

THE PROFILE OF OCCUPATIONAL SAFETY AND HEALTH IN VIETNAM

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PART I

NATIONAL INFORMATION

1.1. History

1.1.1 Summary of country history

The history of Vietnam can be traced back to around 4000 years ago^{*}. Archaeological findings from 1965, still under research, show the remains of two hominines closely related to *Sinanthropus*, dating as far back as the Middle Pleistocene era, roughly half a million years ago[†]. Pre-historic Vietnam was home to some of the world's earliest civilizations and societies - making them one of the world's first people who practiced agriculture. The Red River valley formed a natural geographic and economic unit, bounded to the north and west by mountains and jungles, to the east by the sea, and the south by the Red River Delta[‡]. The need to have a single authority to prevent floods of the Red River, to cooperate in constructing hydraulic systems, trade exchange, and to fight invaders, led to the creation of the first Vietnamese states approximately 2879 BC. However, archaeologists suggested the Đông Sơn culture found in Northern Vietnam, Guangxi, and Laos was around 700 BC.

Vietnam's peculiar geography made it a difficult country to attack, which is why Vietnam under the Hùng kings was for so long an independent and self-contained state. Once Vietnam did succumb to foreign rule, however, it proved unable to escape from it, and for 1,000 years, Vietnam was successively governed by a series of Chinese dynasties: the Western Han, Xin, Eastern Han, Eastern Wu, Western Jin, Eastern Jin, Liu Song, Southern Qi, Liang, Sui, Tang, Wu Zhou, and Southern Han. During these 1,000 years, there were many uprisings against Chinese domination, and at certain periods Vietnam was independently governed under the Trieu, Trung Sisters, Early Lý, Khúc, and Dương Đình Nghệ-although their triumphs and reigns were temporary.

^{*} Taylor, Keith (1983). *The birth of Vietnam*. Berkeley: University of California Press. p. xvii. [ISBN 978-0520074170](https://doi.org/10.1525/jipa.v41i0.15014).

[†] https://web.archive.org/web/20100106204725/http://www.bvom.com/resource/vn_history.asp?pContent=Pre-History

[‡] Charles F. W. Higham (2017-05-24). "[First Farmers in Mainland Southeast Asia](https://doi.org/10.7152/jipa.v41i0.15014)". *Journal of Indo-Pacific Archaeology*. University of Otago. **41**: 13–21. [doi:10.7152/jipa.v41i0.15014](https://doi.org/10.7152/jipa.v41i0.15014)

During the Chinese domination of northern Vietnam, several civilizations flourished in what is today central and south Vietnam, particularly the Funan and Cham. The founders and rulers of these governments, however, were not native to Vietnam. From the 10th century onwards, the Vietnamese, emerging in their heartland of the Red River Delta, began to conquer these civilizations.

When Ngô Quyền (King of Vietnam, 938–944) restored sovereign power in the country with the victory at the battle of Bạch Đằng River, the next millennium was advanced by the accomplishments of successive local dynasties: Ngô, Đinh, Early Lê, Lý, Trần, Hồ, Later Trần, Later Lê, Mạc, Trịnh, Nguyễn, Tây Sơn and again Nguyễn. At various points during the imperial dynasties, Vietnam was ravaged and divided by civil wars and witnessed interventions by the Song, Yuan, Cham, Ming, Siamese, Qing, French, and Imperial Japan.

The Ming Empire conquered the Red River valley for a while before native Vietnamese regained control and the French Empire reduced Vietnam to a French dependency for nearly a century, followed by occupation by the Japanese Empire. Political upheaval and Communist insurrection put an end to the monarchy after World War II, and the country has proclaimed a republic[§].

The capital, Hanoi, is located in the north, while the country's largest city, Ho Chi Minh City (formerly Saigon), is in the south. Vietnam experienced a period of prolonged warfare in the mid-20th century, and a partitioning (1954–75), first militarily and later politically, into the Democratic Republic of Vietnam, better known as North Vietnam, and the Republic of Vietnam, usually called South Vietnam. Following reunification in April 1975, the Socialist Republic of Vietnam was established in July 1976^{**}.

1.2. Religion and Ethnic

1.2.1 Number and percentage of religion and ethnics (including regional characteristics)

Ethnic Groups: Vietnam has an estimated population of just over 85% belonging to the Kinh (Viet) ethnic group. Other minority ethnic groups include Tay, Thai, Muong, Khmer, Mong, Nung, and Hoa. 'Vietnam is a multi-nationality country with 54 ethnic groups. The Viet (Kinh) people account for 87% of the country's population and mainly inhabit the Red River delta, the central coastal delta, the Mekong delta, and major cities. The other 53 ethnic minority groups,

[§] https://en.wikipedia.org/wiki/History_of_Vietnam#cite_note-4

^{**} <https://www.britannica.com/place/Vietnam>. Accessed on 05 October 2020

totaling over 8 million people, are scattered over mountain areas (covering two-thirds of the country's territory) spreading from the North to the South.

Among ethnic minorities, the most populated area Tay, Thai, Muong, Hoa, Khmer, Nung... with a population of around 1 million each, while the least populated is Brau, Roman, Odu with several hundred people each. The Viet people succeeded in establishing a centralized monarchy right in the 10th century. The Cham people once boasted a flourishing culture early in history. The Tay, Nung, and Khmer peoples had reached high levels of development with the presence of various social strata. The Muong, Hmong, Dao, Thai peoples... gathered under the rule of local tribal heads.

Several ethnic minorities had mastered some farming techniques. They grew rice plants in swamped paddy fields and carried out irrigation. Others went hunting, fishing, collecting, and lived a semi-nomadic life. Each group has its own culture, diverse and special. Beliefs and religions of the Vietnamese ethnic minority groups were also disparate from each other.

However, fundamental solidarity among ethnic groups has been established on top of this difference as a result of centuries-long cooperation on the soil of Vietnam. Right in the first century of history, a mutual supplement in the economic relationship between lowland people and mountainous people was formed. This solidarity had been unceasingly strengthened during wars of resistance for defending the country. Through the shared struggle for defending and building of the country and the mutual assistance for co-existence and development, a common community between the Viet people and other ethnic minority peoples had been established and continuously consolidated and developed.

Nonetheless, an evident gap in the material and moral life has indeed still existed between peoples living in the deltas and those living in mountain areas as well as among ethnic minorities themselves. The Vietnamese government has worked out specific policies and special treatments to help mountainous people catching up with lowland people, and made great efforts to develop and preserve traditional cultural identities of each ethnic minority group. At present, the programs of providing iodized salt for remote villages, equipping village's health care and hygienic station, fighting malaria, building free schools for ethnic minority children, settled agriculture and fixed residence, and projects of creating new writing scripts for minority peoples

and studying and developing a traditional culture of each ethnic minority group,... have obtained satisfactory results^{††}.

Religious groups

According to The United States Department of State- Report on International Religious Freedom - Vietnam (USSD-IRF 2016 report): ‘In total, the government has granted recognition to 38 religious organizations and one dharma practice (a set of spiritual practices) affiliated with 15 distinct religious traditions as defined by the government. The 15 religious traditions are Buddhism, Islam, Bahai, Catholicism, Protestantism, Mormonism, Hoa Hao Buddhism, Cao Dai, Buu Son Ky Huong, Tinh Do Cu Si Phat Hoi, Tu An Hieu Nghia, Phat Duong Nam Tong Minh Su Dao, Minh Ly Dao Tam Tong Mieu, Khmer Brahmanism, and Hieu Nghia Ta Lon Buddhism. Distinct denominations within these religious traditions must seek their registration and/or recognition.’ ‘Smaller religious groups that together comprise less than 0.2% of the population include a devotional form of Hinduism mostly practiced by 50,000 ethnic Cham in the south-central coastal area; approximately 100,000 Muslims, who are scattered throughout the country (approximately 40% are Sunnis; the remaining 60% practice Bani Islam); an estimated 8,000 members of the Bahia Faith; and approximately 1,000 members of The Church of Jesus Christ of Latter-day Saints (Mormons). Religious groups originating within the country (Buu Son Ky Huong, Tu An Hieu Nghia, To Tien Chinh Giao) and religious groups relatively new to the country (such as Brahmanism) comprise a total of 1.4%. A small, mostly foreign Jewish population exists in Hanoi and Ho Chi Minh City...^{‡‡}.

‘Ethnic minorities constitute approximately 14% of the population. Based on adherents’ estimates, two-thirds of Protestants are members of ethnic minorities, including groups in the Northwest Highlands (Hmong, Dzao, Thai, and others) and the Central Highlands (Ede, Jarai, Sedang, and M’nung, among others, including groups referred to as Montagnards or Degar). The Khmer Krom ethnic group overwhelmingly practices Theravada Buddhism.’^{§§}

^{††} <https://www.vietnamembassy.org.uk/population.html>

^{‡‡} <http://dfat.gov.au/about-us/publications/Documents/country-information-report-vietnam.pdf>. Accessed: 05 October 2020

^{§§} US State Department (USSD-IRF), ‘2016 Report on International Religious Freedom – Vietnam’, (Section I. Religious Demography), 15 August 2017,

1.2.2 Lifestyles and dietary restriction for culture and religion

Lifestyles, culture^{***}:

Vietnam is a multiethnic country with over fifty distinct groups. Each of its 54 ethnic groups has their own traditional cultural identities, language, lifestyle, beliefs and religions in various forms such as folk belief of worshiping ancestors and persons who made great contributions to the nation or the community, and religious beliefs.

Family is very strong in Vietnam. Family and clan (đòng họ) are valued over individualism. Clan is the most important social unit in the country and each clan features a patriarch heading the clan and a clan altar. Even today, in some parts of the country, the tradition of clan members living together in longhouses is quite prevalent. It is also not uncommon to see three to four generations of a family living together in the same house. Members of a clan are related by blood and often name their villages based on their clan names. Death commemorations of clan members are usually attended by all members of the clan and villagers.

Weddings in Vietnam earlier were arranged mainly by parents and people were married very young. However, things have changed so much in recent years since Vietnam Open the door to the World and tourism pick up in early of 90. Vietnamese youth enjoy greater freedom of choosing the time of their marriage and their partner. Weddings are still mostly held in the traditional manner with elaborate rituals and ceremonies. The date for Wedding was carefully selected by Feng Shui master or most respected man in the Clan.

The traditional funeral ceremony in Vietnam is also quite elaborate and long-stretched. The body of the dead person is cleaned with fragrant water and dressed carefully in the special clothes. A lot of mourning following and depends on each tribe and location, they have the slightly different ceremony. Later the body will be burying, the most popular method. Recently, some area, people choose cremation instead of burying. Only 1 case of remains in frozen condition and several cases of Monks body was kept inside the statues...

Vietnamese Cuisine: Vietnamese food is fresh and healthy and getting more and more popular all over the World. It exhibits great diversity but can be classified into three primary categories by locations: the north, south, and central regions of the country. Many types of noodles and noodle soups and all type of spring rolls are popular here. Less use of oil and greater use of fresh vegetables are preferred. Soy sauce, fish sauce, mint, and basil are popular ingredients. Rice is

<https://www.state.gov/j/drl/rls/irf/religiousfreedom/index.htm?year=2016&dliid=268780#wrap>
per.Accessed; 05 October 2020

^{***} <https://vietnamtravel.com/vietnamese-culture/>

the main food and eaten in 3 meals a day. The flavors of Vietnamese food range from spicy and sour to sweet. The Noodle Soup originating in North Vietnam is a noted Vietnamese dish and features rice noodles with beef, chicken, fish, sea food.... soup and scallions or bean sprouts as accompaniments. There is vegetarian noodle soup too.

Traditional costumes of Vietnam: The traditional dress of the Vietnamese people changed significantly from time to time and depended largely on the whims and fancies of the region's rulers

Religion of Vietnam: Ancestor worship is common in Vietnamese culture. Most Vietnamese, regardless of religious denomination, practice ancestor worship and have an ancestor altar at their home or business, a testament to the emphasis Vietnamese culture places on filial piety.

Festivals of Vietnam: Vietnam has many festivals. Vietnam celebrates several holidays, totally 14 days of holidays in a year including traditional holidays which have been celebrated in Vietnam for thousands of years, along with modern holidays imported predominantly from western countries. Among Vietnamese traditional holidays, the two most important and widely celebrated are the Lunar new year -TET, followed by the Mid-autumn lantern festival, although the latter has been losing ground in recent years.

Restriction for culture and religion:

Vietnamese people greet each other by joining hands and bowing slightly to each other. Hugging is reserved for relatives only. Women do not shake hands with each other or with men.

Fasting is most often used in Vietnamese culture when people are sick. When they're sick, many Vietnamese believe it's best to drink only hot water and eat thin rice gruel (rice and water with a little salt), to give their digestive systems a rest. Health care providers may want to make sure that sick patients are getting enough nutrition.

The only other time fasting is used in Vietnamese culture is for religious reasons. Vietnamese Buddhists – depending on how strict they are – may adhere to restrictions such as abstaining from meat on Wednesdays and Fridays, or even follow vegetarian diets. Strict Vietnamese Catholics will adhere to Catholic dietary rituals, such as those during Lent. Fasting among Vietnamese in America, however, is not common^{†††}.

1.3. Population

1.3.1. Current number of population, population transition, and population pyramid

Vietnam is experiencing rapid demographic and social change. The current population of Vietnam is 97,569,565, based on projections of the latest United Nations data (up from about

^{†††} <https://ethnomed.org/resource/nutrition-and-fasting-in-vietnamese-culture/>.

60 million in 1986) and is expected to expand to 120 million by 2050. Population rank is 15th over the world. Vietnam’s population is increasing by about 1% each year, adding about 1 million people per year^{†††}. Population density is 293.89 persons/km²^{§§§}. This becomes the 46th most densely populated country on earth. Today, 70% of the population is under 35 years of age, with a life expectancy of 76 years (71.7 years for males and 79.9 years for females), the highest among countries in the region at similar income levels. But the population is rapidly aging. And Vietnam’s emerging middle class, currently accounting for 13% of the population, is expected to reach 26% by 2026^{****}.

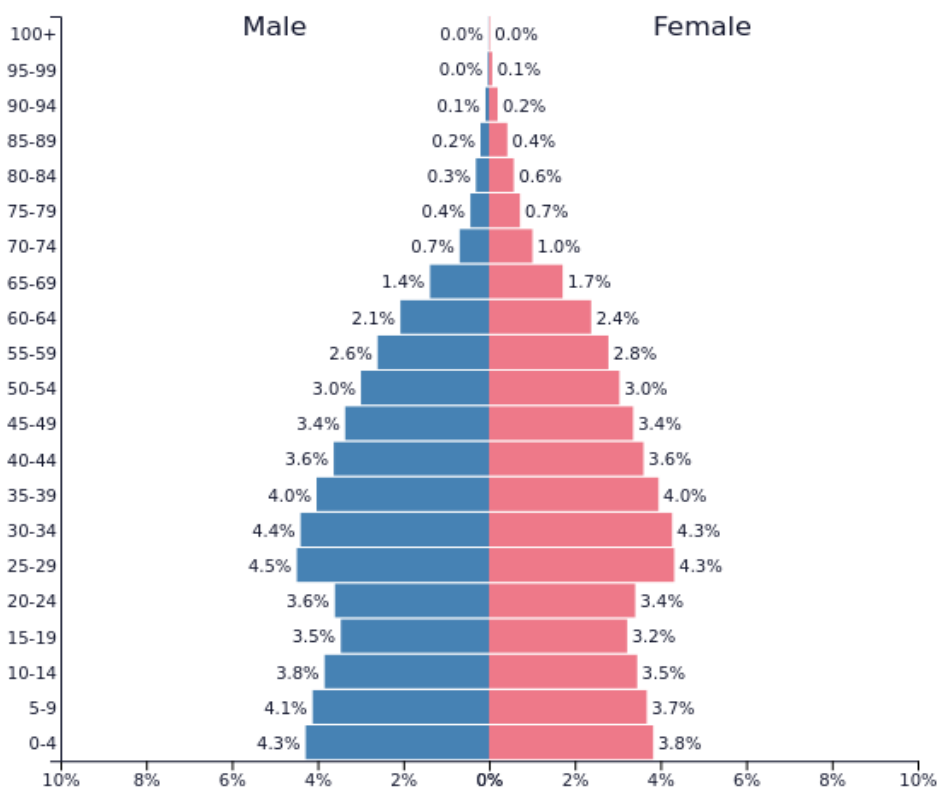


Fig. 1.1. Population Pyramid in 2020^{†††††}

^{†††} <https://worldpopulationreview.com/countries/vietnam-population>. Accessed on 05 October 2020

^{§§§} <https://worldpopulationreview.com/countries/vietnam-population>. Accessed on 05 October 2020

^{****} <https://www.worldbank.org/en/country/vietnam/overview>. Accessed on 05 October 2020

^{†††††} <https://www.populationpyramid.net/viet-nam/2020/>. Accessed on 05 October 2020

Currently, 37.0% of the population of Vietnam is urban. The population growth rate in urban areas is three times higher than that in rural areas, mainly due to the increasing migrant flows from rural to urban areas. The population aging index in Vietnam was 41.1%. The total fertility rate was 2.1 children per woman. Sex ratio at birth was 111.9 male birth per 100 female births. The infant mortality rate was 15.4 per 1,000 live birth. The death of children under 5 years old in Vietnam was 19.3 per 1,000 live births.

Alike many countries, Vietnam faces a dual trend that encompasses a still young population together with population aging, which may reflect the challenge of “getting old before getting rich”. Looking at the population structure by age group, from 2010 to 2020, the share of the population aged 0-14 decreased from 24.7% to 23.2%, aged 15 – 64 increased from 68.9% to 70.3%, and the share of the population aged 65+ remained small but increase from 6.8% to 7.9%^{††††}. Demographic transition is characterized by population decline and aging. Vietnam is currently in stage 3 of the Demographic Transition Model. The reasoning is that the birth rates are still in the process of decreasing and the death rates are very low. Vietnam may be missing a golden population which is estimated to last about 30 years from 2010 to 2040^{§§§§}.

1.3.2 Demography, literacy and other relevant information

Demography of Vietnam including population features (mentioned above), education level, health of population, economic status, religious affiliations and other aspects of population. Originating in northern Vietnam, the Vietnamese people pushed southward over two millennia to occupy the entire eastern seacoast of the Indochinese Peninsula. Ethnic Vietnamese, or Viet (known officially as Kinh), live in the lowlands and speak the Vietnamese language, as opposed to the many ethnic groups of Vietnam who also occupy the mountainous regions. The Kinh group does represent much of the cultural and political landscape of Vietnam^{*****}.

Regarding the education system, compulsory education lasts 10 years from age 5 to age 14. The illiterate population aged 15 – 24 years in 2018 was 223,705 (111,185 for male, and 112, 520 for female). Illiterate population aged above 15 years in 2018 was 3,669,981 (1,276,494 for male, and 2,393, 487 for female)^{†††††}.

†††† https://en.wikipedia.org/wiki/Demographics_of_Vietnam

§§§§ <https://e.vnexpress.net/news/news/vietnam-may-be-missing-out-on-golden-population-undp-3394794.html>

***** https://en.wikipedia.org/wiki/Demographics_of_Vietnam

††††† <http://uis.unesco.org/en/country/vn>

The statistic shows the total literacy rate of adults aged 15 to 35 in Vietnam from 2006 to 2018. In 2018, the literacy rate was approximately 94.8%.

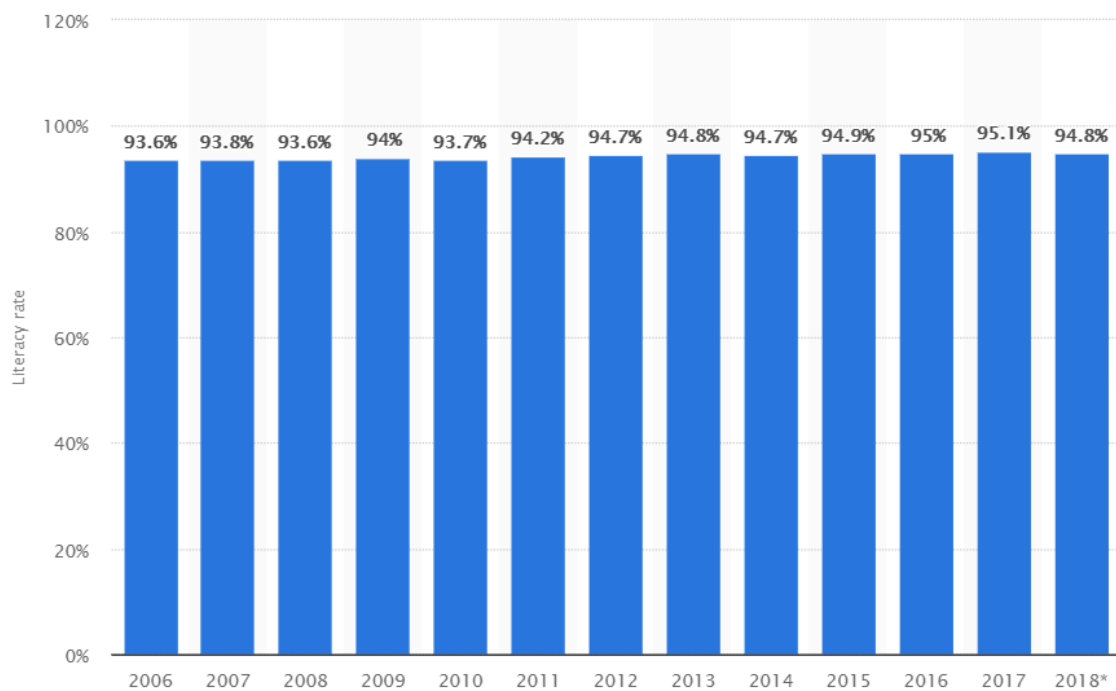


Fig. 1.2. Total literacy rate of adults aged 15 to 35 in Vietnam 2006 – 2018^{***}**

Between 2010 and 2020, the Human Capital Index for Vietnam increases from 0.66 to 0.69. A Vietnamese child born today will be 69% as productive when she or he grows up as she or he could be if she enjoyed complete education and full health. Vietnam’s HCI is the highest among middle-income countries, but there are some disparities within the country, especially for ethnic minorities. There is also a need to upgrade the skills of the workforce to create productive jobs on a large scale in the future.

Health outcomes have improved in tandem with rising living standards. From 1993 to 2017, the infant mortality rate decreased from 32.6 to 16.7 (per 1,000 live births). Between 1990 and 2016, life expectancy increased from 70.5 to 76.3 years and is the highest in the region for countries at a similar income level. Vietnam’s universal health coverage index is at 73-higher than the regional and global averages-with 87% of the population covered. However, the high and widening sex ratio at birth (115 in 2018) shows that fundamental gender discrimination persists.

***** <https://www.statista.com/statistics/1008115/vietnam-literacy-rate-of-adults/>

At the same time, Vietnam is one of the most rapidly aging countries and the 65+ age group is expected to increase 2.5 times by 2050^{§§§§§}.

Between 2002 and 2018, GDP per capita increased by 2.7 times, reaching over US\$2,700 in 2019, and more than 45 million people were lifted out of poverty. Poverty rates declined sharply from over 70% to below 6% (US\$3.2/day PPP). The vast majority of Vietnam's remaining poor (86%) – are ethnic minorities.

1.4. Politics and Policy

1.4.1 Current political system

The Socialist Republic of Vietnam is a law-governed state. The political system was established upon the birth of the Democratic Republic of Vietnam and comprises the 4 following organizations: The Communist Party of Vietnam, The State of the Socialist Republic of Vietnam, Vietnamese Fatherland Front, and other political organizations.

1. The Communist Party of Vietnam is the vanguard of the Vietnamese working class, the working people, and the whole nation; a loyal representative of the interests of the working class, the working people, and the whole nation. People in the political system: As the maker of history, the people constitute the decisive force in the process of social evolution and make up the current political system in Vietnam. All powers belong to the people and their powers are exercised through the State. The State regulates the society by-laws under the leadership of the Communist Party of Vietnam.

2. The State of the Socialist Republic of Vietnam is the central organization and the pillar of the political system that realizes the will and power of the people acts on behalf of the people and is accountable to the people for the management of all activities of the social life and in domestic and external affairs. The state system includes The National Assembly, The State President, The Government, The Apparatus Organization at the local level,

(1) The National Assembly is the highest-level representative body of the people; the highest organ of state power of the Socialist Republic of Vietnam; the National Assembly exercises three main functions: to legislate, to decide on important national issues, to exercise supreme supervision overall activities of the State. The State President is the Head of State, elected by the National Assembly from among its deputies to represent the Socialist Republic of Vietnam in domestic and foreign affairs. The President has twelve powers as provided by the Constitution, of which the most important are to declare the promulgation of the Constitution, laws, and

^{§§§§§} <https://www.worldbank.org/en/country/vietnam/overview>.

ordinances, to head all people's armed forces and assume the Chairmanship of the National Defense and Security Council, to recommend to the National Assembly the election, removal or dismissal of the Vice President, the Prime Minister, Chief Justice of the Supreme People's Court, and Head of the People's Procuracy. The National Assembly deputies must have close contact with the voters and fall under the supervision of the voters. The Chairman and the Vice-chairmen of the National Assembly are the deputies elected by the National Assembly at the first session of every tenure of the National Assembly. The Vice-chairmen of the National Assembly are the assistants of the Chairman following the distribution of work of the Chairman.

The Standing Committee of the National Assembly, the standing body between the two sessions of the National Assembly, has the right:- supervise the implementation of the Constitution, the law and the resolution of the National Assembly; the ordinance and the resolution of the Standing Committee of the National Assembly; to supervise the activities of the Government, the Supreme Court, and the Supreme Procuracy; to promulgate the ordinance, the explanations of the Constitution, the law and the ordinance.

Two councils of the National Assembly are: the Council of the National Defense-Security chaired by the State President; the Prime Minister is the Vice-Chairman and 4 members; the Council of Nationalities comprises a Chairman and 38 members.

The Functional Committee of the National Assembly comprises the Law Committee; the Committee of Economy and Budget; the National Defense-Security Committee; the Committee of Culture, Education of Youth, Adolescents and Children; the Committee of Social Issues; the Committee of Science, Technology, and Environment and the Committee of External Relations.

(2) The State President: is the head of the State, elected by the deputies of the National Assembly on behalf of the Socialist Republic of Vietnam in the internal and external relations aspects. The Constitution of the Socialist Republic of Vietnam clearly states that the State President has 12 rights and obligations, in which the most prominent rights and obligations are:

- To make public the Constitution, law, and ordinance.
- To command the people's armed forces and hold the post of Chairman of the Council of National Defense and Security.
- To propose the National Assembly to elect or remove from the post the Vice-President, the Prime Minister, the Chief Judge of the People's Supreme Court, the Head of the Supreme Procuracy.

Assistants of the State President are the Vice-President, the Council of National Defense and Security, and the Office of the State President.

The State Vice-President is proposed by the State President and elected by the deputies of the National Assembly; the State Vice-President helps the State President to carry out the tasks and possibly is delegated by the President to do certain tasks or to work as the acting President. The Council of the National Defense and Security is tasked to mobilize all the forces and capabilities of the country to defend the Fatherland. The Council led by the State President comprises the State Vice-President and the members introduced by the State President and approved by the National Assembly.

(3) *The Government* is the executive body of the National Assembly, the highest administrative body of the Socialist Republic of Vietnam. The Government has the same term of office as the National Assembly. The Government falls under the supervision of the National Assembly and is tasked to make reports to the National Assembly, the Standing Committee of the National Assembly, and the State President. The Government comprises the Prime Minister, the Deputy Prime Ministers, the Ministers and Heads of the Ministerial level agencies. The Prime Minister is introduced by the State President, elected and removed from the post by the National Assembly with a five-year term. The Deputy Prime Ministers are proposed by the Prime Minister and approved by the National Assembly. The Deputy Prime Ministers are the assistants of the Prime Minister and are delegated with the tasks when the Prime Minister is absent. The Ministers and Heads of the Ministerial level agencies are proposed by the Prime Minister and approved by the National Assembly. They undertake the State managerial functions for the sectors and fields assigned to them. The Government administers the implementation of the State's affairs in the fields of politics, economics, culture, society, national defense and security, and foreign relations; ensures the efficiency of the State apparatus from central to grassroots levels; assures that the Constitution and laws are respected and executed and guarantees the sustainability and improvement of the people's material and spiritual life. The Government consists of Prime Minister, who is a National Assembly deputy as provided by the Constitution, Deputy Prime Ministers, Ministers, and other members.

(4) *The apparatus organization at the local level******

The People's Council:

- The People's Council in provinces and cities under the Central Government.
- The People's Council in districts.
- The People's Council in cities under provinces, provincial capitals, and districts.
- The People's Council in communes, wards, and townships.

The People's Committee:

***** <http://vufo.org.vn/The-Political-System-in-Vietnam-09-197.html?lang=en>

- Provinces and corresponding levels: it comprises departments, committees, and other agencies under the People's Committee and the Office of the People's Committee.
- Districts and corresponding levels: it comprises departments and boards and other agencies under the People's Committee and the Office of the People's Committee.
- Communes and corresponding levels: the departments and offices.

3. Vietnamese Fatherland Front: The Vietnam Fatherland Front and its member organizations are the political basis of the people's administration. The Front promotes the tradition of the entire people's solidarity, intensifies the political and spiritual unanimity of views among the people, participates in building and consolidating the people's administration, to together with the State take care of and protect the legitimate interests of the people, encourage the people to exercise their rights to mastery, seriously implement the Constitution and the law, supervise the activities of the State agencies, the elected representatives and the State officials and employees. The State creates conditions for the Vietnam Fatherland Front and the member organizations to operate effectively.

4. Other Political Organizations: These are organizations representing the interests of different social communities participating in the political system with their principles, purposes, and features. There are currently major social-political organizations in Vietnam such as the Vietnam Confederation Trade Unions, Vietnamese Women's Union, Ho Chi Minh Communist Youth Union, and Veterans Association, and other professional organizations^{†††††}. These organizations play an important role in the national liberation cause. In the renovation and industrialization and modernization, these social organizations have been making an important contribution to bringing the policies of the Party and the Government of Vietnam into life.

1.4.2 Current political party and results of a recent election

The Party organizational system is established in line with the State administrative apparatus from Central level to provincial, city, district, and communal levels as well as in administrative bodies, schools, enterprises, political/social/professional organizations, army units, and police forces. The Party cells are the Party's grassroots foundations.

Article 4, Chapter I of the current Constitution, adopted by the National Assembly on April 15, 1992, defined the role of the CPV: "as the leading force of the State and the society."

"The Party's activities are governed by the Constitution and laws."

^{†††††} <http://vietnamembassy-usa.org/vietnam/politics>.

Being the party in power whose mission is to lead the country in all fields, the Party directs State and socio-political organizations through:

- Deciding on political programs, strategies, and guidelines for national construction and defense; carrying out the leadership through ideological work, personnel management, and supervision over the implementation of its political programs, guidelines, and strategies;
- Consistently directing the personnel work and managing the contingent of cadres, at the same time promoting the responsibilities of organizations in the political system and their leaders in charge of personnel work;
- Introducing competent cadres for posts in State agencies and socio-political organizations;
- All-Party cells and members working in the State agencies as well as socio-political organizations must strictly observe the Party's resolutions and directions; the Party cells direct the concretization of these documents into the State's laws and organizations' regulations as well as their implementation.

To consolidate its full leadership, the Party does not directly cover all activities but works through its affiliates, in line with the Constitution and laws:

- In the State leading agencies (National Assembly, People's Councils) and socio-political organizations at the central level and in provinces/centrally-administered cities which are formed through elections, Party committees set up Party bodies at the same level, composed of some Party members who work for the related organizations and some members appointed by the same-level Party committees. The role of the Party bodies is to lead and make other members of the organizations implement the guidelines and policies of the Party, increase the influence of the Party, improve the close relationship between the Party and the people, realize the Party's resolutions on organization and personnel management and decide matters of organization and personnel management in line with the duties assigned by the Politburo.
- In judicial and executive bodies (the government, ministries, courts, the inspection agency, etc.) at the central level and provinces/centrally-administered cities, Party committees set up the Party boards at the same level, which are composed of some Party members who work for the related bodies and some appointed by the same-level Party committees, including the secretaries. The role of the Party boards is to make other members of the bodies understand and implement the Party's guidelines and policies; give advice to the Party committees on operation, duties, organization, and personnel management; make a decision within their competence, and to observe the implementation of the Party's guidelines and policies.

- As for the security and armed forces, there are the central military committees and the security Party committees.

With those bodies, the Communist Party of Vietnam has a nationwide organizational system, from the Central to grassroots levels, and in political- social organizations and economic entities^{*****}.

1.4.3 Main national policy and political challenges

Vietnam has attained positive outcomes in implementing the ten-year socio-economic development strategy in the 2011 - 2020 period and the five-year socio-economic development plan in the 2016 - 2020 period. The macro-economy was more stable. Big balances were ensured and improved. Economic growth was positive. Growth quality was improved. Strategic breakthroughs attained initial outcomes. The economy was restructured in combination with the positive transformation of the growth modal. Scale, potentials, and competitiveness of the economy were on the rise. Social security was ensured. However, despite encouraging developments, the economy has yet fully tapped its potential and advantages. There are a large number of difficulties and limitations including low productivity, efficiency, and competitiveness. The investment and business environment still has shortcomings. Strategic breakthroughs and the transformation of the growth models have yet made a big leap forward. The gap between the rich and poor was widening. A proportion of people coped with difficulties. Currently, Vietnam is preparing to conduct the 13th National Congress of the Communist Party with a strong belief and great hope of the people in a new stage of development but also sets forth great responsibilities for policymakers. At the Congress, the National Socio-Economic Development Strategy for the period 2021-2030 and the Five-year Socio-Economic Development Direction for the 2021-2025 period will be approved, serving as a guideline for the utmost important development period of the country in the next 5-10 years. This will be a critical period to bring Vietnam from a developing country with the current low middle income to a modern industrial country with high middle income by 2030 and then to become a developed country with high income in 2045^{§§§§§§}. The strategy and the plan are expected to set ambitious development goals consistent with the country's remarkable position achieved in recent years. Especially, 2021 would be the first year, Vietnam implements the ten-year economic

<http://www.chinhphu.vn/portal/page/portal/English/TheSocialistRepublicOfVietnam/AboutVietnam/AboutVietnamDetail?categoryId=10000103&articleId=10001578>. Accessed on 05 October 2020

§§§§§§ <http://www.mpi.gov.vn/en/Pages/tinbai.aspx?idTin=47821&idcm=133>

development strategy (2021-2030) and the five-year socio-economic development plan (2021-2025). Key preset goals for 2021 included a GDP growth rate of 7%, a growth pace of domestic budget collection of 9-11%; a growth rate of trade revenue collection of 4-6%*****. The general targets of the National Socio-Economic Development Strategy for the period 2021-2030 are††††††: “By 2030, being a developing country with modern industries and high average income; modern, competitive, effective and effective management institutions; the economy develops dynamically, quickly and sustainably, independently and autonomously based on science and technology, innovating in association with improving efficiency in foreign affairs and international integration; arouse aspirations for national development, promote the nation's creativity, will build a democratic, fair, civilized discipline, safety society, and ensure happy life of the people; constantly improving the people's lives in all aspects; firmly protect the Fatherland, a peaceful and stable environment for national development; improving the position and prestige of Vietnam in the international arena. Strive to become a developed country with high income by 2045”.

