

Attracting youth to agriculture through the Japanese agriculture Technical Intern and Training Program – A case study of Indonesia

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Abstract. Japan is currently grappling with a labour shortage in its agricultural sector. The Japanese government allows foreigners to work in the name of training under the Foreign Technical Intern and Training Program (TITP) in 14 sectors, including agriculture. Despite its intentions, TITP has faced significant criticism from both domestic and international human rights organisations, citing instances of exploitation and labour abuse. Past studies mainly focused on these negative aspects, often overshadowing the positive outcomes and successes of program alumni. However, TITP is considered highly important for Indonesia as it provides high-paying jobs for low or unskilled youth, accounting for over 50% of the total unemployed population. In recent years, the Indonesian government has strongly supported TITP, claiming it attracts youth to engage in agriculture, and many of its alumni return to Indonesia and embark on agricultural entrepreneurship. This paper aims to explore the characteristics of TITP graduates in the agriculture sector and whether they become entrepreneurs within the agricultural sector, otherwise referred to as agripreneurs. Results from this study show that over 71% of alumni transition into agripreneurial roles, managing multiple enterprises and earning significantly more than typical Indonesian farmers. Over 70% engage in diversified farming, a practice the Indonesian government encourages. This demonstrates the effectiveness of TITP in attracting Indonesian youth to agriculture and fostering entrepreneurial success.

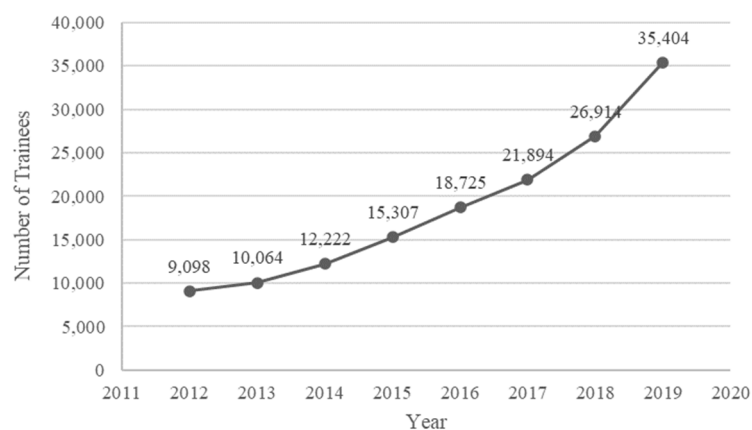
Keywords: TITP, training abroad, agriculture internship, entrepreneurship, agribusiness

Introduction

In recent years, Japan has been facing a pressing challenge—a declining domestic population coupled with a disinterest among its youth in pursuing careers in the agricultural sector (Yoshikawa n.d.). This phenomenon is also being faced by many countries. For most countries, including Japan, this situation raises deep concerns about the sustainability of the agricultural industry, which plays an essential role in ensuring food security and rural development. To secure the sustainability of the agricultural sector, the Japanese government has taken proactive steps to strengthen strategic cooperation with countries worldwide. Among these initiatives, one endeavour is the establishment of the Foreign Technical Intern and Training Program (TITP). The Japanese government allows foreigners from developing countries, including Indonesia, to work in the name of training under TITP. This approach encounters severe criticism from human rights organisations inside and outside Japan for insufficiency in protecting foreigners' human rights. In principle, foreigners in the ITP or TITP are not allowed to change their workplace after entering Japan (Godo 2019). This causes many trainees to run away or disappear when faced with problems in their workplace in Japan (Ratnayake et al. 2020). After around 30 years of this program, it is said that it will be abolished and replaced (Kyodo 2023).

In contrast to the declining population of Japan, Indonesia is currently experiencing a demographic bonus period, characterised by a predominance of the productive over the non-productive age group. This demographic boom is predicted to end in 2036 (Indonesian National Research and Innovation Agency 2022). A consequential issue emanating from this situation is the lack of employment opportunities. From interviews with trainee candidates, it is known that the growing impact of social media platforms also motivates more Indonesian youth to participate in TITP. As illustrated in Figure 1, there has been a significant increase in the number of Indonesian trainees in Japan, a trend forecasted to multiply. Positioned third, following Vietnam and China in terms of the volume of trainees in Japan (OTIT 2021), TITP is considered a crucial component of the collaboration between Japan and Indonesia and a source of employment opportunities for Indonesian youth.

Despite the acknowledged risks and challenges inherent to TITP, the Indonesian government appraises this program as a viable means for human resource development, especially for the agriculture sector (Syaukat et al. 2022). A study conducted by the Japan International Cooperation Agency (JICA) in 2021 highlights that among the developing nations participating in the TITP, particularly in Southeast Asia, only Indonesia views TITP as a human resource development program, especially for the youth. Conversely, most other participating countries, like Vietnam and the Philippines, primarily view the TITP as a financial earning opportunity.

