

Indonesia's Development and JICA

History of Cooperation





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The history of JICA's cooperation in Indonesia (from 1954)

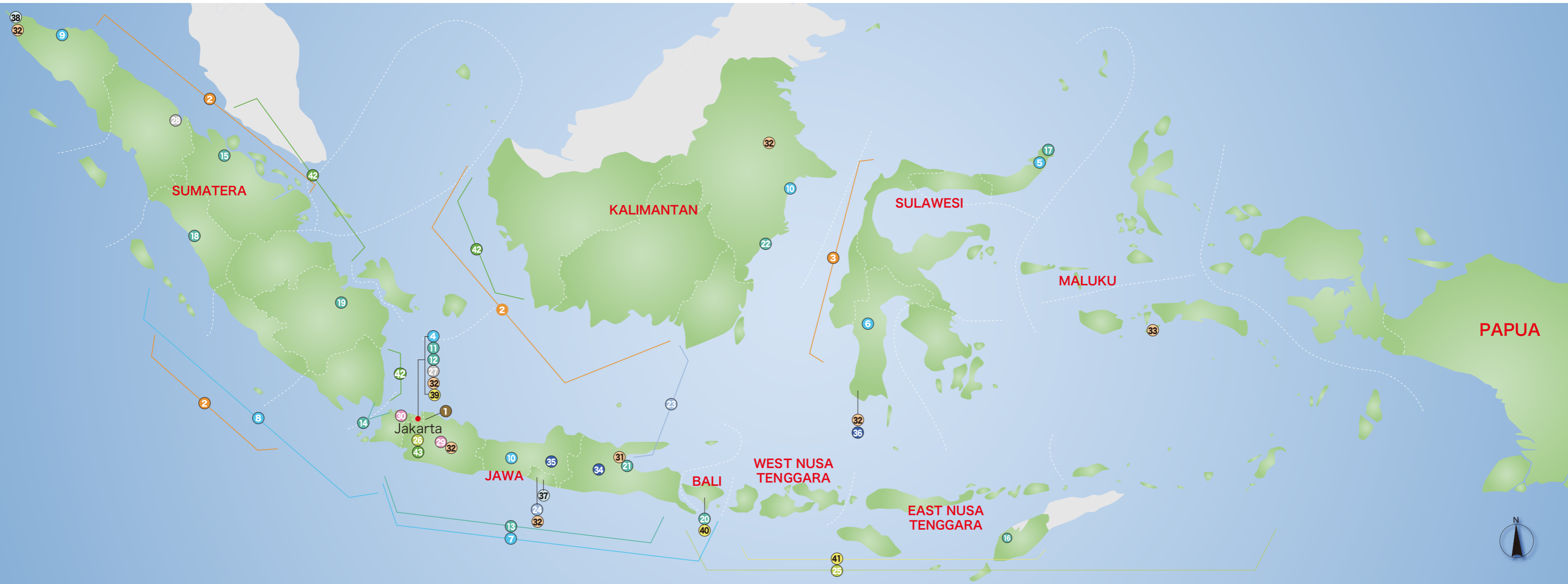
- 1954 Indonesian trainees are accepted for training in Japan
- 1957 Dispatch of Japanese experts to Indonesia begins
- 1958 Cooperation based on war reparations begins
- 1961 The Overseas Economic Cooperation Fund (OECF) is established, inheriting the operations of the Southeast Asia Development Cooperation Fund (SADCF)
- 1962 The Overseas Technical Cooperation Agency (OTCA) is established
- 1968 OECF's Indonesia office opens and first ODA loans are provided to Indonesia
- 1969 OTCA's Indonesia office opens
- 1974 The Japan International Cooperation Agency (JICA) is established, inheriting the operations of OTCA
- 1976 Grant aid assistance starts
- 1988 Dispatch of Japan Overseas Cooperation Volunteers (JOCV) begins
- 1999 OECF and the Export-Import Bank of Japan are merged to form the Japan Bank for International Cooperation (JBIC)
- 2008 New JICA is launched by merging JICA with JBIC's Overseas Economic Cooperation Operations and a portion of the Ministry of Foreign Affairs' grant aid cooperation

Japan International
Cooperation Agency (JICA)



The Japan International Cooperation Agency (JICA) is the organization in charge of implementing Japan's Official Development Assistance (ODA). JICA has representative offices in more than 90 locations and is implementing activities in over 150 countries. JICA has merged with the Overseas Economic Cooperation Operations of Japan Bank for International Cooperation (JBIC) and received a part of the Ministry of Foreign Affairs' Grant Aid cooperation scheme on October 1, 2008. This gave JICA the ability to provide assistance more effectively and efficiently through comprehensive development assistance, using all of Japan's aid schemes, namely technical cooperation, loan assistance, and grant aid.

I. Major Projects Location Map



1. Economic Policy and Macroeconomic Management

classification	area
L	JK
L	NSW
S	SSW
L	IR

2. Governance

classification	area
T,G	WJ
T	IR
T,G	IR

3. Regional Development

classification	area
S	NPS,SPS,WPK
T	SWI
L	IR

4. Electric Power and Energy

classification	area
L	JK
L	NSW
L	SSW
L	IR
L	IR
L	NAD
L	EK
S	IR
S	IR

5. Transport and Traffic

classification	area
S,L	JK
S,L	IR
S,L	JK
L	JI
L	LP,BT
S,L	RP
S,L	ENT
S,L	NSW
T	IR
S,L	WSM
S,L	SSM
S,L	BL
L	EJ
L	EK
S	IR

6. Telecommunications

classification	area
L	IR
T,G	YK
S	IR

7. Agriculture and Fisheries

classification	area
T,S,G,L	IR
L	ENT,WNT,MP,SWI,BL
T,G,L	WJ

8. Private Sector Development

classification	area
T,G	JK
S,L	NSM
S,T	IR

9. Health and Medical Care

classification	area
T	IR
T,G	WJ
L	BT

10. Education

classification	area
T,G	EJ
L	IR
S,T	IR
T	MP

11. River Basin Development and Management

classification	area
S,L,T	EJ
S,L	CJ
S,L	SSW

12. Disaster Management

classification	area
T,G	YK
T	IR
S,G,T,L	NAD

13. Urban Environments and Water and Sewage Systems

classification	area
S,L	JK
S,L	BL
S,G	ENT,WNT

14. Preservation of Forests and the Natural Environment

classification	area
T,G	RP,JP,LP,EK
T,G	WJ
L	

legend

- Economic Policy and Macroeconomic Management
- Governance
- Regional Development
- Electric Power and Energy
- Transport and Traffic
- Telecommunications
- Agriculture and Fisheries
- Private Sector Development
- Health and Medical Care
- Education
- River Basin Development and Management
- Disaster Management
- Urban Environments and Water and Sewage Systems
- Preservation of Forests and the Natural Environment

classification

T: Technical cooperation
S: Development study
G: Grant aid
L: ODA loan

area

- BL Bali Province
- BT Banten Province
- CJ Central Java Province
- EJ East Java Province
- EK East Kalimantan Province
- ENT Inter-regional
- IR Java island
- JK Jakarta
- JP Jambi Province
- LP Lampung Province
- MP Maluku Province
- NAD Nanggroe Aceh Darussalam
- NP5 Northern part of Sumatra
- NSM North Sumatra Province
- NSW North Sulawesi Province
- RP Riau Province
- SSM South Sumatra Province
- SSW South Sulawesi Province
- SWI Sulawesi island
- WJ West Java Province
- WK West Kalimantan Province
- WNT West Nusa Tenggara Province
- WPK Western part of Kalimantan
- WSM West Sumatra Province
- YK Yogyakarta



Indonesia: A summary

Indonesia is a republic located in southern Southeast Asia. It has a national land area of 1.9 million square kilometers (five times Japan's) and, with approximately 17,000 islands of all sizes, has the largest number of islands of any nation in the world. Approximately 230 million people live on more than 9,000 of these islands, giving Indonesia the fourth largest population in the world (2008). The population encompasses a diverse array of coexisting ethnic groups and religions, and thus "unity in diversity" has become the nation's motto.

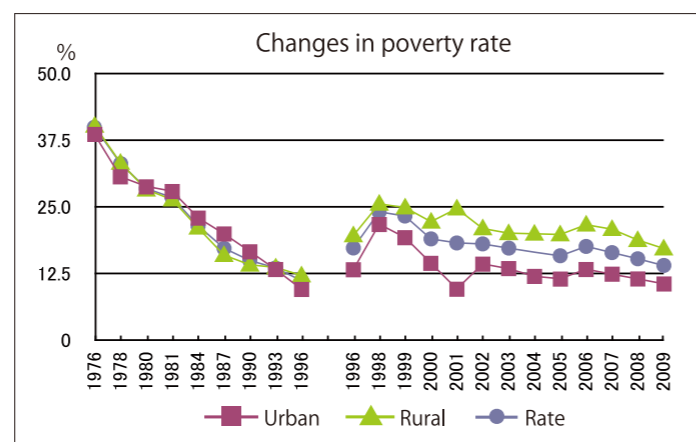
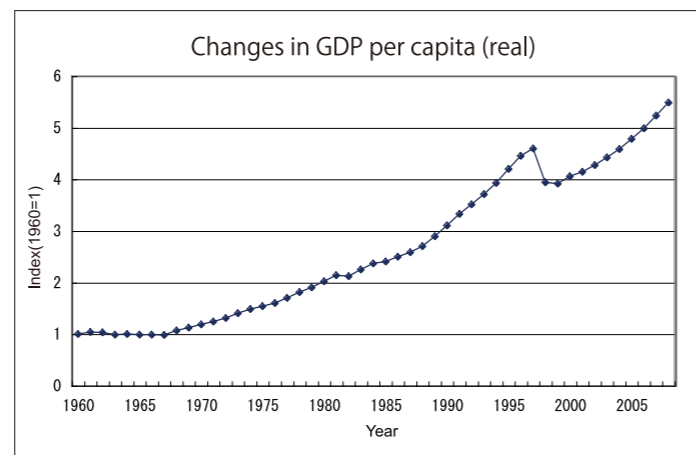
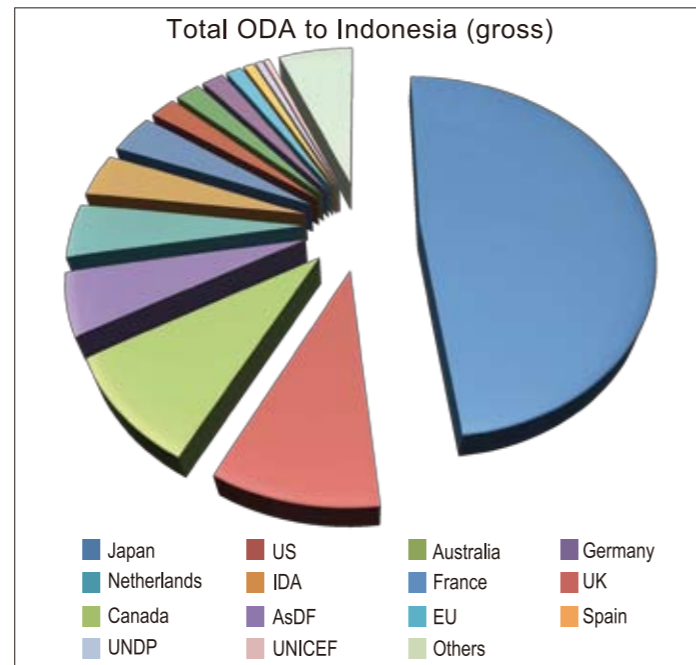
History of development

Today, Indonesia is developing steadily and enjoys political stability. It is also implementing reforms that include democratization and anticorruption measures. And on the international stage, Indonesia is a G-20 member and has a central presence in ASEAN.

