International Cooperation in the ICT Field

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M I C

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- Revision of the Asia Broadband Program
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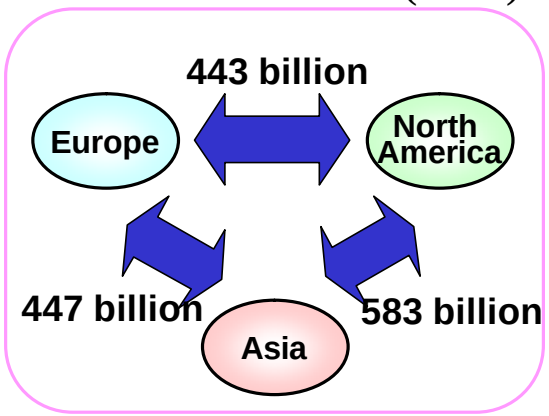
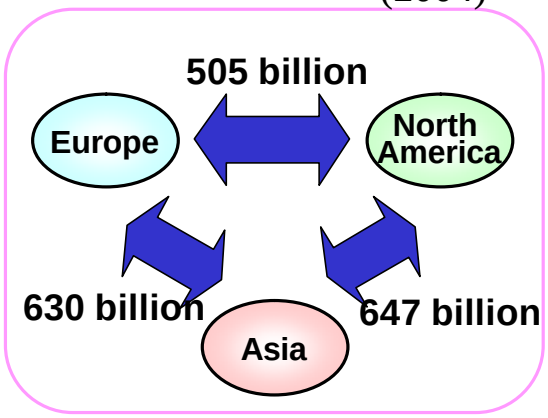
Distribution of Inter-regional Information

Trade volume (in US $)

(2001)



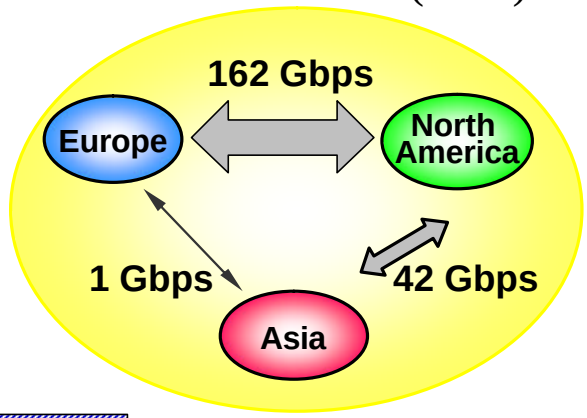
(2004)



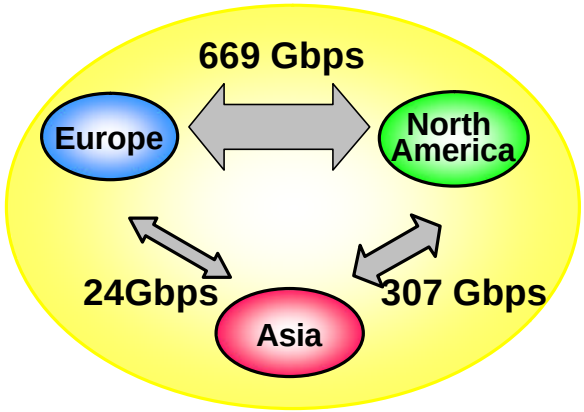
Source: WTO

Information flows
(Internet bandwidth)

(2001)

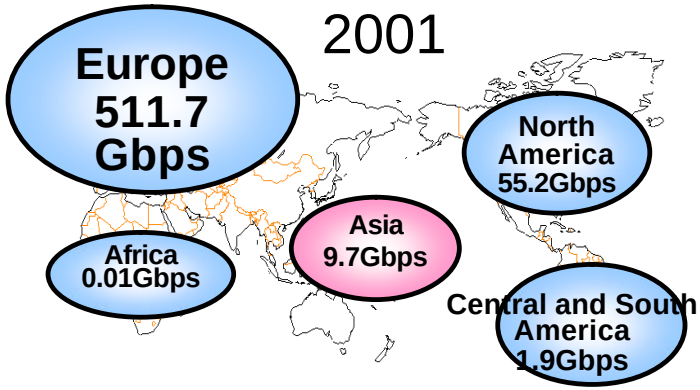


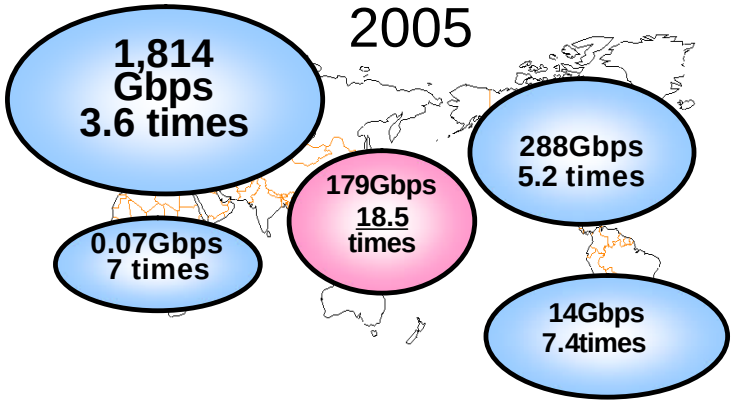
(2005)



Source: TeleGeography Inc.

