



# The Development of a Standard Model for Administration and Management of Safety Occupational Health, and Work Environment in The Workplace of Thailand in the future

**Suradate Suwanchatree**

**Faculty of Science Technology and Agriculture, Yala Rajabhat University**  
**Corresponding Author's Email. suradate.s@yru.ac.th**

**Piyaruk Pradabphetrat**

**Faculty of Science Technology and Agriculture, Yala Rajabhat University**  
**Corresponding Author's Email. Piyaruk.p@yru.ac.th**

**Vichit Rangpan**

**Faculty of Science Technology and Agriculture, Yala Rajabhat University**  
**Corresponding Author's Email. Vichit39@gmail.com**

**Maytiya Muadchim**

**Faculty of Science Technology and Agriculture, Yala Rajabhat University**  
**Corresponding Author's Email. Matiya.m@yru.ac.th**

## Abstract

The objectives of this research aimed to study the legal guidelines for the administration and management of safety, occupational health, and work environment in the workplace in Thailand, and to develop a standard model for the management of safety, occupational health, and work environment in the workplace of Thailand in the future. The research was used the future research and the EDFR (Ethnographic Delphi Future Research). The samples in this research were the experts namely, academic staffs, experienced and educated experts, government executives, and administrators in the management of safety, occupational health, and work environment in Thailand. Twenty-four samples were used a purposive sampling method which was divided into four groups as follows, 1. the experts in the management of safety, occupational health, and work environment in industries, 2. the academic staff whose expertise in the management of safety, occupational health, and work environment and experiences in safety, occupational health, and work environment, 3. the experts who are currently working in the position of management of safety, occupational health, and work environment in workplaces, and 4. the employees as a stakeholder. The interview and Likert scaled questionnaire has been employed as the research tools for forecasting the possibility and the congruence among the experts' perspectives to summarize and propose the futuristic model after the consensus of twenty-four experts through the method of connoisseurship.

The research found that the development of the future standard management of safety, occupational health, and work environment of the workplace of Thailand in the future. It should have the management model for standard management of safety, occupational health, and work

6342



environment in safety policy, monitoring, communication, safety training, and management of safety which was suggested to create the standard of safety management in both government and private sectors suitably for each context of the industries and aligned with the international standard for sustainable safety management. However, the Safety, Occupational Health, and Work Environment Act 2011 and the ministry laws of the standard of management of safety, occupational health, and work environment 2006 should be revised following the international standards covering appointing the policy, administrative structure, safety operation plan, as well as the evaluation and review of the management of safety, occupational health, and work environment as operating following the research suggestions here, were projected to create the future sustainable management of safety, occupational health, and work environment in Thailand.

**Keywords:** working safety; occupational health; work environment; administration and management; workplace

6343

---

**DOI Number: 10.14704/nq.2022.20.6.NQ22637****NeuroQuantology 2022; 20(6):6342-6358**

---

### Introduction

Currently, Thailand expands economically and socially. As a result, the expansion of the industry has increased and there has been a shift from society in the agricultural sector to the industrial sector by using technology, tools, machines, equipment, and dangerous chemicals in the production process. These cause problems in occupational health and safety in the work of employees. The employment condition and work are not safe resulting in danger and illness from work-related diseases that have a significant impact on employees in their work. To solve such problems, the government has enacted the Safety, Occupational Health, and Work Environment Act 2011 which came into force on 21 December 2011, this Act stipulates the structure and essence of the law in determining Occupational Health, Safety, and Environment Management Standards of Thai workplaces that are in the scope of enforcement of The Safety, Occupational Health, and Work Environment Act of 2011 and in the area of protection under the Social Security System, approximately 435,303 establishments and employees 14.14 million people (Occupational Health of Thailand Department of Labor Protection and Welfare, 2018). When considering the statistics of occupational hazards in 2017, there were 86,278 cases, classified by severity as follows: 58,671 cases of absence from work for less than 3 days,

25,820 cases of absence from work for more than 3 days, 1,200 cases of partial loss of organs, 17 persons of disabilities, and 570 cases of deaths with compensation payments (excluding cases where the diagnosis has not been finalized at the end of December 2017) amounting to approximately 1,650 million baht. From the situation of experiencing danger or illness due to work overall. It found that the number of employees who suffered from danger or illness due to the work continued to decline. When considering the severity of the danger found that most cases were absent for less than 3 days, 68.00 percent per year, followed by cases of absence of more than 3 days at 29.93% per year, and 1.39 percent per year for partial loss of organs, 0.66 percent in death cases, and 0.02 percent in disability cases, respectively. When classified by severity and amount of compensation payments between 2006 and 2017, it showed that the number of employees in the Workmen's Compensation Fund tended to increase continually (Department of Labor Protection and Welfare, 2018).

From such information, it showed found that the reasons why the employee suffers from an unsafe act and unsafe working conditions in working as a result of the employer's violation of the Occupational Health, Safety, and Environment Act 2011, as Nipaphan Jansantikul (2018) suggested that the problem in the work of labor caused up



from employers and employees lacking knowledge of the law and inaccurate behavior both direct and indirect causes, such as employers do not provide working conditions that are the safe and hygienic Work Environment for employees. Employers do not manage and operate on occupational health, safety, and Work Environments. Employees do not comply with the rules of the workplace safety law. The employer does not provide safety, occupational health, and Work Environment committee in the workplace and does not provide safety officers to work at the supervisory level, management level, technical level, advanced technical level, and professions as required by law and inadequate work safety officers. Nipaporn Kamlom (2016) states that safety officers at work are responsible for occupational health, safety, and environment in working with employers including the reasons why employers do not conduct hazard assessments and study the impact of the work environment, and so on. Violation of the law affects the ineffective enforcement of the law and the standard format prescribed by the law is a general principle, which is not surveillance or suitable for the situation and type of establishments. Therefore, it causes violation or non-compliance and affects measures to manage safety, occupational health, and work environment that does not meet the standards of practice causing loss and impact on safety, occupational health, and work environment of employers and significant employees have a standardized management system in terms of safety, occupational health, and a good work environment. These are effective tools for business establishments. If there is the management of safety, occupational health, and a suitable work environment, it can help prevent injuries and illnesses of employees, as well as create a good work environment.

