

Economic Infrastructure Development

— Infrastructures that Fulfill the Hopes of People



Of the eight Millennium Development Goals (MDGs), relevant goals are shown in color.

In developing countries, the insufficient economic growth is caused by the lack of public infrastructure itself or the absence of basic frameworks for its operations and maintenance.

Although rapid urbanization can boost the efficiency of economic activities and drive economic development, it can also trigger problems such as worsening living environments and public safety. Urbanization also increases disparities between urban and rural areas. The promotion of effective urban and regional development requires not only region-specific approaches but also macro-scale planning, linked with the relation among the other countries, cross-border economic zones.

To develop sustainable economic infrastructures, JICA establishes urban and regional development plans that incorporate studies of suitable social systems and institutions. Based on these plans, JICA extends cooperation for the development of transportation infrastructures and information and communication networks, as well as for strengthening the organizations and human resources that maintain and manage these infrastructures and networks.

Urban and Regional Development

Overview of Issue

The world's population has currently estimated to be 7 billion. In developing countries, the urban population has grown from 680 million in 1970 to 2.56 million in 2010. By 2030, about 80% of the world's urban population is expected to be centered in developing countries.

Growth of urban areas is vital to a country's economic development. However, large cities in developing countries cannot provide enough housing, infrastructure and employment institutions to keep up with the rapid inflow of people who are seeking jobs. As a result, many people are forced to live on unstable incomes in poor living environments. Furthermore, growth of urban populations causes pollution due to traffic congestion and the large volume of garbage, a decline in public security, and many other urban problems that are becoming more complex and serious every year.

JICA Activities

In the postwar years, Japan as well experienced urbanization at an unprecedented pace that created a variety of urban problems. To solve these problems, Japan constructed infrastructures and developed housing while establishing the standards required for urban development. Japan also focused on the development of new technologies in order to reduce pollution and boost productivity. In addition, Japan quickly began taking actions for disaster preparedness and recovery in order to reduce risks associated with earthquakes, typhoons and other natural disasters. JICA uses Japan's experience and technologies involving urbanization to support urban and

regional development in developing countries in the following six sectors.

1. Establish a basic infrastructure that contributes to economic activities
2. Establish quality housing
3. Establish low-carbon urban areas
4. Establish urban areas that can withstand natural disasters
5. Establish sound city management systems
6. Achieve the revitalization of urban areas

Inclusive and Dynamic Urban Development

JICA provides support for the creation of cities that can generate a positive cycle of economic growth and poverty reduction. Activities are based on rapid responses from medium- and long-term perspectives to the problems encountered by urban areas in all developing countries. To accomplish this goal, JICA is guided by the vision of "inclusive and dynamic urban development." JICA places priority on development projects in which all types of people can participate in order to prevent the benefits of urban development from being concentrated on a particular group of people.

Comprehensive Support from Creating Development Concepts to Human Resources Training

JICA is dedicated to meeting the diverse needs associated with urban and regional development in developing countries. Meeting these needs requires assistance at many stages, including the preparation of development plans, implementation of development programs in line with plans, and operation and maintenance of the completed facilities. To execute these processes in a self-reliant manner, the capacities of

Laying the Groundwork for Package Infrastructure Overseas Operations

The number of passengers is increasing rapidly at Noi Bai International Airport, which serves Hanoi, the capital of Viet Nam. The passenger terminal that was designed to accommodate 6 million passengers every year is already far above capacity, having served 9.5 million passengers in 2010. JICA extended an ODA Loan to construct a second passenger terminal at this airport and is assisting in the establishment for systems to operate and maintain the terminal.



Opinion exchange among public and private relative parties

Rapid Growth in Passenger Volume

Expanding the passenger capacity of Noi Bai International Airport is vital to the continued growth of Viet Nam's economy. In 2010, JICA signed an ODA Loan agreement for the Terminal 2 Construction Project in Noi Bai International Airport. The loan is for construction of a second passenger terminal, which will raise the airport's annual capacity to 10 million passengers, along with all associated facilities. Construction has started and the terminal is expected to begin operations in 2015.

