

Industrial Development

Supporting Developing Countries in Promoting Industry, Increasing Job Opportunities and Creating an Economically Sustainable Society

In the field of industrial development, JICA provides support in diverse areas aimed at establishing industrial bases in developing countries. Specifically, JICA focuses on promoting trade and investment, tourism development, small and medium-sized enterprises development, vitalization of local industry and economy, stable supplies of electric power, mining, renewable energy and energy conservation. The objective is to empower developing countries to build industrial bases, advance industry, increase job opportunities and create a society in which local residents can receive the benefits from economic development.

Supporting developing countries through Public-Private Partnerships is also important for making full use of investment from developed countries and maximizing competitiveness in a globalizing economy.

Private-Sector Development

Supporting the Private Sector to Strengthen International Competitiveness, Increase Employment and Reduce Poverty

Need to Promote Trade and Investment and to Develop Small and Medium-Sized Enterprises and Supporting Industries

Overview of Issue

Efforts to develop the private sector aim to promote economic advancement in developing countries. Growth in the private sector leads to more employment opportunities and thus poverty reduction. Improved business performance in the private sector and increased trade and investment lead to an increase in national tax revenues, which enables public sectors to offer a higher level of services, encompassing education, healthcare and medical services as well as social welfare programs. The biggest challenges are to develop industry using local resources and boost industrial competitiveness to confront intensifying international competition.

JICA Activities

JICA's private-sector development initiatives have so far centered on Southeast Asia and East Asia. Today, both of these regions are experiencing tremendous economic growth. In light of this fact, there is increasing demand from Africa to learn from the experiences of Asian countries.

The volume of trade and investment in the world economy has risen substantially in accordance with globalization. Not only Asian countries that have grown into emerging economies on the world stage but also many developing countries in Africa and other regions are encouraged to participate in international frameworks such as the World Trade Organization (WTO) and Economic Partnership Agreement (EPA) and expected to take necessary actions.

Economic globalization has increased the likelihood that one country's economic crisis will spread widely in a short space of time and significantly damage the economy of vulnerable countries and regions, as witnessed in the global financial and economic crises that struck in autumn 2008. JICA provides support that aims to

empower developing countries to build industrial bases, advance industry, increase job opportunities and create a society that can reap the rewards of economic development through their own efforts.

Promoting Trade and Investment

By promoting trade and investment, developing countries can create new markets, introduce expert knowledge such as finance and management know-how and technology, create jobs and strengthen international competitiveness. JICA provides assistance in three core areas: development of industrial bases, organizational/institutional reinforcement and capacity development.

The development of industrial bases includes creating legislation and institutions to promote trade and investment and building other infrastructure for industrial advancement. On top of this, JICA supports organizational/institutional reinforcement of the institutions which play key roles in trade and investment promotion, and individual companies in each country, as well as capacity development for policy makers and human resources of private enterprises. By doing so, JICA can provide comprehensive support from industrial policy to promotion of export and investment.

Recent successful projects include the Study on the Institutional Strengthening of Investment Promotion in Cambodia, Egyptian Export Promotion Center, Reinforcing the Capabilities of the Zambia Development Agency and Project for Reinforcement of the Human Resource Development Center on Export and Investment in the Dominican Republic.

In Cambodia, JICA has supported the establishment of the special economic zone (SEZ) on around 70ha of land near Sihanoukville Port, the country's only international port. The SEZ is expected to attract

foreign direct investment for the development of Cambodia's export-related industries which can generate employment opportunities particularly for youths. JICA conducted a development study from February 2009 aimed at strengthening functions for attracting investment and transferred the required knowledge and know-how to the Council for the Development of Cambodia (CDC). Throughout this cooperation, CDC's capacity, such as information gathering and investment promotion, can be strengthened.

Promoting Small and Medium-Sized Enterprises

In developing countries, delayed development of policies and institutions to support small and medium-sized enterprises coupled with inadequate technology and management know-how have stifled growth in this sector. To boost competitiveness in the global economy, it is also necessary to develop supporting industries that provide parts and materials to assemblers including foreign companies.