Occupational Health, Safety, and Work Environment Management is a suitable standard system under the appropriate standard with the problem condition and type

of business establishment. It will be able to prevent injuries from experiencing work-related hazards and sickness with occupational diseases. This contributes to the safety, occupational health, and good work environment of the establishment. In addition, it can help the operation under the relevant laws and standards as set out very well. However, the problem of improving the techniques and practices in which models are restricted by law, such as safety, occupational health, and environmental management systems in the work. It has not been resolved to suit the practical conditions of those charged with duty in the field of work safety policy, and governance, communication on safety training at work, and management system resulting in a pattern organizational structure, safety agency, as well as the qualifications of personnel in the operation of safety, are not suitable for problem conditions and types of business establishments, etc. Such problems affect the management situation of occupational health, safety, and the work environment of the establishment. Therefore, it is necessary to conduct a study on pattern standard development for the administration and management of safety, occupational health, and work environment in the workplace of Thailand in the future, using a future research model. Future research is a systematic approach to studying the various trends in the subject matter of which it is expected to be possible or probable. It is the use of information obtained from future research that will be useful in planning policy-making, and decision-making, as well as formulating strategies and tactics that will lead to building a desirable and preventable future or unwanted future (Jumphon Poonpatacheewin, 2008). Vichit Rangpan, Sutida Lekhawichit, and Sofia Nita, (2020), and Chumphon Poolpatacheewin (2016), said the goal of future research and the principle of future research are not the prediction but the survey and study of possible trends or to study as much as possible both desirable and undesirable to find a way to make that



desirable trend and prevent the elimination of unwanted tendencies completely. It finds a way to face unwanted trends effectively. If it will inevitably happen; therefore, studying the guidelines for developing standards for the management of safety, occupational health, and Work Environment in Thailand's workplaces in the future will lead to the formulation of alternative solutions to occupational health, safety, and Work Environment problems.

This research article will present the results of a study on legal, administrative, and management guidelines on safety, occupational health, and Work Environment in the workplace in Thailand and develop a standard for the management of safety, occupational health, and work environment in the workplace of Thailand in the future.

### Research Objectives

1. To study the legal guidelines for the administration and management of safety, occupational health, and work environment in the workplace in Thailand.
2. To develop a standard model for the management of safety, occupational health, and work environment in the workplace in Thailand in the future.

### Literature Review

#### 1. Administration and Management Standards of Safety, Occupational Health, and Work Environment

Ministerial regulations prescribing standards for administration and management of Safety, Occupational Health, and Environment 2006 explains that "safety, occupational health, and work environment means actions or working conditions that are free from danger or will cause harm, illness, trouble or annoyed due to work. Wittaya Yusuk (2006) explained that the foundation of the word "Occupational health" comes from a combination of the word occupation refers to a person who engages in occupation or people who engage in all occupations, and the word health means health, sanitation, and

well-being. Therefore, when they were combined as the word "occupational health", it means work related to health care control of all professionals. It is a job related to the prevention and promotion of health including maintaining the complete physical and mental condition of all occupations. In addition, the definition of the word "safety" means an environment of work that is free from threats, no danger, and any risks.

#### 2. The scope of occupational health and safety at work

International Labor Organization (ILO) and the World Health Organization (WHO) define the scope of occupational health and safety as follows: 1) Maintain the utmost completeness of the health, body, mind, and well-being of all occupations; 2) To prevent occupational health from deterioration or abnormality which is caused by different working conditions; 3) Protection of occupational workers from doing dangerous work that will cause hazardous to health; 4) Arrangements for occupations at work in an environment suitable for his physical and mental abilities, and 5) Job adaptation and people adaptation to suit the working conditions (Sasithorn Theptrakarnporn, 2011).

**3. Techniques and theories of safety management:** Petersen said that safety management is procedures related to planning, organization, staffing, leadership, and control to achieve established safety objectives by the cooperation of employees and use of the available resources: 1) policy formulation and assignment of responsibilities, 2) arrangement of new employees, job changes, job testing, 3) executives' involvement and support, 4) contingency and disaster control plans, 5) safety regulations, and 6) safety organization.

#### 4. Safety, Occupational Health, and Environment Master Plan, Issue 2 (2017-2021)

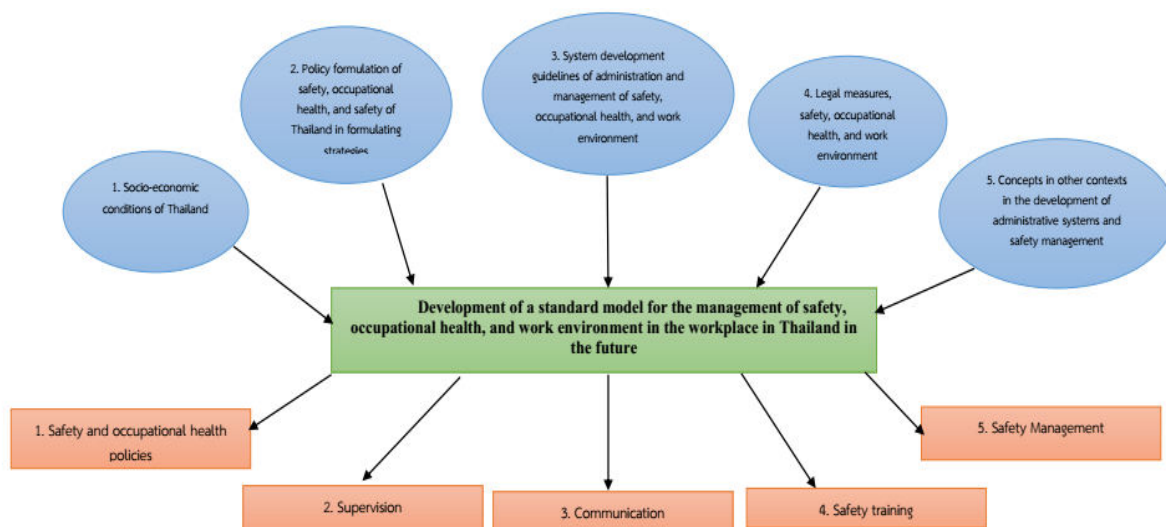
The Safety, Occupational Health, and Environment Master Plan, Issue 2 (2017 - 2021) is an administrative framework for safety, occupational health, and Work



