

# The Greater Colombo Telecommunications Network Improvement Project

Report Date: March 2000  
Field Survey: July 1999

## 1 Project Summary and Japan's ODA Loan

This project aims to expand the telecommunication facilities in the Greater Colombo area and the nearby Gampaha area, for the purpose of responding to the increasing demands for telephone communication and improving the quality of the telephone calls. It includes building up a network of transmission lines, radio transmission system, telephone switchboards, and primary cables for subscribers.

The ODA loan covers the entire foreign currency portion and a part of local currency portion of project costs.

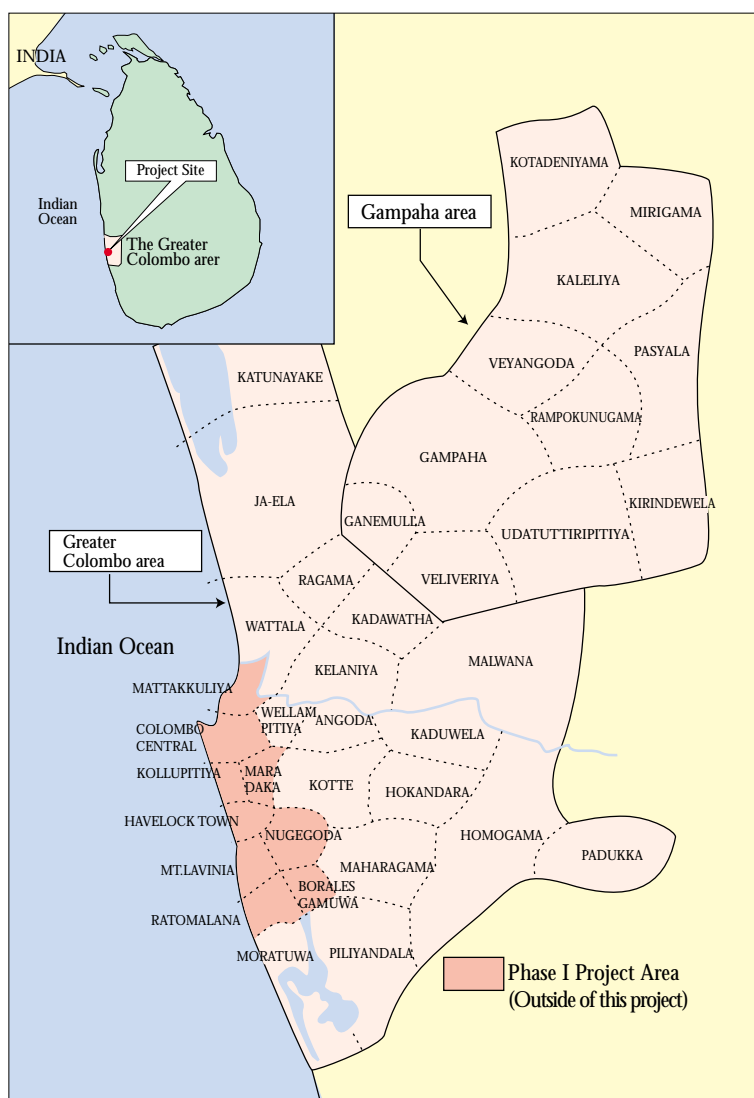
## 2 Analysis and Evaluation

### (1) Project Scope

The main reasons for the alteration of project scope were that a substantial increase in the demand compared to what was predicted at the detailed design stage (1992) was revealed at the construction execution stage (1995), and that the technological innovation enabled the system more advanced. This alteration was the result of a flexible response to the realities of the increased demands accompanying the rapid development of the relevant areas. Since the objective of the project is to decrease the number of waiting applicants, the alteration is judged to be reasonable.

### (2) Implementation Schedule

There is a total of 14 months of delay compared to the implementation schedule at the time of appraisal. The disbursement was completed within the loan disbursement period specified in the loan agreement, however. The main reasons for the delay include the fact that the coordination (obtaining permission for road excavation etc.) with the Road Development Agency took long.