Nonetheless, the road to today's Indonesia was not smooth. Since proclaiming its independence in 1945, Indonesia, which was focusing on building the unity of the new country—under the leadership of President Sukarno—had to overcome various political and economic tumults. However, during that time also, Indonesia initiated an international movement by becoming the first host of the Asia-Africa Conference.

In March 1968, Suharto took over the leadership from Sukarno. Since then, President Suharto focused on the development aspect, realizing rice self-sufficiency, increasing basic education enrollment level, improving health indicators. When Indonesia faced economic difficulties in the latter half of the 1980s due to the decline in the international price of crude oil, which was its main source of foreign currency, it entered a period of structural adjustment to overcome these difficulties and wean itself from its petroleum-dependent economy. During this time, Indonesia made a shift in its policies from import substitution to export promotion, and as a result its dependence on petroleum lessened and its export structure became more diversified. The country's efforts to reduce regional disparities also gained momentum at this time.

However, just as Indonesia was taking its first steps toward renewed growth, the 1997 Asian currency crisis that originated in Thailand began to have a significant impact on its economy. This negative impact of the crisis, combined with various problems that had accumulated over many years of centralized administrative authority, caused Indonesia's politics and economy to fall into disorder and ended the 30-year-old Suharto administration. In the years since, Indonesia has been on a course toward democratization. Among developments here are constitutional revisions that include equality under the law, freedom of expression, freedom of association and assembly, and direct presidential elections by the people. Indonesia has also been promoting decentralization by, for example, conducting major transfers of authority from the central government to local governments and introducing a system for direct public elections of regional leaders. It is also working to implement institutional reforms in its economy. From President Habibie, who succeeded President Suharto, to the current President Yudhoyono, efforts toward democratization and decentralization are, despite some growing pains, undeniably supporting the stability and development of today's Indonesia.



Cooperation provided by JICA

JICA has provided a cumulative total of 4.6261 trillion Yen in ODA¹ to Indonesia. Two sectors account for 57% of this total: "public works and utility projects," which includes transportation, communications, waterworks and sewerage systems, and river basin management (account for 1.7190 trillion Yen or 37% of the total), and "energy" (account for 877.9 billion Yen or 20% of the total). These are followed by cooperation in agriculture, forestry, and fisheries sectors (371.3 billion Yen or 8% of the total) and cooperation in mining and manufacturing sector (249.6 billion Yen or 5% of the total).

In the history of JICA's assistance to Indonesia, JICA provides assistance for nation-building such as infrastructure, human resources and institutional development when Indonesia's society and economy enjoys stability. In times of economic crises and other emergencies, on the other hand, Japan provides assistance in order to stabilize the economy and society in Indonesia primarily through non-project yen loans².

Results

Indonesia's successful nation-building and socioeconomic development are the products of relentless effort and ingenuity by the Indonesian people. However, the role that external assistance plays as Indonesia goes up the ladder of development cannot be ignored. The results of over 50 years of support by JICA as the Japanese government's ODA implementing agency can be categorized into the following four areas.

(1) Contribution to social and economic stabilization

JICA has helped Indonesia weather crises in international balance of payments and fiscal balance by providing timely non-project yen loans during the times of economic uncertainty, including the period immediately following the inauguration of President Suharto's administration in the late 1960s, the period of stagnant international crude oil prices in the latter 1980s, and the Asian currency crisis of the late 1990s. In addition, JICA has helped raise Indonesia's food security, which is a vital element of national stability, through infrastructure development and technical cooperation focused on irrigation and other areas. JICA has also made contributions toward improving public health through technical cooperation in the health, hygiene, and maternal and child health sectors. And, given that Indonesia is a volcanic country that is prone to earthquakes, JICA is also providing support for prevention of natural disasters and post-disaster recovery.

(2) Contribution to the building of foundations for national social and economic development

Indonesia is a vast archipelago, and thus, its infrastructure network serves as the foundation for economic development and links the country's many people and islands together. JICA has played a significant role in the formation of this network by formulating master plans and constructing infrastructure with yen loans. Moreover, JICA has



done more than just help build infrastructure; it has also supported the development of human resources that will operate and maintain infrastructure. In the 1970s, JICA provided intensive assistance for the development of petroleum and natural gas that drove Indonesia's economic growth and helped reinforce the Indonesian government's financial base. And in recent years, JICA has helped maintain the various institutions needed to put Indonesia's business environment in order. Furthermore, JICA's support for higher education and research standards in higher education institutions has become an important foundation for Indonesia's social and economic development.

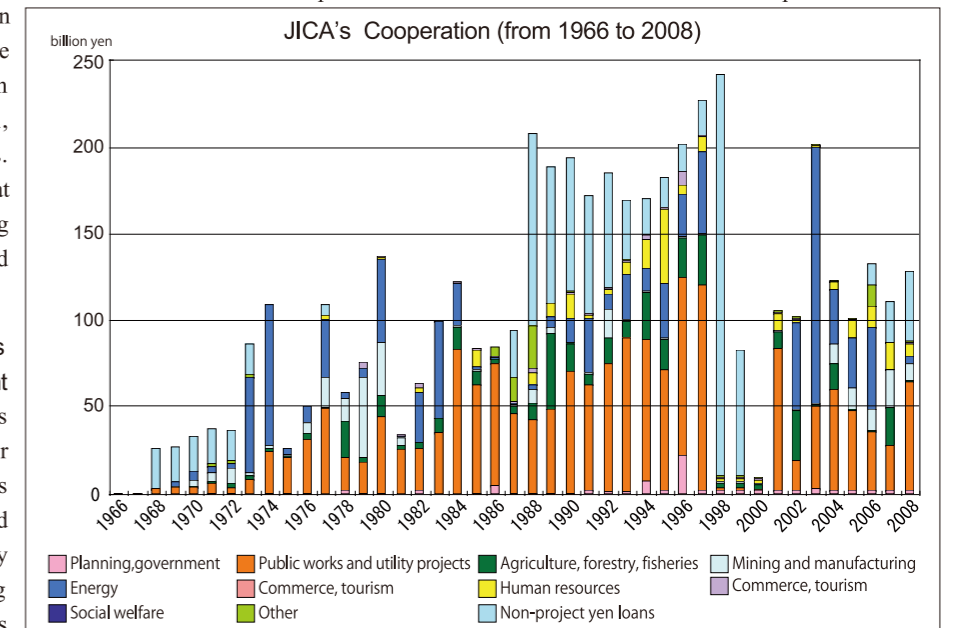
(3) Reinforcement of capacities in administrative organizations that support nation-building

JICA has provided continuous technical cooperation to Indonesia's administrative organizations with both medium-term and long-term perspectives in mind. Its cooperation has been based on organizational reinforcement, human resources development, and institution-building as approaches toward sustainable development in Indonesia. JICA's cooperation methods—which involve mutual consideration and collaboration with Indonesian counterparts—have helped establish organizations and human resources that continue to develop even after cooperation ends.

(4) Promotion of democratization and decentralization

Responding to Indonesia's progress in democratization and decentralization, JICA has helped create concrete mechanisms that meet specific circumstances in Indonesia by presenting Japan's experience and working together with Indonesian personnel.

Over fifty years of cooperation have done more than contribute to Indonesia's development. The continuous cooperation provided over these long years has deepened interaction between the people of the two countries and mutual understanding. This strengthened bilateral relationship is the most important asset for the future of both Indonesia and Japan.



¹ Cumulative total for the period from 1966 to 2008 for which data exist.

² As opposed to project yen loans that provide funds for specific development projects, non-project yen loans provide funds to help the target country improve its balance of international payments or implement economic development plans or structural adjustment plans, without specifying particular projects with specific objectives.

III. Toward Better Governance Economic Policy and Macroeconomic Management

Overview

JICA's assistance for economic policy and macroeconomic management has combined two approaches. One is emergency/short-term intensive assistance for the purpose of economic stabilization, which is represented by international balance of payments support, and the other is long-term continuous assistance for capacity building, which is represented by technical cooperation.

JICA's emergency/short-term intensive assistance for economic stabilization has primarily taken the form of non-project yen loans. Typical examples are assistance provided during the international balance of payments crisis of the 1960s and 1970s, the economic crisis caused by an international decline in crude oil prices in the late 1980s, and the economic crisis influenced by the Asian currency crisis that began in 1997. The assistance in the late 1990s includes "Social Safety Net Loan" and "Health and Nutrition Sector Development Program Loan" that gave consideration to socially disadvantaged people who were greatly affected by the economic crisis.

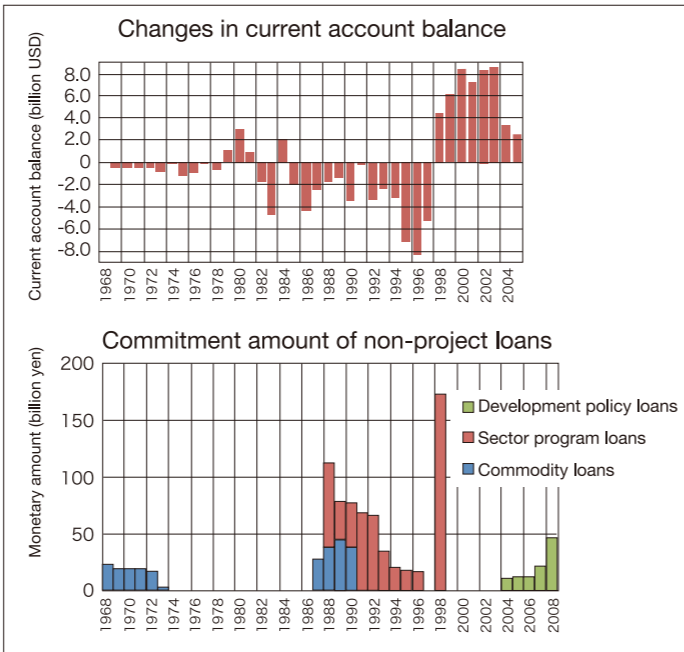
JICA has also provided long-term technical cooperation to the National Development Planning Agency (BAPPENAS). Among other areas, this cooperated has focused on economic analysis needed for the formulation of economic policies. Additionally, in the wake of the economic crisis of the late 1990s, Japan provided "economic policy assistance" that considered responses to economic crises through dialogue between Indonesian policymakers and Japanese experts.

