**Japan’s Government-Led and Private Sector–Led Cooperation for Industrial Human Resource Development in Developing Countries: Changing Patterns of JICA’s and AOTS’s Projects**

**Introduction**

This chapter focuses on how Japan has supported industrial human resource development in developing countries. The Government of Japan has provided official development assistance (ODA) for technical and vocational education and training (TVET) since the end of the 1950s. Meanwhile, Japanese private businesses have also contributed significantly to cultivating skilled workforces in developing countries, as most of the trained people work for Japanese enterprises. This chapter traces the trends and motivations of Japanese cooperation for industrial human resource development driven by the government and by the private sector, respectively.

For government-led cooperation, we focus specifically on technical cooperation by the Japan International Cooperation Agency (JICA),[[1]](#footnote-1) for many years the organization mainly responsible for implementing ODA projects. For private sector–led cooperation, we focus on the Association for Overseas Technical Cooperation and Sustainable Partnerships (AOTS), an organization to promote public-private partnerships in training. AOTS is Japan’s largest private-sector organization for technical cooperation and has provided training and dispatched experts to developing countries. It was established in 1959 with the approval of the Ministry of International Trade and Industry (MITI) to meet the private sector’s training needs. In this chapter, we examine two programs that are government-subsidized but implemented by the AOTS: the technical training program and the management training program. To participate in these programs, private businesses must send applications to AOTS and share the training costs. AOTS also implements programs on behalf of other governmental organizations,[[2]](#footnote-2) but since these programs are not unique to AOTS, this chapter does not cover them.

The chapter is organized as follows. Section 1 describes changes in the domestic policy contexts of international cooperation for industrial human resource development, especially how the connotations of the term “industrial human resource development” as used by Japan’s government changed over time. Section 2 untangles the perspective of JICA, which has conducted projects as a part of government-led international cooperation. The section analyzes JICA’s assistance trends and the factors influencing its projects. Section 3 compares JICA with AOTS, which has implemented projects to support private businesses based on a public-private partnership.

**1. Domestic Policy Contexts that Determined the Characteristics of Japanese Cooperation for Industrial Human Resource Development**

Industrial human resource development assistance is the form of Japan’s ODA that has the longest history. It began by accepting trainees, mainly in the agriculture, forestry, and fishery industries, requested by the Colombo Plan, the International Cooperation Administration (ICA) of the United States, and other international organizations. In the early days, such assistance was “passive”—not based on Japan’s policy intentions. A turning point came in 1958 when Japan extended its first yen loans. Unlike earlier assistance, the yen loans were implemented in line with the Japanese government’s economic cooperation policy. Most ODA was provided in the form of yen loans tied to the export of machinery produced by Japanese enterprises to promote Japan’s economic growth. In 1959, Japan introduced a new scheme of technical cooperation, the Overseas Technical Cooperation Center program, which enabled dispatching experts to other countries. The program’s primary objective was to train mid- to low-skilled engineers[[3]](#footnote-3) in agricultural machinery, fishery, electronics, and telecommunications industries, which Japan was particularly interested in exporting. Another goal of the program was to cultivate engineers who were accustomed specifically to Japanese machinery and proficient in its operation—thereby ensuring that these engineers would choose Japanese products when they started working in factories (MITI 1961).

After Japan became an official member of the Organization for Economic Cooperation and Development (OECD) in 1964 amid rapid economic growth, the Japanese government started paying more attention to its own global diplomatic status as an aid-providing country. This diplomatic and macroeconomic turn has triggered active discussions in Japan reassessing its previous economic cooperation, which was mainly driven by its own national interests. Such a reorientation of Japan’s ODA programs is also a response to pressure from the international community to reform its aid programs by, for example, increasing the amount of assistance and relaxing assistance conditions. Two other factors were also influencing the Japanese government: in the 1970s Japan was facing criticism from Southeast Asian countries that its economic cooperation was tied to its national interest, and international aid was trending away from emphasizing economic growth and toward reducing poverty in developing countries. Given these circumstances, in 1979 Prime Minister Masayoshi Ohira announced that the concept of *hitozukuri* (“making people”), a Japanese traditional belief, would be adopted as its indigenous aid philosophy of human resource development to effectively promote the economic development of developing countries. After the announcement, *hitozukuri* became one of the normative pillars of Japanese development assistance, and the amount of ODA for industrial human resource development projects gradually increased. In 1982, the Japanese government introduced ASEAN Hitozukuri (Human Resource Development) Cooperation and supported establishing Human Resource Development (Hitozukuri) centers in ASEAN countries to foster TVET instructors, highly skilled engineers, and managers. The focus of human resource development in this period was training higher-level professionals who would contribute to the rapid economic development of their countries.