Environment in Thailand in the next five years, which is in the period of the National Economic and Social Development Plan, No. 12 (2017-2021), for relevant agencies and network partners to use as a framework for operating in the same direction in unity, coordination, integration of work, and use resources together for maximum benefits. It results in the achievement of the vision that is “Committed to fostering a protective culture for labor safety and health”, with its missions covering the development of promotional and preventive measures, campaigning for workers to be protected and taking care of their rights, duties, strengthening and developing The network includes cooperation between networks to develop management and operational mechanisms, as well as to supervise, control and supervise occupational safety, health and work environment. These aim to achieve the main objectives of raising

awareness and awareness that fosters a protective culture in all sectors and cooperation to push safety, occupational health, and Work Environment to drive efficiently efficiency and effectiveness. The primary key performance index (KPI) of achievement is the rate of occupational hazards and the number of sectors that play a role in creating safety and health at work consists of strategies, promotion, and development of knowledge on safety, occupational health, and Work Environment, promotion, supervision, and development of preventive measures on safety and occupational health, cooperation and develop network partners on safety, occupational health and Work Environment; and development of management mechanisms for safety, occupational health, and Work Environment.

**Research Conceptual Framework**



**Figure 1:** Research Conceptual Framework

**Research Methodology**

Step 1: To study and research the details from concepts, theories, and research papers related to the development of

standard administration and management model of safety, occupational health, and the Work Environment of Thailand in the future.



Step 2: To study how to create an interview form from books and methods of research on the development of standard administration and management model of safety, occupational health, and the Work Environment of Thailand in the future, to cover the research objectives to be used as a tool to collect data from the sample group for analysis by using EDFR (Ethnographic Delphi Futures Research) technique of twenty people, Round 2 and Round 3.

Step 3: To create an interview form by asking questions about the data, i.e. 1) questions about concepts and analysis of the socio-economic conditions of Thailand, development of a standard model for the administration and management of safety, occupational health, and the work environment of Thailand; 2) Questions about concepts and formulation analysis of standard management in the form of policy making on safety, occupational health, and work environment in Thailand in formulating strategies for solving safety, occupational health and work environment problems; 3) Questions about concepts and guidelines analysis for the development of administration and management systems in terms of safety, occupational health, and work environment of the workplace as a whole of the country; 4) Questions about the concept and legal measures on safety, occupational health, and work environment; and 5) Questions about conceptual analysis in other contexts to develop an administrative system and management of safety, occupational health, and work environment.

Step 4: Quality research for a study of the development of standard administration and management model of safety, occupational health, and the work environment of Thailand in the future by interviewing twenty-four people using the EDFR (Ethnographic Delphi Futures Research) technique.

Step 5: To examine the model by interviewing a group of connoisseurs to continue to use the model.

## Research Results

### 1. Guidelines on the law, administration, and management of safety, occupational health, and the Work Environment in the workplace in Thailand

Trends, concepts, and analysis of Thai socio-economic conditions regarding the management of safety, occupational health, and the Work Environment of the expert have the most consistent and probable trends namely, the first item, the number of staff members was determined safety in professional work to the number of employees, for example, one professional work safety officer per 100 - 199 employees, except for mining, quarrying, and petroleum or chemical petroleum. There must be a professional work safety officer, one person per 50 employees, and there must be at least 1 professional work safety officer when there are two or more employees. The second item, employees in the organization have participated in safety activities thoroughly. The third item requires that an establishment with 200 employees or more must have a safety unit. The fourth item, employees are strictly aware of their work and reduce accidents at work. The eighth item, business establishments in the category of hotels, department stores, hospitals, and financial institutions, there must be an officer in charge of safety. When there are 100 employees or more, there must be arranged safety personnel like workplaces in the factory type. The ninth item, organizing safety activities with employers, and executives support the budget for the operation to keep activities on purpose and the goals set. The tenth item is effective and efficient in the administration and management of safety, occupational health, and environmental problems. The first item is the development of a standard model for the administration and management of safety of the safety inspectors by performing a safety check from the results of statistical analysis of occupational hazards of employees in each workplace. Government agencies



should deliver the mission of studying and analyzing work hazard data to the private sector or institutions that are experts on each side as the operator and deliver the results of the analysis to the operational unit to carry out law enforcement used in training as well as methods and various procedures to ensure safety in the next work. In this regard, compensation for expenses may be linked to agencies that analyze data from budget funds, and the compensation fund of the Social Security Office, respectively.