In recent years, JICA has been providing financial support for the improvement of investment climate (e.g., institution-building, infrastructure development, etc.), with the aim of promoting further economic growth amid stable economic conditions. JICA provides this support in forms that encourage reform efforts by the Indonesian government. Representative among them are "Development Policy Loans" and the "Infrastructure Reform Sector Development Program." Japan also supports institution-building and human resources development in other fields, including finance and tax administration.

Results

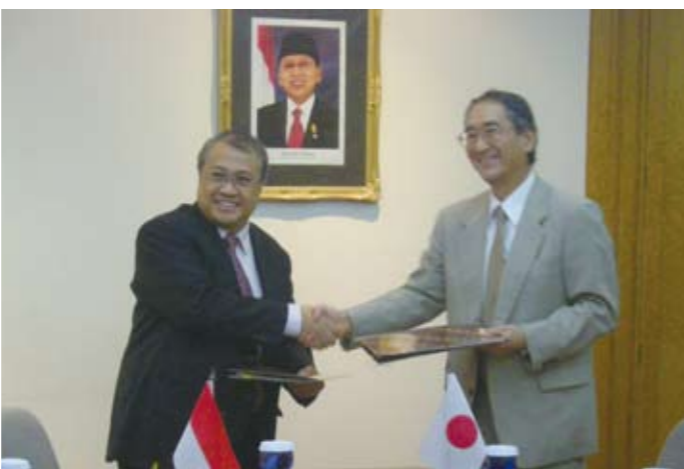
As is shown above, JICA has been combining two forms of support: short-term intensive support to address emergencies in international balance of payments and fiscal balance for the main purpose of bringing economic stability, and support for long-term and continuous capacity-building during normal times for the purpose of encouraging economic growth. Through these approaches, JICA has:

- Contributed to Indonesia's weathering of economic crises through emergency international balance of payments support when its macro economy has fallen into extreme difficulty, as during the international balance of payments crisis and Asian currency crisis.
- Contributed to improved macroeconomic management capability by providing technical cooperation from various standpoints—specifically, assistance in formulation of economic growth plans; policy dialogues during currency crises; institutional reform to address pressing issues in finances, capital markets, taxation, etc.; and human resources development.
- Been promoting recent reform efforts and infrastructure development for economic growth by the Indonesian government through providing technical and funding assistance, maintaining the Indonesian government's ownership.



Development Policy Loan (started in 2005)

This is a general budget support scheme that provides financial support based on the achievement of "policy actions" that are established based on discussions with the Indonesian side. Among the items established under the "policy actions" for the sixth Development Policy Loan (provided in 2010) were review of investment regulations, preparation toward unification of offices handling import/export procedures, and formulation of an order by the Directorate General of the Ministry of Finance for simplification of taxation documents. The scheme can be considered support that is in line with the Jakarta Commitments, which seek ownership and integrated application of aid funds.



Governance

Overview

Cooperation concerning governance is a relatively new field for JICA in Indonesia. Under the Suharto administration, which was in power continuously for 30 years until 1998, JICA provided cooperation in statistics-keeping (e.g., introduction of computers into BPS-Statistics Indonesia, etc.) on just a few occasions. However, statistics-keeping, which includes improvement of population censuses, is an important foundation for the nation and has been a basis for democratization since the mid-1990s.

Since 1998, JICA's cooperation in this field has gained momentum as democratization and decentralization in Indonesia have progressed. In the area of democratization, JICA has provided support toward the smooth holding of elections, judicial system reform (including reform of settlement and conciliation systems, and creation of schemes for training mediators), and police reform. JICA's support for police reform sprung from the police force's establishment as an independent organ in 1999 (it had been part of the military until then) as a step toward democratization and a shift in focus from maintenance of national order to improved public safety. Since 2001, JICA has been providing cooperation to create a model for the new Indonesian police force. JICA's activities here have sought to help the "police gain the fundamental trust of the public." As part of this approach, JICA introduced a system that sets up Indonesian-style police boxes (BKPM). These are modeled after those in Japan and take charge of public safety in their jurisdictions. The Indonesian national police recognized the effects of BKPM-centered civilian policing and its compatibility with Indonesian society, and consequently BKPM are now being set up in Indonesia as community-based policing spreads nationwide. At the same time, the new model for policing that was created with JICA's assistance has become policy in the form of the POLMAS (Indonesian-style community policing) notification, which seeks to "build partnership between police officers and communities" and "solve various social problems that occur in the community."

As for support for decentralization, projects are underway to reinforce functions entrusted to local governments by the central government in all sectors, and JICA is adding to them by providing cooperation to reinforce the capabilities of Regional Representative Council and local public servants. In the area of human resources development for local public servants, JICA's cooperation provided central and local training organizations with the ability to plan and implement training programs that match actual circumstances. As a result, institutional support for the firm establishment of changes brought by Japanese cooperation is now being provided through, for example, the formulation of "training management guidelines (Minister of Home Affairs regulation of 2007)" by the Ministry of Home Affairs.

Results

As Indonesia makes great strides toward democratization and decentralization, JICA-provided assistance has not simply presented Japan's experience and attempted to apply it to Indonesia. Instead, it has built mechanisms suited to Indonesia and developed human resources in collaboration with Indonesian counterparts. As a result, JICA has:

- Achieved the creation of specific mechanisms and models for police democratization and local governments that meet actual circumstances in Indonesia within a new paradigm of democratization and decentralization.
- Contributed to the development of human resources that will manage these new mechanisms.



An Indonesian-style police box modeled after those in Japan



Guidance of criminal identification techniques

The road to democratization and decentralization

Indonesia has been energetically promoting democratization and decentralization since President Suharto's resignation in May 1998. Its moves toward democratization have greatly liberalized the forming of political parties, loosened qualifications for participating in elections, overhauled the People's Consultative Assembly, and paved the way for direct elections of President and local leaders. Indonesia has also separated the police force from the military and clearly defined the police force as public servants. And Indonesia is placing priority on eliminating corruption, which has been a lingering problem.

As for decentralization, Indonesia is striving to implement projects that better meet regional needs by reinforcing the authority of local governments. This includes allocating budgetary expenditure to local governments and transferring the central government's field offices to local government control. Nonetheless, further improvement is needed in reinforcing the capabilities of local governments, which have little experience taking the initiative to plan and implement projects.



Seminar for improved government services based on good governance concept

Regional Development



Overview

Major issues in Indonesia's regional development thus far have been population dispersal from Java to outlying islands during the 1960s to 1980s, development of eastern Indonesia and correction of regional disparities in the 1990s, and improvement of regional development capability in line with decentralization since the 2000s.

From the 1970s to the 1990s, JICA prepared master plans for comprehensive regional development and assisted in the formulation of cross-sector and comprehensive development programs that reflected regional characteristics. This approach has become the main part of regional development in Indonesia, and the National Development Planning Agency (BAPPENAS) applied this to the formulation of National Medium-Term Development Plan (RPJMN) 2010-2014.

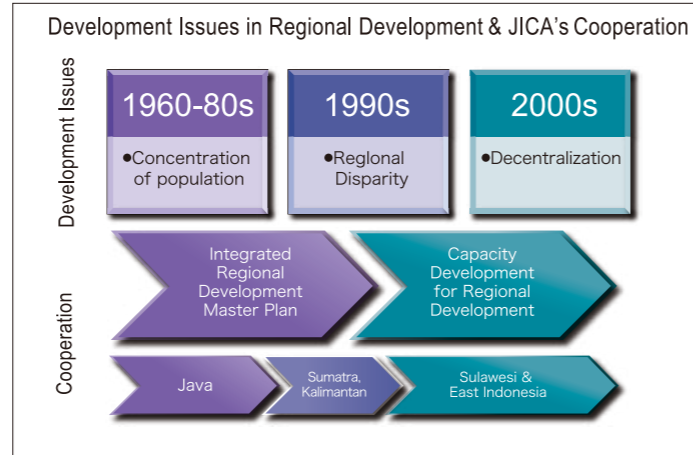
In the 1990s, JICA supported rural infrastructure development through its "Rural Areas Infrastructure Development Projects," which were undertakings in line with the Indonesian government's policy of correcting regional disparities. Moreover, beginning in the mid-1990s, JICA implemented the "Project on Strengthening Sulawesi Rural Community Development to Support Poverty Alleviation Programs" in Takalar Regency, South Sulawesi Province. This project established a Participatory Rural Development Supporting System for implementing development projects based on the needs of rural villages through effective collaboration between local government and other local actors such as universities and NGOs. Takalar Regency has stipulated this system in the regency regulation and the activities has been sustained and developed, involving many local residents.

Since the 2000s along with the progress of decentralization, JICA has been implementing the "Sulawesi Capacity Development Project" to strengthen the capacity of local governments in conducting the planning, implementing, monitoring and improving development projects to meet communities' needs through the collaboration among relevant stakeholders. Through strengthening the function of local governments, JICA has provided support to promote collaboration between community and local governments and encourage regional development that meets communities' needs.

Results

JICA has supported Indonesia's regional development efforts in two areas. Firstly, from the 1970s to the 1990s, JICA supported the creation of regional development master plans that sparked consideration of comprehensive development on a regional basis. Secondly, amid rapid decentralization in the 2000s, JICA supported capacity development of local governments to promote community-based development. These efforts led to:

- The introduction of cross-sectoral and comprehensive approach based on regional needs in the national development planning.
- Capacity development of local government as the basis for promoting local initiative in regional development.
- Contribution to national stability through the reduction of regional disparity.



The Sulawesi Capacity Development Project (2007 to 2012)

Targeting 29 regencies in six provinces, the Sulawesi Capacity Development Project seeks to promote the initiatives of communities in solving problems and to build a system by which local governments can appropriately support those initiatives. To this end, the project provides training to planning officials at both provincial and regency levels, and "community facilitators" which are selected mainly from NGO members. The project then facilitates, through the implementation of regional development initiatives by utilizing the government budget or funding from the communities, the establishment of specially-designed collaboration mechanism for each location. One example of activities facilitated by the project can be found in Maleo Village in Pohnuato Regency, Gorontalo Province. Trained community facilitators came to visit Maleo to encourage discussions with the villagers on the issues affecting the village. This led to a dialogue, which made the villagers aware of the serious problems such as infiltration of seawater into well water and seacoast erosion, which consequently sparked community-led activities. They decided to plant mangrove seedlings. In addition, local government, recognizing the community's initiative, now supports their efforts. Thus, the facilitation to the village through community facilitators trained by the project led to actions towards problem solving.