There are 16 specific goals as follows:

- **7 economic goals**

- (1) The growth rate of gross domestic product (GDP) is about 7% / year on average; GDP per capita at current prices by 2030 will reach about 7,500 USD / person.
- (2) The proportion of the processing and manufacturing industry will reach about 30% of GDP, the digital economy will reach about 30% of GDP.
- (3) The urbanization rate will reach over 50%.
- (4) The average total social investment reaches 33-35% of GDP; public debt does not exceed 60% of GDP.
- (5) The contribution of total factor productivity (TFP) to growth reached 50%.
- (6) The social labor productivity growth rate is over 6.5% / year.
- (7) Reducing energy consumption per unit of GDP by 1 - 1.5% / year.

- **4 social goals**

- (8) The human development index (HDI) reaches over 0.7.
- (9) Average life expectancy reaches 75 years, in which the minimum life expectancy reaches 68 years.
- (10) The rate of trained workers with degrees and certificates reaches 35-40%.

***** <http://news.chinhphu.vn/Home/Building-socioeconomic-development-norms-for-2021/20207/40964.vgp>

†††††† <http://cand.com.vn/thoi-su/Phan-thu-hai-Chien-luoc-phat-trien-Kinh-te-xa-hoi-2021-2030-616525/>

(11) Labor working in the agricultural sector decreases to less than 20% of the total labor force of the economy.

• **6 environmental goals**

(12) The forest coverage rate is stable at 42 - 43%.

(13) The rate of wastewater treatment and reuse into the river basin environment is over 70%.

(14) Reduce at least 8% of greenhouse gas emissions.

(15) 100% of production and business establishments meet environmental standards.

(16) Increase the area of marine and coastal protected areas to 3-5% of the national marine area.

As a responsible member country of the United Nations, Vietnam has been actively participating in the implementation of the global sustainable development agendas. In the context of Vietnam, the Sustainable Development Goals (SDGs) were nationalized in the National Action Plan to implement the 2030 Agenda for SDGs.

The 2030 Agenda and the Sustainable Development Goals (SDGs) are in line with the long-term development strategy of Vietnam^{*****}.

To date, Vietnam is proud to have achieved several SDG-related results, including:

(1) A substantial reduction in the national multi-dimensional poverty rate from 9.9% in 2015 to less than 7% in 2017;

(2) A decrease in the under-5 mortality rate from 22.1 in 2015 to 21.6 in 2017 per 1000 live births; Health insurance coverage reaching 86.4% in 2017;

(3) A primary net enrolment rate of 99.0% and a primary completion rate of 99.7% for the school year 2016-2017;

(4) Gradually making gender equality a cross-cutting issue in all political, economic, cultural, and social spheres with remarkable results such as women's representation in the National Assembly in the 2016-2021 term reaching 26.7%; and, the year 2017 recorded 12 out of 30 government ministries and agencies with female leaders holding minister and deputy-minister positions ;

(5) The proportion of households having access to safe water reaching 93.4 % in 2016;

(6) Access to electricity by more than 99% of Vietnamese households in 2016;

(7) Internet use reaching 54.2% or 50 million people in 2016;

(8) Annual GDP growth rates at 6.7, 6.2, and 6.8% for 2015, 2016, and 2017 respectively;

***** https://sustainabledevelopment.un.org/content/documents/19967VNR_of_Viet_Nam.pdf

- (9) Improvements in the protection and management of the environment and natural resources and an increase in forest cover to 41.5% in 2017;
- (10) A reduction in inequality and an improvement in the promotion of access to justice and information;
- (11) Vietnam's deeper and more comprehensive international integration and enhanced international position; and
- (12) Important steps are taken to support the youth in realizing their full potential as key partners in achieving the SDGs.

The sustainable development principles have been thoroughly mainstreamed into the 2011-2020 Social and Economic Development Strategy (SEDS) and the 2016-2020 Social and Economic Development Plan (SEDP). In the coming years, the SDGs will be fully and further integrated into Vietnam's 2021-2030 SEDS and 2021-2025 SEDP.

Vietnam has had fast and stable economic growth in recent years, but rapid changes have also transformed its society and culture in the process. Besides achievements, various changes have been made to Vietnam's economic and social policies such as a friendly attitude toward foreign investment, tax incentives and structures, international cooperation, administrative reform, and employment forms. While Vietnam's poverty reduction has lifted millions of people out of extreme destitution and has dramatically improved the standard of living, some social issues have also arisen due to either the modernization and urbanization process or economic transformation. Particularly, in the 2021-2025 periods, the domestic economy would cope with numerous challenges including social issues, the aging population, the gap between rich and poor, natural disasters, diseases, climate change, seawater rise, and saltwater intrusion^{§§§§§§}.

Here is the list of socio-economic issues that Vietnam is currently facing^{*****}:

1. **An aging population:** As the age structure alters, the Vietnamese economy also needs to adapt to respond to a declining labor participation rate, increasing costs of healthcare and related services for the elderly, shifting growth driving force, and generational gaps in the workplace. Moreover, the country's social security fund has already warned of going bankrupt, and the government plans to increase the retirement age to 62 years old for men and 60 years old for women by 2021.

^{§§§§§§} <http://news.chinhphu.vn/Home/Building-socioeconomic-development-norms-for-2021/20207/40964.vgp>
^{*****} <https://soapboxie.com/world-politics/Vietnams-Current-Social-Issues>. Accessed on 15 October 2020

2. Economic inequality: according to the Asian Development Bank, 7% of the country's population lived below the national poverty line, and 2.6% lived below \$1.9 per day. The problem of income inequality is further complicated by the low level of economic mobility among various disadvantaged groups in Vietnam. For instance, minority people living in rural and mountainous areas have limited access to education, poorer infrastructure, and slimmer opportunities to move up the income bracket. Similarly, due to Vietnam's long-lasting patriarchy, women frequently receive lower wages and slimmer chances of promotion at work.

3. Brain Drain: It was estimated that more than 2.7 million Vietnamese people lived abroad with more than 1.4 million people living in the United States, 240 thousand living in Australia, and elsewhere around the globe in 2017. Compared to 1990, only 1.2 million people born in Vietnam lived abroad. Although migration is the inevitable result of globalization and Vietnam's increased integration into the world economy, the concern is that Vietnam is losing its most talented and brightest people to other countries. Furthermore, many Vietnamese students and young scholars who go abroad to pursue their education faced the dilemma of staying in the host country or returning to Vietnam after earning their degrees.

4. Public Debt: Vietnam's public debt to GDP ratio has consistently grown over the past 10 years, amounting to 61.8% in 2017. In economic discipline, a high public debt relative to earnings can raise red flags. For example, high public debt can necessitate tax hikes, burdening companies, and reducing the propensity to invest, divert capitals and resources from more productive and beneficial economic activities, and slow economic growth. Besides, if a nation borrows too much debt from foreign countries, it becomes dependent on the foreign countries' economies. Thus, any changes in other countries' policies or currencies can have a direct impact on the debtor nation. From 2001 to 2015, Vietnam's foreign debts increased five times, borrowing mainly from the World Bank, Japan, and the Asia Development Bank.

5. Corruption: Corruption is not news in Vietnam. According to Transparency International in 2017, the country was among the poorest performing countries in terms of transparency, ranking 107 among 180 nations with a score of 35 out of 100. According to the 2017 Provincial Competitiveness Index compiled by VCCI Vietnam in collaboration with USAID, 53% of companies surveyed stated that they had to make unofficial payments for customs procedures. Corruption is prevalent in all sectors in Vietnam in the form of bribery, gifts, facilitation payments, and political interference. The weak rules of law, bureaucracy, and ambiguous legal framework made it even harder to bring the perpetrators to justice. Since 2017, in an unprecedented bid to curb corruption and cleanse the ruling Communist Party, General Secretary Nguyen Phu Trong has launched a national anti-corruption campaign to investigate high-profile cases of corruption, unveiling the extent and severity of corruption

among Vietnam's corporate and political elite. Although the success of the campaign is hard to evaluate, many people hope that it can set a precedent and serve as a warning to would-be offenders.

6. Pollution: Vietnam's ambitious infrastructure projects to expand its industrial parks, build more entertainment facilities, hotels, and resorts at exotic locations such as on the mountains or in the forests, and turn agricultural farmland into urban areas place a strain on its ecosystem, destroying many forests, and depleting its natural resources. Without a long-term development strategy with an emphasis on sustainability, the state of pollution in Vietnam is likely to become worse. Water pollution, air pollution is also an issue, especially in Vietnam's big cities.

7. Unsafe food: Food safety is one of the biggest and the most common concerns among Vietnamese people, rich or poor alike. According to the statistics of the Vietnamese Food Safety Agency, in 2017, there were 139 mass food poisoning outbreaks, affecting 3,869 people with 24 fatalities. Many food producers and farmers are found guilty of using pesticides, antibiotics, and other hazardous chemicals for quicker fruit ripening or leaner meat.

In addition to the above-mentioned issues, there exist many other problems, such as competing values among generations, political apathy among young people, human rights issues, education reforms,... Especially, the Covid-19 pandemic has seriously and heavily impacted all aspects of the global economic and social life, posing great challenges to Vietnam but it also brings new development opportunities. The Covid-19 has affected all industries, especially services, transportation, tourism, catering, and accommodation. Many businesses were forced to scale down their production or suspend their production. A series of employees have lost jobs and becoming underemployed. Their income is deeply reduced, making it difficult to ensure social security and stability. Vietnam has great economic openness and trade exchange, therefore, is suffering great losses from the pandemic. However, under the leadership of the Party and upholding the will and spirit of the nation, the Government and People of Vietnam have joined forces, being creating and endeavored to realize the "dual goal", both fiercely "fighting against epidemics such as fighting the enemy", and determined to maintain and restore production, to develop the economy, and to ensure people's lives so that "no one will be left behind."^{††††††††}. However, besides proud achievements, it is forecasted that Vietnam will still face significant difficulties and challenges in the coming time. The Covid-19 pandemic is still developing in a very complicated manner, creating great socio-economic and political instability around the

^{††††††††} <http://www.mpi.gov.vn/en/Pages/tinbai.aspx?idTin=47821&idcm=133>

world. It is expected that the world economic recovery will be slow, while trade tensions, protectionism, and political upheaval continue to increase and have a direct impact on a highly open economy like Vietnam. Also, Vietnam is still encountering the internal limitations and weaknesses of a developing economy with low middle income. Its economic growth remains dependent on capital, cheap labor, and the FDI sector. Therefore, in the medium and long term, overcoming the middle-income trap, narrowing the development gap with other countries, addressing environmental challenges, and building an independent and autonomous economy are the major development tasks posed for Vietnam. In the short term, the problem is that it is necessary to quickly restore economic growth, ensure social security, and make effective use of development opportunities that have emerged since the Covid-19 pandemic broke out.

1.5. Constitution and General Law System

1.5.1 Summary of the constitution

The current constitution was adopted by the 13th National Assembly in 2013. The 2013 Constitution is the fundamental legal document of the highest legal jurisdiction that institutionalizes basic viewpoints of the Communist Party of Vietnam on economic and political reforms, socialist goals, socialist democracy, and citizens' freedom rights. The Constitution indicates that the state power is in the hand of the people. The State is of the people, by the people, and for the people. The State ensures and constantly promotes the people's right to mastery in all fields and implements the policy of equality, unity, and mutual assistance among ethnic groups. The people use state power through the National Assembly and people's councils. These agencies are elected by the people, representing their will and aspiration.

The Constitution endows all citizens (men or women alike) with equal rights in all political, economic, cultural, and social areas as well as in family affairs, the right to freedom of belief and religion, the right to follow or not to follow any religion, the right to freedom of movement and residence within Vietnam, the right to go abroad and return home as stipulated by-laws, etc.*****.

The Constitution contains 11 chapters and 120 Articles.

Preamble

Chapter I - The Political Regime

Chapter II - Human Rights, Fundamental Rights and Duties of Citizens

Chapter III - Economic, Social, Cultural, Education, Science, Technology and Environment

***** <http://vietnamembassy-usa.org/vietnam/politics>.

Chapter IV - National Defense

Chapter V - National Assembly

Chapter VI - National President

Chapter VII - The Government

Chapter VIII - The People's Councils and the People's Committees

Chapter IX - Local Governments

Chapter X - Constitutional Council, National Council Election, State Audit

Chapter XI - Effect of the Constitution and the Constitutional Amendments

1.5.2 Summary of general law system

Since Vietnam's independence on September 30, 1945, the country has developed a socialist legal system based on the civil law system, with some major modifications from Marxist-Leninist ideology. The current legal system of Vietnam has the following characteristics:

- The legislation is the most important source of law;
- Courts are subordinate to the legislature and must make decisions based on legislation; and
- Policies are set out by the Communist Party, the only political party in Vietnam, which can lead to changes in legislation in the future.

The legal system is a general concept including two aspects, namely: the system of law structure and legislation system (legal source system)

Under the perspective of human right, the law of Vietnam is divided into the following groups:

- Law on civil and political rights
- Laws on social, economic, and cultural rights
- Laws on disadvantaged social groups such as women, children, old people, ...
- Laws in the judicial field which is easily violated

Vietnam participates in international treaties on human rights leading to national obligations, including ensuring the compatibility of national legislation with international human rights.

The structure system of law in Vietnam includes three basic elements:

- Delegated legislation (the basic unit in structure system)
- Legal institutions (set of legislation with same features)
- Laws (set of delegated legislation with the same features to adjust social relations in certain social fields).

There are 12 legal subjects in Vietnam:

1. Constitutional law

2. Administrative law
3. Financial law
4. Banking law
5. Property law
6. Civil law
7. Labor law
8. Marriage and family law
9. Criminal law
10. Criminal procedure law
11. Civil procedure law
12. Economic law

The system of legal documents in Vietnamese law consists of:

- Constitution is enacted by the National Assembly of Vietnam
- Laws or Codes are approved by the assembly and signed to issue by the President. These include several Codes, such as the Civil Code, Criminal Code, Civil Procedure Code, Criminal Procedure Code, Labor Code, and Maritime Code.
- Bylaws include:
 1. Resolution by the National Assembly
 2. Ordinance Resolution by Standing Committee of National Assembly
 3. Orders and Decisions by President
 4. Decrees and Decisions by Government
 5. Decisions by Prime Minister
 6. Resolution by the Judicial Council of the Supreme People's Court
 7. Circulars by Chief Justice of the Supreme People's Court
 8. Circulars by Chief Procurator of the Supreme People's Court
 9. Circular by Ministers, heads of ministerial-level agencies
 10. Decisions by State Auditor General
 11. Joint Resolution between Standing Committee of the National Assembly or between the Government and central agencies of political – society organizations
 12. Joint Circular between the Chief Justice of the Supreme People's Court and the Chief Procurator of the Supreme People's Court; between ministers, heads of ministerial-level agencies and Chief Justice of the Supreme People's Court, Chief Procurator of the Supreme People's Court; between ministers and heads of ministerial-level agencies
 13. Legal documents of the People's Council and People's Committee
 14. Resolution by People's Council

15. Directives and Decisions by People's Committee

1.6. Industry and Economy

1.6.1 Major industry

Major industries in Vietnam are food processing, garments, textiles, shoes, machine-building; mining, coal, steel; cement, chemical fertilizer, glass, tires, oil, and mobile phones. Some of the biggest industries in Vietnam include:§§§§§§§§

- (1) **Electronic:** Vietnam has invested in the manufacture of electronics which has seen that sector contribute 24% of the country's GDP
- (2) **Food Processing Industry:** Vietnam is a food processing hub that tries to meet the high demand for processed food from both local and international markets. The food industry is dominated by agricultural and sea products that are canned and shipped overseas, the sector accounts for 40% of Vietnam's export and directly contributes 15% of the GDP. The abundance of raw materials has catapulted the country to the top of the charts in the export of rice, coffee, and cashew nuts among other food products.
- (3) **Construction:** The construction industry has directly contributed 39% of the GDP, and this is mainly due to the massive support from the government that has formulated laws that are favorable to the sector.
- (4) **Mining industry:** Mining is a significant contributor to the economy with statistics showing that it directly adds 8.1% to the GDP. Vietnam is home to more than 5000 deposits of minerals that include rare metals that are in high demand around the world. The country has 7% of the world's bauxite reserves as well as tungsten, titanium, phosphate, coal, and iron ore. As of 2015, Vietnam became the 3rd largest mineral producer in South East Asia with some projects in the pipeline to push it to the apex of the global mineral trade. One sector that has greatly benefited in the mining sector is the steel industry which is projected to grow further in the coming years with plans already in motion to set up a plant that will be rolling out 2 million tons of steel every year.
- (5) **Service and Tourism:** The service industry in Vietnam accounts for 38.2% of the country's GDP. In the period between 1994 and 2004, the contribution to the GDP by the service sector averaged about 6%. Tourism plays a significant role in the economy of Vietnam and in 2012 the country received approximately 6.8 million visitors from different countries around the world. The number grew to more than 7

§§§§§§§§ <https://www.worldatlas.com/articles/top-biggest-industries-in-vietnam.html>

million in 2013. Vietnam has emerged as an attractive destination for tourists from different parts of the world, and according to the trip advisor, the top 25 destinations in Asia included major cities in Vietnam such as Halong, Hoi-an, and Ho Chi Minh City. In 2016, Vietnam attained a record of 10 million visitors from around the world, which represents a 26% increase from the previous year. Vietnam has now become the most favorable tourist destination in South East Asia. Many international and local tour operators in the country offer tours to ethnic minority groups, photography tours, bicycles, and walking tours, kayaking trips, and multi-country trips, especially with the neighboring countries of Laos, Cambodia, and Thailand. Tourists from foreign countries can travel freely in Vietnam as this was made possible by 1997. The country's economy has transitioned from an agrarian-based to almost a modern service-based economy, and more than a third of the GDP is generated by the service sector which includes transportation and hotel and catering industry.

1.6.2 Economic status and employment science

Economic status:

Vietnam's economy is based on large state-owned industries such as textiles, food, furniture, plastics, and paper as well as tourism and telecommunications. Agriculture represents 14.7% of GDP and employs 39.4% of the total workforce. Main crops include rice, coffee, cashew nuts, corn, pepper, sweet potatoes, peanuts, cotton, rubber, and tea as well as aquaculture. While agricultural trade surplus edged up on the year in 2019, the livestock industry continued to suffer from various diseases, including swine flu.

The industry contributes 34.2% of GDP and employs 25.8% of the total workforce. The energy sector has boomed in recent years (coal, hydrocarbons, electricity, cement, steel industry). Despite being a 'newcomer' in the oil industry, Vietnam has become the third-largest Southeast Asian producer. The country has also invested in high value-added industries such as cars, electronics, and computer technologies (software). Manufacturing rose by 10.9% year-on-year in 2019, contributing a record industrial trade surplus of over USD 10 billion (Vietnamese government).

Services represent 45.5% of GDP and employ 34.7% of the total workforce. The main services include tourism and telecommunications. Double-digit growth is expected from the Vietnamese retail sector from 2019 to 2024.

Breakdown of Economic Activity By Sector	Agriculture	Industry	Services
Employment by Sector (<i>in % of Total Employment</i>)	39.4	25.8	34.7
Value Added (<i>in % of GDP</i>)	14.7	34.2	45.5
Value Added (<i>Annual % Change</i>)	3.8	8.9	7.0

*Source: World Bank, Latest Available Data. Because of rounding, the sum of the percentages may be smaller/greater than 100%******

Vietnam is one of the fastest-growing countries in the world and its economy has shown resilience to trade wars and slower growth rates in neighboring China. This accelerated economic pace is due to labor shifting from agriculture to manufacturing and services, private investment, a strong tourist sector, higher wages, and accelerating urbanization. Exports constitute an increasingly significant contribution to Vietnam's GDP and certain sectors, such as industrial production, textile, electronics, and seafood production have been growing rapidly. Growth was expected to reach 7% in 2019, down from a 10-year high of 7.1% a year earlier. According to the updated International Monetary Fund (IMF) forecasts from 14th April 2020, due to the outbreak of the COVID-19, GDP growth is expected to fall to 2.7% in 2020 and pick up to 7% in 2021, subject to the post-pandemic global economic recovery.

According to the IMF, government debt reached 54.3% of GDP in 2019, down from 55.6% a year earlier, and is expected to edge down further to 53.3% in 2020 and 52.5% in 2021. This is a result of tightening monetary policies and limits on new government guarantees. Inflation dropped to 2.8% from 3.5% in 2018 and is forecast to average 3.2% in 2020 and 3.9% in 2021 by the latest World Economic Outlook of the IMF (April 2020). However, this was 0.2% lower than the Washington-based bank's previous estimate. Diversified trade structure, rising wages, and domestic consumption are the backbones of the Vietnamese economic growth. Nonetheless, labor costs remain competitive, which helps attract foreign investments to the country. Economic

***** <https://www.nordeatrade.com/fi/explore-new-market/vietnam/economical-context>

challenges include lack of infrastructure, business climate shortcomings, pending public sector reforms, growing inequality, a weak banking system. Tax reforms and privatization of state-owned companies helped compensate for the budget deficit in 2019. Around 40% of Vietnam's debt has medium or long-term maturity, a significant risk considering 40% of said debt is denominated in foreign currencies and represents a currency risk. Nonetheless, public authorities continue to intervene in both directions to keep the Dong within a narrow band against major international currencies and accrue foreign reserves.

The unemployment rate in Vietnam is particularly low. It reached 2.2% in 2019 and it is expected to remain stable in the following years. Social challenges include poverty reduction, improving higher education, and allowing freedom of the press. Transparency International ranks Vietnam as 96th out of 180 countries in its Corruption Perceptions Index 2019, a significant improvement from the 117th spot a year earlier^{††††††††}.

Indicators	2017	2018	2019 (e)	2020 (e)	2021 (e)
GDP (billions USD)	220.38	241.27e	261.64	284.85	308.63
GDP (Constant Prices, Annual % Change)	6.8	7.1	7.0	2.7	7.0
GDP per Capita (USD)	2,353e	2,551e	2,740	2,955	3,172
General Government Gross Debt (in % of GDP)	58.2	55.6e	54.3	53.3	52.5
Inflation Rate (%)	3.5	3.5	2.8	3.2	3.9
Unemployment Rate (% of the Labour Force)	2.2	2.2	2.2	0.0	0.0
Current Account (billions USD)	4.68	5.84e	5.73	5.44	5.27
Current Account (in % of GDP)	2.1	1.9	4.0	0.7	1.0

Source: IMF – World Economic Outlook Database, 2016

^{††††††††} <https://www.nordeatrade.com/fi/explore-new-market/vietnam/economical-context>

Note 1: (e) Estimated Data

Note 2: The following indicators were updated by the IMF in April 2020: GDP (Constant Prices, Annual % Change), Inflation Rate (%), Unemployment Rate (% of the Labour Force) and Current Account (in % of GDP); the rest of the indicators were last updated in October 2019.

Note 3: The indicator GDP (Constant Prices, Annual % Change) was updated by the IMF in June 2020.

Employment trend:

Labour supply: Workforce between the ages of 15 and 39 years currently accounts for nearly half of the total labor force in Vietnam. The share of trained workers of working age in 2017 was estimated at 21.5 percent, higher than 20.6 percent in 2016. *In 2017, the number of employed laborers in Vietnam was 53.7 million.* Employed laborers in agriculture, forestry, fishery decreased from 22.3 million in 2016 to 21.6 million in 2017, while industry and construction saw an increase from 13.2 million in 2016 to 13.8 million in 2017. Services also witnessed growth from 17.8 million in 2016 to 18.3 million in 2017.

Urban areas accounted for around 32 percent of the employed laborers, while the rest were employed in rural areas. Male employees accounted for slightly more than half of the Vietnamese workforce.

In 2017, unemployment in the working-age group stood at 2.24 %, of which rates for urban and rural were 3.18 and 1.78 %, respectively. Underemployment of working-age workers stood at 1.63 percent, of which rates for urban and rural areas were 0.85 and 2.07 %.

The Vietnam labor market is characterized by a high share of informal employment in total employment. Informal employment includes all informal jobs, whether carried out in informal sector enterprises, informal sector enterprises, or households. It is mainly characterized by unstable employment, low incomes, no labor contracts, and limited social protection benefits^{*****}. The rate of workers in informal employment tends to increase over time (31.9% in 2014 to 33.8% in 2016).

Labour force distribution: According to the government's 2017 labor force survey, 67.8 percent of the labor force residing in the rural areas. The Red River Delta and North Central along with the South Central Coast account for the largest share in the labor force at 21.7 and 21.6 percent respectively. Mekong River Delta and Southeast follow at 18.9 and 17.1 percent respectively.

***** ILO/GSO report "2016 report on informal employment in Vietnam"

The average national labor force participation stood at 76.9 percent. The highest rates are in the Northern Midlands and Mountains and the Central Highlands at 84.9 and 83.3 percent respectively. Areas with the lowest participation rates were the Red River Delta and Southeast. Sector-wise, the majority of the labor force in agriculture, forestry, and fishery reside in the Northern Midlands and Mountains, Central Highlands, and the Mekong River Delta. As for the industry and construction sector, the majority reside in the Southeast (Ho Chi Minh City) and the Red River Delta (Hanoi). Also, Ho Chi Minh City, Hanoi, and Mekong River Delta account for the majority of the labor force in services.

Improvements and Trends:

- The rate of waged workers increased over time;
- The proportion of vulnerable employment (own-account workers and contributing family workers) decreased.
- The labor share market for informal employment has also increased
- The rate of manual workers has reduced rapidly since 2013. The proportion of workers with a technical professional working in agriculture, forestry, and fishery tends to decrease; otherwise, the rate of workers in occupations requiring technical professions tend to increase, particularly for machinery assemblers and operators, and a higher level of technical professions.
- Workers with a university degree or higher qualifications levels tend to become more important in Vietnam.
- Employment shifts by economic sectors reflect the structural transformation of the economy. Particularly, the number of workers in agriculture, forestry, and fishery fall, together with the number of workers in the industry, construction, and services increased over time.
- One of the main drivers behind labor shifting by sectors comes from the application of science and technology advancements in various economic sectors. Moreover, climate change also has major impacts on employment across economic sectors as the country is particularly vulnerable to the effects of environmental issues.
- The average monthly income of waged workers in all three sectors including the public sector, non-state sector, and FDI sector increased from 2012 to 2017^{§§§§§§§§§§}

§§§§§§§§§§

https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-hanoi/documents/publication/wcms_626102.pdf

Challenges: The major challenges facing the labor market in Vietnam include a lack of skilled labor, the impact of industry 4.0, and the need for labor reforms due to the upcoming free trade agreements.

1.7. Labor-Management Relations, Contractors, Information Sector Workers, and Migrants

1.7.1 Labor dispute and other labor-management relations

A labor dispute means a dispute [or disagreement] over rights, obligations, and benefits arising between parties in an employment relationship.

- Labor disputes comprise individual labor disputes between an employee and employer, and collective labor disputes between the labor collective and the employer.

- Labor dispute in Vietnam is resolved by the following steps: 1). Negotiation; 2). Reconciliation; 3). Court's judgment.

1.7.1.1. Labor dispute resolution by negotiation in Vietnam:

- Vietnamese labor laws respect for and guarantee the principle that the parties engage in direct negotiation and reach their own decision on settlement of the labor dispute.

- Resolution of a labor dispute must, first and foremost, be based on direct negotiation between the two parties aimed at reaching a harmonious solution of the interests of the two parties to the dispute, stabilizing production and business, and ensuring social order and safety.

1.7.1.2. Labor dispute resolution by reconciliation in Vietnam:

a/ Principles for the resolution of labor disputes in Vietnam

- Ensuring conciliation and arbitration are held based on mutual respect of the rights and benefits of the two disputing parties, respect of general social interests, and compliance with the law.

- Ensuring the participation of representatives of the parties during the process of resolution of the labor dispute.

- A labor dispute shall be resolved by an agency, organization, or individual authorized to conduct labor dispute resolution if one of the two parties files a petition [for resolution] because the other refused to negotiate, if the negotiation was conducted but was unsuccessful, or if the negotiation was successful but a party failed to implement [the agreement reached].

b/. Conciliation of individual labor disputes in Vietnam:

An individual labor dispute must pass through procedures for conciliation by a labor conciliator before a petition to a court to resolve the dispute, except for the following labor disputes for which it is not mandatory to conduct conciliation procedures:

- A dispute relating to the disciplinary measure of dismissal for breach of the law on labor, or a dispute arising from unilateral termination of a labor contract;
- A dispute relating to the payment of compensation for loss and damage, or payment of allowances upon the termination of a labor contract;
- A dispute between a domestic servant and the employer;
- A dispute relating to social insurance by the law on social insurance, or health insurance following the law on health insurance;
- A dispute relating to the payment of compensation for loss and damage between an employee and an enterprise or professional entity sending a worker to work overseas according to a contract.

A conciliator must terminate the conciliation within five (5) working days from the date of receipt of the request for conciliation.

The two disputing parties must be present at a conciliation session but may appoint authorized representatives to participate at the conciliation session [on their behalf].

The labor conciliator is responsible to guide the parties in their negotiations, and if the two parties settle then the labor conciliator shall prepare minutes of settlement.

If the two parties do not settle, the labor conciliator shall provide a settlement proposal for consideration by the two parties. If the two parties agree to the settlement proposal, then the labor conciliator shall prepare minutes of successful conciliation.

If the two parties to the dispute fail to agree on the settlement proposal, or if one of the parties has been validly summonsed twice but is still absent without a legitimate reason, then the labor conciliator shall prepare minutes of unsuccessful conciliation.

The minutes shall be signed by the parties in dispute who were present and also by the labor conciliator.

Copies of minutes of settlement or minutes of unsuccessful conciliation must be sent to the two disputing parties within one working day after the date of preparation of such minutes.

c/ Conciliation of collective labor disputes in Vietnam:

The order for conciliation of a collective labor dispute shall be implemented following the provisions in article 2.2 mentioned above. Minutes of conciliation must specify the type of collective labor dispute.

If conciliation is unsuccessful or if either of the parties fails to implement the agreement set out in the minutes of successful conciliation, then the following provision applies:

- In the case of a collective labor dispute about rights, the parties have the right to petition the chairman of the district people's committee to resolve the dispute;
- In the case of a collective labor dispute about benefits, the parties have the right to petition a labor arbitration council to resolve the dispute.

If on expiry of the time-limit for resolution stipulated in article 2.2.b mentioned above, the labor conciliator has not conducted a conciliation, the parties have the right to petition the chairman of the district people's committee to resolve the dispute.

The chairman of the district people's committee is responsible, within two (2) working days from receipt of a petition, to determine whether the dispute is one about rights or one about benefits.

1.7.1.3. Labor dispute resolution by Court in Vietnam:

A labor dispute shall be resolved by the Court to conduct labor dispute resolution if one of the two parties' files a petition [for resolution] because the other refused to negotiate, if the negotiation was conducted but was unsuccessful, or if the negotiation was successful but a party failed to implement [the agreement reached].

In the event of an unsuccessful conciliation, or if one of the parties fails to implement the agreement set out in the minutes of successful conciliation, or if on expiry of the time-limit for conciliation stipulated in clause 2 of this article the labor conciliator has not conducted a conciliation, each disputing party has the right to petition the people's court to resolve the dispute*****.

Labor-management relations

Labor-Management Relations is the interaction of employees, their exclusive representatives, and management to resolve, bilaterally, concerns affecting the working conditions of bargaining unit employees.

***** <http://www.lawyervn.net/en/dispute/dispute-resolutions/labor-dispute-resolution-in-vietnam.html>

In Vietnam, the management of labor relations is not only the management of wages and policies for employees but also the management of compliance procedures for the government.

Compliance procedures in labor relations management in Vietnam are:

- Recruitment procedures: Principles, recruit notice, employee background, ...
- Setting up labor relationship: Labor contract, labor declaration, PIT declaration, ...
- Enter and implement a labor relationship: Attendance, payroll, performance, ...
- Terminate a labor relationship: End the contracts, dismissals, liquidation, ...
- Discipline and settle any dispute: Warning, collecting technical evidence, lawsuit cases, ...

On internal labor regulations:

- Internal labor regulations are one of the most important contents of Labor relations management.
- Internal labor regulations registration is compulsory for the units having 10 people or more.
- Internal labor regulations represent the concretization of provisions of the Labor Code in each specific case of the company for violations of labor disciplines, in which, the extent of the violation, form of discipline, responsibility for material, and responsibility for compensation shall be considered and determined appropriately.
- On one hand, the internal labor regulations guide employees to properly comply with and respect the common interests, and contribute to the development of corporate culture; on another hand, the internal labor regulations help to prevent acts of infringement, intentional sabotage, conflict of interest and protect business secrets as well as legal rights and interests of employees.
- Without any properly registered internal labor regulations, the employer cannot take any disciplinary actions and still has to fully pay salary and wage even if any employee fails to complete their works or intentionally cause damage, and so on.

