



ISSN: 2586-6036

JWMAAP website: <http://accesson.kr/jwmap>doi: <http://doi.org/10.13106/jwmap.2024.Vol7.no3.25>

## A Study on The Prevention of Accidents and Foreign Workers

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Received: August 3, 2024. Revised: August 14, 2024. Accepted: August 14, 2024.

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### Abstract

**Purpose:** It is necessary to establish more systematic and efficient accident prevention measures in relation to the promotion of safety activities to prevent safety accidents of foreign workers at construction sites, especially as safety accidents of foreign workers continue to occur among industrial accidents occurring at domestic construction sites. In this study, I would like to suggest ways to respond to legal issues related to the recruitment of foreign workers and ways to promote safety management that can effectively reduce industrial accidents through various safety management measures. **Research design, data and methodology:** In order to establish systematic safety management measures for foreign workers, in-depth research was attempted by collecting and analyzing various data such as the current status of domestic industrial accidents, employment status of foreign workers, and disaster statistics. **Results:** In addition, I intend to establish and present a more systematic safety management plan by conducting various analysis and feasibility review such as risk assessment education in terms of accident prevention for foreign workers. **Conclusions:** By establishing and presenting more systematic management measures, such as foreign employment, employment by occupation, and on-site education, this safety management system can effectively prevent accidents for foreign workers and is expected to contribute to the prevention of accidents at domestic construction sites for both construction companies and construction officials.

**Keywords :** The construction industry, Foreign workers, Industrial accidents

**JEL Classification Code :** N65,L74,J61,J82

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## 1. Introduction

Currently, domestic construction work is exposed to various difficult business environments both internally and externally. In an uncertain business environment such as high wages for construction workers and soaring prices of building materials, low-wage unskilled workers are being put into various construction projects in Korea, and the number of foreign workers hired at construction sites is gradually increasing. Looking at the proportion of foreign workers at domestic construction sites focusing on recent data, the proportion of foreign workers at construction sites was 16.2%, up 0.8% from 15.4% in the previous year, according to the trend of deductions in the first quarter of 24, released by the Construction Workers Mutual Aid Association. In addition, the number of foreign workers also increased from 94,567 as of March 2021 to 118,735 as of March 24. The proportion and number of foreign construction workers working in Korea are expected to continue to increase due to the lack of labor force due to low birthrates and rapid aging in Korea. In addition, the number of workers through various work visas has been increasing recently, but there are many vulnerabilities in safety and health management as they often work in workplaces with poor working conditions and have difficulty collecting safety and health information due to problems with insufficient verbal communication. In particular, considering that the number of E-9 foreign workers has expanded to 110,000 in '23, the largest number ever, more intensive systematic safety management of foreign workers is needed.

One of the biggest problems that foreign workers feel at construction sites is the difficulty of communication due to language barriers. Recently, some of the training necessary for the field has been conducted through interpretation using English translation programs, but the reality is that interpretation and on-site delivery training for low-popular languages such as Vietnam, Kazakhstan, and Uzbekistan are limited. Immigration offices and local labor offices, which must manage foreign workers and prevent accidents, also have many small and medium-sized and vulnerable workplaces that must check and supervise illegal stays and illegal employment, and due to the lack of safety and health inspectors, it is not possible to effectively and intensively manage foreign workers' sites in Korea.

In this regard, this study conducts various studies and analyzes in terms of deriving practical problems and finding feasible alternatives related to the prevention of accidents of foreign workers at domestic construction sites to find, devise, and establish and suggest specific safety management plans.

## 2. Literature Review

### 2.1. Construction Industry Accident Status

Looking at the main characteristics of industrial accidents that occurred in 23 years, the number of deaths in the construction industry was the highest in the order of construction (50.7%), manufacturing (28.4%), and other businesses (13.0%), followed by workplaces with five to 49 employees (354, 59.2%), workers aged 60 or older (233, 38.9%), and falling (251, 42.0%). Electricity, gas, steam, and water projects are showing the same pattern compared to the previous year. Other businesses (51,069 and 37.3%), workplaces with five to 49 employees (56,514 and 41.3%), workers aged 60 or older (49,569, 36.2%), and falls (28,228, 20.6%) were the most common, and mining (-885), finance and insurance (-61), fishing (+2,469), other businesses (+2,365), manufacturing (+1,413), construction (+1,108), forestry (+32), agriculture (+24), electricity, gas, steam, and water supply (+5) increased.

Among them, deaths in the construction industry continue to be very high, and the number of occurrences and deaths by construction amount in 2023 is shown in the table below.

### 2.2. Employment status of foreigners at construction sites

According to the 'Quarterly Trends in Retirement Deductible Workers' announced by the Construction Workers' Mutual Aid Association in June 24, the number of foreign workers at construction sites was 118,735. This is 16.2% of the total construction site workers (734,276). There are 106,3866 men and 12,349 women. The number of foreign workers at construction sites was 124,451 in March 2023, but this year it was counted as 118,735. As a result, the proportion of foreign workers also increased by 0.8% from 15.4% in March 2023 to 16.2% in March 2024. However, it can be predicted that the proportion of foreign workers experienced at the site is larger than this because the statistics do not reflect the number of illegal stays and illegal employment, which accounts for a significant portion of foreign workers.