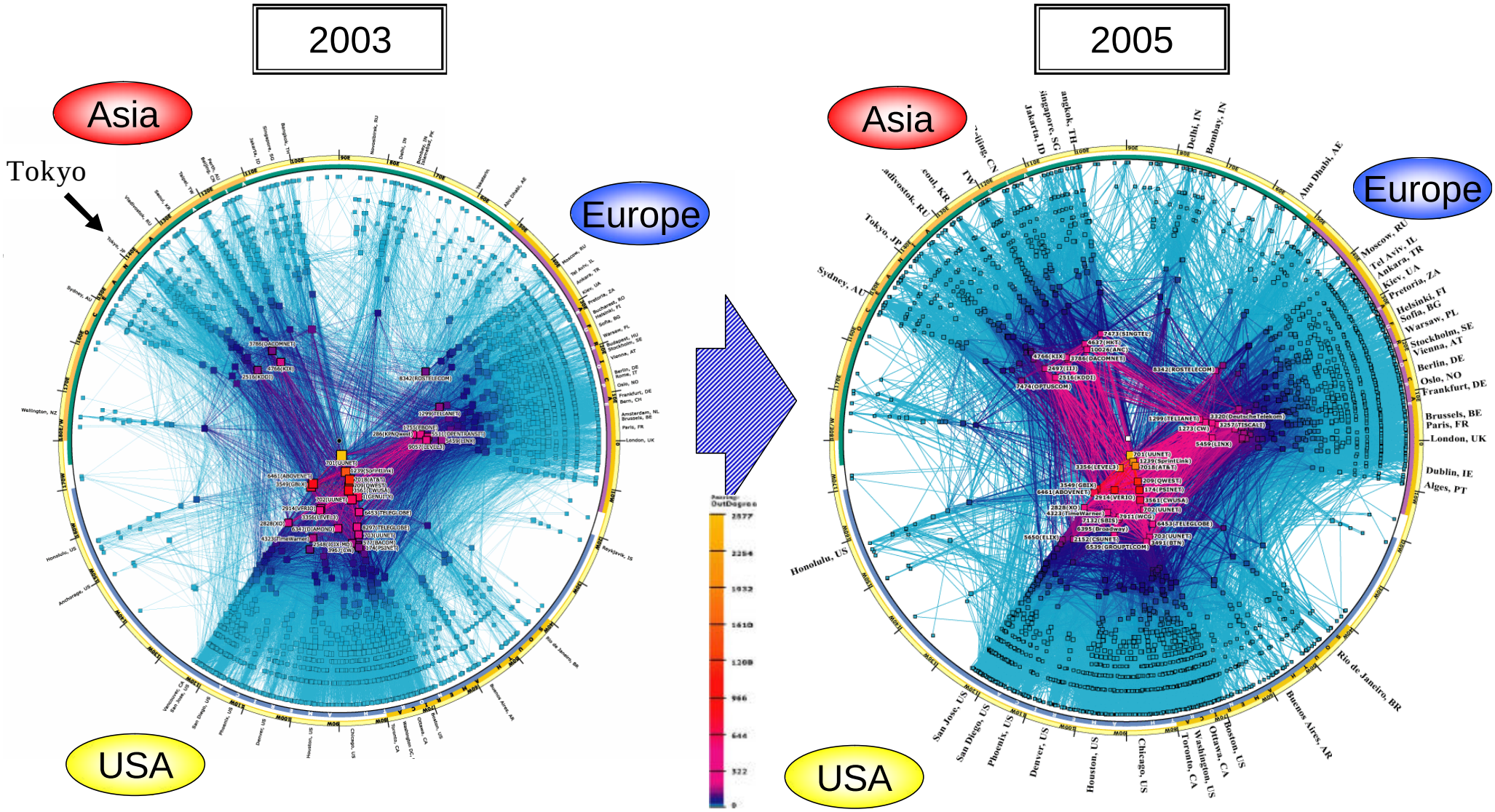
Internet Bandwidth in major Regions





Primetrica; Global Internet Geography 2006）

Internet Connectivity in the world

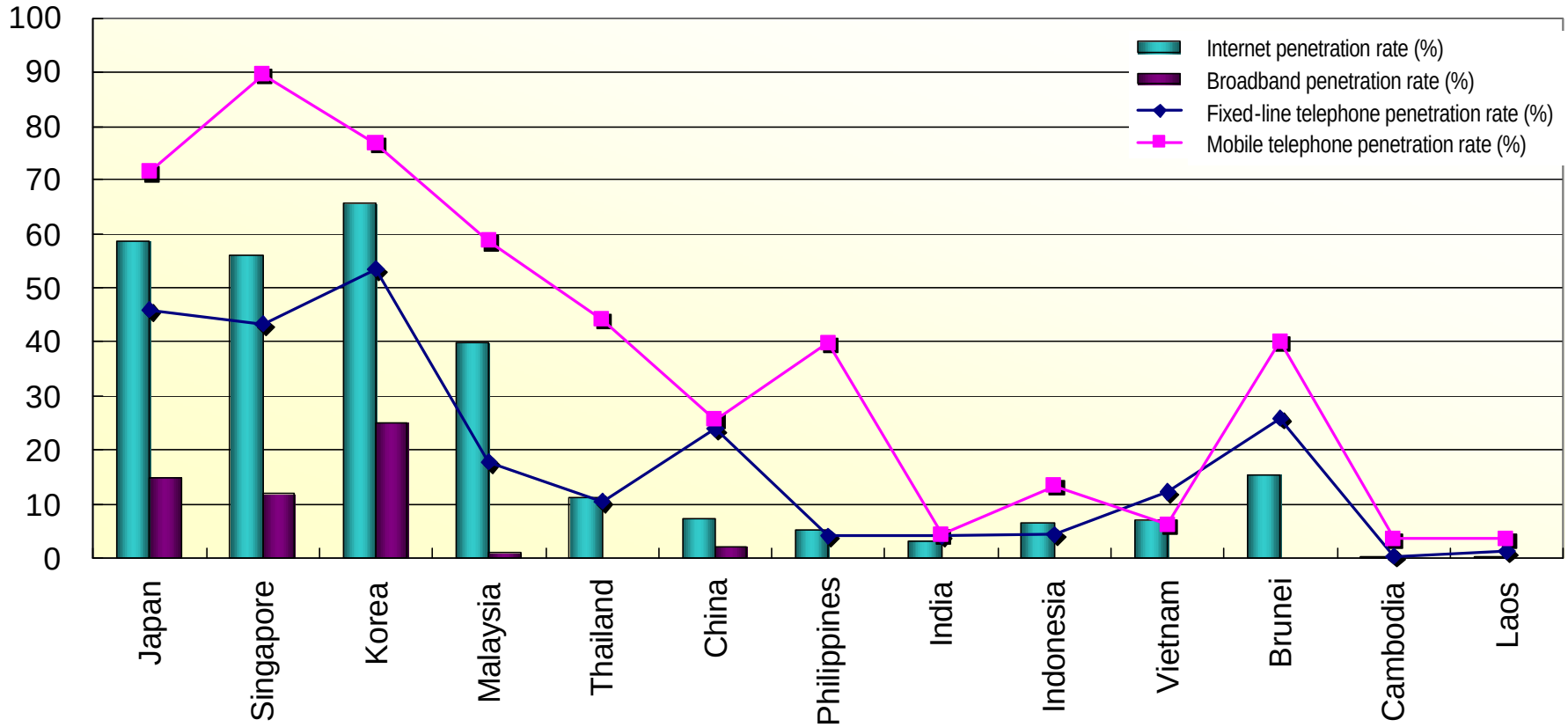


The two diagrams above plot interconnections among the major ISPs of the world, with the angle representing the positional longitude of the ISP and the distance from the center indicating the number of sub ISPs (the greater the number, the closer to the center). It can be seen that ISPs throughout the world are connected to the higher-order ISPs, most of which are located in the USA. Connectivity within the USA and between the USA and Europe is particularly dense.
(Source: The Cooperative Association for Internet Data Analysis, http://www.caida.org/)

Internet and Broadband Penetration Rates in Asia (2004)

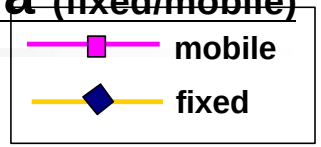
- Internet penetration rate for the Asia region overall was 8.1% in 2004 (per 100 persons), an increase of 2.3% since 2002. This penetration rate is far lower than the USA (30.6% in 2004, up 6.3% since 2002) and Europe (32.1%, up 11.2%). Similarly, broadband penetration rate was just 1.7% in 2004 per 100 persons, up 0.9% since 2002, compared with corresponding figures of 5.6% (up 2.7%) in the USA and 5.4% (up 3.8%) in Europe.
- When considering Asian countries in terms of penetration rates, it is possible to mainly classify them into the following three categories : (1) countries with higher penetration rates of broadband in excess of 10%; (2) countries with emerging internet infrastructure and latent demand for broadband services; and (3) countries with little basic infrastructure such as fixed-line telephone systems.

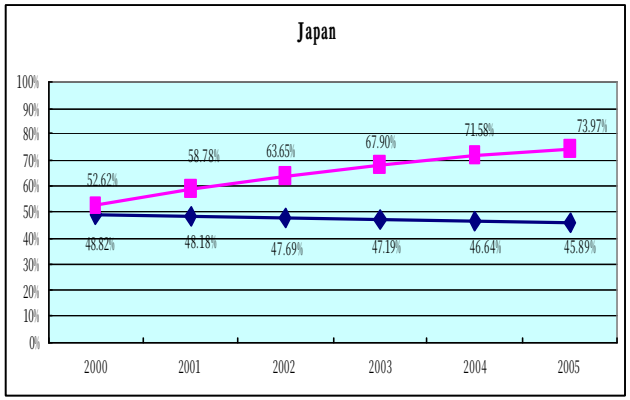
(2004, unit: %)

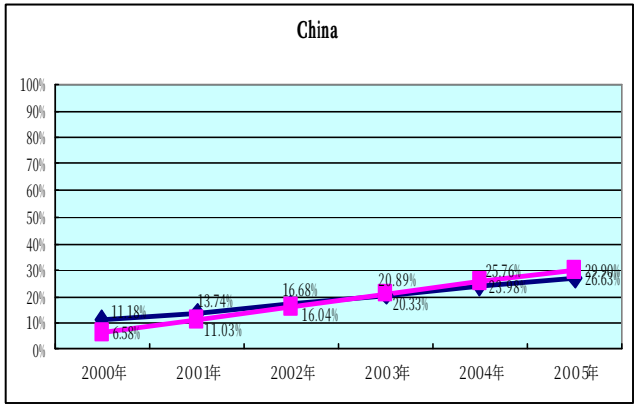


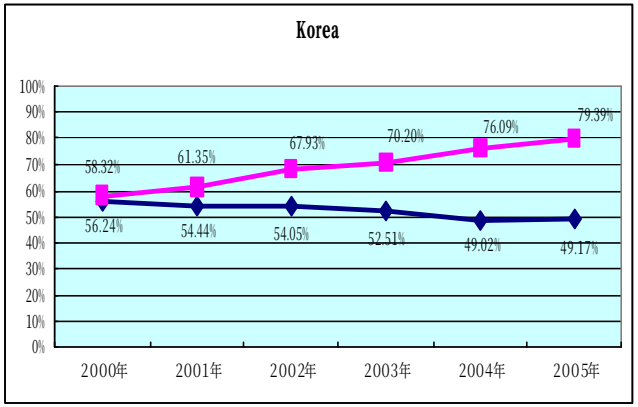
(Graph shows major countries only. Source: ITU)

