

A Recommended Integrated Mechanism to Enhance OSH Management of Blue-Collar Foreign Workers in Taiwan

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This study examines the roles and functions of businesses, labor-exporting countries' representative offices in Taiwan, religious organizations, and manpower agencies in promoting occupational safety and health (OSH). It also offers advice to Taiwanese authorities on making policies and improvements regarding the oversight mechanism mandated by the Labor Safety and Health Act, giving them an idea of what to focus on when enforcing control over blue-collar foreign workers' OSH conditions. This study also proposes that Taiwanese authorities may serve not only as an overseer/inspector of those hiring blue-collar foreign workers in Taiwan, but also expand their role to lay down policies regarding a variety of OSH teaching materials in the blue-collar foreign workers' native languages (spoken or written), the qualifications of translators in blue-collar foreign workers' OSH training programs, and regulations concerning the longer hours such training programs take.

occupational safety and health (OSH) Labor Safety and Health Act OSH training program
manpower agency blue-collar foreign worker

1. INTRODUCTION

To supply the large number of workers needed for national construction projects generated by the development of an industrial society, Taiwan has been importing blue-collar workers from other

countries since 1989. The number of blue-collar foreign workers in Taiwan has grown over the years, reaching 379653 workers on December 31, 2010, or 3.6% of Taiwan's total workforce and 11.5% of the lowest-level workers (i.e., workers at factories and related facilities, machinery operators

and manual workers) [1]. Apparently, the Taiwan authorities define blue-collar foreign workers as the country's supplementary labor force.

Research has shown that migrant workers have a relatively high risk of accidents and occupational injuries. According to Gliber (as cited in Rial González and Irastorza [2]), migrant workers in France are at greater risk for occupational accidents than native French workers due to the nature of their jobs and employment (e.g., short-term or part-time employment), with over 30% of migrant workers suffering accident-induced illness and permanent disability. Similarly, Spanish data (as cited in Rial González and Irastorza [2]) show that in 2004 the country's accident incident rates for the whole country and temporary-contract migrant workers were 0.53 and 0.73, respectively. The overall incidence rate among migrant workers was 0.20; 0.31 of these accidents occurred among unqualified workers [2]. The incidence rate in Spain is computed with the following formulation: the number of accidents \times 100000 workers/number of insured workers by the social security system [3]. Citing these statistics, the European Foundation for the Improvement of Living and Working Conditions contended that the risks and potential accidents facing migrant workers deserved extra attention, as most of the workers performed unskilled tasks that were the most hazardous and health-threatening [4]. Still other studies linked greater risks to inadequate language skills and the employment of underprivileged workers [5].

Meanwhile, migrant workers have more health problems than their native counterparts because their jobs are usually more physically demanding. The European Foundation for the Improvement of Living and Working Conditions showed that 37% of migrant workers in Austria were more prone to be affected by poor health conditions, compared to the 16% of native Austrian workers [4]. According to Weiss (2003), whereas the immigrant workers were healthy when they first arrived in Switzerland, the unfavorable working conditions left them victims of exhaustion and

premature aging years later (as cited in Rial González and Irastorza [2]).

After examining migrant workers' occupational safety and health (OSH) management systems in various countries, it was found that in Hong Kong there was no differentiation between native workers and migrant workers, with the exception that some promotional materials were offered in multiple languages (Chinese, English, Thai, Hindi, Indonesian, Filipino, Urdu, etc.)¹. OSH management in Singapore also does not differentiate between native workers and migrant workers, but offers bilingual (Chinese, English) material in parts of its promotional information².

The regulations for introducing migrant workers into Japan are strict and complex, and are mainly focused on foreign professionals. It was not until 2008 that migrant caretakers and nurses were admitted [6]. Therefore, Japan's OSH management for migrant workers is quite different. The Japanese government has designed a set of multilingual guides to living in Japan specifically for migrant workers to enable them to quickly adapt to local living, to avoid hazards, and to inform them how and where to obtain other necessary information [7]. The Japanese government also formulates and promotes migrant worker employment policy specifically for employers, which offers instructions on contains four major aspects of OSH: the implementation of OSH education, basic Japanese language education, work hazard prevention labels, and education on labor-related regulations [8]. South Africa is also bound by OSH regulations that clearly outline employers' responsibilities in safety procedures; however, their regulations offer no instructions concerning migrant workers' training processes prior to taking jobs, but only provide safety measures for employers to implement [9].

Studies indicate that migrant workers are victims of relatively high work-related risks compared to native workers. Hence, some assistance should be offered to migrant workers to help them adapt to the working environment. Governments should provide migrant workers a comprehensive operation system with integrated mechanisms for OSH

¹ <http://www.oshc.org.hk>

² <https://www.wshc.sg>

as preventive policies and practices. In this study, the researchers intended to explore ways to lower such risks for blue-collar foreign workers in Taiwan while bolstering their OSH conditions, through interviews conducted with the four parties involved in Taiwan's labor imports (businesses hiring such workers, representative offices set up in Taiwan by the blue-collar foreign workers' home countries, Taiwanese authorities, and manpower agencies) and the Taiwanese religious organizations that are in frequent contact with such workers. The purpose of this study is to assist the government in building an integrated mechanism for blue-collar foreign workers in Taiwan with regard to OSH. This study examines what businesses, labor-exporting countries' representative offices in Taiwan, religious organizations, and manpower agencies can do to promote OSH (including feasible mutual monitoring and support). It also offers advice to Taiwanese authorities on making policies and improvements regarding the oversight mechanism mandated by the Labor Safety and Health Act [10], giving them an idea of what to focus on when enforcing control over blue-collar foreign workers' OSH conditions.

