	SEA-ME-WE III (Submarine Cable)	SLT	1000.00
93058	Rehabilitation of Chilaw and Madampe	SLT	10.36
94014	Mobil Radio Systems	SLT	40.00
94045	Expansion of Horana and Ingiriya Exchanges	SLT	134.39
	SUBTOTAL		1184.75

Table 14-2-2 SLT Investment Programme (2/2)

Small Scale Projects funded by SLT

Unit : million SRs

S. No	Project Designation	Funding agency	Total Est. Cost
91013	Local transmission Links for WB/Project Exchanges(spur link)	SLT	441.00
91015	OSP Development in 9 Regional Stations	SLT	326.22
94048	SEA-ME-WE II	SLT	22638.00
91016	Subscriber line connections in Regions	SLT	162.30
91025	Multiaccess Radio Systems	SLT	217.76
91027	Single Channel radio Systems	SLT	47.60
92017	Crash Programme for Cable Augmentation and sub connection in Colombo	SLT	739.50
92028	Colombo Katunayake Link expansion (Tx)	SLT	1.35
93050	Investment in TAT 12/13 Cable	SLT	39.20
93051	Investment in Columbus II Cables	SLT	21.08
93053	Investment in MT Cable	SLT	4.84
93054	Intelsat Sat. Capacity	SLT	134.00
93061	Colombo PCM Expansion 2	SLT	2.39
93066	Colombo PCM Expansion 3	SLT	59.55
94000	5ESS Gateway Expansion No. 2	SLT	19.50
	SUB TOTAL		24854.29

Ongoing projects funded by doner agencies

Unit : million SRs

S. No	Project Designation	Funding agency	Total Est. Cost
91029	International Tele. Network Facilities Project	ADB	856.20
91030	2nd telecommunication Project (ADB) Trunk Transmission Network	ADB	1312.06
91031	Technical Assistance Trunk Transmission	ADB	28.25
91032	Technical Assistance for International Network Facilities	ADB	15.42
91033	Revenue & Operation Support System (ROSS)	ADB	172.25
91044	Matara telecommunication Development Project	FINNISH	1044.66
91065	Consultancy for Matara Project	FINNISH	11.20
92035	2nd Telecommunication Project (Exchanges)	IDA/WB	2757.20
92037	Exchange Rehabilitation	IDA/WB	168.23
92038	Technical Assistance for 2nd telecom Project	IDA/WB	85.24
93040	GCTNIP II-Package I (Greater Colombo Area)	OECF	3430.55
93041	GCYNIP II-Package II (Gampaha & Katunayaka Area)	OECF	1387.70
93049	OECF III Regional Telecommunication Development Project	OECF	3093.20
94001	150K Suppliers credit Project	Supp. cra	7981.39
	SUB TOTAL		22343.55

	GRAND TOTAL		63003.49

3. Tariff System

The current tariff system was revised in March 1993.

As Table 14-3-1 indicates, only two tariff brackets, one STD and one Non-STD, are in use, which means that the tariff is not calculated on the basis of distance. For example, there is no difference between the charge of a Colombo-Gampaha call and that of a Colombo-Jaffna call. In addition, the tariff levels are set extremely low, without considering actual investment efficiency, as is commonly seen in former socialist countries.

The revenue structure of 1994 reveals that 70% of it is international calls. Furthermore, 60% of all subscribers pay only 500 SRs / month or less for their bills. Viewed in the light of the special circumstances of Sri Lanka, the current tariff system clearly indicates that the lower price set for domestic calls creates greater opportunities for the widespread use of telecommunications. On the other hand, international calls are basically collected from profitable business users, as a cost bearing by beneficiaries. It seems that the current tariff system can be viewed as quite adequate for the social condition of Sri Lanka, under the current development stage of telecommunications.

Table 14-3-1 Current Tariff System since March 1993

Categories	Time allowed for one unit	
	Standard Rate 8 a.m. to 6 p.m.	Cheap Rate 6 p.m. to 8 a.m.
Between two subscribers of same Primary/Secondary Centre Area	120 Seconds	240 Seconds
Between any two Secondary Centre Areas	50 Seconds	100 Second

Note : Cost of a Unit a) Rs 1.20 per unit for the first 200 units

b) Rs 1.80 per unit for 201 units and above

Table 14-3-2 Former Tariff System as at 1992

Categories	Time allowed for one unit		Charge Letter
	Standard Rate 8 a.m to 6 p.m.	Cheap Rate 6 p.m. to 8 a.m.	
Between Two Subscribers of the same exchange(Local calls)	120 Secs.	240 Secs	
Two Exchanges within the same Group Switching Centre	100 Secs	200 Secs	
Two Exchanges within different Group Switching Centres	50 Secs.	100 Secs	A
	30 Secs	60 Secs	B
Each category is depend on distance	18 Secs	36 Secs	C
	15 Secs	30 Secs	D
	10 Secs	20 Secs	E

Table 14-3-3 Telephone Call Charges from 1983 to 1993

Unit : SRs

Year	1983	1985	1987	1989	1991		1993	
Local call charge / unit	0.90	1.10	1.10	1.35	1.00	1.50	1.20	1.80
Long distance call charge / unit (Ave. 50 sec)	1.80	2.20	2.20	2.70	2.00	3.00	1.20	1.80
Annual rental								
Business	900	1000	1000	1000	960		960	
Non Business	360	400	400	400	960		960	
Connection charge	7000	7000	7500	7500	7500		13000	

Proposed projects in the Master Plan, however, call for **an increase primarily in the number of residential subscribers**. Because the majority of subscribers will spend only about USD 100 annually, appropriate measures must be taken to deal with this situation. Increase of residential subscriber, namely, **decrease of revenue per subscriber will be come steadily**. Number of subscriber for consumption is shown in Table 14-3-4.