Trends, concepts, and policies on safety, occupational health, and Work Environment in Thailand have strategies to solve Safety, Occupational Health, and Work Environment Problems according to the proposal of the expert. There is a group of experts' consensus opinion on the following details: the first item, the most consistent and probable trends support safety actions to reduce the risk of accidents and support to prevent loss of property, fire, and for fame and company image, the Safety is in a good way. The second item is building personnel to have knowledge and competence. The third item is to create a system for management and personnel management. The fourth item, there is a technology system to control and automatically prevent. The tenth item is the formulation of Safety, Occupational Health, and Work Environment can't be called belonging to Thailand Because it is a specific strategy of the Ministry of Labor, but there are also other responsible agencies such as the Department of Disease Control, Department of Health, Department of Labor Protection and Welfare, Department of Industrial Works, Department of Agriculture, etc. The eleventh item is promotion strategy and the development of a body of knowledge on safety, occupational health, and the Work Environment under the current problem in Thailand. The twelfth item requires all agencies, organizations, associations, establishments, etc. to announce the safety policy and disclose information to the public through specified channels, such as the

website of the agency, the website of the responsible agency, and has an annual report on the results of the announced policies. It is a disclosure of a report under international principles. The fifteenth item is promoting and solving problems related to safety, occupational health, and Work Environment, respectively.

## **2. Development of a standard model for the management of safety, occupational health, and work environment in the workplace in Thailand in the future**

Trends, concepts, and guidelines for the development of a standard model for the management of safety, occupational health, and work environment in the workplace overall of the country according to the proposal of the group of experts have a consistent opinion, the trend, and the most consistent and possible as follows: The first item, there should be defined as a law for every business establishment both public and private agencies have set policies. The second item has a policy on safety under the requirements of the law. The seventeenth item, the state should set a policy showing to the establishment to set the same format and by international standards and provide opportunities for business establishments to appropriate operate according to their nature and type of business. The twentieth item, they must comply with the international law. The twenty-first item, the establishment must adhere to Safety, Occupational Health, and Environment as the value in the organization. The twenty-second item, the policy must create a safety culture in the workplace. The twenty-third item, policy formulation requires all personnel to participate actively at every step. The twenty-ninth item conducts an executive review and safety board, and the results of the review meeting were communicated to those concerned. The thirty-first item: lessons from the implementation of the past policy should be extracted to find out what problems are encountered, then bring the problem point to be solved. The thirty-second item requires a



review of conformity with the prescribed law when there are changes in the safety law. The thirty-fifth item that should be added of the strictness of Law Enforcement and Penalties. The thirty-sixth item the safety laws should take into account the possibility of the practice that is not the desire of the government or the interests of some groups, respectively.

Trends, concepts, trends, and safety legal measures in safety, occupational health, and work environment, and the development of current legal measures to be effective in solving the management problems of safety, occupational health, and the work environment under the proposal of the group of experts have a consistent opinion and trend. And the most likely as follows: the first item must support safety activities for employees thoroughly. The second item, employers must encourage senior executives, managers, and department heads to be role models and support safety. The third item emphasizes the strict enforcement of the law in workplaces, they do not have to wait for the case to occur, so they should be inspected by government agencies. They should be a model in compliance with the law. The fourth

item, the age limit is a working condition. The fifth item should allow establishments to strictly comply with the law. The eleventh item in the operation of Safety, Occupational Health, and Work Environment, government agencies should be a pilot in the management of safety. The twelfth item: employers operate safety, occupational health, and Work Environment under the standards outlined in the Ministerial Regulations. The thirteenth item: Standards set out in each ministerial regulation is considered a legal standard that specifies the standard of practice in that matter. There is no need for employers to set more standards. It is redundant and there are practical difficulties both in terms of setting standards, assigning persons to certify, etc., employers should act in identifying laws and standards of practice related to working points on a particular job site by defining the procedures and specifying safety rules on the job site under the production process to supervise operators at each work point that will make it more secure. However, the establishments are of various sizes and levels, it assigns employers to comply with Section 8 of all sizes of business establishments that are not appropriate, respectively.

**Table 1** Practice guidelines for the development of a standard model for the administration and management of safety, occupational health, and Work Environment of the workplace in Thailand

Issues in Model	Practice guidelines for the development of a standard model for the administration and management of safety, occupational health, and Work Environment of the workplace in Thailand
1. Analysis of the socio-economic conditions of Thailand	1. The numbers of vocational grades are not sufficient. 2. There should be participatory creation in the organization. 3. Raising awareness of working strictly to reduce accidents or occupational diseases. 4. The senior executives must support the budget for the implementation of safety activities at work. 5. There should be an encouragement of the organization and establishment to create a safe culture at work.
2. Formulation of safety, occupational health, and Work Environment policy of Thailand in formulating strategies for	1. Work safety operations should be encouraged to reduce the risks of accidents and occupational diseases 2. There should be the development of personnel to know about safety at work.





Issues in Model	<b>Practice guidelines for the development of a standard model for the administration and management of safety, occupational health, and Work Environment of the workplace in Thailand</b>
solving problems in safety, occupational health, and Work Environment	3. Developing and improving relevant standards, laws, and regulations must be carried out by a multi-disciplinary team. 4. To promote cooperation between organizations, and local agencies 5. To develop the educational courses on occupational safety to be taught in educational institutions at all levels. 6. There should be specific standards for Thailand's safety management system.
3. Development of a standard model for the administration and management of safety, occupational health, and Work Environment of the workplace in Thailand	1. Government agencies and private sectors must define safety policies. 2. There should be strict law enforcement supervision. 3. There should be a monitoring system, follow-up, and an increase in law enforcement agencies. 4. There should be a consultant to manage the safety system in the workplace. 5. There should be a communication channel for safety at work that is easy to access information. 6. Safety training should be promoted in connection with the tax abatement system as a positive measure for enterprises to focus on. 7. There should be a safety agency in every establishment to drive safety at work.
4. Development of administration and management systems of safety, occupational health, and Work Environment of the workplaces overall of the country including the laws that lead to the safety	1. Improve the Act on Safety, Occupational Health, and Work Environment to meet international standards and government agencies to be subject to the law and strictly enforce the law. 2. There should expedite the issuance of ministerial regulations for setting standards for the administration and management of Safety Occupational Health and Work Environment. 3. To improve the penalty rate in case of violation of the law to be appropriate, both civil, criminal, and administrative. 4. Workplaces should have a management system for safety at work under the ministerial regulations by specifying the details. 5. There should determine the qualifications of safety officers at the professional level, graduated with a bachelor's degree in occupational health or equivalent to operate under the standards.