Registration of collective labor agreement:

Registration of collective labor agreement to clarify welfare policies and entitlement conditions of the laborers. A labor agreement usually includes the following:

- ***Job and job assurance:*** job assurance measures for employees; type of contract for each type of employment or type of work; cases of termination of employment contracts; policies on severance allowances, unemployment allowances, suspension allowances; improvement of skills, retraining upon any change in technique or organization-production; principles and time of temporary transfer of employees to other position.

- **Working time, rest time:** regulations on the length of working time during a day, a week; the arrangement of shifts and break time appropriate to each type of job or work; weekends, holidays; annual leave including travel time; leave for personal business; principles and cases of working overtime.
- **Salary, wage, allowance, bonus:** minimum salary or average salary (salary on monthly, daily or hourly basis); Salary scale and payroll applied in the company; measures to ensure actual salary, salary adjustment methods upon any fluctuation in market prices; salary payment principle (time-based salary, product-based salary or piece wage); principles of setting out and adjusting salary unit price; principles and conditions of raising salary grade; type of allowances; monthly payment of salary; payment for annual leave and travel cost; overtime salary; bonus (unplanned bonus, monthly bonus, year-end bonus, performance bonus, bonus deducted from profits) and bonus payment principles (rules may be attached).
- **Labor norms:** principles and methods of norm establishment, trial application, promulgation, and change; type of norm applied to types of employment; medium and advanced norms applied in the company; measures applied to the cases not satisfying norm.
- **Occupational safety and health:** measures to ensure occupational safety and health; standards and the provision of labor protection equipment; regulations on allowances in kind; measures to improve working conditions; compensation for work-related accidents, occupational diseases (rules may be attached).
- **Social insurance:** regulations on obligations and interests of the employer and employees in contributing, collecting, and paying social insurance. Other contents related to labor relations management such as labor dispute resolution method; mid-shift meal; collective welfare; allowances in case of wedding or funeral, etc. under the new regulations taking effect from 2016 onwards.

1.7.2 Trend of contractors, informal sector workers, and migrants (international and domestic)

Informal sector workers:

There are approximately 540,000 Vietnamese migrant workers currently overseas. Most are young men and women from rural areas who obtain low-skilled employment abroad in the manufacturing, construction, fishing, agriculture, domestic work, and service industries. A total of 142,860 workers went abroad through formal channels in 2018, 35% were women (Department of Overseas Labor, Ministry of Labor, Invalids and Social Affairs, 2019).

Migrant workers make a significant contribution to the economic development of Vietnam through remittances, providing a major source of foreign exchange income. In 2017, the World

Bank estimated that approximately US\$13.8 billion was sent home by Vietnamese migrants. This figure constitutes over six % of Vietnam's GDP, placing the economic importance of its remittances second only to the Philippines within Southeast Asia (World Bank, 2018).

The main destination countries for Vietnamese workers have traditionally been the more developed economies of East Asia, including Taiwan (China), South Korea, Malaysia, and Japan. However, in recent years, destinations have become increasingly diverse, including significant numbers of migrant workers to the Middle East, Northern Africa, Europe, and middle-income countries in Asia. A survey of over 23,000 migrants from Thanh Hoa and Ha Tinh provinces of Vietnam found that Thailand had become the most common destination for these women and men, making use of overland routes through the Lao People's Democratic Republic (ILO, 2015). These movements are almost entirely irregular, as the memorandum of understanding (MOU) signed between Vietnam and Thailand in 2016 has yet to be implemented and permits only employment in the fishing and construction sectors, where a relatively small number of Vietnamese migrants are employed (ILO and IOM, 2017)+++++++.

According to the 2016 Report on Informal Employment in Vietnam+++++++,

1. The number of workers in informal employment was found to be quite significant (more than 18 million persons), accounting for 57.2 % of non-agricultural workers nationwide. If workers engaged in agricultural households were included, the rate of informal workers would stand at 78.6 %.

2. Regarding total workers in employment within the whole economy, the number of informal and formal economy workers has tended to increase in recent years (2014- 2016). However, those involved in the agriculture, forestry, and fisheries fields have declined (24 million persons in 2014 to 21.8 million persons in 2016).

3. About 60% of informal economy workers were concentrated in rural areas, where numerous traditional handicraft villages, non-agricultural individual business households, and cooperative units operate.

4. The Mekong River Delta, North and South-Central Coast, and Red River Delta, as the most populous regions, have the highest numbers of informal economy workers nationwide. In

+++++++ https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/genericdocument/wcms_614384.pdf. Assessed on 13 October 2020.

+++++++ ILO/General Statistics Office. 2016 Report on informal employment in Vietnam. 2018

contrast, the Central Highlands and Northern Midlands and Mountainous regions have smaller populations, and workers were concentrated in agriculture and forestry, along with undiversified occupations and industries, resulting in small proportions of informal economy workers. Ha Noi and Ho Chi Minh City, as the nation's two largest cities and political-economic centers, have the highest numbers of informal economy workers, accounting for more than 20 % of informal economy workers nationwide.

5. The majority of informal economy workers were engaged in three groups of economic industries, "Manufacturing", "Construction" and "Wholesale and retail trade, repairing of cars, motorcycles and other motor vehicles". The proportion of informal economy workers from these three groups of economic industries accounted for nearly 70 % of total informal economy workers, while "Hotels and restaurants" made up 11 %.

6. The proportion of informal economy workers was high in the youngest age group (15- 24 years) and the 55 and over age group (60.2 and 74.4%, respectively).

7. The rate of trained informal economy workers was low at 14.8%, 5.7 percentage points less than that rate of trained workers in the whole economy, and 17.4 percentage points lower than of trained formal workers. Some 71.9% of non-agricultural workers without technical/professional qualifications were classified as in informal employment.

8. More than 6.4 million informal economy workers (35.6%) were engaged as "service workers, security guardians and sales workers" and more than 5.3 million informal economy workers (29.8%) worked as "handicraft or other relevant workers" and 18% of informal economy workers were classified as "unskilled workers". The remaining occupational groups accounted for small proportions of informal economy workers.

9. Out of all informal economy workers, 14.9 million (82.7%) were engaged in business production households or classified as own-account individual workers.

Migrant workers:

According to ILO in Vietnam, A total of 80,000 Vietnamese leave the country for jobs overseas each year. Approximately 500,000 Vietnamese workers are now present in over 40 countries and territories worldwide. Since 2014, the number of Vietnamese workers going abroad for employment exceeds 100 thousand workers per year. The key traditional destination markets to receive Vietnamese workers are Taiwan (China), Japan, Korea, and Malaysia. Recently, the number of destination markets has extended to other countries including the Middle East, North Africa, Europe, and some middle-income and low-income countries in Asia. Particularly, Taiwan is currently the greatest destination for Vietnamese workers under labor contracts. For

example, the total number of workers going to Taiwan to work was 66.926 thousand people (23.530 thousand of them were female). The total number of Vietnamese interns was also very high (over 100 thousand people) and making Vietnam is the largest country sending interns to Japan among the other 15 countries^{§§§§§§§§§§}. The annual inflows of remittances by labor migrants have reached about US\$2 billion in recent years, showing the economic significance of labor migration^{*****}.

International migration in Vietnam^{††††††††††}:

- Internal migration in Vietnam is mostly intra-regional, with only the Southeast having more migrants from another region (the Mekong Delta, which supplies 33.9% of the region's migrants, compared to 30.4% migrants who moved within the Southeast) (General Statistics Office 2016).
- The proportion of female migrants has risen over time (Schelling et al. 2012). Women now represent 52.4% of all migrants aged 15-59 (General Statistics Office 2016).
- Migrants are young: 85% are aged 15-39, with an average age of 29.2, though females tend to move at slightly younger ages.
- Most migrants (74.8%) aged 15-59 are employed. The majority of those who are unemployed moved for education purposes (General Statistics Office 2016).
- Female migrants dominantly work in the garment sector or as domestic workers, and male migrants in the production and construction sectors or as taxi/motorbike taxi drivers. Among both male and female migrants, the proportion employed in leadership positions is low (2.3% and 0.4% respectively).
- Only 30.9% of migrant workers have a formal written labor contract, compared to over 50% for non-migrants. 21% have verbal agreements and nearly 10% have no labor contract at all. This exposes migrant workers to the risk of exploitation and abuse.

Migrants mainly come from rural areas (around 79.1% according to National Internal Migration Survey 2015). The trend of migration from rural to urban areas has been increasing over time.

^{§§§§§§§§§§} https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-hanoi/documents/publication/wcms_626102.pdf

^{*****} <https://www.ilo.org/hanoi/Areasofwork/labour-migration/lang--en/index.htm>

^{††††††††††} <https://bangkok.unesco.org/sites/default/files/assets/article/Social%20and%20Human%20Sciences/publications/vietnam.pdf>. Assessed on 12 October 2020.

The most remarkable feature is that the unemployment rate among migrants is much higher than the general national unemployment rate (General Statistics Office, 2017).

1.8. Public Security, Disaster, and Public Safety

1.8.1 Current status of security issues such as crimes and riots, the occurrence of natural disasters, and traffic accidents,...

Status of security issues:

The U.S. Department of State has assessed Hanoi as being a HIGH threat location for crime directed at or affecting official U.S. government interests. Although most travelers feel relatively safe, non-violent crimes do occur in Vietnam with some frequency. Petty theft, purse snatching, and pickpocketing are the most common crimes and occur most frequently around hotels, tourist sites, airports, public parks, and other crowded areas popular among foreigners.

Drive-by snatching is one of the biggest crime threats. Two criminals riding a motorcycle will ride up to a target; the motorcycle passenger will then snatch the victim's camera, cell phone, or purse. This tactic can be especially dangerous to the victim if the strap of the bag is wrapped over their shoulder or around their neck, as the victim can be pulled down and injured.

Pickpocketing is another frequent crime, with one variation involving criminals using a knife to cut a hole in the bag and take valuables. If you are threatened with violence over money or belongings, comply with demands and attempt to end the confrontation as quickly and as safely as possible.

The occurrence of natural disasters

- Located in the tropical monsoon area in South East Asia, Vietnam is one of the most disaster-prone countries in the world. With a coastline stretching 3 440 km, combined with diverse and complex topography, Vietnam suffers from many different types of natural hazards. Because of its topography, Vietnam is susceptible to typhoons, floods, droughts, seawater intrusion, landslides, forest fires, and occasional earthquakes of which typhoons and floods are the most frequent and most devastating hazards. The storm season lasts from May to December with storms hitting the northern part of the country in May through June and moving gradually south from July to December. These are both hydro meteorological (e.g. typhoons, floods, heavy rainfalls, and droughts) and geophysical (e.g. landslides). It is estimated that approximately 70% of the population who live in coastal

areas and low-lying deltas in Vietnam are exposed to the risk of flooding^{*****}. Given the massive concentration of its population along the coastline and in the low-lying deltas, disasters take a heavy toll in lost lives and damaged livelihoods. The encroachment of economic activity and development into marginally suitable areas such as floodplains, coastal swamps, drainage channels, or other natural buffers only adds to the vulnerability of the population^{*****}.

- In 2016, The El Niño-induced drought and saline intrusion emergency had adversely impacted the lives of 2 million people, including 520 000 children and a million women with a shortage of water and food and lack of humanitarian assistance. Four hundred thousand (400 000) people became at risk of drought-related diseases or infectious disease outbreaks in 18 most affected provinces. Reduced access to drinking water and water for other domestic uses exacerbated the prevalence of malnutrition and communicable diseases.
- Severe floods due to heavy rains in five provinces (Nghe An, Ha Tinh, Quang Binh, Quang Tri, and Thua Thien Hue) led to 15 deaths, affected 500, 000 people, damaged 100 000 houses, and destroyed 10 000 ha of crops.

Vietnam is one of the most disaster-prone countries in the world. The table below describes the relative frequency of disaster phenomena in Vietnam and it is clear, that most of the disasters are direct or indirectly water-related (or caused by the absence of it).

- Vietnam's near-uniformly high rainfall should provide sufficient water for most of its needs.
- Water is one of the most crucial resources of the people of Vietnam. Much of what constitutes Vietnamese society emerged from centuries of struggle to capture annual rains to irrigate paddy rice. By no coincidence, the major Vietnamese population centers are on the banks of the Red River, Perfume, and Cuu Long rivers.
- However, water-related disasters are the most serious in Vietnam and cause regular and substantial suffering, loss of life, and economic damage.
- The water coming all within the space of a few short months, the monsoon rains saturate the earth, flood the rivers, and threatened the broad plains of the river deltas.

***** <https://www.who.int/vietnam/health-topics/disasters>. Assessed on 12 October 2020

***** https://nidm.gov.in/easindia2014/err/pdf/country_profile/Vietnam.pdf.

Coupled with seasonal typhoons that batter the coasts before moving inland, flooding is an annual occurrence in Vietnam.

- On average, 4 to 6 typhoons reach Vietnam each year, and hundreds of people are killed. It is anticipated that the number of heavy storms and typhoons to hit Vietnam will increase both in number and intensity with global warming.

Table 1.2 - Relative Frequency of Disaster Hazards in Vietnam

HIGH	MEDIUM	LOW
Flood	Hail & Rain	Earthquake
Typhoon	Drought	Landslide
Inundation	Erosion Fire Deforestation	Sea Water Intrusion

The worst damage is caused by floods, particularly when accompanied by typhoons. Typhoons raise sea levels many meters and cause storm surges up estuaries, inundating valuable cropland. Typhoons destroy buildings with their high-velocity winds and generate waves, which can damage sea dykes protecting coastal landholdings. The torrential rains, which accompany typhoons, can cause flash floods, which come upon settlements unawares and regularly submerge low-lying areas.

The runoff from these typhoon rains, when added to rivers already swollen by monsoon rains, creates floods which endanger river dykes and threaten to devastate millions of households.

One reason that water disasters are so serious is that most of the population lives in areas susceptible to flooding. This is because Vietnam has developed as a nation by exploiting the low-lying river deltas and coastal lands for wet-rice agriculture. Thus, both the broad Red River and Mekong Deltas and the narrow connecting coastal strip of the country are prone to flooding from monsoon rains and typhoon storms. Further, the remaining three-quarters of the country are mountainous and suffer from flash flooding. As a result, over 70% of the population of Vietnam is at risk of water disasters.

Besides, rivers whose flood plains are protected by a system of dykes, which confine floodwaters, have higher floodwater levels than they had formerly. At present, during the wettest months, the Red River near Hanoi can have water levels five or six meters above ground level, whereas 1,000

years ago waters only rose 2 to 3 meters above ground level. The river and coastal dyke systems of Vietnam are centuries old and suffer from piping, slides, and local collapse, despite the strengthening and repair work done by hundreds of thousands of people mobilized every flood season.

Over the past 25 years, more than 13,000 people have been killed by natural disasters. A tropical depression off the coast of Thanh Hoa in 1996 caught thousands of fishermen at sea; over 600 lost their lives. In the same year, in the mountain province of Lai Chau, the hamlet of Lo Le was washed off the map by a flash flood, 89 people were killed. In 1997, typhoon Linda became the worst natural disaster in living memory. Skirting the tip of southern Vietnam, this claimed the death toll of over 3,000 people and more than \$US 400 million in damages.

Finally, regards non-water-related disasters in Vietnam, while fewer commons than water disasters are having an ever-greater impact on the country. Vietnam's remarkable socio-economic and industrial development over the last ten years has increased the risk of technological accidents; industrialization and population growth have put severe pressure on Vietnam's forests; climate change has led for the first time to drought in certain areas, thereby increasing the risk of forest fire as well*****.

Every year, natural disasters cause an average of 750 deaths and result in annual economic losses equivalent to 1.5% of GDP. However, damage and loss data are chronically underreported, so real totals may be much higher. As most of the population is living in low-lying river basins and coastal areas, more than 70% of the population is estimated to be exposed to risks from multiple natural hazards. A 2007 assessment of the World Bank listed Vietnam as one of the five worst-affected countries by climate change, as a large proportion of the population, infrastructure, and economic production including irrigated agriculture, is located in coastal lowlands and deltas††††††††††.

Vietnam suffers relatively less from natural disasters in 2019. Fewer storms hit Vietnam in 2019 than in the previous year and the losses they caused fell to a record low. A report from the Ministry of Agriculture and Rural Development said natural disasters, mostly flooding, tropical storms, and landslides, left 133 people dead and missing last year, down 40% from 2018. They

***** <https://www.adrc.asia/management/VNM/Vietnam1.html>. Assessed on 12 October 2020

†††††††††† https://nidm.gov.in/easindia2014/err/pdf/country_profile/Vietnam.pdf.

caused losses worth around VND7 trillion (\$302.6 million), a third of the previous year's figure of VND20 trillion (\$858 million).

The occurrence of traffic accidents

Vietnam is one of a group of low- and middle-income countries which according to global statistics, suffers 90% of global road traffic deaths whilst having only 54% of all road vehicles. In recent years, the Government of Vietnam has gone to great lengths to deal with traffic accidents, resulting in a continuous fall in deaths and injuries as reported by the Department of Traffic Police. These results primarily come from the country's efforts and its active response to the call for actions of the United Nations Decade of Action for Road Safety. Vietnam has also studied how other countries ensure traffic management safety and security, and has received support, resources, and knowledge from international organizations, non-governmental organizations, and developed and developing countries. The number of road traffic accidents in Vietnam, however, remains high, a situation that requires both continued internal efforts and assistance from abroad.

The overall rate of traffic accidents: In 2005-2007, there was a marked increase in the number of fatalities caused by traffic accidents, to a peak of 12,800 deaths in 2007. On 15 December 2007, wearing a helmet became compulsory for drivers of motorcycles and mopeds. The following year there was a 1,557-person drop in fatalities, one of the greatest falls in the number of fatalities related to traffic accidents ever recorded. In the years 2014, 2015, and 2016, less than 9,000 people a year died on roads in Vietnam.

Traffic accidents on different types of roads: The highest number of fatalities – 36.01% of total deaths – occur on national highways because of the high speeds and high transport densities that exist along these routes. Urban roads account for 33.9% of fatalities, with many of these fatalities occurring where urban roads join national highways.

Traffic accidents over time: Regarding the times at which traffic accidents take place throughout the day, some 40% of accidents occur at night between the hours of 18:00 and 24:00. This is followed by the period from 12:00 to 18:00 (30.5% of accidents), meaning that the hours between 12:00 and 24:00 account for some 70 % of total traffic accidents.

Road traffic accidents by type of vehicle: Motorbikes or motorcycles can be considered unsafe vehicles, in that road accidents related to the drivers of these vehicles, account for some 70 % of total cases.

Road traffic accidents by age: Accounting for approximately 50% of total cases, people between the ages of 27 and 55 are the group most affected by road traffic accidents. Out of this

age range, those between the ages of 18 and 27 years of age suffer 35.94% of total road traffic accidents. Some 86% of all accidents occur among people aged 18 to 55, who are of working age.

Road traffic accidents by gender: The frequency of road traffic accidents is far higher among men than it is among women, with an occurrence rate of around 85% and 15%, respectively

Road traffic accidents by cause: Analyzing road traffic data from 2016, the primary cause of traffic accidents was a lane violation, accounting for 25 to 30% of accidents. Speed violation was the second most common cause during that period, from 10 to 13%. In 2015, the speed violation rate dropped to 8.82%, but in 2016 rose again to 9.35 % due to more stringent speed regulations. The percentage of incidents where driving under the influence of alcohol caused traffic accidents was 4 to 5% of total cases, a very low figure compared to the actual situation. This is because when traffic accidents occur, the police do not have blood testing equipment (the test must take place at a medical clinic), so there is insufficient evidence to link traffic accidents to alcohol violations. People under the influence of alcohol also violate other traffic rules such as speeding, driving in the wrong lane, etc., meaning the cause of these traffic accidents is recorded as traffic rule violations; driving over the alcohol limit, therefore, becomes an indirect reason for road traffic accidents*****.

Road traffic injuries (RTIs) are among the leading causes of mortality in Vietnam. However, mortality data collection systems in Vietnam in general and for RTIs in particular, remain inconsistent and incomplete.

Traffic accidents remain the biggest single cause of fatalities in Vietnam even as the country has been working to make local roads safer. According to the World Health Organization, on average, road traffic accidents kill approximately 14,000 people in Vietnam every year and are the leading cause of death among those aged between 15 and 29 years. Motorcyclists account for more than half of the fatalities.

Official statistics show that in the past five years, the death toll has decreased by 21% to about 48,000 and the number of injured people has shrunk by 22 percent to 162,000, compared to the previous five-year period.

According to Vietnam's National Traffic Safety Committee, 2017, some 20,000 accidents happened due to traffic in Vietnam, killing more than 8,000 victims and injuring 17,000 others

***** https://www.unece.org/fileadmin/DAM/trans/roadsafe/unda/RSPR_Viet_Nam_FULL_e.pdf.

Japan was the first G7 member inviting a Vietnamese Party General Secretary to visit the country (1995), establishing a strategic partnership with Vietnam, recognizing Vietnam's market economy status (2011), and inviting Vietnam to an expanded G7 Summit (in May 2016).

Both countries are now enjoying the best stage of the relationship thanks to regular exchanges of visits and contacts at regional and international forums. The two sides set up several cooperation mechanisms like Cooperation Committee (led by two foreign ministers) in 2007, Strategic Dialogue on diplomacy-security-defense at deputy foreign ministerial level in 2010, Defense Policy Dialogue at deputy ministerial level in 2012, Security Dialogue at deputy ministerial level in 2013, Joint Committee for Cooperation in Industry, Trade and Energy in 2014, and Agriculture Dialogue at ministerial level in 2014

In the past 45 years, the Vietnam-Japan friendship has been developing continuously despite many difficulties and challenges. The bilateral relations have seen a new, effective, and strong framework of cooperation. Based on a long-term and stable partnership, the two sides have become strategic partners for peace and prosperity in Asia and now the comprehensive strategic partner for peace and prosperity in Asia.

Politically, the relationship between the two countries is at the best stage with strong confidence in history since the establishment of diplomatic relations. High-ranking leaders of the two countries maintain frequent visits and contacts at international and regional forums. Particularly, in 2017, there were five high-level visits within the year for the first time, including the historical visit of Japanese Emperor Akihito and Empress to Vietnam, Prime Minister Shinzo Abe's two-time visit to Vietnam, the Speaker of the House of Representatives' visit to Vietnam after 15 years. 2017 also marked new move-in bilateral relations when the two countries issued a joint statement on deepening Vietnam-Japan comprehensive strategic partnership during the official visit to Japan by Vietnam's Prime Minister Nguyen Xuan Phuc in June 2017.

In the field of economics, Japan continues to be the leading economic partner of Vietnam and is the first country of G7 to recognize the market economy status of Vietnam in October 2011. At the present, Japan has become the second biggest foreign investor, the fourth largest trading partner, and the third-largest tourism partner of Vietnam. In 2017, the total trade turnover between the two countries reached over 33 billion USD. In particular, Vietnam's export volume to Japan reached about USD 17 billion. Only in the first quarter of 2018, the total trade turnover between the two countries reached 8.7 billion USD, increasing by 16% compared to the same period in 2017. As of the end of March 2018, Japan had invested in nearly 3.700 valid projects in Vietnam with the total registered capital of 50 billion USD, taking second place among 116 investing countries and territories in Vietnam. Japan is also the largest official development

assistance (ODA) country in Vietnam, accounting for over 30% of the total committed ODA from the international community to Vietnam. Japanese ODA in the field of infrastructure construction, competitiveness enhancement, high-quality human resources training, climate change response, and others have contributed significantly to Vietnam's socio-economic development^{*****}. Japan is the biggest provider of official development assistance for Vietnam (US\$23.76 billion as of January 2019) and the second-largest investor with accumulative capital of US\$60.36 billion as of September 2019⁺⁺⁺⁺⁺.

The two countries need to inherit the foundation of good development, continuously promote cooperation and realize the intensive strategic partnership for peace and prosperity in Asia with the view to shaping a new strategic partnership model in the East Asia-Pacific region, building on the basics of strategic trust, comprehensive cooperation and shared responsibility for regional and global issues; continue to improve connectivity and economic cooperation in line with the trend of regional integration and the rapid evolution of the 4th Industrial Revolution; continue to promote and improve the effectiveness of development assistance relations, especially Japan's support to Vietnam in new strategic cooperation chapters; strengthen cooperation in the socio-cultural field; train and foster leaders and managers; and promote people exchange, particularly among younger generations to enhance the understanding and sharing. These efforts will create a firm foundation for deepening relations between the two countries in the future.

1.9.2 Local status of Japanese companies operation

Each year, the office receives representatives of around 6,000 Japanese firms seeking investment opportunities in Vietnam, with many keen to expand the provision of services⁺⁺⁺⁺⁺. A survey recently carried out by the Japan External Trade Organization (JETRO) indicates that 41% of Japanese companies are considering expanding their operations in Vietnam over the next three years, a 5.5% rise from a year earlier^{ssssssssssss}. Up to 70% of Japanese businesses have announced that they want to expand operations in Vietnam, especially in the manufacturing, trade, and service, and retail sectors, according to the Japanese External Trade Organization

***** <https://hcma.vn/english/news/Pages/features.aspx?CatelD=200&ItemID=9132>

+++++ <http://news.chinhphu.vn/Home/Infographics-Highlights-of-Viet-NamJapan-relations/201910/37786.vgp>

+++++ <https://en.nhandan.org.vn/business/companies/item/7214402-jetro-70-of-japanese-firms-to-expand-investment-in-vietnam.html>

ssssssssssss <https://vietnaminsider.vn/japanese-companies-consider-expanding-operation-in-vietnam/>

(JETRO). Findings of the latest survey conducted by JETRO on the investment trend of Japanese firms operating in Vietnam in 2019 show that as many as 65.3% of the 787 Japanese companies recorded high profits in Vietnam in 2018. The majority of these companies said the market scale and growth are the greatest advantages of Vietnam's investment environment. Other positive factors include low labor costs, political stability, and improvement of customs and administrative procedures. It also indicated that some 71% of Japanese companies operating in Vietnam forecast that their revenue would drop this year due to shrinking demand in the wake of the Covid-19 pandemic, a figure much lower compared with other Asian countries.

The main sectors of Japanese businesses in Vietnam are: industry of electronic, cars and automobile devices/components; processing agricultural and aquatic products, shipbuilding; Processing agricultural machinery and equipment; manufacturing of consumer goods; and Environmental Technology and Energy, constructions, and other retail and services sectors (Family Mart, Aeon Mall, Uniqlo,...)

1.9.3 Status of Official Development Assistance (ODA) by the Japanese government

Japan has provided ODA to Vietnam in various areas including (1) infrastructure development such as ports, railroads, power plants, and hospitals; (2) human resource development such as dispatch of experts and counterpart training at ministries, universities, institutes, and hospitals; (3) health and education sector development such as renovation and development of hospitals, primary schools, and universities; (4) rural development such as dispatch of technical experts to agricultural universities; and other important areas.

Japan is considered as Viet Nam's top economic partner as it is the country's largest provider of ODA over the past 26 years and second-biggest foreign investor. Aiding the country's efforts to boost the economy, reduce poverty, and develop infrastructure.

Japan's ODA into Vietnam has increasingly become stricter and expensive. As such, lending rates for loans during the fiscal year 2018 rose 0.3% from October 1, 2017. Moreover, preferential rates applicable to loans also rose from 0.3 to 1% per year. Japan began requiring setting the salary level of advisors for financial loan projects at about \$30,000 per month per person, not including allowances – 20-25 % higher than average salaries of foreign ODA consultants ***** .

***** <https://www.vir.com.vn/balancing-act-required-for-efficiency-of-oda-in-vietnam-79119.html>

Recently, Japan's official development assistance (ODA) to Vietnam would be adjusted to meet the recipient country's requirements which are updated with fields of global concerns, according to the Japan International Cooperation Agency (JICA). The funding should be changed to be suitable for global politics and economy as well as Vietnam's rapid economic growth. Japan's ODA focuses on three priority areas including promoting growth and competitiveness; response to fragility; and good governance.

PART II
HEALTHCARE AND PUBLIC HEALTH

2.1. Status of Public Health, Disease, and Cause of Death

2.1.1 Status of communicable disease, major diseases, leading cause of death, infant mortality and other public health information

a. Status of communicable disease:

Communicable diseases remain a problem in Vietnam although non-communicable diseases are gaining in prominence. Dengue remains a problem in Vietnam and requires a multi-sectoral approach. Rabies continues to cause have relatively high mortality and major preventative efforts are being made. Emerging infectious diseases have posed major challenges in Vietnam. This has led to setting up new mechanisms to monitor developments and strengthen epidemiological surveillance, to permit an early response. Emergency response to contain the risk of the infection spreading involves quarantine, monitoring the health of people exposed to the patient, outlining diagnostic and treatment regimens as well as organizing preventative services††††††††††††††††.

In Vietnam, currently, major challenges of communicable diseases are††††††††††††††††

- Emerging communicable diseases: hand, foot, and mouth disease, Avian flu, Mers-CoV infection, Ebolavirus, Zikavirus, Coronavirus,...
- Reappeared diseases: dengue fever, measles, Rubella,...
- Other infectious and infectious diseases: hepatitis, HIV/AIDS, encephalitis, serious infections and infections, pneumonia, malaria ...
- Hospital infections and antibiotic resistance.

In infectious diseases such as dengue fever, hand, foot, and mouth disease (HFMD), malaria, diarrhea, viral hepatitis, measles, influenza... are endemic diseases, many diseases develop according to seasons, so pre-epidemic prevention and control are very important to minimize morbidity and mortality. Table 2.1-2.3 shows the trend of morbidity and mortality of 27 common communicable diseases in Vietnam in the period of 2013 – 2018 according to Health Statistics Yearbook annually.

††††††††††††††††

https://www.who.int/neglected_diseases/countries/vnm/en/#:~:text=Communicable%20diseases%20remain%20a%20problem,preventative%20efforts%20are%20being%20made.

†††††††††††††††† <https://healthvietnam.vn/thu-vien/tai-lieu-tieng-viet/truyen-nhiem-va-cac-benh-nhiem-doi/mot-so-benh-truyen-nhiem-moi-noi-va-tai-noi>

Table 2. 1. Mobility and mortality of some communicable diseases (2013 – 2017) ¹*Unit: rate/100 000 population*

	2013	2014	2015	2016	2017	2018
Leptosies						
Morbidity rate	-	0.20	0.19	0.16	0.14	
Gonorrhoea						
Morbidity rate		7.46	4.03	5.12	5.54	
Syphilis						
Morbidity rate		1.97	1.78	2.95	1.74	
HIV						
Morbidity rate		-	-	-	-	222.3
Deaths		-	-	-	-	102.426

Table 2. 2. The morbidity rate per 100,000 populations of major communicable diseases by years in Vietnam (2013 – 2018) ¹⁻⁶*Unit: rate/100 000 population*

No	Diseases	2013	2014	2015	2016	2017	2018
1.	Diarrhea	736.21	624.14	548.85	477.10	0.38	272.78
2.	Viral encephalitis	0.96	1.20	1.04	1.06	1.26	0.70
3.	Dengue fever	73.3	34.28	105.56	136.07	183.85	149.87
4.	Malaria	39.44	30.67	6.77	11.27	8.98	7.05
5.	Viral hepatitis	11.00	6.73	7.05	7.98	30.57	12.86
6.	Anti-rabies immunization	133.37	435.24	0.11	445.49	0.08	0.06
7.	Meningitis	0.03	0.05	37.35	0.05	0.06	0.02
8.	Chicken pox	28.30	45.47	0.03	28.76	45.60	69.54
9.	Diphtheria	0.01	0.02	0.40	0.01	0.02	0.00
10.	Whooping cough	0.08	0.07	15.46	0.27	0.60	0.43
11.	Amoebiasis	24.49	19.52	31.34	14.19	11.59	8.40
12.	Shigellosis	44.66	39.11	0.05	25.10	16.67	12.21
13.	Neonatal Tetanus	0.05	0.04	0.34	0.03	0.05	0.03

No	Diseases	2013	2014	2015	2016	2017	2018
14.	Other tetanus	0.36	0.22	4.24	0.35	0.61	0.12
15.	Acute flaccid paralytic syndrome	0.48	0.30	0.27	0.27	0.21	0.06
16.	Measles	3.75	37.26	0.99	0.66	0.58	5.10
17.	Mumps	23.92	16.58	30.01	42.33	37.59	24.92
18.	Rubella	1.00	2.54	0.50	0.52	0.20	0.10
19.	Influenza	1,395.87	1,207.59	1049.47	883.37	723.77	558.80
20.	Cholera	0.00	0.00	0.00	0.00	0.00	0.00
21.	Adenoviruses	160.98	70.53	21.78	22.57	0.00	15.19
22.	Plague	0.00	0.00	0.00	0.00	20.68	0.00
23.	Typhoid	0.90	0.80	0.66	0.58	0.68	0.01
24.	Anthrax	0.06	0.04	0.03	0.02	0.02	0.01
25.	Leptospirosis	0.01	0.03	0.01	0.01	0.02	0.00
26.	HFMD	95.44	84.92	60.13	51.17	113.09	142.24
27.	Streptococcosis suis infection	0.13	0.08	0.11	0.11	0.19	0.05

Table 2. 3. The mortality rate per 100,000 population of major communicable diseases by years (2013 – 2018) ¹

Unit: rate/100 000 population

No	Diseases	2013	2014	2015	2016	2017	2018
1.	Diarrhea	0.01	0.01	0.01	0.01	0.01	0.02
2.	Viral encephalitis	0.01	0.05	0.03	0.04	0.04	0.02
3.	Dengue fever	0.05	0.02	0.06	0.05	0.04	0.02
4.	Malaria	0.01	0.01	0.00	0.00	0.01	0.00
5.	Viral hepatitis	0.00	0.00	0.00	0.00	0.01	0.00
6.	Anti-rabies immunization	0.12	0.07	0.00	0.10	0.08	0.06
7.	Meningitis	0.00	0.01	0.00	0.01	0.00	0.00
8.	Chicken pox	0.00	0.00	0.00	0.00	0.00	0.00

No	Diseases	2013	2014	2015	2016	2017	2018
9.	Diphtheria	0.00	0.00	0.00	0.00	0.01	0.00
10.	Whooping cough	0.00	0.00	0.00	0.00	0.00	0.00
11.	Amoebiasis	0.00	0.00	0.00	0.00	0.00	0.00
12.	Shigellosis	0.00	0.00	0.00	0.00	0.00	0.00
13.	Neonatal Tetanus	0.03	0.03	0.01	0.01	0.02	0.01
14.	Other tetanus	0.02	0.02	0.08	0.02	0.01	0.00
15.	Acute flaccid paralytic syndrome	0.00	0.00	0.00	0.00	0.00	0.00
16.	Measles	0.00	0.03	0.00	0.00	0.00	0.00
17.	Mumps	0.00	0.00	0.00	0.00	0.00	0.00
18.	Rubella	0.00	0.00	0.00	0.00	0.00	0.00
19.	Influenza	0.02	0.01	0.00	0.00	0.00	0.01
20.	Cholera	0.00	0.00	0.00	0.00	0.00	0.00
21.	Adenoviruses	0.00	0.00	0.00	0.00	0.00	0.00
22.	Plague	0.00	0.00	0.00	0.00	0.00	0.00
23.	Typhoid	0.00	0.00	0.00	0.00	0.00	0.00
24.	Anthrax	0.00	0.00	0.00	0.00	0.00	0.00
25.	Leptospirosis	0.00	0.00	0.00	0.00	0.00	0.00
26.	HFMD	0.03	0.01	0.01	0.00	0.00	0.00
27.	Streptococcus suis infection	0.01	0.01	0.02	0.01	0.02	0.00

In 2017, respiratory infections and tuberculosis were the leading fatal communicable diseases in Vietnam, causing 5.9 percent of all deaths in the country. In 2020, the main communicable diseases tend to decrease as compared to 2019. The number of cases of dengue fever decreased by 46%; hand, foot, and mouth disease decreased by 44%, the fever suspected

<https://www.statista.com/statistics/1107618/vietnam-main-fatal-communicable-diseases/#:~:text=In%202017%2C%20respiratory%20infections%20and,33.18%20percent%20of%20total%20deaths.>

Vietnam’s burden of diseases has witnessed a significant shift from communicable to non-communicable diseases. The incidence of communicable diseases decreased from 55.5% in 1976 to 20.79% in 2018. In 2018, the non-communicable disease incidence was 69.11% (Figure 2.1)¹. From 1976 to 2018, the mortality rate of communicable diseases fallen sharply by over 41% while its rate of non-communicable diseases rose over 18% (Figure 2.3). According to the Institute for Health Metrics and Evaluation, among the top causes of death, 9 over 12 diseases confirmed were NCDs with a significant increase from 2009 to 2019 (Figure 2.4).

