

Chapter 3 JICA's Cooperation Policy

Basic Cooperation Policy:

- Keep in mind the digital divide and digital opportunity
- Carry out cooperation tailored to the conditions and development stages of each country
- Support sectors in which JICA's cooperation can have a major impact within the international framework
- Secure human resources and comprehensively combine schemes
- Partner with Loan Aid, the private sector, and NGOs

Points of Concern:

- Formulate projects after confirming their significance in the development plans of the country
- Deal with counterpart job turnover
- Partnership between industry, government, and academia
- Ensure a framework for updating hardware and software

3-1 JICA's Priorities and Points of Concern

This section is a discussion of important areas for future JICA activities in each of the Development Objective areas based on JICA's track record of assistance thus far in each of the areas.

Following are the basic strategies:

- **Always keep “elimination of the digital divide” and “digital opportunity” in mind when carrying out cooperation.**
- **According to the conditions and the stage of development of the individual region or country, give consideration to sustainability and take an approach that is tailored to needs and priorities.**
- Carry out cooperation for sectors in which JICA's cooperation can have a major impact within the framework of international aid coordination and the direction of cooperation with international organizations and bi-lateral donors.
- **Endeavor to secure human resources** who have the skills and know-how necessary for the cooperation in IT **and carry out cooperation comprehensively combining all types of JICA's schemes.**
- **Form partnerships between JICA's technical cooperation and Loan Aid Cooperation, Grant Aid Cooperation, and activities from other official flow (OOF), the private sector, and NGOs.**

The following are common points for consideration in each of the Development Objectives:

- **When formulating specific projects, identify the relative significance of those projects within the overall development plans or industrial plans of the recipient country.**
- Since there is an extreme shortage of human resources in the field of information and communication technology in developing countries, job turnover on the counterpart side is a common problem. It is difficult to keep professionals from moving on to new jobs, but it is necessary to form a framework in which counterparts can still be involved with projects even if they have changed jobs.
- In the field of IT, since partnership with the industrial sector is indispensable in addition to that between government agencies and universities, it is necessary to promote government-industry-academia

partnerships and the introduction of IT from industries.

- Keeping in mind economical efficiency, it is important to introduce low cost hardware and consider the use of open source software and to secure a system for updating hardware and software as needed once every three to four years.

Development Objective 1
Strengthening Capacity for IT Policy Formulation

Priority Objectives vary depending on the stage of privatization of the telecommunications business.

Development Objective 1 Strengthening Capacity for IT Policy Formulation

Priority objectives vary depending on the stage of privatization of the telecommunications business. In particular, in countries at the “low stage” telecommunications services are provided by state-owned enterprises, and there is a greater need to place more emphasis on supporting the operation of and ensuring the sound management of state-owned enterprises in order to promote the development of telecommunications infrastructure required for the advancement of the IT industry.

Meanwhile, for the countries that are at the “intermediate” or “high” stage of privatization, it is necessary to carry out support for formulation of comprehensive IT policy including promotion of the development of rural infrastructure, user protection and fostering of the IT industry, and the cooperation should be aimed at developing industrial activities by the private sector.

Points of Concern

For Development Objective 1, JICA has experience of the Dispatch of Experts as advisors to the related ministries and agencies of countries and

Table 3-1 Priority Areas at Each Stage of IT Policy

Mid-term Objectives	Stage of Privatization		
	Low	Intermediate	High
1-1 Establishment of Telecommunications Policy	Operational support for state-owned enterprises	Regulation of monopolistic private sector providers	Introduction of market principle
1-2 Establishment of Policy to Foster IT Industry			Policies that foster industry Intellectual property rights protection system
1-3 Establishment of Policy to Eliminate Domestic Digital Divides			Policies to improve IT literacy / Policies to promote development of rural infrastructure
1-4 User Protection		Development of laws to protect users / Establishment of dispute settlement organizations Administration to support user education	

Development Studies on support for formulating master plans for developing infrastructure. However, Development Studies have been conducted from the technical perspective of infrastructure development as the teams implementing studies have been mainly made up of engineers, and thus they have not been able to sufficiently support policy making. Consequently, in most cases, the area of policy has only been partially addressed. Since domestic human resources for this area are limited to related government agencies and think tanks, it will be practicable to meet the needs by making use of those limited resources mainly through Dispatch of Experts, Acceptance of Trainees, and Seminars.