In response to these challenges, JICA provides cooperation for strengthening implementation capacity of the government institutions in charge of promoting small and medium-sized enterprises, human resource development and improving the quality and productivity of enterprises. Since it is difficult for such enterprises to get funding, JICA aims to provide effective support through complementary use of ODA Loans and Technical Cooperation.

In recent projects, JICA helped Viet Nam promote small and medium-sized enterprises and supporting industries. JICA formulated a program that included the Two-Step Loans for SMEs (ODA Loans), Technical Cooperation for strengthening collaboration among administrative institutions and strengthening human resource development capacity at educational institutions, and dispatch of senior foreign volunteers with abundant field experience at Japanese firms. In Cambodia, Tunisia, Egypt, Ethiopia, Paraguay and Latin American countries, including Costa Rica, JICA also works to support strengthening of public institutions that provide

companies with services for quality/productivity improvement by utilizing Japanese business improvement techniques such as "5S" activities. In particular, the *kaizen* program in Ethiopia was initiated at the request of Prime Minister Meles Zenawi, who was extremely impressed by JICA's support in Tunisia in this field. JICA is advancing this on-the-ground *kaizen* initiative concurrently with policy support and industrial policy dialogue based on experience in Japan and Asia that is conducted jointly with the National Graduate Institute for Policy Studies.

Promoting Local Industry and Economies

For vitalizing local industry and economies, JICA supports the development of local industry under the program called "One Village, One Product" and encourages the use of local resources in an attempt to create employment and advance regional economies. This program is being broadly implemented in 12 countries in Africa. In addition to Malawi, where activities have already taken root, JICA has started studies and Technical Cooperation projects in Kenya, Uganda, Nigeria, Senegal, Mozambique and Rwanda. In Asia, JICA assists with a similar program in Viet Nam and Laos, placing emphasis on utilizing local resources and vitalizing local economies.

Tourism Development

Previously, the tourism industry in developing countries was led by foreign-capital entities such as tourism developers, travel companies and hotel chains. This is regarded as heteronomous tourism. Although not necessarily adverse, it does not allow local people to fully reap the benefits of this sector.

JICA initiatives aim to promote autonomous tourism development, in which the local people develop the industry under their own steam and sustainably by utilizing their own resources.

JICA provides support in the following areas: (1) promotion of Public-Private Partnerships in which public institutions such as the Ministry of Tourism and local tourist bureaus, private enterprises



Trainees in Ethiopia who learned *kaizen* (continuous improvement) activities



Products created from the "One Village, One Product" program in Malawi

such as travel companies and guide associations, and local people can work together; (2) nurturing of human resources to convey the necessary know-how to advance tourism; (3) development of tourism products using tourism resources such as places of historical importance or extraordinary scenic beauty in addition to locally produced items such as handicrafts and folk art unique to a region; and (4) strengthening tourism promotion and marketing capacity and the implementation system. Through such support, JICA aims to ensure sustainable tourism that helps realize regional advancement contributing to poverty reduction. This is attainable by increasing the income of local people, creating jobs and strengthening the impetus for social harmony.

Recent cases of support include a project called Sustainable Tourism Based on Public-Private Participation in the Dominican Republic, which aims to create foundations for tourism development that provide benefits to the local community in a sustainable manner. This is achieved by supporting the use of local resources to develop tourism products and their promotion. The Ajanta & Ellora Conservation and Tourism Development Project in India aims to promote tourism and vitalize the local economy by conserving this historic site, increasing awareness through publicity and building infrastructure for tourism.

In addition, tourism promotion advisors have been sent to the Balkan states of Serbia, Albania and Macedonia simultaneously in response to increasing calls for the transfer of technology aimed at attracting foreign tourists, mainly Japanese. Efforts focus on

boosting promotional and marketing competencies to attract tourists, and in the future, the three countries aim to work together to promote the region as a single tourist destination.

In this way, JICA assesses the needs of each country and the condition of local communities and supports tourism development that is necessary and suitable for each country or region.