Dialogue with residents to understand local issues

IV. Forming the Infrastructure Network Electric Power and Energy

Overview

Looking at the electric power sector, Japan's first ODA loans to Indonesia, made in 1968, were for hydroelectricity projects, and the project on the Brantas River in East Java Province was representative. From that time until the present day, JICA has continuously provided cooperation to Indonesia's power sector. When Indonesia turned its attention to industrialization in the 1980s, it began actively promoting power development essential for the development of secondary industries. Indonesia requested Japan to support the power industry based on this policy, and JICA responded by providing comprehensive support such as the formulation of power development plans, human resources development and construction of power plant. When Indonesia's power supply-and-demand situation tightened due to stagnant power development following the Asian currency crisis of 1997, JICA helped improve this critical condition in the country by quickly deciding to provide emergency power-source development assistance.

In recent years, JICA has been helping promote the use of non-petroleum energies and renewable energies, in line with Indonesia's policies and been an active participant in the development of these power sources such as geothermal. JICA's cooperation to the Indonesian power sector has covered a broad range, from master plan formulation to human resources development. And in terms of the power generation capacity of developed or repaired facilities, it accounts for more than one-fourth of all nationally owned facilities (as of 2008).

On the other hand, the energy sector, which is represented by petroleum and natural gas development, is a valuable source of foreign currency for Indonesia and has driven Indonesia's economic development. JICA contributed to Indonesia's growth by supporting the development of petroleum and natural gas resources in the 1970s. Although development through private capital later became the norm in this sector, JICA is still involved, as it has been implementing the "South Sumatra-West Java Gas Pipeline Project" in recent years. This undertaking will improve pipelines for the transport of natural gas extracted from gas fields in Sumatra to Java.

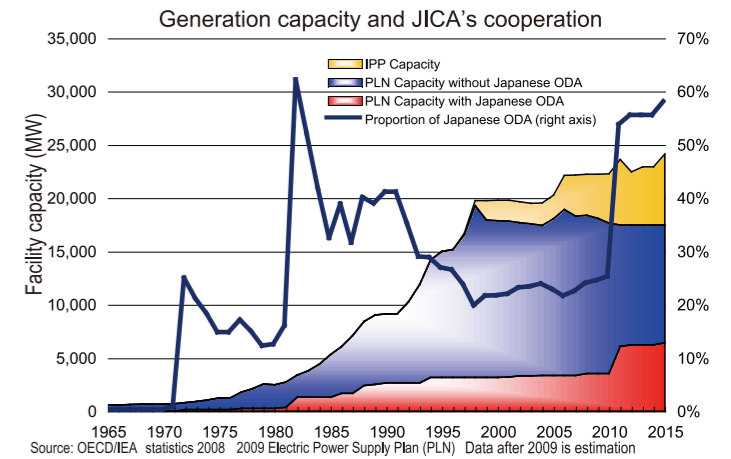
Results

For many years, JICA has provided a broad range of assistance—from formulation of master plans to human resources development—to Indonesia's power and energy sectors. As a result:

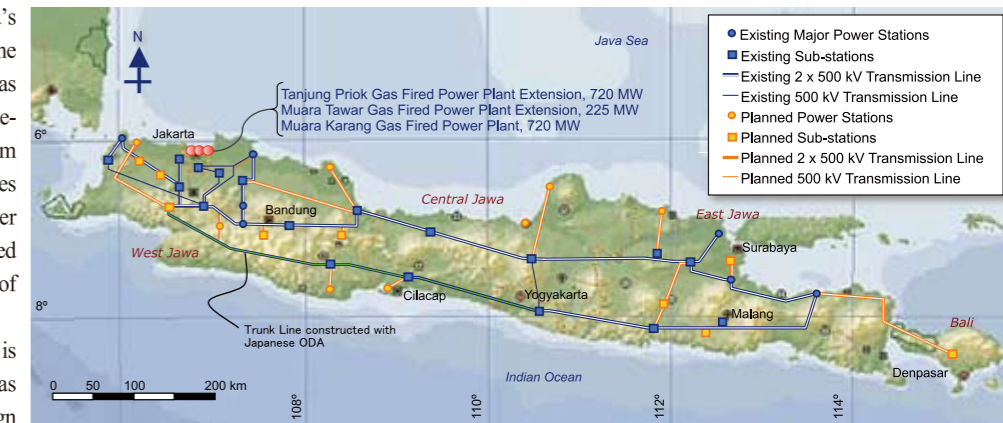
- As of 2008, JICA has contributed to better public livelihood and industrial development by supporting over one-fourth of all nationally owned developed and repaired facilities in terms of generating capacity.
- JICA supported Indonesia's development of energy resources through the 1980s, and this sector has helped drive the growth of the Indonesian economy.
- JICA suppressed negative effects of the Asian currency crisis in 1997 on the Indonesian economy and contributed to the steady economic recovery and increased power demand afterwards by supporting power source improvement in the Java-Bali power system, which has Indonesia's largest power demand.



Lahendong Geothermal Plant



Source: OECD/IEA statistics 2008 2009 Electric Power Supply Plan (PLN) Data after 2009 is estimation



Emergency power improvement for the Java-Bali power system

This is a ODA-loan project intended to improve the tight power supply-demand situation that arose from restored power demand following the Asian currency crisis. Among others, items targeted by the loan are the Muara Karang Power Plant, expansion of the Muara Tawar Power Plant, rehabilitation of the Semarang Power Plant, and expansion of the Tanjung Priok Power Plant; the total capacity under these projects amounts to 1,800 MW. The project began in 2003, and operation is scheduled to begin in 2012. Together with a 500 kV main transmission line between Java and Bali that was completed in 2006, the projects will make a significant contribution to stable power supply for Java and Bali, which have the largest power demand in Indonesia.



Muara Tawar Gas Fired Power Plant

Transport and Traffic

Overview

The transport and traffic sector includes roads, railroads, aviation, marine transport, and ports and harbors. For a country that consists of a number of islands like Indonesia, transport and traffic do more than form the network that links separate national territories and the foundation for economic development. They also play an important role in unifying the country by connecting people of different islands. JICA has provided assistance that matches the Indonesian government's development policies for transport and traffic in each era and region. Among other ways, it has done so by putting emphasis on tying together the resources that are found throughout the country for fair allocation of development benefits in outlying regions. JICA has also stressed the importance of the elimination of infrastructure deficiencies amid growing traffic demand as well as the promotion of private sector-led sustainable economic growth in metropolitan Jakarta and other urban centers.

(1) Roads

The Indonesian government established roads as a highest-priority item in its first long-term 25-year plan (1969-1994), and it has allocated budgetary expenditure to this item accordingly. In Indonesia, which has lagged in railroad development in the post-War era, road traffic has come to make up a large portion of land transport with the advance of motorization. Today, road traffic accounts for approximately 90% of passenger transport and approximately 50% of cargo transport.

At the beginning of its cooperation to Indonesia in the 1960s, JICA supported road repair and maintenance, and bridge improvement on main regional roads on Sumatra, Kalimantan, and Sulawesi, rather than on Java. On one main arterial road passing north-south roughly through the center of Sumatra—from Bakauheni in Lampung Province in the south to Banda Aceh in Nanggroe Aceh Darussalam Province in the north (total length of approximately 2,500 km)—Japan implemented improvements on roughly 60% of the road's length. Entering the 1970s, the focus of JICA's cooperation moved to metropolitan Jakarta, where improvement of toll roads in Jakarta had begun. As a result, approximately 20% of expressways in metropolitan Jakarta were constructed with cooperation provided by JICA. In the 1980s, JICA shifted its attention to ordinary arterial roads and bridge improvement. During this time, a methodology was established whereby a master plan would be drawn up and then individual plans within it would be implemented using some or all of ODA loans, technical cooperation, and grant aid. Later, from the middle of the 1990s, JICA began providing support as part of regional economic development in outlying regions. At the same time, JICA began to support the introduction of a public-private partnership scheme in road construction and providing cooperation in the rehabilitation and asset management fields.

(2) Railroads

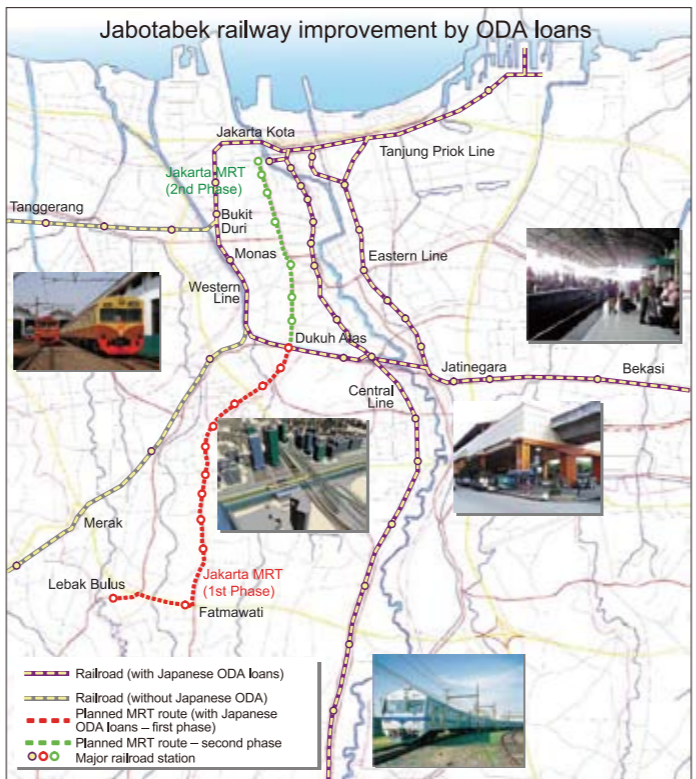
Looking at the railroads sector, JICA has been supporting the repair and double-tracking of Java's northern and southern lines since the 1960s. As of today, approximately 50% of double-tracking work has been made possible with JICA's assistance. This double-tracking is reducing accidents and shortening travel time between points.

Much of the work in a railroad modernization project for metropolitan Jakarta that began in 1976 was completed with ODA loans from Japan. The loans covered many aspects of the project, including car procurement, track improvement, installation of communications facilities, electrification, construction of rail yards and repair facilities, station improvement, signal installation, double-tracking, and



The Jakarta-Sumatra road and ferry terminal

An expressway from Jakarta to Merak and the Merak-Bakauheni Ferry Terminals were constructed with ODA loans. In addition, JICA supported the improvement of approximately 60% of the total length of the major arterial road that passes through the center of Sumatra linking Banda Aceh, the capital of Nanggroe Aceh Darussalam Province in the northernmost part of Sumatra and Bakauheni in the southernmost part of Sumatra. The construction of the Merak-Bakauheni Ferry Terminals was started in 1972, and an expansion project was conducted in 1982. Today, 60 daily round-trip ferry passages transport many passengers and much cargo, making the facility one of the largest ferry terminals in Asia. The network of the roads and ferry linking together Jakarta and the northernmost part of Sumatra supports industrial activities on the two islands.



