

III-10-1 Measures for global environmental issues

Measures are being promoted to help conserve the global environment through use of info-communications technology.

III-10

Other policy measures

1. Telecommunications Council Report on the use of info-communications in environmental conservation

In May 1998, MPT received a report from the Telecommunications Council entitled "Addressing Global Environmental Conservation through Info-communications Systems."

The report estimated the amount of CO₂ emissions reduced through the decrease in traffic resulting from use of info-communications systems in such areas as telework and Intelligent Transport Systems (ITS) (Table). Recognizing that info-communications technologies can greatly contribute to conservation of the environment around the world, the report also proposed various policy measures, including promoting the spread of such technologies and improving techniques for observing and monitoring the Earth.

2. MPT measures to assist global environmental conservation

i) Promoting the spread of relevant info-communications systems

MPT has been implementing various measures to promote telework, such as the project to build telework centers, as this is considered to be an effective way of helping to reduce CO₂ emissions

(Fig.; Refer to III-6-5).

ii) Earth observation and measurement technologies

If effective countermeasures are to be found against global warming, ozone depletion, damage to rain forests and other global environmental problems, it is very important that these phenomena be observed in detail, their magnitude assessed and their causes investigated.

To this end, MPT has been conducting research and development of new radio wave technologies for Earth observation and measurement from satellites, which allow observation of a vast area in short time without causing turbulence in the atmosphere.

One such research and development project is to monitor the status of deforestation, volcanic activity and other phenomena with 3-D images of Earth's surface obtained by high-resolution 3-D microwave radar. Another is a joint international project on advanced technologies using electromagnetic waves to assess the influence of solar activity, as well as global warming, through observation of the Arctic atmosphere. These MPT initiatives have contributed to efforts to investigate the mechanisms behind environmental changes on Earth.

Table Estimated effects of info-communications systems on reducing CO₂ emissions in Japan (Telecommunications Council, May 1998)

System	reduction (converted to carbon equivalent of CO ₂)
Telework	1,290,000 tons
ITS	1,100,000 tons
Reduction of paper consumption through use of LANs	530,000 tons
The Internet and other online networks	500,000 tons
Building management information system	360,000 tons
Electronic publishing and electronic newspaper	250,000 tons
Distance learning and education at home	30,000 tons
Total reduction	4,060,000 tons

Note: The potential reduction of 4.06 million tons carbon equivalent of CO₂ is equal to 7% of Japan's total CO₂ reduction target for 2010.

III-10-2 Damages by disasters to info-communications systems and countermeasures thereof

Satellite cellular telephones will also be rented out upon disasters

MPT has been preparing various measures to enable quick provision of information and to estimate the extent of damage upon occurrence of a natural disaster in Japan. One of these measures is designed to accelerate the introduction of emergency communications systems at local governments by easing radio wave congestion and conducting research and development of regional emergency radio network. In fiscal 1999, field trials are planned of technology to avoid congestion in communications traffic across wide areas in the Hanshin and Awaji regions.

MPT is also promoting measures to enhance the security and reliability of info-communications networks. Among these are a project to develop facilities to make telecommunications systems more reliable, support for laying communications and broadcasting cables underground, and formulation of technical standards and guidelines for earthquake-resistant communications networks.




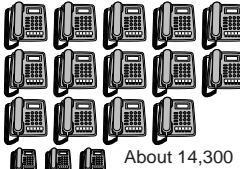




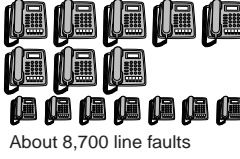








When a natural disaster occurs, MPT gives top priority to communications for disaster-relief activi-

ties, especially emergency communications. For this purpose, it grants licenses to temporary radio stations and FM radio stations and takes special measures to ensure that information can be provided quickly to disaster victims.

Besides these activities, MPT has equipped its Regional Bureaus of Telecommunications with cellular telephones to local governments in emergencies. However, in fiscal 1998 there were several incidences of torrential rainfall inflicting serious damage to terrestrial telecommunications networks (Fig.; Refer to Appendix 58), which impeded disaster-relief activities conducted through use of the cellular telephones. Therefore, from March 1999, the bureaus have also prepared satellite cellular telephones for emergency use.

Post offices are also providing helpful information upon disasters. Negotiations are currently under way between post offices and local autonomous bodies toward MPT's signing of the disaster-prevention agreement, which had 1,900 signatories nationwide as of March 31, 1999.

Fig. Damages to telecommunications systems caused by torrential rainfalls during fiscal 1998

Description	Subscriber telephone lines	Cellular telephone	PHS telephone
	1,000 lines 100 lines	10 base stations 1 base station	1,000 cell stations 100 cell stations
1. Torrential rainfalls in Niigata City and adjoining areas (August 4, 1998)	 About 470 line faults	 11 base stations ceased radio wave emission	 275 cell stations ceased radio wave emission
2. Torrential rainfalls in northern Kanto Region to southern Tohoku Region (August 27, 1998)	 About 14,300 line faults	 11 base stations ceased radio waves emission	 230 cell stations ceased radio wave emission
3. Torrential rainfalls due to Typhoon No. 5 (September 16, 1998)	—	 41 base stations ceased radio wave emission	 169 cell stations ceased radio wave emission
4. Torrential rainfalls due to Typhoon No. 7 (September 22, 1998)	 About 8,700 line faults	 About 300 base stations ceased radio wave emission	 About 9,200 cell stations ceased radio wave emission
5. Torrential rainfalls in Kochi City and adjoining areas (September 25, 1998)	 About 5,400 line faults	 10 base stations ceased radio wave emission	 221 cell stations ceased radio wave emission
6. Torrential rainfalls due to Typhoon No. 10 (October 17, 1998)	 About 4,800 line faults	 1 base station ceased radio wave emission	 40 cell stations ceased radio wave emission