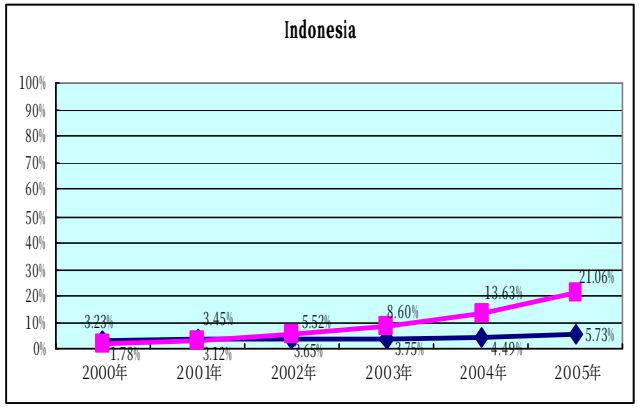
Transition Ratio in Telephone Service Subscribers in Asia (fixed/mobile)

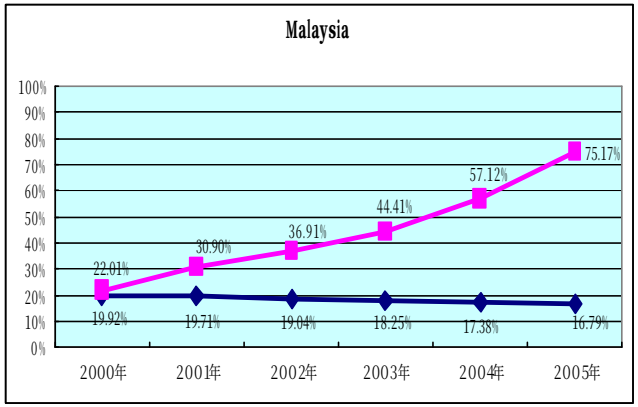


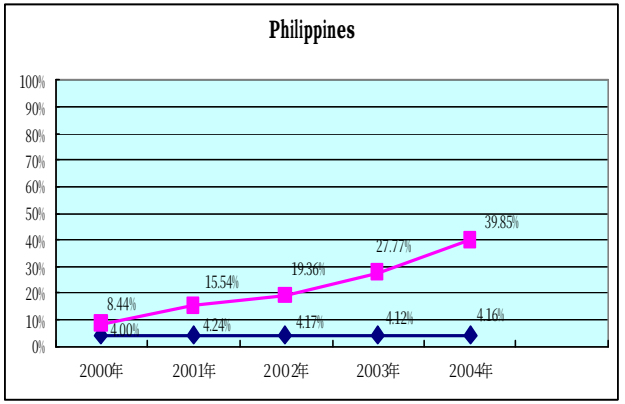


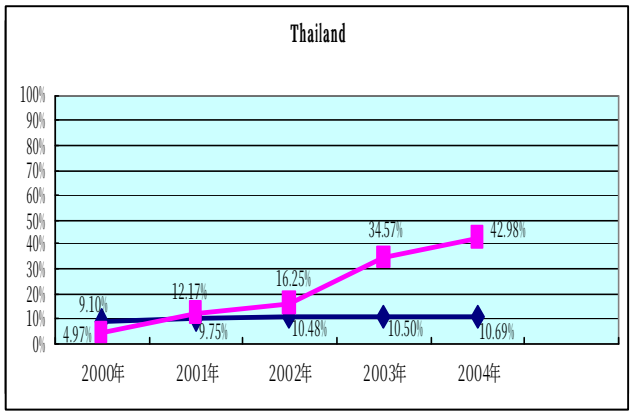


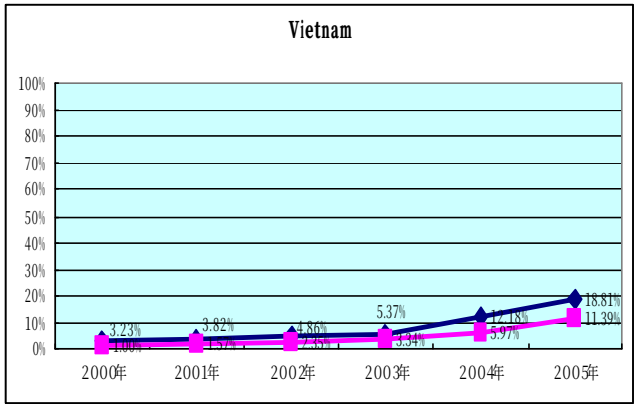


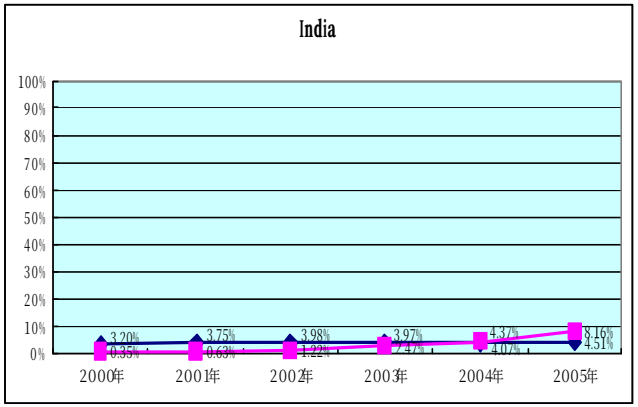








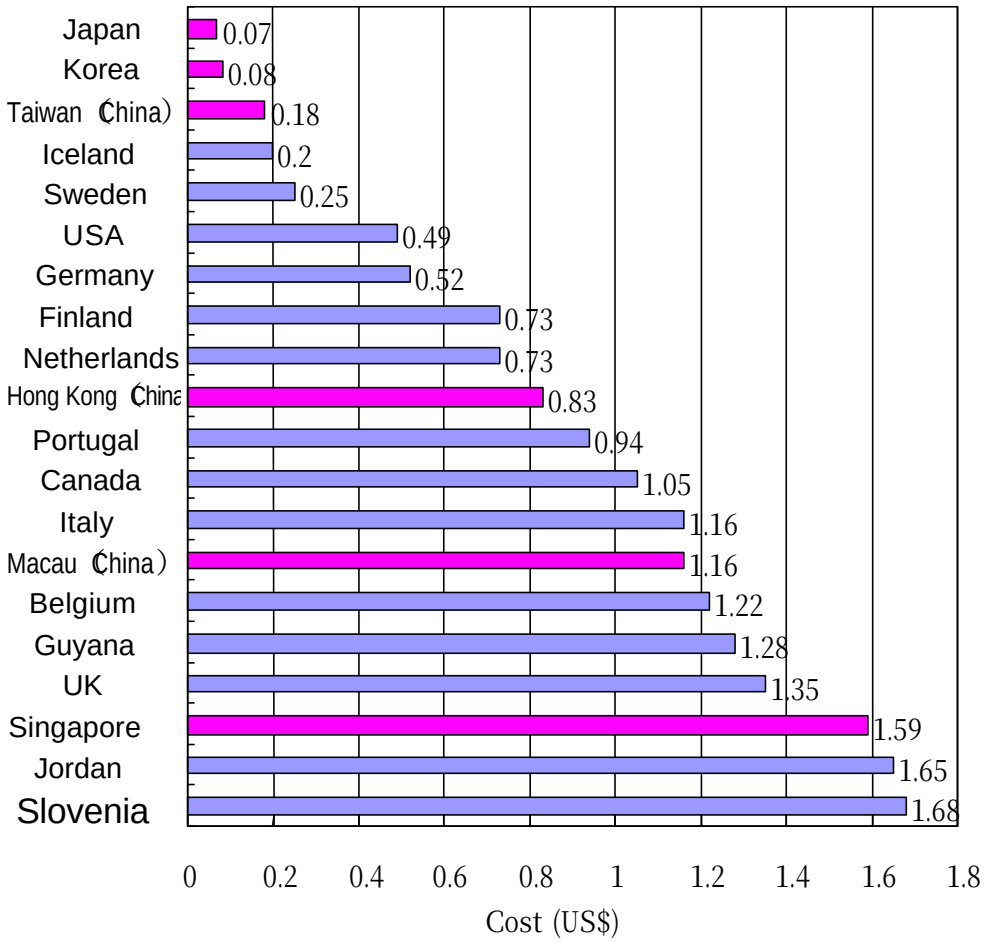




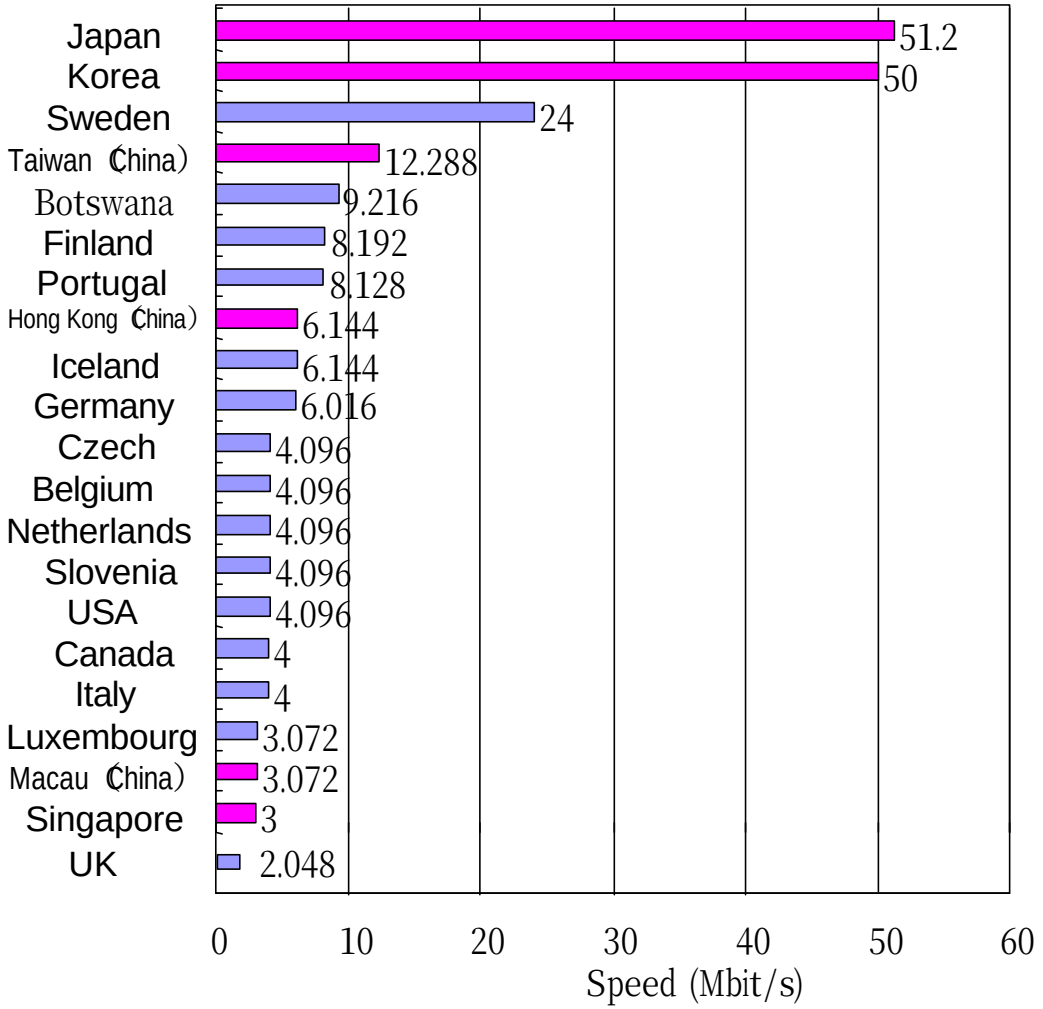
(ITU統計表より作成)

The Price of Broadband and its Speed

Broadband price (per 100 kbit/s)



DSL communication speed (Mbit/s)



Source: ITU Internet Reports 2005: The Internet of Things

Outline of Asia Broadband Program

e-Japan Priority Program 2002
(Approved by IT Strategy Headquarters on June 18, 2002)

Basic Principles of Economic and Fiscal Management and Structural Reform 2002
(Approved by Cabinet on June 25, 2002)

The Asia Broadband Program (formulated in FY2002) to promote development of the broadband environment in the Asia region

Asia Broadband Program (formulated on March 28, 2003; amended on August 31, 2006)
MIC and associated government bodies

Aim: To stimulate and facilitate the distribution of information within Asia and promote the development of Asia as a global information hub

e-Japan Strategy II (July 2003)
e-Japan Priority Program 2003 (August 2003)
e-Japan Priority Program 2004 (June 2004)
IT Policy Package 2005 (February 2005)
Priority Program 2006 (July 2006)

mentioned in above documents as follows;

～sure and steady implementation of the Asia Broadband Program be assured～

Summary of Revised Asia Broadband Program (Goals)

Ⅱ Goals

To continue our efforts in achieving our goals, reflect the attention given to the next generation network as the future infrastructure.

In this Program, setting 2010 as the target year, a common goal in Asia is to invigorate information flows within the region to make Asia as a whole a global information hub, through the realization of the followings:

(i) Enable all people in Asia to gain access to broadband platforms including access from various public facilities, and to use applications utilizing broadband advantages to the fullest.

(ii) Construct international intra-regional broadband networks with sufficient bandwidths for linking directly countries/economies in Asia. Increase amounts of information flows (network bandwidth) between "Asia and North America" and "Asia and Europe" to the same level as those between "North America and Europe."

(iii) Configure the Next Generation Network in Asia and have Asia become the leading figure in the global communications field with information and telecommunications technologies such as IPv6 and mobile communications

(Previous revision: Have an IPv6 network in Asia as well as becoming the leading figure in global communications with information and telecommunications technologies such as IPv6 and next generation mobile communications.)

(iv) Prepare environments under which Asian people are able to use ICT in a safe and easy-to-use manner.

(v) Digitize and archive major cultural assets in Asian countries/economies, to share them within the region and transmit them to the rest of the world via broadband.

(vi) Develop machine-translation technologies between major languages in Asia, and put them into practical use.

(vii) Dramatically increase the number of engineers and researchers in the ICT field in Asia.