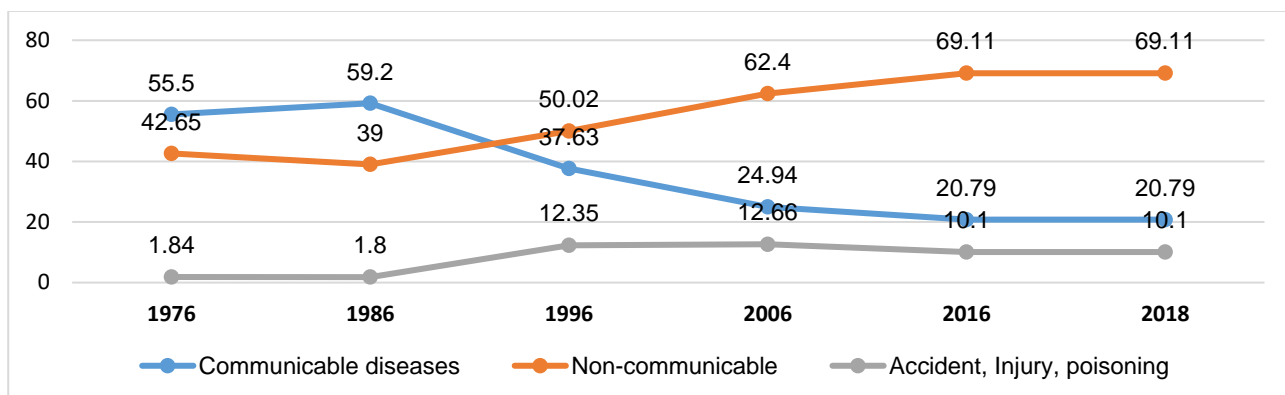


Figure 2. 3. Morbidity trend in Vietnam (%), 1976 – 2018¹

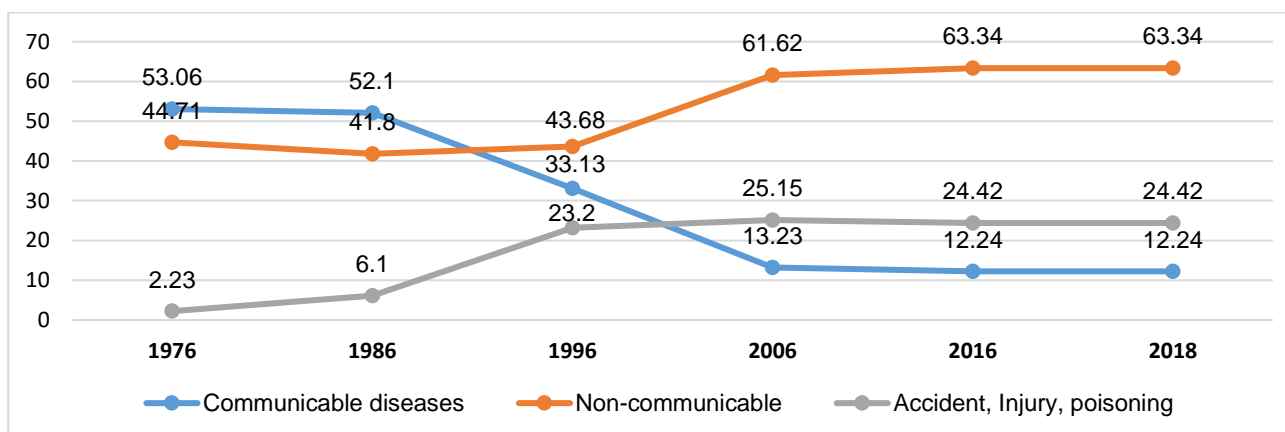


Figure 2. 4. Mortality trend in Vietnam (%), 1976 – 2018¹

The top 12 causes of the total number of deaths in 2019 and percent change 2009–2019 are presented in Figure 2.5.

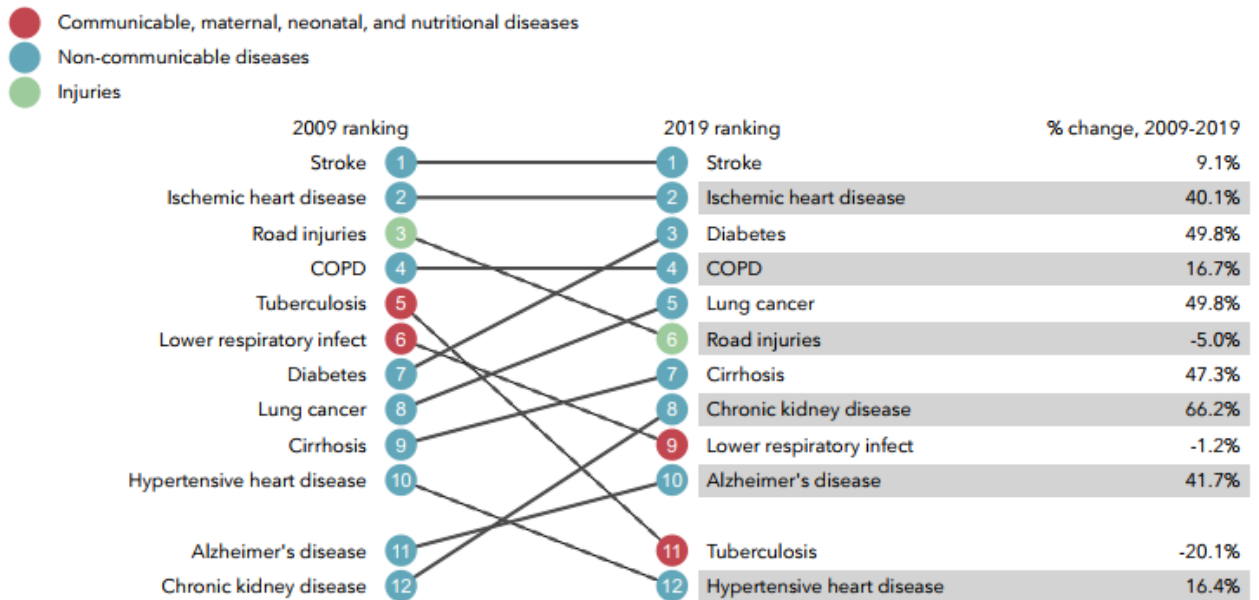


Figure 2. 5. Top 10 causes of the total number of deaths in 2019 and percent change 2009–2019, all ages combined ⁷

c. Leading cause of death

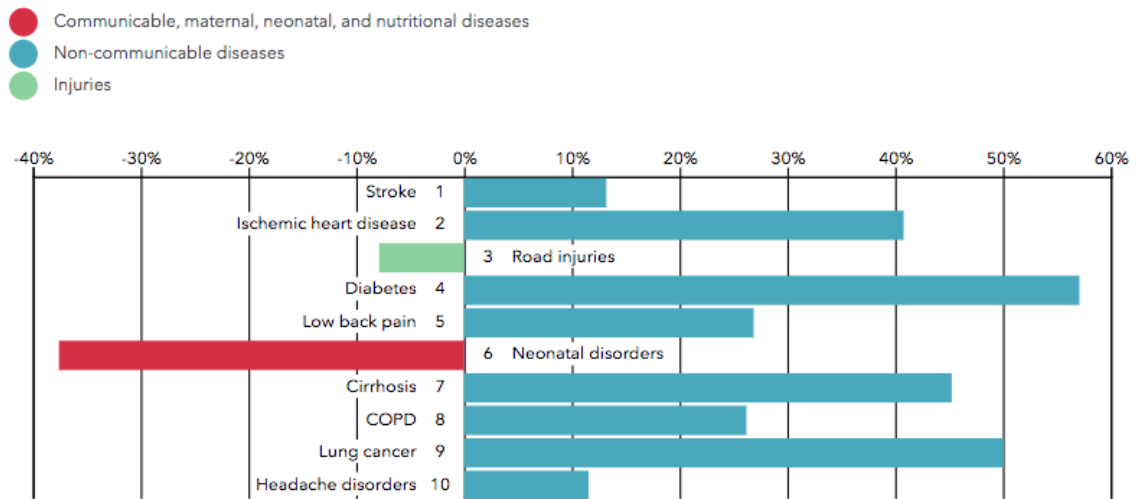


Figure 2. 6. Top 10 causes of most death and disability (DALYs) in 2019 and percent change 2009–2019, all ages combined ⁷

Some leading causes of death are presented in Figure 2.6. Cardiovascular disease (CVD) represents the most important cause of death followed by cancer. In terms of both death and disability, CVD remains the first cause followed by road injuries, diabetes, and lung cancer. For CVD, the leading cause of death and disability in stroke followed by ischemic heart disease (IHD), these two causes of death represent by themselves the two leading single cause of death in Vietnam. Road injuries represent the third leading cause of death and disability. In 2017, the

- (3) **Air pollution:** air pollution represents a significant threat both for the significant impact it has on human health and the significant exposures present in Vietnam especially in urban areas. Air pollution has been linked, among many other diseases, to CVD, lung disease and cancer, and acute lower respiratory infection in children
- (4) **Physical inactivity:** data from a survey from the Ministry of Health shows that 70% of adult Vietnamese do not engage in vigorous physical activity and that office workers walk, on average, only 600 steps a day, instead of the recommended 10 000
- (5) **Overweight and obesity:** The highest prevalence of overweight and obesity is observed in urban areas and women older than 35 years of age
- (6) **Salt consumption:** Vietnamese studies indicate that the average daily consumption of salt is approximately 18 to 22 g/day, an amount that is significantly more than the WHO recommended daily intake of 5 g/day

d. Infant mortality

The statistic shows the infant mortality rate in Vietnam from 2009 to 2019. In 2019, the infant mortality rate in Vietnam was at about 15.9 deaths per 1,000 live births (Figure 2.9).

The statistic shows the infant mortality rate in Vietnam from 2009 to 2019. In 2019, the infant mortality rate in Vietnam was at about 15.9 deaths per 1,000 live births. The percentage of the under-five mortality rate in Vietnam was 19.9 per 1,000 live births in 2019 (Figure 2.10).

General Statistics Office (Vietnam), Ministry of Health (Vietnam), National Institute of Nutrition (Vietnam), United Nations Children's Fund (UNICEF). Vietnam General nutrition survey 2009-2010. Available: http://viendinhduong.vn/FileUpload/Documents/Summary_report_gns_2009-2010_chuan.PDF [Accessed Feb 2020].

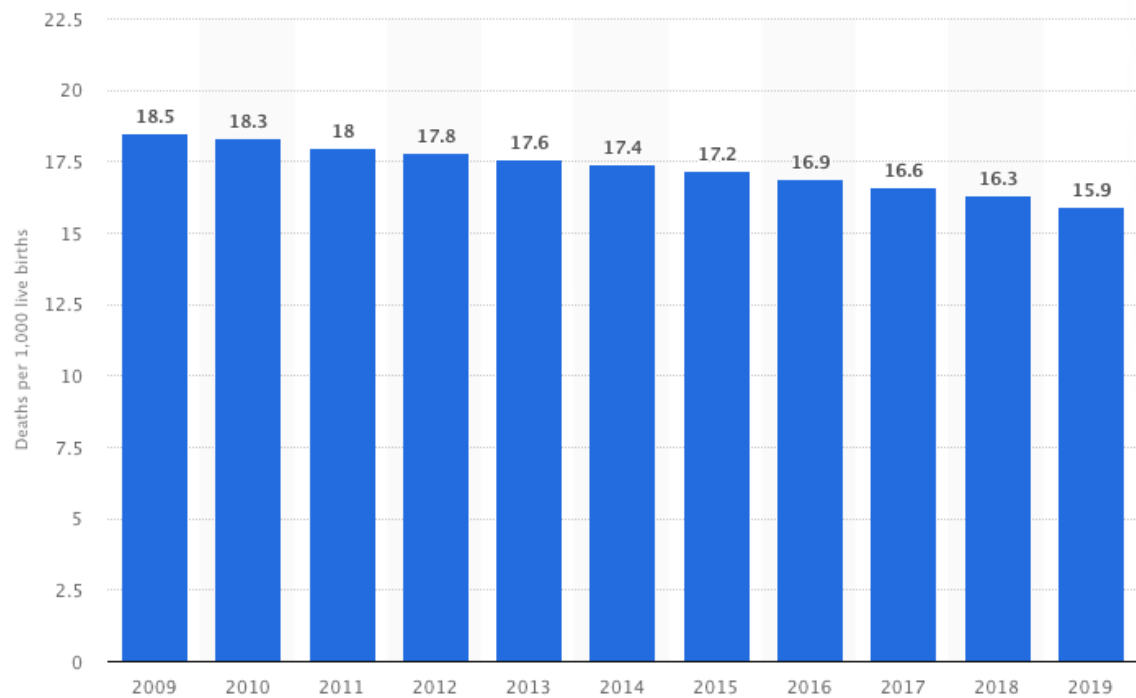


Figure 2. 9: Infant mortality rate in Vietnam from 2009 to 2019 (in deaths per 1,000 live births)*****

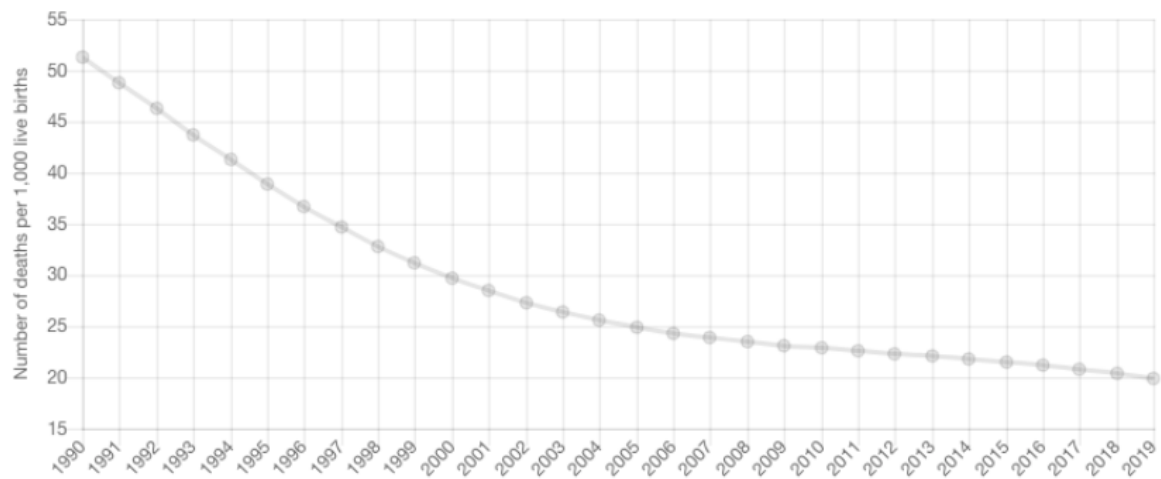


Figure 2. 10. Trends in under-five mortality rate in Vietnam (1990 – 2019)+++++

In recent decades, Vietnam’s health-related Millennium Development Goals (MDGs) indicators have improved significantly. Life expectancy at birth increased from 70.5 (1990) to 73.6 (2019), in which, 71 years for men and 76,3 years for women (2019) ^{9,10}. The maternal mortality ratio has reduced from 233 per 100,000 live births in 1990 to 60 per 100 000 in 2014 ¹¹. The under 5 mortality rate was 12.7 (per 1,000 live births) in 2019 in comparison with 15.4 (per 1000 live

***** <https://www.statista.com/statistics/807851/infant-mortality-in-vietnam/#:~:text=In%202019%2C%20the%20infant%20mortality,deaths%20per%201%2C000%20live%20births.>
+++++ <https://data.unicef.org/country/vnm/>

births) in 1990. This rate in children under 1 was about 3.4 times decreased in 1990 (33.6/1,000 live births) compared to 2019 (9.9/1,000 live births)⁷. Also, Vietnam was certified Polio free in 2000 and Maternal and Neonatal Tetanus has been eliminated in 2005 due to high routine immunization coverage¹².

Vietnam's universal health coverage index is at 73—higher than regional and global averages—with 87 percent of the population covered. However, the high and widening sex ratio at birth (115 in 2018) shows that fundamental gender discrimination persists¹³.

5. Other public health information

According to Health Statistics Yearbook, 2018¹⁴:

- The total number of insured people was 83.5 million, accounting for 86.8% of the population have a health insurance card.
- Vietnam still faces a malnutrition burden among the under 5 population. The national prevalence of under-five malnutrition status was 24.3% for stunting, 13.2% for underweight, and 6.1% for wasting.
- The percentage of immunized children was 96.8%.
- The top 12 morbidities and mortality of vaccine-preventable diseases of Vietnamese children are Diphtheria, Pertussis, Acute flaccid paralysis, Neonatal Tetanus, Tuberculosis meningitis, Other Tuberculosis, Measles, Hepatitis, Cephalitis, Cholera, and Typhoid.
- The number of deaths due to accidents in the whole country in 2017 was 38.1 per 100 000 population, in which male was found higher than female (59.2 vs 17.1, respectively). The leading causes of deaths due to accidents were road traffic injury, suicide, drowning, natural disasters, occupational injury, electrocution, violence/conflict, fall,...

2.2. Training and Supply for Physicians and Healthcare Professionals

2.2.1. Educational system for healthcare professionals

Training is regulated by the Law on Education (1998, amended in 2005, amended and supplemented in 2009, and amended in 2019), the Law on Higher Education (2011, amended in 2018), and Law on Vocational Training (2014). The Government manages national education and approved the Framework for national education system structure and Vietnam's National Framework on qualifications¹⁴⁻²¹.

Medical training in Vietnam allows two training systems: (i) a research-based system (including higher education and vocational training) managed by the Ministry of Education and Training (MOET) and the Ministry of Labor, Invalids and Social Affairs; and (ii) a medical practice-based system managed by the MOH. The Government assigns ministries and local government to manage educational activities depending on the types of educational institutions and training levels^{12,17-22}.

2.2.1.2. Training institutions

Vietnam public educational institutions system is comprised of secondary medical schools, medical universities and colleges. According to the MOH, in 2019, there are total 44 medical universities/colleges (22 of which are public units) offer health professional training programs²³, increasing by 8 in comparison to 2014¹². Available statistics in 2014 shows that Vietnam has 41 colleges and 81 secondary schools training health professionals¹².

Every year, the Ministry of Education and Training (MOET) and the Ministry of Labor, Invalids and Social Affairs approves enrollment quotas upon the request of universities and colleges under its management. The provincial government or the ministries/agencies approve the quota for secondary medical schools under their management. The proposed quota depends on school conditions and should not usually exceed the student-to-teacher ratio defined by the Ministry of Education and Training ¹².

From 1990 onwards, and particularly in the early 2000s, many private colleges and universities offering health programs appeared in Viet Nam. The majority are secondary schools offering two-year nursing, assistant doctor or medical technology programs. There are also many colleges offering three-year programs in nursing and pharmacy. Public training institutions are state-funded annually through governing bodies as well as gaining revenue from tuition. Private training institutions are funded through capital of organizations and individuals as well as tuition. Although no official data are reported, tuition in private schools is usually higher than in public schools ¹².

There is no relationship between public and private schools. In previous years, private schools did not hold national entrance examinations and they usually enrolled students based on the public school entrance examinations. Private school teachers often have experience teaching in public schools. Some are retired public school teachers, others teach in both public and private schools concurrently. No specific figures were provided. The Law on Education allows schools to invite visiting lecturers. Both public and private schools may use visiting lecturers and facilities such as hospitals, research institutions and government employees ¹².

Table 2. 5. Number of private and public universities offering professional training programs in 2014 ¹²

Training programs	Number of universities*		Total
	Public	Private	
Medicine	15	2	17
Dentistry	7	0	7
Traditional medical doctor	1	0	1
Nursing	15	8	23
Pharmacy	10	7	17
Medical technician	9	1	10
Public health	7	1	8

Source: Aggregated from (MOET, 2014).

**Note:* One university may offer some different programs

Many public hospitals are practice sites for public and private schools. Some clinical trainers in public hospitals also have contracts to teach clinical practice for both public and private schools, especially those in teaching hospitals. In 2009, The Ministry of Health has issued guidelines for cooperation between training institutions and hospitals for setting up practical

training for medical and nursing students²⁴. Table 2.5 sets out the number of universities, both public and private, that offer professional training programs in 2014¹².

The Ministry of Education and Training has issued level-four Classification of Education in Healthcare at Bachelor's Degree level at Circular No. 24/2017/TT-BGDDT (Table 2.6). Based on the disciplines permitted for training, higher education institutions actively develop training majors to meet social needs²⁵.

Table 2. 6. Level-four Classification of education in Healthcare at Bachelor's Degree level²⁵

No	Code	Training classification
Medicine		
1	7720101	Medicine
2	7720110	Preventive medicine
3	7720115	Traditional medicine
Pharmaceutical		
4	7720201	Pharmacy
5	7720203	Pharmaceutical chemistry
Nursing		
6	7720301	Nursing
7	7720302	Midwife
Nutrition		
8	7720401	Nutrition
Dentistry		
9	7720501	Dento-maxillo-facial
10	7720502	Dental prosthetic techniques
Medical Technology		
11	7720601	Medical testing techniques
12	7720602	Medical imaging techniques
13	7720603	Rehabilitation techniques
Public Health and Health Management		
14	7720701	Public Health
15	7720801	Health Organization and Management
16	7720802	Hospital Management

Challenges faced by health professions education institutions include: overcrowded classes and low tuition fees (compared with other countries in the Western Pacific Region). Training

institutions often lack sufficient teaching hospitals that also lack Government budgets to implement training activities. Curricula and teaching methods also need to be updated. There are shortages of lecturers and limited opportunities for faculty to update their skills. Private institutions have thrived in recent years but the accreditation system and quality assurance mechanisms remain weak¹². Implementation of regulations that transfer all junior college and secondary medical schools to MOLISA management, at first, is creating substantial disruption for both training establishments and students²⁶.

2.2.1.3. Training programs

There are five levels of health professions education in Viet Nam: secondary, college, university, residency, first level specialist (CK1), second level specialist (CKII) and doctor of philosophy (PhD), which were delivered by medical and pharmaceutical universities, colleges or secondary schools. There are also research institutions offering PhD and masters programs^{12,27,28}.

Three types of current education program are the official program (admitting baccalaureate candidates), the upgrading system (for those with work experience), in-service and continuing professional education. Figure 2.11 illustrated the comprehensive health professional education system^{12,17}.

a. Official programs

The Ministry of Education and Training organizes an annual national entrance examination and manages the admissions and number of students at universities and colleges. The Ministry of Health regulates postgraduate specialist training programmes, including level 1 and level 2 specialist training and residency²⁹.

Since 2015, the exam is reforming by combining the high school graduation exam and university and college entrance exams with six subjects: three compulsory subjects (mathematics, literature and foreign language) and three electives. Based on results of this exams, high school students will be selected for admission to universities, colleges and secondary medical schools¹².

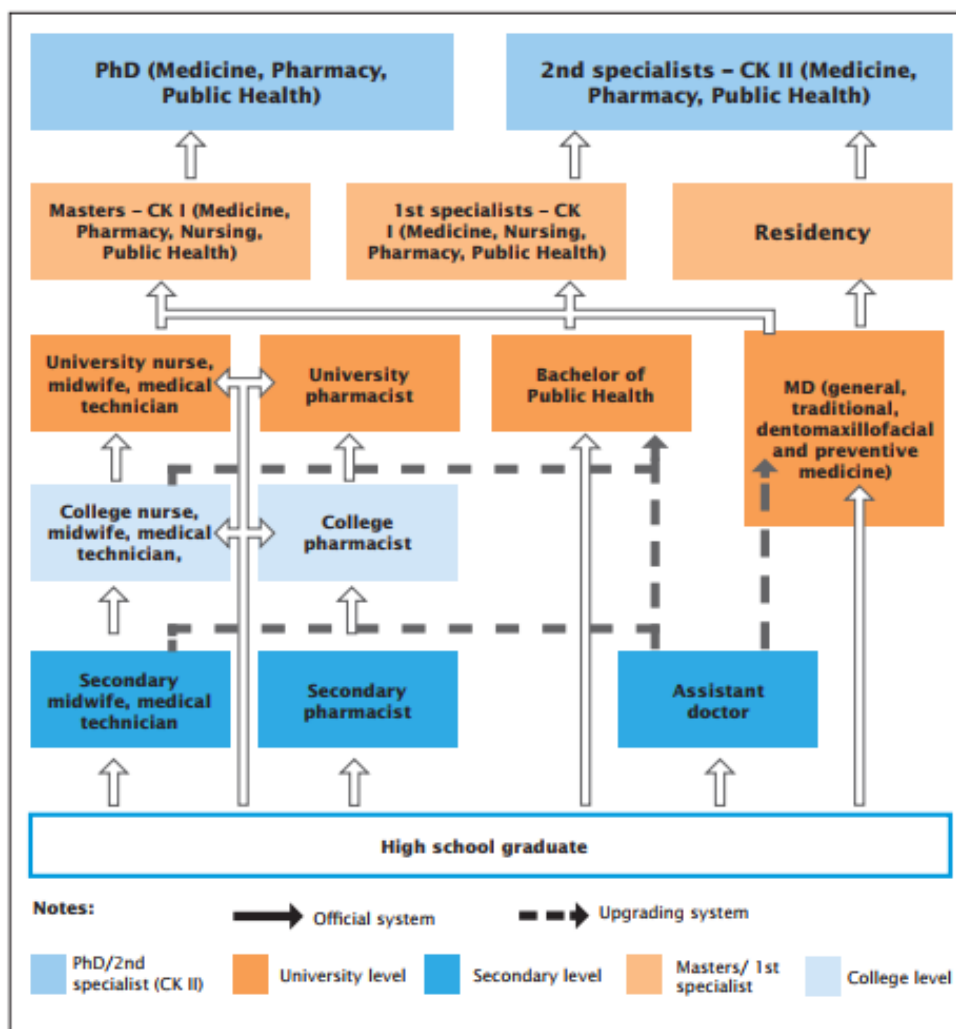


Figure 2. 11. Health professions education system ¹²

To strengthen human resources for grassroots-level, the Prime Minister issued a number of priority training policies, including nomination and demand-based training in parallel with annual official recruitments. *Nomination* means that students with good academic performance and satisfied based criteria can be nominated by the province to enroll medical or pharmaceutical universities, colleges or secondary schools without passing the annual entrance examination. These students often participate in a one-year pre-university programme before they can start the official programme ³⁰⁻³². *Demand-based training* is the enrollment of local contestants having entrance examination scores not too lower than the official passing scores of universities or colleges ³³. These recruitments are only applied to provinces/communes in disadvantage, extremely socio-economically difficult areas, in ethnic minority areas with few or no university-level staffs (under Program 135 of the State ³⁴⁻³⁶). After training, they commit to return to work for their local health facilities ³⁰⁻³³.

The training curriculum for each program is developed by training institutions based on needs assessment and the time allocated for each programme (university four to six years, college three years, secondary two years). The school's Science and Education Council reviews and approves these curricula. Previously, the Ministry of Education and Training reviewed and approved framework curricula but currently, this task is assigned to training institutions leading to varying degrees of competencies, knowledge and skills among graduates. Framework program and its

duration of official health profession training program vary from 2 to 6 years depending on levels and field of study (Table 2) ^{12,17,27,28}. Particularly for new graduations and for staffs before officially working in the health system, they must participate in practical training to granting licenses ³⁷.

Table 2. 7. Education and utilization of main health professions categories

Categories	Duration	Educational institutions	Main employers
Doctor			
Medical doctor	6 years	Medical/pharmaceutical universities or faculties of a university	Health services at all levels
Assistant doctor	2 years	Medical college and secondary medical schools	Mainly at CHS, some district hospitals
Pharmacist			
University pharmacist	5 years	Medical/pharmaceutical universities or faculties of a university	Hospitals and pharmaceutical companies at central and provincial levels
Secondary pharmacist	2 years	Medical and pharmaceutical colleges, medical college, secondary medical schools;	CHS, district hospitals, private drug stores
Medical technician			
University medical technician	4 years	Medical and pharmaceutical (or technological) universities,	Laboratories, imaging departments of central and provincial hospitals, preventive health centers
Nurse and midwife			
University nurse	4 years	Medical and pharmaceutical university, Nursing university, Nursing faculty of universities	Health services of central and provincial levels
College nurse	3 years	Medical and pharmaceutical university, Nursing university, Nursing faculty of universities, medical colleges	Central and provincial hospitals

Categories	Duration	Educational institutions	Main employers
Secondary nurse	2 years	Medical colleges, secondary medical schools	CHS, district hospitals and health centers
University midwife	4 years	Medical and pharmaceutical university, nursing university, nursing faculty of universities	Central and provincial hospitals
College midwife	3 years	Medical and pharmaceutical university, nursing university, nursing faculty of universities, medical colleges	Central and provincial hospitals
Secondary midwife	2 years	Medical colleges, secondary medical schools	CHS, district hospitals and health centers

The MOH has researched and proposed a model of health workforce training reforms, within which, medical training includes general and specialist doctors, with general doctors considered to have master's level qualifications, while specialists are considered to have PhD level qualifications ²⁶.

b. Upgrading program

Regarding upgrading system, under the provisions of the Law on Education, students graduating at a lower level and who have work experience can undertake further study to receive a higher qualification or second degree. This system offers those with professional qualifications the opportunity to advance from secondary to college or college to university. There are 2 forms of upgrading training: official training and study while working. University upgrading for studying while working does not applied for training of General Doctor, Traditional medical Doctor, Preventive Medical Doctor, Dentist, Pharmacist ^{12,38,39}.

Admission requirements for upgrading training are a diploma for completing high school or college in health sector ³⁸. Candidates applying for university upgrading program must participate in the annual university entrance exam. Those who have a secondary medical degree can take a separate entrance exam by training institution. The separate entrance exam is only applicable to those who have a practice license and the entry scores must reach minimum of 5 (five) points out of 10 for each entrance subject. ³⁸.

Training program and duration depend on current program of training institution ^{38,39}.

c. In-service and continuing professional education

The Law on Examination and Treatment (LET) requires that health practitioners have a license to practice. To maintain a valid license, a health worker must complete at least 48 hours of continuing education every two years. The Ministry of Health unifies operational management of CME for health professionals. The Ministry issues a circular which defines organization and appraisal of CME programs and issuance of CME certificates for participants. The Ministry of Health assigns the provincial health departments, medical and pharmaceutical training institutions, research institutes and central hospitals to appraise CME materials with advice from

an advisory council^{12,26,37}. Most CME courses are conducted by public training institutions including medical and nursing schools and hospitals. However, continuing medical education (CME) courses are mainly implemented at the central and provincial levels and due to the lack of health workforce in some health facilities, commune health workers may not have opportunity to participate^{12,33}.

If a health practitioner's license is revoked due to failure to meet the CME requirement, the health worker must submit her/his CME certificate to the licensing agency in addition to other documents, similar to the process of applying for a new license^{12,37}.

2.2.1.4. Regulation and accreditation of health professions training institutions

Health professions education institutions operate under the provisions of the Law on Education and the Law on Higher Education. The Ministry of Education and Training and The Ministry of Labour, War Invalids and Social Affairs (hereinafter referred to as state educational authorities) manages educational administration for higher education and vocational training, respectively. After the Law on Vocational Training came into force in 2015, secondary medical schools have been under management of the Ministry of Labor, Invalids and Social Affairs instead of the Ministry of Education^{17,18,20,40}. The Ministry of Health is assigned to control CKI, CKII, residency and continuing medical education (CME) programs. The Ministry of Health cooperates with the state educational authorities on education quality in medical universities, colleges and secondary medical schools. The Ministry of Health is responsible for developing the medical workforce's training plan, managing educational institutions under its authority and defining the criteria for issuing competency standards for each cadre. The Council of Rectors of medical and pharmaceutical universities and colleges advises the Minister of Health on policies, training plans and scientific research in health professions education institutions^{12,21}.

