

A study on migrant workers in Japanese construction industry

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Abstract: This study focuses on a scheme for accepting migrant workers at Japanese construction sites and its impact on the industry. Recently, a severe shortage in the construction workforce has made the industry accept migrant workers through “Technical Intern Training (TIT)” program and “Specified Skilled Worker (SSW)” system in Japan. A new status of residence, SSW has been created to accept foreign nationals who work in jobs that require considerable knowledge of or experience in specified industry fields, and construction is one of them. However, many SSWs had already been working in Japan as TIT trainees, implying that the TIT program was the practical pathway to becoming a SSW. Therefore, this study aims to comprehensively understand the operational realities of the Japanese TIT program in construction companies.

Data were collected using a literature survey and semi-structured interviews. The literature survey was a macro perspective, mainly about analyzing the statistical data on the Japanese government, with the status of residence, profession, and nationality, to ensure the transition and full picture of migrant workers in Japan. By contrast, interview surveys focused on micro situations such as the challenges faced by companies that accept migrant workers. This study showed that workforce shortages had lasted for more than 30 years and were still a chronic issue and that migrant workers were indispensable in the construction industry.

Key words: migration, construction workers, technical intern training program, specified skilled worker

1. INTRODUCTION

Currently, construction workforce shortages are a serious concern in rapidly urbanized countries with high construction demand. The youth still associate construction work with 3Ds (dirty, dangerous, and demeaning), and governments and industries are eager to develop and improve the construction environment. The supply of migrant workers from developing countries is a short-term resolution strategy followed globally.

Japan is facing a severe shortage of skilled workers in the construction industry. The number of construction workers peaked at 4.55 million in 1997 and has continuously been declining by nearly 30% to 3.18 million in 2020 [1]. In terms of age, more than 36% of all construction workers are older than 54 years, whereas only 11.8% are under 30 years [1], indicating that the aging of construction workers and the lack of young people are inevitable issues.

Major general contractors and the government are promoting automation and mechanization at construction sites and improving the treatment of workers. However, the situation has not significantly improved. Foreigners are expected to resolve workforce shortages. A new status of residence, “Specified Skilled Worker (SSW),” was established in April 2019 and implemented based on the revised Immigration Control and Refugee Recognition Act [2]. However, while efforts to accept foreigners are undergoing major changes in Japan, knowledge of the utilization of foreigners in the construction field is scarce.

Therefore, this study focused on a scheme for accepting migrant workers at Japanese construction sites and its impact on the industry. The purpose of this study was to comprehensively understand the statistical tendencies and actual operations of foreign acceptance systems such as Technical Intern Training (TIT) program and Specified Skilled Worker (SSW) system in the construction field.

2. PRIOR STUDIES

Prior research on construction migrant workers has mainly dealt with the employment, productivity, and safety management of foreign workers. For example, Oluseyi [3] (2023) observed that delays in responding to information requests, inadequate worker management and supervision, shortage of skilled workers, and clarity of change requests and technical specifications affected the decline in productivity. Nnedinma [4] (2023) conducted semi-structured interviews regarding the safety environment in Nigeria. Kesavan [5] (2023) suggested that 117 factors influenced the performance of the construction workforce in Sri Lanka. The top five factors were the lack of training facilities, delayed salary payments, lack of work motivation, low salaries, and poor evaluation of skills. In recent years, studies on health have been conducted. Rati [6] (2020) used semi-structured interviews to clarify the interrelationships between physical and mental health and the use of cultural and family roles and responsibilities among migrant workers in the Middle East, particularly in Bangladeshis. In addition, the international migration of many such workers led to an oversupply of workers, resulting in lower wages and unfavorable employment conditions, as mentioned by Wells [7] (1996).