6350

**Discussions**

The development of a standard model for the administration and management of safety, occupational health, and Work Environment of the workplace in Thailand in the future found that in determining the

consistency of experts, trends, concepts, analysis of the socio-economic condition of Thailand under the proposals of the experts' opinions that are consistent on various issues, namely, there should be a formulation of the number of professional safety officers per



number of employees clearly in the implementation of safety, occupational health and Work Environment of the workplace to be suitable for the number of employees in the workplace. This is consistent with research by Nipaporn Khamhlon (2016), who studied "occupational health and safety performance of safety supervisor in factories: Ubon Ratchathani Province". It found that problems and obstacles to the performance of the workplace safety officers had more responsibilities and did not have enough time to operate safely at work. In addition, the workplaces should provide safety units and employees must have strict awareness of their work to reduce accidents at work. Business establishments should organize safety activities with employers. The executives support the budget for the implementation of the activities for the intended use and set goals, effective and efficient in management and manage problems safety, occupational health, and environment. Developing a standard model for the administration and management of workplace safety, workplaces should allow employees and workers to participate in such operations as well as give the establishments a safety culture at work to raise awareness and change the attitude toward safety at work. There should be also the training of safety workers. This is consistent with the research of Chattawat Chatnathaphat (2020), who studied "occupational safety management: a case study of Siam Quality Industries Company Limited". It found that the guidelines on the implementation of occupational safety management, there should be activities to promote safety and health, raise and strengthen safety awareness, and adjust attitudes that will affect behavior who studied the "guidelines for the development of safety management systems in the work of Labor under the occupational safety, health, and work environment Act 2011. It found that the workplaces should promote and develop legal knowledge for employers and employees and

promote a safe culture for workers and enterprises. In addition, experts had opinions that there should be an analysis of statistical data on occupational hazards of employees in each workplace, and government agencies should deliver educational missions to analyze data on occupational hazards in the private sector or institutions which is an expert in each field as the operator and deliver the analytical results of the operational unit to carry out the enforcement of relevant laws. It also included the development of standardized forms for administration and management of safety under the principles of industrial product standards by allowing manufacturers, sellers, or distributors must indicate the information that is the leading cause that will cause accidents and occupational diseases. It must have methods and safe workflow including all relevant personal protective equipment that comes with the product as well as the collection of several laws brought together in one issue and there should be a focus on effective law enforcement. In this regard, the Safety and Occupational Health Policy should be set as a model for all government agencies.

The formulation of policies on safety, occupational health, and work environment in Thailand in formulating strategies for solving problems in safety, occupational health, and the work environment under the proposal of the group of experts have a consistent opinion on various issues, namely, in forming the policy on safety, occupational health and the work environment of Thailand in formulating strategies for solving problems in safety, occupational health and work environment issues. Firstly, the strategic formulation should be added to support safe operations to reduce the risk of accidents, and loss prevention, focus on personnel development to have knowledge and abilities as well as develop a safety management system and systematic occupational health. Technology has also been applied by creating a system for management, personnel management, and technology system. Secondly, strategic issues



for promotion, supervision, and development of preventive measures for safety, occupational health, and work environment in terms of promoting and developing knowledge on safety, occupational health, and Work Environment must be consistent with the current problems of Thailand instilling an awareness of safety at all levels of education, as well as providing educational courses on safety, occupational health, and suitable work environments at all levels. This is consistent with the research of Cherdasak Suebsub, and Dr. Natthaphan Ketchonan (2014), who studied the “guidelines on the safety management to the quality of life for employees in the workplace of Thai refrigeration industry”. It proposed that educational institutions should increase the curriculum in the field of safety management in terms of improving the law, it must be developed by multidisciplinary professionals and should be consistent with international standards and the situation in Thailand. There is a review of the system, mechanism, policy, management system, and human resource development system to build a mechanism to drive the management system of Safety, Occupational Health, and Work Environment. There should have a supporting budget for organizing activities of each organization thoroughly by the government sector and the Department of Labor Protection and Welfare must take measures for employees’ security checks, law enforcement, and strictly complying with the employer's laws and produce concrete results. This is consistent with the research of Kulachat Areeratpitak (2017) who studied “problems and obstacles in the enforcement of the Safety, Occupational Health, and Work Environment Act 2011”. It found that this act does not comply with the international convention on disposal of discrimination of race of all forms, in the year of 2011 and the international rules on the citizen right and the political right, in the year 1981. Thirdly, the strategic issue of promoting cooperation and the development of occupational safety network partners

should promote cooperation between organizations. Agency to organize safety activities in collaboration with communities, schools, and educational institutions integration in the construction of public sector networks and encourage all sectors to participate in the development of network partners, especially networks at the local level including local government organizations in the area have participated in supporting the budget in the implementation of Safety at work. Fourthly, strategic issues for developing safety management mechanisms and occupational health should establish a safety management system standard and occupational health in Thailand specifically and create a cooperation mechanism for all sectors both the public and private sectors, to achieve cooperation and sustainability in safety operations and occupational health. This is consistent with the research of Nikom Chotiphan and Siripong Sopha (2020), who studied “Legal Measures Occupational Safety, Health and Environment of Industry”. It found that there was a lack of participation from the people in the campaign to promote safety. In addition, training should be developed a continuous network of mechanisms. There should be measures in the adoption of technology systems. Information on safety in working effectively in every organization.