Figure 1. Number of Indonesian trainees in Japan

Source: Japan Ministry of Justice Statistics on Foreign Residents 2019

Through several media outlets, the Indonesian government claimed that more than 20 percent of the TITP graduates return to Indonesia and embark on entrepreneurial ventures, a significant portion within the agricultural sector (KumparanBisnis 2019, detikNews 2023). Nonetheless, limited empirical evidence is available to corroborate this claim. If validated, this program's sustenance and continuation would be essential to address the lack of farmer regeneration, especially in Indonesia.

In this study, "farmers" are defined as individuals engaged in land cultivation, distributing their produce conventionally through intermediaries or directly within marketplaces. "Agriculture entrepreneurs" or agripreneurs embody those who employ innovative methods to market their agricultural products through digital platforms and other channels or process these agricultural products to enhance their value. This group also integrates diverse business aspects, such as livestock management, fisheries, and culinary ventures. Individuals involved in the food industry align with the categorisation of farmer entrepreneurs, paralleling the definition posited by the MAFF. In the Indonesian context, the term "entrepreneur" denotes individuals who have established their small to medium enterprises (SMEs), including if it is just selling their products online. This label does not necessarily demand official legal recognition as a corporate entity.

Japanese Foreign Technical Intern and Training Program

TITP is an initiative established by the Japanese government in 1993. However, the industrial apprentice program between Indonesia and Japan in the agriculture sector started much earlier, in 1983. This Industrial Training Program (ITP), known as *Kenshu Seido* in Japanese, became the roots of TITP, which eventually became a part of the program (Gusnelly 2019). TITP is designed to offer technical training and skills enhancement to young foreign nationals of developing countries in 81 job categories, including agriculture. Japan, facing a labour shortage, particularly in sectors requiring manual labour, such as agriculture, initiated the program to fill this void while providing valuable vocational training to intern trainees.

As years passed, the TITP has evolved and expanded. Currently, under the TITP, there are three different programs:

- *Kenshu Seido*, also known as the Industrial Training Program (ITP)
- *Jisshu Seido* or the Technical Intern Program (TIP)
- *Tokutei Ginou Seido* or the Special Skilled Worker (SSW).

TITP comprises two distinct phases: the ITP and the TIP. Both programs facilitate the transfer of technical skills, methodologies, and knowledge to foreign nationals, thus furthering human resource development in their respective countries. The ITP, typically a one-year program, primarily offers participants classroom-based and fundamental technical training. Notably, trainees under ITP are not recognised as workers within the Japanese labour laws, leading to their exclusion from various labour rights. This fact has been the subject of significant critique (Ratnayake et al. 2020).

In contrast, the more extended TIP emphasises practical, on-the-job training, allowing trainees to hone specific skills within a real-world work setting. Initially designed for up to two years, programmatic revisions now permit trainees to prolong their participation for a cumulative five years. According to OTIT, since TIP trainees are classified as workers, they are protected under Japanese labour regulations, including entitlements like the minimum wage. The evolutionary

trajectory of the TITP, which starts with ITP and progresses to TIP, reflects Japan's responses to criticisms and its strategic attempts to both cater to its labour requirements and enhance the working conditions and rights of foreign trainees.

The SSW Program was introduced recently in 2019. Contrary to its antecedents, the SSW's primary objective pivots towards employment, deviating from the traditional knowledge-transfer paradigms inherent to prior training programs. Consequently, given its distinct operational framework, this research has elected to omit the SSW Program from our scope of study.

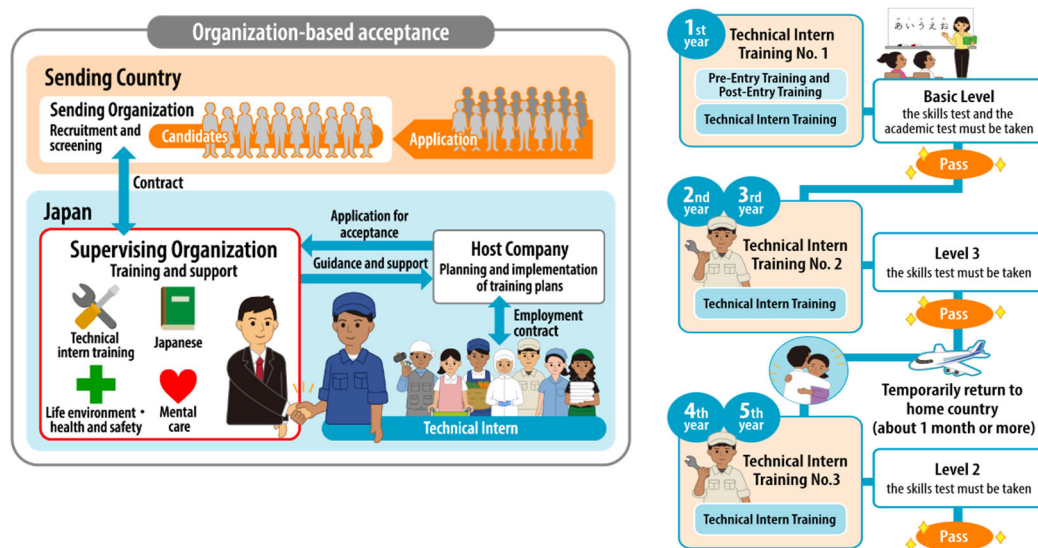
A distinctive feature of TITP is the preparation for candidates prior to their departure to Japan. Prospective candidates for the program are mandated to undergo pre-departure training in Vocational Training Centres, colloquially termed "LPK" in Indonesian. The curriculum of these sessions encompasses foundational Japanese linguistic proficiencies, a general understanding of Japanese culture and customs, and information about the TITP itself. After three to six months of training, they are interviewed online or directly by companies or Sending Organisations in Japan that are interested in hiring them. Depending on the training centre, people who undergo this phase must pay a fee ranging from around 200 US dollars (approximately 300 AUD) to more than 3,000 US dollars (4,501 AUD). Payment within this phase is known to have the potential for malfeasance. Specific unscrupulous organisations may compel prospective trainees, especially those who have been accepted to work in a Japanese company, to remit exorbitantly high fees solely for the financial benefit of the institution itself. Table 1 and Figure 2 describe the details of the flow and process of TITP after they have been recruited.