Third country training in Mexico for the "Project for Capacity Development of the Tourism Self-Management Committees" in Guatemala

Natural Resources and Energy

Toward Stable Supplies of Electric Power through Public-Private Collaboration and Private Sector-Led Initiatives

Leveraging Japan's Advanced Technology to Provide Support

Overview of Issue

Global demand for energy continues to rise, even in Asia and other developing countries where population growth and industrialization are driving this need. Against the backdrop of soaring prices for oil and other energy sources and increasing environmental concerns, the stable supply of energy is becoming a serious issue for the international community.

One further trend is the continued liberalization of the electric power segment around the world. This has resulted in the introduction of Public-Private Partnerships and a shift to private sector-led electric power supply initiatives as an increasing number of developing countries reform the electric power sector. At the same time, renewable energies are gaining attention on account of their potential to prevent global warming. If operated at a particular scale,

solar, wind and geothermal power generation can lead to a reduction in greenhouse gases. It is hoped that a more diverse array of energy sources will be put to use on a wider scale in order to ensure stable supplies of electric power going forward.

JICA Activities

Electric Power and Energy

The two key points to consider when providing support in the field of electric power and energy are (1) achieving sustainable economic growth through the stable supply of electric power and (2) promoting rural electrification.

The electric power sector accounts for a high proportion of ODA Loans and Technical Cooperation provided by JICA, and going forward, JICA aims to improve the efficiency of its support



Case Study

Expanding a Cycle of Improvement to Enhance Productivity

Kaizen, or continuous improvement, refers to bottom-up activities aimed at enhancing productivity at Japanese enterprises. It has become an internationally recognized concept, and one that Ethiopia expressed interest in after reviewing the results of JICA initiatives in Tunisia. JICA activities have been taking root in Africa.

Birth of Africa's First KAIZEN Unit

Various officials from Ethiopia visited a manufacturing company in Osaka as part of their training under the Study on Quality and Productivity Improvement (KAIZEN Project). Here, they observed the well-organized tools, the place for office supplies, the colored switches and the meticulously clean, safe and comfortable production facility.

"It's a very practical initiative," comments Delo Benka of the KAIZEN Unit at Ethiopia's Ministry of Trade and Industry. "We first implemented *kaizen* activities at my office, and now we want to introduce them to the corporate sector in Ethiopia." Gashaw Taye, who worked at a foodstuffs company, had the following to say: "I want to incorporate some of the *kaizen* ideas immediately, such as modifying storage space according to the frequency of use and employing different colored light switches."

Ethiopian Prime Minister Meles Zenawi spearheaded the call for JICA support to learn from successful experiences in Asia, which led to the start of a two-year "*kaizen* project" in October 2009. *Kaizen* refers to bottom-up activities developed by Japanese enterprises that employees undertake on site to bring

continuous improvements to quality and productivity company-wide. Such activities have played a major role in maintaining and enhancing quality in Japanese goods.

Ethiopia set up the KAIZEN Unit within the Ministry of Trade and Industry to promote *kaizen*. This was the first time in Africa the term *kaizen* was used in a ministerial department name.

The project comprises three parts: (1) A pilot project to examine and provide guidance to 30 companies in Ethiopia; (2) Formulation of a national plan to spread an Ethiopian version of *kaizen* reflecting the results of the pilot project; and (3) Development of human resources for promoting *kaizen*.

As part of these efforts, 10 staff members from the KAIZEN Unit and 30 members from the 30 enterprises engaged in the pilot project visited Japan in May 2010, and over a two-week period learned how to implement 3S (*Seiri* (tidiness), *Seiton* (orderliness) and *Seiso* (cleanliness)) and QC (quality Control) activities through lectures, observation and interaction with factory employees.

Together with staff members from the KAIZEN Unit, JICA consultants will visit each pilot company before the end of 2010 to implement the pilot project. With the cooperation of Japan's National Graduate Institute for Policy Studies, JICA will formulate a national plan to spread *kaizen* activities with the Ethiopian side.

Expanding Kaizen Activities

The Study on the Master Plan for Quality/Productivity Improvement that JICA conducted

Ethiopia: The Study on Quality and Productivity Improvement (KAIZEN)

in Tunisia in 2006 was the catalyst for the introduction of *kaizen* activities in Ethiopia.