The development of the management system and the management of safety, occupational health, and the work environment of the workplace overall under the proposals of experts, there is a consensus opinion which is divided into each side as follows. Policy on safety, occupational health, and work environment should be prescribed as a law for every workplace both government and private agencies have established policies of safety, occupational health, and work environment policies formulated under the legal requirements and international standards. It provides opportunities for the workplace to operate as appropriate under the nature and type of workplace policy formulation requires all personnel to be



actively involved in every step as well as conducting a policy review by the management of the safety committee and communicating the summary of the review meeting to those involved. Lessons from the implementation should be done according to the past policy. It requires a review of compliance with the requirements of the law when there is a change in the safety supervision, occupational health, and work environment. The strict enforcement of the law should be strengthened and severely punished and prescribes that the workplace appoints and assigns supervisors at all levels to receive training for appointments as safety officers to take care of safety at work in the area responsible for each area thoroughly. The legislation of work safety must be able to be applied in practice appropriately to the problem conditions of the establishment including having a system monitor, follow up, and increase the agency responsible for law enforcement and should establish a consulting system in the workplace on safety and occupational health, communication on safety, occupational health, and work environment. There should be a variety of communication channels, information systems on safety, occupational health, and work environment, and easy access to information. It is consistent with the research of Saiwit Suthamvirat, Namthip Wipawin, and Chuman Raowakeratiphong (2017), who studied the "information use by safety officers at the professional level in Bangkok". They said that professional work safety officers have trouble using information resources information format and information technology significantly. Regarding safety training, safety training should be promoted in connection with personal tax deduction as a positive measure in promoting and encouraging employers to conduct training for employees on safety, occupational health, and environment. It provides training at appropriate as required by law as well as organizes safety training according to the personnel development plan of the business

establishment on safety management systems. There should be a safety unit in the workplace to control and supervise work safety, enterprises must conduct work safety under the international standards and laws, and should promote and support the idea of work improvement and safety innovation. (Kannikar Khaw-ngern, 2021); Peuchthonglang (2019)

Legal measures, safety, occupational health, and Work Environment and the development of the current law measures for effective solving the management problems of safety, occupational health, and the work environment under the recommendations of experts are consistent with the separate measures according to the Occupational Safety, Health, and Work Environment Act 2011. It should be strictly enforced, set measures for government agencies to be governed by the law, and should act as a model for the implementation of the law. It should increase the civil, criminal, and administrative penalties for violators of the law. In addition, penalties should be imposed on the part of the employee's duty of conduct. In addition, the general penalties are consistent with the research of Suchada Reungsawangthongkul (2015), who studied the "legal problems about protecting employee under occupational safety, health and environment Act 2011: A Case Study on Rangsit Enterprises and Nearby in Pathum Thani Province". She stated that the law is unprincipled and imposes penalties on employees who violate the law. In addition, the organizations that register statutory measurements must be supported in their implementation. It should have registered a person or a legal entity that certifies the work environment under the law. Registration can be conveniently located at the regional and provincial levels or online registration. Safety training courses should be established as required by law in terms of content, and duration, and are constantly reviewed and updated to keep the curriculum up-to-date. It also should expedite the issuance of



ministerial regulations in the administration of setting standards for administration and management of safety, occupational health, and related work environment as soon as possible. In terms of standards, according to the ministerial regulations, the standards for administration and management of safety, occupational health, and work environment, there should be a safety officer at the level of supervisor, administrative, technical, advanced, and professional to cover all types of establishments. It should define the properties of safety officers in professional work must have a bachelor's degree in occupational health or equivalent to develop in safety, occupational health, and work environment. It is consistent with the research of Montree Worapatthasap, Worawut Multri-utr, Boonchira Boonpanya, and Somchai Choomuang (2021), Kannikar Khawngern(2021), Peuchthonglang (2019)who studied the "legal development movement in professional safety health and environment of Thailand." In addition, there should be sufficient safety officers in proportion to the number of employees and to have safety officers in the unit working in the establishment properly to drive operational safety at work efficiently. The establishment of a safety management system at work consists of policy formulation on safety, occupational health, and work environment, structure and management of occupational safety, health, and work environment. Occupational Safety, Health and Work Environment Plan and its implementation, evaluation, and review of the management of safety, occupational health, and work environment. The implementation of improvements in safety, occupational health, and work environment should specify details, criteria, and methods in the ministerial regulations under the international standards as well as participating in policy-making, risk management, defining plan details, operational control, safety communication, training, implementation, evaluation, action, corrective and preventive as well as review

and improvement and develop safety at work by additionally stipulated in the Ministerial Regulation as a level standard for the implementation of business establishments. Concepts in contexts at the corporate level and laws must be applied as a basis for practice, creating participation and working as a team of working on safety, and occupational health, at the level of the executive group or agency, leading and acting as a role model. The safety meetings are held in the group or the department regularly at the individual level (employers, employees, government officials) and must act as role models, and cooperate in activities to promote and manage safety knowledge from research.

