

ANNUAL REPORT

1998-99



**BANGLADESH TELEGRAPH
&
TELEPHONE BOARD**

Dir(M20)

**COMPOSITION OF BANGLADESH
TELEGRAPH AND TELEPHONE BOARD**

A. CHAIRMAN

Mr. M. A. Mannan Chowdhury

B. FULL TIME MEMBERS :

1. MEMBER (ADMINISTRATION)

Mr. K. A. Matin

2. MEMBER (PLANNING & DEVELOPMENT)

Mr. F. Q. M. Faroque

3. MEMBER (MAINTENANCE & OPERATION)

Mr. Shahid Matior Rahman

4. MEMBER (FINANCE)

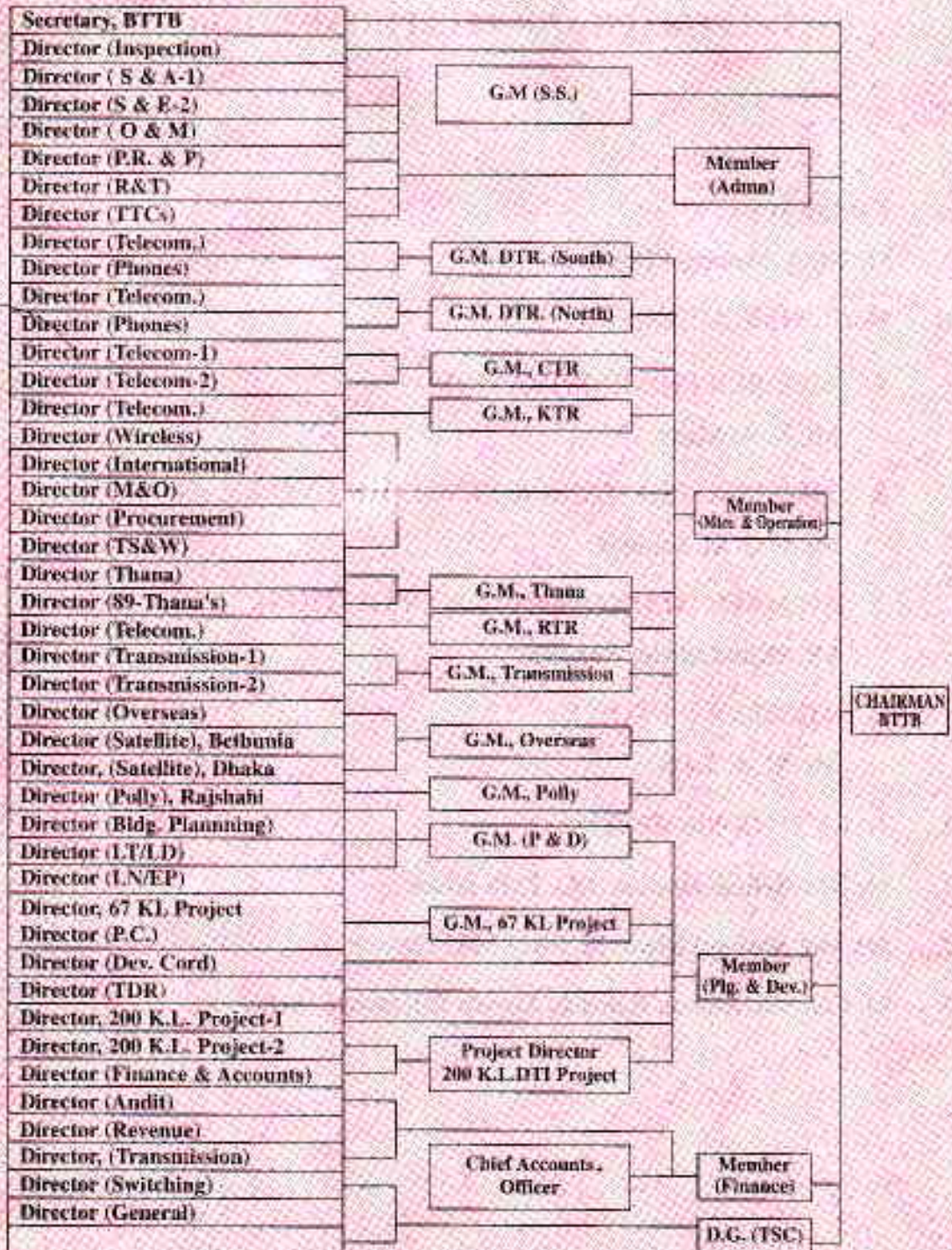
Mr. M. A. Salek

C. PART TIME MEMBERS :

1. Mr. Md. Sohrab Hossain, DG, PM's office
2. Mr. Md. Shafiqul Islam, JS, ERD, M/O Finance
3. Lt. Col. Md. Aminur Rahman, Signals Directorate, AHQ

Organogram of Bangladesh Telegraph & Telephone Board (1998-99)

Director level



PERFORMANCE AT A GLANCE

SERVICE CATEGORY	1997-98	1998-99
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TELEPHONE SERVICES

No. of Telephone Exchanges	628	631
Exchange capacity	462,573	474,322
Telephone connections	412,607	432,968
Public Call Office	695	695
Card phones	1,328	1,369

TELEGRAPH AND TELEX SERVICES

Inland Telegraph Office	778	778
International Telegraph Office	1	1
Inland Telegram (messages)	756,293	7,59,537
International Telegraph (Messages)	104,115	108,309
Telex Exchange capacity	8,770	8,770
Connections (Telex)	2,033	1700
GENTEX Services (Offices)	135	135

OVERSEAS CIRCUITS

Telephone	1,841	2,081
Telex	182	181
Telegraph	12	11
Leased Circuit	27	29

NATIONAL AUTO TRUNK

NWD Circuits Capacity	27,504	30,144
NWD Circuits Working	20,695	23,185

1. TELECOMMUNICATION ADMINISTRATION IN BANGLADESH

1.1. Historical Background of Bangladesh Telegraph and Telephone Board :

The Telegraph branch under the Posts and Telegraph Department was created in 1853 in the then British India and was afterwards regulated under the Telegraph act of 1885. This was then reconstructed in 1962 in the then Pakistan as Pakistan Telegraph and Telephone Department. After the independence of the People's Republic of Bangladesh in 1971, Bangladesh Telegraph and Telephone department was set up under the ministry of Posts and Telecommunications to run the Telecommunication Services in Bangladesh. This was converted into a corporate body named Bangladesh Telegraph and Telephone Board by promulgation of Telegraph and Telephone Board Ordinance, 1975. In Pursuance of Ordinance No. XII of 1979 promulgated on the 24th February, 1979, Bangladesh Telegraph and Telephone Board was converted to a Government Board.

1.2 Organizational Structure of Bangladesh Telegraph and Telephone Board :

Bangladesh T & T Board is run as a government establishment under the Ministry of Posts and Telecommunications (MOPT). The Board Comprises of 1 (one) Chairman, 4 (four) full time members and 3 (three) part time members, all are appointed by the government of the People's Republic of Bangladesh.

