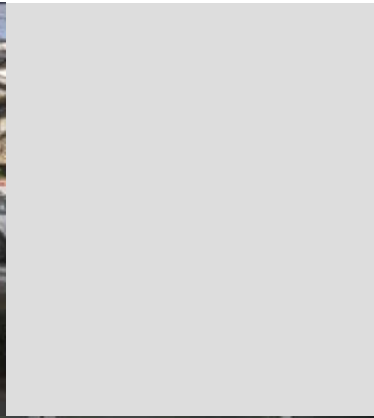
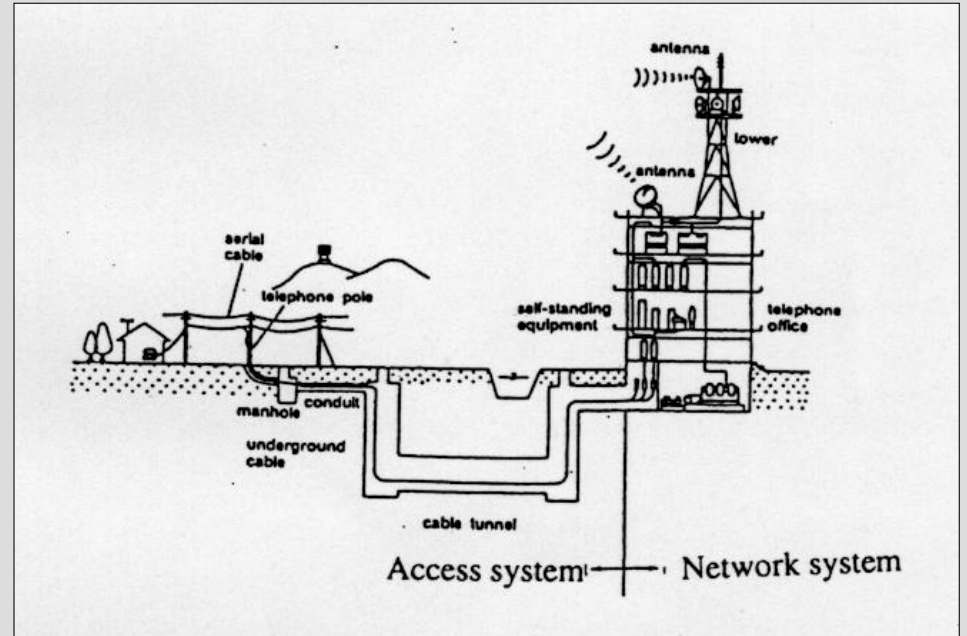


# Telecommunication Systems

## Telecommunication Network facilities



**Emergency  
Telecommunication  
in the Kobe EQ**

**After the Kobe EQ**



## Damage to Telecommunication Systems in the Kobe EQ

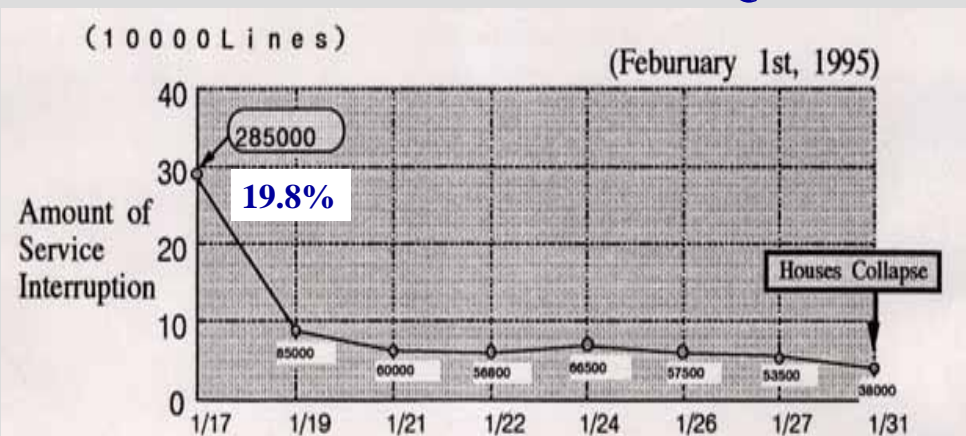
- Antenna towers on the top of buildings: 3
- Aerial cables damaged by due to collapse of buildings and poles: 340km (1.7%)
- Pole damage due to collapse of buildings and fires: 3,600 (1.5%)
- Damage to underground cables: 26 km (0.23%)
- Damage to ducts: 256 km (6.9%)