Borrower	Government of Democratic Socialist Republic of Sri Lanka
Executing Agency	Sri Lanka Telecom, Limited (Sri Lanka Telecommunications Department at the time of L/A signing)
Loan Amount	¥10,968 million
Loan Disbursement Amount	¥10,175 million
Date of Exchange of Notes	January 1991
Date of Loan Agreement	March 1991
Final Disbursement Date	April 1997

### (3) Project Cost

The total project costs were increased as a result of the alteration of the project description to putting higher priority on building cables for new subscribers. This caused mainly the civil work necessary for laying down the cables for new subscribers to increase. However, the cost for the ODA loan was made up for by contingency etc. and the costs borne by the executing agency were also paid without any delay.

#### Comparison of Original Plan and Actual

Item	Plan	Actual
<b>1. Project Scope</b>		
i) The Greater Colombo Area Improvement		
Relay transmission line :	8 sections, copper wire PCM* (PCM-30) 50.60km 7 sections, optical fiber (140Mb/s) 62.60km	Optical fiber 15 sections (140Mb/s)90.10km
Subscriber cable :	23 switching equipment regions 77,000 pairs of primary cables	18 switching equipment regions 88,000 pairs of primary cables
ii) Gampaha Area Improvement		
Tall relay radio transmission system :	1 section, digital radio system (2GHz 34Mb/s)	1 section, digital radio system (6GHz 140Mb/s)
Local relay radio transmission system :	6 sections, digital radio system (2GHz 17Mb/s)	5 sections, digital radio system (2GHz 34Mb/s)
Relay transmission line :	4 sections, copper wire PCM(PCM-30)33.10km	5 sections, optical fiber (34Mb/s)31.90km
Subscriber cable :	12 switching equipment regions 11,150 pairs of primary cables	12 switching equipment regions 26,300 pairs of primary cables
Switching equipment	11 stations, 6,984 cables	11 stations, 7,232 cables
iii) Consulting Services		
	230M/M	338.5 M/M
<b>2. Implementation Schedule</b>		
(commencement to project completion)	January 1991 to June 1995	December 1991 to August. 1996 (14 months delay)
<b>3. Project Cost</b>		
Total project cost	¥12,903 million	¥14,215 million
Foreign currency	¥10,968 million	¥10,175 million
Exchange rate	1 Rs =¥3.73 (August 1990)	1 Rs = ¥1.96 (average rate at the time of disbursement)

\* PCM: Pulse Code Modulation (the most basic conversion system for transforming analogue signals to digital signals. It is widely used in the telecommunication system.)

### (4) Project Implementation Scheme

At the time of appraisal of this project, the executing agency was the Sri Lanka Telecommunications Department. After the loan agreement, however, the executing agency was reorganized as Sri Lanka Telecom in September 1991 and became a public corporation with a self-supporting accounting system. Moreover, in September 1996, after the completion of this project work, it became a stock company, the Sri Lanka Telecom Limited (SLTL). During this period, there was no prominent reformation in the department in charge of ODA loan project and there were no special problems in the project implementation. In addition, a timely report was made to JBIC on the reorganization of the executing agency.

### (5) Operations and Maintenance

In August 1997, 35% of the issued SLTL stocks, which were at the time owned 100% by the government, were sold out to NTT. At that time, a management contract valid for 5 years was concluded between SLTL and NTT. It prescribes that SLTL must accept four directors including the CEO (Chief Executive Officer) from NTT (there are 10 directors in total) in order to improve the management efficiency, and specifies the business goals to fulfill tasks based on government policy such as correcting regional differences. It specifies that NTT will gain parts of SLTL's earnings as a management fee, but if the above-mentioned business goals are not achieved, a fixed amount will be deducted from the incentive fee. In order to achieve these business goals, SLTL is actively building up a telecommunication network in the rural areas as well.