Of the 29 companies participating in the project in Tunisia, 60% improved productivity in some way or another while around 30% made an overall improvement in productivity. Other countries in addition to Ethiopia have expressed interest in learning from Japan's successful experiences in Asia.

JICA is helping to raise productivity at companies in various African countries by widely introducing actual cases in Tunisia and Ethiopia through seminars and other means.

A View from Our Partner

Getahun Tadesse, Head of KAIZEN Unit of the Ministry of Trade and Industry in Ethiopia

Interest in *kaizen* activities is growing fast at companies in Ethiopia. I would like to introduce this project at more organizations in the future and I hope that Japan and JICA continue to provide support.

A Grassroots View

Jun Takeyama, Consultant

I started providing guidance on *kaizen* activities for 30 companies in the manufacturing industry. The first four seminars focused on the *kaizen* philosophy and methods, while the remaining seven seminars include training at actual work sites. The positive impact of *kaizen* activities at factories such as the 5S (*Seiri*, *Seiton*, *Seiso* + *Seiketsu* (standardized clean-up) and *Shitsuke* (sustaining discipline) concept began to emerge within a week of finishing the seminars.



Learning about *kaizen* through lectures and observation



Trainees implement the element of *seiso* (cleanliness) of the 5S concept

programs. For example, JICA can provide support more efficiently and expeditiously by tackling both the research and construction of power plants in an integrated manner.

JICA initiatives have focused on developing infrastructure for power and fostering human resources capable of building, maintaining and managing it. The global trend toward liberalization of the electric power segment, however, has prompted a shift from government-led to private-led management of electric power in developing countries. JICA has started providing assistance aimed at pushing this reform forward as smoothly as possible. In promoting rural electrification, it is necessary to devise plans that consider the views of the local community, the benefactors, from the standpoint of human security, and strengthen the capabilities of government institutions. JICA is increasing assistance in Africa, which is seen as a core region in this field.

The Electric Power Forum for Asia was held at the JICA Research Institute in Tokyo in March 2009. Today, developing countries face a variety of challenges to ensure stable supplies of electric power and meet rapidly growing demand spurred by economic expansion. The forum brought together officials representing the electric power segment in five Asian countries and from private electric power organizations in Japan to report on and discuss the possibility of public-private collaboration and reform of the electric power sector as well as share information on reform initiatives already implemented. This helped deepen the network between Japan and the five Asian nations. For example, negotiations regarding issue resolution progressed more smoothly when Japanese officials visited other countries.

Natural Resources and Energy Conservation

JICA executes various initiatives in the three fields of mining, renewable energies and energy conservation.

(1) Mining (Resources)

JICA develops resource information and master plans for the sustainable development of mineral resources and to boost international competitiveness in developing countries.

(2) Renewable Energies

JICA is conducting studies regarding plans for solar power and small hydroelectric power generation from the perspective of environmental preservation and as independent power sources for rural electrification. In addition, JICA has started power supply initiatives that connect solar power systems with electricity distribution lines using Grant Aid in various countries worldwide. In Kenya, Indonesia and Latin America, JICA is engaging in programs related to geothermal power.

(3) Energy Conservation

JICA trains energy management technicians to support energy conservation efforts using sophisticated Japanese technologies. There have been many positive outcomes from this program. Technicians educated in Thailand, Turkey and Poland can now manage thermal and electric power. Following a series of programs in Turkey, technicians were soon able to operate systems independently. These sites are now used as third country training grounds.

In ODA Loans, JICA is providing Two-Step Loans* in India and Viet Nam focused on energy conservation and renewable energies. Two-Step Loans strengthen financing and the ability to establish energy conservation projects, and increase the effectiveness of support by complementing Technical Cooperation. Through this scheme, it is easier to provide financial support for private-sector activities. JICA also supports initiatives that utilize the advanced technologies of Japanese companies via Special Terms for Economic Partnership (STEP). This provides interest rate benefits for projects employing sophisticated Japanese technology.

*Scheme where ODA Loan funds provided to development finance organizations of the borrowing nation are used to provide loans to small and medium-sized enterprises in the borrowing nation.