Gambir Station in Jakarta

elevation of the central line. As a result, the project is relieving traffic congestion in the metropolitan area, increasing logistical efficiency, and improving air quality. In addition, construction of the Jakarta MRT (Mass Rapid Transit) system, which will reinforce transport capacity and include Indonesia's first subway, is scheduled to be constructed with ODA loans. JICA is also providing technical cooperation for car maintenance and operational improvement.

(3) Aviation

For Indonesia—a country with a vast territory made up of numerous islands—aviation is an important means of transportation that is seeing dramatic increases in passenger numbers. JICA's support for Indonesia's aviation sector began with expansion of the international airport in Bali in the 1980s. Thus far, JICA has helped Indonesia respond to rapidly growing aviation demand by improving five airports. From the 2000s, JICA has been providing technical cooperation related to aviation security systems and operational safety as a contribution to air safety, and is aiding in the preparation of a master plan for long-term policy in the aviation sector.

(4) Ports and harbors/marine transport

Because Indonesia is an island country, marine transport is an extremely important means of transportation that has large markets in terms of both cargo and passengers. JICA has supported improvements in the major Port of Tanjung Priok (ranked 26 in the world in terms of yearly handled container volume [2008]; the Port of Tokyo is ranked 24th); the Port of Semarang; the Port of Dumai, which serves as an embarkation port for petroleum and exports of palm oil; the Port of Makassar in eastern Indonesia; the Port of Bitung; and the Port of Kupang. JICA supported construction of the Merak-Bakauheni Ferry Terminals, which links Java and Sumatra, beginning in the 1970s. This facility has grown into one of the largest ferry terminals in Asia.

Results

JICA has contributed significantly to the improvement of transport and traffic infrastructure that forms the foundation for economic growth by providing support that is in line with conditions in each era and Indonesian government policy. Moreover, JICA has participated in Indonesia's national unification by helping build the network that links separate regions and brings people together. Specifically, JICA has:

- Supported expressway improvement and railroad modernization in metropolitan Jakarta and contributed to greater efficiency in the movement of people and goods in the metropolitan area, thereby bringing greater efficiency to industry.
- Supported industrial activity on Sumatra and Java by helping improve roads and the ferry terminal that link locations between Jakarta and various places in Sumatra. JICA has also promoted railroad use on Java, where industry is concentrated and alleviation of traffic congestion is an important issue, by supporting the repair and double-tracking of Java's northern and southern lines.
- Supported airport and port/harbor improvement, and promoted the building of a network for movement of the people and goods of separate islands.



Minangkabau Airport (Padang)

Airport improvement

Thus far, JICA has supported the construction or expansion of Denpasar International Airport (Bali), Minangkabau Airport (Padang), Sepinggan Airport (Balikpapan), Juanda Airport (Surabaya), and Sultan Mahmud Badaruddin II Airport (Palembang). Denpasar International Airport receives visitors from around the world as an international tourist location. Juanda Airport handles approximately 60 flights a day operating between Jakarta and Surabaya, which is the fourth busiest air corridor in the world. And Minangkabau Airport, which was not severely damaged following a 2009 earthquake and remained open during the earthquake's immediate aftermath, played a significant role in transport for rescue and relief activities by the Indonesian government and other countries.



Bakauheni Ferry Terminal



Merak Ferry Terminal

Telecommunications



Practical training on making a TV program in a studio-setting (Multi Media Training Center)

Overview

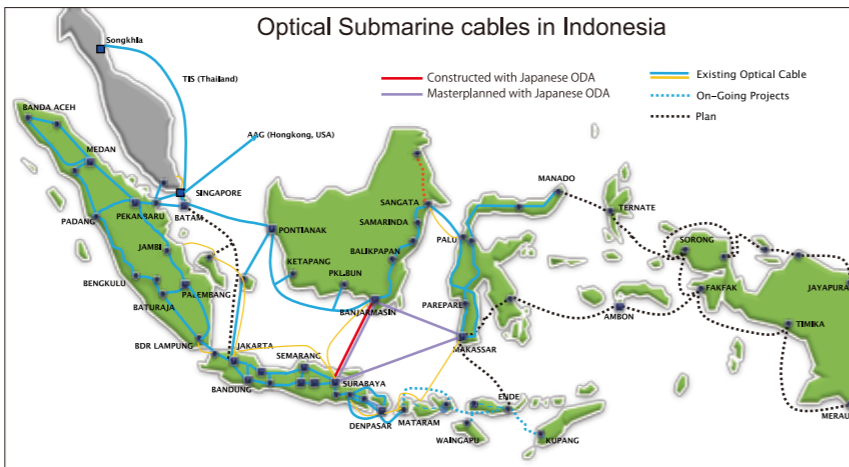
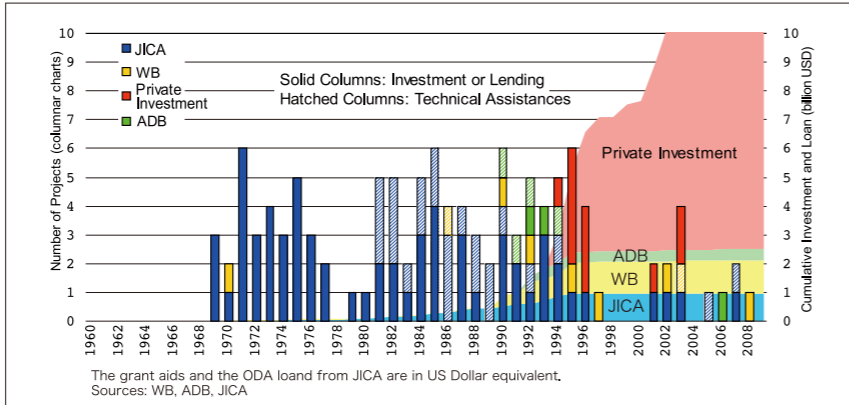
The telecommunications sector includes communications, represented by telephone services, and broadcasting. In the communications field, Indonesia's need for better infrastructure grew greatly from the late 1960s, and improvement of inter-island communications lines became a priority goal entering the 1970s. JICA supported the improvement of the inter-island communications network and provided planning and financial assistance to expand metropolitan Jakarta's telephone network. From the mid-1970s into the 1980s, JICA supported work to improve the telephone network in metropolitan Jakarta as well as networks in the major regional cities of Surabaya and Makassar. It was also at this time that JICA began providing assistance with the formulation of master plans in the communications field. From the mid-1980s, JICA supported the laying of submarine communications cables between islands, and these cables continue to be key communications links. Entering the 1990s, JICA began supporting human resources development in telephone line maintenance. And from the mid-1990s it shifted the focus of its cooperation to policy recommendations for formulation of communication strategies and other such matters, given that infrastructure development through private investment was solidly on track.

In the broadcasting field, JICA began supporting the installation of a number of television and radio stations in the 1970s. And entering the 1980s, JICA provided cooperation for the formulation of master plans in the broadcast field. During this same time, JICA began targeting the training of broadcast technicians, and today the JICA-cooperated Multi Media Training Center accepts trainees from both the public and private sectors as Indonesia's only broadcast training institute. In fact, the center has become an international training institute that even accepts trainees from other countries.

Results

In addition to its support for the formulation and establishment of development plans for telecommunications networks, JICA provided technical cooperation in such areas as policy recommendations, maintenance, and management. In the broadcast field, JICA supported facilities improvement and human resources development. As a result:

- JICA contributed to smoother economic activity by improving telecommunications networks. It also played a role in connecting people in Indonesia's vast and diverse territory.
- JICA helped improve Indonesia's radio and television broadcasting and thus played a role in information-sharing and social integration in the country's vast territory. It also contributed to the training of radio and television broadcast technicians by reinforcing the organization that trains them.



The Surabaya-Banjarmasin Optical Fiber Submarine Cable Project (1987 - 1992)

This project involved the laying of optical fiber submarine cables having a total length of 400 kilometers between Java and Kalimantan. The project's purpose was twofold: to respond to expanding and diversifying telecommunications demand between the two islands, and to secure reliability and safety in telecommunications while promoting economic development on Kalimantan as well as exchange between the two islands. The project not only expanded the volume of telecommunications between Java and Kalimantan but, by introducing digital transmission lines, also greatly improved communications accuracy. Today, the resulting infrastructure continues to serve as a key link in Indonesia's telecommunications system.



Practical training on operating a studio video camera (Multi Media Training Center)

V. Toward Industrial Development Agriculture and Fisheries



Overview

One of the foremost issues for Indonesia following its independence was self-sufficiency in rice, its main staple. From the 1960s into the 1970s, JICA provided technical cooperation and supported the development and upgrade of irrigation facilities in line with Indonesia's rice self-sufficiency policy. Entering the 1980s, JICA utilized this experience to implement "umbrella cooperation" that systematically implemented various related projects under a single program. The purpose was to link individual forms of cooperation to produce synergetic effects. Umbrella cooperation was implemented in three phases beginning in the 1980s and contributed to Indonesia's effort to gain food self-sufficiency, particularly for rice. Japan did more than provide assistance for expanded rice production. When Indonesia faced rice shortages in the 1960s to 1970s and again in the late 1990s, the Japanese government provided food aid that supplied rice and supported food security as this support also lowered the burden on Indonesia's international balance of payments.

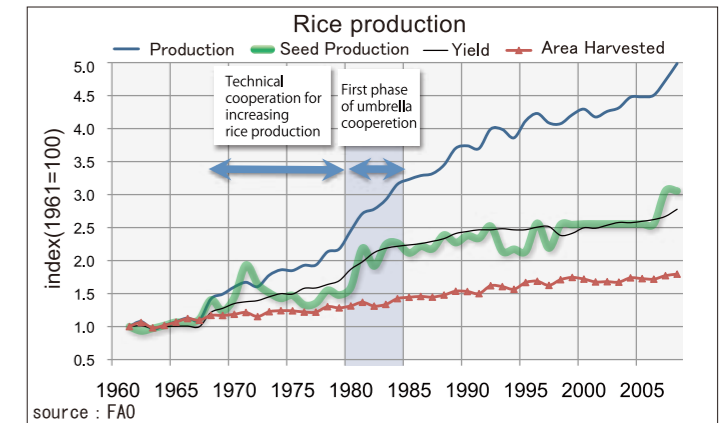
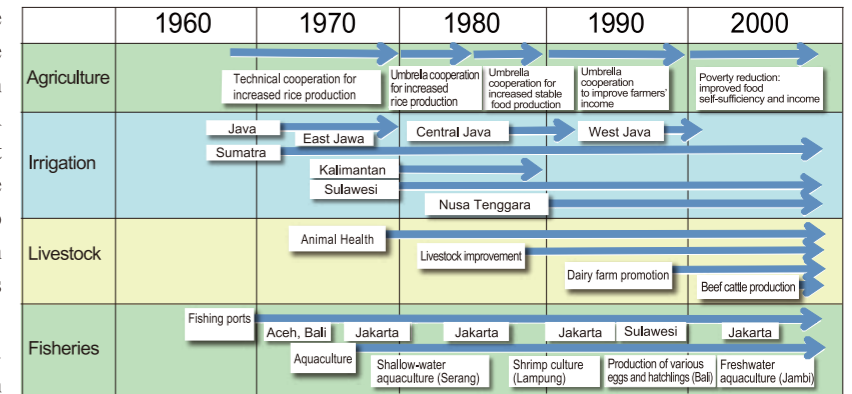
Moreover, as a result of JICA's cooperation targeting Bogor Agricultural University—i.e., facility improvement, reinforcement of research capacity, and establishment of a graduate school—the university has become the central institution among Indonesia's agricultural universities. It is contributing to stronger agricultural faculties at universities in other regions and advanced human resources development. JICA's cooperation in the fisheries field has primarily focused on two areas: "upgrade of fishing ports and markets" and "aquaculture" for the purpose of diversifying income sources for fishing and farm households. JICA's work to upgrade fishing ports was centered around Jakarta's fishing port, which began in the 1970s and expanded to other ports around the country into the 2000s. Its cooperation in aquaculture began in the latter half of the 1970s. During the 2000s, JICA provided technical cooperation for freshwater aquaculture in Jambi Province. JICA began providing cooperation in the livestock field in the 1970s. It extended technical cooperation to the Singosari Artificial Insemination Center in East Java Province that helped make the center a base for distribution and sales of frozen semen to surrounding regions. In addition, JICA has provided cooperation for the promotion of dairy farming in West Java Province and, in recent years, beef cattle production in West Nusa Tenggara Province and countermeasures against livestock diseases (avian influenza, etc.).