## Performance of Telecommunication Systems in the Kobe EQ



Pull out of cables at Manhole

## Service Interruption due to physical reasons after the Kobe EQ



- Loss of backup power for switching equipment
- Damage to phone cables

## Telephone Traffic Jam after the Kobe EQ

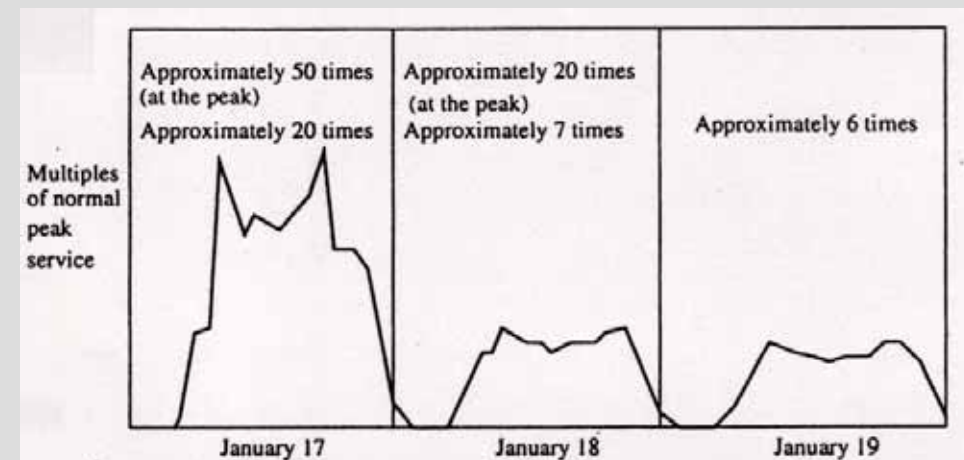
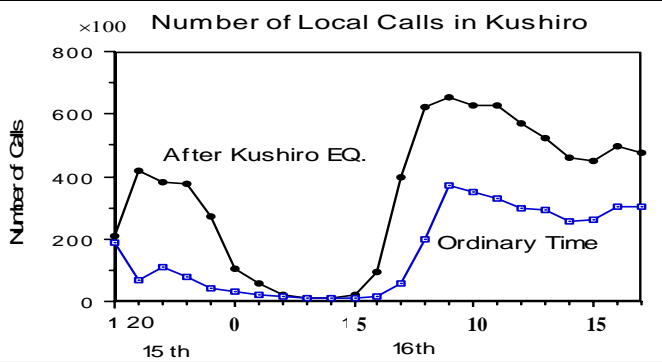
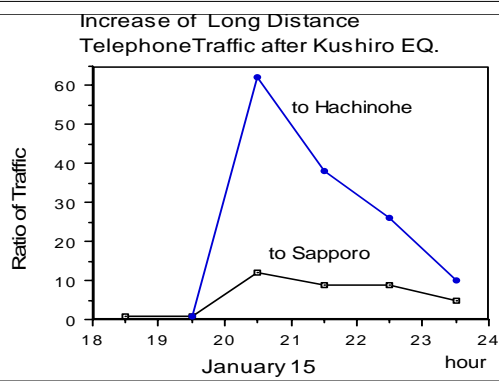


Fig. 3. Traffic from around Japan to Kobe ZA

## Overload after the 1993 Kushiro Oki EQ

Long distance calls from other parts of Japan



Local calls in Kushiro

## Countermeasures

### For Overload

- Traffic control
- PR
- Voice mail systems

### For Overloads and Others: Alternate Systems

- Satellite telecommunication
- Mobile phone
- Radio
- Internet/E-mail



After the 1993 Hikkaido-Nansei-Oki EQ

## New Voice Mail System in Case of Disasters

### All-Japan Message Dial (Voice mail)

171

• The current message dial service will be improved to provide a message dial service which allows the safety of disaster victims to be confirmed from around the country. (Convenient services will also be provided during normal periods.)

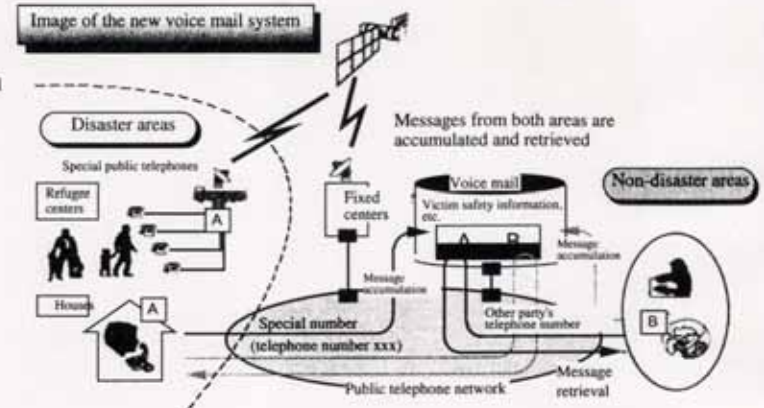


Fig. 15. Alleviating congestion and allowing the safety of disaster victims to be confirmed

# Use of public telephones in case of natural disasters

## Provision of free public telephone service during power stoppages

• This system will be implemented by switching center unit in regions where the Disaster Relief Law has been invoked, etc.

• This system will also alleviate coin jamming when commercial power supply is stopped due to disasters.

• Provision of free international calls and calls to mobile phones will be implemented through negotiation between telecommunications carriers.