2. METHODOLOGY

This study is based primarily on in-depth qualitative interviews, which were conducted to collect information after determining the parties or persons to be interviewed and interview questions. The in-depth interview questions designed specifically for the parties involved in Taiwan's labor imports were as follows:

1. In-depth interview questions for businesses hiring blue-collar foreign workers:

- Have you offered any OSH vocational training programs for blue-collar foreign workers over the past year?
- What qualifications do you require instructors for such training programs to have?
- Where did you obtain teaching materials for such training programs?

- What are your greatest challenges when implementing such training programs?
- What do you think is the best way to implement such training programs?
- In addition to laws and regulations, what are the extra instructions to be included in such training programs?
- What are the instructional methods you use in such training programs?

2. In-depth interview questions for labor-exporting countries' representative offices in Taiwan:

- Do you offer manpower agencies (in your home country) regular updates on OSH training for blue-collar foreign workers?
- Do you urge manpower agencies in your country to give OSH vocational training to blue-collar foreign workers?
- Does your country use digital media to strengthen the blue-collar foreign workers' awareness of OSH?
- Do you urge manpower agencies in your country to recruit blue-collar foreign workers with a focus on their technical capabilities and workplace-relevant professionalism?
- Do you require manpower agencies in your country to explain Taiwan's OSH regulations to blue-collar foreign workers before they arrive in Taiwan?
- Do you compile teaching materials in the native languages of blue-collar foreign workers for OSH training?

3. In-depth interview questions for religious organizations frequently visited by blue-collar foreign workers:

- What kind of workplace-related information do you offer blue-collar foreign workers in Taiwan?
- Do you offer blue-collar foreign workers in Taiwan any information pertaining to OSH?
- What is your opinion about the workplace experiences shared by blue-collar foreign workers in Taiwan?
- Do you often offer blue-collar foreign workers in Taiwan counseling and

assistance for problems about workplace adaptation?

- Is it viable to include, in a timely manner, OSH information in fellowship sessions?
- Do you teach blue-collar foreign workers the languages or communication methods unique to Taiwan, to enhance their workplace communication abilities?

4. In-depth interview questions for Taiwanese manpower agencies:

- How do you help employers give OSH vocational training to blue-collar foreign workers in Taiwan?
- How do you help employers bolster their hazard-identification efforts to protect blue-collar foreign workers in Taiwan from occupational injuries?
- Judging from your experiences, what are the improvements required of manpower agencies when it comes to the translation services available in OSH vocational training programs (for blue-collar foreign workers in Taiwan)?

In addition, to gain an in-depth understanding of the roles and functions of businesses, labor-exporting countries' representative offices in Taiwan, religious organizations, and manpower agencies in promoting OSH (including feasible mutual monitoring and support), the authors used purposive sampling to obtain more valuable opinions. The participants were four executives at four Taiwanese businesses, four labor department directors or specialists at the Taiwanese offices of Thailand, Vietnam, the Philippines, and Indonesia, three staffers at religious organizations, and three executives at three Taiwanese manpower agencies. Of these participants, the three staffers at religious organizations and the three Taiwanese manpower agency executives were seasoned and experienced counselors, who worked with migrant workers and had in-depth and complete understanding of the most common OSH issues concerning blue-collar foreign workers. Data were gathered via audio-taped interviews and interview transcripts. The coded and classified data obtained from interviews were integrated, and government policies and future improvements discussed.

The interviewees and coding method in qualitative analysis were as follows:

- All of the interviewed executives at four Taiwanese businesses that hired blue-collar foreign workers had at least 15 years of experience in OSH management, and all four had frequently hired such workers over the past 10 years. Information obtained from the interviews will be stated later in this article, where the four businesses are coded as A, B, C, and D. The second digit of the code indicates the in-depth interview question number illustrated in the interview guide for businesses hiring blue-collar foreign workers, and the third digit is the answer sequence derived from the question. For example, in A-1-3, A = business interviewee A, 1 = question 1, 3 = answer 3 derived from question 1.
- The labor department director or specialists at the Taiwanese offices of Thailand, Vietnam, the Philippines, and Indonesia (the four countries with the largest blue-collar labor exports to Taiwan) were interviewed, with the national representative offices coded as E, F, G, and H. The second digit of the code indicates the in-depth interview question number illustrated in the interview guide for labor-exporting countries' representative offices in Taiwan, and the third digit is the answer sequence derived from the question.
- Religious organizations in north, central, and south Taiwan where blue-collar foreign workers meet frequently were interviewed. All the employees of such religious organizations who were interviewed had over 5 years of experience working with blue-collar foreign workers. Information obtained from the interviews with religious organizations will be presented later in this article, with the organizations coded as I, J, and K. The second digit of the code indicates the in-depth interview question number illustrated in the interview guide for religious organizations frequently visited by blue-collar foreign workers, and the third digit is the answer sequence derived from the question.

- Executives at three Taiwanese manpower agencies with at least 10 years of experience in importing blue-collar workers were interviewed, with the manpower agencies coded as L, M, and N. The second digit of the code indicates the in-depth interview question number illustrated in the interview guide for Taiwanese manpower agencies, and the third digit is the answer sequence derived from the question.