After the 1990s, assistance for basic rather than higher levels of education began to attract worldwide attention. In response to this trend, *hitozukuri* for high-skilled professionals in Japan lost ground to an emphasis on the development of basic skills for the masses, including the poor, women, and other vulnerable groups in society. Japan’s ODA White Paper 2001 mentions the promotion of small and medium-sized enterprises (SMEs) and capacity building for TVET institutions as part of industrial human resource development. It also points out the importance of establishing a new TVET system for smooth technology transfer. But it does not focus on the development of professionals, which used to be one of the most essential concepts of *hitozukuri*. This is partly because ODA budgets have decreased every year since peaking in 1997, which made it challenging to construct TVET institutions or to dispatch large numbers of Japanese experts directly to support human resource development as in the past.

Another noteworthy aspect of the recent policy context of support for industrial human resource development is its regional diversification. Although the main beneficiaries have always been Asian countries, an interest in providing TVET assistance to African youth has grown since the fourth Tokyo International Conference on African Development (TICAD IV) in 2008.

To summarize: The initial motivation for Japanese cooperation for industrial human resource development was to promote Japan’s exports. But international criticism that such cooperation was driven by national interests, coupled with pressure to reform its aid, gradually turned the Japanese government toward fostering specialized engineers who could contribute to the economic growth of developing countries rather than just benefiting Japanese investors. In recent years, with declining ODA budgets, Japan began promoting TVET system development rather than providing trainers and materials. We also see geographic diversification of the recipient countries from an exclusive focus on Asia to Africa and other regions.

**2. Government-Led Cooperation for Industrial Human Resource Development**

As overviewed in the previous section, Japan’s policy contexts surrounding industrial human resource development have changed significantly over time due to the international community’s influence. This section analyzes the trends in JICA’s technical cooperation projects for industrial human resource development. We focus on its target regions, industries, and recipients to see how the Japanese government has provided assistance in such a context.

It aims to enhance problem-solving capabilities and a sense of ownership in developing countries through human resource development, research and development, technology diffusion, and institutional capacity building. To achieve these goals, Japan dispatches experts, provides the necessary equipment, and accepts trainees in Japan. Projects in this category have been executed since the 1950s, and JICA has been the main government entity in charge of implementing them. Therefore, trends in JICA’s technical cooperation projects will give us an overview of the characteristics of Japanese government-led cooperation for industrial human resource development.

**2.1. Trends in JICA Assistance**

To illustrate the trends in JICA assistance, we analyzed data on technical cooperation projects for TVET compiled by the Review Committee on Japan’s International Cooperation in Education: History and Present Condition, organized by the JICA Research Institution (renamed JICA Ogata Sadako Research Institute for Peace and Development in 2020). The data include names, periods, and the annual budget for technical cooperation projects provided by JICA.

**<Target regions>**

Southeast Asia accounted for 29% of the total amount of assistance, followed by Africa (18%), the Middle East (12%), South America (9%), South Asia (8%), East Asia (7%), and Central Asia/Caucasus (5%). The aggregate amount allocated to subregions in Asia (Southeast Asia, South Asia, East Asia, and Central Asia/Caucasus) was almost half of the total, indicating Asia has been the primary focus of JICA assistance.

Figure 1 shows a trend in the budget of 245 projects aggregated by region. The initial emphasis was on Asia, but assistance to the Middle East and North, Central, and South America gradually increased. A significant expansion of technical cooperation is seen in the 1980s due to the implementation of ASEAN Hitozukuri (Human Resource Development) Cooperation projects. Since 2008, when the TICAD IV was held, the share of JICA’s budget allocated to Africa has increased. Today, the size of the budget for Africa is almost the same as that for Asia.

**Figure 1. Budget of JICA technical cooperation projects on TVET (unit: billion yen) by region**

Source: Created by the author based on the project list provided by the Review Committee on Japan’s International Cooperation in Education: History and Present Condition.

