

# South America

## Social Unrest in the Shadow of Prosperity: Efficient Aid Tailored to Each Country's Challenges

South America, gifted with fertile soil and abundant natural and mineral resources, has achieved solid economic growth, and recovered quickly from the global financial crisis in 2008. However, the discontent of the poor, which arises from large income disparities, provokes social unrest in some South American countries. Taking into account the specific circumstances under which each country lives, JICA addresses the issues that are considered to be priorities in each country, and also focuses on environmental conservation of the region's resources, such as the Amazon Basin, which have a significant impact on the global environment.

Going forward, JICA will focus on affiliation with private-sector investment and region-wide cooperation, primarily pursuing measures addressing climate change, economic infrastructure development, poverty reduction and income disparity mitigation. JICA also pursues "triangular cooperation" aimed at third-country development in affiliation with newly industrialized countries such as Brazil.

### Key Aid Strategies

Strengthening Relationships with Japan by Introducing Climate Change Initiatives, Developing the Economic Foundation for Sustainable Economic Growth and Reducing Poverty and Mitigating Disparities

South America still suffers from large social disparities in the aftermath of colonial rule by Western European countries, as well as military, political and economic influence from the United States. Many nations in the region poorly handled their economies in the 1980s, experiencing a "lost decade" marked by high inflation rates and crippling debt. However, in the 1990s, economic reforms based on neo-liberal policies were introduced under the guidance of the International Monetary Fund (IMF) and the World Bank, and privatization and deregulation ushered in stable economic growth in the region overall, with income levels rising in many countries.

Social unrest lurks in the shadow of this economic growth, however, born of continuing economic disparities within the region and countries. Under such circumstances, in recent years JICA has

been making efforts to mitigate disparities and stabilize regions.

South American economies depend heavily on the production and export of primary products, which has made them extremely vulnerable in the global economy and markets. Building up industry, promoting trade and creating an environment conducive to investment are all vital to sustainable growth. Improving administrative capacity is also essential as a foundation to encourage economic activity in the private sector.

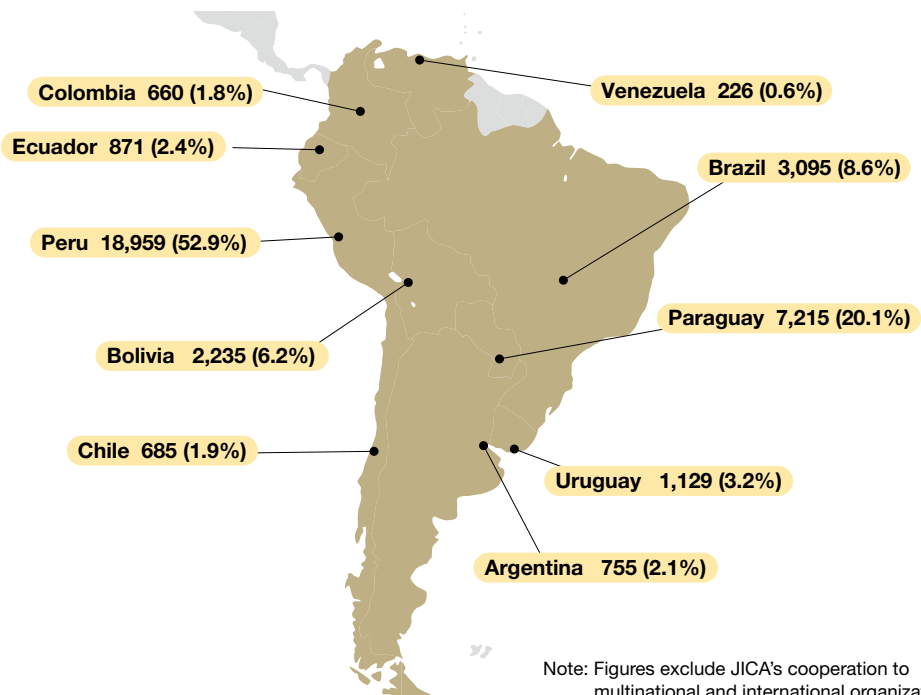
South America is also a key region in addressing the global issue of climate change. The region is home to the Amazon, the world's largest rainforest, and is also important in terms of food security, another global issue. Moreover, as the economy grows, urban environmental problems become more severe and call for urgent

### JICA Programs in South America (Fiscal 2009)

The figure shows the total value of JICA programs in each country including Technical Cooperation projects, dispatch of volunteers, other expenditures, ODA Loans (Disbursements) and Grant Aid (Newly concluded G/A agreements).

Note: Figures in parentheses denote the percentage share of overall JICA programs in the region.