1.3 Privatization & Regulatory structure of Telecommunication Services :

The Telecom. sector of the country has been liberalised for private investment. Bangladesh T&T Board provides all types of telecommunication services in urban and rural areas while the mobile, paging and radio trunking services are offered by private operators. Private operators were also given license to install and operate digital exchanges in rural areas and they would install telephone exchanges in phases. Table-1 shows the list of the private operators in 1998-99.

Table-1

Telecommunication Operators in Bangladesh

Sl	Name of the Operators	Function
1	Pacific Bangladesh Telecom. Limited (PBTL)	Cellular Radio Telephone services.
2	Bangladesh Telecom. (Pvt) Limited (BTL)	Paging, Radio trunking & Riverine Telecom. services.
3	Bangladesh Rural Telecom. Authority (BRTA)	Establishment, operation & maintainance of Digital telephone Exchanges in 200 Thanas.
4	Seba Telecom. (Pvt.) Ltd.	Rural Telecom. Services in 199 Thanas and Cellular Mobile Radio telephone systems.
5	Telecom. Malaysia International (BD) Ltd. (TMIB)	Cellular Mobile Radio telephone systems.
6	Grameen Phone Consortium	Cellular Mobile Radio telephone systems.

2. TELECOMMUNICATION SERVICES PROVIDED BY BTTB

2.1 Telephone Exchange Status of The Bangladesh T&T Board

At the end of 1998-99 fiscal year Bangladesh T&T Board had 631 telephone exchanges with total capacity of 4,74,322 lines. BTTB started operating digital local exchanges after installation of six NEC-NEAX 61E exchanges in the Dhaka Telecom. Region Network in 1990-91 fiscal year with initial total capacity of 26,000 lines. Upto 1998-99 financial year fifteen (six NEC-NEAX 61E exchanges, seven ALCATEL E-10 exchanges and two Italtel exchanges), twelve (nine ALCATEL E-10 exchanges and three Italtel exchanges), ten (four ALCATEL E-10 exchanges, three GDT exchanges and three Italtel exchanges) and seven (One ALCATEL E-10 exchange, two Italtel exchanges and four ZTE exchanges) local digital exchanges were installed in Dhaka, Chittagong, Khulna & Rajshahi Telecom. Regions respectively. Exchange status of BTTB as on June, 1998 and June, 1999 are given in the following Table-2 and Table -3 respectively.

Table - 2
BTTB Telephone Exchange Status as on 30 June, 1998

Region	Type	Number	Capacity	Connection	Pending demand
Dhaka	Magneto	68	4,921	4,141	1,702
	C.B	21	3,680	3,048	1,391
	Auto (Analog)	24	73,100	70,720	43,339
	Auto (Digital)	15	173,066	164,183	42,589
	SUB-TOTAL	128	254,767	242,092	89,021
Chittagong	Magneto	108	7,374	4,917	1,275
	C.B	38	6,433	5,580	2,026
	Auto (Analog)	31	19,420	16,364	7,252
	Auto (Digital)	12	72,500	60,155	8,068
	SUB-TOTAL	189	105,727	86,976	18,621
Khulna	Magneto	83	4,929	4,028	1,750
	C.B	41	6,260	5,621	2,611
	Auto (Analog)	36	22,500	20,180	8,705
	Auto (Digital)	07	25,100	19,075	2,878
	SUB-TOTAL	167	58,789	48,904	15,944
Rajshahi	Magneto	84	3,948	3,287	1,908
	C.B	36	5,322	4,161	2,673
	Auto (Analog)	21	20,020	18,363	6,782
	Auto (Digital)	03	14,000	8,924	471
	SUB-TOTAL	144	43,290	34,735	11,834
Country Total	Magneto	343	21,172	16,237	6,635
	C.B	136	21,695	18,370	8,701
	Auto (Analog)	112	135,040	125,627	66,078
	Auto (Digital)	37	284,666	252,337	54,006
Grand Total		628	462,573	412,607	135,420

Table- 3

BTTB Telephone Exchange Status as on 30 June, 1999

Region	Type	Number	Capacity	Connection	Pending demand
Dhaka	Magneto	67	5,171	4,154	1,812
	C.B.	22	3,790	3,224	1,813
	Auto (Analog)	24	74,000	70,689	53,322
	Auto (Digital)	15	173,529	169,836	69,430
	Sub-Total	128	256,490	247,903	126,377
Chittagong	Magneto	110	6,896	4,803	1,509
	C.B.	38	6,684	5,609	1,920
	Auto (Analog)	31	22,720	18,632	8,542
	Auto (Digital)	12	71,000	63,435	2,802
	Sub-Total	191	107,300	92,479	14,773
Khulna	Magneto	79	4,873	3,994	1,575
	C.B.	43	6,973	6,185	3,125
	Auto (Analog)	36	25,400	22,201	8,962
	Auto (Digital)	10	26,700	21,347	3,648
	Sub-Total	168	63,946	53,727	17,310
Rajshahi	Magneto	77	3,808	3,134	1,877
	C.B.	43	6,106	5,238	3,763
	Auto (Analog)	17	19,400	18,274	5,016
	Auto (Digital)	07	17,272	12,213	2,980
	Sub-Total	144	46,586	38,859	13,636
Country Total	Magneto	333	20,748	16,085	6,773
	C.B.	146	23,553	20,256	10,621
	Auto (Analog)	108	141,520	129,796	75,842
	Auto (Digital)	44	288,501	266,831	78,860
Grand Total		631	474,322	432,968	172,096

2.2 Public Telephones:

Several years back public telephone services used to be provided through coin boxes in the urban areas and land line wireless public call offices (P.C.O's) in the rural areas. Service quality of these public telephones had been far from satisfactory. To improve the public telephone service, Card Phone systems were introduced in 1992 with program of replacing the old coin boxes and P.C.O's. By June 1999, about 1,369 card phone booths were installed in different parts of the country. All cardphones have access to nation wide dialling while 713 of them have international direct dialling facility. Due to better and easy public accessibility to telephone this cardphone service has become popular in the country. A massive program of installing card phones has been taken to cover all thanas and rural growth centers of the country.

2.3 Telegraph Services.

Telegraph system, the oldest means of telecommunication service, is losing importance gradually due to introduction of more modern telecommunication systems. In the fiscal year 1998-99, the total number of domestic telegram messages were 759,537 and that of international telegram was 1,08,309. Number of Telegraph Offices were 779. A comparison of year wise telegram messages are shown in Table-4.

Table- 4
Year wise Telegram Messages.

Year	No. of National Messages	No. of International Messages
1994-95	741,781	156,098
1995-96	739,188	161,836
1996-97	1069,358	53,962
1997-98	756,293	104,115
1998-99	759,537	108,309

2.4 Telex Service

The first digital Telex exchange in Bangladesh was established in May 1981. At the end of the fiscal year 1997-98, the total line capacity of the telex exchanges was 8,770 and the number of subscribers was 2,033 while at the end of the fiscal year 1998-99 the total line capacity of the telex exchanges was 8,770 and the number of subscribers was 1,700. Introduction of FAX and other modern systems has rendered the growth of telex service declining.

2.5 GENTEX and Bureau Fax Service

GENTEX service was introduced in 1989 and later on Bureau fax service was introduced. The number of offices providing GENTEX services are 135. Through this service the telegraph offices are inter linked.