Regarding studies focusing on Japan, Komatsu [8] (2019) revealed that the Japanese TIT program acted as a pull factor for migrant workers despite negative conditions of high expenses and low wages owing to career options after returning to their home countries. Before traveling to Japan, 90% of the trainees had expectation to work in the construction industry after returning to their home countries; however, this did not lead to employment. Era [9] (2020) revealed that the TIT program was widely recognized as a way for young people to advance their careers in Vietnam. However, whereas the Japanese construction industry specializes in skills owing to the subdivision of various specialized contractors and the burden on the construction side in response to design changes, few studies have clarified the intentions and prospects of employers on the manner to utilize foreign workers. Gondo [10] (2021) examined the characteristics of the foreign acceptance system of Japan and reported the challenges of using it for five companies (rebar construction and welding) and supervising organizations that accepted foreigners. This present study added six more companies and analyzed the complete picture of migration with construction types, including formwork.

Observing other countries in terms of migrant acceptance and utilization, Dong-Hoon [11] (2009) concluded that both Korea and Japan had fewer migrant settlements because of a lack of regional institutions and elite political culture, according to a case study on East Asia. However, in the construction sector, accepting foreign workers is inevitable in South Korea, and Pyun [12] (2023) reported the challenges of hiring foreign workers in Korea. Gondo [10] (2021) provided an overview of the policy of South Korea for accepting foreigners, including the 1991 work technology trainee system, the training and employment system introduced in 2000, and the employment permit system introduced in 2004 to hire simple skilled foreign workers. With respect to South-East Asia, Takahashi [13] [14] (2017, 2018) and Ueno [15] (2022) reported on migrant workers for Thailand, Sasak [16] (2020) on those from Myanmar, and Maekawa [17] (2018) on those for Singapore. Sasaki [18] [19] (2024) conducted an interview survey of practitioners, summarized the operation systems of the construction industry to accept foreigners in Thailand and Malaysia, and identified the operation of sites where foreigners were the majority, the absence of a skills education system, and the problem of low wages for skilled workers owing to an abundant supply of immigrants.

As aforementioned, the policies of accepting foreigners in Asian countries other than Japan reflected the unavoidable situation owing to labor shortages and consequently accepted simple labor at relatively low wages. TIT program of Japan has functioned as a supplementary role. Therefore, because of its relatively low wages and the purpose of human resource development in practical training, highly skilled workers are not immediately required in the field at the beginning of work.

3. METHODOLOGY

3.1. Literature survey

Data were collected using a literature survey and semi-structured interviews. This literature survey described the transition in the acceptance of foreigners and the skill evaluation system in Japan from a macro perspective. This study summarizes the recent trends such as history of TIT program and SSW system and the skill assessment system, namely, the “Construction Career Up System (CCUS).” It then analyzes the statistical data on the Japanese government, with the status of residence, profession, and nationality, to ensure the transition and complete picture of construction migrant workers in Japan.

3.2. Interview survey and analysis

The interview survey focused on micro perspectives such as the challenges faced by companies that accept migrant workers. Selected interviewees were given semi-structured interviews in 2020–2022 regarding job operations, voluntary language education, accommodation, background of acceptance, on-site job training, and thoughts on acceptance (Table 2). The interviewees were five rebar companies (A, B, C, D, and E), one welding company (F), three formwork companies (G, H, and I), and two scaffolding companies (J and K), that are general construction businesses in Japan, totaling 11 samples (Table 1). Seven companies currently had 10 or fewer foreign TIT trainees, three companies had 11–20, and one company had more than 20. The results were analyzed based on five factors: background of acceptance, working environment and training issues, acceptance attitude forward, living support, and after returning to the home country.