Plans call for Terminal 2 to incorporate state-of-the-art technology used for the first time in Viet Nam. To allow Airports Corporation of Vietnam (ACV) to properly operate and

maintain the terminal after the building has been completed, the project requires quickly creating the necessary organization and training program within the limited time that is available. Concurrent preparations also include coordination with associated agencies and other measures.

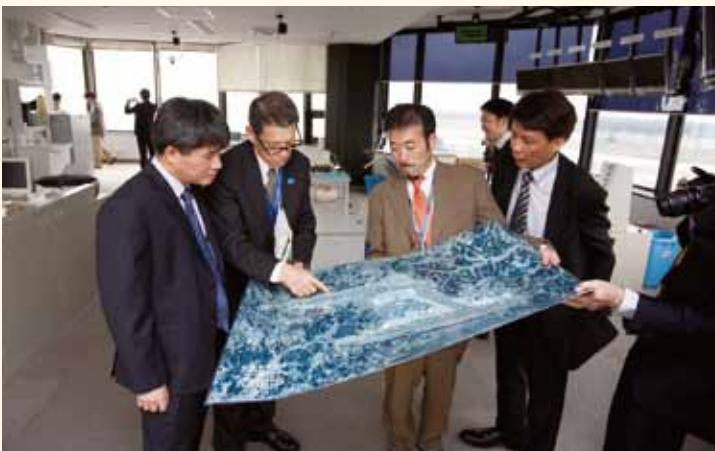
In response to the requests of ACV, JICA used an aid scheme (loan account Technical Cooperation) to provide know-how concerning airport operations that use public-private partnership. The goal is to maximize the development benefits by using knowledge and experience about the operation and maintenance of state-of-the-art Japanese systems so that Terminal 2 can be fully utilized.

Using Public-Private Partnership to Establish a Framework for Aid from Japan

The Terminal 2 Concurrent Preparations Committee was formed in November 2011 primarily to provide centralized oversight of preparations involving the airport project. Committee members come from the associated agencies of Japan and Viet Nam. The committee is chaired by the president of ACV. Other members from Viet Nam are directors of ACV and managers of departments involved in the project. Committee members from Japan come from JICA, the Ministry of Land, Infrastructure, Transport and Tourism Civil Aviation Bureau and Narita International Airport Corporation. Furthermore, since the Special Terms for Economic Partnership (STEP) are applied to this project, Japanese companies are serving as the contractors and construction supervision consultants. Under this entirely Japanese framework, the strengths of each company will be leveraged to extend support for the construction as a public-private partnership of a passenger terminal with highly advanced operating systems. The goal of this support is to enable ACV to conduct sound airport management.

Japan's First Management Support for Operating a 10 Million Passenger Terminal

This project is the first time that Japan has extended support for the operation of an enormous airport terminal. Assistance involves establishing a committee with authority to oversee progress with concurrent preparations, the use of a JICA aid scheme, and the participation by Japan in a committee that uses private-public sector collaboration. The infrastructure project is being conducted as a single package that combines the building and other facilities with support for management skills. Using this approach will make it possible to take full advantage of Terminal 2's capabilities in order to increase the development effectiveness of this project.



Individuals involved in the Terminal 2 project in Viet Nam tour Narita International Airport

organizations and people involved in implementing urban and regional development plans must be increased, the necessary legal systems must be improved, and other measures are also needed. JICA uses a diverse aid menu that includes Technical Cooperation, financial cooperation, volunteer programs and other activities in order to provide comprehensive aid for urban and regional development.

Transportation

■ Overview of Issue

In developing countries, the slow development of transportation infrastructure, including roads, railways, ports and airports, has impeded economic growth and contributed to poverty. Transportation infrastructure is the means for the movement of people and goods, and its development is indispensable to sustainable growth.

The demand for transportation infrastructure development is high worldwide, and the need to maintain, repair and upgrade aging structures has been rising rapidly. Securing funds is a big challenge because these projects require significant financing. The limited public funds available are not sufficient to develop all necessary infrastructures. Other funding sources need to be secured, including private capital, in order to provide transportation services without waste in a sustainable manner.