Results

JICA has supported the Indonesian government's policy of emphasizing food security and improving farmers' income. As a result, JICA:

- Contributed to higher rice production through upgrading infrastructure and technical capacity development: improvement of irrigation facilities, organizational reinforcement and human resources development for agricultural research, pest control, post-harvest management.
- Supported improvements to Bogor Agricultural University's facilities and research capacity and contributed to advanced human resources development in agriculture.
- Helped promote fisheries through improvement of fishing ports in Jakarta, the center of fisheries products trade in Indonesia, and other locations.
- Contributed to better livestock productivity through cooperation to artificial insemination centers and the animal health field.

Trends in Japan's cooperation in the agriculture and fisheries industries



The first phase of "umbrella cooperation" for comprehensive rice production increase

The first phase of "umbrella cooperation" took place from 1981 to 1985. It was a comprehensive undertaking that combined technical cooperation, grant aid, and loan assistance to various fields associated with increased rice production. Behind the umbrella cooperation were circumstances that began in the 1970s, when pest damage and other factors prevented rice yields from increasing, as yield rates remained poor even when more rice plants were grown. Umbrella cooperation combined various approaches, including productivity improvement through protection of crops from pest damage and yield-ratio improvement by upgrading post-harvest management technologies.



Dairy cattle used for the progeny test (Singosari Artificial Insemination Center)



Improvement of infrastructure and technical cooperation to increase food production

Private Sector Development

Overview

Developing the private sector requires promotion of both domestic and external private investment and reinforcement of enterprises' industrial competitiveness in such areas as technologies and human resources.

In the 1960s, state-owned enterprises in caustic soda, paper manufacturing, textiles, and other sectors formed the backbone of Indonesia's industry, and JICA provided cooperation centered on factory renovations in these enterprises. Later, in the 1970s, state management focused on economic development came to be practiced under the Suharto administration, and thus state-run enterprises maintained their prominence in textiles, fertilizers, paper making, and other important industrial sectors. JICA's cooperation followed suit by focusing mainly on state-run enterprises and related industries. During this time, a national project called the "Asahan Aluminium Project" was launched as a joint venture by the Indonesian government and a federation of 12 private Japanese enterprises. JICA's support for vocational training in Sulawesi also started at this time. This support was continued to the Center for Vocational and Extension Service Training (CEVEST) in the 1980s. Entering the latter half of the 1980s, the Indonesian economy fell into a slump due to stagnant crude oil prices, which led to stronger desire in the country to break away from petroleum dependency. Consequently, Indonesia strove to achieve further industrialization and export diversification through introduction of foreign capital and technologies. Looking to assist exporting enterprises, JICA helped establish the Indonesia Export Training Center as a facility to promote exports by medium-sized enterprises, and support the formulation of strategies for cultivating export industries.

In the 1990s, Indonesia's intention to promote exports by bringing in foreign capital and upgrading its industries solidified. Japan responded by shifting the focus of its cooperation to establishment of investment and business environments, including development of supporting industries, promotion of investment, and protection of intellectual property rights.

This action suppressed major upheavals during the Asian currency crisis of 1997. Following the Asian currency crisis, there was renewed recognition in Indonesia of the importance of developing small- and medium-sized enterprises (SMEs) in economic activity, and thus cooperation in this field moved forward. Here, JICA provided cooperation toward nurturing enterprise clusters with focus on micro enterprises and developing human resources to support SME development. Based on the latter, a national system for licensing Indonesian "SME management consultants" was established. Training of these consultants is currently being conducted for regional public servants, with funding from the Indonesian government budget. Entering the 2000s, the importance of establishing investment and business environments (which JICA had support to since the 1990s) grew. Accordingly, JICA began providing technical cooperation intended to make specific improvements in areas such as frameworks for fair market competition, intellectual property rights, tax administration, and occupational safety and health. In addition, JICA is providing "Development Policy Loans" to support the initiatives of the Indonesian government to make institutional reforms.



Production of aluminium at PT. Indonesia Asahan Aluminium



The Indonesia Export Training Center (IETC)

Beginning in 1986, JICA launched a series of projects in connection with the Indonesia Export Training Center (IETC). Through these projects, JICA supplied buildings, equipment, and materials through grant aid, and it provided technical cooperation to give IETC the ability to plan and manage training to supply knowledge and know-how needed for trade for private enterprises. This cooperation also led to a project to reinforce the Regional Export Promotion and Training Center (RETPC), which was established to provide similar training at the regional level in the 2000s.

Results

Japan has provided cooperation to support the development of Indonesia's private sector in ways that meet ever-changing needs amid strong economic growth. As a result, JICA:

- Implemented human resources development in both the government and private sector to promote exports.
- Supported the formulation of strategies for developing SMEs and the establishment of the "SME management consultant" system, and created a framework for developing human resources to support them.
- Supported specific improvements in investment and business environments.



CEVEST

VI. Toward Human and Social Development Health and Medical Care

Overview

JICA has provided cooperation for the health and medical care sector in a variety of fields. Primary among them are family planning and maternal and child health, hospital improvement, regional health, measures against infectious diseases, pharmaceuticals, and social welfare.

The 1960s were a period of high birthrates in Indonesia. Thus, for the Indonesian government, which was worried about the effects that a rapidly growing population might have on its economy and society, control of the nation's birthrate became a major issue. Because Japan had been successful in lowering its birthrate and infant mortality rate during a short period of time and in promoting family planning following World War II, the Indonesian government asked Japan for technical cooperation in the family planning field. This request led to the initiation of JICA's Indonesia Family Planning Project in 1969. As Indonesia's birthrate declined, JICA switched its focus from family planning to maternal and child health in the mid-1980s. JICA supported the development of "Indonesian maternal and child health handbooks" customized for Indonesia to meet specific local demands. The introduction of the handbook was initiated by the Indonesian counterpart of the project who had observed Japan's maternal and child health handbook system during a training session in Japan. The handbooks were later diffused at the national level, and they are currently distributed to 5 million expectant mothers each year. The handbooks are proving useful in improving maternal and child health services and raising awareness and knowledge among mothers.

As for hospital improvement, JICA has worked to enhance medical facilities by upgrading leading hospitals, providing medical equipment and supplies, expanding facilities and providing technical cooperation since the late 1970s. At the same time, JICA has supported human resources development in the medical field by building nursing education facilities and upgrading the University of Indonesia's School of Medicine.

In the 1990s, JICA addressed a need for domestic manufacture of polio and measles vaccines by providing manufacturing facilities and equipment as well as technical cooperation in vaccine production. PT. Bio Farma, a state-run pharmaceutical corporation that manufactures vaccines, is continuing to grow by providing training to other countries with cooperation from JICA and exporting polio and measles vaccines overseas. Since the 2000s, JICA has been supporting the reinforcement of the capacity of regional health management in response to decentralization as well as countermeasures against both emerging infectious diseases (avian influenza, etc.) and reemerging infectious diseases (tuberculosis, etc.).



A mother and a child with an Indonesian maternal and child health handbook



Production facilities of polio and measles vaccines (PT. Bio Farma)

Cooperation in vaccine manufacturing

JICA provided facilities and equipment for vaccine manufacture as well as technical cooperation for the production and management of polio and measles vaccines to PT. Bio Farma, a state-run pharmaceutical corporation.

At the present time, Bio Farma has a 100% share of the polio/measles vaccine market in Indonesia and is exporting to other countries. It also manufactures vaccines for other diseases, such as seasonal influenza and rabies. Thus, Bio Farma is improving its technical level as it protects children's health not only in Indonesia but around the world.

Results

JICA has provided support for Indonesia's health and medical care sector by reinforcing medical facilities and developing human resources. It has also worked to strengthen new systems and organizations in the maternal and child health field. As a result:

- Maternal and child health handbooks that were created through the joint work by the Indonesian side and JICA have been diffused nationwide, where they have contributed to better maternal and child health system of Indonesia by raising the quality of maternal and child health services and improving awareness and knowledge among mothers.
- JICA contributed to the improvement of leading medical organizations and development of human resources in the medical field.
- Stable supply of necessary vaccines became possible with the domestic manufacture of polio and measles vaccines. In addition, efforts by PT. Bio Farma with the network of Japanese research institutes and pharmaceutical companies that was built through the cooperation made the domestic manufacture of other vaccines possible and contributed to better health in Indonesia.

Education

Overview

In the education sector, JICA has provided support for primary education and higher education.

In higher education, JICA has been conducting facility improvement and providing materials and equipment for leading universities from the 1970s to the present day. Partner universities include the University of Indonesia, University of Gadjah Mada, Bandung Institute of Technology, Bogor Agricultural University, Hasanuddin University, and Syiahkuala University. Beginning in the 1990s, the Higher Education Development Support (HEDS) project was started to improve research capacity by forming an inter-university network. JICA launched this project in coordination with the United States Agency for International Development (USAID), with the US side supporting economic faculties and the Japanese side supporting engineering faculties. Targeting engineering faculties in 11 universities on Sumatra and Kalimantan, JICA provided assistance toward helping instructors obtain degrees, improving research facilities, and forming a research network. As a result, motivation to conduct research among instructors rose and a research exchange network was built among domestic universities as well as international institutions. Entering the 2000s, the Southeast Asia Engineering Education Development Network (SEED-Net) project was launched as an approach that developed and inherited the results of HEDS. Thus, JICA is providing support for the formation of a research network that includes not only universities in Indonesia and Japan but also those in ASEAN.