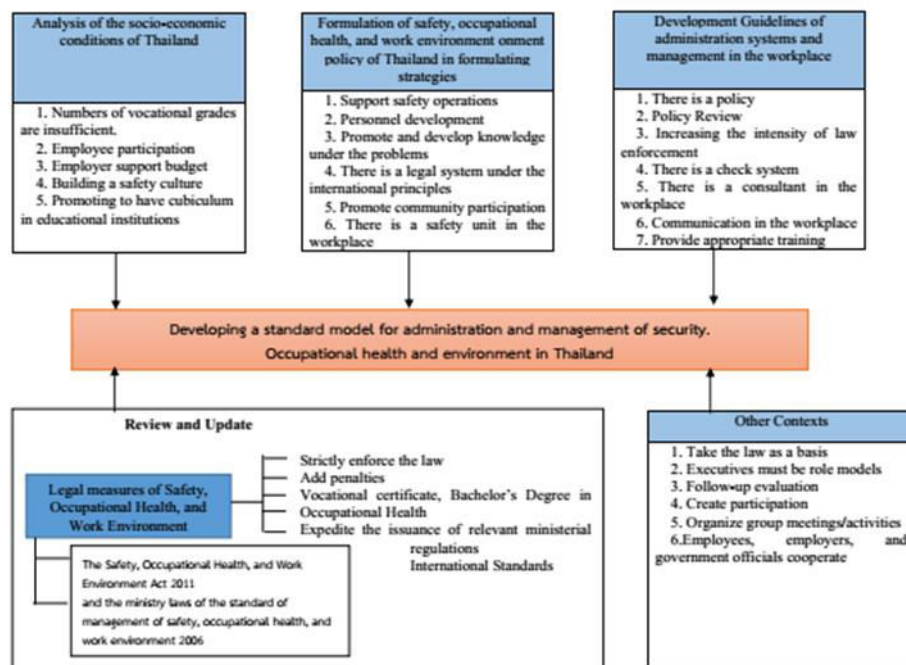
### Body of Knowledge

Development of a standard model for the management of safety, occupational health, and work environment in the workplace in Thailand in the future along with leading to a seminar based on a group of experts, as shown in Figure 5.1. can explain that a standard model for the management of safety, occupational health, and work environment consists of a safety policy, there should be assigned to both public and private workplaces to have set a concrete policy and review the safety policy once a year. Moreover, there should be more rigorous enforcement of the law. In communication, there should be a variety of communication channels to make information easy for employees at all levels to access information. In safety training, motivative training should be promoted using tax incentive measures to the establishment and determine the frequency of training at each level as appropriate as stipulated in the law. In the administration of safety, there should be a standard management system for both public and private sectors to be appropriate for the context of the workplace under the international standards to achieve sustainability in safety management. In terms of standard management development of safety, occupational health, and the work



environment under the Safety, Occupational Health and Work Environment Act 2011, the law should be strictly enforced and government agencies are role models in compliance with the law, as well as improving the law to be in line with international standards for Safety, Occupational Health, and Work Environment. For the development of standards under the ministerial regulations specifying standards for the administration and management of safety, occupational

health, and work environment 2006, the policy format should be formulated according to the same standards of each type of workplace. It requires a safety agency to work in all types of workplaces with 200 or more employees. The specific qualifications of the professional occupational safety officer of an establishment should have a specific bachelor's degree in the safety of occupational health.



6355

Figure 2 shows the development of a standard model for the management of safety, occupational health, and work environment in the workplace in Thailand in the future

**Recommendations**

**1. Recommendations for research utilization**

It should require that every workplace, both public and private, have a concrete policy and review the safety policy once a year. Strict enforcement measures should be added and the safety policy section should require that every workplace, both public and private, have set a concrete policy and review the safety policy once a year. In

addition, motive training should be promoted using tax incentives for workplaces and set the frequency of training at each level to be appropriately provided in the law. It should provide for the preparation of safety management system standards for both the public and private sectors that are appropriate to the context of workplaces and comply with international standards. As for the improvement of the law under



international standards for safety, occupational health, and work environment. Policy forms should be formulated under the same standards for each type of workplace. It requires a safety agency to work in all types of workplaces with 200 or more employees. The specific qualifications of the professional occupational safety officer of an establishment should have a specific bachelor's degree in the safety of occupational health.

## 2. Recommendations for the next research

In the next research, the administration and management of safety, occupational health, and work environment should be studied by government agencies to cover all aspects such as policy formulation, organizational arrangements, safety project planning, supervising, inspection, evaluation, and improvement to serve as a role model for safety, occupational health, and work environment operations.

## References

- Adam Hulmea, Neville A. Stantonb, Guy H. Walkerc, Patrick Watersond, Paul M. Salmona. (2019). What do applications of systems thinking accident analysis methods tell us about accident causation? A systematic review of applications between 1990 and 2018. *Safety Science*. 92: 164 – 183.
- Ankara Yildirim. (2019). Occupational health and work safety systems in compliance with industry 4.0: Research Directions. *INTERNATIONAL JOURNAL OF eBUSINESS and eGOVERNMENT STUDIES*. 11(2) : 2146-0744.
- Anothai Phuwanwittayakom. (1994). "Expenses and safety management as a body Lawyer for loss from an accident in an industrial plant in the upper north", Master's Thesis, Education, Health Promotion: Chiang Mai University
- Arun Kwanpan and Chanakan Pongsanaongkul. (2012). "Safety of the maintenance technicians in Suan Sunandha Rajabhat University", Suan Sunandha Rajabhat University.
- Chalermchai Chaithitiporn and Witthaya Yusoong. (1979). *Basic Occupational Health and Safety*. Bangkok: No date.
- Eak Worasakdapisarn. (2014). "Relationship between Safety Management factors and safety performance in building construction project", Degree in Engineering Master's degree in Construction Management and Public Utilities: Suranaree University of Technology
- François Gauthiera, Yuvin Chinniahb, Damien Burlet-Vienneyc, Barthélemy Aucourtb, Stéphane Larouchea. (2018). Risk assessment in safety of machinery: Impact of construction flaws in risk estimation parameters. *Safety Science*. 109 : 421– 433.
- Geneva: International Labour Office. (2001). [Weblog]. Available: Error! Hyperlink reference not valid.
- I.T. Smith, and John C. Wood. (1986). *Industrial Law*. London: Butterworth.
- ILO. Information Note: OH/8909. April 1996
- IM. Dawis. (1978). *The Law on Health and Safety at Work*. London: Macdonald and Evans.JL Weeks. (1991).
- JL Weeks. (1991). Occupational health and safety regulation in the coal mining industry: public health at the workplace. *Annual Review of Public Health*. 12: 195 – 207.
- Kaewruthai Kaewchaithiam. (2005). "Operational Employees' Perceptions on safety management and behavior" of operating level employees", Master of Arts, Industry, and Organization, Department of Humanities: King Mongkut's Institute of Technology Bangkok.
- Kamonthip Sangamchom and Suramongkol Nimchit. (2020). "Awareness of Safety and Occupational Health of Employees of MS First Enterprise Co., Ltd.", *Suan Dusit Graduate School Journal*, 16(2): 45:59.
- Kannikar Khaw-ngern, Prateep Peuchthonglang, Lampong Klomkul, Chainarong Khaw-ngern. (2021). The 9Rs Strategies for the Circular Economy 3.0. *Psychology and Education*, 58 (1),1440-1446. doi.org/10.17762/pae.v58i1.926.