Furthermore, assistance is needed for initiatives which enhance the environment and society of the counterpart country, including initiatives for the elimination of traffic

congestion through the introduction of modes of public transportation and changes in transportation methods; CO₂ reductions through more efficient distribution means; and air pollutant control.

■ JICA Activities

JICA's main goal for cooperation in transportation is the swift, smooth and safe transportation of people and goods in order to vitalize socioeconomic activities and to ultimately improve income levels and enrich people's lives.

When developing transport infrastructure in developing countries, it is not enough to simply build roads and bridges. Establishment of a plan to ensure an efficient transportation system, development of human resources and the strengthening of organizations that will appropriately maintain and manage the infrastructure, and creation of social and institutional arrangements that support the organizations are necessary. JICA actively promotes participatory cooperation with the residents and collaboration with NGOs with a focus on the beneficiaries, including users and residents, in view of who will use the system and for what purpose.

In addition, cooperation for the transportation sector needs to consider a variety of perspectives, including: "international transportation" for promoting the international flow of goods and people and the development of regional economic zones which transcend borders; "national transportation" which ensures people's fair access to transportation and balanced national development; "urban transportation" which supports



Engineers examine cables of the Matadi Bridge in the Republic of the Congo, which was constructed about 30 years ago with an ODA Loan. The bridge is still properly maintained after all these years.

sustainable urban development and enhances living standards; and “rural transportation” for improving the living standards of rural areas which tend to be left behind from development. The aim of JICA is indeed to pursue “inclusive and dynamic development.”

Contributing to New Growth Strategy

The New Growth Strategy, which was announced by the

Japanese government in 2010, includes the goal of using ODA to support the entry of private-sector companies in developing countries and provide aid for sustainable economic growth in these countries. In response, JICA has been strengthening public-private partnerships and programs that involve science and technology. In addition, in the field of transportation, JICA is supporting overseas railroad projects, which are one of 11 key fields of “package of infrastructure-related system

Case Study

South Sudan Comprehensive Planning and Support for Urgent Projects on Social Economic Infrastructure

Responding to the Greatest Needs for Nation-building

In South Sudan, which gained its independence in 2011, JICA is extending cooperation for social economic infrastructure development in Malakal Town (state of Upper Nile), one of the country’s three major cities. Projects will make improvements in highways, rivers, water supply systems and other elements of the infrastructure.

South Sudan has succeeded in becoming an independent country. But a new nation cannot be built without progress in developing all regions of the country.

JICA aims to conduct inclusive development for the purpose of meeting the greatest needs for nation-building that are recognized by everyone in the Government of South Sudan. To perform this development, JICA in February 2012 started a project in Malakal Town, a regional city in South Sudan.

Following the peace accord, there was clearly visible progress with development programs in the capital city of Juba. Roads were paved with asphalt, water supply systems constructed and schools reopened. But Malakal Town, one of the country’s three major cities, is separated both politically and geographically from Juba. Though Malakal Town was once well developed as a fortified city, it is the base of the biggest opposition political party and is 600km from Juba. Furthermore, there is no highway between this city and Juba. As a result, there has been absolutely no development in this region after independence was declared.

Providing “dividends of independence” to residents of this geopolitically important city is therefore critical with respect to assisting the residents of Malakal Town and establishing peace throughout South Sudan.

The project aims to establish a comprehensive infrastructure development plan for this “forgotten city” in about six months. Then pilot projects will take place over the next 18 months to improve community roads, rivers and ports, and water supply facilities. South Sudan has a strong desire not only for infrastructure projects but also for infrastructure training programs. JICA therefore plans to assist in the revitalization of Malakal Town with three-point support consisting of infrastructure projects, training and on-the-job training.



A water purification facility constructed more than 50 years ago supplies very poor quality water. Residents must use water directly from the Nile River instead. South Sudan is believed to have the lowest water supply ratios in eastern Africa.



Malakal Town has almost no paved streets and the city’s so-called “black cotton soil” makes streets impassable even to four-wheel-drive vehicles and donkeys during the monsoon. This turns the city into a virtual land-locked island.