Summary of Revised Asia Broadband Program (Policies and Items)

Previous Version

Policies in improving a broadband network infrastructure

1. Support the improvement of network infrastructures in developing countries
2. Promote the improvement of an international network infrastructure in Asia
3. Develop and apply a network infrastructural technology suited to Asia
4. Promote R&D and standardization of network infrastructure
5. Nurture human resources and interaction regarding network infrastructure

Relevant measures for introducing and diffusing broadband platform

1. Preparation of common key infrastructures
2. Promotion of use of broadband platforms
3. Promotion of digital content distribution
4. Support for developing national strategies, policies/schemes
5. Supporting for developing countries/economies

Review the policies as follows due to changes in conditions

Revision

Policies in improving a broadband platform network infrastructure

1. **Support the improvement of a network infrastructure in developing countries and such**
2. **Promote the improvement of an international network infrastructure in Asia**

Policies to improve applications, content and common platforms

1. **Replenish applications**
2. **Promote the distribution of digital content**
3. **Improve the common platform**

Policies to nurture human resources

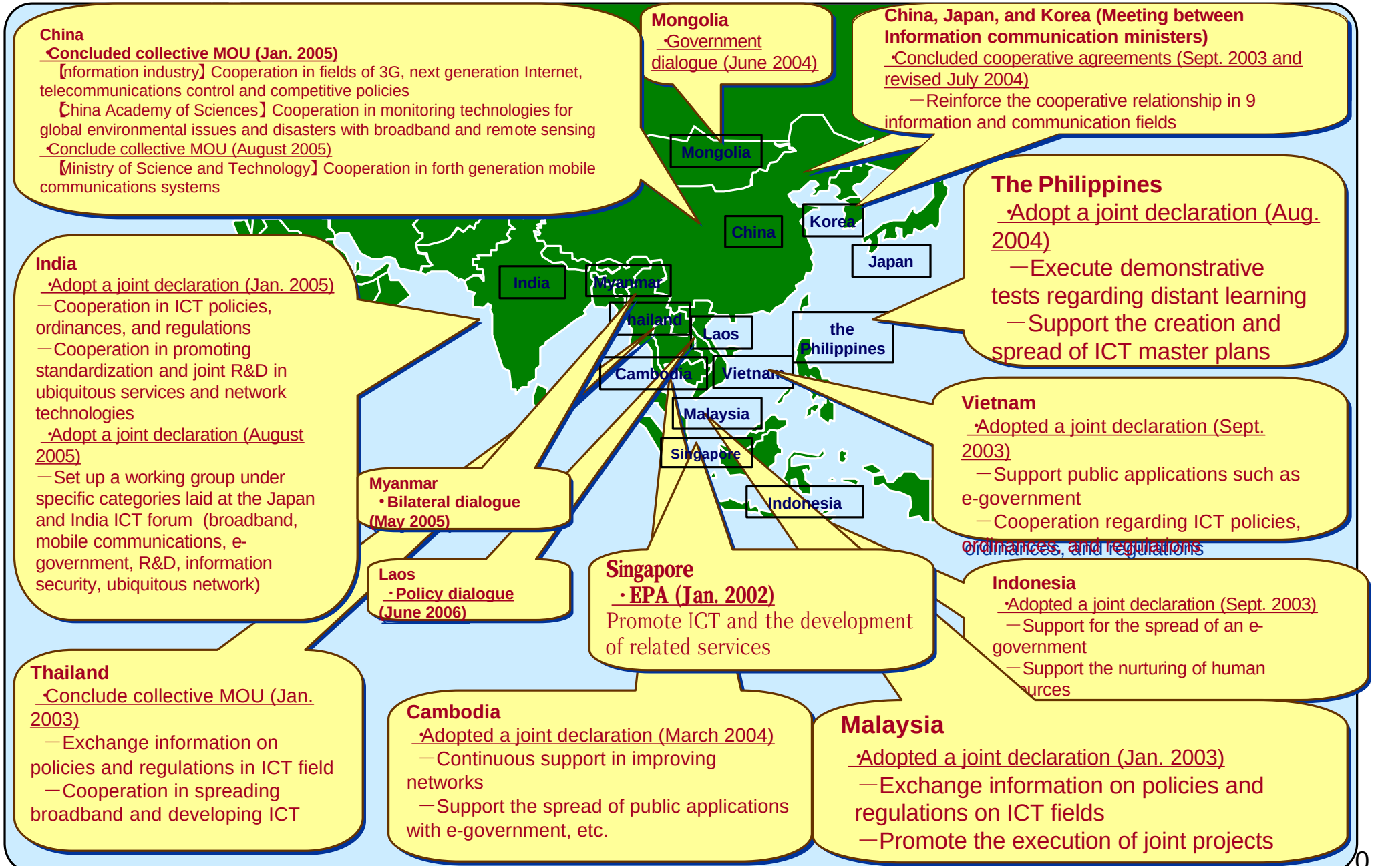
1. **Nurture human resources that can plan, develop, and operate networks and applications**
2. **Nurture human resources related to industries and academia**

Cross-policies

1. Support improvements in national strategies, policies, and systems
2. Support developing countries

State of Asian Cooperations

Concluded joint declarations, collective MOU and economic partnership agreements (EPA) with 9 Asian countries as well as a cooperative agreement between China, Japan, and Korea. Construct cooperative relationships with other countries through dialogue and such.



China
- **Concluded collective MOU (Jan. 2005)**
  【Information industry】Cooperation in fields of 3G, next generation Internet, telecommunications control and competitive policies
  【China Academy of Sciences】Cooperation in monitoring technologies for global environmental issues and disasters with broadband and remote sensing
- Conclude collective MOU (August 2005)
  【Ministry of Science and Technology】Cooperation in forth generation mobile communications systems

Mongolia
- Government dialogue (June 2004)

China, Japan, and Korea (Meeting between Information communication ministers)
- Concluded cooperative agreements (Sept. 2003 and revised July 2004)
  —Reinforce the cooperative relationship in 9 information and communication fields

The Philippines
- Adopt a joint declaration (Aug. 2004)
  —Execute demonstrative tests regarding distant learning
  —Support the creation and spread of ICT master plans

India
- Adopt a joint declaration (Jan. 2005)
  —Cooperation in ICT policies, ordinances, and regulations
  —Cooperation in promoting standardization and joint R&D in ubiquitous services and network technologies
- Adopt a joint declaration (August 2005)
  —Set up a working group under specific categories laid at the Japan and India ICT forum (broadband, mobile communications, e-government, R&D, information security, ubiquitous network)

Vietnam
- Adopted a joint declaration (Sept. 2003)
  —Support public applications such as e-government
  —Cooperation regarding ICT policies, ordinances, and regulations

Myanmar
- **Bilateral dialogue (May 2005)**

Laos
- **Policy dialogue (June 2006)**

Singapore
- **EPA (Jan. 2002)**

Promote ICT and the development of related services

Indonesia
- Adopted a joint declaration (Sept. 2003)
  —Support for the spread of an e-government
  —Support the nurturing of human resources

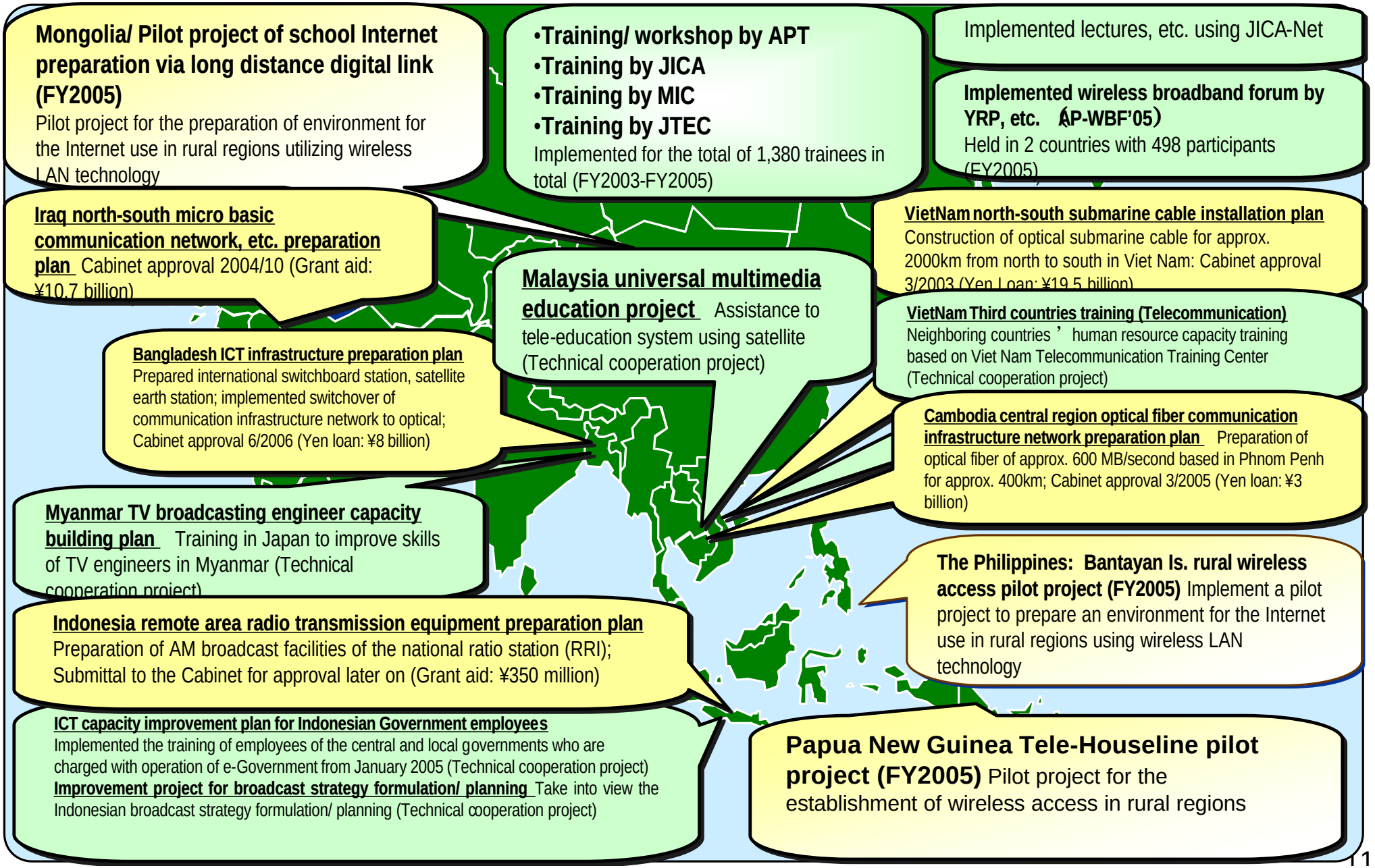
Thailand
- Conclude collective MOU (Jan. 2003)
  —Exchange information on policies and regulations in ICT field
  —Cooperation in spreading broadband and developing ICT