Table 1. Flow and process of TITP in general

Pre-Entry Training and Post-Entry Training	After being recruited in their home country, technical interns must complete training, including learning the Japanese language, the rules and regulations, and other information necessary to live in Japan at a Vocational Training Centre (<i>LPK</i> – in Indonesian). They must have similar training after entering Japan and before being assigned to a Japanese company.
Technical Intern Training No. 1	Each technical intern will receive a residence card from the Immigration Bureau at the time of entry, which allows them to stay in Japan for one year and will be assigned to a company after completing the required training. The resident status for this first year is called Technical Intern Training No. 1. During the period, technical interns will take a skills test and a knowledge (academic) test (Skills Proficiency Test Basic Level). If they fail the test, they will lose their resident status and cannot continue training.
Technical Intern Training No. 2	Technical interns who have passed the Basic Level of Skills Proficiency Test can receive Technical Intern Training No. 2 for the next two years. Suppose they wish to continue the training after the period of Technical Intern Training No. 2 (two years). In that case, they must take and pass the Skills Proficiency Test Level 3 before the end of Technical Intern Training No. 2, complete the necessary procedures, and obtain the qualification for Technical Intern Training No. 3.
Technical Intern Training No. 3	Those who have passed the Skills Proficiency Test Level 3 (at least they must pass the skills test) can proceed to Technical Intern Training No. 3. However, they need to return to their home country (sending country) temporarily after completing Technical Intern Training No. 2 and stay there for at least one month.

Source: Adapted from IM Japan (n.d.), cited in September 2023

The overall structure and operations process of TITP have previously been explained. However, the ITP in the agricultural sector is slightly different. The ASEAN Young Farm Leaders Training Program under ITP targets young farmers or their descendants. These individuals are selected by the Agricultural Extension and Human Resources Development Agency (BPPSDM) to undergo a year of apprenticeship in Japan. Selection criteria for participants include being between the ages of 18 and 39, having active involvement in agricultural communities in Indonesia, and having previously participated in training programs managed by the Ministry of Agriculture. Before departing, trainee candidates undergo intensive pre-departure training administered by the Ministry of Agriculture. Once in Japan, the trainees in this program gain advanced skills in agricultural technology and management through practical farm training and structured lectures. Furthermore, the program aims to cultivate mutual cultural appreciation and strengthen bilateral ties by encouraging direct interactions with Japanese farmers in their local communities. In contrast, under TIP, candidate trainees attend a vocational training centre, adhere to specified training protocols, and engage in online interviews with Japanese companies interested in employing trainees. Only people who are accepted by a Japanese company will be able to train in Japan.

Figure 2. Flow and process of TITP

Source: IM Japan (n.d.), cited in June 2022

Past studies on the subject

The primary purpose of the TITP is to enhance the technology, skills, and knowledge pragmatically and practically in an actual work environment so trainees from developing countries can apply their skills when they return to their home countries. However, there is a broad consensus that the program is a "side door" for lesser-skilled labour migration, having no intention to train or improve temporary foreign workers' skills (Chiavacci 2012; Roberts 2018; Liu-Farrer & Tran 2019; Tian 2019).

A study on Vietnamese trainees stated that before receiving training in Japan, they had already considered this migration and training as an opportunity for "making fast money." (Sui & Koo 2021). Instead of solely learning techniques and skills in their training and internship sectors, trainees emphasised that the most impactful aspect of their experience was acquiring Japanese work ethics, including discipline, expanding their networks, and earning money. These factors enabled them to start their own businesses upon returning home (Ratnayake et al. 2016; Faruq 2018). Very few studies conducted in other countries mention trainee alumni of TITP who come back to their countries and open their own enterprises.

Gusnelly and Riskianingrum (2019) conducted a study titled *Indonesian Young Farmers' Apprenticeship to Japan* from 1984 to 2016 (translated from Indonesian). Through interviews with several ex-Japanese trainees (not explicitly mentioned), the study concluded that motivation was the main factor supporting the trainee alumni's success in agriculture. The knowledge gained from Japan often does not apply in their home villages. Generally, the most beneficial knowledge that was internalised in a post-apprentice life was the work ethic and business management.