Malakal Port is used as the main harbor for the entire region. But the port’s aging facilities create difficulties for workers regarding efficiency and safety.



South Sudan needs training programs due to the absence of skilled people following 20 years of conflict. In December 2011, JICA invited people from the leadership class of the state of Upper Nile to talk about how to proceed with reconstruction and regional development in South Sudan and Upper Nile while learning from Japan’s own postwar reconstruction and development experience.

exports,” a major element of the New Growth Strategy. As part of this support, JICA invited individuals from the national railways of developing countries to Japan to attend a high-speed railway seminar, conducted an exchange of thoughts about overseas operations with companies in railway-related industries, and used other activities to create an environment in which Japanese companies can easily do business in other countries.

Information and Communication Technology (ICT)

■ Overview of Issue

Information and communication technology (ICT) has been advancing remarkably in developed countries. Applicable in the administrative, social and economic fields, ICT has been used to computerize central government operations (e-governance), educate via the Internet (e-learning) and facilitate digital trade and commerce (e-commerce). ICT also has the potential to support a variety of improvements that can enhance the quality of life, including increasing the efficiency of the economic and social systems of countries, raising productivity and conserving energy.

In many developing countries, however, the spread of ICT has been slow. This has led to a digital divide with developed countries, which in turn has worsened economic disparities.

■ JICA Activities

JICA believes closing the digital divide is necessary to increase the effectiveness and efficiency of various cooperation programs. To close this divide, JICA is contributing to the greater use of ICT in developing countries.

At the G8 Kyushu-Okinawa Summit of July 2000, Japan asserted its stance to help bridge the digital divide in developing countries by promoting the use of ICT in development aid, such as through distance learning. Furthermore, Japan announced the establishment of ICT bases in 30 locations to use ODA funds more efficiently. Through activities like these, JICA is providing cooperation for the greater use of ICT in developing countries, mainly in Asia.

ICT Policies Linked to Social and Economic Development

JICA offers the following five approaches to increase the use of ICT in developing countries:

- 1) Improve ICT policy-planning capabilities: Dispatch advisors to support the formulation of IT policies in such areas as national strategy concerning electronic communication and development of relevant industry.
- 2) Develop ICT infrastructure: Formulate a plan to develop central communication networks and rural communication infrastructure, and reinforce their maintenance and management systems.
- 3) Improve aid effectiveness and efficiency through ICT use: Increase project effectiveness and efficiency by adopting ICT in government administrative departments and using ICT for cooperation projects in a variety of sectors, including education, health care, and commerce.



Students attend classes at the University of the Philippines Information Technology Training Center, which is part of the Advanced IT Human Resources Development Project in the Philippines.

4) Train skilled ICT personnel: Implement a human resource development project to enhance the capabilities of technicians and policy planners in order to further spread ICT usage. This step comprises a large proportion of JICA's ICT support efforts.

5) Broadcasting: Extend cooperation to spread Japanese-style digital terrestrial broadcasting, which can withstand interferences and permits stable reception, etc.

Case Study

Fiji JCT for Human Development and Human Security Project

Expanding Distance Learning by Using a Satellite Communication Network

The University of the South Pacific, which was established by 12 South Pacific nations, receives support from JICA. About 48% of students already use distance learning. By upgrading the satellite communication network, even individuals living in remote islands will have the opportunity to receive an advanced education.