**<Target industries>**

We divided 245 projects into three categories of industry: manufacturing; agriculture, forestry, and fisheries; and others. The manufacturing industry accounts for 43% of JICA’s budget, followed by 11% for the agriculture, forestry, and fishery industries, and 46% for others (see Figure 2). The manufacturing industry alone takes a large share of the total budget. Many projects are in the “other industries” category, including management and production control, business, logistics, and so forth. These projects are relevant to all industries.

We disaggregated the manufacturing industry into five sub-industries based on the Japan Standard Industrial Classification (October 2013 revised edition):[[4]](#footnote-4) electric and electronic, mechanical, manufacturing of transportation equipment, metalworking, and other manufacturing. The electric and electronic and the mechanical categories each take 30% of the budget. The electric and electronic category includes electrical engineering, electronic engineering, and communications engineering. The mechanical category consists of production of metal molds, machinery design, and manufacture of lathes, machine tools, and construction machinery. JICA’s technical cooperation has a focus on generic knowledge and skills applicable to diverse sectors of industries rather than those specific to narrow sectors.

**Figure 2. Breakdown of sectors covered by JICA technical cooperation projects**

Source: Created by the author based on the project list provided by the Review Committee on Japan’s International Cooperation in Education: History and Present Condition.

**<Assisted entities>**

JICA supports institutions and individuals at various levels and with various functions. To analyze the trend in entities that are targeted by the JICA’s technical cooperation projects, we divided 245 projects into three types based on the nature of their activities: (1) support for TVET institutions, (2) empowerment of socially vulnerable groups, and (3) support for TVET policies and systems. The first category was further classified by type of institution. Figure 3 shows the trend.

In the 1960s and 1970s, most support was provided to TVET institutions, aiming to transfer technology and foster professionals in mining, manufacturing, and the agriculture, forestry, and fishery industries. The projects have since expanded to include support for establishing TVET train-the-trainer institutions and improving the management of training. For instance, among the ASEAN Hitozukuri (Human Resource Development) Cooperation projects in the 1980s, those in Malaysia and Indonesia supported the establishment of TVET train-the-trainer institutions. JICA also assisted in creating TVET systems at the country level, for instance by developing training courses in new technology fields. Support for TVET institutions to foster business personnel also started during this period.

In the 1990s, the JICA technical cooperation budget temporarily declined due to the completion of a series of ASEAN Hitozukuri (Human Resource Development) Cooperation projects. The amount increased again, peaking in the late 1990s in line with the overall trend of the ODA budget. However, it has gradually declined since the 2000s, accompanied by a significant change in the target recipients. While support for TVET institutions in the traditional sector, such as the mining and manufacturing industries, dropped by one-tenth between 1998 and 2008, support for human resource development in the business and economic sectors has increased. In particular, support for training centers for business personnel and the formation of human networks with Japan (commonly known as “Japan Center”) has accounted for a large share of the budget since the beginning of the 2000s. This project was part of the support for countries transitioning from socialist economies to market economies. Since the 2000s in Africa, we find new types of projects, although not as large in scale, supporting TVET for discharged soldiers in conflict-affected countries and basic vocational training for the poor and women.

**Figure 3. Trend in entities targeted by JICA technical cooperation projects**

Source: Created by the author based on the project list provided by the Review Committee on Japan’s International Cooperation in Education: History and Present Condition.

In sum, JICA’s assistance tends to be: (1) focused on Asia but, in recent years, expanded to cover the whole world, with particular attention to Africa; (2) aimed at raising the level of generic and basic skills that can be applied to various sectors; and (3) in its early years, supporting TVET institutions in the fields of mining and manufacturing and the agriculture, forestry, and fishery industries. In recent years, however, JICA has changed its approach to industrial human resources development. First, instead of targeting specific industrial sectors, it now fosters human resources in trade and business. Second, it supports a recipient government in developing a national TVET system as a whole rather than dispatching experts and providing equipment for specific TVET institutions. Third, it now focuses on skills development to empower socially vulnerable groups.

**2.2. Factors Influencing JICA’s Assistance**

Trends in JICA’s assistance have been greatly influenced by policies of Japan’s government and the global contexts surrounding aid for industrial human resource development.

In the 1960s and 1970s, many projects were linked to Japan’s economic policies promoting exports and encouraging Japanese businesses to expand their operations in Southeast Asia. JICA implemented projects to train mid- and low-level engineers in those countries, especially in mining and manufacturing and the agriculture, forestry, and fishery industries.