Yasuko Iwashita (2018) mentioned that the viewpoint of the host country (Japan) has been frequently discussed, which is why his study was conducted through interviews with Indonesian returning technical intern trainees. However, Iwashita's study considered all Indonesian trainees in any field, not specifically in agriculture, and with no age scope.

A systematic literature review conducted in 2022 mentioned that agripreneurship, especially among youth, has become a popular topic in the past five years, particularly in Asia, followed by Africa (Syaukat et al. 2022). It also mentioned that previous research focused on well-educated youth, such as university and college students. However, young farmers are the demographic that requires more focused attention. It underscores the imperative for further investigation into agripreneurship aimed at young farmers, seeking to discern the essential support they need for proficient agribusiness management.

Based on these findings, there is a pronounced need for a comprehensive study that examines explicitly the young Indonesian TITP trainee alumni in the agriculture sector. Therefore, this study provides insights into the efficacy of TITP in fostering agripreneurship. It also aims to explore the characteristics of TITP graduates in the agriculture sector and whether they become entrepreneurs within the agricultural sector, otherwise referred to as agripreneurs.

Methodology

The research was undertaken using an inductive qualitative case study approach to understand the working conditions and perspectives of TITP trainees and alumni. The inductive approach is generally used to condense extensive and varied raw text data into a summary format and to establish clear links between research objectives and the summary findings from the data (Thomas 2006). In-depth semi-structured interviews and structured online questionnaires were conducted to collect data.

The study involved all key stakeholders of TITP, including two Japanese farmers, two Japanese receiving organisations, six staff from Indonesian vocational training centres, seven officials from the Indonesian Ministry of Agriculture, 29 trainee candidates, 19 current trainees, and 75 trainee alumni, totalling 140 participants. Participants were selected using purposive sampling to ensure a diverse representation of perspectives across different stages of the TITP process and from various stakeholder groups. The trainee candidates, current trainees, and alumni were chosen to reflect some examples of TITP cases from Indonesia. However, official data on the exact number of Indonesian trainee alumni from the agriculture sector was not found, making it challenging to determine the representativeness of this research.

The semi-structured interviews and questionnaires were developed and transcribed in Bahasa Indonesia to ensure clarity and cultural relevance for the participants. These guides were constructed based on a thorough literature review (Creswell & Poth 2018; Yin 2017) and consultations with Indonesian Officials under the Agricultural Extension and Human Resources Development Agency (BPPSDMP) of the Ministry of Agriculture. Prior to the actual data collection, the interview guides were pretested with a small sample of five individuals to refine the questions for better clarity and relevance. Data collected for trainee candidates, trainees, and alumni included their general demographic, their perspective towards the training they have received, their experience of training in vocational training centres, training in Japan, and their current condition and source of income. The data collection occurred from November 2021 to August 2023.

Qualitative data analysis involves words, sentences, or narratives from in-depth interviews and observations. The qualitative descriptive methods were conducted following guidelines by Miles et al. (2014), involving data condensation, data display, and verifying conclusions. The data from interviews and questionnaires were translated into English and then coded to identify key themes and patterns. Data triangulation was employed to ensure the validity and reliability of the findings. This involved cross-verifying data from different sources, including interviews, questionnaires, and secondary literature (Patton 2002). The data were analysed using Excel and NVivo software to facilitate the organisation and analysis of qualitative data. Descriptive statistics were also used to summarise the data collected from the questionnaires, providing a quantitative dimension to the qualitative findings (Creswell 2014). Secondary sources such as scientific journals, articles, and reports were also utilised to support the findings and provide a comprehensive view of the topic.

Results

The reality of the pre-departure training stage

To ensure a fulfilling training experience, pre-departure training must provide reliable information and effectively enhance candidates' existing skills gained from training and internships on Japanese farms. Interviews with crucial respondents reveal that a significant issue with pre-departure training in recent years is the prevalence of fraud among many Indonesian LPKs and Sending Organisations (SOs). These organisations often demand payments ranging from 200,000 to 400,000 yen (approximately 1,900 to 3,900 AUD), falsely promising employment with Japanese companies. Instead, these SOs abscond with the funds, leaving candidates stranded and deceived. Respondents have noted that finding a trustworthy LPK and SO has become progressively more difficult.

Based on interviews with our respondents, the amount of social media content regarding working in Japan as a trainee has significantly grown over the past five years. This increase has been pivotal in driving up the interest among Indonesian youth to participate in the TITP. With this surge in demand, some organisations have taken advantage of the situation, targeting individuals eager to secure employment in Japan. One respondent mentioned that:

I first became interested in TITP in Japan after seeing a post on Instagram about all the good things she experienced while training there. I have trained in an LPK for almost one year, but I have not yet secured employment with a Japanese company.

Approximately 50% of the participants surveyed were trained under three LPKs, which were also subjects of this study. When evaluating the satisfaction levels associated with the pre-departure training, with "unsatisfied" and "very unsatisfied" combined into a singular "unsatisfied" category, 46% of all respondents (trainee candidates, trainees, and trainee alumni) expressed dissatisfaction. Specifically, trainee candidates exhibited the highest level of dissatisfaction at 56%. Only 37% of all respondents felt "satisfied" or "very satisfied" with the training they received. Table 2 provides a comprehensive breakdown of satisfaction levels across different groups.