Table 1. Interviewee

	A	B	C	D	E	F	G
Type	Re-bar	Re-bar	Re-bar	Re-bar	Re-bar	Welding	Form
Location	KANTO	KANTO	KANTO	KANTO	TOHOKU	KANTO	KANTO
Acceptance starts	2017	1995	1990s	2010	2013	2017	2012
	H	I	J	K			
Type	Form	Form	Scaffolding	Scaffolding			
Location	KANTO	TOHOKU	TOHOKU	TOHOKU			
Acceptance starts	2017	2017	2016	2019			

Table 2. Interview contents

Classification	Question	Classification	Question
Acceptance	Timing / Reason	Lifestyle	Accommodation
	The number		Living environment
	Main contractor	After return to home country	Career plan
	Working environment	Future plan of acceptance	Trainee
Training	Proficiency		Specific skills

4. POLICY AND STATISTICS OF MIGRATION

4.1. Outline of regulations

Japan’s action to accept foreigners dates back to the late 1960s, when overseas subsidiaries conducted training programs for employees [20]. In 1982 Japan established a foreign training system, and the TIT program was institutionalized in 1993 [21]. The Act on the Proper Implementation of TIT for Foreign Nationals and the Protection of Technical Intern Trainees (the Technical Intern Training Law) was enacted in 2017 [20]. Foreign TIT trainees enter an employment relationship with a training provider, such as a company or sole proprietor in Japan, to acquire, become proficient, and master skills, and the period is currently up to five years. In the construction industry, 33 jobs can be accepted in 22 occupations. Skill tests are conducted to evaluate the skills acquired by TIT trainees, and to pass those is described in the TIT plan as the training goal.

Foreign Construction Worker Acceptance Program [22] was launched in 2015 to meet the temporary increase in construction demands related to the Olympics. This system accepted workers who had completed TIT. This was suspended in 2020 as a temporary measure until FY2022.

SSW system [2] was introduced in April 2019, and foreigners would be engaged in work that required a considerable degree of knowledge or experience in specific industrial fields. SSW No. 2 is the highest

degree that allows workers to accompany their families and live permanently in Japan. Twelve fields accept foreigners with specific skills, and SSW No. 2 can be accepted in 11 fields, excluding nursing care (as of 2024). The main feature is the option to change jobs spontaneously. The work classification of specific skills had been performed for each type of construction work. However, since 2022, this has been changed to civil engineering, construction, and lifelines/facilities to evaluate multi-skilled workers who oversee multiple types of work.

As of 2024, the CCUS [23] requires registration for foreigners with SSW; TIT trainees are also required to register. CCUS was launched in 2019 as a skills evaluation system in Japan that registers and accumulates qualifications and on-site work history and then objectively evaluates their skills and experience to lead to appropriate treatment. With CCUS, the system has shifted to evaluating the workers themselves based on their experience in addition to the skill test, that aims to smoothly implement the improvement in the treatment. Current standards for treatment are set as a condition in which remuneration is equivalent to that of Japanese nationals; in particular, wages increase according to proficiency with specific skills.

4.2. Transition of statistical data on migrant workers in Japan

Figure 1 shows recent transitions in the number of foreign workers in the Japanese construction industry with users of various systems. Since 2012, the number of foreign workers has increased rapidly along with the number of TIT trainees, increasing more than 8.5 times from 12,830 in 2011 to 110,018 in 2021. As of 2021, the number of TIT trainees was approximately 10 times compared with that in 2011. The number of SSW has increased since 2019, as indicated by 18,429 foreigners with SSW No. 1 and 12 foreigners with SSW No. 2 as of the end of June 2023.

Although the Covid-19 pandemic has caused a decrease in the number of TIT trainees, Vietnamese still account for a high proportion (44.2 %) of the total trainees in 2022 (Figure 2). The number of people from Indonesia has been on the rise in recent years, with relatively high numbers from China and the Philippines. Figure 3 shows the changes in the number of TIT program user-certified workers for each type of work since 2017 and Table 2 presents the number in 2021. The largest number of jobs in the second group belonged to scaffolding, followed by formwork, rebar, and construction machinery. The third group included building carpentry and interior finishing constructions. The figure shows a decline in 2020 for a while owing to the postponement of acceptance as a reaction to the Covid-19 pandemic.