Furthermore, inductive analysis was used. The codes were transferred to frequencies and sequences of classified data codes to clearly show certain themes and patterns. For example, in section 3.1.1, in the phrase ($f = 2$, OW1), $f = 2$ means that the original interviews coding B-7-3 and M-1-3 were classified into the same theme. Because the theme appeared twice, the theme frequency is 2 ($f = 2$). The classified data for section 3.1.1 was coded as OW and the theme sequence was numbered as 1, 2, 3, etc. Hence, based on the sequence of classified data code, OW1 signified the first theme sequence in section 3.1.1.

3. RESULTS OF INTERVIEWS

3.1. The Functions and Roles of Businesses

The major responsibilities of businesses are offering comprehensive vocational training programs as an employer; training blue-collar foreign workers in OSH; providing them with sanitation facilities in line with safety standards; and ensuring that they are able to earn a basic livelihood in Taiwan. Businesses improve blue-collar foreign workers' OSH by the following means.

3.1.1. *Offering a set of clearly defined standards for selecting workers*

To give the applicants a sense of OSH when hiring blue-collar foreign workers, Taiwanese businesses are advised to take the initiative to inform manpower agencies ($f = 2$; OW1) of their requirements for employees, particularly for jobs that are highly skilled or hazardous. The required skills or experiences ($f = 2$; OW2) shall be entirely disclosed to manpower agencies ($f = 1$; OW3).

3.1.2. *Devising OSH training programs*

Devising a comprehensive training program for hazard identification

All businesses should devise and offer a comprehensive set of vocational training methods, including instructions on OSH ($f = 6$; DI1), on-site machinery operations ($f = 4$; DI2), and any other training required to bolster hazard-identifying skills ($f = 1$; DI3). Taiwanese businesses should offer guidance on workplace practices and procedures as well as warnings against potential work hazards; the employees' improved awareness of safety thereby lowers the risk of accidental injuries.

Job sites and (on-site) instructions

In the host country, blue-collar foreign workers might take up jobs that they have never done before, which makes it imperative that OSH training programs focus on actions likely to result in injury and safety procedures which are often ignored by blue-collar foreign workers ($f = 2$; JI1). According to the nature of businesses or departments ($f = 2$; JI2), varying on-site instructions should be given ($f = 3$; JI3) to gain a clear idea of how effectively the workers benefit from vocational training ($f = 6$; JI4) and what details are often neglected.

3.1.3. *Developing suitable OSH training programs for blue-collar foreign workers.*

Instructors

The vocational training instructors shall be hired as per Article 18 of Taiwan's Regulations for Labor Safety and Health Education and Training [11]. To meet Taiwan's need for OSH education, it is preferable that those instructors be selected from among the internal staffers ($f = 3$; DW1) or professionals ($f = 2$; DW2) of specific businesses.

Teaching materials

It is possible that the instructors use store-bought teaching materials translated by manpower agencies ($f = 3$; TM1). However, as store-bought

materials do not necessarily meet the needs of businesses, each business shall collaborate with the manpower agency to produce suitable materials for OSH training.

3.1.4. Adding such topics as Taiwanese culture to training programs

Cultural programs

In addition to workplace and environment adaptation, Taiwanese traditions and customs are another integral part of the training program ($f = 1$; CP1), as they not only help blue-collar foreign workers get used to life in Taiwan within the shortest period possible, but also make their working environment less stressful.

Other training programs

To improve OSH, blue-collar foreign workers in Taiwan must receive training in emergency response ($f = 1$; OP1) and fire safety ($f = 1$; OP2), or participate in traffic safety awareness campaigns ($f = 2$; OP3), as well as work-oriented instruction.

3.1.5. Careful selection of qualified translators

As blue-collar foreign workers are usually not sufficiently fluent in Mandarin to understand the vocational training given by Taiwanese businesses in that language ($f = 1$; CT1), manpower agencies assign a translator as a teaching assistant during training sessions ($f = 12$; CT2). Considering the difficulty for a translator lacking expertise relevant to the business to correctly convey the instructors' messages, care is taken to ensure that the translators are well aware of the nature of the jobs of blue-collar foreign workers and potential occupational accidents.

3.1.6. Assisting blue-collar foreign workers in adapting to life in Taiwan

It is understandable that blue-collar foreign workers in Taiwan face a stressful and totally unfamiliar working environment that is further complicated by the language barrier. Employers are,

therefore, advised to improve their workers' quality of life during nonwork hours with such activities as the Thailand Water Festival celebrations, and facilities for basketball, table tennis and other sports ($f = 1$; AT1), or access to radio shows broadcast from their home countries. Such activities enable these workers to express their emotions, feel less work-related stress, and adapt to life in Taiwan as quickly as possible.

3.2. The Functions of Labor-Exporting Countries' Representative Offices in Taiwan

As far as workplace safety is concerned, the major function of labor-exporting countries' representative offices in Taiwan is to offer assistance to workers from their home countries while launching OSH awareness campaigns.

3.2.1. Initiating OSH awareness campaigns while providing blue-collar foreign workers with a means to expressing grievances

Assistance in handling overseas workers' grievances

Labor-exporting countries' representative offices in Taiwan can provide workers from their home countries with OSH health information in original brochures ($f = 1$; AG1). By handling grievances reported by blue-collar foreign workers in a timely and appropriate fashion, national representative offices are expected to provide such workers with a means to express grievances in Taiwan ($f = 7$; AG2). However, urgent grievances, such as personal safety concerns should be reported to the police instead ($f = 1$; AG3).