Accreditation of educational institutions is stipulated in the Law on Education, the Law on Higher Education and the Law on Vocational Training. These laws regulate the organization and operation of accreditation bodies and request that all training institutions be accredited. Vietnam is developing an education accreditation system for all sectors and the Ministry of Education and Training has directed training institutions to conduct self-assessment before independent accreditation^{17,18,20}. The Ministry of Health has developed accreditation criteria adapted from criteria in other countries and from international organizations. While programs are not currently accredited, there are plans to work towards a profession-based evaluation and accreditation of health profession degree program¹².

There is no specific guidance issued by the Ministry of Health to assess training quality for pharmaceutical-medical universities/colleges^{41,42}. Although there are provisions in the Law on Education, currently Viet Nam has not implemented independent accreditation for health professions educational institutions but has just started internal evaluation based on the accreditation criteria of the Ministry of Education and Training^{12,41}. Competency-based training and quality assurance of training facilities and curricula has not yet been effectively implemented due to limitations in guidelines, monitoring, supervision and evaluation⁴³.

According to Decision No. 2054/QĐ-TTg (2013), the World Bank project on Health Professionals Education and Training for Health System Reforms was adopted to improve the overall quality of education of health workers through innovative approaches to teaching and learning focused on competencies and strengthening the quality assurance system in education.

The project is being carried out from late 2014 to 2019 and includes four components: (i) improving the quality of health worker education at the university and junior college levels through innovation of approaches to teaching and learning based on competencies and improve the quality assurance system in education. The project supports 31 universities and colleges so that doctors, nurses and medical staffs graduating from these establishments will have better competencies and skills to meet the current healthcare needs; (ii) improving capabilities for management and health workforce deployment; (iii) improving primary healthcare performance through training, ensuring uniform and required conditions and competencies for district and commune level health workers; and (iv) Project management ⁴³.

a. Accreditation mechanism applied in competency-based training

In Viet Nam, there is no regulation of qualification of doctors, nurses and midwives through the national examination for doctors, nurses and midwives. There are no standardized examinations administered during the degree programs as well as standardized exit examinations ¹².

Medical, nursing and midwifery education programs have frame curricula that define the subjects, duration and method of assessment of each subject and graduation exams. Students must complete all subjects and pass the graduation exams in order to receive a degree. Students take both theory and practical examinations to evaluate their knowledge, attitudes and skills ¹². However, there remains a lot of different factors affected the training quality of training institutions: training program, facilities, quality of lectures, input quality of students and especially how to implement training programs, assessment and evaluation students after finishing training program. To standardize the output standards of health training programs, from 2011, the MOH has developed and promulgated basic competency standards for medical healthcare workers, including nurses, midwives, general doctors, dental doctors, pharmacists and bachelor of public health ^{26,43-49}.

In 2015, The Ministry of Health and The Ministry of Home Affairs have issued the code and criteria for profession titles of healthcare workforce. Profession title shows the fundamental criteria, including professional qualifications and skills, of an employees in specific professional field, including: Doctor (3 levels) ⁵⁰, Preventive Medical Doctor (3 levels) ⁵⁰, Physician (1 level) ⁵⁰, Public Health (3 levels) ⁵¹, Nurse (3 levels) ⁵², Midwife (3 levels) ⁵², Medical Technician (3 levels) ⁵², and Pharmacist (4 levels) ⁵³ in healthcare system. These titles are considered as a basis standard for the recruitment and management of official staffs in state agencies ^{54,55}. Therefore, based on the demand for healthcare workforce, some regulations on health worker training will be adjusted to standardize these professions titles. For example, regulations on health worker training at secondary level have been adjusted to standardize the professions of nurse, midwife and medical and pharmaceutical technicians, which requires that they have qualifications of junior college or higher ^{26,52}.

b. Accreditation mechanism applied in assurance of training facilities and curricula

Mechanism and frequency of updating curricula

The Law on Education stipulates that the Ministry of Education and Training is responsible to review and approve the curricula for all fields of study. Training institutions submit their frame curricula to the Ministry of Education and Training for approval ¹⁵. However, the Ministry of Health guides the curriculum development process in the health sciences. The Ministry of Health assigns an expert group to develop the curriculum including representatives from several

disciplines of universities, colleges and secondary medical schools to review, examine and propose a new curriculum that fits requirements of human resource management agencies (including departments of the Ministry of Health). The curriculum is then reviewed by the Evaluation Board of the health sciences sector indicated by the Ministry of Education and Training and submitted to the Minister of Education and Training for approval. The frame curricula for medicine (six years), nursing (four years) and pharmacy (five years) were issued in 2001 and amended in 2012 ¹².

On the basis of the frame curricula, academic institutions develop a detailed syllabus specifying the study objectives, the content of each subject, student evaluation and assessment methods by subject and graduation exams. The Ministry of Health recently standardized training materials for most subjects in medicine, nursing, midwifery, pharmacy and medical technician programs. These materials are mainly developed by faculty members of the institutions who have experience and competence in each field ¹².

Accreditation mechanism applied in assurance of training facilities and curricula

Official program

The training curriculum for each program is developed by training institutions based on needs assessment and the time allocated for each program. The school's Science and Education Council reviews and approves these curricula. Previously, the Ministry of Education and Training reviewed and approved framework curricula but currently, this task is assigned to training institutions leading to varying degrees of competencies, knowledge and skills among graduates ^{12,18}.

Health professionals curricula in Viet Nam are mostly traditional: didactic in style and knowledge-based with lack of flexibility ¹². The contents of medical education quality accreditation have not yet been implemented. No effective mechanism is in place to ensure quality and uniform standards for the curricula used at different universities. Of particular concern is the lack of practical training. Standard outputs of new training curricula (competency-based training) have only recently been issued, and are not yet widely used to manage training quality ²⁶. These problems lead to low quality and uneven qualifications of new medical graduates.

To improve quality of practical training for health workers, decree stipulating the organization of practice training in the health sciences and circular promulgating guidance on training clinical teaching - learning methods for lectures in practical training of the sector has been issued ^{56,57}. The Ministry of Health has issued guidelines for cooperation between training institutions and hospitals for setting up practical training for medical and nursing students. Issues with the guidelines include unclear financial mechanisms and the need for clarity on qualifications of hospital teachers. The Ministry of Health is working with other government agencies to develop new regulations and guidelines and is seeking feasible financial mechanisms to facilitate cooperation between training and practicing institutions ¹².

Under regulations on quality accreditation and ensuring quality of education, all schools have implemented self-assessment and establish quality assurance units within schools. However, quality assurance in many schools remains superficial ³³. Human resources responsible for quality assurance at pharmaceutical-medical universities are limited, ranging from 2 – 8 official staffs (including those who take other job responsibilities). Quality assurance personnel have

only received short-term training on a few of the relevant contents such as standards and quality evaluation criteria, yet they lack training on monitoring, evaluation for development of standards for graduates. Most of the schools have no recurrent budget for this activity and lack software for systematic quality management ⁴³.

Upgrading program

In order to adapt with the new situation and resolve the situation of low quality of training in programs for upgrading skills in the health sciences, especially training of assistant doctors to become doctors, the Ministry of Health is developing a new circular guiding upgrade training from secondary medical school to university level. This circular will replace Circular No. 06/2008/TT-BYT used previously to guide recruitment into upgrade training and official letter No. 1915/BYT-K2DT dated 8 April 2013 ³³. Results of monitoring in 10 universities that provide training for students from disadvantaged areas or training to upgrade from lower to higher level degrees indicate a high share of their students are in these programs ⁴³.

In-service and continuing professional education

The Ministry of Health has issued guidelines for continuing education that stipulate required training duration as well as responsibilities institutions offering training activities ⁵⁸. Currently the CME network for health workers has been adequately developed to implement CME to update and strengthen professional qualifications of health workers. However, there is no mechanism to review and assess compliance ^{12,33}. Standardization of materials and instructors is a key step to ensure quality of CME. The MOH has appraised 25 CME training programs and materials of units under its direct management ²⁶.

2.2.2. List of universities for healthcare professionals

Table 2. 8. List of medical universities/colleges in Vietnam ^{59,60}

No	Name	Code training field
	<i>Medical universities/colleges in Hanoi</i>	
1	Ha Noi Medical University	7720101, 7720110, 7720115, 7720301, 7720401, 7720501, 7720601, 7720701
2	Vietnam Military Medical Academy	7720101
3	School of Medicine and Pharmacy – Vietnam National University	7720101, 7720201, 7720501, 7720601, 7720602
4	Ha Noi University of Pharmacy	7720201
5	Viet Nam University Of Traditional Medicine	7720101, 7720201, 7720115
6	Ha Noi University of Public Health	7720401, 7720601, 7720701
7	Thang Long University	7720301, 7720401, 7720701
8	Dai Nam University	7720201, 7720301
9	Hoa Binh University	7720201, 7720301, 7720115
10	HaNoi University of Business and Technology	7720101, 7720201, 7720301, 7720501

No	Name	Code training field
11	Western University Hanoi	7720201, 7720301, 7720601, 7720603
12	Thanh Do University	7720201
13	University of Science and Technology of Hanoi	7720601
<i>Medical universities/colleges in Ho Chi Minh city</i>		
14	School of Medicine - National University of Ho Chi Minh City	7720101, 7720201
15	Ton Duc Thang University	7720201
16	Ho Chi Minh City University of Medicine and Pharmacy	7720101, 7720110, 7720115, 7720201, 7720301, 7720401, 7720501, 7720502, 7720601, 7720602, 7720603, 7720701
17	Pham Ngoc Thach University of Medicine	7720101, 7720201, 7720301, 7720401, 7720501, 7720601, 7720602, 7720701
18	HO CHI MINH City University of technology	7720201
19	Hung Vuong University	7720802
20	Nguyen Tat Thanh University	7720101, 7720110, 7720201, 7720301, 7720601
21	Hong Bang International University	7720201, 7720301, 7720302, 7720501, 7720601, 7720603
22	Van Lang University	7720201, 7720301, 7720601
<i>Medical universities/colleges in North region (except for Hanoi)</i>		
23	Thai Nguyen University of Medicine and Pharmacy	7720101, 7720110, 7720201, 7720301, 7720501, 7720601
24	Nam Dinh University of Nursing	7720301, 7720302, 7720401, 7720701
25	Hai Duong Medical technical University	7720101, 7720301, 7720601, 7720602, 7720603
26	Hai Phong University Of Medicine and Pharmacy	7720101, 7720110, 7720115, 7720201, 7720301, 7720501
27	Thai Binh University of Medicine and Pharmacy	7720101, 7720115, 7720201, 7720301, 7720701
28	Tokyo Human Health Sciences University Vietnam	7720301, 7720601, 7720602, 7720603
29	Thanh Dong University	7720115, 7720201, 7720301, 7720401, 7720501,
30	Trung Vuong University	7720301

No	Name	Code training field
<i>Medical universities/colleges in Central region</i>		
31	Vinh Medical University	7720101, 7720110, 7720201, 7720301, 7720501, 7720601, 7720701
32	Vinh University	7720301
33	Hue University Medicine and Pharmacy	7720101, 7720110, 7720115, 7720201, 7720301, 7720501, 7720601, 7720602, 7720701
34	The School of Medicine and Pharmacy - The University of Da Nang (SMP)	7720101, 7720301, 7720501, 7720201
35	Da Nang University of Medical Technology and Pharmacy	7720101, 7720201, 7720301, 7720601, 7720602, 7720603, 7720701
36	Tay Nguyen University	7720101, 7720301, 7720501, 7720601
37	Buon Ma Thuot University	7720101, 7720201
38	Duy Tan University	7720101, 7720201, 7720301, 7720501
39	Dong A University	7720201, 7720301, 7720401
40	Yersin University	7720201, 7720301
41	Phan Chau Trinh University	7720101, 7720301, 7720601
<i>Medical universities/colleges in the South region (except for Ho Chi Minh city)</i>		
42	Can Tho University	7720203
43	Tra Vinh University	7720101, 7720110, 7720201, 7720301, 7720401, 7720501, 7720601, 7720602, 7720603, 7720701
44	Can Tho University of Medicine and Pharmacy	7720101, 7720110, 7720115, 7720201, 7720301, 7720501, 7720601, 7720701
45	Binh Duong Economics and Technology University	7720201
46	Binh Duong University	7720201
47	Dong Nai Technology University	7720301, 7720601
48	Mien Dong University of Technology	7720201
49	MeKong University	7720301, 7720601
50	Lac Hong University	7720201
51	Nam Can Tho University	7720101, 7720201, 7720601, 7720602
52	Eastern International University	7720301

No	Name	Code training field
53	Tan Tao University	7720101, 7720301, 7720601
54	Tay Do University	7720201, 7720301
55	Vo Truong Toan University	7720101, 7720201

2.2.3. Supply and availability for physicians, nurses and other healthcare professionals (including the Status of study abroad for physicians)

a. Health workforce supply

The health workforce – doctors, nurses, midwives, and pharmacists, among others – is critical to delivering quality health services, accelerating universal health coverage (UHC), and achieving the health-related Sustainable Development Goals (SDGs). Having a competent, multidisciplinary health workforce team to provide integrated, people-centered health services is necessary to meet the changing population needs in Viet Nam, including the rise of non-communicable diseases and aging populations. As Viet Nam embarks on health system reform, key components include building a qualified health workforce particularly at the primary care level, legislative and regulatory quality assurance mechanisms for the health workforce and medical universities, and adequate payment for health workers.

In Vietnam, there has been a rapid expansion in the number of health training institutions and graduate in the last two decades. The number of university training doctors has almost doubled since 1997, from nine to the current total of 17. The number of new doctors graduating yearly has increased from 3265 in 2006 to 9118 in 2017, an almost threefold increase in a decade.

In 2016, Viet Nam had an estimated 0.8 physicians per 1000 population, 1.4 nurses per 1000 population, and 0.3 pharmaceutical personnel per 10000 populations.

Currently, Viet Nam has more than 400 000 health workers in the public system. The health workforce consists mainly of doctors, assistant doctors, nurses, midwives, medical technicians, and traditional medicine practitioners. These professions account for 83.55% of all health workers (MOH, 2012). Other cadres include pharmacists, engineers, accountants, and technicians. Doctors, assistant doctors, nurses, and medical technicians account for 80% of the health workforce. These cadres require a license to practice under the provisions of the Law on Examination and Treatment (LET) (2011). The density of doctors in Viet Nam is 7.61 per 10 000 people (2013). The nurse-to-doctor ratio has increased from 1.19 in 2008 to 1.34 in 2012.

University degree programs for doctors include general practice, traditional medicine, and preventive medicine. With work experience, doctors can pursue specialization at level 1 (CKI) and then level 2 (CKII). A small number of newly graduated doctors with good academic performance may take selective examinations for training in a three-year residency program. These physicians are usually recruited to central hospitals. Table 2.9 provides an overview of

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https://www.who.int/vietnam/health-topics/health-workforce

health worker professional categories and the increase in the number of each between 2009 and 2013*****.

The density of doctors in Viet Nam was 7.34 per 10 000 people in 2012 and 7.61 per 10 000 in 2013 (Ministry of Health, 2013). The nurse-to-doctor ratio increased from 1.19 to 1 in 2008 to 1.34 to 1 in 2012. The number of employees in the health system has remained stable in recent years. Highly qualified human resources such as Ph.D., master, and specialists, work mainly at the national level including hospitals, research institutes, and universities. **Table 2.10** lists the number and cadre in health facilities at the province, district, and commune levels. Health workforce density has increased in recent years. Nurse density has risen faster showing the role of this cadre is gradually changing (**Table 2.11**).

Table 2. 9. Viet Nam Health Workforce 2009 – 2013 ¹²

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Health professional categories	2009	2010	2011	2012	2013
Medical doctor and higher	56 661	62 546	64 442	65 135	68 466
Pharmacist and higher	15 176	15 150	16 875	17 360	19 083
Bachelor of public health and higher	461	650	925	1065	1510
Assistant doctor	51 062	52 455	54 487	54 564	55 999
College and university nurse	2736	3748	5008	6114	7981
Medical technician	13 850	14 221	15 185	15 711	17 043
College and second degree pharmacist	38 136	43 090	48 598	43 090	44 328
Second degree nurse	64 901	70 359	76 787	80 312	83 369
University and second degree midwife	23 569	25 289	26 495	27 089	27 837
Elementary nurse	8254	7141	6224	5775	5339
Elementary midwife	1429	1249	1034	930	799
Traditional medical practitioner	269	264	219	237	229
Elementary pharmacist	29 353	22 805	21 329	22 805	22 561
Other bachelor degree and higher	15 551	16 544	18 206	19 816	21 752
Other second degree level	9766	11 785	12 844	13 414	14 294
Others	33 702	35 108	34 258	33 731	33 647
Total	364 876	382 404	402 887	407 148	424 237

Table 2. 10. Number of health employees by type at health facilities ¹²

Health professional categories	Total	Hospitals	District health centres	Polyclinics and specialized clinics	Commune health stations	Others
PhD in medicine	1668	1043	37	565	0	23
PhD in pharmacy	71	61	7	3	0	0
Masters in medicine	6052	5133	504	346	19	50
Masters in pharmacy	464	394	44	16	5	5
CKI and CKII doctor	20 132	15 235	3247	1016	463	171
CKI and CKII pharmacist	1051	634	156	241	16	4
Medical doctor	45 160	26 607	6778	3617	7848	310
Pharmacist	3771	2839	562	253	89	28
Bachelor of public health	2397	1365	653	101	245	33
Assistant doctor	62 012	18 394	12 929	2431	27 904	354
Assistant pharmacist	5324	2217	613	645	1787	62
Secondary pharmacist	23 640	12 318	3980	640	6594	108
Nurse	97 704	71 365	9936	3950	12 166	287
Medical technician	17 467	12 969	2767	974	612	145
Pharmaceutical technician	2170	1358	349	189	248	26
Midwife	28 893	12 500	4531	872	10 818	172
Traditional medical practitioner	3616	2270	490	128	625	103
Others	60 846	42 624	9353	2756	2982	3131
Total	382 438	229 326	56,936	18 743	72 421	5012

Table 2. 11. The density of doctors, assistant doctors, and nurses ¹²

Health professional categories	2008	2009	2010	2011	2012	2013
People per one doctor	1534	1518	1390	1378	1363	1315
Doctors per 1000 people	0.65	0.66	0.72	0.73	0.73	0.76
Doctors and assistant doctors per 1000 people	1.22	1.25	1.34	1.34	1.35	1.38
Nurses per 1000 people	0.78	0.88	0.94	0.99	1.04	1.07
University pharmacists/1000 people	0.15	0.18	0.18	0.19	0.20	0.21

Doctors account for 16% of health workers in the public sector and 38% of medical doctors are specialists (CKI, CKII, masters, and Ph.D.). Assistant doctors account for 13% of health workers in the public sector. The ratio of assistant doctors to medical doctors is 0.82 to 1. The density of assistant doctors and medical doctors was 13.72 per 10 000 population in 2013.

Nurses account for 23% of the total health workforce. However, secondary nurses account for 86% of all nurses, and elementary nurses account for 5.6%. Elementary nurse training no longer exists in Viet Nam. Nurses trained from colleges and universities account for 8.3% as these training programs started in the last 15 years. The ratio of college and university nurses to doctors is 0.12 to 1.

Midwives account for 6.7% of the total health workforce. Of these, 2.7% are elementary midwives, trained through a one-year program that no longer exists in Viet Nam. Most midwives are graduates from secondary programs. There are only a few university and college midwives as these programs started a few years ago. Pharmacists account for 15% of the health workforce, of which 70% are secondary pharmacists that graduated from a two-year program. The ratio of university pharmacists to doctors is 0.29 to 1.

As mentioned above, there are three levels of health professions training institutions: secondary schools, colleges, and universities. There are also research institutions offering a doctor of philosophy (Ph.D.) and master's programs. Viet Nam has 36 universities, 41 colleges, and 81 secondary schools training health professionals. Table 2.12 shows the distribution of health professionals training institutions.

Table 2. 12. Health professional training institutions in Vietnam by region

Regions	Universities	Colleges	Secondary schools
Red River Delta	15	10	13
Northern midlands and mountain areas	1	10	22
North Central area and Central coastal area	3	7	11
Central highlands	2	1	4
South East	12	5	22
Mekong River Delta	3	8	9
Total	36	41	81

(Source: Ministry of Education and Training, 2014)

The Ministry of Health and the Ministry of Education and Training agree on the standards of the student to faculty ratio for each health profession to set enrollment limits for universities and

colleges. Medical school facilities have not met the requirements of the Ministry of Education and Training as they lack lecture halls, offer limited library resources, and vary widely in terms of infrastructure, faculty qualifications, and professional practice environment among schools ¹². Nonetheless, the number of graduates across all health professions increased significantly between 2013 and 2018, as shown in Table 2.13 ^{1-4,6}.

Table 2. 13. Health professions graduates in university 2013-2018 ^{1-4,6}

HRH categories and level of training	2013	2014	2015	2017	2018
<i>Formal university programs</i>	<i>50,431</i>	<i>51,425</i>	<i>74,913</i>	<i>55,963</i>	<i>65,580</i>
General doctor	26,168	24,667	34,776	30,133	33,259
Traditional medical doctor	4,283	5,291	2,364	1,218	6,768
Dentist	2,701	2,896	2,874	2,836	3,200
Preventive medical doctor	3,202	3,487	3,764	3,744	2,981
University Pharmacist	6,691	6,631	15,499	7,485	7,897
University Nurses/Midwife	3,921	4,125	9,962	5,359	6,612
University Medical Technician	2,193	2,928	4,102	3,707	3,061
Bachelor of public health	1,272	1,400	1,572	1,481	1,802
Others	-	-	196	-	-
<i>Upgrading university programs</i>	<i>19,610</i>	<i>15,976</i>	<i>16,947</i>	<i>15,469</i>	<i>13,648</i>
General doctor	6,663	5,304	6,451	5,119	4,592
Traditional medical doctor	2,066	1,573	738	1,218	735
Preventive medical doctor	222	296	68	-	-
University Pharmacist	5,140	3,494	3,869	2,221	1,185
University Nurse/Midwife	3,824	3,470	3,782	4,563	5,280
University Medical Technician	806	948	1,119	1,380	967
Bachelor of Public Health	889	891	920	968	889
<i>Second enrolment</i>	<i>436</i>	<i>486</i>	<i>582</i>	<i>561</i>	<i>502</i>
University Pharmacist	436	436	443	433	359
Preventive medical doctor	-	50	139	128	143
Total	70,477	67,887	92,442	71,993	79,730

Quality of human resources training does not yet meet need. Health worker competencies have limitations, particularly at the grassroots level ²⁶:

- Circular 26 requiring nurses, midwives and technicians to attain junior college qualifications by 2025 will have strong adverse effects on supply of registered health workers at the

grassroots level unless measures are put in place to soften requirements or rapidly expand capacity for upgrade training.

- The remuneration policy for health workers is not achieving health sector objectives, it does not encourage highly qualified medical workers to work long-term in disadvantaged areas. Current incentives reward over servicing, rather than performance in keeping patients healthy.

The Comprehensive Plan for human resources development for the period 2012 – 2020 was issued by the Health Minister in 2012 with the overall goal to “Develop health human resources... contribute to improving quality of health and population work, and meet the need for protection, care and improvement of the people’s health with an orientation towards equity, efficiency and development.” The Comprehensive Plan also stipulated four specific objectives: (i) develop the health workforce in sufficient quantity and adequate quality, with an appropriate structure and distribution; (ii) improve the quality of health worker training to meet the needs of societal development and international integration; (iii) strengthen capacity for health human resources management; (iv) develop appropriate regulations, policies, work environment and remuneration package for health workers, particularly in mountainous, disadvantaged areas and areas with large ethnic minority populations, and in fields facing difficulties in recruiting personnel. The Comprehensive Plan also proposed five sets of solutions including: Reform and strengthen state management of health human resources; manage, deploy and retain health workers; train health workers; international cooperation and priority projects; and financial measures ⁴³.

b. Government policies encourage health workers to work in difficult areas

The Government promulgates policies to stipulate preferential medical benefits and attraction allowances (for communes facing difficulties under the 135 program) while attending joint school. Under the guidance of Decree 56/2011/ND-CP ⁶¹ and Circular 02/2012/TTLT-BYT-BNV-BTC ⁶², staff attends colleges and universities in nursing care, technicians, public health workers, due to the time under 3 months to go to school should not be subject to the regulation of these 02 circulars. Therefore, these subjects still enjoy their full salary, 70% preferential allowance according to health care profession (and an attraction allowance of 70% if they are working in difficult areas), as when they are working at the agency.

For health workers, medical staff, and military medical staff working at health facilities in areas with extremely difficult socio-economic conditions (under Program 135, phase II ³⁵), Decree 64/2009/ND-CP ⁶³ stipulates that health workers who have more than 3 months of study time (physicians attending the general practitioner program) are still entitled to 70% of the vocational preferential allowance. However, if leaving the attraction for more than 3 months, the attraction allowance will not be enjoyed.

For cadres, civil servants, public employees and wage earners in the armed forces working in regions with extremely difficult socio-economic conditions in poor districts according to Resolution 30a/2008/NQ-CP ⁶⁴, Decree 116/2010/ND-CP ⁶⁵ stipulates that 70% of the preferential salaries and allowances for commune officials are kept unchanged, regardless of the time, they leave the locality/ how long is going to school. However, the 70% attraction allowance will be cut if the subject moves out of the attraction for more than 1 month.

2.3. Status and Quality of Healthcare

2.3.1. Status of healthcare settings (number and national/private)

2.3.1.1. Healthcare system

a. Healthcare system before the implantation of center of disease control (CDC) model

Vietnam health care system comprises of four administrative levels: central level, provincial level, district level and commune level. Public health care sector widely coverage from central to grassroots levels^{12,66}. In 2014, The MOH and Ministry of Home Affairs have issued regulation on re-arrangement of the service delivery organization system towards lean staffing, effectiveness, collaboration and continuity. The provincial preventive medicine network is being re-organized into a CDC model through merging centers with similar functions, and merging centers with inpatient beds into provincial hospitals as stipulated in Joint Circular No. 51/2014/TTLT-BYTBNV and Circular No. 59/2015/TT-BYT^{67,68}.

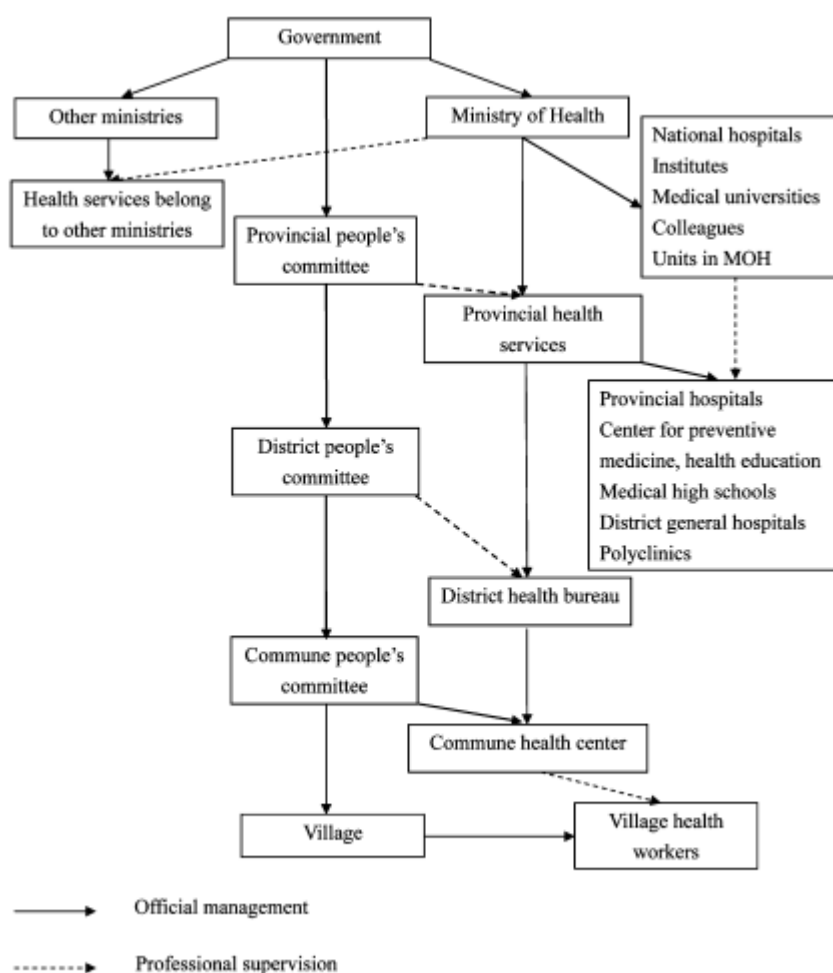


Figure 2. 12. Outline of the Vietnamese Health System before implementation of CDC model

Central level

The Ministry of Health of Vietnam, the governmental agency and the leading organization in central level, is responsible for the care and protection of people's health including issuing law and other legal documents for health care, health prevention and protection. This organization

also has duties in making long-term plans and strategies for the further development of the health sectors ⁶⁶.

Within the Ministry of Health, the Department of Manpower proposes HRH recruitment policy, salaries and incentives. The Administration of Science, Technology and Training (ASTT) proposes and supervises implementation of policies and regulations on health workforce admission and education standards. The Medical Services Administration (MSA) is in charge of licensing for HRH and health facilities ¹².

The Ministry of Health manages a number of health institutions including national hospitals, research and Pasteur institutes, universities and colleges. Most national general and specialty hospitals are concentrated in Hanoi and Ho Chi Minh City. These are the highest referral hospitals of the provincial hospitals in each region ¹². According to Health Statistical Yearbook 2018, there are 47 central health facilities with 31,436 beds. These facilities include 20 general hospitals, 20 specialist hospitals, 3 traditional medicine hospitals, 3 leprosarium's and 01 dermatological hospitals (Table 2.14) ¹.

The research institutes include Health Strategy and Policy Institute, Institute of Hygiene and Epidemiology, National Institute of Nutrition, National Institute of Occupational and Environmental Health, and Pasteur Institutes in Ho Chi Minh City and Nha Trang. Research institutes offer postgraduate education and provide preventive services. The health professional education institutions include several medical and pharmaceutical universities and medical colleges offering training programs. Most of these institutions are directly managed by the Ministry of Health. Most medical universities have training hospitals with about 200 beds to implement training missions, scientific research and health-care provision. Reliable data on university and college affiliate hospitals are not available ¹².

Table 2. 14. Number of health facilities and beds by levels in 2018 ¹

No	Types of health facilities	Number of facilities	Number of beds
1	Central level	47	31,436
1.1	General hospitals	20	20,681
1.2	Specialist hospitals	20	8,825
1.3	Traditional medicine hospitals	3	840
1.4	Leprosarium's	3	800
1.5	Dermatological hospitals	1	290
2	Local levels	12,517	279,790
2.1	Provincial level	470	138,780
2.1.1	General hospitals	164	93,682
2.1.2	Specialist hospitals	173	30,840
2.1.3	Traditional medicine hospitals	58	9,200
2.1.4	Leprosarium's	24	1,297

2.1.5	Sanatoriums and rehabilitation centers	27	3,075
2.1.6	Specialist clinics	24	686
2.2	<i>District level</i>	947	94,045
2.2.1	General hospitals	666	90,473
2.2.2	Inter-commune polyclinics	277	3,552
2.2.3	Maternity homes	4	20
2.3	<i>Commune level</i>	11,100	46,965
	Commune health stations (CHSs)/ Commune health centers (CHCs)	11,100	46,965
3	Facilities managed by other ministries	755	9,055
3.1	General hospitals	22	4,090
3.2	Polyclinics	7	320
3.3	Sanatoriums	11	2,880
3.4	Health center	5	1,765
3.5	Health station of other branches	710	
4	Private hospitals	228	21,122
	Total	13,547	341,403

Provincial level

Provincial, district and commune health facilities are under the competence management of the Ministry of Health and responsible for the implementation and development of health care services in corresponding level. In these levels, the people's committee is responsible for allocating finance and human resource, while provincial or district health department is responsible for professional competence under the supervising and monitoring of Ministry of Health. Provincial and district health department also have duties in supporting people's committee in corresponding level in term of health care and protection for people ⁶⁶.

Provincial health institutions include state-level departments of health, the medical services institutions such as general and specialized hospitals. The provincial hospitals usually have a size of about 500 beds. The specialized hospitals include maternity, obstetric, pediatric, traditional medicine, and tuberculosis and lung disease hospitals. The specialized hospitals are organized according to the population size of each province. In provinces with high population, some provincial regional hospitals are the referral level for neighboring district health centers. In 2018, there are 470 health facilities with 138,780 beds at provincial level. In which, these health facilities include 164 general hospitals, 173 specialist hospitals, 58 traditional medicine hospitals, 24 leprosarium's, 27 sanatoriums and rehabilitation centers and 24 specialist clinics (Table 2.14) ¹.

Provinces often also have specialized medical centers managed by the Department of Health in reproductive health, preventive medicine, HIV/AIDS prevention, forensics, eye disease,

communication and health education, and food safety and population agencies. These medical centers provide medical services as well as management of their specialty and have no inpatient beds. Each of the provinces usually has a medical college or secondary medical school offering programs in medicine, nursing, midwifery, medical technology and pharmacy according to the province's needs ¹².

Under the new regulation of health system reform, the provincial level has changed by merging centers with the same functions, merging specialized centers and centers with inpatient beds into provincial hospitals, or establishing specialized hospitals if necessary and when resources are available (Figure 2.14) ⁶⁷. This is a breakthrough in the organization of the preventive medicine system. By 2019, 56/63 provinces and municipalities are allowed to implement the CDC model at the provincial level. The organization of the local health system of other provinces is still under the review and approval process of the provincial people's committee ²⁶.