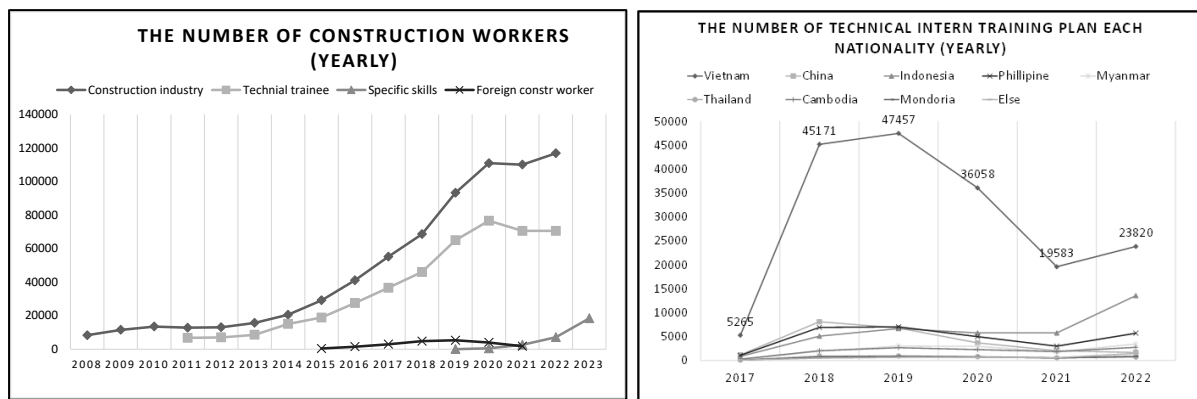


Figure 1. (in left) Yearly construction workers in Japan: Ref. Immigration Service Agency (ISA), Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Ministry of Health, Labour and Welfare (MHLW).

Figure 2. (in right) Yearly number of TIT Plan each nationality: Ref. ISA, Organization for Technical Intern Training (OTIT)

Table 3. Each number of TIT trainee per construction type in 2022

Drilling	253	Rebar constr.	5955	Piping	2040	Well point constr.	29
Arch. Sheet metal	1280	Scaffolding	15715	Thermal insullation	768	Outfit	365
HVAC constr.	502	Masonry	271	Interior finishing	2879	Construction machinery	8695
Joinery production	167	Tile	550	Sash	285	Furnace	163
Carpentry	2595	Exterior tile	311	Water proof	2166		
Formwork	6489	Plaster	1891	Concrete pumping	533		

Ref. ISA

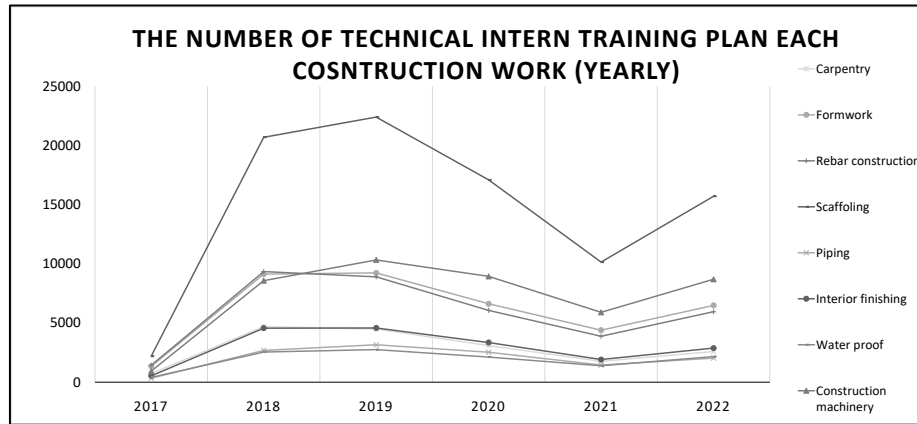


Figure 3. Yearly number of TIT Plan each construction work: Ref. ISA, OTIT

Examining the trends in the number of resident foreigners with the SSW No. 1 degree by the type of work, all occupations have been on the rise since 2019 when the system was enforced; as of the end of June 2023, the number of workers with the SSW No. 1 degree in the construction field increased by 28.7 times to 18,429 compared to 642 at the end of September 2020. The types of work examined in this study were scaffolding (635 people), rebar (406 people), and formwork (377 people), that are remarkably high occupations, along with construction machinery (432 people). New categories of civil engineering (10,072 people), construction (4,765 people), and lifelines and equipment (988 people) were introduced in 2022. Many technical trainees who completed the program between 2020 and 2021 switched to specific skills because they were unable to return to their home countries after international borders were closed owing to the Covid-19 pandemic.