**South America**  
**Total: 35,830**  
(Unit: millions of yen)



Note: Figures exclude JICA's cooperation to multinational and international organizations.

solutions.

JICA has established the following key aid strategies for the region: (1) initiatives addressing the global issues of climate change; (2) the development of foundations for sustainable economic growth; and (3) poverty reduction and the mitigation of disparities. In addition, considering the importance of strengthening relationships between Japan and South America, and taking into account the characteristics of this region, JICA keeps the next three points in mind when carrying out cooperation programs:

- Existence of disparities both within regions and countries
- Respect for ownership of recipient countries
- Extension of the benefits of growth to the poorest people

JICA will continue to provide newly industrialized countries such as Brazil, Argentina and Chile with Technical Cooperation in the areas of the environment, disaster prevention, human resource development and earthquake preparedness measures, as well as reinforcement of partnerships.

## Priority Issues and Efforts

### Initiatives Addressing Climate Change

South America is affected by global issues such as climate change, but at the same time it has a significant impact on the resolution of such problems. Accordingly, JICA cooperates in this field with many countries in the region.

Illegal logging and other factors continue to decimate forests in the Amazon region, the world's largest tropical rain forest. The impact that this would have on climate change and ecosystems gives cause for great concern, making preservation of the Amazon region a global issue. For its part, JICA prioritizes cooperation programs aimed at conservation. In Brazil, the Project for Utilization of ALOS Images to Protect Brazilian Amazon and Combat against Environmental Crimes uses satellite images from Japan's Advanced Land Observing Satellite, Daichi. This Japanese technology enables pictures to be taken even through atmospheric cloud cover, thus improving monitoring and oversight of environmental crimes. JICA provides cooperation with satellite image analysis technology and improvements in monitoring capacity.

In addition, the Sustainable Use of Forest Resources in Estuary Tidal Floodplains in Amapa Project carried out in Brazil employs International Training Course for Agroforestry Systems Technology to support both forest conservation and agricultural production, with the goal of sustainable forest management and effective use of legally logged timber. JICA invited researchers from five Amazon region countries for third country training in agroforestry courses and is working to develop and popularize agroforestry technology and processing technology for harvested produce with the aim of balancing forest conservation with agricultural production.

Further, glaciers in the Andes mountain range, home to 99% of the world's tropical-region glacial ice, are rapidly disappearing due to climate change. JICA has begun to work in Peru, Bolivia and Ecuador to collect the information needed to address the impact on water resources and risks of natural disaster facing the Andes highlands due to the loss of tropical glaciers.

In Peru, JICA is implementing a study on the Master Plan for Development of Geothermal Energy in Peru, supporting application of the Clean Development Mechanism (CDM) to the nation's

reusable energy. In Paraguay, JICA is assisting CDM preparation for the ODA Loan-supported Yguazu Hydropower Station Construction Project.

### Building Foundation for Sustainable Economic Growth

South America has achieved steady economic growth in recent years, primarily in private-sector investment, thanks to the rich natural resources in the region. Although the region was hurt by the global economic crisis in 2008 and volatile prices for natural resources, the economy recovered in 2010. In such conditions, there exist growing expectations for cooperation designed to improve the investment climate, to develop the economic foundation to stimulate domestic demand and to establish measures for financing small and medium-sized enterprises.

Recognizing correction of domestic income disparities as a major developmental issue, JICA is undertaking the following efforts to reenergize regional economies: (1) preparation of a regional port improvement project in Brazil; (2) preparation and implementation of local road improvement projects in Paraguay; (3) preparation and implementation of a two-step loan in Colombia to finance micro, small and medium-sized enterprises with a view to maintaining and creating employment opportunities.

### Reducing Poverty and Mitigating Disparities

Combating poverty and mitigating disparities are challenges to be addressed by all South American countries, and they are given priority by the governments in these countries.

JICA's cooperation focuses on poverty reduction in low-income countries, such as Paraguay and Bolivia. JICA is working to reduce poverty among small-scale farmers in Bolivia through programs such as the Project for Rural Development in Altiplano Central and the Project for Establishment of an Implementation System for Sustainable Rural Development Phase II undertaken from the human security and empowerment perspective. JICA has also formed programs such as the Program of Water Supply in Areas of Poverty, Program for the Quality Improvement of School Education

and Program for Strengthening Community Health Network Focusing on Maternal and Child Health, all of which support access to basic social services.

In Paraguay, JICA is making efforts to form cooperative programs that realize synergies among three aid schemes: Technical Cooperation, Loan Aid and Grant Aid. For example, JICA is studying ways to take full advantage of all three aid schemes in cooperation for the water and sanitation sector, such as ODA Loans for water and sewer infrastructure development requiring large-scale investment in urban areas; Grant Aid for small- and medium-scale infrastructure development centered in agricultural areas; and Technical Cooperation for developing plans, implementing systems and building infrastructure for the water sector as a whole.