In terms of the link of JICA's cooperation in the education sector to industrial development, in the 1980s, JICA began extending cooperation to the Electronic Engineering Polytechnic Institute of Surabaya (EEPIS), which is a polytechnic institute for higher vocational education. And in the 2000s, JICA provided cooperation to University of Gadjah Mada for the purpose of encouraging industry-academia-community collaboration.

As for cooperation directed at primary education, JICA began assisting in the building of junior high schools and improvement of teacher training colleges for math and science education in the 1990s. As decentralization in Indonesia gained momentum, JICA launched the Regional Educational Development and Improvement Program (REDIP) at the end of the 1990s. This approach sought to build a new model for school management, incorporating a participatory approach for junior high schools. REDIP was a response to regencies' and municipalities' handling of primary education and their expanding authority in school management that were results of decentralization. The REDIP model that was created here is showing signs of gaining a broader foothold, as it is being supported by individual budgets of the Ministry of Education and local governments.



Combustibility test of biodiesel fuel in Bandung Institute of Technology (SEED-Net Project)



Cooperation to the Electronic Engineering Polytechnic Institute of Surabaya (EEPIS)

JICA began its cooperation to EEPIS in 1986. JICA established facilities, equipment, and materials, and helped improve the capacity of instructors and school management. Instructors first underwent training at national colleges of technology in Japan and then received instruction from Japanese experts in Indonesia. In this way, an organizational culture of "face-to-face lessons," "preparation of textbooks," and "emphasis on practical study" was cultivated.

Since accepting its first students in 1988, EEPIS has sent 5,150 leading technicians capable of manufacturing products into industry as of 2009. In terms of its technical level, EEPIS is one of the top institutes in Indonesia, as it consistently places No. 1 in the national Robot Contest (Robocon) and has ranked highly in international Robocon (first prize in 2001). At the same time, EEPIS works in partnership with JICA to implement training for other countries. Thus, the results of JICA's cooperation are extending beyond Indonesia's borders.



EEPIS consistently places No. 1 in national Robot Contests (Robocon) and has ranked highly in international Robocon (first prize in 2001)

Results

Japan is Indonesia's largest bilateral donor in higher education and has supported improvements in leading universities, formation of research networks, and other undertakings. Japan has also provided cooperation for the purpose of improving educational quality in primary education. As a result:

- In higher education, JICA provided support in infrastructure-related areas (facility improvement) as well as human-related areas (improvement of instructors' research capacity and network formation) and helped improve the quality of higher education personnel in Indonesia.
- JICA helped engineering-oriented universities and polytechnics improve their facilities and raise their research and education capacities, and produce human resources capable of leading industrialization.
- JICA built a new public-participatory school management model (the REDIP model) that is suitable for Indonesia's on-going decentralization.

Training, Overseas Study, and Volunteer

Overview

In addition to its support for specific sectors, JICA has assisted in human resources development in Indonesia through its training and overseas study schemes. Moreover, JICA has dispatched both young and older Japanese volunteers to Indonesia, where they have had a hand in Indonesia's social development.

JICA's training scheme began accepting trainees in 1954. As of 2008, the scheme had accepted more than 20,000 Indonesians for training in Japan. This total makes Indonesia the top country among all countries that JICA accepts trainees from. Under the training scheme, personnel affiliated with the Indonesian government and public organizations, NGO personnel, and others have been invited to Japan for training designed to give them knowledge and skills. Here, JICA has received the support of a broad range of organizations, including Japanese central government ministries, local governments, universities, public interest corporations, private enterprises, and NGOs. Such cooperation has allowed JICA to provide training that meets diverse needs, from cutting-edge technology to rural development know-how. The significance of training in Japan is found in trainees' gaining various perspectives by acquiring knowledge and skills, understanding the social background that nurtured the knowledge/skills, and then applying them to their work when they return home. In fact, JICA often hears trainees who have returned to Indonesia say, "Not only did I improve my knowledge and skills through training, but I was also influenced by Japan's motivation and approach to work." There are also examples where training in Japan sparked the introduction of new systems in Indonesia, such as maternal and child health handbooks and fire brigades in national parks. Furthermore, there are many trainees who are active in their own particular fields, among them three ministers and two vice ministers in the current second-term Yudhoyono administration who were participants in JICA training.

As for overseas study, Japanese higher education institutions have accepted more than 2,000 Indonesian students through various ODA schemes of cooperation. The holders of master's and doctoral degrees that were produced in this way are now contributing to Indonesia's social development by raising university education and research standards and improving capabilities among government personnel. Looking at JICA's volunteer scheme, between the time the first were dispatched in 1988 and 2009, approximately 540 Japan Overseas Cooperation Volunteers (JOCV) have been dispatched to Indonesia. And between 1998 and 2009, approximately 220 Senior Volunteers have been sent to Indonesia. These volunteers are working at the grass-roots level with local residents and Indonesian counterparts to resolve issues and seek social development in various fields. By having Japanese and Indonesians enter and work in each other's society, the training, overseas study, and volunteer schemes enrich exchange between Indonesia and Japan. Their participants learn about not only skills and technologies but also society and culture, and thus they contribute to stronger relations between the two countries.



Volunteers work with local residents as they live under the same conditions

JICA's volunteer scheme

The volunteer scheme was launched as a JICA-implemented program in accordance with the Japanese government's ODA budget. Based on requests (needs) from partner countries, JICA recruits people with the skills, knowledge, and experience needed to address these requests and who possess the desire to "utilize their abilities to help people in the partner countries." JICA then selects those people who are most suitable and dispatches them to the partner countries.

The volunteer scheme differs from technical cooperation projects in that volunteers provide technical guidance and other assistance as they live under the same conditions as the local people.

The volunteer scheme is largely divided into two programs; the Japan Overseas Cooperation Volunteers (for people aged 39 years or under) and the Senior Volunteers (for people aged 40 and above). JICA began sending JOCV to Indonesia in 1988, followed by Senior Volunteers in 1998.

Results

Many Indonesians have studied in Japan since JICA began accepting trainees in its cooperation to Indonesia. At the same time, the volunteer scheme has been engaged in grass-roots activities in Indonesia. Through this cooperation:

- The training and overseas study schemes promoted the development of knowledge and skills, and facilitated their application in Indonesia. It achieved this by having trainees not only learn the relevant knowledge and skills but also gain an understanding of the Japanese society and culture that produced them.
- Through the volunteer scheme, Japanese volunteers gained understanding of the Indonesian society and culture, and broader perspective by providing cooperation as they lived in the Indonesian society. At the same time, exchange with Japanese volunteers was deepened in Indonesian society and the organizations that accepted them.
- The training, overseas study, and volunteer schemes develop human resources in both Indonesia and Japan that have a deeper understanding of the other country as they also strengthened ties between the two nations through interaction.

River Basin Development and Management

Overview

JICA's support for river basin development and management can be largely divided into three periods: 1) development of multipurpose dams with emphasis on hydroelectric power in the 1960s; 2) implementation of comprehensive flood-control and river basin development projects based on master plans during the 1970s to 1990s; and 3) rehabilitation of existing flood-control and water resource facilities and reinforcement of water resource management organizations since 2000.

Indonesia pursued food production increase and rapid development of its electric power sector for industrialization during the 1950s and 1960s. Accordingly, Japan assisted in the development of three representative multipurpose dams. These dams were the Karangates Dam and Kali-Konto Dam in the Brantas River basin and the Riam-Kanan Dam in South Kalimantan.

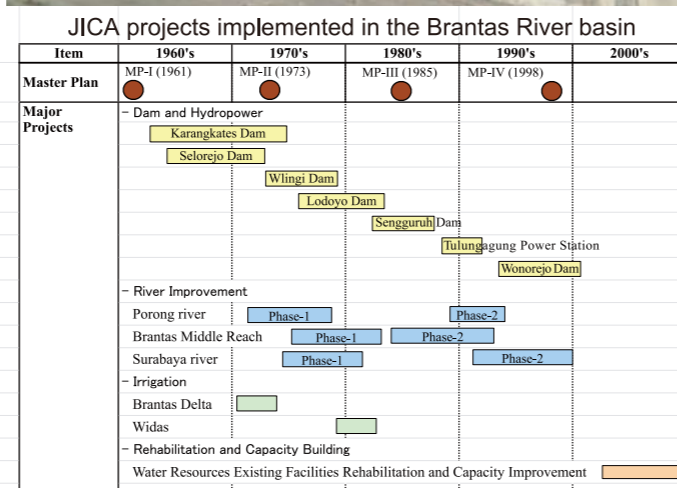
During the 1970s to 1990s, serious flood damage occurred nearly every year in many major river basins of Indonesia. Japan responded by conducting surveys for comprehensive river basin development that included flood control, hydropower generation, and development of irrigation and domestic, municipal, and industrial water. These surveys resulted in the implementation of projects centered on three river basins (the Brantas River, Solo River, and Jeneberang River). In river basin development, the first step involved formulating a comprehensive master plan. Then, based on this plan, long-term projects were systematically implemented to build multipurpose dams, develop irrigation, generate hydroelectric power, and improve rivers among other activities. As a result, flood damage was significantly reduced in the targeted river basins, and construction of power and irrigation facilities brought industrial development and better livelihoods. Joint work by Indonesian and Japanese technicians through JICA's cooperation resulted in technical transfer and the training of Indonesian technicians. This technical transfer took place during the process of providing long-term cooperation, ranging from the formulation of master plans to the implementation of each project.

In the area of flood control, JICA is supporting the reduction of flood damage by providing cooperation for flood prevention in major regional cities—namely, Medan, Padang, Bandung, and Banda Aceh.

Entering the 2000s, Japanese cooperation began placing priority on rehabilitation of existing flood-control and water resource facilities and strengthening the capabilities of government agencies and users' organizations concerned with river basin management.



The flood warning system for the Brantas River



Comprehensive river basin development on the Brantas River

Projects started with war reparations in 1958. Based on master plans, JICA built multipurpose dams, developed irrigation, constructed hydropower stations, made river improvements, and conducted other activities from the 1960s. Such activities significantly reduced flood damage, and the construction of power and irrigation facilities brought industrial development. At the same time, the projects' implementation trained many Indonesian technicians.

Results

JICA has supported comprehensive river basin development and flood control projects in major regional cities. As a result:

- Comprehensive river basin development along the Brantas River, Solo River, and Jeneberang River significantly reduced flood damage, thereby bringing stability to residents' lives. It also contributed to regional economic growth, better incomes and livelihoods among residents through hydropower generation projects, supply of domestic and industrial water, and irrigation development.
- Long-term projects were systematically executed based on a process that reached from the formulation of a master plan in each river basin to project implementation, and human resource development took place through joint work by Indonesian and Japanese technicians throughout this process.
- Flood-control projects significantly reduced flood damage in targeted regions.

Disaster Management

Overview

In the disaster management field, Japan has provided cooperation in both prevention and disaster recovery. The former is cooperation aimed at minimizing disaster damage, and the latter is cooperation that assists quick recovery should an unfortunate disaster occur.