Cambodia
- Adopted a joint declaration (March 2004)
  —Continuous support in improving networks
  —Support the spread of public applications with e-government, etc.

Malaysia
- Adopted a joint declaration (Jan. 2003)
  —Exchange information on policies and regulations on ICT fields
  —Promote the execution of joint projects

State of Major Projects ① (Network Infrastructure, Human Capacity Building and related subjects)

The Cabinet approved 11 financial cooperation projects in Asian regions (Total: ¥64.5 billion). Numerous technological cooperation projects and training/workshops have been implemented (Total number of participants: 1,380) (The following shows some major projects)



Mongolia/ Pilot project of school Internet preparation via long distance digital link (FY2005)
Pilot project for the preparation of environment for the Internet use in rural regions utilizing wireless LAN technology

- **Training/ workshop by APT**
- **Training by JICA**
- **Training by MIC**
- **Training by JTEC**

Implemented for the total of 1,380 trainees in total (FY2003-FY2005)

Implemented lectures, etc. using JICA-Net

Implemented wireless broadband forum by YRP, etc. (AP-WBF'05)
Held in 2 countries with 498 participants (FY2005)

Iraq north-south micro basic communication network, etc. preparation plan Cabinet approval 2004/10 (Grant aid: ¥10.7 billion)

VietNam north-south submarine cable installation plan
Construction of optical submarine cable for approx. 2000km from north to south in Viet Nam: Cabinet approval 3/2003 (Yen Loan: ¥19.5 billion)

Malaysia universal multimedia education project Assistance to tele-education system using satellite (Technical cooperation project)

VietNam Third countries training (Telecommunication)
Neighboring countries' human resource capacity training based on Viet Nam Telecommunication Training Center (Technical cooperation project)

Bangladesh ICT infrastructure preparation plan
Prepared international switchboard station, satellite earth station; implemented switchover of communication infrastructure network to optical; Cabinet approval 6/2006 (Yen loan: ¥8 billion)

Cambodia central region optical fiber communication infrastructure network preparation plan Preparation of optical fiber of approx. 600 MB/second based in Phnom Penh for approx. 400km; Cabinet approval 3/2005 (Yen loan: ¥3 billion)

Myanmar TV broadcasting engineer capacity building plan Training in Japan to improve skills of TV engineers in Myanmar (Technical cooperation project)

The Philippines: Bantayan Is. rural wireless access pilot project (FY2005) Implement a pilot project to prepare an environment for the Internet use in rural regions using wireless LAN technology

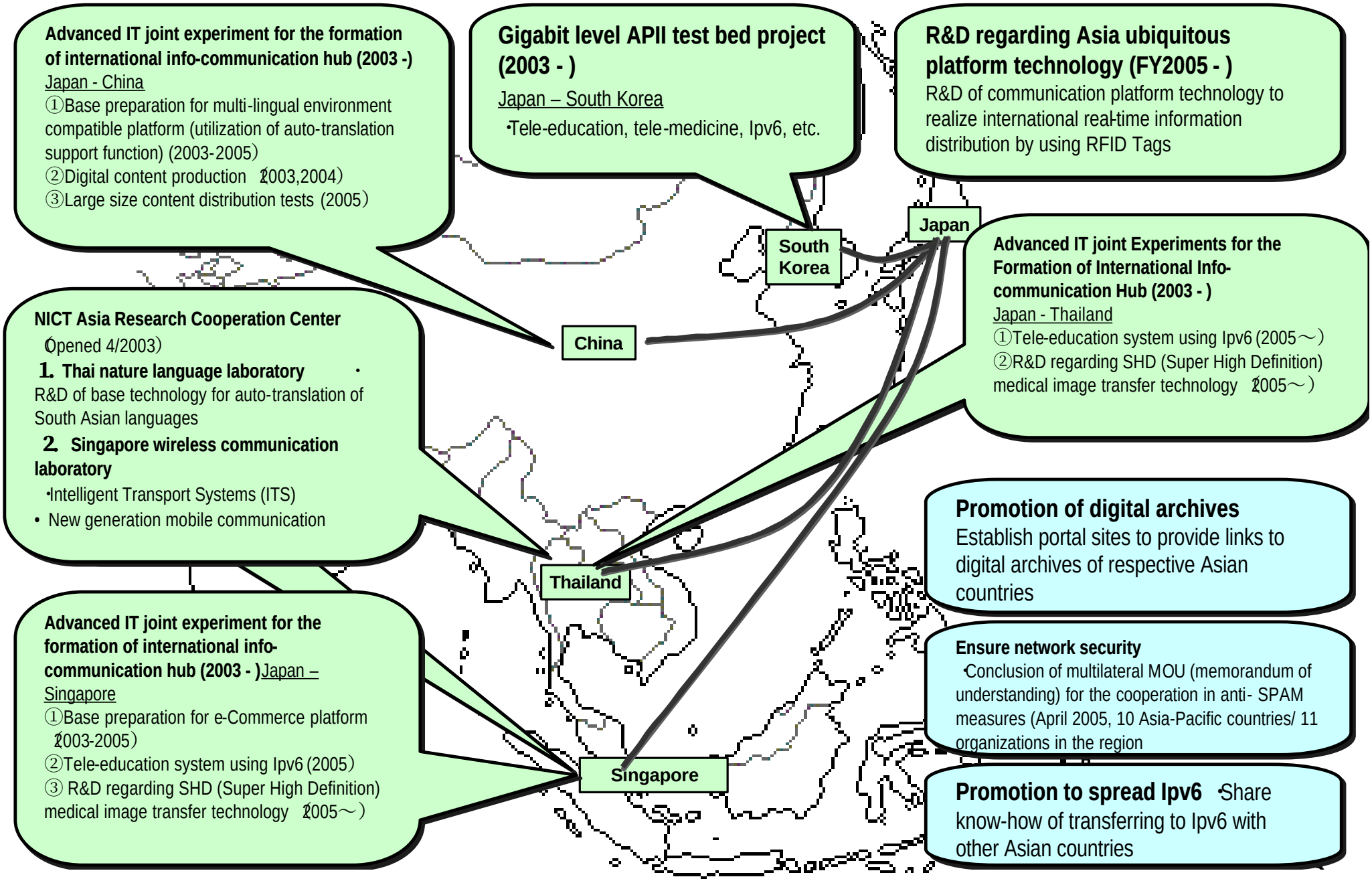
Indonesia remote area radio transmission equipment preparation plan
Preparation of AM broadcast facilities of the national ratio station (RRI); Submittal to the Cabinet for approval later on (Grant aid: ¥350 million)