District level

District health centers offer medical and preventive services. In recent years, the structure of district health agencies has changed significantly in the provinces. Many districts have a management body along with medical services such as hospitals and preventive medicine centers. In addition, there are often other district agencies engaged in health, such as the population, food safety management agencies depending on the population size and local provisions ¹². Available statistic in 2018 indicates that there are total 947 health facilities with 94,045 beds at district level, including 666 general hospitals, 277 inter-commune polyclinics and 4 maternity homes (Table 2.14) ¹.

Under the new regulation of health system reform, district health centers should be organized consistently at the district level, performing the following functions: preventive medicine, medical examination and treatment, and rehabilitation. Regional polyclinics, maternity facilities (if any) and commune health stations in a district are under the management of the DHC. A separate General hospital will only be operated independently at district level when necessary with resources are available and must meet criteria for grade-2 or higher-grade hospital (Figure 2.14) ⁶⁷. By 2018, 52/63 provinces have apply dual-functions DHC model ⁴². The application of dual-function DHCs is suitable for the actual situation. It avoids scattered investment and consolidates human resources so that health workers can be mobilized, rotated and allocated flexibly between levels. It also increases the connection between preventive and curative care, and ensures consistent direction and guidance between district and commune levels ²⁶. The MOH has also developed and enacted Circular on the functions, tasks, authority and organizational structure of DHCs ⁶⁹.

Commune level

Commune health centers provided a range of basic services, such as: mother and child health care, family planning, treatment for acute respiratory infections, immunization and treatment of common ailments. About thirty years after the establishment of the health care system, an extensive network of commune health center has been structured throughout the country, based on population distribution and geographical condition. Although mountainous and remote areas are allowed more CHCs, some areas still lack of health care services, not only because of their difficulties in geographic issues, but also because of their lack of attractiveness for health workers ⁶⁶. Each CHS has 5–10 personnel relative to the population size. Large companies often

complement these services with primary health care clinics for their employees. In 2018, there are total 11,100 commune health facilities with nearly 47,000 beds ^{1,12}

The MOH has issued Circular No. 33/2015/TT-BYT guiding the functions and tasks of CHSs ⁷⁰. Earlier, the Government had promulgated Decree No. 117/2014/ND-CP on commune-level healthcare ⁷¹. So far 62 out of 63 provinces have regulations stipulating that CHSs are health facilities under DHCs ²³.

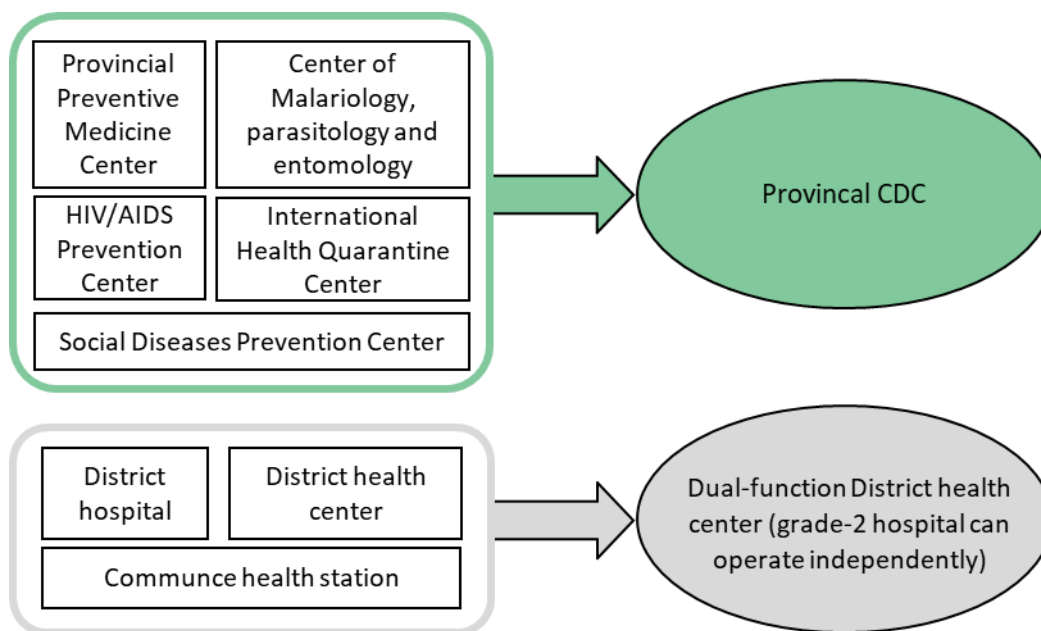


Figure 2. 13. Some changes to the organization of the local health system ⁶⁷

Limitation and challenges

While a series of decrees and circulars related to the local health system has been enacted, the health system development master plan has not yet been approved. A plan providing detailed guidance on the arrangement and organization of departments/divisions in local health facilities is needed. Policy documents on the functions, tasks and activities of provincial CDCs were issued after a long delay (Circular 26/2017/TT-BYT was issued on 26 June 2017). Reform of health system organization needs to be accompanied by detailed regulations on re-organization and re-arrangement of physical facilities, health human resources (recruitment and use of officials, civil servants, public employees, contracted staff), and operational and financial mechanisms (Figure 2.15). However, there are no specific guidelines on these contents ²⁶.

Figure 2. 14. Necessary regulations for re-organization and re-arrangement of the local health system ²⁶



b. Other sectors

Many sectors also have their own healthcare network of hospitals and clinics managed by Government agencies such as Ministry of Transportation, Ministry of Construction, Ministry of Industry and Trade and the Ministry of Agriculture and Rural Development. In 2018, there are 755 health facilities with 9,055 beds managed and funded by other ministries. These health facilities include 22 hospitals, 7 polyclinics, 11 sanatoriums, 5 health centers and 710 health stations (Table 2.14). The military health system is organized separately and not included in this report ^{9,12}.

Private health facilities started to thrive in the late 1990s and early 2000s when Viet Nam initiated economic reforms (Doi moi). This network includes hospitals and medical and maternity clinics. The network has developed mainly in highly populated urban areas. Private hospitals are usually licensed by the Ministry of Health and private clinics are controlled by the Department of Health. In 2018 there were 228 private hospitals with 21,122 registered beds, 2 times higher than in 2013 (9,500 beds) ^{1,2,12}.

c. The system of legal documents on health continues to be developed and refined.

Legal documents has been updated and completed in respond to health demands and challenges in the new situation. Table 2.15 has listed health-related Law promulgated by National Assembly from 1989 to 2020. In which, the Law on Blood and Stem Cells, Law on Population, Law on Transsexuals, Law on Health Insurance (amend), and Law on Medical Examination and Treatment (amend) have been drafted and will be submitted for promulgation in the coming time ^{23,26}.

Table 2. 15. Development of legal documents in the health and related sectors

Ammend	List of health-related Law
1989	Law on People’s Health Protection
2005	Pharmaceutical Law
2006	Law on HIV/AIDS Prevention and Control
2006	Law on Donation, Removal and Transplantation of Human Tissues and organs, and Donation and Use of cadavers
2007	Law on Prevention and Control of Infectious Diseases
2007	Law on Prevention and Control of Domestic Violence
2008	Law on Health Insurance
2009	Law on Medical Examination and Treatment
2009	Law on the Elderly
2010	Law on Food Safety
2010	Law on People with Disabilities
2012	Law on Tobacco Control
2014	Law on Health Insurance
2016	Pharmaceutical Law (amend)
2016	Child Law
2019	Law on Alcohol Control
2020	Law on HIV/AIDS Prevention and Control (amend and supplement)
planned	Law on Blood and Stem Cells

Ammend	List of health-related Law
planned	Law on Population
planned	Law on Transsexuals
planned	Law on Health Insurance (amend)
planned	Law on Medical Examination and Treatment (amend)

Some shortcomings and challenges still need to be overcome in the health policy development process. During this process, although various information/comment collection methods were used, certain methods were found to be ineffective. The engagement of stakeholders involved in policy implementation (e.g. DOHs, health facilities) was limited, thus a number of enacted policies do not fully reflect reality. Feedback from legal document/policy drafting agencies to those providing comments has been inadequate; no official response to comments was issued to indicate which ideas were incorporated and which were not used and to provide a justification. This fails to meet the information needs of stakeholders. Regulatory impact assessment was not carried out uniformly, so policies and regulations that were issued face problems with feasibility in practice. Monitoring of implementation of health sector policies and legislation is limited, while some policies are not updated and/or amended in time ²⁶.

2.3.1.2. Health Information Systems

Health management information system, a powerful tool for managing, organizing and planning of the health care system in multiple levels, is necessary for the development of a health care system.

To form and standardize lists of indexes, indicators, codes in the whole system, The MOH has issued a set of shared codes for medical examination and treatment and health insurance reimbursement (Version 6), basic health statistic indicators in healthcare, regulation on dissemination of health statistical information ⁷²⁻⁷⁴. The management information software has been applied in the preventive health system, hospitals and health facilities by the MOH since 2008 ^{75,76}. The reporting regime applicable to provincial, district and communal facilities, the list of basic indicators and statistical forms decentralized by levels has officially promulgated by the MOH since 2014 ^{77,78}. At the present, this network has basically covered across the country through the regular reporting system conducted from village health workers to the central level. To reduce paper-based and manually report at grassroots level as well as ensure the quality of data for policy makers to inform planning and management, the MOH has implemented health information management system in commune health stations since 2017 ⁷⁹⁻⁸¹. Information has been disseminated in the form of publication such as the Health Statistics Yearbook, JAHR, etc. The Health Statistics Yearbooks are annually available in electronic format on the MOH website to facilitate user access. Some localities and units have websites to disseminate legal documents and health statistics.

To step up the application of information technology in administrative modernization with an aim to build an e-Government in health sector, the Ministry of Health has developed and carried out electronic medical statistics software; medical information portal software and other informatics systems serving as a basis for digital medicine. Public administrative services are provide online and maintained in parallel with national single-window mechanism. By the end of October 2019, the Ministry of Health has deployed 10 out of 24 administrative procedures on the national single-window portal ²³.

To improve management of examination and treatment services, The Minister of Health approves the Project to develop medical informatics system by smart technology for the period 2019 – 2025. A number of projects are being piloted, applied in practical situation for further improvement, including: Project Picture Archiving and Communication Systems (PACS) without film printing, National informatics management system of vaccination, Informatics management software of Infectious disease for commune health stations, electronic health records, developing telecommunication system for remote consultation and treatment. Transferring data of health facilities to the Data Reception Portal under the Health Insurance Inspection Information System of Vietnam Social Insurance to improve the efficiency of management and use of the health insurance fund ²³.

Difficulties and Challenges

Health data and information remain fragmented; each health unit deploys its own software, leading to low interoperability and inability to extract reports as requested by the MOH, leading to some work duplication and difficulties in data monitoring and management. There is still no unified platform for information technology to serve as the basis for integrating all databases needed for management of medical services, and to contribute to effective use of health insurance payment for medical services. Information technology applications in reporting and health statistics have been promoted, however there are no regulations on replacing paper-based reports with electronic ones ^{23,26}.

There are many indicators for monitoring different health sector issues. There is a lack of consensus on definitions of some indicators, lack of reliable information sources for some indicators, lack statistic information from private and other sectors, and delays in reporting or inadequate dissemination of data to allow for active use of the health management information system to improve health system performance. Data collection, processing, storage, transmission and dissemination are still done manually. In 2016, only 73% of provinces submitted the full set of completed statistical reporting forms. Statistics from administrative records have been exploited, but to a limited extent ^{23,26}.

Most information products are still simple, mainly tables, graphs and charts and are presented in the form of traditional publications, such as books, pamphlets and reports. There are not many products analyzing and forecasting factors affecting health activities or the health status of people ²⁶.

2.3.1.3. Health Financing

Formerly, health care services in Vietnam were freely provided by public health sector; however, after the health care reform in 1989, both public and private health sectors were participated in delivering health services; financial autonomy was implemented and user-fee for services was introduced. The provision of health care services directly impact on patients; high quality of health care services helps to improve treatment duration and diagnosis procedures; therefore, it contributes to reducing health care cost. In contrast, overuse of laboratory tests and high-technology equipment's for revenue generation led to increasing health care cost and producing more burden for out-of-pocket spending ⁶⁶.

The share of the state budget spent on health in 2014 is estimated to be 8.2%, an increase compared to 2010 when it was only 7.7%. According to data on implementing the draft health

sector budget for the period 2011 – 2015, state budget funding for health expenditures in 2011 – 2015 increased annually at a rate higher than the overall state budget expenditure (Figure 2.16)⁴³.

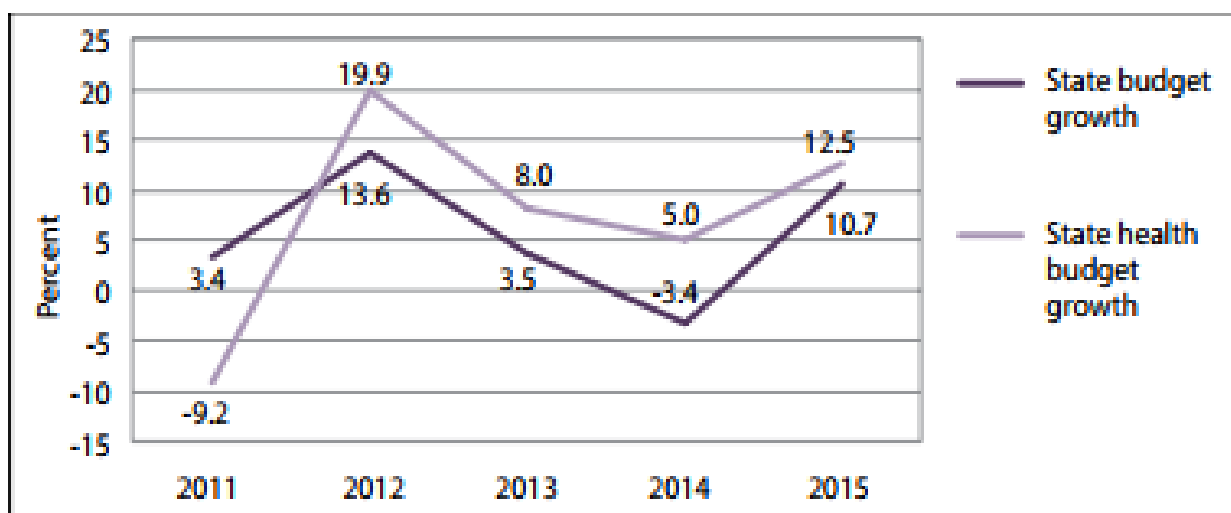


Figure 2. 15. Percentage increase in state budget allocations for health expenditure and overall state budget allocations, 2011 – 2015 ⁴³

According to data from the National Health Accounts 2012, state budget accounted for 27% of total health expenditures. Recurrent expenditure accounted for about 55% of total state budget spending, the majority of which is provincial spending. Funds from the state budget reserved for fully or partially subsidizing health insurance premiums for various entitlement groups defined under the Health Insurance Law accounted for less than 20% of total state budget spending on health. Among state budget allocations for health, funding for investment and development, including from government bond funding, fluctuated around 20% (Figure 2.17). Funds from government bonds were reserved for projects to refurbish health facilities ⁴³.

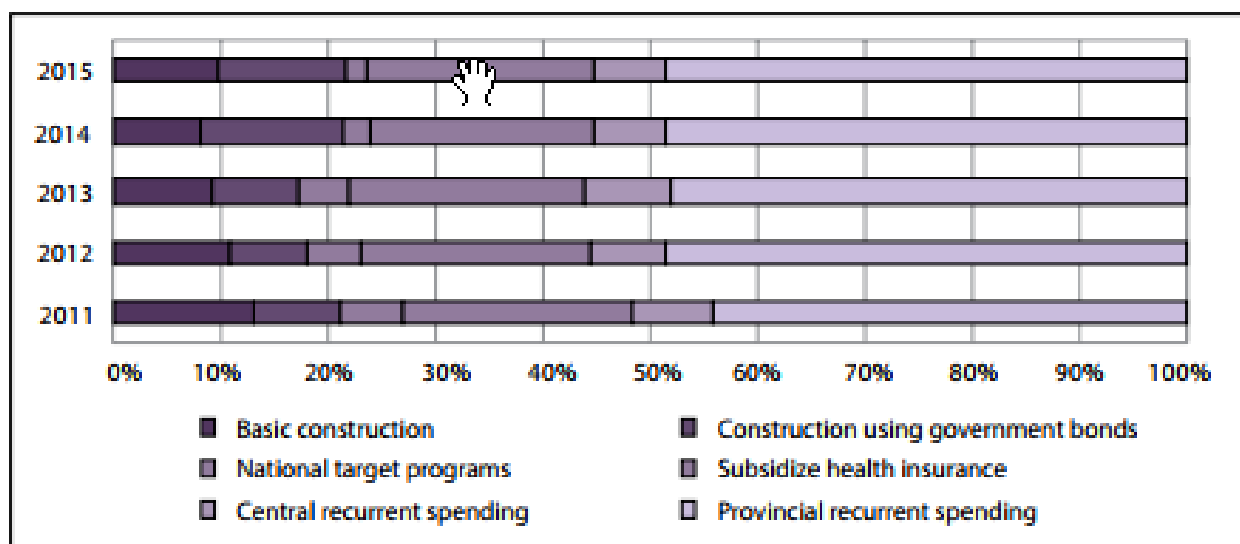


Figure 2. 16. Uses of state budget funding for health, 2011 – 2015 ⁴³

The increase in public spending on health has come from two main sources: domestic government spending on health and Social Health Insurance Expenditure. Between 2000 and 2016, per capita public spending on health in Vietnam grew at an average rate of 9.0 percent per year. Domestic government spending on health (known in Vietnam as “state budget spending on health”) accounted for the majority share of this increase, growing at an average of 10.4

percent per year. In real terms, total state budget spending on health increased from VND 25 trillion in 2006 to over VND 60 trillion in 2016 (Figure 2.18). The increase in per capita public spending on health was also bolstered by a notable increase in SHI expenditure, which increased annually between 2000 and 2016 at an average of 9.0 percent (Figure 2.19). External financing also contributed to the growth in public spending on health per capita, but only by a small amount⁸².

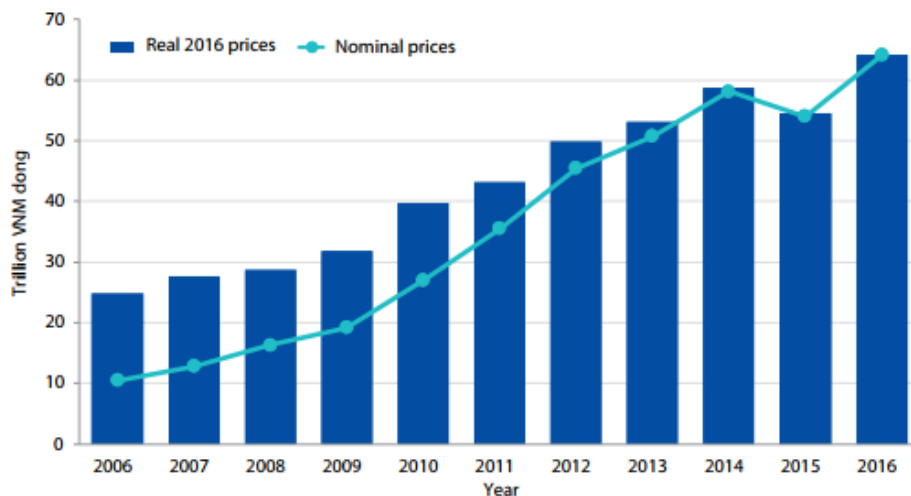


Figure 2. 17. Government Budgetary Spending on Health⁸²

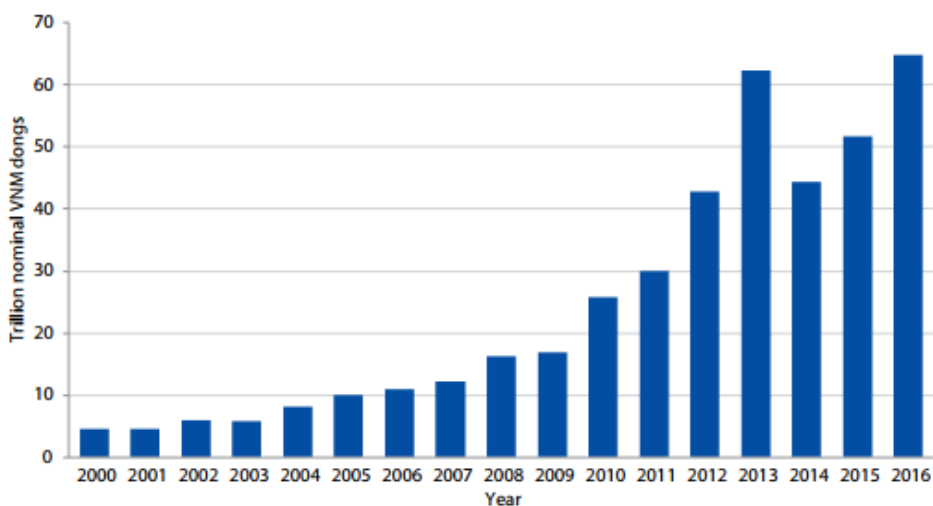


Figure 2. 18. Social Health Insurance Spending, 2000-2016⁸²

To realize the goal of universal health insurance coverage, the number of people covered by health insurance must increase and the health insurance premiums also must increase in line with increases in salary. Between 2010 and 2014 health insurance coverage increased 18.3% and the premium per cards increased by 75% (in current prices)⁴³. Figure 2.20 describes the increase in health insurance coverage from 2004 to 2018¹

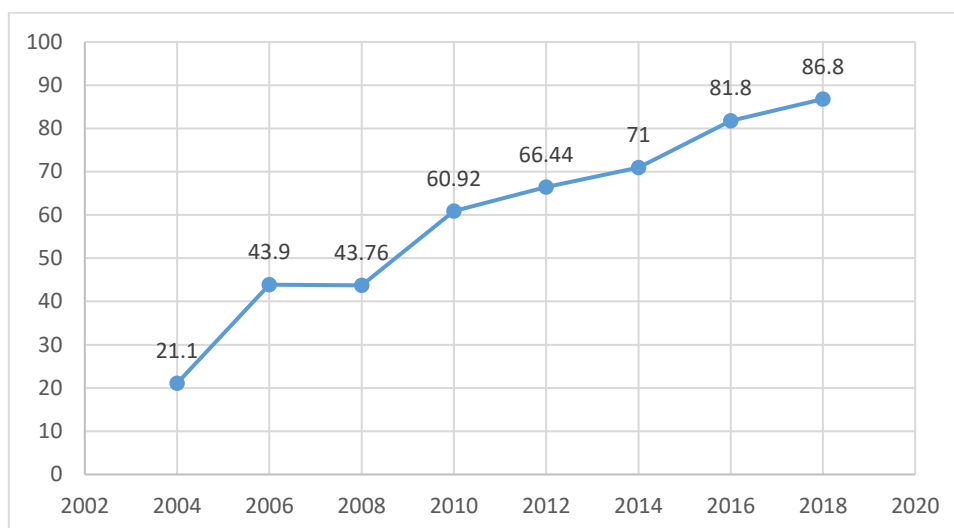


Figure 2. 19. Health Insurance participation from 2004 to 2018 (%) ¹

As becoming a middle-income developing country, the policy of ODA capital and concessional loans from foreign donors to Vietnam has changed dramatically, transforming from development aid to partnership. The proportion of ODA capital in 2011-2015 period for social-health activities remains small, accounting for 4.65% with a total loan of 1,292.3 million USD (in which, \$219.18 million USD aid). The reason for this situation is the sharp decline in non-refundable ODA. Along with that, it is difficult to use loans, especially concessional loans (high interest rates, short repayment periods, same conditions with commercial loan) because healthcare is considered as one of sectors with most programs and projects of low return ability. Meanwhile ODA loans with low interest rates, long repayment periods are now falling sharply⁸³. Under this context, the health sector is still striving to mobilize additional alternative external assistance funds. It has been maintained at about 1.5% of total health expenditure. Decree 38/2013/ND-CP of the government on the management and utilization of official development assistance (ODA) and concessional loans is expected to overcome previous problems related to ineffective management to enhance donors' confidence and willingness to invest ⁴³.

According to the 2019 summary report of the Ministry of Health, currently, 240 units (in which 29 units of the Ministry of Health) are assigned financial autonomy and self-guarantee for its recurrent expenditures. Many units, especially hospitals, have preserved autonomy of 80-90% its recurrent expenditures. 04 central hospitals (Bach Mai Hospital, Viet Duc Huu Nghi Hospital, Cho Ray Hospital, and K hospital) are in the pilot phase of financial autonomy for both investment and recurrent expenditure ²³.

2.3.2. Monitoring and evaluation of quality of healthcare (including international accreditation and certification)

a. Hospital quality management

The hospital quality management system is taking shape. The MOH established the office for hospital quality management in the Medical Services Administration in 2010 and issued Guideline on establishing healthcare services quality management in hospitals in 2013. According to this Circular, all hospitals would have to set up a system of quality management including quality management committee, quality management office/unit, and network of

quality management. The provincial health bureaus are responsible for quality management for the hospitals located in that province^{43,84}

There is also still no independent agency with responsibility for medical service quality accreditation since no independent organization for quality certification under the Law on Examination and treatment and Decree No. 87/2011/ND-CP has yet been established³³.

The Ministry of Health promulgated the pilot of Criteria Set of Hospital Quality under the Decision 4858/QĐ-BYT in 2013⁸⁵. Methods for quality assessment in hospitals have been reformed. In 2013, a set of hospital quality assessment indicators was issued and piloted. In 2014, this set of indicators included 83 criteria divided into 5 groups, with each criterion divided into 5 levels of performance. In total there are 1487 sub-categories of quality requirements hospitals are expected to implement. In 2014, some 1233 hospitals nationally have applied these criteria and had positive results and improvements in quality of services compared to 2013⁴³. After 3 years of piloting, the MOH has promulgated Decision No. 6858/QĐ-BYT dated 18 November 2016 on Vietnam Hospital Quality Criteria, version 2.0 as official tools to evaluate and improve the quality of hospitals^{26,87}. The set of criteria includes 83 official criteria. The criteria are similar to version 1.0 but experience, amend and supplement the content of the criteria and upgrade the difficulty level from version 1.0. Many criteria are added with new and stricter requirements. The actual results have shown that these policies have gradually made contribution to increase the quality of the entire medical examination and treatment system, towards the people's satisfaction. In addition, reforming medical examination and treatment procedures; building Green - Clean - Beautiful medical facilities; innovation style and service attitude, actively conducting surveys on satisfaction of patients and medical staffs have contributed to the remarkable progress of the quality of medical examination and treatment in recent times.

In addition, according to Decision No. 6858 / QĐ-BYT dated November 18, 2016 of the Ministry of Health, clearly stating: "The set of quality criteria in Vietnam hospitals includes 83 quality criteria". Notably, out of these 83 criteria, there is no criterion referring to the word "international", but only defining the target of issuing this criterion "is a tool and a measure for the hospital to self-identify the position in the hospital system, through quality assessment, including self-assessment, independent assessment by regulatory agencies and quality accreditation organizations. And the general goal of promulgating this set of criteria is to step by step bring the hospital system into international integration. As such, the Ministry of Health does not have any specific criteria for determining a hospital with international standards in Vietnam.

Four hospitals in Vietnam have obtained JCI certification, including 3 hospitals located in Ho Chi Minh City: Cao Thang Eye Hospital, French-Vietnamese Hospital - FV Hospital, Vinmec International Hospital - Central Park; and Vinmec International Hospital - Times City in Hanoi

Annually, MOH as well as Provincial Department of Health develop and implement the plan of monitoring and evaluation of hospital quality under their management. For example, in 2018, MOH issued Decision No. 6328 / QĐ-BYT dated October 18, 2018 of the Minister of Health on promulgating contents of hospital quality inspection and assessment and survey of patient satisfaction and medical staff in 2018.

Quality management of medical examination and treatment:

The Ministry of Health issued Circular No. 19/2013 / TT-BYT dated 12/7/2013 on guiding the implementation of quality management of medical examination and treatment services at hospitals including Implementation content of hospital quality management, Hospital quality management organization system, Responsibility to perform hospital quality management.

In order to comprehensively improve quality management capacity of medical examination and treatment facilities, the MOH has promulgated Decision 4276 / QD-BYT dated 14 October 2015 on Approving the national action program on improving quality management capacity for disease examination and treatment facilities from now to 2025 with the aim to step by step develop and perfect the national system of quality management in medical examination and treatment, thus ensuring and improving the quality of medical services with 4 key component activities ⁸⁶:

- (i) Develop and gradually perfect legal framework, policy, and organizational system to enhance management of medical services' quality
- (ii) Develop and promulgate standards and tools for assessing and measuring quality of medical services.
- (iii) Promote the application of new methods and implementation of intervention programs to improve quality management capacity in medical services
- (iv) Raise awareness on strengthening management of medical services quality, gradually build a quality culture in health facilities.

On March 17, 2015, the Ministry of Health issued Circular No. 04/2015 / TT-BYT on the recognition of quality management standards of medical examination and treatment facilities. This Circular stipulates the recognition of a number of international standards and foreign standards for the quality management of medical examination and treatment establishments for application in Vietnam that include 1. International standards and foreign standards for quality management of medical examination and treatment facilities recognized by the International Society for Quality in Healthcare (ISQua) and recognized by the Ministry of Health to apply in Vietnam. This list is published and updated on the website of the Department of Medical Examination and Treatment and 2. The domestic standard for quality management of medical examination and treatment facilities has been recognized by ISQua

In addition, MOH develop and issue many guidance documents, regulations on quality management such as prevention of medical incidents; complete and supplement quality standards of surgical safety, the set of indicators for measuring the quality of medical examination and treatment services, and the set of clinical quality standards in the field of eye care; hospital infection control (including inspect and supervise the implementation of infection control, prevention and control of infectious diseases with pandemic risk, especially control of instrument handling Endoscopy, control of urinary tract infections due to catheter placement, infection monitoring, hospital environmental sanitation, infection control in anesthesia department, and Hand hygiene guidelines), etc.

The MOH has completed the development and is implementing documents guiding implementation of the Law on Examination and Treatment and the amended Health Insurance Law, is forming a system and issuing operational licenses for hospitals and other medical facilities and practice certificates for medical practitioners. Professional guidelines such as:

diagnosis and treatment guidelines and technical procedure guidelines have been developed and issued in large numbers. During the period from 2012 to 2014, guidelines for almost 4000 technical procedures were developed covering nearly all specialties. For the first time, professional guidelines were developed specifically for the commune level with appropriate professional contents, primarily in the areas of obstetrics, gynecology, emergency first aid, surgery, pediatrics and diagnosis and treatment for common conditions (MOH Decision No. 2919/QD-BYT in 2014).

However, the professional quality has not yet been evaluated nor is it tightly managed. The mechanism for clinical quality accreditation has not yet been implemented. The absence of mutual recognition of lab tests between medical facilities remains widespread. The number of clinical lab tests and diagnostic imaging services increases by about 10% per year⁴³. There is a lack of regulations and guidelines in management if a physician requests use of medical equipment for diagnosis and treatment, particularly for expensive equipment leading to difficulties in controlling rational and safe use of medical equipment, particularly in preventing abuse and protecting against financial burden on patients⁴³.

Management of competency and to license medical examination and treatment practitioners

Practitioner competency standards are being developed and applied. The nursing competency standards were developed by the Vietnamese Nursing Association and were approved and issued by the MOH with Decision No. 1352/QD-BYT in 2012, including 25 standards and 110 criteria. Competency standards for midwives were issued in Decision No. 342/QD-BYT in 2014. Standards for general practitioners were issued in MOH Decision No. 1854/QD-BYT in 2015⁴³.

The quality management system has been established, but is inconsistent and lacks mechanisms, regulations, and guidance to support and encourage the provision of quality services in a comprehensive manner (i.e. independent evaluation, grant of time limited practicing certificates, standard clinical guidelines, etc.). Medical examination and treatment results are not accepted/acknowledged among different health facilities, causing a waste of resources for people and society.²⁶

The development of the private health network is not commensurate with its potential, quality management in private health facilities faces many challenges.²⁶

The health sector continues to issue medical practice certificates and operating licenses following regulations under the Law on Medical Examination and Treatment (2009), Decree No. 87/2011/ND-CP, Circular No. 41/2011/TT-BYT and Circular No. 03/2013/TT-BTC. The Ministry of Health is developing an online system for issuing medical practice certificates through the internet, which is being piloted in six provinces in order to support this task and unify the management of issuing medical practice certificates, while also developing a national database of medical practitioners³³.

Progress in issuing medical practice certificates and operating licenses has been slow due to manpower difficulties for implementing regulations related to checking on potential criminal records of medical practitioners. The database system for registration and management of operating licenses and medical practice certificates has not yet been implemented nationally. Issuing of medical practice certificates and operating licenses one time for life, based solely on

a dossier without assessing practice qualifications or undertaking skills testing, without linkages with continuing medical education, does not ensure quality of medical professionals³³.

The quality of practitioners remains limited and there is no effective system in place to motivate practitioners to improve professional competencies for continuous professional development⁴³.

Laboratory quality management

The Ministry of Health has issued and implemented the Circular No. 01/2013 / TT-BYT dated 11/01/2013 on guiding the implementation of laboratory quality management at medical examination and treatment establishments. This Circular guides the content and responsibility for laboratory quality control at medical examination and treatment establishments with laboratories. This Circular takes effect from March 15, 2013. The Department of Medical Examination and Treatment is responsible to be the focal point organization to implement, inspect and assess the implementation of this Circular at affiliated medical facilities and localities and perform other tasks related to the quality management of medical examination at the medical examination and treatment facility as assigned by the Minister of Health. The Departments of Health of centrally-affiliated cities and provinces and the Health sector are responsible for disseminating, directing, inspecting and evaluating the implementation of this Circular at affiliated medical examination and treatment establishments and reporting to the Ministry of Health every 6 months.

In addition, the MOH has issued the national action program on improving lab test quality following Decision No. 3701/QD-BYT in 2010, which sets out the objectives and roadmap aimed at improving medical lab testing quality⁴³. MOH issued Decision No. 3148 / QD-BYT dated July 7, 2017 promulgating the list of tests applicable to interconnection and recognition of test results. Issued together with this Decision “List of tests applicable to inter-accreditation test results ”at medical examination and treatment establishments and medical establishments that test medical examination and treatment (collectively referred to as laboratories)

Furthermore, the medical laboratories at the medical examination and treatment facilities apply TCVN ISO 15189:2014, ISO 15189:2012 on Medical laboratories - Requirements for quality and competence.