There are plans to help fund a system that uses steam generated at factories to produce electric power.



Case Study

Achieve National Objectives by Using Japan's Energy-Saving Know-How

Although Viet Nam is currently enjoying a period of sustained economic growth, this has brought about serious problems in the form of energy and power shortages. In response, the Vietnamese government requested the support of Japan to promote energy-saving measures along with energy development.

In line with this request, JICA initiated the Study on the Master Plan for Energy Conservation in 2008.

Toward the Realization of a National Goal for Energy Conservation

Viet Nam, which shifted to a market economy following the Doi Moi Policy in 1986, has witnessed rapid economic development and a steady increase in trade with Japan and direct investment from Japanese companies. Energy consumption ballooned almost five-fold in 2005 relative to 1990, however, along with this economic advancement. Guaranteeing energy has become a major challenge. Planned power cuts have even been employed to combat the power shortage.

The Vietnamese government issued the Decree on Energy Efficiency and Conservation in 2003, which made it compulsory for large factories to submit a report on energy management. The Viet Nam National Energy Efficiency Program was formulated in 2006 and quantitative targets set.



Managing operational status of core equipment at an ironworks



A workshop in Da Nang

Measures to promote energy conservation were not implemented systematically, however, while there were shortages in personnel to advance the policies and also in know-how. The efforts thus proved fruitless.

Upon a request from the Vietnamese government, JICA began providing support through the Study on the Master Plan for Energy Conservation between 2008 and 2009, which made use of knowledge accumulated by Japan in energy conservation policy.

Support through Action Plan and ODA

As part of devising the master plan, JICA devised a roadmap and action plan toward realizing the goals of the Viet Nam National Energy Efficiency Program. Specifically, these goals were a 3-5% reduction in energy consumption by 2010 and a 5-8% reduction by 2015. The aim for JICA was to set down concrete steps to promote energy conservation.

JICA dispatched a study group to hold workshops in Hanoi, Ho Chi Minh and Da Nang, which enabled interaction with energy conservation related officials in Viet Nam. The study group provided guidance on how to diagnose levels of energy conservation in a factory or building as well as techniques to actually reduce energy consumption. Vietnamese officials also received training in Japan and an action plan was compiled in September 2009. This included three key strategies: the introduction of an energy management system; a labeling framework,



Training in Japan includes lectures and a tour of a thermal power station given by company employees.

Viet Nam: Initiatives to Conserve Energy

in which stars are put on products featuring outstanding energy-saving properties; and management of data related to energy consumption. By implementing these strategies, it is believed that Viet Nam can achieve its 2015 targets.

JICA also started the Energy Conservation and Renewable Energy Promoting Project in 2009 to proliferate energy-saving equipment through an ODA Loan with the aim of helping Viet Nam achieve its energy conservation targets. This project targets high-energy-consumption industries such as steel, cement, food processing and textiles, and seeks to reduce energy by introducing equipment enabling the reuse of heat, steam and gas generated in production processes.

Following on from a similar project in Indonesia, JICA began investigating a Support Program to Respond to Climate Change for Viet Nam, which is expected to provide solid backing for the energy conservation project by reducing greenhouse gases.

A Grassroots View

Hisashi Sato

I found that there was a lot of waste in factory production processes in the form of steam and air leaks. That alone provided opportunity to save energy. I think it's important to also try to change the mentality of employees by instilling the concept of "conservation."

JICA's Approach to Aid for Trade

What is Aid for Trade (AfT)?

AfT refers to assistance provided to developing countries that helps to build the supply-side capacity and trade-related infrastructure, so that they can benefit from trade expansion and reduce poverty.

The concept stemmed from an increasing number of developing countries in the World Trade Organization (WTO), which drove growing interest in the development issues of these countries. At the Seattle WTO ministerial meeting of 1999, developing countries protested that free trade negotiations started including social clauses and intellectual property rights, and strongly emphasized their concerns that this would increase risk for them and the socially vulnerable. Taking this into account, the WTO decided that rather than solely focus on free trade, attention would also be given to the concerns of developing countries. At the Doha Round of multilateral trade negotiations and the Hong Kong Ministerial Conference, WTO members recognized that free trade could have a negative impact on developing countries. To minimize this impact, the importance of AfT aimed at boosting the supply capacity of developing countries was discussed.