Exchange of OSH information between the host and home countries

Labor-exporting countries' representative offices have greater access to Taiwanese information on OSH of blue-collar foreign workers than the other parties involved ($f = 3$; EC1). Consequently, they are able to facilitate an exchange of information between their home countries and Taiwan ($f = 2$; EC2) while using various forms of digital media

($f = 13$; EC3) to communicate the latest OSH news to workers from their home countries ($f = 6$; EC4). The representative offices can notify their home governments of the potential accidents threatening blue-collar foreign workers in Taiwan ($f = 3$; EC5), so the workers may receive prejob instructions on OSH as well as some basic vocational training ($f = 10$; EC6). Meanwhile, labor-exporting countries may stage awareness campaigns based on information collected by their representative offices in Taiwan on the potential accidents facing their workers. Familiarizing blue-collar foreign workers in Taiwan with ethnicity-specific traditions, culture, and regulations ($f = 4$; EC7) that inevitably constitute a part of cross-border information exchanges may help reduce the incidence of occupational accidents.

Assistance in awareness campaigns and pre-job instruction

Most blue-collar foreign workers in Taiwan receive pre-job OSH training in their home countries ($f = 3$; AI1) and participate in awareness campaigns launched by their home countries through local manpower agencies ($f = 3$; AI2). Taiwanese employers imposing technical requirements on workers ($f = 4$; AI3) require that only those applicants who meet their requirements ($f = 3$; AI4) are hired, with entry visa requests made for them. On the other hand, employers that do not have particular expectations of workers only require them to pass a general test before entering Taiwan ($f = 1$; AI5). In addition to offering help regarding the employers' requirements, labor-exporting countries' representative offices in Taiwan may hold events to familiarize workers with OSH and Taiwanese culture ($f = 1$; AI6). For example, Indonesian workers in Taiwan learn to eat with chopsticks, rather than their hands, to avoid contagious diseases ($f = 1$; AI7), such as those caused by pathogenic amoebae. People planning to work in Taiwan should also be informed of the cultural gap in advance, so they may be sufficiently mentally prepared to integrate into the host society. Labor-exporting countries' representative offices in Taiwan are able to offer pre-job assistance for all the aforementioned issues.

3.2.2. Assistance in translation services

Bilingual staffers at labor-exporting countries' representative offices in Taiwan are able to assist businesses in two-way translations of machinery glossaries ($f = 1$; AS1) and the terminology used in foreign workers' home countries. This not only helps businesses overcome language barriers, but also familiarizes both businesses and manpower agencies with words frequently used by blue-collar foreign workers in Taiwan ($f = 1$; AS2), which may in turn enhance communication with such workers when it comes to OSH training.

3.2.3. Assisting blue-collar foreign workers in making their jobs less stressful

In addition to vocational training, labor-exporting countries' representative offices in Taiwan may offer stress-relief measures to workers from their home countries, such as radio or news services and publications in the native language ($f = 3$; AL1) and activities ($f = 5$; AL2) that entertain those workers ($f = 1$; AL3). The Thailand Water Festival ($f = 1$; AL4), celebrated in north, central, south Taiwan and sometimes by Taiwan's Labor Affairs Department, is a good example. Also, the health authorities of Thailand send medical professionals to launch annual events in Taiwan to promote the aforementioned activities ($f = 2$; AL5).

3.3. Functions of Religious Organizations

Religious organizations may help blue-collar foreign workers primarily by offering mental health counseling; they also conduct OSH awareness campaigns and offer training, as well as assisting in handling workers' grievances. Religious organizations help improve OSH conditions of blue-collar foreign workers.

3.3.1. Offering mental health counseling and conducting OSH awareness campaigns

Religious observance and religion-oriented recreational activities

Religious beliefs comfort those working away from home ($f = 2$; RA1), which is why religious organizations in Taiwan are holiday-gathering

places for blue-collar foreign workers. After participating in religious services, such as Muslim, Catholic, or Buddhist services, workers are given timely advice as well as required information ($f = 12$; RA2). Instead of work-related knowledge, religious organizations provide blue-collar foreign workers with day-to-day consulting services that help them blend into the host society; offer Taiwanese culture programs ($f = 1$; RA3) that give instructions on local customs; run Taiwanese language programs ($f = 2$; RA4); and offer education on OSH measures as part of promotional events ($f = 1$; RA5).

Assistance in OSH awareness campaigns

Religious organizations are ideally placed to offer assistance in OSH training. Firstly, any church, mosque, or temple well-equipped with OSH information would be pleased to sponsor awareness campaigns; secondly, the nationwide religious network ($f = 1$; AC1) causes a considerable positive effect in awareness campaigns ($f = 3$; AC2); thirdly, religious beliefs create highly cohesive communities. Because some staff of religious organizations who are unfamiliar with OSH terminology and information and have difficulty explaining OSH issues to blue-collar foreign workers, Taiwanese government professionals have printed out illustrated OSH brochures for them, explaining OSH instructions with examples ($f = 4$; AC3), images, and photographs ($f = 2$; AC4) to raise awareness and prevent workplace injuries.