Table 2. Satisfaction rate with pre-departure training

Satisfaction	Trainee Candidate (n=29)	Trainee (n=30)	Trainee Alumni (n=75)
Very Satisfied	20%	10%	23%
Satisfied	14%	21%	22%
Neutral	10%	24%	18%
Unsatisfied	28%	21%	26%
Very Unsatisfied	28%	24%	12%

Source: Interviews with trainees, trainee candidates, and alumni (n=133)

Trainees, trainee candidates, and alumni mentioned the main reasons for their dissatisfaction with the pre-departure training. One of the main problems was that the Japanese they learned was too textbook and impractical, quite different from the phrases the farmers use when giving instructions, especially if they have a local dialect. More practical Japanese is needed. Table 3 elaborates on the training content and what the respondents felt they needed or hoped were included. Respondents were asked to choose at least one up to three pieces of content they hoped were included or extended; 172 answers were collected. In the general LPK, people who aim to work in various sectors (not only agriculture) in Japan learn everything together as a group. Respondents felt that having more knowledge of Japanese agriculture would be helpful prior to their departure.

Table 3. Content of pre-departure training and what content participants perceive is needed (% mentions)

Actual Pre-Departure Training Content	Need/Hope is Included
Textbook Japanese (Minna No Nihongo Book)	Conversational & Agriculture Related Japanese (47%)
Military Style Physical Training	Actual Agriculture Training in the Field (4%)
Very Limited Alumni Sharing Session	More Honest Alumni Sharing Sessions (20%)
No Class on Financial Literacy & Entrepreneurship	Class on Financial Literacy & Entrepreneurship (9%)
Short Session on Japanese Culture & Manner	Longer Sessions on Practical Japanese Culture & Manner (13%)
No Specific Class on Japanese Agriculture	Detailed Class on Japanese Agriculture (7%)

Source: Interviews with trainees, trainee candidates, and alumni (n=137)

Trainee alumni's perspective towards TITP

Regarding alumni from both the ITP and TIP programs, they express considerable satisfaction with their training experience in Japan. When aggregating the "very satisfied" and "satisfied" categories into a consolidated "satisfied" classification, approximately 85% of ITP alumni and 77% of TIP alumni reported contentment with their training experiences in Japan. The details of the satisfaction metrics can be found in Table 4.

A prevalent sentiment expressed by ITP alumni pertains to the perceived disparity between their monthly allowance of 40,000 yen (approximately 380 AUD) and the volume of work required on the farm. This perspective persists even though the hosting farmer provides all their comprehensive daily accommodations, including lodging, transportation, and meals. Conversely, TIP trainees receive an hourly wage but are responsible for their daily expenses.

Table 4. Satisfaction rate with TITP training

Satisfaction	ITP Alumni (n=36)	TIP Alumni (n=39)
Very Satisfied	51%	46%
Satisfied	34%	31%
Neutral	11%	18%
Unsatisfied	6%	3%
Very Unsatisfied	0%	3%

Source: Interviews with ITP and TIP trainee alumni ($n=75$)

While numerous respondents contend that they could not implement many of the agricultural techniques acquired during their training in Japan, all alumni unanimously attest to an enriched understanding of agriculture. The most common reason they could not implement the Japanese techniques was because the materials were unavailable in Indonesia or the climate was not suitable (Japan has a temperate climate with four seasons, while Indonesia has a tropical climate). Furthermore, they believe their training in Japan significantly expanded their mindset and work ethic. One successful alumnus who was earning more than 30,000,000 IDR from his agribusiness mentioned:

My training experience in Japan has shifted my perspective on working on a farm. Before, I never scheduled my daily activities on my farm; I just did what I thought I needed to do. I did not have a goal. The farmer in Japan told me that we have to look at our farm as a company. If companies have SOPs (Standard Operating Procedures), our farm must have one too.

Trainee alumni also mentioned the desire to receive post-TITP training on entrepreneurship, financial literacy, and business planning, which they need to expand their agriprenurship.