2.6 Nation Wide Dialling (NWD) Services.

In Bangladesh Nation-wide long distance telephone dialling system was first introduced in 1983 employing NEAX 61K version of NEC exchange to link all the major cities of the country. Before hand there were Subscribers Trunk Dialling (STD) services based on Analog EMD toll switching system to link only a few cities of the country. By June 1999, 100 stations including all 64 district headquarters and 36 thanas were brought under direct dialling system. In all 23,185 NWD circuits were installed by June, 1999. Details about the circuits are given in Table-5.

Table -5

Capacity & Working Circuits in the Trunk Automatic Exchanges (TAX's) as on June 30, 1999

Name of TAX	Capacity		Working Circuits		Total	
	NEC	Alcatel	NEC	Alcatel	Capacity	Working Circuits
Dhaka	9361	6000	6506	5200	15361	11706
Chittagong	1603	3000	1111	3000	4603	4111
Khulna	2509	3120	1532	1898	5629	3430
Bogra	1911	—	1298	—	1911	1298
Barisal	—	1080	—	1080	1080	1080
Kushtia	—	840	—	840	840	840
Comilla	—	720	—	720	720	720
GRAND TOTAL	15,384	14,760	10,447	12,738	30,144	23,185

2.7 Manual National Trunk Service :

Direct Manual Trunk Circuits working with Dhaka are shown in the Table-6.

Table- 6

Direct Trunk Circuits Working with Dhaka

Region	Circuits in June 1998	Circuits in June 1999
Dhaka	30	26
Chittagong	27	27
Khulna	30	26
Rajshahi	25	21
Total	112	100

2.8 Operators Trunk Dialling (OTD) Service:

This service has been introduced recently in all the thanas to get access to the thanas by direct dialling to the OTD numbers connected in thanas where there is no automatic telephone exchange. In this system one or two telephone numbers of district automatic telephone exchange are extended up to thana level through UHF radio links. The telephone operators of the manual telephone exchanges can, through these numbers, connect subscriber of the thana with any subscribers of other auto exchanges of the country by dialling respective NWD codes.

2.9 Transmission System in Bangladesh :

Bangladesh is a riverine country, as such the country's long distance transmission systems are mainly composed of microwave, UHF and VHF radio links. The use of optical fibre is still limited within some city areas for interconnecting local exchanges and Remote Switching Units (RSU) in Multi Exchange Networks and also for interconnections between switching exchanges and microwave stations. BTTB major microwave radio links, as listed in Table-7 are shown in figure 1.

Table -7

Major Backbone Microwave Links (as on June 1999)

Link	Type	Radio Channel Capacity	Make
Dhaka-Chittagong	Analog	1800	NEC
Dhaka- Magura-Khulna	Digital	140 Mb/s	Fujitsu
Dhaka - Magura-Kustia	Digital	140 Mb/s	Fujitsu
Dhaka-Sylhet	Digital	140 Mb/s	Alcatel
Dhaka-Tangail-Mymensingh	Digital	140 Mb/s	Alcatel
Dhaka-Tangail-Bogra	Digital	140 Mb/s	Alcatel
Bogra - Natore-Rajshahi	Analog	960	Fujitsu
Rajshahi-Natore-Chaudanga	Analog	960	Fujitsu
Bogra -Phulbari-Thakurgaon	Analog	960	Fujitsu
Bogra-Phulbari-Rangpur	Analog	960	Fujitsu
Khulna-Barisal	Digital	34 Mb/s	JRC
Chittagong - Cox'sbazar	Analog	960	GTE
Chittagong - Cox'sbazar	Digital	34 Mb/s	JRC
Chittagong-Betbunia-Rangamati	Analog	960	GTE
Gopalganj - Khulna	Digital	34 Mb/s	Seimens

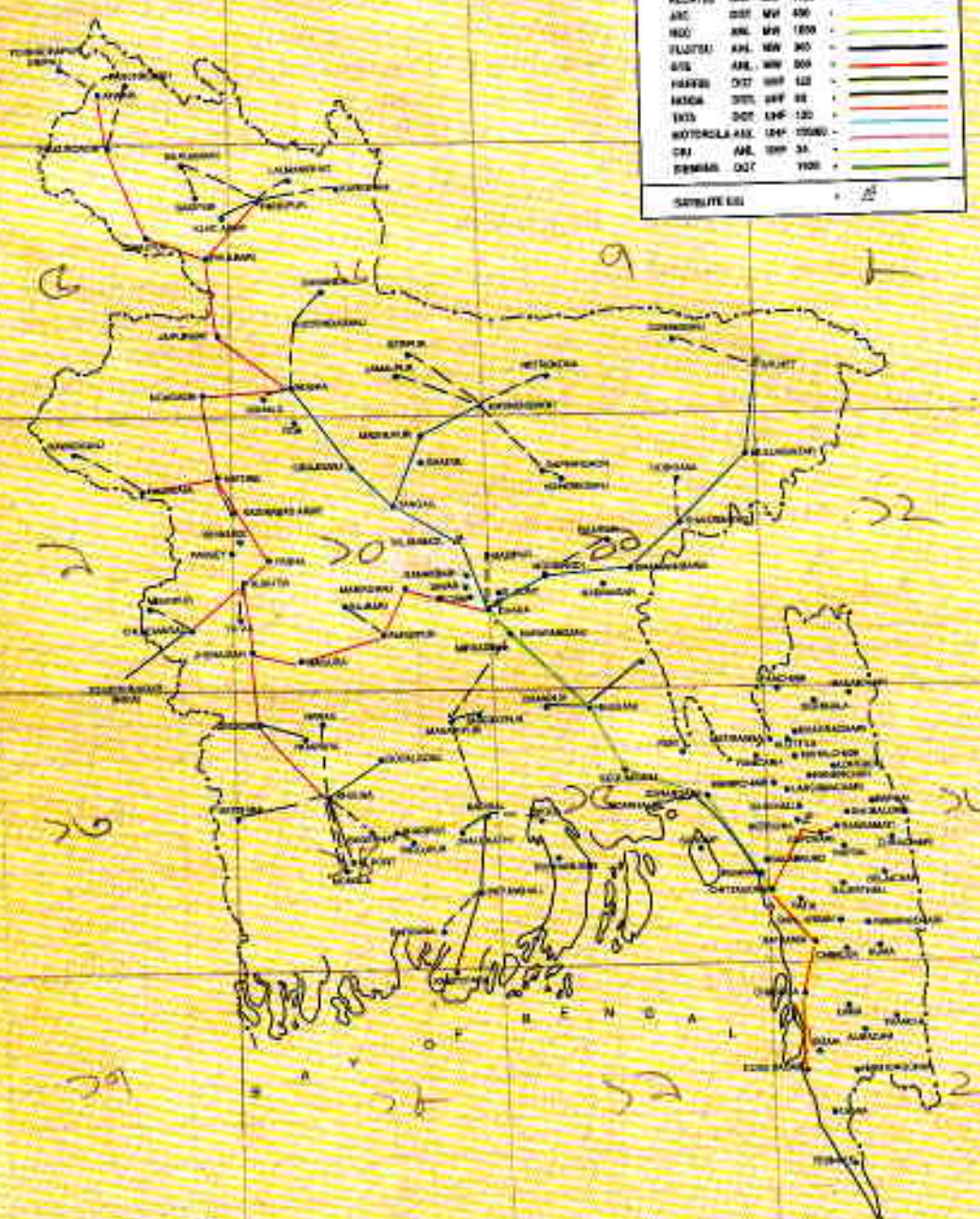
All Thana headquarters (the smallest administrative units) are connected with their respective district headquarters through UHF links most of which are now digital systems. Also some of the district headquarters are interconnected through digital UHF links.