5. INTERVIEW RESULTS

This section discusses the interview results from five perspectives: background of acceptance, working environment and training issues, acceptance attitude forward, living support, and after returning to the home country, to understand the comprehensive actual operation of the foreign acceptance system.

5.1. Background of acceptance

The 1990s witnessed the earliest start of accepting foreign workers since the decline in the number of new Japanese employees. The other nine companies started accepting foreign workers after 2010 because the 2008 financial crisis caused a turnover of Japanese construction workers. By contrast, the Great Japan Earthquake of 2011 caused a workforce shortage for reconstruction in the Tohoku region, and the support from the Kanto region responded to the increase in demand. Moreover, an opinion existed that they had prepared the workforce for emergencies. Case C stated that the number of foreign construction workers increased in 2015 owing to the launch of a foreign construction worker system. Although natural disasters and economic crises were the main motivations, workforce shortages and a decrease in the number of Japanese youth were mentioned as reasons for accepting foreigners from the 1990s to 2019, that are still chronically facing issues even after 30 years.

Several companies regularly accept TIT trainees every year, and simultaneously, some return to their home countries after completing the program. The nationality of the trainees is concentrated from one country, or at most from two countries, such as Vietnam, Indonesia, and Myanmar. The presence of experienced trainees supports new trainees in adapting to the environment, with the provision of linguistic support for practical training and consultation in daily life, that is expected to function and

sustain productivity by transferring skills among seniors and juniors. Some cases suffered from a discrepancy between the trainees and the company regarding the recognition of treatment at the start of acceptance. However, once the flow from acceptance to return to home is established, acceptance of trainees can continue through personal transmission through foreign social networks. However, during the Covid-19 pandemic, from 2020, overseas travel was temporarily suspended, and acceptance was delayed. One company opined that the balance between the number of Japanese people and foreigners was stable.

5.2. Working environment and training issues

Foreign TIT trainees have become an indispensable workforce and perform the same level of work as Japanese workers. Rebar contractor D said that 40% of its employees were foreigners and that doing business without foreigners was impossible. Indeed, as of 2020, approximately 18% of the rebar construction industry comprised foreign workers [25]. Furthermore, an opinion existed that trainees should be assigned light work and work support roles immediately after joining the company. In addition, trainees worked in pairs with skilled Japanese workers to ensure work quality, examining the details of on-site work in advance and determining whether the work was suitable for the level of each trainee.

Language barriers are the most challenging aspect of training. TIT trainees are assigned to own work after a 320-h study period at a Japanese school; however, Japanese proficiency is diverse and needs to respond flexibly. Certain companies made efforts to provide Japanese classes informally, whereas others created construction manuals in local languages and conveyed the names of tools and equipment and construction procedures.

In the case of rural areas, obtaining construction qualifications places a financial burden on people, with respect to travel expenses as well as interpreters depending on their proficiency in Japanese language, because of the lack of facilities.

5.3. Acceptance attitude forward

Several companies accepted TIT trainees with low wages to compensate for the workforce shortage in the 3–5 years acceptance cycle. Companies in rural areas sustained the number of foreigners without becoming a burden.

In the case of high-wage SSW, only a small number of excellent and motivated foreigners are hired as leaders of TIT trainees. Further extending the period of stay for TIT rather than introducing high-wage SSW, was desirable. According to the interviewees, labor-intensive and unstable demands make specific skill workers unsuitable. Foreigners plan to return to their home countries in utmost five years; therefore, companies speculated whether sufficient applicants were available for the specific skills program.