In particular, it is predicted that there are few Korean workers in the basic construction process with high work intensity. In addition, small and medium-sized construction companies with a small proportion of plant construction, where foreign employment is limited, and small and medium-sized construction companies with a large proportion of housing or civil engineering work have a higher proportion of foreign workers. As Koreans avoid working at construction sites, the number of foreign workers at construction sites is expected to continue to increase in

the future.

According to the "2021 Annual Report on Employment and Welfare of Construction Workers" published by the Construction Workers Mutual Aid Association, foreign workers out of 1.55 million construction workers in 2021 were 193,000, accounting for 12.4% of the total. When looking at the past five years (2017-2021), the proportion of foreign workers remained unchanged at 12.3 to 13.8%. In terms of the composition ratio of each of the six major occupations in the construction industry, Koreans are mainly concentrated in "ordinary workers," which are simple labor jobs, whereas foreigners are evenly spread in key areas of the construction industry, such as mold carpentry and reinforcement. Mold carpentry, which installs and disassembles formwork, and reinforcement, which handles reinforcement, are areas that are relatively high in age and are avoided by Koreans as they need a lot of physical strength due to the nature of their work.

The Korea Institute of Construction Industry said in a study on the proper size of foreign workers in the mid-term (2022-2024) construction industry in November 23, "The difficulty of finding jobs in the industry is intensifying due to the aging of Korean workers and the avoidance of employment at construction sites among young people." According to the prediction that there will be a shortage of 170,000 domestic workers among the average 1.55 million people needed by the construction industry every year, a significant portion of the domestic workforce will be replaced by foreign workers.

**Table 1:** Status of deaths by construction size (case, name, %)

Category	2023		2024		An increase or decrease		The rate of increase/decrease	
	Number of occurrences	The number of dead	Number of occurrences	The number of dead	Number of occurrences	The number of dead	Number of occurrences	The number of dead
<b>Total</b>	<b>297</b>	<b>303</b>	<b>328</b>	<b>341</b>	<b>-31</b>	<b>-38</b>	<b>-9.5</b>	<b>-11.1</b>
Less than 100 million	64	65	80	81	-16	-16	-20.0	-19.8
100 million to two billion won	78	80	101	102	-23	-22	-22.8	-21.6
Two to five billion	36	36	43	43	-7	-7	-16.3	-16.3
5 to 12 billion	29	29	28	28	1	1	3.6	3.6
120 to 80 billion	47	49	40	44	7	5	17.5	11.4
More than 80 billion	43	44	36	43	7	1	19.4	2.3

Note: Source: Ministry of Employment and Labor. Industrial accident status in 2023.

**Table 2:** Construction workers' composition ratio by major 6 occupations (unit:%)

<b>Korean</b>	<b>A common worker</b>	<b>Mold woodworker</b>	<b>A plumber</b>	<b>A reinforcing bar</b>	<b>Scaffolding</b>	<b>A masonry worker</b>
	31.9	5.9	5.2	3.0	1.4	1.3
<b>Foreigner</b>	<b>Mold woodworker</b>	<b>A common worker</b>	<b>A reinforcing bar</b>	<b>A plumber</b>	<b>Scaffolding</b>	<b>A masonry worker</b>
	3.0	2.9	1.7	0.5	0.1	0.1

Note: Source: Construction Workers Mutual Aid Association. 2021 Annual Report on Employment and Welfare of Construction Workers.

### 3. Research Methods and Materials

#### 3.1. Analysis of Industrial Accident of Foreign Workers at Construction Site

According to the '2020 Industrial Accident Death Statistics', the share of migrant workers among all industrial accident deaths is about 10.7%. Compared to the average of about 3% of migrant workers among domestic workers, the ratio of industrial accident deaths is more than 3.5 times higher. Over the past five years, the number of industrial accident deaths among migrant workers has exceeded the 100 mark every year.

The industries that allow the employment of migrant workers themselves are workplaces with high risk of industrial accidents, such as manufacturing, construction, and agriculture, livestock and fisheries, where fewer than 300 Koreans avoid working. Moreover, due to the nature of the foreign worker system, which is extremely dependent on employers, which does not have the authority to move workplaces, it is inevitably vulnerable to industrial accidents. Migrant workers are easy to conceal industrial accidents, and

the amount of damages paid by employers is lower than that of domestic workers groups. In addition, punishment for domestic small business owners is weak, and most of the cases are limited to formal treatment whenever an industrial accident occurs.

There are various factors that add to the occurrence of industrial accidents for migrant workers, such as poor labor, residential, and medical environments, insufficient education and training, insufficient safety facilities and equipment, and low industrial accident insurance subscription rates, and there are also many other variables at home and abroad, such as differences in the level of response by individual workplaces to the outbreak of COVID-19.