In Ecuador, JICA is carrying out projects to support indigenous peoples, refugees from conflicts and other socially vulnerable persons. These include the Project for Reorganization of the Agriculture Supporting Services, Coping with Poverty Alleviation for Rural Peasants in Mountainous Areas, Project for Capacity Development for Promoting the Sustainable Integral Rural Development for Poverty Reduction in Chimborazo Province and

Project for Strengthening of the Occupational Training for the Vulnerable Sector. In Peru, these include a study on the Program of Rural Development for Poor Peasants and Local Capacity Strengthening in the Central Highlands of Peru. In Colombia, these include the Project for the Support of Entrepreneurship and Employment for the Household of Demobilized Ex-Combatants and Recipient Communities in Colombia.

For newly industrialized countries and relatively higher income countries such as Brazil and Peru, JICA employs highly synergistic development assistance that combines ODA Loans with Technical Cooperation. ODA Loan projects in Peru, such as the Iquitos Sewerage Improvement and Expansion Project and the Cajamarca Water Supply and Sewerage Improvement and Expansion Project, are improving access to water and sewer services, and the Electric Frontier Expansion Project (III) is bringing electricity to remote mountain regions.

### Strengthening Relationships with Japan

Aid from the governments themselves or foreign countries has a relatively smaller impact on the overall economy in relatively higher

#### Case Study

### Restoring Obsolete Provincial Water Systems

#### Peru: Improvement and Expansion of Water Supply and Sewage Systems in Provincial Cities

**Constructing water supply and sewage systems in provincial cities has become a major issue for Peru as its population increases. The Peruvian government has worked to develop and expand water supply and sewage systems in its cities since the 1990s with aid from the Inter-American Development Bank (IDB) in particular.**

**JICA provided an ODA Loan to build urban water supply and sewage systems in Iquitos and two other cities from 2000. In 2008, JICA also extended an ODA Loan to a project to build a sewage system in Iquitos.**

#### Building Water Supply and Sewage Systems in Cities Key for Tourism in the Amazon

About 30% of Peru's land mass is mountainous, and the country also has a substantial poor population. JICA supports the country's water resources in various forms, including securing

water for agricultural use in mountainous regions and resolving the chronic water shortages in the capital Lima.

The priority issue for Peru's urban water supply and sewage systems is raising the coverage of water supply systems, improving the water supply and treatment capacity, and reducing the non-revenue water rate. After experiencing an economic crisis in the 1980s, Peru's water supply and sewage utilities were decentralized in 1989, but this decentralization did not result in improvements in the situation of local governments because they were unable to maintain and upgrade obsolete systems.

Accordingly, in the 1990s, the government gradually pursued development plans tailored to the size of the city, and the IDB took the central role in providing policy advice to local water supply and sewage corporations and supporting the development of institutional frameworks.

JICA collaborated with these comprehensive initiatives and provided ODA Loans to support the expansion and repair of water supply and sewage systems of Iquitos in Loreto, one of the biggest cities in the Amazon region in the northeastern part of Peru. Iquitos, with a population of about 400,000, is known as the base for tourism in the Amazon. However, as polluted water is discharged into the Amazon River and the coverage rate of water supply is only about 70%, there are serious concerns

about the impact of sanitary conditions on the population, such as acute diarrhea. JICA started tackling this challenge with ODA Loans in 2000 by improving obsolete water treatment plants and expanding them. The construction of the facilities was completed in 2008, and followed by a trial run, secondary distribution pipes are now being built to raise the penetration rate.

In 2008, JICA started providing ODA Loans to build sewage treatment plants, pump stations and sewage networks. Since half of the population in this province is impoverished, the water supply and sewage company plans to subsidize the connection cost.

#### A Grassroots View

##### Katsuya Kamisato Consultant

Although Iquitos, a city of 400,000 people in the Amazon rainforest, is located in an isolated area surrounded by water, ironically, the city finds it difficult to secure a safe supply of water. Contaminated water flows on three sides, and people live on the banks of the polluted and unsanitary surrounding bodies of water. This project aims to help improve the residents' living environment by constructing a water treatment plant to ensure safe drinking water and constructing a disposal station to dispose of contaminated water.



Water treatment plant after improvements

income countries, where private-sector economic activity drives development. Plans for constructing high-speed railways in Brazil and the adoption of terrestrial digital broadcasting based on the ISDB-T standard in the region have recently been in the news.