Even though it has been only two years since the sales of the stocks, the effect of the partial privatization can already be seen. Significant improvements of the management efficiencies can be seen, especially in the improvement of the customer service, shorter receivables turnover period, and an increase in the number of cables per employee. It would be too early to attempt to

measure the effect of the privatization in terms of fulfillment of the tasks specified by the policy at this point. Nonetheless, in the last two years the track record for the number of cables for new subscribers per year has been far outpacing the figure set in the business goals both in the city and rural areas, and the ratio of subscriber cables in rural areas in the entire Sri Lanka is increasing.

The management of SLTL strongly recognizes the importance of reinforcing maintenance activities. It has deployed additional maintenance equipment and materials, among other things increasing the number of maintenance vehicles, and is taking actions to formulate maintenance guidelines to reform awareness of the site workers and to strengthen the field supervision etc. Together with the increase of the maintenance budget, the organizational structure is also being reviewed in order to improve the efficiency of the maintenance further.

### (6) Project Effects and Impacts

#### (i) Effects of the Telecommunication Service Expansion

As a result of this project, primary cables supporting 88,000 subscriber cables were laid out in the Greater Colombo area and currently about 20,000 lines are connected to new telephone subscribers. The number of subscriber lines has increased by about 100,000 lines in the Greater Colombo area after the completion of this project (1996). This indicates that this project has contributed with approximately 20% of this increase. Furthermore, in the Gampaha area, the number of subscriber lines used to be only 6,713 in 1996, but this figure had increased to 16,611 in 1998 and the number of waiting applicants had also increased. Primary cables supporting 26,300 incoming lines were laid out in the Gampaha area in this project, which is expected to contribute greatly to the increase of the number of telephone subscribers in the future.

Changes of Numbers of Subscriber lines / Waiting Applicants the Greater Colombo Area and Gampaha Area						
		1995	1996	1997	1998	1999 (Note)
The Greater Colombo Area	No. of subscriber lines	138,538	167,836	191,847	252,579	264,423
	No. of waiting applicants	109,857	118,291	110,716	108,649	52,741
Gampaha Area	No. of subscriber lines	n.a.	6,713	10,761	16,611	n.a.
	No. of waiting applicants	16,392	15,331	15,341	18,606	n.a.

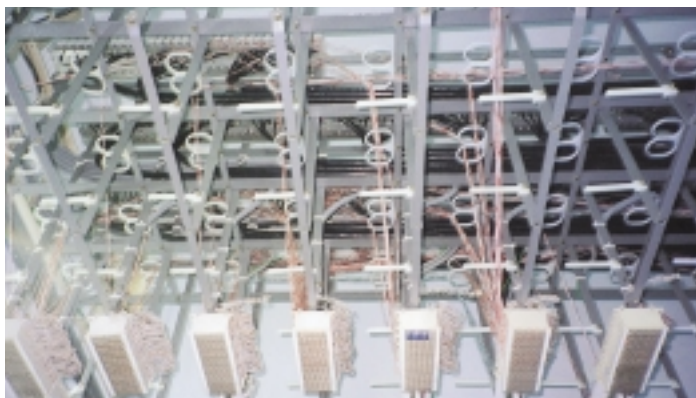
Source: SLTL materials  
 Note: The data for 1999 is as of May.

#### (ii) Financial Internal Rate of Return(FIRR)

The result of a recalculation assuming a 20 year project life period, based on the most recent actual results available, shows that the financial internal rate of return of the project is actually 25.8%

## 3 Lessons Learned

In the public service in which a certain profitability can be expected, a private enterprise's participation in the management may prove effective in order to promote efficient management of the executing agency. Methods such as management contracts can be employed to achieve a better coordination between pursuing profit on one hand and fulfillment of tasks given by the development policy on the other.



Improved Switching Board in the Great Colombo area