3.3.2. Offering blue-collar foreign workers assistance regarding grievances

In Taiwan, blue-collar foreign workers with religious beliefs always seek their peace of mind through their faith. While listening to workers, staff at religious organizations often identify their work-related troubles and help them report or file grievances ($f = 3$; OG1). Without the proper means to relieve stress, workers are unable to tell others how they really feel about life in Taiwan, and the resulting mental stress ($f = 1$; OG2) makes their jobs hazardous. However, the cultural differences between countries ($f = 2$; OG3) affect how blue-collar foreign workers accept

their work and file complaints. For example, based on years of interacting with blue-collar foreign workers, staff of religious organizations we interviewed feel that most Filipino blue-collar workers in Taiwan take the initiative to raise questions ($f = 1$; OG4) and show a positive, ambitious attitude toward their jobs. Conversely, Indonesian workers in Taiwan quietly accept assignments ($f = 1$; OG5) and seldom complain about their supervisors, making it difficult for the staff of religious organizations to identify their work-related problems. In that case, all the religious organizations can do is to launch awareness campaigns, telling workers to seek support and file complaints in times of trouble ($f = 3$; OG6).

3.3.3. Offering assistance in identifying OSH problems

Because staffers at religious organizations frequently help blue-collar foreign workers regarding their OSH problems, they are able to identify OSH problems in a business and report them to the authorities. For example, some smaller businesses do not take any safety prevention measures ($f = 1$; OP1), even though skipping a simple accident-prevention step may increase the potential of occupational accidents, seriously undermining the workers' vocational training. As Taiwanese authorities require that all employers give workers training in OSH regulations ($f = 1$; OP2), blue-collar foreign workers are supposed to be aware of OSH problems before beginning work. Most small business owners in Taiwan nevertheless fail to give blue-collar foreign workers any access to Taiwanese regulations ($f = 1$; OP3) in the required vocational training programs, leaving them unaware of the hazards of their jobs ($f = 1$; OP4). Consequently, the Taiwanese government is advised to inspect businesses at irregular intervals ($f = 2$; OP5) with extra attention paid to businesses that have recently registered or applied to import blue-collar foreign workers, as well as conducting follow-up surveillance of businesses that have already applied for such imports. That way, OSH training programs ($f = 1$; OP6) will be effectively implemented through inspections, thereby reducing the danger of the work.

3.4. Functions of Manpower Agencies

Manpower agencies recruit blue-collar foreign workers for businesses in Taiwan, and assist the businesses in implementing OSH training and other programs.

3.4.1. *Selecting blue-collar foreign workers suitable for jobs in Taiwan*

In recruiting blue-collar foreign workers, a manpower agency examines the nature of the jobs required by a Taiwanese business ($f = 2$; ST1) and selects blue-collar foreign workers accordingly ($f = 3$; ST2).

3.4.2. *Assisting blue-collar foreign workers in overcoming language barriers in Taiwan*

Blue-collar foreign workers in Taiwan generally have a very poor command of their host society's language, as most Taiwanese businesses require that such workers have no more than basic communication skills in Mandarin ($f = 1$; AT1) before taking a job in Taiwan. Manpower agencies serve as a bridge of communication between blue-collar foreign workers and Taiwanese businesses, narrowing the gaps regarding vocational training and workplace instruction. In other words, a competent translator designated by a manpower agency helps blue-collar foreign workers adapt faster to the unfamiliar working environment in Taiwan and improves communication ($f = 2$; AT2).

3.4.3. *Assisting businesses in OSH training*

Obtaining teaching materials

Generally speaking, teaching materials for vocational training are compiled by businesses, the Taiwan Council of Labor Affairs, or manpower agencies ($f = 3$; OM1). For OSH training, most manpower agencies in Taiwan compile teaching materials with government information that they constantly collect and, therefore, undermine the training results. The manpower agencies should, therefore, consider how recent the teaching materials are when they conduct OSH training for businesses ($f = 1$; OM2).

Assistance on job sites

During vocational training sessions, the translator serves as a teaching assistant ($f = 8$; AJ1), giving blue-collar foreign workers in Taiwan opportunities to express and resolve doubts.

3.4.4. *Assisting blue-collar foreign workers in adapting to work in Taiwan*

Not only do manpower agencies help Taiwanese businesses recruit and train blue-collar foreign workers, they also ensure that workers adapt to every aspect of life in Taiwan ($f = 3$; AW1). The assistance of manpower agencies may help to mitigate these workers' mental and physical stress.

4. DISCUSSION AND CONCLUSION

When it comes to workers' OSH, both blue-collar foreign workers and native workers in Taiwan are similarly regulated under the Labor Occupational Safety and Health Act [10]. The regulatory bodies are in charge of policy making, oversight, and inspections with regard to rules of OSH education and training (i.e., the content of instructions and control of training service providers), with the object of preventing occupational accidents and maintaining the workers' OSH conditions.

Figure 1 shows the major tasks of businesses, labor-exporting countries' representative offices in Taiwan, manpower agencies and religious organizations in enhancing OSH of blue-collar foreign workers in Taiwan.

Figure 1 is designed to show how regulatory bodies may integrate resources in a timely and proper fashion, offer consulting services, or provide the information required to bolster such workers' OSH conditions. By applying the integrated mechanism to enhance OSH of blue-collar foreign workers, the government can serve not only as an overseer/inspector of those hiring blue-collar foreign workers in Taiwan.