In the field of information and communication technology it is essential to continue keeping up with the rapid advancements. With respect to support for the formulation of IT policies in developing countries, it is important to analyze policies and measures of Japan based on the e-Japan strategy and the policy trends and successful cases in other developed and developing countries, thereby to provide advice on effective policies that meet the conditions of the recipient country.

In the future, it is possible to conduct Development Studies specialized to support the formulation of master plans for IT policies. Therefore, it is necessary to establish a system to make use of those human resources who have actual administrative experience in think tanks, ministries, international organizations and educational institutions. It is quite possible to utilize, in part, consultants from other developed countries.

**Development
Objective 2
Human Resources
Development in IT**

- Support for building systems and mechanisms to develop key persons in promoting IT and the formation of training curricula and educational materials
- Disseminate outcomes of successful cases
- Make quantitative and qualitative improvements of engineers

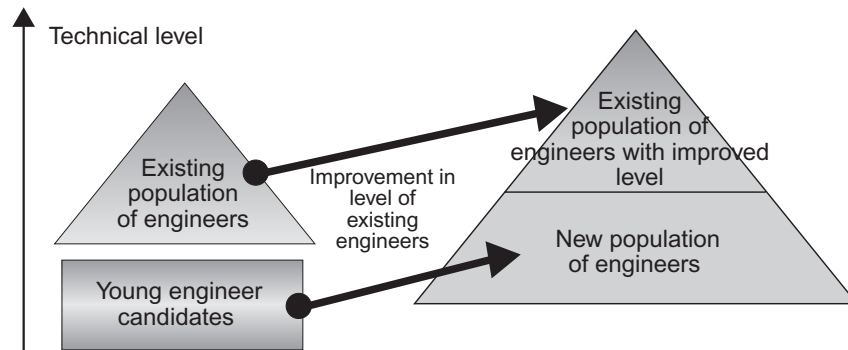
Development Objective 2 Human Resources Development in IT

Most of JICA's previous projects in the field of IT have been carried out with the aim of developing human resources for IT, and IT human resource development has become the mainstream of JICA's cooperation in the field of IT. In the future as well, it is important to **develop key persons to promote IT** in each country, and to guide countries in the establishment of frameworks to continue promoting the human resources development in IT under their own efforts. Specifically, plans aimed at developing personnel to play leading roles, such as policy makers, IT engineers, educators, researchers and instructors, are needed. JICA should therefore support **the establishment of necessary systems and mechanisms** for promoting the human resources development in IT in each country and **the creation of training curricula and educational materials**. When doing so, it is desirable to extend support to make integral policies covering from the development of policy makers to the improvement of IT literacy for as many citizens as possible. Also, it is important to **use examples of success as model cases and to spread and promote these outcomes in every country and region**.

In developing human resources, **the primary objective is to increase the number of engineers who are active in society and at the same time to improve their quality.** Therefore, it is important to improve the level of the existing engineers, and to focus on the development of new human resources at the stage of higher education and vocational education, by targeting young people.

JICA's Cooperation is mainly carried out through Technical Cooperation Projects, Dispatch of Individual Experts, Dispatch of Volunteers, and Acceptance of Trainees, with a focus on software-oriented cooperation. Technical cooperation partnered with Grant Aid Cooperation should also be strengthened in order to develop and upgrade IT training facilities and equipment. At the same time it is expected to consider the effective utilization of existing facilities.