In 2023, there were 9,543 applications for industrial accidents by foreign workers to the Korea Labor Welfare Corporation, up about 25.9% from five years ago, when there were 7,581. By year, the number of foreign workers' industrial accidents increased from 6,289 injured, 106 killed, and a total of 6,404 in 2012 to 7,892 injured, 129 dead, and 8,030 in 2021.

**Table 3:** Status of industrial accidents of foreign workers by year (unit: name)

Category	The injured / The dead(s)		
	Total	Injured and Cured	The dead
2012	6,404	6,289	106
2013	5,584	5,489	88
2014	6,044	5,956	85
2015	6,449	6,339	103
2016	6,728	6,634	88
2017	6,302	6,189	107
2018	7,239	7,096	136
2019	7,538	7,401	129
2020	7,583	7,457	118
2021	8,030	7,892	129

Note: Source: Ministry of Employment and Labor 2022 Employment and Labor White Paper.

## 4. Results and Discussion

### 4.1. A Study on the Cause of Industrial Accident of Foreign Workers in Construction Site

In domestic construction sites, foreign workers are exposed in a vulnerable state in the safety management blind spot, and serious construction accidents are also increasing in preparation for the increasing proportion of foreign workers. Based on the analysis of the characteristics of foreign workers in Korea, the results of the investigation of the main causes of domestic construction accidents are as follows.

The first is the risk of accidents due to language and cultural differences. Although Korean language tests and language and cultural education are provided to foreign workers, language communication is difficult for a considerable period of time, and environmental maladjustment problems are also occurring as the living environment rapidly changes from the existing primary industry-oriented life to the 4th industrial society. As a result, skills such as work methods are progressing slowly, and due to insufficient communication during work and work, they are exposed to a high risk of accidents in the domestic working environment.

Second, the working environment of workplaces of foreign-employed companies is generally poor. Foreigners are employed in many 3D industries that Koreans avoid, are mainly in charge of harmful and dangerous tasks, and the frequency of disasters is analyzed and confirmed at a higher level as they work in relatively poor working environments such as long hours of work.

Third, the lack of safety awareness and safety management capabilities of small business owners and workers is the cause of most industrial accidents. In small-scale workplaces, interest and investment in safety and health are significantly lower than those of large companies, and foreign workers are also indifferent to safe work methods and effective and systematic education and training because they are busy adapting to the work group and acquiring work methods.

Fourth, on-site education and training for foreigners are generally insufficient. New foreign workers are not systematically completing systematic and periodic workplace training due to communication difficulties.

## 5. Conclusions

Considering that most of the recent on-site accidents are centered on foreign workers, the analysis of domestic industrial accidents for multinational foreign workers, recruitment of foreign workers, and industrial accident

statistics are focused on establishing the following alternatives to help prevent domestic construction accidents.

To reduce the risk of accidents for foreign construction workers, physical improvement measures such as safety-related facilities, protective equipment, and signs at the site are the most important, followed by systematic education and training, cognitive-perceptual approaches, and reasonable improvement measures to reduce the physical burden. Based on the safety and health management environment and employment of construction sites, the following systematic implementation measures are proposed in terms of government policies and corporate safety and health management, rather than simply focusing on the increase in the accident rate caused by the increase in foreign construction personnel or as an individual problem of foreign workers.

First, at a time when the number of foreign construction workers increases, the government needs an institutional mechanism to reduce the number of illegal stays and illegal workers. In another way, improvement measures should be prepared so that foreign workers with excellent Korean proficiency and skilled workers in the construction industry can be used as interpreters, management, and guidance staff for new foreign workers entering construction sites by legalizing them first. It should also be considered to improve the system to partially supplement and ease the crackdown on illegal immigrants in the construction industry, which lacks labor, and to provide them with employment security.

Second, it is necessary to improve the physical working environment related to safety and health suitable for foreign workers and to provide systematic safety and health education. In addition, for the safety of foreign workers, it can be a solution to make it mandatory to periodically conduct safety education accompanied by professional interpreters.

Third, it is necessary to take a variety of approaches, such as producing and distributing safety and health education materials with Silent Books, which can be intuitively understood without the need for translation, or producing and distributing multinational language safety and health education videos, as communication problems can cause problems, misunderstandings of work orders, and safety accidents can occur due to communication problems at construction sites. It is expected that the distribution of multilingual video content will increase the efficiency of field work and increase the understanding of education on safety and health of foreign workers.

Fourth, a method of providing various opportunities for skill acquisition such as education and training and practical training should be newly sought and improved. Fifth, safety and health inspections and supervision of foreign workers' workplaces should be continuously conducted.

Against the backdrop of the recent increase in the

number of foreign workers in construction accidents and construction sites, this study's accident prevention initiatives are significant in seeking and proposing various approaches to improve the safety consciousness, communication, and environment of foreign workers and reduce industrial accidents.

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