ICT capacity improvement plan for Indonesian Government employees
Implemented the training of employees of the central and local governments who are charged with operation of e-Government from January 2005 (Technical cooperation project)
Improvement project for broadcast strategy formulation/ planning Take into view the Indonesian broadcast strategy formulation/ planning (Technical cooperation project)

Papua New Guinea Tele-Houseline pilot project (FY2005) Pilot project for the establishment of wireless access in rural regions

State of Major Projects ② (Technological development of applications, content and infrastructure)

Implemented International Joint Experiments through Advanced IT joint Experiments for the Formation of International Info-communication Hub, etc. from FY2003



Projects to be examined for Implementation or Launch in the Future

Projects to be examined for implementation or launch by 2007

(1) Measures for the preparation of network infrastructure

- **VietNam IFC Plan (ODA)**

Project for unified promotion of the establishment of e-Government connecting the governments, schools and hospitals; Provision of information service through cultural centers; and human resource capacity building

(2) Measures for the preparation of common base for the applications and content

- **Malaysia universal multimedia education project (ODA)**

Enhancement of Tele-education system implemented by ODA (2001.7～2005.6)

- **University of South-Pacific ICT Center plan (ODA)**

ICT related human capacity building by utilizing facilities in the University of the South-Pacific (USP) based in Fiji

- **Advanced IT joint Experiments for the Formation of International Info-communications Hub**

R&D of tele-education system using Ipv6 technology, R&D regarding the SHD (Super High Definition) medical image transfer technology, R&D for the international interconnection of IP phones, etc.

- **R&D regarding Asia ubiquitous platform technology**

R&D of communications platform technology to realize international real-time information distribution using RFID Tags

- **Establishment and application of cutting-edge R&D test bed network (NICT)**
- **R&D of Super high speed internet satellite (WINDS)**

(3) Measures for human capacity building

- **Support preparation of environment for the spread of broadband in the Asia-Pacific region**
- **Human capacity building through international joint research on ICT technology**
- **Asia human resources network plan/ Asia Cyber Seminar plan**

Projects to be examined for implementation or launch by 2008

- **Mongolia: Preparation of local communications network via long distance wireless LAN**
- **The Philippines: Community e-Center preparation project**
- **Indonesia: Establishment of info-communications network for disaster prevention**
- **India: e-Government promotion project**

Contribution to Asia-Pacific Region using Extra Budgetary Contribution to APT

Purpose

Individual measures →

Basic human capacity building →

•Capacity building of persons charged with policy making such as competition policies for the development of broadband

•Elimination or reduction of digital divides in Asia-Pacific region

•Capacity building of advanced engineers and researchers
•Promotion of standardization coming from Japan and Asia

The environment preparation support for the spread of broadband access
($150,000/ year)

New measure from FY2005 (Planned)

Plan to implement support for human capacity building and policy making necessary for the preparation of competitive environments for the switchover to broadband in the region, for the purpose of spread and promotion of broadband in the Asia-Pacific region.

Specifically, implementation of medium to long term training (1 month) of a small number of people, and develop human resource charged with policy making through the training.

Currently, APT and MIC are jointly studying the details (time, place, content, etc. of the training).

J 4

Support A Pilot Project for the Elimination or reduction of digital divides (Approx. $370,000/ year)

Support implementation of pilot projects for the dissolution of digital divides, such as tele-center installations in rural area in the region.

There were more than 30 cases of applications in FY2005, of which Japan and APT adopted three cases (Mongolia, the Philippines, Papua New Guinea) by

A scene from the works of the TeleHousline project, to provide Internet connection environment in rural areas by using Wi-Fi technology
(FY2005 Papua New Guinea)

J 3

Asia-Pacific IT researcher/ engineers support ($500,000/ year)

Implement support of international joint research between researchers/ engineers in Asia-Pacific region and Japan.

There are over 30 cases of applications every year, and Japan and APT selects from them by consultation.

In addition, meetings are held to spread the research results widely to the Asian countries.

Research to apply auto-collection system of environmental data such as rainfall data using FWA to agriculture.
(FY2004, the Philippines)

J 2

Cooperation for the advancement of Asia-Pacific telecommunication network ($900,000/ year)

Implement basic human capacity building through training courses in Japan and workshops in the overseas for mainly persons charged with businesses concerning preparation and application of infrastructures.

About ten short-term courses are offered in Japan annually, with about 100 participants. Several courses of workshops are held overseas as well.

•Development of telecommunication in Asia-Pacific region
•Enhancement of the Japanese presence in the region

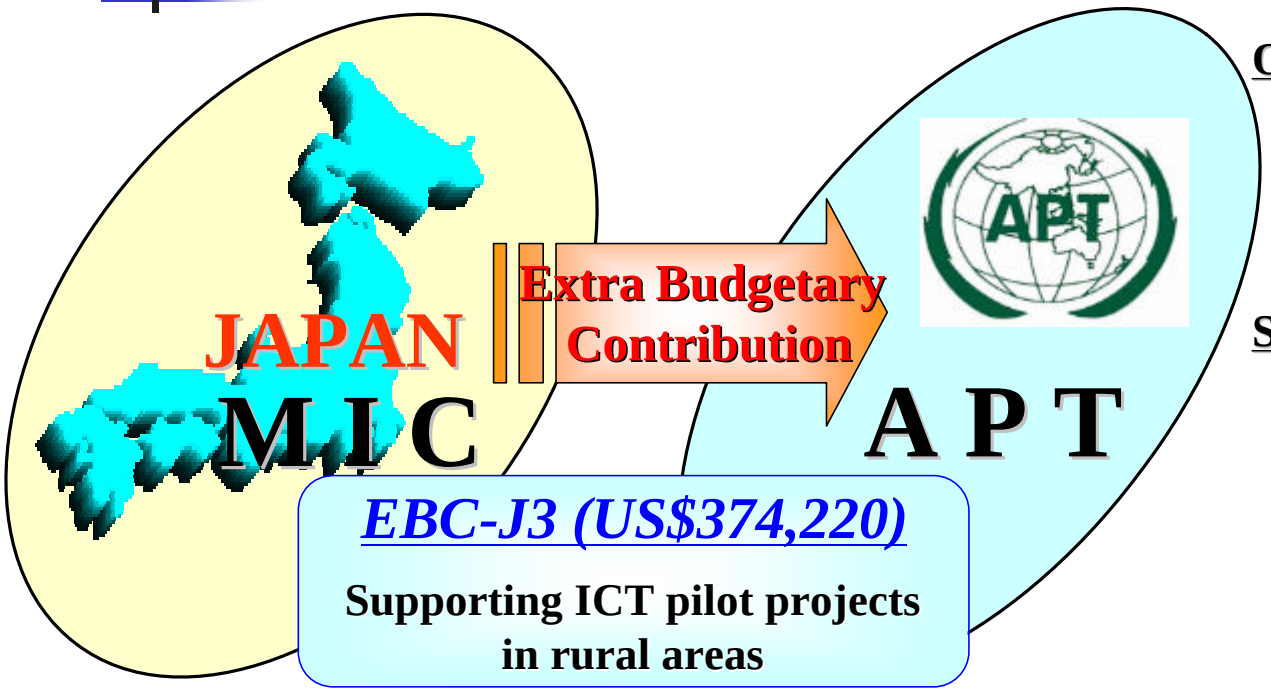
Joint workshop concerning tele-medicine
(FY2002, Jakarta, Indonesia)

Next generation mobile communication training
(FY2004, MIC, Japan)