During the 1970s and 1980s, a period of declining interest in TVET in the international community, Japan expanded its assistance to foster advanced skilled professionals (TVET instructors and senior engineers) who would contribute to the development of Southeast Asia through the ASEAN Hitozukuri (Human Resource Development) Cooperation. In response to criticism and pressure from the international community, the government began to promote assistance not for Japan’s own economic benefit but to develop necessary human resources for recipient countries.

Since the 1990s, influenced by international aid trends, Japanese policy has focused on developing the capacity of individual citizens, including the poor, women, and other socially vulnerable groups. These changes in the policy environment led to a decline in JICA assistance for TVET in mining and manufacturing in the early 2000s. Instead, projects aimed at fostering human resources for business and economic sectors increased. Moreover, TICAD IV led to a sharp increase in assistance to the African region since 2010, including TVET for soldiers discharged from the military in conflict-affected countries and socially vulnerable groups.

**3. Cooperation for industrial human resource development led by the private sector through public-private partnerships**

Although we have reviewed government-led cooperation for industrial human resource development, the Japanese private sector has also contributed significantly. Since the 1950s, various organizations have supported the development of industrial human resources for the private sector.

This section focuses on the training programs conducted by AOTS to meet the private sector’s human resource development needs. AOTS was established in 1959, with the approval of MITI, to respond to the Japan Machinery Federation’s request to provide training programs for overseas engineers that would contribute to increasing exports of Japanese products and the overseas expansion of Japanese businesses.

We focus on AOTS’s technical training programs and management training programs, which are government subsidized. The technical training programs are conducted at parent companies in Japan, inviting participation by employees of foreign companies such as overseas representative offices, venture companies, and technology partners. The programs (which last three to four months on average) have been implemented for over 50 years since AOTS was established. The programs consist of general orientation courses (such as introducing and teaching Japanese language and culture) at the AOTS training center, followed by specialized technical training provided by Japanese host companies whose expertise matches the demands of the trainees.

Management training programs (each lasting about two weeks) were initiated in 1977, teaching Japanese-style management and administration skills at one of the AOTS training centers. Three-fourths of the companies participating in the management training program have been non-Japanese. They apply to the program through the AOTS Alumni Association in each country.

**3.1. Trends of AOTS Assistance**

To analyze trends inAOTS training projects, we use data on the number of trainees in technical training programs and management training programs. The numbers of trainees for the two training programs are combined to compare regional and industrial trends. We use the same categories of region and industry as in the previous section on JICA’s projects.

**<Target regions>**

Asia as a whole has almost always accounted for over 70% of all trainees participating in AOTS programs. In particular, Southeast Asia and East Asia represent 43% and 28% of the total, respectively. North, Central, and South America also provide a significant proportion of the trainees, but their share is considerably smaller than that of Asia (see Figure 4).

While JICA has increased assistance to Africa in recent years, AOTS has continued to concentrate more on Asia throughout the period since the 2000s. In other words, AOTS has not been influenced by global aid trends or Japan’s policy contexts as much as JICA. Other factors have been at work, as will be analyzed in the next section.

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Source: Compiled by the author using data provided by AOTS.

**<Target industries>**

As with JICA’s budget, the manufacturing industry alone provides the largest share of the total number of trainees in AOTS programs, accounting for 66% (see Figure 5). A very few come from the agriculture, forestry, and fishery industries, while other industries share 34%. But AOTS places even more emphasis on manufacturing than JICA does. For example, in the category of “Other Industries,” JICA provides training in skills applicable to various industries, such as business and logistics, but AOTS’s training programs for “Other Industries” teach skills more directly related to manufacturing, such as production and quality control.

Manufacturing of transportation equipment accounts for 32% of the total number of AOTS trainees. This category includes automobiles and ships, which were the flagship sectors of Japanese export-oriented manufacturing. For AOTS, the electric and electronic category (30%) represents the manufacturing of automotive accessories and semiconductors, while for JICA it covers more generally electrical engineering, electronic engineering, and communications engineering.

AOTS has provided more product- and manufacturing-specific training to meet the human resource needs of Japanese private businesses expanding overseas. AOTS training was primarily meant for upgrading skills to meet the needs of the automobile-related sectors among the diverse fields of manufacturing.

**Figure 5. Breakdown of sectors covered by AOTS training programs**

Source: Compiled by the author using data provided by AOTS.

**<Assisted entities>**

AOTS has conducted technical training programs from the beginning. It originally launched the training program to meet the growing need for personnel to operate and maintain Japanese machinery as exports increased. Later, as the number of Japanese companies expanding overseas grew, the emphasis on technical training programs shifted to developing human resources capable of manufacturing Japanese products.