Figure-1

MICROWAVE & UHF LINKS

LEGENDS:

ALCATEL	DOT MM	1000	OR	
ALC	DOT MM	450	I	
HEO	ARC MM	1000	I	
FLUTAI	ARC MM	300	I	
GIS	ARC MM	500	I	
PARAD	DOT MM	120	I	
INDIA	DOT MM	80	I	
IKS	DOT MM	120	I	
MOTOROLA	ARC MM	10000	I	
CRJ	ARC MM	30	I	
DEMAR	DOT	1000	I	
SATELITE	DOT		I	



B. T & T BOARD
 NEW YORK OFFICE: MCDONALD HALL, CHINA
 DRAWN BY: M. A. BATHUR DA
 SCALE: 1" = 25 MILES | 01.12.1968

2.10 International Telecommunication

To meet the existing & future demand of overseas traffic, BTTB endeavors continuously to increase number of international circuits with other countries. By June, 1999 BTTB, through four Satellite earth Station in Bethunia, Talibabad, Mohakhali & Sylhet (Table-11), established 2081 international direct circuits with 35 operators of 27 countries and transit circuits with 171 countries, shown in table 8 & 9. Previously used SCPC and FDM system have been replaced by IDR System.

Table -8
Overseas Circuit Arrangement of BTTB as on 30.06.99

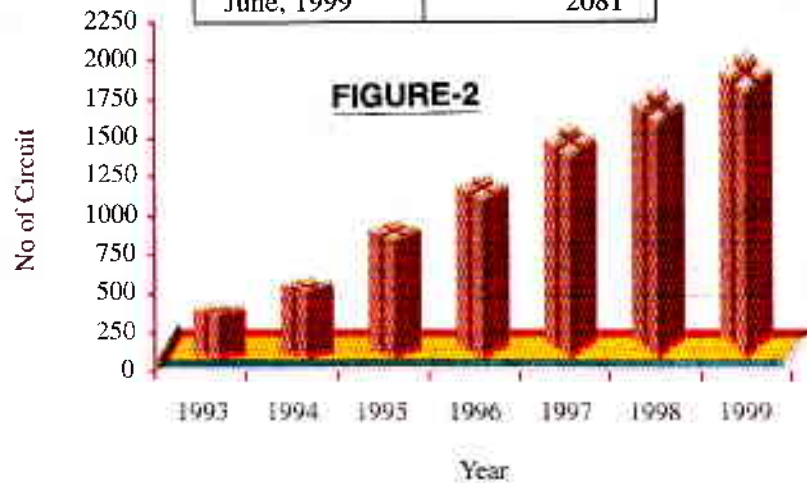
Sl.	Country	Voice Circuit					VFD/Data CC			Telex/Telegram CCT		
		BTD E/S	TBD E/S	MKH E/S	SYL E/S	M/W	VPT	Data	Total	Tlx	TG	TGP
01	Australia	-	-	58	-	-	-	1	59	-	-	-
02	Bahrain	8	-	-	-	-	-	8	-	-	-	
03	Canada	-	-	28	-	-	-	2	30	-	-	
04	China	-	-	8	-	-	-	8	-	-	-	
05	France	-	-	28	-	-	-	1	29	7	-	
06	Germany	-	-	30	-	-	-	30	9	-	-	
07	Hongkong	60	-	27	-	-	1	2	90	19	1	
08	India (Cal)	-	-	30	-	59	1	-	90	16	2	
	India (Delhi)	-	-	27	-	-	1	2	30	1	-	
09	Indonesia	-	-	8	-	-	-	8	-	-	-	
10	Italy	-	-	29	-	-	1	-	30	6	1	
11	Japan (KDDI)	-	-	139	-	-	1	-	140	9	1	
	Japan (CTI)	48	-	-	-	-	-	48	-	-	-	
	Japan (HDC)	30	-	-	-	-	-	30	-	-	-	
12	Korea (KT)	-	-	30	-	-	-	30	5	-	-	
	Korea (Daedam)	-	-	16	-	-	-	16	-	-	-	
13	Malaysia	-	-	58	-	-	-	58	-	-	-	
14	Nepal	-	-	-	-	12	-	12	-	-	-	
15	Netherlands	-	-	14	-	-	-	14	-	-	-	
16	Oman	16	-	-	-	-	-	16	-	-	-	
17	Pakistan (KR)	9	-	-	-	-	1	10	7	1	-	
	Pakistan (ISB)	6	-	-	-	-	-	6	-	-	-	
18	Qatar	15	-	-	-	-	-	15	-	-	-	
19	Singapore	90	-	60	-	-	1	3	154	16	1	
20	S. Arabia	60	-	120	-	-	-	180	-	-	-	
21	Sri Lanka	-	-	8	-	-	-	8	3	-	-	
22	Sweden	-	-	8	-	-	-	8	-	-	-	
23	Switzerland	-	-	-	-	-	-	-	8	-	-	
24	Thailand	-	-	15	-	-	1	-	16	6	1	
25	UAE	-	-	119	-	-	1	-	120	10	1	
26	UK	-	180	-	120	-	2	-	302	27	1	
27	USA (MCI)	-	35	180	-	-	-	-	215	-	-	
	USA (AT&T)	-	180	-	-	-	1	-	181	30	2	
	USA (Sprint)	-	-	60	-	-	-	-	60	-	-	
	USA (Starcom)	-	-	30	-	-	-	-	30	-	-	
	Total	342	395	1130	130	71	12	11	2081	181	11	5

TX = Telex service
 TG = Telegraph service
 TGP = Private Leased telegraph

Table -9

Growth of International Voice circuit

Month	Circuits
June, 1993	416
June, 1994	566
June, 1995	954
June, 1996	1267
June, 1997	1609
June, 1998	1841
June, 1999	2081