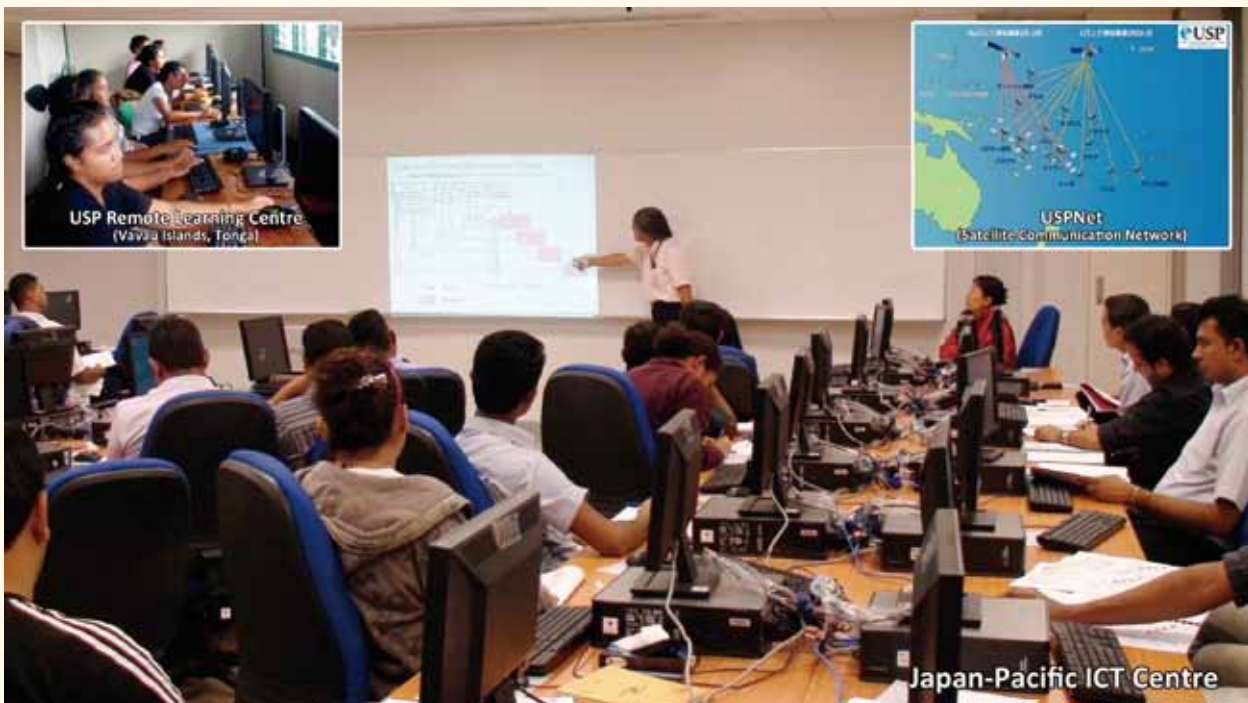
The University of the South Pacific was established in 1969 by 12 island nations: Fiji, Vanuatu, Tuvalu, Tonga, Tokelau, Solomon Islands, Samoa, Niue, Nauru, Marshall Islands, Kiribati and Cook Islands. Created by financial contributions from all these nations, the university is the highest-ranking international institution of higher learning in this region. Exchange students from other countries attend classes at the university's main campus in

Suva, the capital of Fiji. In addition, due to the geographic characteristics of the South Pacific, classes are also provided via a satellite network to students in other countries in this region. In fiscal 2011, 48% of the university's approximately 22,000 students used the satellite network.

Grant Aid from Japan has been provided to upgrade educational programs using ICT in order to handle the increasing number of students. Aid was used for the construction of the Japan-Pacific ICT Centre, which is the nucleus of ICT in Oceania, and a multi-purpose lecture hall in Suva. The official opening for both buildings was in February 2012.

There are few institutions of higher learning in Oceania and the remote campuses of the University of the South Pacific are the only form of advanced education in many countries. As a

result, JICA is implementing the ICT for Human Development and Human Security Project, a Technical Cooperation project that goes from February 2010 to January 2013. The aim is to provide opportunities for higher education to residents of Oceania and improve the quality of this education. The project includes support for bachelor's degree programs, strengthening the satellite communication network, improving distance learning systems, effectively using the Japan-Pacific ICT Centre, and other activities. Satellite antennas have been placed even in remote islands that previously did not have access to distance learning. By giving residents access to the same remote classes as in their respective nation's main islands, this program has eliminated the digital divide for learning.



Upper left: Students attend a satellite communication network class at the Vava'u campus in Tonga.
Center: A class at the main campus of the University of the South Pacific in Suva, Fiji
Upper right: The satellite communication network of the University of the South Pacific