

Infrastructure

Realizing Resilient and Sustainable Societies



*Of the 17 Sustainable Development Goals (SDGs), strongly associated goals are shown.

Urban and Regional Development

It is predicted that by 2050, two-thirds of the world population, or more than six billion people, will be living in cities.* Developing countries, in particular, need to make cities more resilient and sustainable in order to deal with challenges associated with such rapid urbanization and population growth, as well as to control the spread of infections such as COVID-19. Gaps between urban and other areas are also a source of concern, highlighting the importance of promoting the balanced development of a nation or a region as a whole.

JICA addresses challenges and problems that individual cities and regions face by capitalizing on Japan's experience in overcoming a myriad of natural disasters and rapid urbanization, which has no parallel in the world. Specific focus is placed on (1) realizing urban policy and management for sustainable cities, (2) achieving balanced national and regional development, and (3) an inclusive society. JICA's assistance in these areas is based on the following strategies that take into account the characteristics of specific cities and regions.

1. The Strategy for Asia, a Region That Embraces Growing Cities with Various Needs

JICA provides holistic cooperation covering everything from master planning to infrastructure development. JICA's assistance for maturing cities in upper-middle income countries involves (1) improving the urban environment, (2) increasing convenience and comfort, and (3) adopting the Smart City approach and other new solutions in collaboration with the private sector.

2. The Strategy for Africa, a Region Where Rapid Urbanization Outpaces the Basic Infrastructure Development

JICA takes a comprehensive approach that involves (1) formulation of urban development master plans, (2) organizational and human resources capacity building, and (3) the regional/corridor development approach, which puts the



Democratic Republic of the Congo: JICA supported formulation of the urban transportation plan in the capital city of Kinshasa, which faces the challenges of rapid population growth and vulnerable transportation infrastructure. (Photo: Oriental Consultants Global Co., Ltd.)

economy on a sustainable growth track by improving access between urban and rural areas.

3. The Strategy for Latin America and the Caribbean, a Region with a High Urban Population Ratio

JICA assists in building the capacity to cope with urbanization through transit-oriented development (TOD) and the materialization of locally adaptive methods for the implementation and management of urban development.

In order to meet diverse needs for urban and regional development in developing countries, JICA supports the establishment of necessary legal systems and institutional development and capacity building of the responsible agencies

[→ see the case study on page 31].

Transportation

For the eradication of poverty and sustainable economic growth, it is indispensable to provide transportation services that facilitate the efficient movement of people and goods so as to secure employment, access to education and health care, and stable food supply. In fact, there is a high demand for infrastructure such as roads, railways, ports, and airports amid rapid urbanization and motorization as well as increasing flows of goods. Yet developing countries face a number of challenges, including (1) massive infrastructure development demand exceeding supply, (2) lack of public financial resources against the huge development costs, (3) incompetent operation and management capabilities, (4) undeveloped laws and regulation systems, such as safety regulations, and (5) lack of competence of government officials who are responsible for transport policy-making.

Toward the Development and Effective Use of Infrastructure

Given these challenges, JICA extends various kinds of cooperation projects in the transportation sector with the main aim of contributing to a better living environment for all people by vitalizing socioeconomic activities through attainment of swift, smooth, and safe transportation of people and goods

[→ see the case studies on pages 23, 33, and 35].

In order to efficiently develop transportation, simply building ports, bridges, and railways alone is not enough—not least in developing countries. It is also necessary to support the wise use of developed infrastructure. For the development and effective use of infrastructure, JICA is focusing its efforts not only on the development of infrastructure construction but also on the development of human resources on operation

*United Nations, 2018 Revision of World Urbanization Prospects.



The Knowledge Co-Creation Program (KCCP) in action at Tokyo Metro Co., Ltd. under the Technical Assistance Project to Establish the Philippine Railway Institute

and maintenance. Furthermore, JICA is also focusing on building organizational structures for raising the awareness of infrastructure users.

Additionally, in order to help achieve the Sustainable Development Goals (SDGs), JICA has been extending assistance related to infrastructure development according to the principle of promoting “quality infrastructure” presented at high-level meetings as well as international forums, such as the Seventh Tokyo International Conference on African Development (TICAD7).

While taking into account people’s behavioral changes in a post-COVID-19 society, JICA will provide cooperation at various levels to satisfy global infrastructure needs in transportation and establish safe and secure transportation systems over the long term. This will involve (1) international transportation, including cross-border transportation, (2) national transportation that ensures balanced development, (3) urban transportation that supports sustainable urban development, and (4) rural transportation that improves living standards in rural areas. Under the Free and Open Indo-Pacific (FOIP) vision advocated by the Japanese government, JICA will continue to assist in improving connectivity of the Indo-Pacific region and ensuring the freedom of navigation based on the rule of law, thus contributing to the social and economic prosperity and development of Asia and Africa.

Information and Communication Technology (ICT)

ICT is common infrastructure and an effective tool to solve social issues; it is used in administrative, social, and economic fields. It allows developing countries, among others, to introduce cutting-edge technologies by taking advantage of inadequate regulations and address emerging needs of their own. In fact, some developing countries are experiencing such “leapfrog” development.

Supporting the Promotion of Increased Use and Application of ICT across Sectors and Issues

The international community recognizes the importance of development cooperation in the ICT sector. The SDGs, formally adopted by the United Nations General Assembly in September 2015, expect that the acquisition of ICT skills, the development of ICT infrastructure, and the use and application of ICT will contribute to achieving these goals in all sectors.

JICA, for its part, has identified four components of its development strategy in the ICT sector as (1) improvement of ICT policy-making capacity, (2) development of human resources to support ICT, (3) development of ICT infrastructure, and (4) promotion of use and application of ICT. This development strategy has been translated into specific measures, including (1) assisting in the development of backbone communication networks; (2) delivering assistance with the use and application of ICT in such sectors as education, industrial promotion, and disaster risk reduction; (3) supporting the training of cybersecurity engineers [[→ see the case study below](#)]; (4) dispatching advisers on digitalization of terrestrial television broadcasting; and (5) extending assistance in the outer-space sector based on Japan’s two relevant policies: the Space Industry Vision 2030 and the Infrastructure Systems Export Strategy.

Apart from supporting the overseas deployment of Japanese technologies in line with the Japanese government’s initiatives, JICA will continue its efforts to make its development work more efficient and effective by utilizing ICT in its programs and projects.

Indonesia: Project for Human Resources Development for Cyber Security Professionals



Supporting the sound development of the digital economy



A cybersecurity seminar

Indonesia has recently seen substantial progress in “digital economy” or economic activities that take advantage of digital technology and data. As a result, the risk of cyberattacks is more serious than ever. Yet cybersecurity personnel in both the private and government sectors are inadequate in both quality and quantity. This inadequacy is causing concerns from many different corners.

This project is designed to enhance cybersecurity education for professionals at the University of Indonesia. This technology transfer to one of the top educational institutions in the country is

aimed at scaling up cybersecurity professionals in both the public and private sectors.

The aim is to develop courses and security tools that accommodate the needs of industry in Indonesia so that university lecturers will be able to give cybersecurity lectures on their own. Course lectures and tools developed in this project will be made available free of charge on the internet, raising expectations that the development outcomes of the project will not be confined within Indonesia but spill over to other countries as well.