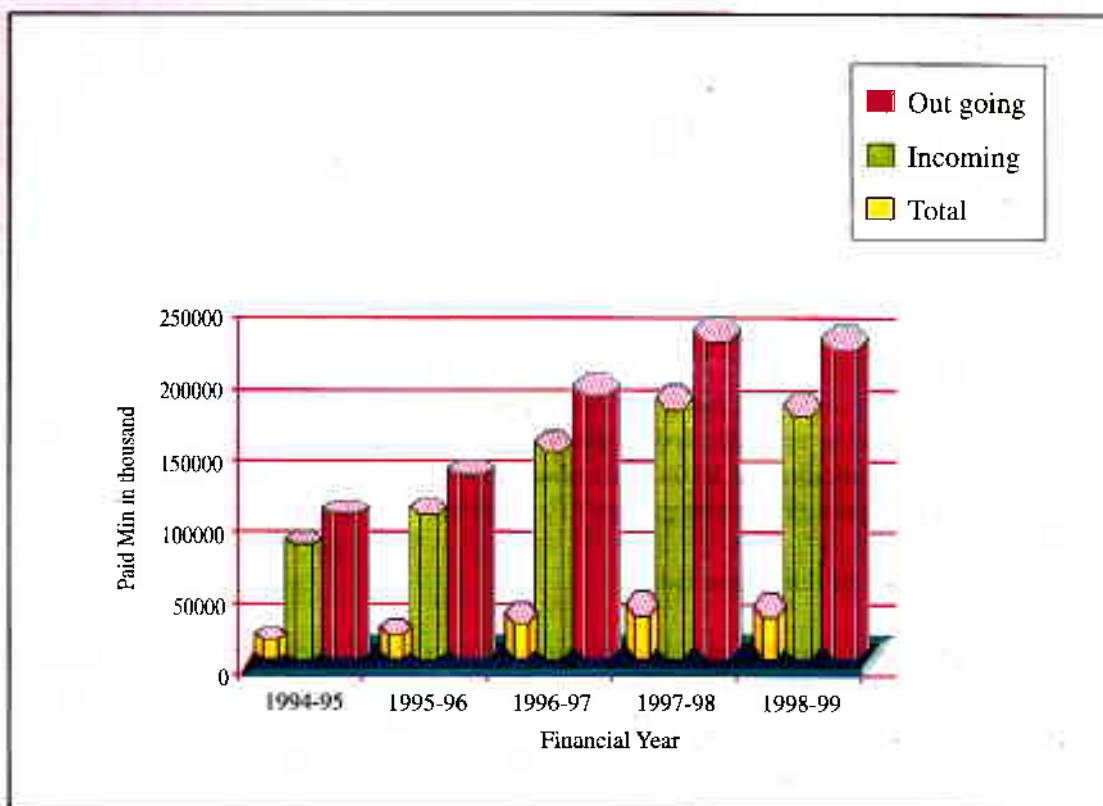
Paid minutes of international circuits

TABLE-10

Year	1994-95	1995-96	1996-97	1997-98	1998-99
Outgoing	1,94,07,557	2,32,02,777	3,77,39,477	4,44,24,515	4,51,12,586
Incoming	8,92,85,579	11,50,21,620	15,94,95,408	19,74,23,078	18,72,84,651
Total	10,86,93,136	13,82,24,397	19,72,34,885	24,18,47,593	23,23,97,237

FIGURE-3

Growth of International Traffic



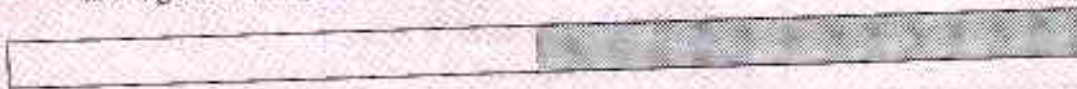
International Leased Circuits :

BTTB's international leased circuits directly link customer to a designated overseas location around the globe. A fixed monthly rate makes this service particularly cost effective for customers.

International telephone call facilities of BTTB :

1) International Direct Dialling (IDD) :

Subscribers may call overseas directly without operator assistance. Rates are calculated in 30 seconds units. BTTB also offers economy rate (25% discount) for late night & weekly & other Govt. holiday besides its normal rate.



Normal call charge

Discount call charge

Normal Call Charge	:	From 08.01 hrs. to 23.00 hrs.
Discount Call Charge	:	From 23.01 hrs. to 08.00 and Government and Weekly Holidays.

2) International Operator Assisted Call:

i) Person-to-Person Call:

An operator assisted service, for placing calls to a specific person. Charges do not begin accruing until the desired party is reached and the caller is not billed if the party does not answer. BTTB's standard rate applies for the first three minutes and additional two minute charges for P.P. facilities.

ii) Telephone to telephone call:

An operator assisted service for placing call to a specific telephone number is also available. The minimum charge for this call is three minutes.

Telecommunication Satellites & Earth Stations:

A single telecommunication satellite in geostationary orbit 36,000 kilometers above the earth can provide telecom services to one-third of the entire world. Advanced digital transmission technologies and more sophisticated use of radio wave in recent years have facilitated large volume of satellite transmission around the globe. To facilitate transmission of incoming & outgoing overseas calls through satellite BTTB has established 4 Earth Stations till to date. The first earth station was installed at Betbunia near to Chittagong in 1975. 347 International circuits with 8 countries are working through this earth station.

The second earth station was installed in 1982 at Talibabad. 398 international circuits with 2 countries are working through this earth station. Later the third earth station which consists of largest International circuit facilities was installed in 1994 at Mohakhali. 1144 international circuits with 21 countries are working through this earth station. Recently the fourth earth station has been established at sylhet in 1995 by British Telecom assistance at Sylhet to facilitate only BT-Sylhet traffic. 120 International circuits are working through this earth station. Moreover 71 Terrestrial International circuits between 2 countries are working via Microwave. These earth stations operating with different INTELSAT satellites located in the Indian Ocean Region.

Table -11

Name of E/S.	Standard	Carrier	Work/ng with Intelsat
Bethonia	A	IDR	60° E IOR
Talibabad	B	IDR	60° E IOR
Mohakhali	A	IDR	64° E IOR
Sylhet	F3	IDR	62° E IOR

International Switching Centres :

International switching centres are mainly responsible for immediate selecting and connecting the appropriate circuit for incoming calls and sending the necessary information to the receiving country's switch to complete the calls. At present BTTB has three international switching centres (ISC) of which two are located at Moghbazar & Mohakhali. ISCs of Moghbazar is of type NEAX-61K and NEAX-61E while ISC at Mohakhali is of NEAX - 61E type.

International Maritime Satellite Communication:

INTELSAT satellites links, with fixed earth stations for overseas communication while INMARSAT (International Maritime Satellite Communication) provide mobile communication services for ships and aircrafts. Inmarsat service is the mobile satellite communication system that links the mobile earth station on vessel or aircrafts with land earth stations around the world via Inmarsat satellite in geostationery orbits 36,000 kilometer above the equator. This service makes it possible to get in touch with virtually any location around the world 24 hours a day with high quality communications ranging from telephone & Telex to facsimile and data communications. Recent development of portable terminal has made it possible for customers to take advantage of INMARSAT services from remote locations also. Till to date BTTB has five INMARSAT-A Terminals which are operating through one LES (Land Earth Station) located in Jeddah.

International VSAT service:

VERY SMALL APERTURE TERMINAL- A small earth station terminal, having a dish antenna of typically 1.8 to 3.00 meters in size designed to handle voice, data and private - line video communication. Terminal is located at each end and communication is established through geostationary satellite (in this region ASIASAT). As a satellite based communication solution, VSATs offer greater advantages: dedicated link, superior reliability, top quality performance, low cost & flexibility. VSATs are small and easy to install. A VSAT network can be expanded or modified as a users business needs change and grow. Banks, insurances news bureaus, educational institutions - all those and more can be linked across continents. VSATs is allowed to communicate only intercorporate & intracorporate communication and can not be terminated to any public switched telephone network.