Figure 3-1 Increase in Numbers of Engineers and Improvement in Overall Technical Level



Meanwhile, cooperation required at the administrative agencies and educational institutions will be to spread and promote specific technical skills relevant to recipients. It is therefore expected that in this area Dispatch of Volunteers will take the place of Dispatch of Experts because it will be necessary to strengthen approaches combined with human resource development at the grass roots level.

Conversely, it is expected to educate policy makers in the recipient countries through Dispatch of Experts as advisors who have sufficient theory and experience to give practical advice.

Points of Concern

- Developing policy makers is more delicate than developing engineers because policy can be assessed diversely as opposed to technology, for which there is a clear right or wrong.
- Resources in Japan are limited to government agencies such as MPHPT and METI.
- Depending on the social systems, customs, and basic policies of the recipient country, simple application of Japan's model may not produce

a sufficient outcome and even more, there is also a possibility to cause opposition against the cooperation. **Therefore, it is necessary to construct assistance programs that are tailored to the conditions of each country and to be flexible in making changes where necessary.**

**Development
Objective 3
Improvement of
Communication
Infrastructure**

Important points are the development of a backbone network and an access network. Particular consideration should be given to supporting the development of infrastructure in rural regions in countries that are at low stages of development.

Development Objective 3 Improvement of Communication Infrastructure

For the improvement of communication infrastructure, priority are given to building a backbone network and an access network, the main content of Mid-term Objective 3-1 Provision of Communication Infrastructure. IT makes people's lives more convenient when it is introduced into the public sector, enriches people's lives when it is introduced into social sectors such as education and health care, and holds the potential for contributing to poverty reduction and improved women's status. Conversely, negative aspects have also become strongly recognized, such as the fact that a tremendous amount of effort is needed to eliminate the digital divide and obtain digital opportunity. Improvement of communication infrastructure becomes an indispensable prerequisite for realizing the positive potentials and for improving the negative conditions mentioned above.

There are vast differences in the development stages between countries, but **in countries that are at relatively low stages of development it is especially important to take into consideration cooperation for developing infrastructure in rural regions.** Aside from the obvious goal of eliminating the digital divide, this point has also become worldwide emphasized from the perspective of Basic Human Needs (BHN). Meanwhile, in developing infrastructure in rural regions, despite the fact that it is basically impossible to recover capital expenditure through user fees, actual conditions in a country only allow for the allocation of an extremely insufficient budget amount. Consequently, this is one area in which there is a high potential need for ODA.

Furthermore, **it is necessary to uncover the real needs for the improvement of communication infrastructure in less developed countries by careful approaches.** The trend of privatization of the telecommunications business that started in industrialized nations has been adopted even in developing countries as an almost definitive direction, and as a result the track record of ODA in the field of telecommunications has declined dramatically. However, not all of the developing countries are headed in the direction of complete privatization, and it is important to carefully examine the possibilities for cooperation through various schemes and degrees. This Development Objective is considered to be the most important from the perspective of infrastructure in order to develop an information society in developing countries and regions.

Points of Concern

- Development of communications infrastructure requires a substantial amount of funds and the national budget allotted by the developing country itself is not at all sufficient in most cases. For that reason, when planning cooperation in this field it is necessary to **give adequate consideration to financing plans.**
- It is necessary to make efforts to **suggest how to shift towards self-supporting maintenance and management.**
- In countries that are at relatively low stages of development, there is a particular need for reasonable plans regarding development of infrastructure in rural regions.
- **Assistance should be carried out with a close eye on the direction of new technologies** (including shift from wired to wireless, higher speed lines, smaller and lighter terminals, cost reduction etc.)

Development Objective 4
Improvement of Efficiency and Effectiveness of Every Sector through the Use of IT

In promoting e-government, focus on systematization of work and digitization of procedures. In promoting the use of IT in every sector, support e-learning and content creation and the use of IT as a tool for statistics and analysis.