Kannikar Khaw-ngern, Lampong Klomkul, Prateep Peuchthonglang. (2021). A Digital Circular Economy for Smart Cities. *Psychology and Education*, 58 (1), 1432-1439. doi.org/10.17762/pae.v58i1.925.

Kasama Tongklip. (2007). "Relationship between quality of work-life, organizational commitment and organizational citizenship behavior of teachers at Rajiniibon School", Retrieved from <http://research.rdi.ku.ac.th>.

Kullachat Areeratphitak. (2017). "Problems and obstacles in enforcing the Safety, Occupational Health, and Work Environment 2011", *Sripatum Journal*, Chonburi, 3(2) - 40-47.

M. Segarra Cañamares , B.M. Villena Escribano , M.N. González García , A. Romero Barriuso A. Rodríguez Saiz. (2017). Occupational risk-prevention diagnosis: a study of construction SMEs in Spain. *Safety Science*. 92 : 104 – 115.

Manop Karliang. (2015). "Proposed Guidelines for Administration of safety, occupational health and environment in hospitals under the Ministry of Public Health: a case study of Songkhla Hospital", *Princess of Naradhiwas University Journal of Humanities and Social Sciences*. 2(2): 72 – 84.

Marta Niciejewska. (2020). Occupational Health and Safety Management in Terms of Special Employee Needs – Case Study. *Sciend*. 3(1) : 55 – 63.

Muhammad Subhani. (2010). Study of Occupational Health & Safety Management System (OHSMS) in Universities' Context and Possibilities for its Implementation: A case study of University of Gavle. Master's Thesis in Industrial Engineering and Management University of Gavle.

Nikom Chotipan and Siripong Sopa. (2020). "Legal Measures on Safety, Occupational Health and Environment of Industry", *Academic Journal: Suvarnabhumi Institute of Technology*, 7(1): 550 – 573.

Nattawat Montewan. (1998). "Safety Administration", *Safety Light Journal*, 52(12), p. 63-69.

Peuchthonglang, P.and Peuchthonglang, P. (2019).Lanna's Rice Knitting (Khao Thak).

*Journal of Philosophy and Religion*, Khon Kaen University, 3(2), 75-99.

<https://so06.tci-thaijo.org/index.php/jprkku/article/view/241524/164206>

Peuchthonglang, Y.and Peuchthonglang, P. (2019).Community of Practice (CoP):

Knowledge Management for Manufacturing of Creative Cultural Handicraft Products in Muang Sat Community Muang District, Chiang Mai. *Journal of MCU*

*Peace Studies*, 4(5), 1474-1490.

<https://so03.tci-thaijo.org/index.php/journal-peace/article/view/187522/153562>

Rawan Unhalakechit. (2012). "An analysis of problems in safety, occupational health, and work environment", **Thesis**, Dhurakij Pundit University. 211 - 223.

Richard Anderson. (1975). *OSHA and Accident Control Through Training*.New York: Industrial Prass.

Robert Kaba and Kwabena Adu Poku. Experiences of Frontline Nursing Staff on Workplace Safety and Occupational Health Hazards in Two Psychiatric Hospitals in Ghana. *Occupational Medicine & Health Affairs*. 18: 1 – 12.

Suchada Ruengseangthongkul. (2011). "Legal Problems about Protecting Employees under Safety, Occupational Health, and Environment Act 2011: a case study of Rangsit enterprises and nearby in Pathum Thani Province", *Journal of Thammasat University Hospital*, 5(2): 230 - 240.

Sukhontha Tuampong. (2019). "Performance Analysis on the safety activities implementation of Thailand Institute of Occupational Safety, Health (Public Organization)", *Academic Journal of Community Public Health*, 5(2): 68 – 79.

Surachai Kaewpikul. (2009). Quality of working life of Police Nursing College personnel. Bangkok: Thammasat University.

Surachai Traisilanan. (2009). "Factors affecting employees' perception of safety management in the plastic industry in Nakhon Ratchasima





province”, Master of Management, Department of Management Technology: Suranaree University of Technology.

Umaporn Mulmanee. (2012). “The Development of Quality of Work Life of Company Operations Employees at Western Digital (Thailand) Co., Ltd.”, Pathum Thani: Valaya Alongkorn Rajabhat University under the royal patronage.

Yujie Wang, Hong Chen, Bei Liu<sup>1</sup>, Menghua Yang and Qianyi Long. (2020). A Systematic Review on the Research Progress and Evolving Trends of Occupational Health and Safety Management: A Bibliometric Analysis of Mapping Knowledge Domains. *Frontiers in Public Health*. 8: 1 – 17.

6358