To facilitate high speed point to point data communication facility throughout the world for the subscribers BTTB has taken necessary steps to install VSAT in Bangladesh for the first time. BTTB made an agreement with Pak Datacom to install & operate VSAT in Bangladesh on 5 year BOT (Built Operate Transfer) basis. With this agreement Pak Datacom will supply, install, Operate & maintain VSAT in Bangladesh on behalf of BTTB. A number of subscribers has applied for this service and till to date 5 subscribers have been allotted to VSAT. Subscribers are charged a fixed monthly rent for each VSAT service. Leter BTTB made similar agreements with 4 more companies to install and operate VSAT on BOT basis.

PLANNING AND DEVELOPMENT OF TELECOMMUNICATION SERVICES.

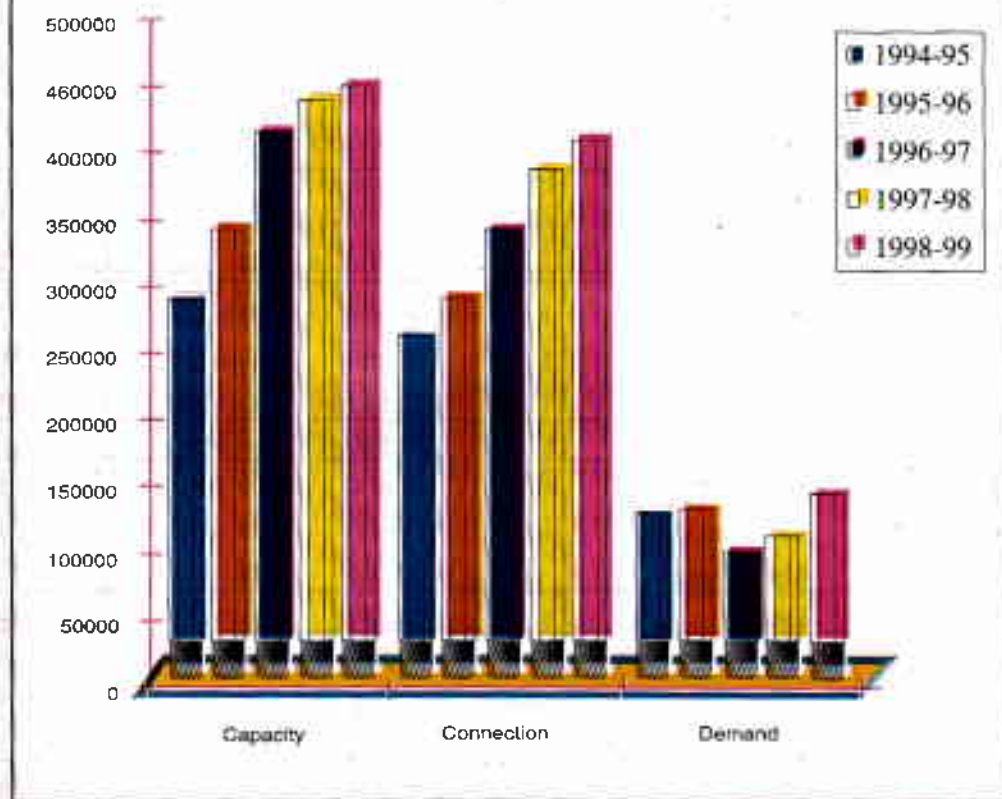
3.1 Growth of Telephone in Bangladesh

The growth of telephone exchange capacity in Bangladesh in the last five years was on average only 40,000 lines per year. The recorded pending demand of telephone has been increasing at a faster rate than the telephone expansion. Table-12 & Fig.-4 show the past trend of telephone growth in Bangladesh from 1994-95 to 1998-99 financial years.

Table- 12
Telephone Growth in Bangladesh.

Year	Type of Exchange	Number of Exchange	Exchange Capacity	Telephone Connection	Pending Demand
1994 -95	Manual	476	32,879	26,963	12,242
	Auto (Analog)	133	209,150	197,482	104,495
	Auto(Digital)	12	72,951	62,160	37,300
	Total	621	314,980	286,605	154,037
1995-96	Manual	479	36,664	29,765	8,242
	Auto(Analog)	129	1,79,890	1,61,463	57,720
	Auto(Digital)	21	1,71,215	1,24,853	80,892
	Total	629	3,68,769	3,16,081	1,45,854
1996-97	Manual	476	39,812	32,714	14,943
	Auto(Analog)	114	1,40,920	1,32,711	65,554
	Auto(Digital)	35	2,59,759	2,02,592	47,041
	Total	625	4,40,491	3,68,017	1,27,438
1997-98	Manual	479	42,867	34,607	15,336
	Auto(Analog)	112	135,040	125,627	66,078
	Auto(Digital)	37	284,666	252,337	54,006
	Total	628	462,573	412,607	135,420
1998-99	Manual	479	44,301	36,341	17,394
	Auto(Analog)	108	141,520	129,796	75,842
	Auto(Digital)	44	288,501	266,831	78,860
	Total	631	474,322	432,968	172,096

FIGURE-4
TELEPHONE GROWTH IN BANGLADESH



3.2 Programme for installation of digital telephone lines under BTTB

Bangladesh Telegraph and Telephone Board has plans to raise its telephone exchange capacity to at least 800,000 by the year 2000. Because of resource and other constraints BTTB has taken some programmes in phases to install new digital telephone exchanges both for expansion of exchange capacity and to replace some of the old analog exchanges. Some programmes which were undertaken by the BTTB upto June, 1999 are shown in Table-13.

Table -13

Programme for Installation of Digital Telephone Exchanges by BTTB in 1998-99.

Sl	Name of the programme	Telephone Exchange Capacity		
		Replacement	Expansion	Total
1	2,00,000 Lines digital telephone project (self finance, Alcatel E-10B Exchange)	66,000	1,34,000	2,00,000
2	Greater Dhaka (Phase- II) Telephone Project (Japan, OECF Fund, Ericsson AXE 10 Model Exchange)	21,500	46,000	67,500
3	Expansion with surplus fund of Greater Dhaka (Phase- II) telephone project (Japan OECF Fund).	30,000	41,000	71,000
4	Installation and expansion of Telephone exchanges at different district Head quarters.	45,720	1,43,280	1,89,000
5	Installation of TAX cum Local exchange at Barisal, Kushtia and Comilla	-	2,700	2,700
6	Installation of Digital Telephone exchanges along with WLL & RSU at Gopalganj, Bhola, Sunamgonj, Shariatpur, Hobigonj, Lakshmipur, Gazipur, Tangail, Madaripur & Kishorgonj.	7,800	8,250	16,050
	Total	1,71,020	3,75,230	5,46,250

3.3 Expansion of Trunk Automatic Exchange (TAX).

BTTB has taken steps for installation and expansion of Trunk Automatic Exchanges (TAX) at different locations of Bangladesh to meet the additional need of inter city NWD traffic. A list of new TAX's being installed by BTTB are shown in Table -14.

Table -14.

Installation of New Trunk Automatic Exchange (TAX).