Current situation of the trainee alumni

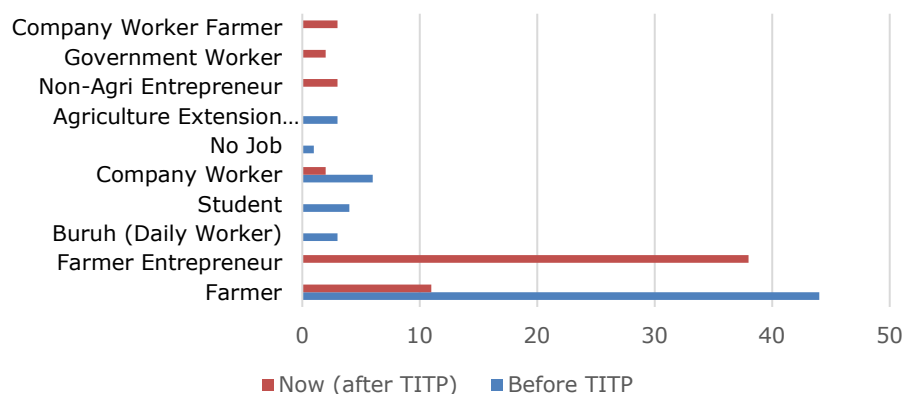
A substantial 97% of the trainee alumni sampled in this research are presently employed within the agricultural sector, assuming roles as farmers, farmer entrepreneurs, or governmental employees. The median age of this demographic is 33, positioning the majority within the 8% bracket of Indonesian farmers aged between 20 and 39. Notably, over half of Indonesian farmers (BPS 2019) are over the age of 50. All the alumni have attained, at a minimum, a high school or vocational school diploma before going to Japan. A noteworthy 54% of alumni who returned to Indonesia after participating in TITP in Japan obtained undergraduate degrees in Indonesia, with 44.6% specialising in agricultural disciplines. Our interviews with alumni revealed that financial difficulties were a primary reason for not pursuing higher education initially. However, with savings accrued during their training in Japan and a shift in perspective gained from their international experience, many were able to attend college or university. This achievement is particularly remarkable considering that 63% of Indonesian farmers have not progressed beyond middle school (BPS 2019).

Most alumni have an agricultural background, and their family supports their careers in the agriculture sector. Respondents who owned land before coming to Japan had an average size of 0.51 ha. Currently, the respondents' land size is around 1.1 ha. Comparative data from the 2019 Indonesian Census indicates that an average farmer household oversees 0.6 hectares, generating a monthly income of around 1,250,000 IDR (115 AUD). The average age of the trainee alumni was 24 years old when they departed to Japan to do TITP, and this year, the respondents, on average, returned to Indonesia around 9.4 years ago. Geographically, these trainee alumni predominantly reside within the Java Island corridor, encompassing West Java, Central Java, and East Java provinces. As underscored earlier, the primary income stream of the trainee alumni is from the agricultural sector. Interestingly, after returning from Japan, there was an increase in respondents working in the agriculture sector. Figure 3 shows the details of the main jobs of the trainee alumni before and after conducting TITP.

Before coming to Japan, 72% (44) of the respondents identified as farmers but none as farmer entrepreneurs. Remarkably, after participating in the TITP, 62% had transitioned to farmer entrepreneurs, some with multiple horticulture, livestock, fish, shops, and food sector businesses. A staggering 98.3% attributed their entrepreneurial development to the experiential learning they garnered during their TITP stint in Japan. In terms of economic advancement, 82% stated their current income is higher than before doing TITP, 7% said it is almost the same, and 11% indicated no discernible increase. On average, respondents reported earnings amounting to 4,584,905 IDR (423 AUD), which is two times higher than the provincial minimum wage in West Java with

1,841,487 IDR (170 AUD), Central Java with 1,812,935 IDR (167 AUD), and East Java with 1,891,567 IDR (174 AUD) (Indonesian Ministry of Manpower 2022).

Figure 3. Main job (income) of trainee alumni

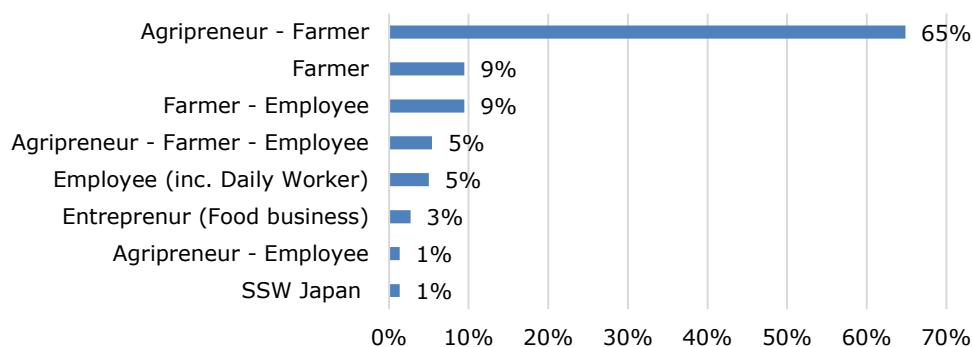


Source: Interviews with trainee alumni (n=75)

Trainee alumni's primary and secondary source of income

Most respondents have multiple sources of income; this study has classified the combination of jobs (income sources) held by the respondents. Figure 4 shows the trainee alumni's current job combinations. Farmers and agripreneurs are considered separate jobs because many of our respondents still do the farming work in the field by themselves (not delegating it to their workers). We feel this is important because most trainee alumni mentioned they are extremely proud of calling themselves farmers. An estimated 71% of the respondents are agripreneurs. The category of employees includes agriculture extension workers and government officials.