AfT is based on the idea that building supply-side capacity and trade-related infrastructure in developing countries will enable these countries to realize trade profits, and consequently, realize economic growth through these trade profits. Representative examples of AfT include infrastructure development that reduces the cost of supply, and capacity development that promotes trade and investment. More specific fields included in AfT can be found below.

- Trade policy and regulations
- Trade development
- Trade-related infrastructure
- Building production capacity
- Trade-related adjustment
- Other trade-related needs

JICA-Led AfT Support

JICA is actively engaged in AfT. Approximately 54% of all ODA Loan projects were devoted to AfT in 2009.

Asia is the main focus of AfT-related ODA Loans, Technical Cooperation and Grant Aid. In 2008, the Asia region accounted for 64% of AfT-related ODA Loans and 44% of Technical Cooperation and Grant Aid. Africa followed Asia, accounting for 24% of AfT-related Technical Cooperation and Grant Aid.

Looking at the ASEAN region, over half of all AfT Technical Cooperation projects are conducted in Cambodia, Laos, Myanmar and Viet Nam. AfT-related ODA Loan projects have largely been concentrated in Viet Nam. This aptly portrays the direction of JICA's support, that is, to minimize disparities among ASEAN nations and improve integration by expanding trade. In terms of assistance by field in the ASEAN region, JICA focuses on development of economic infrastructure with the aim of promoting economic growth that will benefit the lives of every individual.

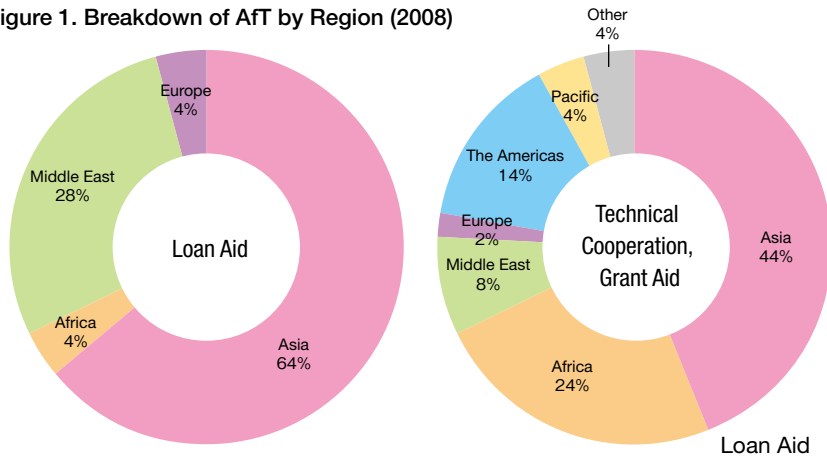
In Asia, economic growth has been particularly pronounced in the Greater Mekong Subregion due to development of the East-West Economic Corridor and the North-South Economic Corridor. JICA has been providing support in Viet Nam in the form of various projects that include the Viet Nam-Japan Joint Initiative, which aims to attract investment from Japan. In Cambodia, which has high expectations as an investment destination following China and Viet Nam, JICA is implementing a development study regarding strengthening the capability of the investment promotion agency. JICA plans to provide Technical Cooperation to boost the capacity of the investment promotion agency in Cambodia to promote investment from the international community, including Japan.

In Africa, JICA is promoting development from a regional perspective that transcends borders with an emphasis on wide-area infrastructure development that includes a road network and power network. Besides a road improvement project between Kenya and Tanzania and one in the Nacara Economic Corridor, JICA provides support for establishment of an electricity pool in southern, western, central and eastern Africa with the objective of resolving power supply issues. In addition to inadequate infrastructure, roads and border facilities make logistics difficult for inland countries. Accordingly, there are growing demands for a One Stop Border Post (OSBP) to streamline border-crossing procedures between two countries. The first OSBP project was launched in 2009 at the Chirundu border between Zambia and Zimbabwe.