Based on a qualitative analysis, this study explores the possibilities of improving OSH for blue-collar foreign workers in Taiwan by examining four agencies involved in importing labor to Taiwan (i.e., businesses, Taiwan representative

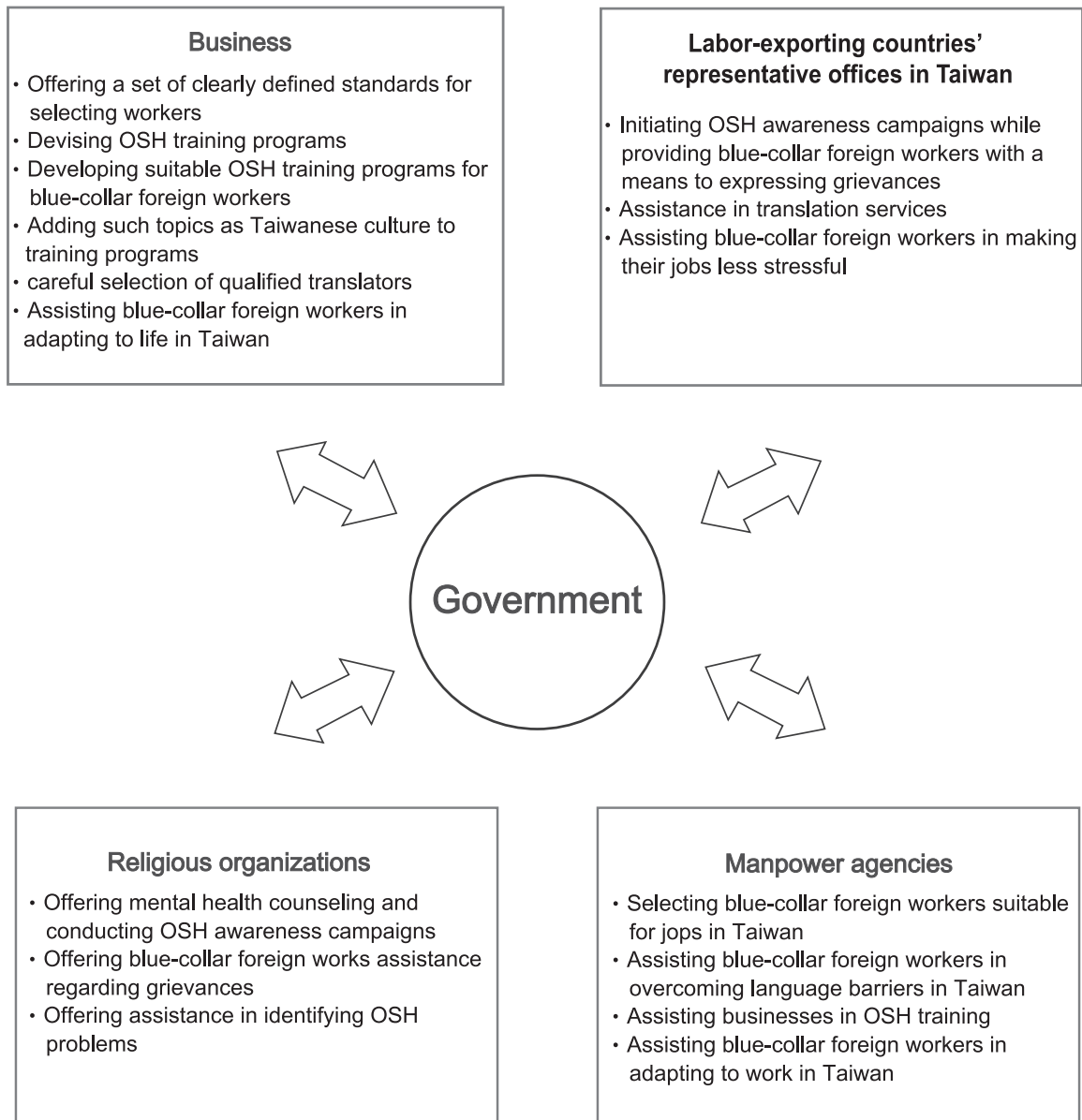


Figure 1. The integrated mechanism for enhancing occupational safety and health (OSH) of blue-collar foreign workers in Taiwan.

offices set up by countries exporting blue-collar workers, Taiwanese authorities, and manpower agencies), and religious organizations, which are in frequent contact with blue-collar foreign workers. According to the research results, it is recommended that a business should undertake several responsibilities in training blue-collar foreign workers. Firstly, it should build a well-defined set of standards by which to recruit workers. Secondly, it should develop OSH training programs. Studies have shown that OSH training helps reduce the occurrence of accidents, so training in occupational safety is necessary [12], as Gold-

stein indicated that vocational training is a process that shows results through the appropriate habits, skills, knowledge and attitude developed by means of thoughts and actions [13]. According to McKay, Crow and Chopra, migrant workers do not fully understand the businesses' obligation to protect their employees in the workplace [14]; the increasing risk of occupational accidents can be attributed to the workers' lack of understanding of their employment system. According to McKay (2007), it is imperative that businesses and government agencies introduce regulations, or systems, for the protection of migrant workers'

OSH (as cited in Rial González and Irastorza [2]). Thirdly, a business should devise an OSH curriculum suitable for blue-collar foreign workers in Taiwan. Sargeant showed that migrant workers prefer visual teaching materials, which help them overcome problems arising from language barriers [15]; visual teaching materials provide an effective teaching aid, making it easier for migrant workers to correctly grasp the messages conveyed by OSH training programs. Fourthly, a business should add topics to the training content, such as Taiwanese culture. Fifthly, a business should carefully select qualified translators. Sixthly, it should also help blue-collar foreign workers adapt to life in Taiwan.