SL	Name of Project	Location	Circuit Capacity
1	Installation of TAX cum Local exchanges at Barisal, Kushtia & Comilla	Barisal	1,080
		Kushtia	840
		Comilla	720
2	Greater Dhaka (Phase-II) Telephone Project (Japan, OECF Fund)	Central exchange, Dhaka	7,350
		Total	9,990

BTTB has also planned some new projects in which Trunk Automatic Exchanges (TAX) will be installed. Those projects and the TAX capacity are enumerated as shown in Table -15.

Table -15

New Project for Installation of TAX Exchanges.

Name of Project	Location	Circuit Capacity
Installation of exchanges at different district headquarters.	Mymensingh	5,400
	Rangamati	980
	Noakhali	2,300
	Faridpur	2,750
	Jessore	2,950
	Dinajpur	2,000
	Rangpur	3,700
	Pabna	1,500
	Total	21,500

3.4 Programme for Expansion of Transmission Systems in Bangladesh

BTTB has undertaken some projects and programmes to improve the quality and quantity of the long distance transmission network. Major backbone transmission links in Bangladesh are presently using star formation network structure. Some of the proposed transmission routes will introduce mesh formation in some areas of backbone transmission networks, which will ensure better system reliability within the respective mesh interlink. Introduction of SDH multiplexing principle in place of present PDH arrangement is also under active consideration before implementation of future plans for expansion & rehabilitation of backbone telecommunication transmission systems. A project has also been undertaken for installation of optical fibre system between Dhaka and Chittagong with some spur transmission links in the nearby upgraded districts and important places.

3.5 Introduction of Data Communication through PSPDN.

Bangladesh Telegraph and Telephone Board has implemented a project for installation and commissioning of a Packet Switched Public Data Network (PSPDN). This PSPDN having X.25 and X.28 protocols have 8(eight) nodes at Dhaka, Chittagong, Khulna, Rajshahi, Sylhet, Barisal, Bogra and Mymensingh. In addition to the PSPDN, BTTB has introduced Internet Services for the subscribers.

4. FINANCIAL STATEMENT OF BTTB.

4.1. REVENUE INCOME FOR 1998-99.

Actual revenue collection for the financial year 1998-99 was Tk. 12,542.48 million against the budgeted revenue of Tk. 13,800.00 million. There was a shortage of Tk. 1,257.52 million from the budgeted amount. This revenue was 0.72% more than the collected revenue of 1997-98 financial year.

A comparison of revenue collection, expenditure & surplus for the period from 1994-95 to 1998-99 is shown in Table-16 & Fig.-5.

Table-16

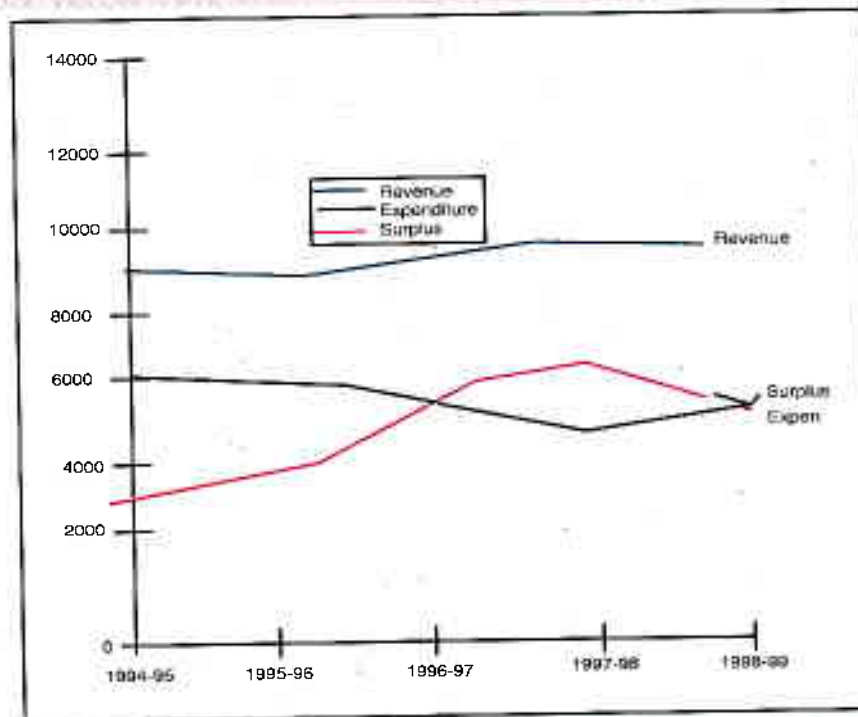
A Comparison of Revenue Collection, Revenue Expenditure and Surplus

Year	Revenue collection	Expenditure	Surplus
1994-95	8911.07	2810.08	6100.99
1995-96	8373.18	2904.13	5469.05
1996-97	10724.85	5738.10	4986.75
1997-98	12451.84	7201.71	5250.13
1998-99	12542.48	*6167.84	6374.64

1 US Dollar = Taka 49.18

* This amount includes repayment of Bond valued Taka 3346.30 million.

Figure-5



4.2 Revenue Collection.

The statement of billed amount, revenue collection and receivable figures for the year 1997-98 and 1998-99 are shown in Table-17. Table -18 shows the service wise revenue collection for the year 1997-98 and 1998-99. Service wise distribution of actual revenue collection along with rate of yearly increase/decrease of such collections for the periods from 1994-95 to 1998-99 are shown in the Tables-19 & Fig.- 6.

Table -17.

Revenue Collection and Revenue Receivable.

Description	Taka in Million	
	1997-98	1998-99
Receivable amount as on opening day of fiscal year	3,574.53	3,770.95
Bills issued during the fiscal year	12648.26	13,251.06
Total Receivable amount during the year	16,222.79	17,022.01
Actual Receipt in the year	12,451.84	12,542.48
Receivable amount carried over to the opening day of next fiscal year.	3,770.95	4,479.53

Table 18.

Service Wise Distribution of Revenue Collection in 1997-98 and 1998-99

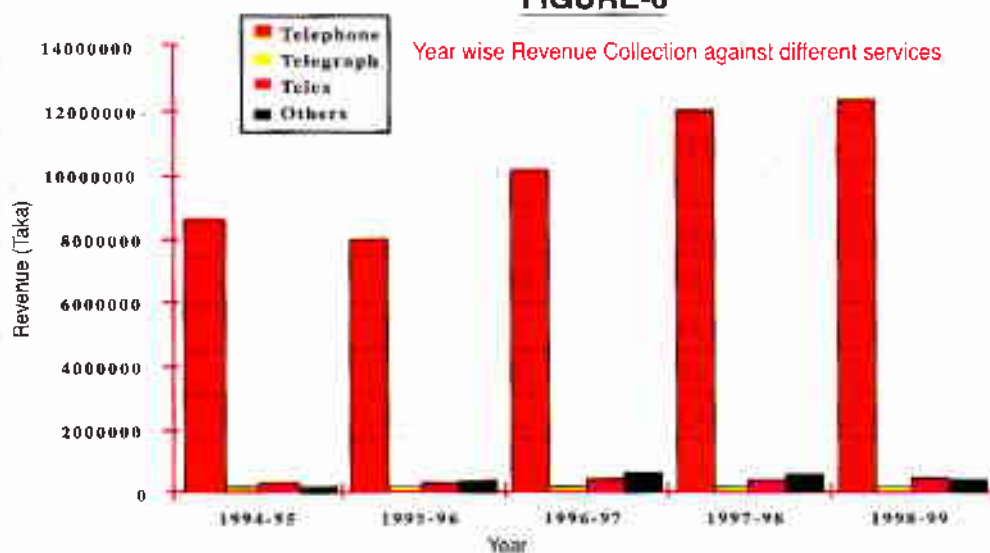
Name of Service	1997-98		1998-99	
	Taka in Million	Percentage of Total	Taka in Million	Percentage of Total
Telegraph	15.00	0.12%	12.26	0.09%
Telephone	11,874.81	95.37%	12,138.30	96.78%
Telex	198.34	1.59%	200.28	1.60%
Others	363.69	2.92%	191.64	1.53%
TOTAL	12,451.84	100%	12,542.48	100.00%