Figure 4. Trainee alumni current job combination



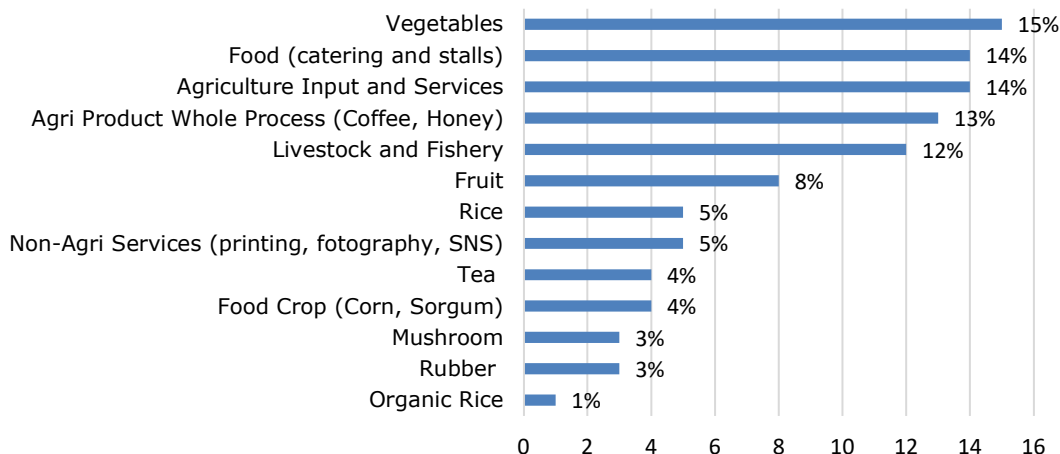
Source: Interviews with trainee alumni (n=75)

Given the large portion of agripreneurs in the sample, this study categorised the types of enterprises the respondents manage. Figure 5 presents a detailed enumeration. Notably, several entrepreneurs manage a diverse portfolio spanning between 1 and 4 types of enterprises. Consequently, while there are 55 entrepreneurs, the total number of enterprise types was 74. This indicates that over 80% of the trainee alumni engage in diversified farming, relying on multiple sources of income. When asked about the rationale behind this approach, it was noted that poly cropping is a strategy to increase yield due to the small average land size (less than 1.5 ha) and processing the agriculture products could limit waste. Approximately 78% of the surveyed trainee alumni were entrepreneurs (agricultural and non-agricultural). In total, 95% of the entrepreneur alumni had entrepreneurship in the agriculture sector as their primary or side income.

The predominant commodities managed by the respondents were vegetables, catering and food stalls, and agricultural inputs and services enterprises. Over 18% of the trainee alumni do the whole processing of their agricultural products, from upstream to downstream. Nonetheless, fewer than 30% of this group reported an average profit exceeding 4,500,000 IDR (415 AUD) from their enterprise. Those alumni with an average monthly profit of 2,000,000 IDR (184 AUD) predominantly processed vegetables into chips, salads, and other forms. This observation might hint at potential areas of enhancement for the program in processing techniques or marketing

strategies to realise optimal profits. As to the combination of enterprises, it is known that alumni who combined farming with selling agriculture inputs or services earned the highest monthly profit from their enterprises, with more than 8,000,000 IDR –15,000,000 IDR (738 – 1,383 AUD). This figure is notably elevated, especially when compared to the average monthly earnings of an Indonesian farmer of 1,250,000 IDR (115 AUD) per month (BPS 2019). Furthermore, the study discerned that more than 70% of respondents practise diversified farming, a strategy potentially influenced by land constraints. On average, trainee alumni who are agripreneurs possess 1.5 ha of land.

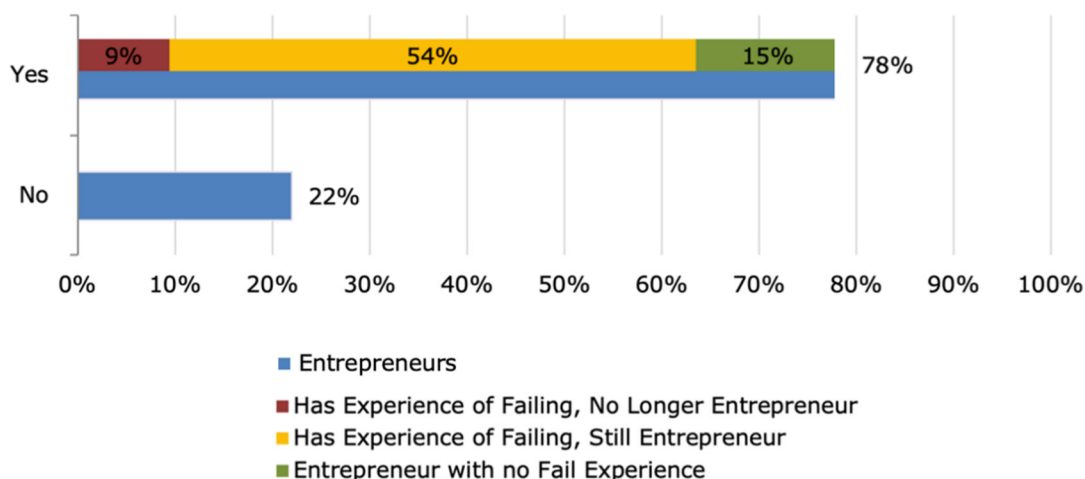
Figure 5. Enterprises managed by respondents



Source: Interviews with trainee alumni (n=55); some respondents have 1-4 enterprises

When asked whether their current enterprise was their first, 54% of the entrepreneurs reported having experienced a failed business. Figure 6 illustrates the percentage of entrepreneurs and their experiences with failure in entrepreneurship. Notably, 78% of the entrepreneurs indicated they had encountered failures in their entrepreneurial journey, yet 69% of them remained active in entrepreneurship despite these setbacks. Many continue to operate within the same sector as before their failure but have implemented various innovations to enhance their resilience. Interviews revealed that their experiences in Japan have instilled a persistence that prevents them from giving up easily and has inspired them to adopt processing techniques, such as converting strawberries into jam, to increase their income.