Indonesia is one of the world's most volcanic countries. In particular, Java, which is the political and economic center of Indonesia, has more than 20 active volcanoes. Since ancient times, the people of Java have lived alongside and under the influence of volcanoes. Although volcanic eruptions provide fertile soil on the one hand, volcanic mudflows frequently cause major disasters on the other. Consequently, measures against sediment disasters represent an extremely important issue for the preservation of Indonesia's national territory and the country's economic development. In the 1970s, Japan constructed emergency volcanic sediment control facilities each time there were fears that Mt. Merapi or Mt. Semeru might erupt. And, with an eye to the long term, it established the Volcanic Sabo Technical Center and trained sediment engineers there. From the 2000s, JICA has been implementing a technical cooperation project to reinforce ability to cope with "Banjir-Bandang" disasters, in which mudflows occur when natural dams form.

During the 2000s, Indonesia suffered a succession of disasters, including a major earthquake off the coast of Sumatra and resultant tsunami (December 2004), an earthquake in central Java (May 2006), and an earthquake off the coast of Padang in West Sumatra (September 2009). Japan immediately dispatched emergency relief teams following these disasters and provided financial and technical cooperation for quick post-disaster recovery.

Furthermore, JICA is seeking to reinforce Indonesia's disaster management systems in preparation for future disasters. Since the mid-2000s, JICA has been assisting with the formulation of comprehensive disaster-prevention plans, improvement of early warning systems for tsunami, and reinforcement of administrative functions to improve the seismic resistance of houses.

Results

JICA has supported responses to volcanic disasters that frequently threaten the lives of Indonesians. And since 2000, JICA has supported efforts to reinforce disaster-prevention and disaster-response systems in addition to supporting post-earthquake recovery. As a result:

- JICA quickly implemented emergency countermeasures in response to eruptions of Mt. Merapi and Mt. Semeru, and it contributed to improved sediment control technologies by formulating disaster-prevention plans and implementing sediment-control constructions.
- Human resources in the sediment-control field were trained through the Volcanic Sabo Technical Center.
- JICA contributed to early post-disaster recovery by quickly providing comprehensive recovery assistance following large-scale disasters.



A member of the Japan Disaster Relief Medical Team treats a disaster victim



Support for disaster recovery in Aceh

Following a major earthquake off the coast of Sumatra in December 2004, the Japanese government immediately dispatched an emergency relief team and then JICA implemented a series of assistance projects. These projects included formulation of a master plan for reconstruction of Banda Aceh, assistance for community recovery, emergency infrastructure recovery including transportation and water resource systems through grants and loans. Continuing from these emergency projects, JICA implemented the "Project on Self-Sustainable Community Empowerment Network Formulation in Nanggroe Aceh Darussalam" a two-year undertaking that began in 2007, to improve residents' livelihoods and the capabilities of local administrators.



The Project on Building Administration and Enforcement Capacity Development for Seismic Resilience (2007 to 2011)

This project had its origins in the considerable damage caused by housing collapses during an earthquake in central Java and JICA-provided technical assistance in housing reconstruction. Focusing on areas susceptible to earthquake damage, the project is diffusing information on methods for improving the seismic resistance of houses and supporting the reinforcement of inspection functions within the government.



Urban Environments and Water and Sewage Systems



Water Supply and Environmental Sanitation Training Center



Lecture for technicians in the Water Supply and Environmental Sanitation Training Center

Improving urban environments in Jakarta

JICA has implemented a broad range of cooperation to improve urban environments in Indonesia's capital of Jakarta. Among those areas targeted were water and sewage systems, improvement of drainage, and establishment of waste disposal facilities.

Of this, JICA's cooperation for waterworks in Jakarta has included formulation of a master plan, construction of two purification plants, development of the water distribution network, and training for waterworks technicians.

Moreover, given that Jakarta is prone to flood damage, JICA supported the construction of a flood-control system by implementing flood-control projects and improving drainage facilities.

JICA-led cooperation also formulated a master plan for waste disposal, constructed disposal sites, and provided garbage trucks as responses to Jakarta's rapidly growing population.



The improved western Jakarta flood-control canal

Overview

In the urban environments and water and sewage systems sector, JICA has provided cooperation targeting waterworks; drainage and sewage systems; urban environments and waste; and housing and urban planning.

JICA's cooperation in these fields started with waterworks. In the early 1960s, JICA helped in the formulation of a master plan for development of a waterworks system in the capital of Jakarta, and in the 1970s it supported the actual construction of this system. In the 1980s, JICA also supported the construction of waterworks systems not only in Jakarta but also core regional cities, such as Surabaya and Makassar. From the mid-1980s, JICA began supporting the construction of the Water Supply and Environmental Sanitation Training Center and providing the center with technical cooperation. Here, JICA helped nurture technicians by providing training on waterworks design, maintenance, and management. In the 1990s, JICA provided cooperation for the development of waterworks systems in smaller regional cities. Such cooperation was based on the Indonesian government's policy of correcting regional disparities. And since entering the 2000s, JICA has been helping improve the operation of regional public water corporations as a response to decentralization.

JICA's efforts to address drainage and sewage treatment, which are important as countermeasures against urban flood disasters, began in Jakarta during the 1980s. They later spread to improvement projects in Denpasar and Yogyakarta in the 1990s. In Bali, JICA tied the Denpasar improvement project to a coastal protection project, thereby contributing to the protection of Bali's coasts, which are an important tourism resource.

JICA began its cooperation in the environmental management field in the 1990s. As this is a new field for Indonesia, JICA provided support to improve facilities and equipment needed to assess air and river pollution and provided pertinent technical cooperation. In addition, JICA helped establish an "eco label" system in the 2000s. And in the waste disposal field, JICA improved final disposal sites and provided garbage trucks in Jakarta, where waste disposal is an increasingly serious problem.

Results

JICA has provided cooperation that emphasizes improvement of waterworks, which have high priority among all forms of social infrastructure. It has also provided support for environmental management, sewage system improvement, and waste disposal in response to Indonesia's development.

Consequently:

- JICA provided cooperation targeting waterworks, sewage and drainage, and waste disposal measures in Jakarta. Particularly with regard to waterworks, JICA together with the Indonesian government realized new water supply to 3.4 million residents. JICA also contributed to higher garbage collection rates and reduced flood damage, and improved the overall living environment in the capital.
- JICA also contributed to water supply in Surabaya, Makassar, and other regional core cities as well as small regional cities.
- JICA not only improved waterworks facilities but also contributed to stronger organizations by training waterworks management technicians, improving the operations and services of public water corporations.
- JICA contributed to efforts to reinforce systems and capabilities for responding to urban environmental problems, which represent a new issue for Indonesia.

Preservation of Forests and the Natural Environment



Overview

Analysis of satellite photos taken in 2006 reveals that 97.17 million hectares of Indonesia's land area, or 53.6%, are covered with forests. The majority of such forests are tropical rainforests, giving Indonesia the third largest tropical rainforest area in the world, following Brazil and the Democratic Republic of the Congo. Indonesia also has the world's largest mangrove forest, as approximately one-fourth of the world's mangrove forests (18 million hectares) are found in Indonesia. Moreover, roughly 70% of Indonesia's total coastline is made up of coral reefs; this coastline is also rich in biodiversity. It is reported that there are roughly 325,000 wild animal and plant species living in Indonesia, a figure that represents some 20% of all species on the planet.

Against this backdrop, JICA provided cooperation for industrial forestation with an eye to sustainable forestry in the 1970s. This cooperation corresponded to the Indonesian government's policy of developing forest resources to earn foreign currency and provide employment opportunities. However, as it became clear that declining forest resources were becoming a problem, JICA shifted the focus of its cooperation in the 1980s to research on tropical rainforests and forest management in order to reinforce forest preservation. In the 1990s, JICA began technical cooperation toward the development of suitable tree species for forestation, as it also provided various forms of cooperation for forest preservation. JICA also launched cooperation to preserve mangrove forests that had been declining due to aquaculture and other activities.

In addition, JICA provided technical cooperation for the purposes of managing and preserving Indonesia's diverse flora and fauna. This cooperation included improving facilities, equipment, and materials; developing biological specimens; and establishing a database for biodiversity information. JICA also worked to strengthen management in national parks to ensure the preservation of animal and plant habitats. It also started technical cooperation intended to prevent forest fires from the mid-1990s.

If CO₂ emissions caused by loss of forests and destruction of peatlands are considered, Indonesia becomes the world's third largest producer of greenhouse gases, following China and the United States. JICA put together the world's first financial support package for countermeasures against climate change, and it began providing "Climate Change Program Loans" to supply this assistance in 2008, first in coordination with the French government and later joined by the World Bank. In this way, JICA is providing financial support for comprehensive approaches to climate change countermeasures that respects Indonesia's autonomy. In addition, JICA plans to begin technical cooperation to strengthen Indonesia's capabilities in ascertaining circumstances surrounding climate change countermeasures and formulating action plans beginning in 2010.



Firefighting exercise by a community firefighting organization

Response to forest fires

Often, when a forest fire starts in Indonesia, it becomes a major disaster. Such fires have destroyed several millions of hectares of forest on Sumatra and Kalimantan. They are a serious regional problem, as the haze can reach Malaysia, Singapore, and other neighboring countries and seriously impacts on people's health, transport, and the tourist industry.

Japan has provided various forms of assistance pertaining to forest that covers both prevention and countermeasures when fires occur. The following are examples of assistance provided thus far.

- Emergency provision of firefighting equipment and dispatch of the Japan Disaster Relief Team to perform firefighting when actual fires occur.
- Support in building a system for early detection of forest fire locations ("hot spots") using satellites and developing fire-spread hazard maps.
- Support in formulating forest fire prevention guidelines and creating community firefighting organizations (taking hints from Japan's fire brigades) for national parks.
- Support in formulating provincial orders on forest fire prevention and implementing resident-led preventative activities in Riau, Jambi, and West Kalimantan Provinces, where forest fires frequently occur.

Results

In ways that meet pertinent circumstances, JICA has provided assistance toward preservation of Indonesia's diverse and valuable natural environment.

As a result, JICA:

- Contributed to forest preservation (research, development forestation species, etc.) based on a long-term perspective.
- Cooperated in the preservation of Indonesia's biodiversity—which is valuable not only to Indonesia but also to the world at large—and advanced development of biological specimens. The Research and Development Center for Biology of the Indonesian Institute of Sciences, which was a recipient of cooperation, is providing valuable resources to the world and energetically continuing joint studies with international researchers.
- Introduced approaches and scientific monitoring systems from an early stage to tackle forest fires, which have become an international problem, supported the formation of community-led firefighting organizations, and reinforced early-response firefighting systems.
- Is supporting the Indonesian government's efforts to address a global issue of climate change by implementing a cooperation package that includes formulation of policies and systems, infrastructure development, and technical cooperation with financial assistance.