The management training program was launched in 1977 to foster intermediate and advanced managers. The main objective of these programs was to develop human resources capable of “Japanese-standard” quality control and management. The target audience has expanded from mid-level employees to senior managers and directors (AOTS 2016) as the number of courses has gradually increased in line with the needs of Japanese businesses.

In the 1980s, management training programs targeting specific countries were initiated. While previous programs had targeted developing countries in general, there was a growing demand to go further and provide training content that took into account each country’s specific circumstances. AOTS developed new courses, with a surge in country- and region-specific management training that provided simultaneous translation into the participants’ mother tongues.

To summarize AOTS’s assistance trends: (1) the strong emphasis has been on Asia, especially Southeast Asia; (2) in the manufacturing industry, especially in the automotive industry, AOTS aims to transfer specific skills directly related to Japanese businesses expanding overseas; and (3) the objectives of technical training programs changed from developing human resources capable of operating and maintaining Japanese machinery to developing those who could actually manufacture products that meet Japanese companies’ quality standards. The management training programs also expanded their scope, aiming to develop human resources capable of quality control and management.

**3.2. Factors Influencing AOTS’s Assistance**

Since the beginning, AOTS has consistently focused its industrial human resource development efforts on Asia and the automobile-related manufacturing industry. It is evident that the background and purpose of establishing AOTS were to promote the export of Japanese products and the overseas expansion of Japanese businesses. As a result, many of the training programs are aimed at Asia, where many Japanese businesses in the manufacturing sector have advanced.

As mentioned in Section 1, in the 1960s the Japanese government believed that human resource development in developing countries would contribute to the further expansion of Japanese businesses into overseas markets. Rapid economic growth and government expectations led to a steady increase in trainees at AOTS. In the 1990s, the government’s decreasing interest in industrial human resources development reflected the declining attention to TVET found in the international aid trend. This led to a drop in the budget for JICA’s technical cooperation projects in this field. On the other hand, AOTS was active in the same period, with the number of trainees growing steadily and new courses being actively developed. In contrast to JICA, which is easily influenced by Japanese policy changes, AOTS has tried to meet the human resource development needs of the private sector without being significantly affected by government interest.

The following graph compares Foreign Direct Investment (FDI) trends in Asia with those of AOTS trainees (Figure 6).[[5]](#footnote-5) It shows that the number of AOTS trainees follows the FDI trend with a few years lag. Much of the FDI in Asia has consisted of manufacturers building factories and other facilities and developing related infrastructure. This led local companies to have more opportunities to do business with Japanese companies and to have a greater need for human resource development. In turn AOTS, which has emphasized the manufacturing industry, implemented training programs that meet those needs.

In the early years, AOTS had the goal of developing human resources capable of operating and maintaining Japanese-made machinery as the volume of machinery exports increased. However, the rapid appreciation of the Japanese yen following the Plaza Accord in 1985 caused production costs in Japan to rise sharply. This led Japanese companies to begin moving their manufacturing bases overseas in search of inexpensive labor. AOTS also shifted its training objectives to developing human resources capable of manufacturing Japanese products. In addition, overseas Japanese businesses began to promote localization after several years of operation, and more companies entrusted the operation of local factories to local people. The need grew for human resources capable of quality control and management based on Japanese standards, and AOTS started management training programs.

Japanese companies have conducted human resource development according to the stage of their overseas expansion. Many of the companies participating in management training programs are not Japanese but are local to the countries where Japanese companies operate. Also, the demands for management training follow the trend of FDIs with a lag of a few years. This fact suggests that the training needs for Japanese-standard quality control and management gradually increased in local businesses that started working with the Japanese.

**Figure 6. Changes in the number of participants (unit: persons) in AOTS training programs and the amount of FDI to Asia (unit: million dollars)**

Source: Created by the author using data provided by AOTS and JETRO.

AOTS’s assistance is also influenced by events affecting the global economy that disrupt FDI. Specifically, the Asian Financial Crisis that began in 1997, the war in Iraq triggered by the terrorist attacks in the United States in 2001, and the collapse of Lehman Brothers in 2008 caused noticeable changes in the number of AOTS trainees. When the global economic situation has caused changes in the activities of Japanese businesses, their human resource development needs have changed accordingly.