JICA participated in a meeting of a Regional Technical Group (RTG) on Aid for Trade in Asia and the Pacific held in Tokyo in May 2010 to promote future initiatives based on a review of past initiatives. The RTG is currently drafting a report for the WTO with the cooperation of its members. The fourth RTG meeting is expected to be held in April 2011 for monitoring and evaluation of AfT projects.

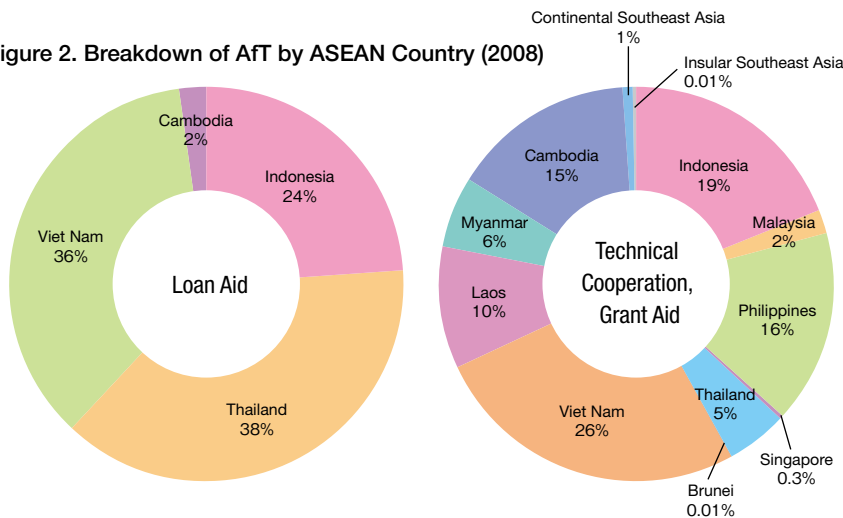


Figure 1. Breakdown of AfT by Region (2008)



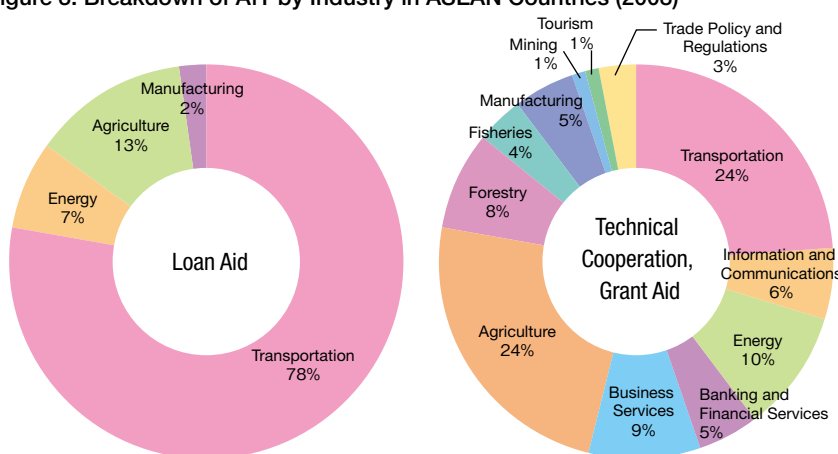
- Loan Aid, Technical Cooperation and Grant Aid are concentrated in Asia. In 2008, Asia accounted for 64% of AfT-related Loan Aid and 44% of Technical Cooperation and Grant Aid.
- Africa accounted for 24% of Technical Cooperation and Grant Aid, second behind Asia.

Figure 2. Breakdown of AfT by ASEAN Country (2008)



- Over half of all Technical Cooperation in the ASEAN region takes place in Cambodia, Laos, Myanmar and Viet Nam.
- Loan Aid is concentrated in Viet Nam, expressing the direction of JICA's support in terms of correcting disparities between ASEAN nations and improving integration by expanding trade.

Figure 3. Breakdown of AfT by Industry in ASEAN Countries (2008)



- JICA focuses on development of economic infrastructure in the ASEAN region with the aim of promoting economic growth that will benefit the lives of every individual.

Note: Figures in the charts above are rounded to the nearest whole number. Totals may not add to 100.