For the medical and environment analysis laboratories at the preventive medicine facilities, beside TCVN ISO 15189:2014, ISO 15189:2012, they also apply ISO 17025 to manage their quality.

For micro-biological laboratories, they should apply the regulations on biosafety according to Decree 103/2016 / ND-CP dated 1 July 2016 on Regulations on ensuring bio safety at the laboratory. This Decree provides for biosafety conditions at establishments having laboratories working with microorganisms that are likely to cause infectious diseases to humans and patient samples capable of containing dangerous microorganisms. organizations causing infectious diseases to people of organizations and individuals (hereinafter referred to as testing establishments), including: Classification of microorganisms causing infectious diseases and testing establishments according to the level of biosafety; Biosafety conditions at testing establishments; competence, dossiers and procedures for new issuance, re-issuance and revocation of certificates of biosafety standards and announcement of biosafety standards testing

establishments; biosafety inspection; prevention, handling and remediation of biosafety incidents.

b/ Quality management for organizations in preventive medicine:

Before establishing Centers for Disease Control (CDCs) in provinces/cities, in order to manage the operation quality for organizations in preventive medicine, especially the provincial/City Preventive medicine Centers, MOH promulgated the Decision 633 / QD-BYT on guidelines for the implementation of "National Standard of Preventive Medicine Centers in provinces and centrally-run cities". There are ten activity area standards according to their tasks and functions, corresponding a set of 10 standards/Criteria, including:

Standard 1. Organizational apparatus and human resources,

Standard 2. The infrastructure,

Standard 3. Equipment,

Standard 4. Planning, finance, training, scientific research and network direction,

Standard 5. Infectious disease control,

Standard 6. Community nutrition and food safety and hygiene,

Standard 7. Activities for environmental health and school health,

Standard 8. Occupational health activities, prevention of accidents and injuries,

Standard 9. Prevention of malaria, parasitic diseases, endocrine diseases, metabolic disorders,

Standard 10. Lab activity.

Based these 10 standards, the activities of Provincial/City Preventive Medicine Centers can be judged and given scores. The total maximum scores are 100. When the Center gains 80% or more scores, it would be recognized as meeting the national standard for Provincial/City Preventive Medicine Center.

c/ Commune Health Stations (CHSs)

Commune health center provides necessary health care services for people at this root level, implements primary health care services such as: treatment for respiratory infections and provides services for mother child health cares including deliveries. To manage the quality of CHSs, MOH promulgated decision No. 4667 / QD-BYT dated November 7, 2014 on the national standards on commune health by 2020. There is a set of 10 standards/Criteria, including:

Criterion 1. To direct and administer health care work

Criteria 2. Human resources for health

Criteria 3. Infrastructure of CHSs

Criterion 4. Equipment, drugs and others

Criterion 5. Planning - Finance

Criteria 6. Preventive medicine, HIV / AIDS prevention and control, sanitation and food safety

Criteria 7. Medical examination, treatment, functional rehabilitation and traditional medicine

Highlights 8. Maternal and Child Health Care

Criterion 9. Population - Family planning

Criterion 10. Communication - Health education

The total scores of 10 criteria are 100. The commune will be recognized as meeting the national health criteria if it meets all the following requirements:

- Achieve 80% or more of the total score
- No "paralysis" score
- The score in each criterion must be at least 50% of the score of that criterion.

d/ Direction of Healthcare/preventive medicine Activities (DOHA)

Direction of Healthcare Activities (DOHA) - (Chỉ đạo tuyến in Vietnamese) literally means guidance line or level in English. The Ministry of Health in Vietnam has managed healthcare provision through a system known as the Direction of Healthcare Activities (DOHA) since 1961. This system requires health facilities at higher administrative levels to support those at lower levels to enable them to deliver medical services for local communities in primary care settings. The DOHA has two major missions ⁸⁹:

- To build a sound collaboration network and support system among health facilities, particularly those at higher and lower levels, to help ensure equity of health and deliver quality healthcare services to all Vietnamese people ⁸⁹.
- To address the burden of too many patients in higher level centers. This means supporting improvements in the quality of healthcare services provided at lower levels, particularly training and technical skills transfer activities to improve trust and respond to social demands ⁸⁹.

The DOHA scheme has accelerated the necessary up-skilling of healthcare at lower level public hospitals across Vietnam. These reforms are highly relevant for other countries with limited healthcare resources. Table 2.16 shows the six current areas of DOHA based on Decision 4026/QĐ-BYT in 2010 ^{89,90}.

Table 2. 16. Contents of DOHA based on the Decision 4026/QĐ-BYT by the Ministry of Health, Vietnam (2010) ^{89,90}

Structures	Contents
Supporting lower level hospitals to ensure medical services.	Survey the current situation at lower levels in terms of material facilities, equipment, human resources, professional capacity, training needs, technical exchange and others, supporting demands from lower levels. Build up and organize DOHA activity implementation for lower levels. Check the implementation process of professional regulations and the technical progress of lower levels. Provide feedback from referred patients, plus timely updates on current technical and professional errors, special diagnosis cases, and lessons learnt. Technical assistance given to lower level facilities upon request.

Structures	Contents
	<p>Coordinate with lower levels to build up a referral system across the assigned area.</p> <p>Coordinate with higher levels in the implementation of DOHA activities in the field of medical services.</p>
<p>Training and technical skills transfer for lower level hospitals.</p>	<p>Organize training and technical skills transfer courses for healthcare workers at lower level healthcare facilities. Support healthcare professionals from lower levels to practice and improve their professional skills at higher level facilities.</p> <p>Receive training and technical skills transfer support from higher levels.</p>
<p>Scientific research</p>	<p>Implement scientific research on professional knowledge and management of DOHA activities.</p> <p>Coordinate with higher levels and instruct lower levels in implementing scientific research activities.</p>
<p>Support for community health service</p>	<p>Coordinate with higher levels and instruct lower levels to implement community-oriented activities like primary healthcare services, environment protection, prevention of epidemic diseases, and national healthcare programs.</p> <p>Be ready to support lower level hospitals in the event of any disaster or social problems.</p>
<p>Regular meeting and review</p>	<p>Coordinate higher and lower levels to organize meetings, regular activities to draw out professional lessons, preliminary review, and final review for DOHA activities.</p>
<p>Role of Level I hospitals (central hospitals).</p>	<p>Assist the Ministry of Health in giving direction for professional knowledge, national professional and specialized network system development plan, and also coordinate with hospitals which have DOHA assignments.</p> <p>Build up training courses and implement them to help lower levels to develop their professional techniques and specialties to improve quality of emergency aid, diagnosis, treatment, and prevention.</p> <p>Build plans and give direction to healthcare services at lower level facilities to implement national and international programs.</p> <p>Check, monitor, and evaluate professional and technical activities of lower level facilities.</p>

Structures	Contents
	Organize annual review and summary, making regular and ad hoc reports on the results of DOHA activities nationwide to Ministry of Health.

Table 2 shows the laws and regulations related to DOHA, which have changed over time. DOHA was defined as one of the seven responsibilities of hospitals in the hospital regulation of 1997, the others being medical service, staff training, scientific research, prevention activities, international cooperation, and hospital management. In 2004, according to the “Instructions for strengthening DOHA activities in medical services”, the purpose of DOHA was to demonstrate the fulfillment of medical services for local people and guarantee equitable healthcare. The instructions included the importance of establishment of DOHA networks, covering central, provincial, district, and commune levels, and concrete implementation procedures such as planning and approval processes for DOHA and its budget. In 2009, the Law on Examination and Treatment stated that provision of guidance and support for use of medical technology to lower levels was part of the responsibilities of higher level hospitals ⁸⁹.

Table 2. 17. Laws and regulations related to the DOHA ⁸⁹

Government documents	Year	Reference	Title	Related documents
MOH Decision	1997	1895/QD-BYT	Hospital Regulation	
MOH Instruction	2004	09/CT-BYT	Instructions for strengthening DOHA activities in medical services	
Law	2009	2009/QH12	Law on medical examination and treatment	
MOH Decision	2010	4026/QD-BYT	Assignment of DOHA Activities in medical services	9/QD-BYT, 2004
MOH Decision	2012	5068/QD-BYT	Implementation procedures on training and technical transfer for health service packages under the 1816 project	1816/QD-BYT, 2008 (called 1816 project)
Prime Ministerial Decision	2013	92/QD-TTg	Approval of the scheme on hospital overload reduction (2013–2020)	
MOH Decision	2013	774/QD-BYT	Satellite hospital project (2013–2020)	

Government documents	Year	Reference	Title	Related documents
MOH Circular	2013	43/TT-BYT	Professional technical lists for each level of health facilities	
Prime Minister Decision	2013	14/QD-TTg	Implementation plan of term-limited rotation for medical practitioners in medical facilities	
MOH Circular	2014	14/TT-BYT	Regulation on referral among health facilities	
MOH Circular	Plan		Provision on DOHA in medical activities	

There have also been additional advantages of DOHA. It has, for example, improved the relationships between higher and lower level hospitals by promoting mutual understanding among staff. This will facilitate communication about patients and help to avoid unnecessary transfers. Collaboration among different level hospitals is part of DOHA's mission. DOHA also encouraged district and provincial hospitals to look at their own hospital services more critically and start thinking about how to improve the health service and provide more patient-centered care, as well as focusing on investment in applying new medical technologies themselves, through DOHA's technical transfer program ⁸⁹.

A limitation of DOHA has been difficulties in identifying the impact of DOHA activities. Various other factors, such as economic and infrastructural development, may have led to an increase in demand for sophisticated medical care and subsequent improvements in access to higher level hospitals. Despite DOHA's effort, it may be difficult to expect an immediate reduction in the number of patients being referred to higher level hospitals. However, monitoring the number of patients being referred to higher level hospitals will be necessary to help plan which areas of clinical training should be undertaken through DOHA ⁸⁹.

Although DOHA includes technical transfer training for medical doctors, training for managers and other healthcare providers should also be expanded. It was previously considered that nursing practice is simple enough for each provincial hospital to improve the quality of nursing by themselves. However, in order to deliver high-quality patient-centered care, all health professionals should be educated as members of an interdisciplinary team with professional communication and team collaboration. Training programs in patient safety, infection control, and nursing management (issues which are relatively recent in Vietnam) have now been conducted through DOHA and have included nurses and other health care workers. In the future, DOHA is expected to place more emphasis on these issues and provide greater opportunities to share good practice in Vietnamese healthcare ⁸⁹.

2.4. Status of international Public Health Agency

2.4.1. Status of public health center and relevant agencies, such as WHO office and other international organizations

2.4.1.1. United Nation and its agencies in Vietnam

a. United Nation comparative advantages

Viet Nam joined the United Nations on 20 September 1977. The UN's support to Viet Nam began with focus on war reconstruction and humanitarian assistance. In the past, the UN has been a major provider of ODA grant funds and Viet Nam has also been a beneficiary of knowledge transfer from the UN. Recognizing the rapid changes in the economic and development context of Viet Nam, the UN has been expanded towards strengthening institutions, policies, social protection, health, education, agriculture, and more ⁹¹.

The UN is not neutral in relation to values but is accepted as an impartial partner that works to serve member states "without fear or favor". The UN offers objective and impartial development policy options drawing on collective global knowledge. The UN's provides unique resources which, if properly leveraged, will allow Viet Nam to respond more proactively to the changing country context ⁹², as follow:

- The UN, as an advisor, offers objective and evidence-based policy research and cutting-edge technical assistance. It also helps develop clear and practical approaches in support of the realization of the SDGs by promoting greater coherence in development cooperation across sectors and stakeholders, and supporting the Government's efforts to engage in effective dialogues that contribute to consensus building on the national SDG agenda and foster shared commitments.
- The UN can also support the emergence of inclusive governance processes, enforced by strong data management and monitoring mechanisms, which assist Viet Nam to effectively monitor national progress on achievement of the goals. In Viet Nam, the UN is benefitting from the co-location of most UN agencies in the Green One UN House in Hanoi. This offers a unique platform to provide multidisciplinary technical assistance and advice to national partners and a 'one-stop shop' for partnership connections, knowledge networks, global experience and access to the expertise of both resident and nonresident UN agencies.
- The UN advocates for results-oriented approaches to reducing inequalities and disparities of income and wealth, of access to opportunities and services and between different geographic regions and ethnicities, gender, sexual orientations and generations. A people centered, gender-sensitive approach, respecting human rights in line with principles and standards of the relevant international human rights instruments ensure that priority is given to the most vulnerable and disadvantaged. The UN's integrated programming actively promotes equity via non-discrimination, the empowerment of women and minorities, and a cultural, gender and child rights responsive approach.
- The UN has a unique responsibility in advocating for and advising the Government on critical issues on human rights, including civil, political, economic, social and cultural rights including the right to development. The UN also facilitates the engagement of multiple stakeholders in dialogue, which helps to convey the view of the population. It is the UN's essential role to promote and encourage respect, protection and enjoyment of human rights and fundamental freedoms to ensure more equitable development. In Viet Nam, this support

will include a focus on the realization of human rights commitments and of the human rights chapter of the 2013 Constitution. The UN will also continue to support the Government in reporting on the implementation of conventions, norms and other international obligations to which Viet Nam has committed.

- The UN's global presence in close to 180 countries, its knowledge networks of expertise at the global and regional level among all UN agencies operating in Viet Nam. Its linkages with partner institutes and governments on a wide range of topics offer opportunities for Viet Nam to learn from and share experiences with other countries. This includes enabling other countries in the global South to learn from Viet Nam's development successes, as well as supporting Viet Nam to strengthen international integration and to learn from other countries making (or having made) similar transitions.

b. The One Strategic Plan 2017-2021

UN in Viet Nam adopted the Delivering as One initiative since 2006 with One UN approach for greater harmonization and impacts of the UN operation in Viet Nam. The One Strategic Plan 2017-2021, is the 3rd generation of UN Development Assistance Framework (UNDAF) focusing on SDG implementation and representing the programmatic and operational framework for delivering UN support in Viet Nam ⁹¹.

Strategic Intent is "Inclusive and equitable quality social services and social protection systems are in place for people living in Viet Nam to be healthy, educated and free of poverty and to be empowered to reach their full potential". Outcome number 2 of this strategy is Equity in Health "By 2021, all people, particularly the most vulnerable, benefit from inclusive and equitable health systems, services and the promotion of healthy environments". The strategic Interventions of the UN are ⁹²:

- Generate evidence to monitor health trends, including the surveillance of diseases and emerging health issues, to aid the development of national health strategies, policies and plans, and monitor progress and accountability to achieving human rights and equity-based health goals, with a focus on the health-related targets of the SDGs and the unfinished MDGs, and the right to health in accordance with the obligations of international conventions and treaties.
- Promote and advocate for the development of equitable nutrition, health, water and sanitation, food security and food safety policies and innovative strategies and facilitate multi-sectoral policy dialogue to promote health-in-all policies. Address the social determinants of health and tackle the health impact of development, with particular attention to the poor and other vulnerable populations, and focusing on women and girls, starting from birth, to develop their full capacity to contribute to sustainable socio-economic development.
- Provide technical support to establish a resilient, responsive and transformative health system that will enable Viet Nam to ensure universal health coverage, including sexual and reproductive health, and deliver equitable health services, including through the adoption of effective health technologies. Such a health system will also help Viet Nam to prevent and control diseases in humans, animals and plants, promote healthy environments and respond to public health emergencies and development issues that impact on health, such as climate change, urbanization, industrialization, global integration and population migration.
- Provide technical and policy advice to support health authorities to prevent and control communicable and non-communicable diseases, develop novel and innovative programs to

- meet new demands, including aged care and environmental health, and address inequities and gaps in existing health programs, including early essential newborn care.
- Provide technical assistance in further building sustainable national capacities and partnerships to ensure public health security through preparedness planning, prevention, early detection and rapid response to emerging diseases and public health emergencies, and to strengthen implementation of the International Health Regulations (2005).
 - Convene, provide leadership and strengthen collaboration and partnerships across sectors to ensure a coordinated response in critical health matters, including public health security, health and nutrition emergencies, and the rights and needs of vulnerable populations.
 - Ensure the quality of health services by strengthening governance and regulations in the health sector and facilitating the dissemination of knowledge and adoption of international norms and standards.

c. World Health Organization (WHO)

World Health Organization (WHO) is a specialized agency of the United Nations responsible for international public health. Viet Nam has been a WHO Member State since 17 May 1950. WHO was one of the first United Nations agencies to support the Vietnamese health sector directly since the end of the war and reunification of the country. WHO established a country office in Hanoi in 1977 and a sub-office in Ho Chi Minh City in 2003. More than 50 WHO staff in the country office have played a central role in supporting the people and the Government of Viet Nam to improve health ⁹³.

Vision and mission

The founding vision of WHO is a world in which all people attain the highest possible standard of health and well-being. The WHO mission is to promote health, keep the world safe and serve the vulnerable. WHO works with a commitment to human rights, universality and equity, based on the principles espoused in the WHO Constitution.

Core functions of WHO include: providing leadership on matters crucial to health and engaging in partnerships where joint action is needed; shaping the research agenda and stimulating the generation, translation and dissemination of valuable knowledge; setting norms and standards and promoting and monitoring their implementation; articulating ethical and evidence based policy options; providing technical support to catalyze changes; building sustainable institutional capacity; and monitoring the health situation and assessing health trends.

The mission of WHO in Viet Nam is to support the Government to achieve universal health coverage with all people having access to high-quality health services, within the context of the country's needs and challenges in transitioning to middle-income status.

In order to provide effective support, the WHO country office leverages the three levels of the Organization: to focus support where it can make a difference; to place the right people in the right places; to engage partners effectively; to enhance communications; and to improve operational intelligence.

The work of WHO in Viet Nam

WHO's work in Viet Nam is based National health policies, on the country's need for support strategies and plans of in implementing its national health policies, strategies and plans (NHPSP) to address key health issues and fulfill its commitment to the WHO Constitution and other

international health laws and treaties. Global and regional priorities as well as joint priorities with the United Nations further guide the work of WHO in Viet Nam. Providing the overarching framework is the 2030 Agenda for Sustainable Development, which was adopted at the United Nations General Assembly in September 2015.

All top-level decisions in the country come from the Communist Party of Viet Nam. In October 2017, the sixth plenary session of the 12th Party Central Committee adopted a new resolution, care and improvement of people's health (No. 20-NQ/TW). It updated the previous resolution of the 7th Party Central Committee Development in 1992. Incorporating findings from a stocktake of the implementation of the 1992 resolution and an assessment of the current situation, the new resolution includes set viewpoints and objectives of national health policy as well as major tasks and specific targets to achieve by 2025 and 2030⁹³.

Priorities of WHO in Vietnam

Priorities of WHO in Vietnam from 2018 to 2023 is to support the Government of Viet Nam in the following areas laid out in Resolution No. 20-NQ/TW:

a. Strengthening key health system functions to deliver the system objectives, towards universal health coverage

- Renovate fundamentally and comprehensively the training of human resources for health, meeting both ethical and professional requirements in conditions of proactive and active integration into the world.
- Renovate health financing to mobilize resources adequately and equitably for effective protection, care and improvement of the people's health, with the focus on vulnerable people, ethnic minority people, and people living in remote, mountainous, border and island areas.
- Increase domestic resources for prevention and control of priority public health conditions such as HIV/ AIDS, tuberculosis and malaria.
- Renovate the organization, provision and management of health care services, focusing on grassroots health system, commune-level health system serving as frontlines in disease prevention and health care.
- Raise the capacity of research and production of drugs and vaccines.
- Improve the quality of health care services, basically overcome the hospital overcrowding through strengthening of primary care level. Pay special attention to maternal and child health, especially in mountainous, remote, difficulty areas, border and island areas.
- Develop appropriate models for elderly care.

Through this support, Viet Nam will move the universal health coverage agenda forward and contribute substantially to WHO's global target of 1 billion more people benefitting from universal health coverage.

b. Building sustainable national capacities and partnerships to ensure public health security and safety

- Ensure public health security, strengthen and improve the effectiveness of detecting, preparing for and responding to the epidemic and public health emergencies.
- Urgently complete the system of standards and indicators on food safety.
- Implement synchronous measures to minimize negative impacts from environmental pollution and climate change on health.
- Ensure access to clean water and hygienic latrines.

- Synchronously implement measures to ensure traffic safety, labour safety, prevent and control accidents, injuries and occupational diseases.
 - WHO will also promote and facilitate policy and technical dialogue on antimicrobial resistance across sectors in Viet Nam. The Organization will provide strategic support for scaling up comprehensive and sustainable actions to tackle antimicrobial resistance and related specific pathogens.
 - Through this support, Viet Nam will contribute substantially to WHO's global target of 1 billion more people better protected from health emergencies.
- c. Managing effectively communicable and noncommunicable diseases of public health importance*
- End AIDS epidemic, reduce tuberculosis burden and eliminate malaria.
 - Firmly strengthen the vaccination system. Increase the number of vaccines in the expanded vaccination program in line with the budget.
 - Strengthen propaganda and mobilization to build a civilized, healthy lifestyle, keep good hygienic habits; eliminate backward practices that negatively affect health.
 - Increase excise taxes on goods harming health such as alcoholic beverages, carbonated drinks and cigarettes to limit consumption.
 - Synchronously implement prevention and control of noncommunicable diseases; focus on preventive medicine, improve capacity for screening, early detection and control of diseases; promote the management and treatment of noncommunicable diseases, chronic diseases, long-term care at local health facilities.

Through this support, Viet Nam will achieve its goal to extend life expectancy at birth to 74.5 years by 2025 and 75 years by 2030 and contribute substantially to WHO's global target of 1 billion more people enjoying better health and well-being. In addition, WHO will also support the Government to play an active role on the world stage and enhance the efficiency of international cooperation in global health.

CDC Vietnam:

The U.S. Centers for Disease Control and Prevention (CDC) began working with the government of Vietnam and local organizations in 1998 to build effective and sustainable public health systems. CDC provides technical expertise for evidence-based decisions to strengthen the capacity and infrastructure of Vietnam's national health systems. CDC works closely with Vietnam to address HIV, tuberculosis, and influenza, as well as to strengthen surveillance, laboratory systems, and workforce capacity to prevent, detect, and respond to disease outbreaks.

Global Health security:

Working closely with the government of Vietnam and other partners, CDC provides expertise and support across the 11 technical areas known as GHSA action packages, which help Vietnam build core public health capacities in disease surveillance, laboratory systems, workforce development, emergency management, and other critical areas. CDC focuses on providing support for early reporting of disease outbreaks, better infection and prevention control, increasing biosafety and biosecurity, and reducing illnesses and deaths due to antimicrobial resistance. Rates of antimicrobial resistance in Vietnam are among the highest in Asia. CDC supports Vietnam in tracking multidrug resistant infections in hospitals as part of the country's National Action Plan—a critical step in monitoring the spread of antibiotic resistant bacteria.

HIV and Tuberculosis

HIV is a leading cause of death and a health threat to millions worldwide. As a key implementer of the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), CDC works with Vietnam to build a sustainable, high-impact national HIV response to accelerate progress towards the UNAIDS global targets to control the HIV epidemic. CDC provides technical assistance focused on innovation in program models, strengthened HIV laboratory and diagnostic capacity, and enhanced HIV surveillance, epidemiology, and program monitoring. Recent CDC-supported innovations include same-day antiretroviral (ARV) therapy initiation, multi-month scripting and dispensing of ARVs, and the introduction of recency testing to understand the dynamics of new HIV infections in Vietnam.

With tuberculosis (TB) as the leading cause of death among people living with HIV, CDC provides technical support to Vietnam's National TB Program. Areas of focus include improving efforts to find, cure, and prevent TB, HIV-associated TB, and multidrug resistant TB by strengthening the country's capacity to operationalize new and existing TB control tools, building the evidence-base for improved TB control and prevention, and using the evidence to guide data-driven decision-making.

Health Systems Strengthening

To maximize public health impact, CDC targets populations and provinces most at risk for HIV, improves access to HIV testing, and strengthens links to immediate treatment and ongoing care. CDC collaborates with provincial and national HIV programs to assure that provincial health bodies have the capacity to provide high-quality HIV clinical and technical assistance to HIV service delivery sites.

Laboratory Capacity Building

CDC supports strengthening laboratory quality management systems to accurately diagnose, monitor, and prevent HIV, TB, influenza, and other infectious diseases. These activities help Vietnam to develop national strategic plans, a public health reference laboratory network, and a biosafety and biosecurity system. CDC also supports scale up for HIV confirmatory services, routine viral load monitoring, and innovations such as recency testing and molecular diagnostics for TB. Implementation of an electronic laboratory information system at 32 HIV testing labs led to faster results and improved data quality.

CDC facilitates collaboration between human and animal health laboratories, ensuring that both can detect novel influenza viruses with pandemic potential. Annually, approximately 5,000 specimens from hospitalized patients in Vietnam are tested for influenza viruses and for seven other viral respiratory pathogens. Influenza A positive samples from humans and poultry are sent to the World Health Organization (WHO) Collaborating Center at CDC for further characterization and as candidate vaccine viruses.

Infectious Diseases

Infectious diseases can emerge without warning and quickly spread in our globally connected world. CDC works with Vietnam to strengthen community-level early warning and emergency systems. National-level public health emergency management has also improved through a network of five emergency operations centers. CDC and its partners conduct surveillance at sites along Vietnam's borders, including 60 live bird markets in 10 provinces and an animal

quarantine site at the border with China. Support for workforce capacity building is provided through hands-on technical assistance, laboratory and surveillance training, and the Field Epidemiology Training Program (FETP). Twenty-three FETP fellows have been trained.

Influenza

Vietnam is at high risk for emerging influenza viruses with pandemic potential. CDC has provided financial and technical assistance to improve Vietnam's preparedness since 2005. Notable achievements include the establishment of two National Influenza Centers, laboratory-supported active indicator surveillance for influenza like illness and severe acute respiratory infection at sentinel sites, laboratory-supported event-based surveillance for severe viral pneumonia, and laboratory-supported active indicator surveillance among poultry at live bird markets. In January 2019, Vietnam licensed their first human seasonal influenza vaccine. CDC, with the Partnership for Influenza Vaccine Introduction, is collaborating with Vietnam on a multi-year plan to vaccinate health workers.

(Source: <https://www.cdc.gov/globalhealth/countries/vietnam/>)

USAID in Vietnam

USAID works with Vietnam to become a prosperous, self-reliant, and independent country that contributes to international security; engages in free, fair, and reciprocal trade; and respects human rights and the rule of law. USAID programs in Vietnam bolster continued development by strategically focusing resources where they are needed most – to strengthen economic governance; expand access to quality higher education; control transmission of HIV/AIDS and address threats to global health security; improve the welfare of persons with disabilities; and address environmental challenges, including biodiversity conservation and dioxin contamination.

Over the past several decades, the Government of Vietnam has made remarkable strides in improving the health of the country's citizens. However, public health concerns have the potential to threaten sustained economic progress. The emergence of drug-resistant tuberculosis, ongoing outbreaks of highly pathogenic influenza in animals and humans, the continued threat of the HIV epidemic among key populations, fragile health systems, and human resource constraints could limit Vietnam's continued growth. Additionally, limited health services for vulnerable groups, including ethnic minorities, have led to significant gaps in service delivery, resulting in lower health indicators and reduced economic opportunities.

Under the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), USAID manages large-scale activities to help prevent HIV/AIDS, as well as to treat and care for people living with the disease. In addition, in close collaboration with the Government of Vietnam and civil society organizations, USAID provides funding and technical support to prevent, detect and respond to avian and pandemic influenza and other emerging pandemic threats and combat neglected tropical diseases.

- A USAID co-piloted methadone program begun in 2008 has been adopted by the Government of Vietnam and transformed from a two-province model to a nationwide system of nearly 250 methadone distribution sites that serve 50,000 clients. In fiscal year 2018, USAID will no longer procure methadone for the program as the government takes over this important responsibility.

- USAID's support in combating highly pathogenic avian influenza has helped reduce the number of bird flu outbreaks in Vietnam from almost 2,000 in 2005 to an average of under 50 per year since 2011.

HIV/AIDS

USAID supports efficient and effective HIV interventions to reach and test key populations, including people who inject drugs and their partners, commercial sex workers, potential male clients of sex workers, and men who have sex with men, and to treat and retain those with HIV in antiretroviral (ARV) treatment. Community and facility based initiatives help to extend lives, improve health and increase quality of life for those infected and affected by HIV, while strengthening the broader health system in Vietnam. USAID works closely with the Government of Vietnam to ensure that health insurance and other local resources can pay for the national HIV response. Based on epidemiology and collaboration with the local government, USAID's HIV efforts support Vietnam's "90-90-90" goals (90% of all people living with HIV will know their HIV status; 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy; and 90% of all people receiving antiretroviral therapy will have viral suppression) and are targeted in provinces within two geographic regions comprising over half of the epidemic – Hanoi and Quang Ninh in the Northern Economic Zone; and Ho Chi Minh City, Dong Nai, Tay Ninh and Tien Giang in the Ho Chi Minh City Metro area.

After support to successfully expand the methadone treatment program, USAID, through PEPFAR, continues to work with Vietnam to support a self-reliant national methadone treatment system and actively work with the government and in-country stakeholders to sustain HIV interventions through a strengthened health system.

In Vietnam, since 2005, PEPFAR has supported life-saving antiretroviral treatment for more than 71,000 people. In 2017, USAID procured ARV drugs for 55,500 HIV patients. Also, during 2017, nearly 44,000 people received methadone maintenance therapy with continued technical support from PEPFAR.

Influenza

While the number of reported influenza A(H5N1) outbreaks has decreased substantially in recent years, outbreaks of the virus in poultry and sporadic human cases continue to occur. A (H5NI) influenza still circulates and can cause fatalities. Influenza A(H7N9) virus in humans and animals has circulated annually in China since 2013, and provides another example of a potentially serious threat to public health and economic development. Since 2005, USAID-funded partners have worked nationally and in high-risk provinces to strengthen national and regional preparedness, planning, and multi-sectoral coordination to detect and prevent transmission of influenza and other zoonotic diseases. Working closely with the Government of Vietnam, USAID promotes early detection and warning of avian and human influenza outbreaks through improvements in national and community-based surveillance, and the development of a quick-response capacity. USAID's partners focus on the animal-human-ecosystem interface under a One Health platform, and have expanded the scope of work to encompass other emerging zoonotic diseases.

Emerging pandemic threats

USAID launched the Emerging Pandemic Threats 2 (EPT-2) program in 2014, which builds on the successes of earlier programs in disease surveillance, training and outbreak response. This program expands the operational platforms, institutional partnerships and knowledge base developed over the past decade by USAID's EPT-1 and Avian Influenza portfolios to pre-empt or combat newly emerging diseases of animal origin at their source, and to reduce the threat to human health. The EPT-2 program strengthens capacities in Vietnam and more than 20 focus countries in Africa and Asia to prevent, detect and respond to infectious disease threats. These are also key objectives of the Global Health Security Agenda (GHSa) and the International Health Regulations. Under GHSa, Vietnam is taking a leading global role in addressing zoonotic diseases, and with the support of USAID and other partners seeks to accelerate national and regional progress in achieving a world safe and secure from infectious disease threats.

EPT-2 is managed by USAID and implemented at the country level through a consortium of EPT-2 partners, with technical collaboration from the U.S. Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO) and the U.N. Food and Agriculture Organization (FAO).

Neglected tropical diseases

Under our neglected tropical diseases program, we are supporting the Vietnamese Ministry of Health's national deworming program and Vietnam's final steps in confirming the elimination of lymphatic filariasis, a parasitic disease that can damage a person's immune system.

(Source: <https://www.usaid.gov/vietnam/>)

2.4.1.2. Civil society organizations

The doi moi (renovation) of 1986 was a turning point in Viet Nam and marked a new period of relative openness, including to civil society. During the 1990s, a substantial number of international nongovernment organizations (NGOs) began operations in the country, alongside increased foreign investment. Vietnamese local NGOs have also existed since 1990, although organizations that fit an NGO profile are only a small part of civil society in Viet Nam⁹⁴.

One important milestone in Vietnamese NGO-government cooperation was the Grassroots Democracy Decree, passed in 1998. This decree opened the space for more active participation in decisions at the commune and village levels. Development-focused local NGOs are typically urban and fulfill various roles: service delivery, policy and law making, monitoring and holding officials accountable, and channeling citizens' concerns. A number of strong, local NGOs are regionally and internationally linked; however, the fragmented legal environment has allowed a level of laxity over which organizations are entitled to call themselves NGOs, including in application of the not-for-profit principle. From the mid-1990s, some research institutions, described as science and technology research organizations, also began to emerge within this category. However, a change in regulations in 2009 closed off areas in which independent organizations started by individuals were allowed to work. This curtailed one of the more dynamic spheres in Vietnamese civil society⁹⁴.

International NGOs have more of a technical, specialized service delivery role than in other countries, reflecting a complementary role they have carved out alongside government and mass organizations. This technical character is changing as international and Vietnamese CSOs become more interlinked, and as more civil society actions become permissible in Viet Nam. Many international NGOs now have strong networks with local organizations and are staffed by Vietnamese nationals; some are moving toward becoming Vietnamese NGOs. International NGOs in Viet Nam have, historically, not been critical of government; on the contrary, they typically cooperate closely with government and other local partners, including local CSOs ⁹⁴:

- COMINGO brings together key government ministries and other bodies to assist the Prime Minister in guiding and addressing issues relating to foreign NGOs in Viet Nam. It is a high-level body providing guidance, monitoring, and oversight for the implementation of laws and policies relating to the operations of foreign NGOs. It also considers the issuance, amendment, or withdrawal of international NGO permits (for operation, for establishing a project office, or for establishing a representative office) according to the regulations on the operation of international NGOs in Viet Nam.
- PACCOM was established by the Prime Minister to address questions relating to international NGOs. The VUFO president has been assigned as an executive member of the committee, and while VUFO bears the principal responsibility for aid mobilization and for relations with foreign NGOs, PACCOM's role includes facilitating administrative and legal aspects of international NGO registration and activities in Viet Nam and assisting local organizations in their relationships with international NGOs.
- VUFO is a nationwide, sociopolitical organization whose main function is to establish and promote friendly and cooperative people-to-people relations between Viet Nam and other countries. It also acts as the standing agency of the Committee for Foreign Non Governmental Organization Affairs and, therefore, has a role in mobilizing and enlisting material aid from peace, solidarity, and friendship organizations; humanitarian NGOs; corporations; and individuals in other countries with a view to contributing to socioeconomic development of the Vietnamese.