Table-19**Rate of Change of Year wise Revenue Collection Against Different Service**

Service	Item	1994-95	1995-96	1996-97	1997-98	1998-99
Telegraph	Revenue	20.64	18.75	17.50	15.00	12.26
	Change Rate	(-) 20%	(-) 9.15%	(-) 6.66%	(-) 14.28%	(-) 18.26%
Telephone	Revenue	8509.16	7878.45	9955.40	11,874.81	12,138.30
	Change Rate	(+) 18%	(-) .41%	(+) 26.36%	(+) 19.28%	(+) 2.22%
Telex	Revenue	243.82	215.68	290.40	198.34	200.28
	Change Rate	(-) 19%	(-) 11.54%	(+) 34.64%	(-) 31.70%	(+) 0.98%
Others	Revenue	137.45	260.30	461.50	363.69	191.64
	Change Rate	(-) 31%	89.38%	(+) 77.30%	(-) 21.19%	(-) 47.31%
Total	Revenue	8911.07	8373.18	10724.80	12,451.84	12,542.48
	Change Rate	(+) 15%	(-) 6.04%	(+) 16%	(+) 16.10%	0.72%

FIGURE-6

Year wise Revenue Collection against different services



4.3 Annual Development Programme (ADP) for Capital Investment.

Every year capital is invested through national Annual Development Programme (ADP) of the government for the projects which accrue fixed assets. A statement of such total investment in BTTB for the year 1998-99 against 8 development projects is given in the table 20.

Table- 20

BTTB Investment in 1998-99 through ADP on 8(Eight) projects.

(Taka in Million)

Item	Local Currency	Foreign Exchange	Total
Allotment	22,588.99	14,285.00	38,719.00
Expenditure	9,719.38	14,616.48	26,430.00
Surplus	12,869.61	(-) 331.48	12,288.13

5. HUMAN RESOURCES DEVELOPMENT (HRD) & SOCIAL WELFARE ACTIVITIES.

5.1 Number of Posts in BTTB.

There are 19,317 regular posts (working position) under different categories in BTTB which are classified into following four service classes.

Class I Service	:	681 Posts
Class II Service	:	30 Posts
Class III Service	:	14,633 Posts
Class IV Service	:	3,973 Posts
Total	:	19,317 Posts

5.2 HRD activities in BTTB.

As a basic operator for telephony, overseas carrier and transmission network BTTB has enormous responsibility to keep pace with the tremendous development and globalisation of telecommunication and information technology. Human Resource Development (HRD) is very essential for this purpose.

Special emphasis is given to the in-service training programmes in order to enhance the efficiency and quality of services of Bangladesh Telegraph and Telephone Board, to update the technical knowledge and skill of personnel and to introduce new technology in the Telecom. sector. In service training for newly recruited engineers and refresher training of other officers are carried out in Telecom. Staff College (TSC) Gazipur training for the other employees are usually carried out in there Telecom. Training Centres (TTCs), located at Dhaka, Bogra and Khulna and in five sub-centres located at Dhaka, Chittagong, Rajshahi, Barisal and Jessore.

The Telecom. Staff College (TSC) at Gazipur (near Dhaka), established in 1987 with ITU & UNDP assistance, has already put its marks as one of the leading institutes for telecom. training in this region. It has all the infrastructural facilities and equipment including resource personnel to establish itself as the regional training centre.

5.2.1. Courses conducted in TSC, Gazipur during 1998-99.

Category/Name of course	No. Courses	Total No. of Participants	Man-month
Regular course			
ADE(Probationary)/ Batch'98	01	21	241.50
Refresher Course			
Digital Radio System (DRS)	01	02	0.80
Network planning	01	07	2.80
Top Level Management (TMGT)	01	12	1.20
Computer Orientation (COT)	01	04	1.60
Financial Management (FMGT)	01	03	1.00
Fundamental Digital Tech. (FDI)	01	03	1.00
ADE (Prob.)/ Batch'99	01	23	115.00
	TOTAL	75	364.90

5.2.2. Training in TTCs :

A summary on the training activities of Telecom. Training Centres at Dhaka, Khulna, Bogra and five Sub-centres of BTTB for the year 1998-99 are as follows :

Category of Course	No. of Courses	No. of Participants	Man-month
Regular Course	18	565	1969.25
Refresher Course	53	379	126.02
Total	71	944	2095.27

5.2.3. Local Training in BTTB Trg. institutes for Other agencies :

Name of Course	Name of Agency	No. of Participants	Man-month
Digital PABX (Alcatel)	TB Hospital, Dhaka	02	6.00

5.2.4 Foreign Training:

94 Officers of Bangladesh T&T Board received foreign training in different Telecom. Courses during 1998-99 in Canada, China, France, India, Japan, Malaysia, USA, Philipinnes, South Korea, Sweden, Thailand and UK.

5.2.5 Participation in foreign factory testing/seminar/workshop/meeting:

48 Officers of Bangladesh T&T Board participated in different types of factory testing/seminar/ workshop/meeting held abroad during 1998-99.

5.3 Social welfare activities in Bangladesh T&T Board.

Bangladesh Telegraph and Telephone Board, with its limited resources provides different facilities to the members of its staff. A list showing sanctions from the welfare fund on different grounds to the employees is furnished below.

Sanctions made to meet expenditure on welfare activities in Bangladesh Telegraph and Telephone Board during the 1998-99 fiscal Year.

Sl.No.	Head of Expenditures	Allocation /Expenditure
1.	Sanction of benevolent fund to the employees of Bangladesh T&T Board	TK. 14,40,600.00
2.	Sanction of education grant for the dependents of Bangladesh T&T Board employees.	TK. 9,70,000.00
3.	Sanction of grant to about 40 institutions including schools, colleges, mosques, madrashas linked with Bangladesh T&T Board to meet up partial need of their yearly budget.	TK. 21,75,000.00
4.	Sanction of grant to the different Clubs, associations recreation/cultural shows etc for the recreation of officers /employees of Bangladesh T&T Board	Tk. 44,000.00
5.	Sanction of grants for central sports including games like Volley ball, Cricket, Kabadi and some indoor games.	Tk. 3,25,000.00

-End-