Figure 6. Trainee alumni entrepreneurs and their experiences of failure



Source: Interviews with trainee alumni (n=75)

Discussion

As mentioned earlier, past studies on agripreneurship usually focused on well-educated youth, such as university and college students, while farmers (especially the youth) rarely received attention. This research has explicitly examined the young TITP trainee alumni in the agriculture sector, using Indonesia as a study case based on government reports indicating that many TITP

alumni return to Indonesia and become agripreneurs. Unlike past studies that primarily focused on the training in Japan (Ratnayake et al. 2016; Faruq 2018; Yasuko 2018; Sui & Koo 2021), this study also examines the pre-departure training conducted in the sending country (in this case Indonesia), which is crucial for the success of their training in Japan. The findings from this study indicate a clear preference among respondents for an enhanced pre-departure training, emphasising practical Japanese language proficiency and an in-depth understanding of Japanese agricultural practices, which is needed to mitigate potential challenges encountered during their stay in Japan. Additionally, respondents expressed a need for post-TITP training on entrepreneurship, financial literacy and business strategizing. From our interviews with Indonesian government officials, it is known that since 2021, the Indonesian government has initiated online business planning courses tailored for agricultural ITP trainees. They mention that the Ministry of Agriculture envisions expanding this program to more trainees and providing follow-up training in Indonesia after they finish their internship.

This study has also highlighted a crucial issue regarding pre-departure training, which is the absence of official regulations governing organisations in the process. This absence has created a gap that has allowed organisations to commit fraud. Interviews reveal that some LPKs demand unrealistic payment under the false pretence of securing a training or intern position with Japanese companies. Instead, they abscond with the funds, leaving candidates stranded and deceived. Interviews with key respondents have mentioned the growing difficulty in identifying trustworthy LPKs and SOs.

It is further deduced from this study that the TITP, especially in the agricultural sector, has effectively encouraged TITP alumni to pursue entrepreneurship in agriculture. This expands the cohort of young farmers; a demographic Indonesia urgently seeks to bolster. More than 71% of trainee alumni who have returned to Indonesia transitioned into agripreneurial roles. The enterprise types they manage vary, with individuals overseeing between 1-4 distinct enterprises. The combination of enterprises that synergised traditional farming with merchandising of agricultural inputs or services registered the highest monthly earnings, which are markedly elevated, ranging from 8 to 15 times the average income of a typical Indonesian farmer. Furthermore, the research highlighted a predominant trend, where over 70% of the respondents employ diversified farming, which is highly encouraged by the Indonesian government.

The high percentage of trainee alumni who transitioned to agripreneurs and diversified their income sources highlights the positive impact of the TITP on their professional and economic development. This diversification strategy, driven by land constraints and the need to maximise yield, has proven effective in improving their livelihoods. Although many alumni mentioned not being able to apply Japanese agricultural techniques that they obtained due to the difference in climate, unavailability of materials, and lack of demand for certain Japanese-unique processed products (like *umeboshi* or pickled plums), they have all mentioned that they do not regret conducting TITP in Japan. They stated that their training and internship experiences have broadened their mindset and enhanced their work ethic. This is evident as, among the 78% of alumni entrepreneurs who have faced failure, only 9% chose to give up and leave entrepreneurship. Others pursued innovation to boost the sales of their enterprises. The persistence and adaptability learned during their training in Japan have been crucial in their ongoing success.

Conclusion

While numerous stakeholders have criticised the TITP, and the Japanese government contemplates its eventual discontinuation, the present research underscores some beneficial outcomes of this initiative in Indonesia. Evidently, the program is not devoid of imperfections and needs significant enhancements. However, an outright termination without introducing a suitable alternative might neglect its latent potential.

Moreover, the positive outcomes observed among alumni, such as increased income, successful agripreneurship, and the adoption of innovative practices, highlight the program's potential to contribute to rural development and economic growth in Indonesia. Continued efforts to improve and support the TITP will benefit individual trainees and contribute to broader agricultural and economic advancements in Indonesia. By addressing the identified issues and building on the program's strengths, stakeholders can ensure that the TITP continues to provide meaningful and transformative opportunities for Indonesian trainees, fostering a new generation of skilled and resilient agripreneurs. Future research is essential to clarify what factors influence trainees to incline in and ascertain the requisite skills and knowledge needed to facilitate their foray into agricultural entrepreneurship and ensure its success.

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