People can be transitioned through the SSW system either by TIT program or a certification exam. To date, companies have believed that hiring an unknown person is a hurdle and that the transition from TIT would be the mainstream.

5.4. Living support

The trainees lived in groups in two types of accommodations: dormitory facilities provided by the host company and rental housing units rented by the company. A limited number of companies have their own facilities. One company built a shared house owing to environmental concerns such as a cultural gap. Accommodations are adjacent to or attached to corporate offices/supervising organization offices, enabling easy consultation.

Ensuring privacy and alleviating stress are also important concerns. Specifically, companies made voluntary efforts to build good relationships not only with foreign trainees but also with Japanese workers by setting up communication outside of work, for example, accompanying them to shop for daily necessities, setting up opportunities for meals that consider the dietary habits of their home countries, and building sports fields. However, in some companies, the support for workers was limited to essential situations and did not delve deep into their private life.

Differences in ethics and rules and feelings of loneliness have become problematic. In the days when Wi-Fi was not well provided, foreigners gathered near small stores in search of free Wi-Fi. A certain livelihood security must be considered for good relationships with the local community. Currently, information on the working environment is immediately spread through social media among trainees and trainee candidates.

5.5. After returning to home countries

As reported by prior studies, first, the trainees do not work in the construction industry after returning to their home countries. One main career path is to work in another industry using the Japanese language; therefore, the program is regarded as a place to acquire language, not a construction skill. Second, particularly for those who do not have a plan during the period of their stay, a TIT program is a method of earning a certain amount of foreign currency through migration, contrary to the program principle itself. The third is the case of returning to Japan or going overseas for work. Some TIT trainees returned to Japan using the construction worker system, and others had worked in multiple countries, such as Russia and South Korea, before TIT.

This is because of the differences in the building production systems in each region. For example, the construction method of framework scaffolding used in Japan differs from the bamboo materials used locally. Fewer opportunities exist to utilize the skills acquired in Japan after returning to home countries. Furthermore, the skills of highly specialized construction in Japan cannot commensurate with the skills for simple work in the home country.

6. CONCLUSION

This study clarified the actual situation of accepting foreign workers into the construction field through an interview survey after understanding the system and statistical data. The acceptance of foreigners in Japan became full-fledged with the introduction of the SSW system. In retrospect, the acceptance of foreigners has increased and decreased because of events such as economic crises, natural disasters, and disease epidemics. The difficulty of recruiting young Japanese people is a chronic issue that has lasted for more than 30 years, caused by the physical load of work, low wages, and low birthrates. Foreigners have been positioned as auxiliaries; however, as a solution to workforce shortages, interviews have revealed that foreigners are indispensable.

The use of the TIT program, which is the main system as of 2023, has increased rapidly over the past ten years, and the environment for accepting both the main contractor side and the receiving side (subcontractor side) has been developed and improved. However, in the current operation that depends on the Japanese proficiency of TIT trainees, uncertainties exist in the sense that it relies on management competence.

Although the TIT program requires trainees to return to their home countries after a certain period, they seldom work in the construction industry in their home countries, as indicated by prior studies [8][9]. This study also noted that many issues exist to be solved in the future regarding the ways to use the acquired skills owing to the differences in the building production system. By contrast, the fact that some trainees repeatedly work overseas supports the newly introduced SSW system. The interviewed companies desire long-term education because social relationships, individual personality, and trust are also important in terms of working together for a long time.

In recent years, information sharing among trainees has actively used social media and continuously secured human resources through biographies of people of the same origin. Conversely, a risk existed that human resources who spent money on in-house training using the TIT program would change jobs from rural areas to areas with high labor unit prices, such as urban centers, when transitioning to specific skills. A significant change was observed in the environment surrounding companies that accepted foreign workers through information technology. SSW system has disadvantages for companies in terms of long-term employment, and foreigners are expected to have high-level skills and stay in Japan for a long time with a view to permanent residence. This obstacle can be said to be an issue for promoting the use of the system in the future.

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