Blue-collar foreign workers, especially the lonely ones, are mentally dependent on their home countries' representative offices in Taiwan for a sense of familiarity based on shared language, nationality and culture [16]. Labor-exporting countries' representative offices in Taiwan should also carry out several duties in this area: firstly, they should initiate OSH awareness campaigns and offer blue-collar foreign workers in Taiwan a means of expressing grievances. Secondly, they should provide assistance in translation services. Thirdly, they should help the workers with stress relief. Studies show that recreation and social activities not only improve the mental/physical conditions of migrant workers in times of trouble, work-wise or not, but also are crucial determinants of adaptation to changes in work [16].

Religious organizations should spend much more time contributing services, such as mental health counseling and initiating OSH awareness campaigns on their own initiatives. Religion-oriented recreational activities give workers greater job satisfaction than other types of recreation [17]. For example, according to Kamphuis et al. (2003) (as cited in Rial González and Irastorza [2]), among companies that conform to OSH regulations, many large ones stage OSH campaigns on religious holidays or at religious events, so that migrant workers can learn, little by little, the purpose of OSH services. Secondly, churches should provide blue-collar foreign workers in Taiwan with a means of expressing grievances. Thirdly, churches should help identify OSH prob-

lems by offering mental health counseling and initiating OSH awareness campaigns. Through participating in such interactive programs, foreign workers may become more actively involved in OSH training, development, and evaluation [9]. With the assistance of religious organizations' counseling and promotion of OSH awareness, foreign workers can in turn decrease the pressure they are under and the work hazards they are exposed to. Manpower agencies should offer assistance in other regards: they should help recruit blue-collar foreign workers and help them overcome language barriers in Taiwan. According to Sargeant [15], poor language proficiency could be a major factor behind the migrant workers' being under-trained in OSH, because the inability to fluently understand the language of the host country is linked to such workers' relatively low proficiency in workplace language, which is a flaw in the conventional approach to OSH training [18]. Akindele, Mehlape, Valoyi, et al. believe that migrant workers show significantly worse comprehension of OSH teaching materials than their local counterparts in host countries if their native language is not used in the working environment [9]. Consequently, the language factor has the most significant effect on a migrant worker's training in OSH. After all, how is it possible for migrant workers who do not understand the language of their employer (or the host country) to be adequately trained in OSH? Thirdly, manpower agencies should assist businesses in conducting OSH training. Fourthly, they should make sure foreign workers adapt to working in Taiwan. Chiang asserts that most of them suffer from tremendous mental, and subsequently physical, stress [16]. Studies show that if migrant workers in an unfamiliar environment fail to meet their employer's requirements or prove incompetent, the relationship with the working environment tends to go sour, which in turn leads to an imbalance between physical and mental conditions, or adverse occurrences, such as workers running away.

In addition to overseeing and inspecting businesses under the Labor Safety and Health Act [10], Taiwanese authorities should actively negotiate with businesses, labor-exporting countries'

representative offices in Taiwan, religious organizations and manpower agencies, so as to ensure that their functions are fully discharged and that the circulation of information among them is unobstructed. For example, when a business identifies any overseas blue-collar worker troubled by life in Taiwan or emotional issues, it may seek help from the church or ask the authorities to offer relevant information to the representative office set up by that particular worker's home country in Taiwan, so as to offer an appropriate method of relieving stress.

Lastly, it is quite important to be able to assess the aforementioned integrated mechanism for OSH management. Lee suggests that promoting educational training for newly hired blue-collar foreign workers enhances their understanding of their business surroundings, allowing them to adapt to the working environment and obtain work-related knowledge [19]. For every blue-collar foreign worker in whom a company invests educational training, the company stands to gain a 29% increase in work performance. Therefore, it is necessary to evaluate OSH management policy that is designed specifically for blue-collar foreign workers. OHSAS international guidelines 18001:2007 [20], Bird's guide to loss control [21], Standard No. BS 8800:2004 [22], Managing for health and safety [23], and Guidelines on OSH management systems [24] may be adopted to evaluate the performance of the integrated mechanism for OSH management. These OSH guidelines have one common feature: they are all built on the plan–do–check–act (PDCA) management cycle. Their performance indicators can be summed up as active performance indicators, passive performance indicators, and active and passive common performance indicators. Assessing whether or not an OSH performance target has been reached usually requires the use of active and passive performance measurement data as common performance indicators [25].

To sum up, this study will hopefully be of use to Taiwanese authorities, which may not only serve as an overseer/inspector of those hiring blue-collar foreign workers in Taiwan, but also expand their role to lay down policies regarding the widened variety of OSH teaching materials in

the blue-collar foreign workers' native languages (spoken or written), the qualifications of translators in blue-collar foreign workers' OSH training programs, and regulations concerning the longer hours of such training programs. Finally, through the use of performance evaluation systems, the operation's effectiveness may be improved.