J 1

MIC's Cooperation in APT Activities

J 3

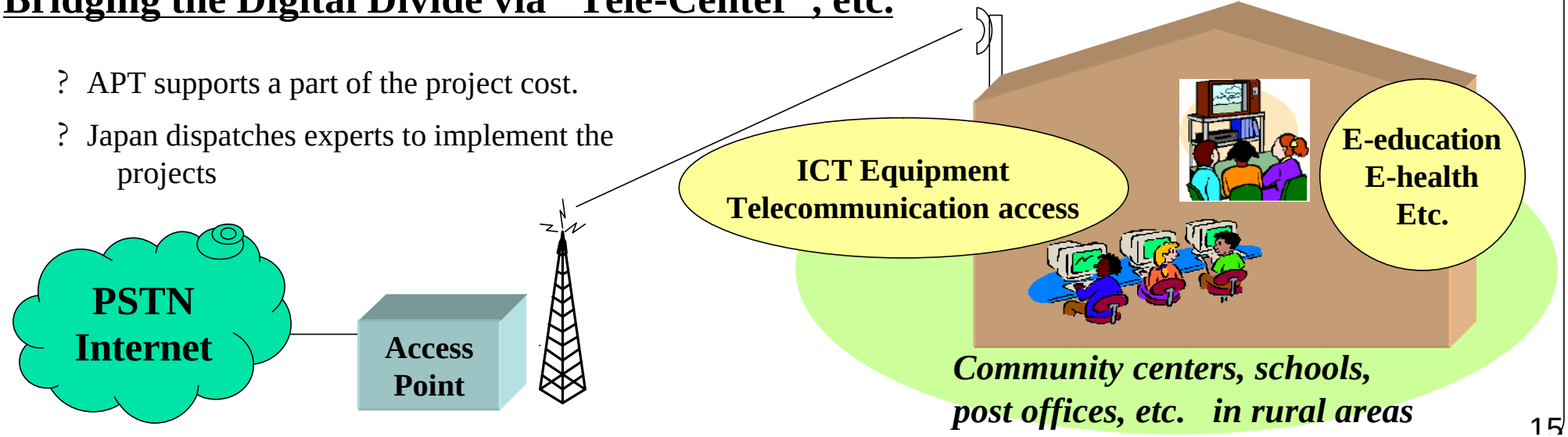


Object: To follow up the Bangkok Agenda and reduce or eliminate the digital divide in the Asia-Pacific region.

Scheme: APT invites project proposals from Member countries and selects 2 or 3 projects under consultation with the Japanese government. APT provides a part of the necessary funding for selected projects from EBC-J.

Bridging the Digital Divide via "Tele-Center", etc.

- APT supports a part of the project cost.
- Japan dispatches experts to implement the projects



J3 Pilot Projects FY 2005

EBC - J3

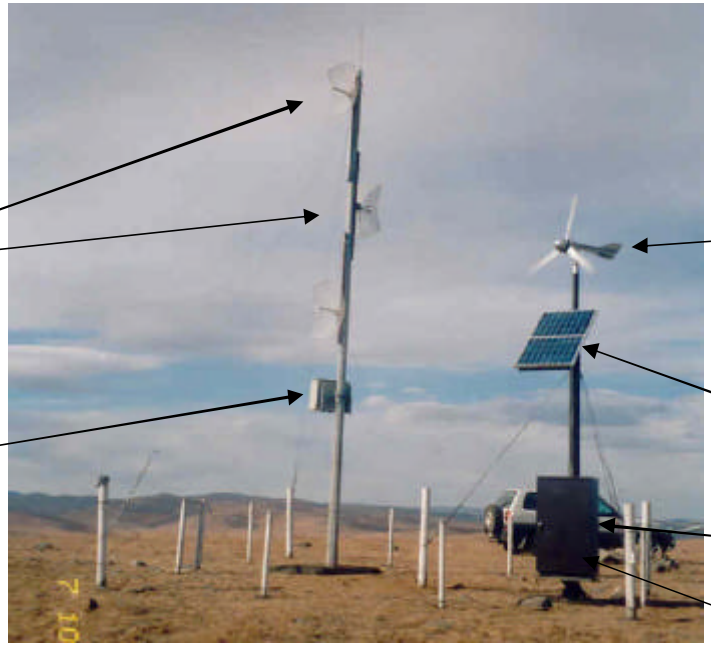
TITLE	COUNTRY	RELATED ORGANIZATION
E-Learning for local business in rural area by utilizing ICT center connecting through Wireless LAN in Bantayan Islands, and bridging digital divide in the Philippines	Philippine	KDDI
Long-distance digital link, Long-distance transmission experiment plan in Mongolia	**Mongolia**	**NTT-East**
TeleHousline	Papua New Guinea	JRC

(2005, Mongolia)

Long-distance wireless LAN system

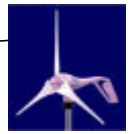
Antenna

Outdoor Accommodation Box
- Wireless LAN bridge
- Coaxial Arrester
- Conversion Cable



Hybrid power generation system

Wind Power Generator



Solar Panel

Outdoor Accommodation Box for Battery Equipment

Battery

Long-Distance Digital Link System Project:

Internet connection between capital city and rural area by utilizing the Long-Distance Digital Link System and optical fiber network.

Promotion of International Cooperation

Basic strategy

Contributing to bridging the Digital Divide and Vitalization of Information Distribution through the "Asia Broadband Program"

- **Promotion of proposals to utilize ICT**
- **Promotion of proposals through positive policy dialog**
- **Implementation of proposals for a number of countries**

Establish infrastructure, develop applications
(e-government、tele-education, tele-medicine, human resource capacity building etc.)

Included in…

Revision of Japan's ODA Charter
(Aug 29th 2003: Cabinet decision)
Newly covered "cooperation in ICT field" and "Strengthen policy consultation before requests from developing countries."

Revision of Japan's ODA Charter Medium-term Policies
(Feb 4th 2005: Cabinet Report)
Covered necessity of cooperation in ICT field for eliminating poverty and ensuring sustainable growth in developing countries

Japan's Country Assistance programs
After the formulation of Revision of Japan's ODA Charter, the Assistance Programs are drawn up)

Method of Promoting the Asia Broadband Plan

1 Organization of requests
- Grasp requests from developing countries, mainly in Asia
- Hold policy dialog
- Use of attaches, experts and JTEC
(Cooperation with other government, JICA and JBIC local office)
- Requests of private enterprise (traders, companies and manufacturers) and hearings on proposals

2 Positive cooperation with related institutions
- Influence Economic Cooperation Bureau of the Ministry of Foreign Affairs
- Cooperation with other ministries
(Labor and welfare, Education, Land Infrastructure and Transport (transport/construction), Agriculture, Forestry & Fishery)
- Influence JICA and JBIC
- Cooperation with related international IT institutions
(APT, ITU-D, APEC, ADB, UNDP, world bank)
- Cooperation with the private sector

Form Proposals

Promotion structure

Between multiple countries (Japan/China/Korea ministers conferences, ASEAN+3 etc.)
② International framework - between 2 countries (with attaches, experts, JTEC)
① Domestic framework "Asia Broadband Promotion Meeting"

In addition to mentioning the necessity of support in ICT fields in such documents as Japan's Country Assistance programs and others, specific implementation measures for each country are to be studied.

e.g. :Construction of test bed and development of applications

Concept of ICT under ODA scheme

1. Position of ICT under the ODA scheme

Is ICT included in the category of Basic Human Needs (BHN) ?

To date, target fields of basic human needs (BHN) are food, water supply, hygiene products, health care and education. However since there are cases where ICT plays a vital role (e.g. tsunami alert, inquiries after someone's well-being when stricken by natural disasters), it is meaningful to reconsider the roles to be played by the ICT field.

Is ICT positioned as an infrastructure for the economic development?

2. Targets of assistance

Since privatizations of telecommunications business have been in progress even in developing countries, loan assistance and grant aid may not suitable for totally privatized telecommunications carriers.

3. Trend to untied aid

In line with the recommendation to untie Official Development Assistance (ODA) at the Development Assistance Committee (DAT) of the Organization for Economic Co-operation and Development (OECD), Japan basically untied its Yen Loan.

ODA in the ICT field is at a transitional period

ICT (Information and Communications technology) is not only for the industry that will lead social and economic growth in the 21st Century, but also the foundation for social life, where with further improvement of traditional infrastructure ICT can provide easier access to public services by introducing such technologies as e-government, tele-education, tele-medicine, etc. and contribute to the poverty reduction in the long run as well. Therefore its establishment and effective utilization are often said to be a preferential policy.

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Thank you