Development Objective 4 Improvement of Efficiency and Effectiveness of Every Sector through the Use of IT

Improving the efficiency of budget allocation and expenditure management is important from the perspective of the efficiency of administrative agencies. In developing countries, where there tend to be budget shortfalls, understanding the situation of budget execution is important not only from a budget management standpoint, but it is also expected that clarification of expenditures will result in control of inappropriate expenditures. It also makes it possible to gain an understanding of the expenditures dispersed in individual projects, and it will therefore facilitate project evaluation.

When changing over to “electronic filing of administrative procedures” in the “promotion of e-government,” the administrative work first should be systematized. “Information disclosure” and “citizen participation in policy making” are areas that should be given attention in project planning.

Cooperation to improve the work of administrative bodies using IT started from the first half of the 1980s in the form of providing computers and system development for statistics and patents (industrial rights), and this type of cooperation, along with human resource development, has become the focus of cooperation.

In recent years, there have been projects improving the work of various fields and projects using IT in disaster prevention and planning of countermeasures, since it has become possible to carry out real time monitoring of rainfall, river flow rates, and environmental pollutants using communication technology such as the Internet. In the future as well, IT should be proactively used in various types of cooperation in all administrative sectors.

In order to promote the use of IT in the private sector, what is needed is balanced technical cooperation for: the establishment of systems to promote information system development in private companies (Development Objective 1); the development of human resources and organizations of both the system engineers and the users (Development Objective 2); and the improvement of telecommunications infrastructure (Development Objective 3).

Recently GIS has come to be adopted in sectors such as education and health care that have not traditionally used GIS. The range of uses for digital maps has thus become broader, there is an increasing importance of carrying out cooperation in guidance on using and creating those maps in countries that are lagging behind in digital mapping.

It is expected that distance education via the Internet will allow efficient re-training of engineers working in various places in rural areas and the use of e-mail and electronic bulletin boards will facilitate even more active information exchange between engineers. In cooperation for the institutes or organizations where training for engineers is conducted, JICA should consider adopting web-based training and after care through mailing lists and electronic bulletin boards for those who have completed training course. In other projects as well, the outcomes of cooperation should be publicized through publishing reports and other means, proactively utilizing websites for the project itself and websites of the counterpart organization.

Points of Concern

- IT should be proactively used as a means for improving the efficiency and transparency of the government work of the recipient country. However, considering the scale of cooperation (funding), technical cooperation should focus not on the development of systems themselves, but on work improvements before systematization and system improvements such as the creation of prototypes as well as on the after care for maintenance and operation of introduced systems. It is necessary to keep in mind that the allocation for operational funding following the start of operation will be the prerequisite when introducing and updating major systems and equipment.
- In technical cooperation old generation technology has been often adopted according to the technical level and funding level of the recipient country from the perspective of “appropriate technology.” However, in the field of IT, there are cases in which the latest technology is the least expensive and the most efficient, and therefore cooperation should also proactively adopt cutting edge technology while carefully considering the trends in technology.
- In the field of IT, equipment becomes obsolete very quickly, and therefore it is important to choose equipment architecture and system

configurations that allow the recipient country to carry out updates by themselves after the end of cooperation.

- In cooperation to introduce information systems, it is important not to create everything from the ground up, but to give consideration to introducing package systems that are already being used in other countries or to reducing independent development by combining general purpose systems.
- IT is useful not only in improving the efficiency of government organizations, but also for the private sector and of NGOs. JICA therefore should consider expanding the IT training centers to which JICA has already extended cooperation and adding a consulting function for the private sector and others.