In the field of science and technology, JICA's cooperation extends to efforts such as the analysis of CO<sub>2</sub> absorption in the Amazon, research on glaciers in the Andes, observing the hole in the ozone layer in the southern region of Patagonia, research on infectious disease and research into earthquake-resistant designs preparing countries for earthquakes. These initiatives are carried out through the Japanese Ministry of Education, Culture, Sports, Science and Technology the Japan Science and Technology Agency and the

Science and Technology Research Partnership for Sustainable Development, and they take advantage of the technology and experience of Japan's universities and research organizations.

In the Project for Capacity Strengthening for Examination of Mine Closure Plans in Peru, JICA provides advice on strengthening education for organizations and people, as well as on the evaluation of mine closure plans and the drafting of mine pollution prevention strategic plans. Peru, which is a supplier of vital metal resources such as copper and zinc to Japan, urgently needs to take measures against pollution caused by inactive or closed mines. JICA's cooperation is expected to foster a closer relationship between the two countries in the resource sector.

### Case Study

## Protecting People from UV Radiation and Raising Awareness of the Ozone Layer

### Southern Patagonia: Strengthening the Capacity to Measure the Ozone Layer and UV Radiation and the Projection toward the Community

**The ozone layer in the stratosphere protects living organisms by absorbing harmful UV rays from the sun. However, the ozone layer is being destroyed by chlorofluorocarbons and other harmful chemicals, and the hole in this ozone layer that has developed in the southern part of Patagonia in the southernmost tip of South America (Argentina and Chile) has led to concerns over potential damage to health. JICA cooperates in observing the ozone layer and providing educational warnings to residents.**

#### Supporting Observation and Education in Southern Patagonia

The ozone layer, which has a high concentration of ozone (O<sub>3</sub>), is the layer of the stratosphere located about 10–50km above the earth's surface. This layer blocks almost all of the sun's harmful UV rays. However, in recent years, chlorofluorocarbons and other chemicals used in refrigerators, air conditioners and sprays have been discharged into the stratosphere, breaking down the ozone layer. As a result, the amount of UV light has increased, raising fears that this will lead to a higher incidence of cataracts and skin cancer.

In particular, there is a tendency for ozone holes to form in the polar region, where the ozone layer has thinned. The ozone hole was



Observations using ozone radiossonde

widening in southern Patagonia in particular, and this led the governments of Argentina and Chile to request Japan's cooperation in observing the ozone layer and warning and educating residents. JICA began its Technical Cooperation project in 2004. Observing and publicizing information about the ozone layer in this region plays an extremely important role in conserving the environment.

#### Station Recognized by International Institutions and Shares Information

JICA cooperated with the Project to Intensify Ozone Layer Studies in South America, which uses laser readers, in Argentina over a three-year period from 2004. These methods and monitoring results have attracted attention at international conferences.

Patricia Yamamoto of JICA's Argentina office describes the difficulties that the project initially faced: "In spring and summer, when the ozone hole appears, monitoring equipment in containers was carried to Rio Gallegos at the southern tip of Argentina. However, the temperature dropped to 17 degrees below zero, causing lenses and gas canisters to freeze and break. Thanks to the advice from the Japanese expert to anchor them into fixed positions, instead of carrying the equipment each time, we have been able to provide accurate observational results in Rio Gallegos since then."

The Network for the Detection of Atmospheric Composition Change (NDACC), an international organization made up of research stations for observing the stratosphere, recognized this observation station. The station shares information with the U.S.'s National Aeronautics and Space Administration (NASA), the France Institute for Climate and Atmospheric Science and Brazil's Instituto Nacional de Pesquisas Espaciais (INPE), and is pursuing a four-year plan started in

2007 to reinforce its monitoring facility. A complementary monitoring network was strengthened in Chile as well to share data and carry out joint monitoring activities.

In order to prevent damage to health when the ozone hole expands, JICA has set up signals warning of the radiation level to notify residents of the level of UV radiation in both Argentina and Chile, and also focuses on educational activities such as seminars on measures to counter UV radiation.



Signal installed in streets to warn of UV radiation levels. JICA cooperation helped to install the signals and to monitor UV radiation at elementary schools. A manager at the Rio Gallegos City Environmental Bureau, a project counterpart, visited an elementary school to explain the signal and measure the amount of UV radiation using an experiment kit. The signal can be checked online as well.

#### A Grassroots View

**Ryo Mizuno**

**Professor, Atmospheric Environment Department, Solar-Terrestrial Environment Laboratory, Nagoya University**

We are making observations in Rio Gallegos. When an Argentinean researcher suggested that I participate in this project six years ago, I realized that the environmental conservation group's staff had high expectations for this work, and I resolved to do my best to help. I hope that our observations can help the local residents as well as researchers around the world.