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PCO and some Base stations, 2-storied buildings were constructed to install the equipment in the 1st floor. The Base stations were located generally at the central places, from where the communication with the national telecom highway was established through provision of sixteen 24-channel analog Microwave link between Chittagong and Coxsbazar and one medium capacity 300-channel analog Microwave link between Chittagong and Rangamati for communication with these places by stable radio systems.

After the big flood of 1988, one "Flood Rehabilitation Project" was conceived which was executed in the early and mid nineties. The salient feature of this project was to construct nineteen 2-storied telecom buildings in some of the district towns, for protection of equipment, by installing the same in the 1st floor. One Satellite Earth Station building at Mohakhali Dhaka, was constructed for establishment of a new Satellite Earth Station with the ultimate objective to replace the old Earth Station at Betbunia. Provision was also made for installation of three multi-channel digital UHF systems, with Basesat Dhaka, Chittagong and Moulvibazar and 28 Terminal stations having cluster of subscribers with a capacity of 1024 subscribers at each Base.

Immediately after taking up of the 'Flood Rehabilitation Project', one 'Cyclone Rehabilitation Project' was formulated after the major cyclone of 1991. The provisions in the project include erection of two new Microwave towers at Nandankanan and Agrabad in Chittagong (Nandankanan tower fell down completely in the cyclone) and installation of three 8MB (120- channel) digital UHF links in the Barisal-Noakhali area, two multi-channel digital UHF systems having bases at Patuakhali and Borguna (having a capacity of 1024 subscribers in each Base) with 30 Terminal stations, total 1100 lines of EMD exchanges at 5 coastal Thanas and one 140 MB (1920 channel) digital Microwave link between Chittagong and Betbunia.

For immediate communication with any part of the country, one HF network with 30 mobile sets including 8 sets having auto-dialling facilities, have been conceived. The equipment against this work are being procured and will be distributed to all parts of the country. During any natural calamity, the mobile sets can be taken to the exact locality from which the communication could be established with other sets in the network and with any part of the country through the auto dialling sets.

To have a reliable and better communication link with the coastal areas, a project for high capacity digital Microwave link between Khulna-Barisal-Chittagong-Coxsbazar has been planned. This will provide a better coverage of the coastal areas with other parts of the country for ensuring immediate transfer and dissemination of information. The feasibility study of the project has already been undertaken.

Recently, the Dept. of Meteorology with the participation of BTTB, has established two digital Microwave links to its Radar Stations at Coxsbazar and Khepupara. The link with Coxsbazar is from Chittagong with a 34 MB (480-channel) system and with Khepupara from Khulna via Barisal and Patuakhali with 34 MB system and from Patuakhali to Khepupara with a 2 MB (30-channel) system.

Contingency Plan

Ministry of Disaster Management and Relief has made a contingency plan for all concerned Ministries and Departments including Ministry of Posts & Telecommunications and Bangladesh Telegraph and Telephone Board, to deal with the situation during normal time as well as before and after natural calamities. In order to provide and keep the telecommunication services running, what the Ministry will do and what BTTB will do, have been specified. It includes, among others, to assign one officer as focal point, to open control centres for collecting information and giving necessary instructions, to keep liaison with the Ministry of Disaster Management & Relief. Disaster Management Bureau, Red Crescent Society, Civil administration and other concerned agencies, to protect the equipment during natural calamities, to keep alternate arrangement with spare equipment, manpower etc. for running the telecommunication services, to repair & rehabilitate the equipment damaged during natural calamities and to prepare plans for providing services and combating the disasters in future.

Conclusion

The telecommunications service, available in Bangladesh for disaster management is not sufficient and is without any modern technology. But it can be said that a number of actions were taken by BTTB to provide telecommunication services in the disaster prone areas and building up the required telecommunication infrastructure. Efforts are already there to provide efficient and modern services during the natural calamities. These efforts will continue in future in BTTB.

GLOBAL TELECOMMUNICATION WITH ASIA PACIFIC REGION

S. M. Khabiruzzaman

Director, Telecom Dhaka Telecom Region (North)

In the year 1998, Asia Pacific Region enters a new horizon of telecommunications. At the beginning of the year Global-star, a low-earth-orbitting (LEO) Satellite will provide low-cost high quality mobile and fixed telecommunication service in this Region. Near the end of the year, the most modern Submarine System in the world with a capacity at 40 G bit/s, equal to aproximately 480,000 telephone circuits (SEA-ME-WE-3), is sheduled to enter in service. So the Low-Earth-Orbit Satellite Systems and SEA-ME-WE3 is sheduled to enter in service. So the Low-Earth-Orbit Satellite Systems and SEA-ME-WE-3 Submarine Systems will soon bring the benefit of the fast and economic telecommunications service to the people of the Region who are still struggling for telecommunications.

Global-Star Systems Overview

In the beginning of 1998 Global-star, a low-earth orbitting (LEO) Satellite-based telecommunications system, will provide wireless telephone and other telecommunications service world wide. Global-star will provide low-cost, high quality telephone and other digital telecommunications service such as data transmission and facsimile to areas currently under-served or not served by existing wireline and cellular telecommunications systems. The Global-star space segment consists of 48 Satelites in 1410 km Low Earth Orbits. The low orbits permit low power hand sets simillar to cellur phones. These Satellites are distributed in 8 orbital planes with 6 equally spaced Satellites per orbital plane. Satellites complete an orbit every 114 minutes. The Global-star Satellite is a simple, low-cost Satellite designed to minimize both Satellite costs and lunch costs. Due to vast ability, Global-star will provide extensive telecommunications service to the vast area of Asia-Pacific region as well as Africa. The rates for the Global-star service will be similar to those of terrestrial cellular system. So Asia-Pacific regional nations must provide a flexible regulatory policy and a conductive business environment, to ensure LEO based MSS effectively and fully.

SEA-ME-WE-3 and its extension to the Far East

The 26,000 km undersea cable is planned to link Europe, via Middle East, to Singapore. This is the first Submarine System in the world to incorporate Wave length Division Multiplexing (WDM) with SDH-based technology combined with optical amplification.

The network will have a maximum capacity of up to 40 G bit/s, equivalent to approximately 480,000 telephone circuits: a considerable increase in capacity over EA-ME-WE-2 which was completed in 1994. The cost of the project is about US$750 million. At present twenty-seven potential landing parties are working with active co-ordination of Singapore Telecom and France Telecom.

This network, including a spur linking Jakarta forward to Australia, is scheduled to enter into service in December 1998.

This route will be extended to Far East Asia, linking Japan, Korea, China, Taiwan, Hong Kong, Macau, the Philippines, Vietnam, Brunei, Malaysia and Singapore. This extention will use the same technology and is scheduled to be operating in March 1999. Its cost will be approximately US$350 million for a 9,900 km network.