Table 3-2 Cooperation for Every Sector according to the Level of using IT

Mid-term Objective	Level of Using IT		
	Low	Intermediate	High
4-1 Promotion of e-Government	Systemization of administrative work		
		Construction of networks within government agencies	
	Systemization of work with consideration to information disclosure		
		Establishment of a system for information disclosure	
		Introduction of electronic bidding	
		Digitization of other procedures	
	Cooperation with consideration to citizen participation in policy making		
4-2 Promotion of the Use of IT in Every Sector	【e-Learning】		
	Provision of e-learning equipment and materials		
	Instruction on e-learning that does not involve certification		
		Instruction on e-learning that involves certification	
	【Content creation】		
	Instruction on creating still image content		
		Instruction on creating animated content	
	【Others】		
	Cooperation for statistics and analysis systems		
	Use of IT in various sectors (including GIS, disaster warning systems, environmental monitoring, e-mail)		

**Development
Objective 5
Improvement of
Efficiency and
Effectiveness of
Development
Assistance through
the Use of IT**

Use of JICA-Net and computerization of project content, accumulation and organization of knowledge for knowledge management systems

Development Objective 5 Improvement of Efficiency and Effectiveness of Development Assistance through the Use of IT

Under this Development Objective **expansion of the network for delivering educational materials with a focus on JICA-Net** should be undertaken.

JICA should create new content to be delivered and also revise existing one, adopting systematized material development for efficiency and effectiveness. When developing new content, related information should be accumulated so that it can be shared in the future. With respect to improving and revising existing content, excellent content in analog-format should be digitized and more effective and efficient content should be produced on the basis of the results of their use to date.

Furthermore, **information should always be digitized** in every project, necessary equipment for this should be provided, and the database should be improved in order to collect, organize and integrate newly created content and make it easy to use. The database should be a place to accumulate information regarding content designs and examples of its use and it should allow the broad use of all of this and other related information.

It is also necessary to create an environment in which joint development of content in similar fields can be carried out between donors and developing countries.

Finally, **it is also essential to systematize sector-based information in the knowledge management system** that is in operation at JICA.

Points of Concern

- It is important to systematically understand the intellectual property rights associated with the materials, technology, and know-how for creating content and as well as the **costs associated with intellectual property rights that occur when distributing content.**
- **Ensure the availability of instructors with the ability to deliver distance lectures in English or other foreign languages.**
- **JICA's content should be created in various non-English languages** in order to widen the range of its use.
- The efficiency of distance cooperation should be confirmed by comparison with face-to-face cooperation in the cost-effectiveness. Meanwhile it is important as well to study the effective combination of these means.

3-2 Issues to be Considered for Future Activities

(1) Assistance to Privatized Enterprises

Privatization of the telecommunications business has become the general direction in industrialized nations and is also becoming a common trend in developing countries. Meanwhile, in the current mechanism for ODA, there are great difficulties associated with providing cooperation to privatized business entities. So the task at hand is to consider the introduction of a flexible framework that would make it possible to provide cooperation even for the privatized enterprises, based on the needs from the viewpoint of importance of social benefit or the difficulty as profit-based businesses.

(2) Need for a Unit to Promote the use of IT

In each development assistance organization the question of “how to incorporate IT into assistance” has been a matter of concern. For JICA as well, it is essential to establish a specialized unit to promote the use of IT and to aim for effective use of IT. This unit would summarize the current use of IT in various sectors and schemes and introduce examples of use to all departments. Also, based on activity cases of JICA and other assistance organizations, it is expected to introduce new means to utilize IT, to design application of good practices in other sectors, as well as to advise for the projects planning and implementation.

(3) Strengthening Distance Technical Cooperation

IT is advancing rapidly and all types of information are being digitized. JICA and other donors are now looking into ways to effectively and efficiently use these technologies and information. Among these, distance technical cooperation is especially gaining recognition, as the opportunities for using it have increased, and the development and use of distance lectures, e-learning, and WBT content and methods are becoming an important area.

There is a need for the future to organize and assemble content that has been developed through these types of distance technical cooperation and to construct a mechanism for the joint use of content in further projects. Therefore, an issue for consideration will be the application of content over a wide region, such as in the development of human resources in the field of IT throughout Asia.