REFERENCES

1. Bureau of Employment and Vocational Training. The employment and management of foreign workers (Summarized survey report 01). Taipei City, Taiwan; Executive Yuan; 2010. In Chinese.
2. Rial González E, Irastorza X, editors. Literature study on migrant workers. European Agency for Safety and Health at Work. Retrieved September 1, 2014, from: https://osha.europa.eu/en/publications/literature_reviews/migrant_workers.
3. EUROGIP. Statistical review of occupational injuries. Spain: 2009 data. Set of statistical data relating to accidents at work and occupational diseases in the European Union Member States (Ref. Eurogip 58/E). Paris, France: EUROGIP; 2010. Retrieved September 1, 2014, from: http://www.eurogip.fr/images/publications/Eurogip_Point_stat_Es09_58E.pdf.
4. Employment and working conditions of migrant workers. Dublin, Ireland: European Foundation for the Improvement of Living and Working Conditions; 2007. Retrieved September 1, 2014, from: <http://www.eurofound.europa.eu/docs/ewco/tn0701038s/tn0701038s.pdf>.
5. Trades Union Congress (TUC). Safety and migrant workers: a practical guide for safety representatives. London, UK: TUC; 2007. Retrieved September 1, 2014, from: <http://www.tuc.org.uk/extras/safetymw.pdf>.
6. Central News Agency. First-time introduction of foreign workers to Japan—205 Indonesian caregivers and nurses arrived in Japan. 2008. Retrieved September 5, 2014, from: <http://www.coolloud.org.tw/node/25021>. In Chinese.
7. Ministry of Foreign Affairs of Japan. Guide to living in Japan. 2013. Retrieved

- September 5, 2014, from: <http://www.mofa.go.jp/mofaj/toko/visa/index.html>. In Japanese.
8. Ministry of Health, Labour and Welfare. Japan Employment Security Bureau. Employment policy for foreign workers. 2013. Retrieved September 5, 2014, from: <http://www2.mhlw.go.jp/topics/seido/anteikyoku/gairou/980908gai01.htm>. In Japanese.
 9. Akindele OA, Mehlaphe LF, Valoyi PM, Talukhaba AA. The impact of the influx of illiterate and foreign construction workers on the effectiveness of construction safety induction in South Africa. In: *The CIB W99 International Conference on Evolution of and Directions in Construction Safety and Health*. 2008. p. 711–21. Retrieved September 5, 2014, from: <http://www.irbnet.de/daten/iconda/CIB10352.pdf>.
 10. Ministry of Labor. Labor safety and health act. Rev. ed. Taipei City, Taiwan; Executive Yuan; 2002. Retrieved September 5, 2014, from: <http://laws.mol.gov.tw/Eng/EngContent.asp?MsgID=387>.
 11. Ministry of Labor. Regulations for labor safety and health education and training. Rev. ed. Taipei City, Taiwan; Executive Yuan; 2009. Retrieved September 5, 2014, from: <http://laws.mol.gov.tw/Chi/FLAW/FLAWDAT0201.asp>. In Chinese.
 12. Wu CC. Improving industrial safety with bolstered employee training. *Quality Magazine*. 2003;(9):30–3. In Chinese.
 13. Goldstein IL. *Training in organizations: needs assessment, development and evaluation*. 3rd ed. Pacific Grove, CA, USA: Brooks/Cole; 1993.
 14. McKay S, Craw M, Chopra D. *Migrant workers in England and Wales: an assessment of migrant worker health and safety risks*. Sudbury, Suffolk, UK: HSE Books; 2006. Retrieved September 5, 2014, from: <http://www.hse.gov.uk/research/rrpdf/rr502.pdf>.
 15. Sargeant M. Health and safety of vulnerable workers in a changing world of work in a changing. *Working Paper Adapt*. 2009;(101): 1–8. Retrieved September 5, 2014, from: http://www.bollettinoadapt.it/old/files/document/4433WP_09_101.pdf.
 16. Chiang CW. Migrant domestics workers' social conditions and challenges in Taiwan [Master of Arts thesis]. Shoufeng, Houlien Country, Taiwan: Graduate Institute of Ethnic Relations and Cultures, National Dong Hwa University; 2009. In Chinese.
 17. Lee ST. The study of the relationships between leisure consuming behaviors and job satisfaction and productivity for foreign labors—the case of Philippines labors [Master of Arts thesis]. Kaohsiung City, Taiwan: Department of Marketing and Distribution Management, Kaohsiung First University of Science and Technology; 2001. In Chinese.
 18. Salminen S, Vartia M, Giorgiani T. Occupational injuries of immigrant and Finnish bus drivers. *J Safety Res*. 2009; 40(3):203–5.
 19. Lee HJ. A research on the relationship between foreign worker management measures and company performance [Master of Arts thesis]. Jhongli City, Taoyuan County, Taiwan: Graduate Institute of Human Resource Management, National Central University; 2001. In Chinese.
 20. British Standards Institution (BSI). *Occupational health and safety management systems. Requirements (OHSAS 18001: 2007)*. London, UK: BSI; 2007.
 21. Bird FE. *Management guide to loss control*. Atlanta, GA, USA: Institute Press; 1974.
 22. British Standards Institution (BSI). *Occupational health and safety management systems—guide (Standard No. BS 8800:2004)*. London, UK: BSI; 2004.
 23. Health and Safety Executive (HSE). *Managing for health and safety (HSG65)*. 3rd ed. HSE; 2013. Retrieved September 5, 2014, from: <http://www.hse.gov.uk/pubns/books/hsg65.htm>.
 24. International Labour Office (ILO). *Guidelines on occupational safety and health management systems*. Geneva, Switzerland: ILO; 2001. Retrieved September 5, 2014, from: http://www.ilo.org/wcmsp5/groups/public/--ed_protect/--protrav/--safework/documents/normativeinstrument/wcms_107727.pdf.
 25. Su DS. An exploration of the establishment of occupational safety and health performance indicators in Taiwan. *Industrial Safety and Health Monthly*. 2006;(11):14–27. In Chinese.