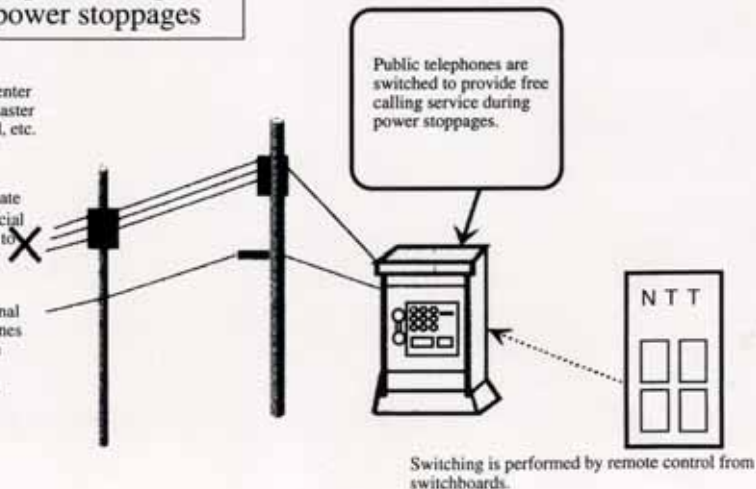
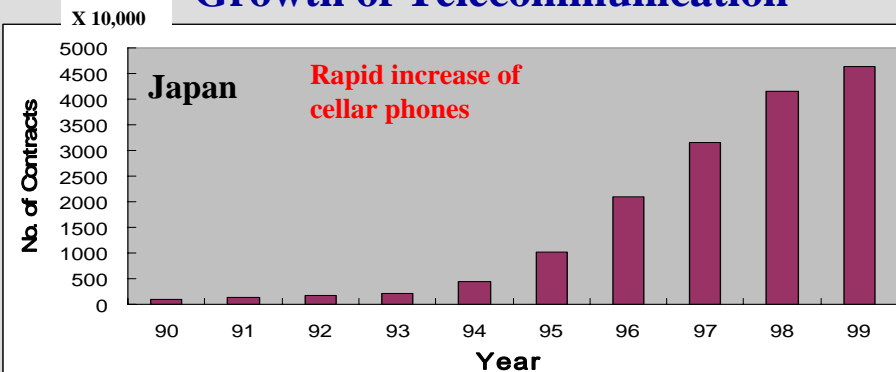
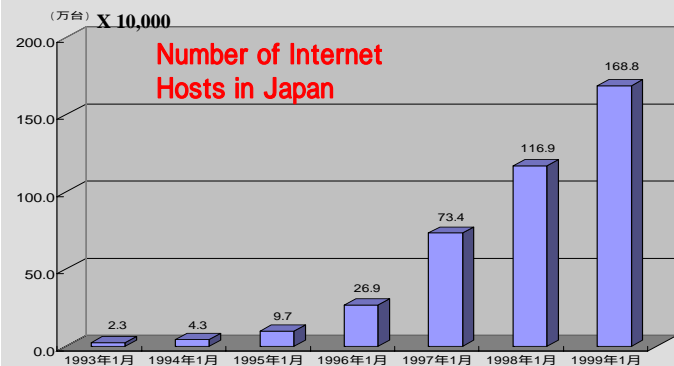
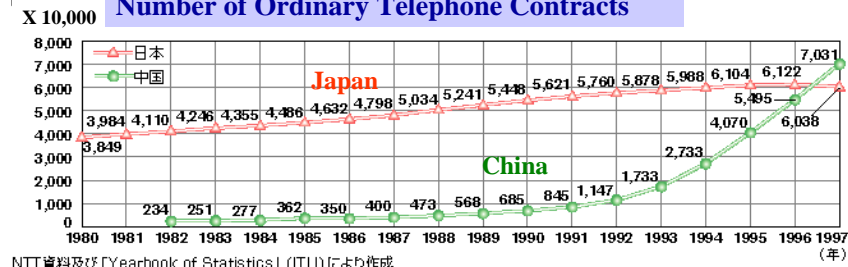


Fig. 16. Lifeline telephone service using public telephones

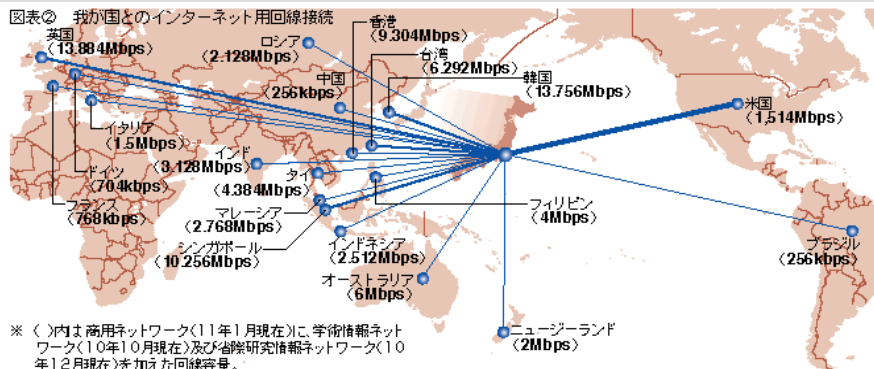
# Growth of Telecommunication



## Number of Ordinary Telephone Contracts



# Rapid Increase of Internet Services



# Ratio of Internet Users in Each Country

図表② 各国のインターネット普及率