Moreover, since AOTS training programs are subsidized by the government and have been conducted in public-private partnerships, we cannot ignore the influence of government budget allocations and policies. For example, the rapid decline in number of trainees since the late 2000s can be attributed not only to the global financial crisis triggered by the Lehman Shock but also to the reduction of ODA budgets since the late 1990s. The budget-screening policy introduced by the Democratic administration in 2009 and the shift in the METI’s priority from large corporations toward SMEs may also have contributed to the decline in the number of trainees.[[6]](#footnote-6)

In summary, while JICA’s operation is inseparable from government policy contexts surrounding industrial human resource development, AOTS has prioritized the needs of private businesses as only a private-sector technical cooperation organization can. However, since the training program based on public-private partnership uses government subsidies, it too is influenced by policy regarding subsidy amounts and budgets.

**Conclusion**

This chapter has reviewed how the Japanese government and the private sector have been involved in industrial human resource development in developing countries through JICA’s technical cooperation projects and AOTS’s training programs. The comparison of JICA and AOTS demonstrates their similarities. They both mainly target Asia, provide more support to the manufacturing sector, and have gradually shifted from training engineers to training managers and trainers. However, there are significant differences in the background and factors influencing them. While JICA has been engaged in human resource development from the perspective of international cooperation, AOTS has implemented its programs through public-private partnerships from the perspective of supporting private businesses.

AOTS’s assistance tends to overlap with the needs of private businesses and their overseas investments, because AOTS aims to develop human resources who can contribute to the export of Japanese products and the overseas expansion of Japanese businesses. JICA’s technical cooperation for industrial human resource development up until the 1960s was also designed to contribute to Japan’s national interests. But the purpose and meaning of these projects gradually changed in the 1970s, due to pressure from the international community and influenced by Japanese ODA policies and international aid trends. Looking at industry trends, both JICA and AOTS assist predominantly in the manufacturing sector. But while JICA conducts projects that raise the overall standard of local industrial human resources in various technical fields, AOTS has been transferring practical technologies directly related to specialized products of Japanese companies that have expanded overseas.

However, neither JICA’s nor AOTS’s projects can be explained solely by the factors mentioned above; their approaches have evolved through a complex intertwining of factors. JICA’s projects are heavily influenced by the economic situation in Japan, the development policies and needs of the recipient countries, the relationship with the recipient countries, and the ideas and beliefs of the various actors involved. AOTS also has developed its programs not just to benefit Japanese businesses. For example, in response to the Asian economic crisis that began in 1997, AOTS launched the Special Training Activities to Assist Asian Countries in 1998 and the Asian Local Training Activities in 1999 to accept trainees. These programs were implemented to benefit Japanese businesses and local employees when Japanese factories stagnated due to the Asian crises. Instead of firing their employees, companies could send them for training in Japan to improve their skills. AOTS also supports international cooperation activities by AOTS Alumni Societies in various countries. In other words, AOTS is not only serving the short-term business interests of Japanese firms but also contributing to international cooperation.

Both JICA and AOTS have supported industrial human resource development in developing countries, from different vantage points but continuously since the 1950s. Regardless of changing trends, the two organizations have complemented each other.

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1. Although the JICA has undergone several changes in organizational name and responsibilities, to avoid confusion the name JICA is used in this chapter unless the context requires otherwise. Specifically, the name OTCA was used for the period 1962–1974 and the name JICA for the period 1974–2003, while the name of the yen loan program was Overseas Economic Cooperation Fund (OECF) for the period 1961–1999 and Japan Bank for International Cooperation (JBIC) for the period 1999–2003. [↑](#footnote-ref-1)
2. These include the Ministry of Economy, Trade and Industry (METI) and the Ministry of Health, Labor and Welfare (MHLW). [↑](#footnote-ref-2)
3. In this chapter, the term “engineer” is used to mean one who has acquired specialized skills, regardless of skill or degree level. [↑](#footnote-ref-3)
4. Since many technical cooperation projects in the manufacturing sector span multiple industries, a single project may be classified under multiple industries. [↑](#footnote-ref-4)
5. In Figure 5-6, the data from 2005 onward could not be reflected in the graph due to the different format of the Japan External Trade Organization (JETRO) data. [↑](#footnote-ref-5)
6. Although preferential subsidy rates for SMEs were introduced to support their overseas expansion, the training needs of SMEs for local personnel were not as great as those of large enterprises. [↑](#footnote-ref-6)