Without any guarantee in sight for securing sufficient revenues in the future, however, SLT will certainly find it extremely difficult to universally satisfy demand in telephone

services throughout the country given the limited financial resources. Revision of basic tariff policy should be examined urgently.

In additions, when private inward investment abroad is introduced into the telecommunications sector in the current situation where projects for residential subscribers are expected to increase, investments in low return projects are likely to be neglected under the current tariff levels. Balancing and restricting measures should therefore be explored.

Table 14-3-4 Number of Subscribers for Consumption in December 1992

Interval in Rupee	International		National		Total	
0 - 200	121,495	92.39%	55,678	42.34%	52,947	40.26%
200 - 500	1,159	0.88%	25,781	19.60%	23,911	18.18%
500 - 1,000	1,438	1.09%	20,421	15.53%	19,216	14.61%
1,000 - 2,000	1,559	1.19%	15,640	11.89%	15,671	11.92%
2,000 - 5,000	2,273	1.73%	10,906	8.29%	12,822	9.75%
5,000 - 10,000	1,427	1.09%	2,325	1.77%	3,867	2.94%
10,000 - 20,000	973	0.74%	529	0.40%	1,582	1.20%
20,000 - 50,000	801	0.61%	103	0.08%	957	0.73%
50,000 -	380	0.29%	122	0.09%	532	0.40%
Total	131,505	100.0%	131,505	100.0%	131,505	100.0%

Source : SOFRECOM

4. Billing and Collection

4.1 Current status of Billing system

SLT staff has been pointing out the following;

Problems to be dissolved ;

a) Computer errors
b) Delay in rendering bills
c) Delay in accounting the payments
d) Misuse of IDD facilities
e) Inadequate trained staff
f) Complaints for over billing

Action to be taken immediately :
Establishment of an "On line Billing system" where all billing centre, shroff counters, & Banks are connected to Main Computer.

Problems have arisen in the collection of telephone bills because of chronic delays in current billing operations. The existing computerised bill processing system has been in operation since 1983 and has already served its designed life span. Hence, this old system gives frequent hardware malfunctions and as a result, the efficiency of the bill processing has been delayed extensively and a number of billing cycles remain pending.

The insufficient capacity of the current computer system is cited as the main reason. The situation is now so backed up that it takes about three to four months to issue telephone bills. The situation is so bad that it takes five to six months to actually receive sales revenues.

In order to rectify this problem, SLT has appropriated replacement expenses for the current computer facilities. When replacement is completed, it will take only two weeks to issue telephone bills, and most of the present problems will be solved.

However, this project was first planned as a part of the MIS project with ADB fund and has been postponed because of delays in the project. Since the billing system is an MIS operation, it is desirable to revamp it through the MIS project. However , this project is only a temporary solution which will leave SLT in a precarious position.

This turn of events has necessitated a partial revision of the contents of the MIS project.

4.2 Current collection procedure

Payments are accepted at :

a) Respective Billing Centres.
b) Any branch of Bank of Ceylon,
   Peoples Banks,
   Hatton National Bank,
   Commercial Bank.
c) Shroff Counters-Head Quarters.
d) Send by posts to Head Office.

(1) Payments accepted at Billing Centres, Non decentralised area

Payments details., along with cheques & Money orders are sent to shroff Division Head Office by post. In the shroff division those payments details are fed to PCs and send the diskettes to computer division for update the accounts.

(2) Decentralised Area.

Cheques & MOO accepted at Billing Centres which are coming under decentralised area. (Kandy, Galle, Ratnapura) are Banked at nearest bank branch and payment details are sent to respective accounting office. Those payment details are feed to computers at the accounting office and send the diskettes to Computer Division once a week.

(3) Payments made at Bank.

Head Office through their carrier system. (However details of payments made by cheques are sent only after the realisation of those cheques) At the bank Head Office those payments details are feed to PC's and send the diskettes along with the credit advice to IT division daily.

(4) Payments accepted at shroffs counters, and cheques & Money orders received by post

Details of payments are feed to PC's and the diskettes are sent weekly to computer Division.

(5) Documentation.

Payments recorded in the diskettes sent by Banks, Shroff Division and Billing Centres are sorted according to the billing centres and printouts of those are sent to respective Billing centres for their information's. Subscriber is allowed to make part payments, identical amounts or in excess, and payments will be set off against the total arrears and not matched with the individual bills.

4.3 Disconnection Procedure

(1)Subscribers whose brought forward arrears (Less payments) are equal or exceed the previous two months bills and the arrears exceed the limit given each month will be listed for disconnection.
(for January 1995 Bill, for metropolitan area subscribers this limit was Rs.500,000/= and in other arrears Rs.25,000/=)

(2)These credit control reports are sent to billing centres with the bills, and pre printed red notices are sent to those subscribers with their current bills.

(3)Subscribers should settle the arrears within two weeks from the red notice and inform the billing centre accordingly. If the subscriber already settled those arrears and not accounted in the bills he should inform the details of such payments to billing centres.

However before disconnecting, check the following and if the subscriber is actually in arrears, his out going facility will be baved.

a) Payments made after the cut off date of the previous bill;
b) Subscribers complaints regarding, over billing or disputed IDD calls;
c) Complaints regarding unaccounted payments.

If the subscriber did not settled the arrears with in a week, from the date of outgoing baved, his in coming facility will also baved immediately.