Until 2008, the NGO Resource Centre printed a hard copy directory of international NGOs, their projects, budgets, sectors, and locations of work. This is now available on the NGO Resource Centre website (www.ngocentre.org.vn/ingodirectory). There is no comprehensive directory of Vietnamese NGOs, but they may be contacted relatively easily through the sector working group and mailing lists associated with the NGO Resource Centre, through umbrella organizations, such as the Fatherland Front and VUSTA, or through government agencies, such as PACCOM. A directory, including a range of key local and international CSOs as well as development partners, was published in 2008 by the International Conference of New or Restored Democracies Movement and is available online ⁹⁴. According to vufo website, there are 153 civil society organizations in Vietnam, NGOs are currently active and have representative offices in Vietnam, of which there are 78 organizations with activities related to health.

No	Fields in healthcare	No. of CSOs*
1.	Health - Epidemics	8
2.	Health - Eye Care	8
3.	Health - HIV/AIDS	31
4.	Health - Nutrition	24

5.	Health - Primary Care	19
6.	Health - Reproductive	21
7.	Health - Training and Education	32
8.	Health - Water and Sanitation	27
9.	Health - Agent Orange	8
10.	Health - Disabilities	23

* 1 organization can participate in many fields

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PART III
OCCUPATIONAL SAFETY AND HEALTH FRAMEWORK

3.13. OSH Laws & Regulations

3.13.1. Major OSH laws & regulations and recent amendments:

a/ Labour Codes and OSH Law

- **Labour Code of the Socialist Republic of Viet Nam (1994):** Comprised of 17 Chapters and 198 provisions. Grants all persons the right to work in an occupation of their choice, and to improve their skills without discrimination on the basis of sex, social class, beliefs or religion. Prohibits all forms of forced labour, and provides for the right to strike in accordance with the law. Covers a broad range of labour matters including trade apprenticeship and training; the form and content of employment contracts and collective agreements; conditions of employment; social security and occupational health and safety. Specific provisions apply to women, young workers and disabled persons. Special terms are established for foreign organizations or individuals operating in Vietnam, foreigners working in Vietnam, and Vietnamese citizens working overseas. Requires that "the trade unions of the province" establish provisional trade union organizations at all enterprises currently operating without a trade union organization. Activities of such provisional trade union organizations shall be determined by the Government in conjunction with the Trade Union Federation of Vietnam. Sets out procedures for the resolution of individual and collective labour disputes.
- **Labour Code 2012 (10/2012/QH13) dated June 18, 2012 and entering into force as of 1st May 2013:** the Law replacing the Labour Code dated 23 June 1994, the Law amending and supplementing a number of articles of the Labor Code No. 35/2002/QH10, the Law amending and supplementing a number of the Labour Code No. 74/2006 / QH11 and the Law amending and supplementing a number of articles of the Labor Code No.84/2007/QH11. It comprised 17 Chapters and 242 articles, Chapter IX: Occupational Safety and Health including 20 articles
- **Labour Code 2019 (No. 45/2019/QH14):** This Labor Code will take effect from 1 January 2021, replacing the existing Labour Code No. 10/2012/QH13 (the *Labour Code 2012*). The Labour Code 2019 comprises 17 Chapters and 220 articles. Key changes under the Labour Code 2019 include: expanding the scope of the Labour Code; providing more flexibility in the renewal and termination of labour contracts; setting out, for the first time, the right of

employees to establish and join independent labour unions; setting out the requirement for employers with fewer than 10 employees to issue internal labour rules; increasing the cap on overtime hours; and increasing employees' retirement ages.

- **Law on Occupational Safety and Health (Law No. 84/2015/QH13).** This Law provides for measures guaranteeing occupational safety and health (OSH), policies and compensation for victims of occupational accidents and diseases; responsibilities and rights of organizations and individuals in respect of OSH and state management for OSH. Provisions on occupational accident and disease insurance prescribed in Section 3 Chapter III, Clause 4 Article 84, Point b Clause 1 and Point a Clause 2 Article 86, Articles 104, 105, 106, 107, 116 and 117 of the Law on Social Insurance No. 58/2014/QH13 shall expire from the date this Law takes effect (Article 92(2)).

This Law consists of 7 Chapters as follows:

Chapter I - General Provisions

Chapter II - Measures to Prevent and Control Hazardous Factors and Toxic Factors for Workers

Chapter III - Measures to Settle Technical Incidents Causing Occupational Safety and Health Failure and Occupational Accidents and Diseases

Chapter IV - Guarantee of Occupational Safety and Health for Special Workers

Chapter V - Guarantee of Occupational Safety and Health in Production and Business Establishments

Chapter VI - State Management of Occupational Safety and Health

Chapter VII - Implementation Provisions

b/ Documents attached to laws:

- **Gov. Decree No. 45/2013 / ND-CP** dated 10/5/2013 detailing some articles of the Labor Code on working time, rest time and OSH.
- **Gov. Decree No. 37/2016 / ND-CP** dated 15/5/2016 detailing and guiding the implementation of a number of articles of the OSH Law on compulsory health insurance for occupational accidents and diseases
- **Gov. Decree No. 39/2016 / ND-CP** dated 15/5/2016 detailing the implementation of a number of articles of the OSH Law: control of dangerous elements and harmful factors; reporting, investigating, reporting occupational accidents; organizing occupational safety & health Units, OSH Committee in enterprises; Occupational Hygiene profile for harmful factors, etc.

- **Gov. Decree No. 44/2016 / ND-CP dated 15/5/2016** detailing a number of articles of the OSH Law on technical safety inspection, OSH training, working environment monitoring, etc.
- **Gov. Decree No. 140/2018/ND-CP:** amending and supplementing some articles of **Gov. Decree No. 44/2016 / ND-CP** detailing a number of articles of the OSH Law on technical safety inspection, OSH training, working environment monitoring
- **Gov. Decree No. 95/2013 / ND-CP** dated 22/8/2013 regulating the sanctioning of administrative violations in the field of labor and social insurance, sending Vietnamese laborers to work overseas
- **Gov. Decree No. 88/2015/ND-CP** dated 7/10/2015 amending and supplementing some articles of Gov. Decree No. 95/2013 / ND-CP dated 22/8/2013 regulating the sanctioning of administrative violations in the field of labor and social insurance, sending Vietnamese laborers to work overseas.
- **Gov. Decree No. 110/2017/ND-CP dated 4 October 2017** on organization and operation of inspectorates in Labour, Invalid and Social affairs. This Decree provides for the organization and operation of agencies performing the inspection function of the Labor, War Invalids and Social Affairs sector; inspectors, specialized inspection officials, inspection collaborators of the Labor - Invalids and Social Affairs sector; responsibilities of agencies, organizations and individuals in inspection activities of the Labor - Invalids and Social Affairs sector

c/ Classification of legal documents by field:

*** Legal Documents on OSH organization:**

- **Law on Occupational Safety and Health (Law No. 84/2015/QH13):**
 - OSH state management organization (Chapter VI: STATE MANAGEMENT OF OCCUPATIONAL SAFETY AND HEALTH)
 - OSH organization at enterprise including the following organizations:
 - Occupational safety and health units (Article 72)
 - Health units (Article 73)
 - Occupational safety and health workers (Article 74)
 - Occupational safety and health Council/Committee (Article 75)
- **Gov. Decree No. 39/2016 / ND-CP** dated 15/5/2016 detailing the implementation of a number of articles of the OSH Law: **Articles 36, 37 and 38** regulations in details OSH organizations at enterprise

- **Decision No. 3079/QĐ-BYT dated 21 August 2008** regulations on organization and operation of OSH system in health care facilities:
 - A person responsible for occupational safety and health in case of health care facility having less than 60 staffs
 - Health unit
 - Occupational safety and health worker network
 - Establishing Occupational safety and health Council/Committee in case health care facility having more than 60 staffs

*** Legal Documents on Management of Working Environment:**

- Gov. Decree No.39/2016/NĐ-CP providing the sample of Working Environment Profile, the list of hazardous factors need to be monitored/checked in working environment, including:
 - Physical factors (micro-climate, e.g. temperature, humidity, air velocity; lighting, noise, vibration, electro-magnetic field, radiation, etc.
 - Dusts (different types, e.g. total and respiratory dust, silica, coal, talc, metal, cotton dusts, etc.)
 - Chemical factors (chemicals, toxic gases, etc.)
 - Psycho-physiological and ergonomic factors, e.g. physical and mental workload, ergonomic factors
 - Biological factors (virus, bacteria, gem, mold, etc.
 - Factors causing hypersensitivity and allergy
- Gov. Decree No. 44/2016/NĐ-CP detailing Working Environment Monitoring activity:
 - Period of monitoring harmful factors in the working environment: at least once/year twice/year when very hazardous factors exist, e.g. chemicals, radiation, etc.)
 - When the harmful factors exceed allowed limits under Decision 3733 BYT / QĐ dated 10/10/2002 and National Technical Regulations of the Ministry of Health, then take measures to correct immediately.
 - The measurement and inspection of the working environment must be carried out by qualified units in terms of material facilities, equipment and personnel's
 - Fee for Working Environment Monitoring is paid by employer.
 - Keeping records and profile at enterprise and at the organization doing WE monitoring

- Circular No. 19/2016/TT-BYT: Guideline on Management of Occupational Hygiene, hygiene and sanitary facilities (number of workers/rest room/bath room/tap water for cleaning hand.
- Circular No. 28/2016 / TT-BYT dated 30 June 2016 promulgating the sample protocol for confirming exposure to hazardous factors causing acute occupational diseases
- Joint Circular No.13/2014 / TTLB / BKHCN-BYT dated 9 June 2014 of the Ministry of Science and Technology – MOH guiding the implementation of radiation safety in health care facilities: technical requirements for radiation equipment; arranging rooms for placing radiation equipment; requirements for radiation protection for nuclear medicine; radioactive waste management;
- The joint Circular No. 58/2015/TTLT-BYT-BTNMT dated 31/12/2015 by Ministry of Natural Resources and Environment and MOH promulgated The Regulation on Medical Waste Management: all health care facilities must minimize waste, classify their wastes by sources in accordance with the regulations, not allow mixing hazardous medical wastes with living wastes; hazardous medical wastes should be treated safely before being discharged to the environment; and health care facilities should contract with units that are legally able to transport and dispose of waste or, when there is no local legal option, contact the local government for a solution.
- Circular No. 25/2012/TT-BYT dated 29/11/2012 by MOH promulgating the National Technical Regulation on biological safety and safe practice in laboratories, in which promulgates clearly on facilities, equipment, personnel of lab.; regulations on entering and going out the labs, provisions on safe practices in lab., provisions on decontamination and waste treatment, provisions on prevention, treatment and troubleshoot of the biosecurity in the biosafety laboratories at level I, II, III and IV.
- Circular No. 16/2018/TT-BYT dated 20/7/2018 by MOH promulgating Regulations on infection control in medical examination and treatment establishments
- Occupational Hygiene Standards and National technical regulations on occupational Hygiene:
 - Decision 3733 BYT / QD dated 10/10/2002 by MOH: promulgated 21 standards of occupational hygiene, 05 principles and 07 parameters of occupational hygiene.
 - QCVN No. from 21-30/BYT by MOH: National Technical Regulations on Permissible Exposure Limit Value of Microclimate, Lighting, Noise, Vibration, high Frequency and and industrial frequency Electro-Magnetic field, heat radiation

(replacing some standards of occupational hygiene promulgated by Decision 3733 BYT / QD dated 10/10/2002 by MOH)

- QCVN 02 : 2019/BYT- National Technical Regulation on Dust - Permissible Exposure Limit Value of Dust at the Workplace (replacing some standards of occupational hygiene promulgated by Decision 3733 BYT / QD dated 10/10/2002 by MOH)
- QCVN 03:2019/BYT - National Technical Regulations on Permissible Exposure Limit Value of 50 chemicals at the workplace (Acetone; acid acetic; acid hydrochloric; acid sulfuric; ammonia; aniline; arsenic and its compounds; arsine; benzene; n-butane; cadmium and its compounds; carbon dioxide; carbon disulfide; carbon monoxide; carbon tetrachloride; chlorine; chloroform; chrome (III) (type of compound); chrome (VI) (type dissolve in water) such as hexavalent chrome; chrome (VI) oxide; cobalt and its compounds; dichloromethane; copper and its compounds (dust); copper and its compounds (gaze, fume); ethanol; fluorine; fluoride; formaldehyde; n-hexane; hydro cyanide; hydro sulfide; zinc oxide; manganese and its compounds; methanol; methyl acetate; aluminum and its compounds; nicotine; nitrogen dioxide; nitrogen monoxide; nitro benzene; nitro toluene; phenol; Selen dioxide; Selen and its compounds; sulfur dioxide; toluene; 2,4,6 -trinitrotoluene; vinyl chloride; gasoline; xylene) (replacing some standards of occupational hygiene promulgated by Decision 3733 BYT / QD dated 10/10/2002 by MOH)

****Legal Documents on Management of Workers' Health***

- Circular No. 19/2016/TT-BYT by MOH: Guideline on Management of Occupational Hygiene and Workers' Health and Occupational Diseases. **Management of Workers'**

Health Activities include:

- Pre-employment Health Examination
- Periodic Health Examination
- Employment placement Health Examination
- Occupational Disease Detection
- Periodic Occupational Disease Examination
- First Aids for occupational Accidents/Injuries
- Medical examination/expertise for cases of occupational diseases and occupational accidents and injuries

- Development and management of workers' health records
- Etc.

➤

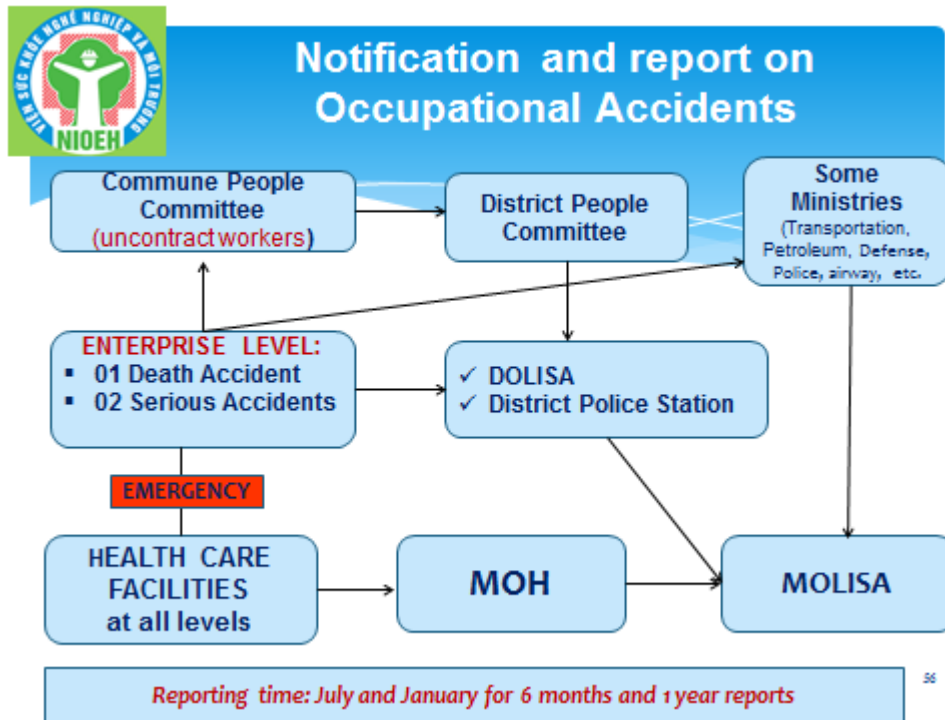
- Circular No. 14/2013 / TT-BYT dated 6/5/2013 of the Ministry of Health provides guidelines for health examination, content of health examination, conditions for medical examination establishments that are permitted to conduct health examination for Pre-employment Health Examination and Periodic Health Examination
- Decision No. 1613 / QD-BYT of August 15, 1997 of the Ministry of Health stipulates the criteria for classification of health and there are 5 levels of health classification (type I; very good health , II: good health, III: average, IV: weak health and V: very weak health)
- Circular No. 28/2016 / TT-BYT dated 30 June 2016 by MOH: Guidelines for management of occupational diseases: health examination before work placement, examination of occupational diseases, periodical occupational disease examination

*** *Legal Documents on Management of Occupational Diseases:***

- Circular No. 28/2016/TT-BYT dated 30 June 2016 by MOH Guidelines for management of occupational diseases: health examination before work placement, OD Detection and OD periodic examination
- Circular 15/2016/TT-BYT dated 15/5/2016 by MOH: Regulations on compensated occupational diseases: 34 compensated ODs; diagnosis and medical expertise criteria

*** *Legal Documents on Management of Occupational Accidents***

- Gov. Decree No. 39/2016/ ND-CP: detailing the implementation of a number of articles of the OSH Law: notification, investigating, reporting occupational accidents:
- Circular 08/2016/TT-BLDTBXH dated 15/5/2016 by MOLISA: Guiding the collection, recording, synthesizing, supplying, announcement and evaluation of occupational accidents and technical incidents causing serious OSH situation.



*** Legal Documents on compensation for workers getting Occupational Diseases and injuries:**

- ❖ OSH Law (2015): Section 3. Occupational accident and disease insurance regimes
- ❖ Circular No. 26 /2017/TT-BLĐTBXH dated 20/9/2017 by MOLISA: Stipulate and guide the implementation of the compulsory occupational accident and disease insurance regime
- ❖ Circular No. 04/2015/TT-BLĐTBXH dated February 02, 2015 by MOLISA, guiding the implementation of the regime of compensation, allowances and medical expenses paid by employers for workers suffering from occupational diseases and accidents:

*** Legal Documents on medical expertise for workers getting Occupational Diseases and injuries:**

- ❖ The Law on OSH: Medical expertise to assess the level of working ability decline
- ❖ Gov. Decree No. 37/2016/ND-CP: Medical expertise for workers detected ODs when they retired or no longer worked in occupations and jobs at risk of ODs
- ❖ Circular No.15/2016/TT-BYT dated 15/5/2016 by MOH: Regulations on compensated occupational diseases: medical expertise criteria of 34 compensated ODs;
- ❖ Circular No. 07/2010 / TT-BYT 05 April 2010 by MOH: Guiding the assessment of the working capacity decline of workers participating in compulsory social insurance

- ❖ Circular No.14/2016/TT-BYT by MOH: Detailed provisions for the implementation of a number of articles of the Law on Social Insurance in the health sector: stipulate that there are many types assessment dossiers for different assessment.
 - ❖ Workers suffering from OD or OA shall be assessed or re-assessed for their working capacity decrease in one of the following cases:
 - After having been injured or diseased for the first time, workers have been treated, but they still have health consequences;
 - After the injury or disease recurrence has been treated stably;
 - In case of OD & OA that cannot be treated to be in good health, workers should be under medical expertise before or right after the treatment process.

****Legal documents on female and adolescence workers:***

- ❖ Circular 26/2013/TT-BLDTBXH dated 18/10/2013 promulgating the list of jobs prohibiting female workers :

List of jobs prohibiting female workers: 38 jobs

1. Directly melting and pouring metal melting in the furnace: Electric arc furnace of 0.5 tons or more; Billo furnace (iron casting); Furnace (steel casting); High furnace
2. Rolling hot metal (except non-ferrous metals).
3. Directly processing non-ferrous metal ores (copper, lead, tin, mercury, zinc, silver).
4. Burning coke oven.
5. Welding in sealed containers, in the height over 10m above the working floor.
6. Drilling, exploding and mine explosion.
7. Rock exploiting on the mountain.
8. Etc.

List of jobs prohibiting female pregnant workers and having babies: 29 Jobs:

1. The work in the environment is contaminated by electromagnetic fields exceeding the allowable standards
2. Direct contact with sealed radioactive sources and open radioactive sources; work and interact directly with radioactive material in nuclear facilities....
3. Direct exposure (including: production, transport, storage, use) to insecticides, weed killers, insecticides, rodenticides, excluding chlorine containing organic chlorine and some chemicals causing gene modification and cancer
4. Etc.

- ❖ **Circular 11/2013/TT-BLĐTBXH dated 11/3/2013:** the list of light works in which workers under 15 years can work:
 - **List of works allowing workers under 13 years:**
 - ✓ Dancing; singing; circus; film; drama, traditional singing (tuong, cheo, cai luong), puppetry (except underwater puppetry).
 - ✓ Talented athletes: gymnastics, swimming, track and field athletics, table tennis, badminton, basketball, handball, billiards, soccer, chess, volleyball.
 - **List of works/jobs allowing 13 -15 years workers:**
 - ✓ The jobs using workers under the age of 13
 - ✓ Traditional works: ceramic glaze, sawing pearl shell, lacquer painting, paper making, conical hats, incense sticks, weaving mats, blankets, brocade weaving, rice noodles, make cake (vermicelli), make Ke cake
 - ✓ Fine arts and handicrafts: embroidery, fine art woodwork, horn combs, net nuggets, making paper pictures
 - ✓ Weaving, making household items, handicrafts from natural materials such as rattan, bamboo, coconut, banana, water hyacinth.
 - ✓ Silkworm farming.
 - ✓ Coconut candy package.

*** Legal Documents on the List of heavy, hazardous and dangerous jobs**

- ❖ Decisions No. 1453 / LDTBXH-QĐ dated 13 October 1995; No. 915 / LDTBXH-QĐ (dated 30 July 1995); No.1629 / LDTBXH-QĐ (dated 26 December 1996); No.190/1999/QĐ-BLĐTBXH (dated 03 March 1999), No. 1580/2000/QĐ-BLĐTBXH (dated 26 December 2000), No. 1152/2003/QĐ-BLĐTBXH (dated 18 September 2003) (by MOLISA promulgating the lists of heavy, hazardous and dangerous occupations/jobs);
- ❖ Circular No. 36/2012 / TT-BLĐTBXH dated 28/12/2012 supplementing the list of heavy, hazardous and dangerous jobs /occupations.
- ❖ Circular No. 15/2016/ TT-BLĐTBXH dated 28 June 2016 supplementing the list of heavy, hazardous and dangerous jobs/ occupations.
- ❖ The health sector Decision No. 3033 / QĐ-BYT dated July 11, 2001 promulgating the list of heavy, hazardous and dangerous occupations/ jobs (for pharmaceutical production, there are 26 categories, for non-business units 27 category).

*** Legal Documents on Allowance for workers**

- ❖ Article 14 of OSH Law regulates the in-kind allowances:
- Employees in contact with dangerous factors and hazardous factors at work shall be provided by their employers with in-kind allowances
- Principles of providing in-kind allowances are as follows:
 - Helping increase the resistance and detoxification of the body;
 - Ensuring convenience and food safety and hygiene;
 - Being provided during the working shift or day, except special cases
 - where employers cannot provide in-kind allowances to all eligible employees at the workplace.
- The Minister of Labor, War Invalids and Social Affairs shall prescribe the provision of in-kind allowances.
 - ❖ Circular 07/2005 / TT-BNV 5/01/2005 by Ministry of Internal Security: allowance for workers working in hazardous and dangerous works: 4 levels
 - ❖ Circular No. 25/2013 / TT-BLDTBXH (MOLISA) dated 18/10/2013: in –kind - allowance for workers working in hazardous and dangerous works: 4 levels

****Legal Documents on Machines, equipment, substances subject to strict requirements for OSH:***

- ❖ OSH Law (2015): Section 4; Management of machinery, equipment, supplies and substances subject to strict requirements for occupational safety and health:
 - Machinery, equipment, supplies and substances subject to strict requirements for Occupational safety and health are those which are likely to cause occupational accidents or diseases with serious consequences to people’s health and life despite appropriate transportation, storage, preservation and use for proper purposes during the working and production process as instructed by manufacturers.
- ❖ Gov. Decree No. 44/2016 / ND-CP: Detailing a number of articles of the OSH Law on inspection and accreditation of technical safety for Machines, equipment, substances subject to strict requirements for OSH
- ❖ Circular No. 53/2016 / TT-LĐTBXH dated 28/12/2016 of MOLISA promulgating the list of machines, equipment and substances subject to strict requirements for OSH.
- ❖ Circular No. 54/2016 / TT-LĐTBXH dated 28/12/2016 of MOLISA promulgated 30 procedures for technical safety testing of machines, equipment and substances with strict requirements on occupational safety

- ❖ Circular No. 16/2017/TT-BLĐTBXH dated 08/06/2017 Detailing some content of the technical safety testing for Machines, equipment, substances subject to strict requirements for OSH

****Legal Documents on PERSONAL PROTECTIVE EQUIPMENT:***

- ❖ Circular No. 04/2014 / TT-BLĐTBXH dated 12/02/2014 of MOLISA on PPEs for every Jobs/Occupations

****Legal Documents on Working time and rest time:***

- ❖ OSH Law (2015): **Article 25.** Working time under working conditions with dangerous factors and hazardous factors:

1. Employers shall ensure that the duration of employees' being in contact with dangerous factors and hazardous factors is within the safety limits established in the relevant national technical regulations and relevant laws.

2. The working time of employees performing heavy, hazardous or dangerous occupations or jobs must comply with the labor law.

- ❖ Labour Code 2012

- ❖ Decree No. 45/2013 / ND-CP dated 13 May 2013 of the Government stipulating some articles of the Labor Code on working time, rest time and OSH:

1. Normal working hours must not exceed 08 h/day & 48h/week.
2. Employers have the right to stipulate working hours or days or weeks: not exceed 10 hs/day & 48 hs/week.

The state encourages to work 40 hours a week.

3. The working time shall not exceed 06 hs/day for workers engaged in extremely heavy, hazardous or dangerous jobs on the lists jointly promulgated by MOLISA & MOH

4. Working Hours at night: from 22:00 to 6:00 the following day.

5. Working over time:

- * Not more than 50% of normal working hours in one day.
- * The total number of normal working hours and overtime shall not exceed 12 hours in a day;
- * No more than 30 hours in a month
- * A total of no more than 200 hours in a year, except for a number of special cases prescribed by the Government, which may be worked out for more than 300 hours in a year;

6. Resting time in working hours:

- Employees who work continuously for 08 hrs or 06 hrs shall enjoy at least 30 minutes of rest during the working time.
 - In the case of night work, the employee shall be entitled to a break of at least 45 minutes during the working time.
 - Apart from the break time, the employers shall set short breaks and inscribe them in the labor regulations.
7. Transfer to shift: Workers who work in shifts are entitled to a break of at least 12 hours before moving to another shift.
8. Vacation weekly:
- Each week, the employee is entitled to a minimum of 24 consecutive hours of rest. In special cases the employer shall have to ensure that the employee is entitled to one full month of leave at least 04 days.
 - Employers have the right to decide whether to arrange a weekly holiday on a Sunday or another fixed date within a week, but must record it in the labor regulations.
9. Annual leave:
- * 12 working days with full payment
 - * 14-16 days for workers working in hazardous, dangerous works

**** Legal Documents on Administrative Penalty for OSH violation:***

❖ OSH Law, Article 90. Handling of violations of OSH Law

1. Violators of the occupational safety and health law shall, depending on the nature and seriousness of their violations, be administratively handled or examined for penal liability; if causing any damage, they shall pay compensation and remedy consequences in accordance with law.
2. Persons who take advantage of their positions and powers to violate this Law or infringe upon the interests of the State, the lawful rights and interests of organizations and individuals shall, depending on the nature and seriousness of their violations, be disciplined or examined for penal liability; if causing any damage, they shall pay compensation in accordance with law.
3. Employers who shirk or delay the payment of occupational accident and disease insurance premiums, or appropriate occupational accident and disease insurance premiums and benefits for 30 or more days shall, in addition to fully paying the unpaid or late paid premiums and being handled in accordance with law, pay an interest at the rate doubling the average interest rate of the investment of the Social Insurance Fund in the preceding year on the amount of the

unpaid premiums and the late payment duration; if an employer fails to comply with this provision, at the request of competent persons, banks, other credit institutions or the state treasury shall deduct an amount from his/her deposit account to pay the amount not yet paid or late paid and interest thereon to the account of the social insurance agency.

4. The Government shall prescribe in detail acts of administrative violation in the field of occupational safety and health prescribed in this Law, and forms and levels of sanctioning applied to these acts

- ❖ Gov. Decree No. 95/2013 / ND-CP dated 22/8/2013 regulating the sanctioning of administrative violations in the field of labor and social insurance, sending Vietnamese laborers to work overseas
 - ❖ Gov. Decree No. 88/2015/ND-CP dated 7/10/2015 amending and supplementing a number of articles of the government's decree No. 95/2013 / ND-CP
1. A fine of between VND 5,000,000 and 10,000,000 shall be imposed on employers who commit one of the following acts:
 - Failing to periodically monitoring
 - Violation of National technical Regulations on OSH and OSH standards applicable to production, use, storage and transportation of machines, equipment, materials, energy, electricity, chemicals, plant protection drugs, technology changes, new imported technology;
 - Failing to prepare a plan on measures ensuring OSH for employees at workplaces when building, expanding or improving facilities for production, using and storing machines, equipment, materials and substances with strict requirements on OSH;
 - Not periodically inspecting and maintaining machines, equipment, workshops and warehouses according to regulations
 2. Fines shall not be imposed when not organizing OSH trainings for workers, job trainees or apprentices when recruiting by the following levels:
 - Between VND 1,000,000 and VND 3,000,000, for violations involving between 1 and 10 persons;
 - Between VND 3,000,000 and 5,000,000, involving between 11 and 50 persons.
 - Between VND 5,000,000 and 10,000,000, involving between 51 and 100 persons;
 - Between VND 10,000,000 and VND 15,000,000, for violations involving between 101 and 300 persons;

- Between VND 15,000,000 and 20,000,000 for violations involving 301 persons or more.

***Legal Documents on OSH trainings**

1. Gov. Decree No. 44/2016 / ND-CP: detailing the implementation of a number of articles of the OSH Law: training subjects, contents, duration and curriculum
2. **Gov. Decree No. 140/2018/NĐ-CP**: amending and supplementing some articles of **Gov. Decree No. 44/2016 / ND-CP** detailing a number of articles of the OSH Law on technical safety inspection, OSH training
3. Circular No. 19/2016/TT-BYT: Guideline on Management of Occupational Hygiene and Workers' Health and Occupational Diseases including first aid trainings, certificate training programs on working environment monitoring and occupational disease detection

3.1.2. Other related legislations on safety, health and environment, and recent amendments:

- **Vietnam Constitution in 2013 (Articles No. 20, 38):**
 - Everyone has the right to body inviolability, to be protected by the law in terms of health, honour and dignity; not subject to torture, violence, persecution, corporal punishment or any other form of treatment that infringes on the body, health, honour or dignity
 - Everyone has the right to health protection and health care, equality in the use of medical services and is obliged to comply with regulations on disease prevention, examination and treatment.
 - Any acts threatening the life or health of other people and the community are strictly prohibited
- **Law on Protection of People's Health No. 21-LCT/HĐNN8** promulgated on 30/6/1989 (11/7/1989): *Chapter II* (Hygiene in daily & working life, Public hygiene, Prevention & control of diseases), *Chapter III* (Physical training and sport and rehabilitation), *Chapter IV* (Health examination and treatment).
- **The Law of Social Insurance No. 58/2014/QH13** dated 20/11/2014, **consists** of 145 Articles; of them, Articles from 42 to 52, and from 103 to 108 specify the regulations for individuals with occupational injuries and occupational diseases; allowances for

convalescence and recuperation after sickness, maternity ... This law takes effect on the date 01.01.2016.

- **Health Insurance Law No. 46/2014 / QH13** dated 13 May 06 2014 enacted by Parliament amending and supplementing some articles of the Law on Health Insurance No. 25/2008 / QH12, in which some articles related to employees were amended as Article 12. Participants of health insurance, including employees and employers consisting of: a) Employees working under labor contract with indefinite term and with the term of full 3 months or more; employees who are managers receiving wages; officials and public servants (hereinafter referred to as the employees); Groups of people who are paid by social insurance, including: a) The pensioners, people receiving monthly subsidize due to losing work capacities; b) The beneficiaries of social insurance receiving monthly subsidize due to getting accidents or occupational diseases or illness on the list of diseases requiring long-term treatment; People at least 80 years or older who receive monthly survivorship allowance; etc; amended and supplemented "Article 13 Levels and responsibility of medical insurance premiums; Article 15. Method of medical insurance premiums; Article 22. The level of health insurance benefits, etc.
- **Prevention of infectious Disease Law No. 3/2007/QH12** dated 21/7/2007, effective from 1.7.2008, includes 6 Chapter and 64 Articles. This Law regulates the prevention and control of infectious diseases; border medical quarantine; anti-epidemic; conditions for the prevention and control of human infectious diseases. The prevention and control of infection with the human immunodeficiency virus (HIV / AIDS) are not governed by this Law.
- **Environmental Protection Act** by the National Assembly of the Socialist Republic of Vietnam adopted on 23.06.2014, effective from 01.01.2015: the Environmental Protection Act 2014 inherits the basic content of the Law on Environmental Protection Act 2005: overcoming the limitations of the lack of enforcement provisions; legislated guidelines and new policies on Environmental Protection. The main content of the Environmental Protection Act has been modified and complemented, include: Responsibilities of the State management agency on Environment Protection; Environmental planning; Environmental Protection Plan; Responding to climate change; Withdrawal, processing waste products; Environmental Protection in industrial zones, industrial parks, business parks, and service; Imports of used marine vessels; Handling responsibilities for organizations and individuals that cause environmental pollution. Regulations further acts prohibited in Article 7; To

specify more about the content, principles and responsible implementation of environmental protection planning in Section 1 - Chapter II; Regulations add the main content of the evaluation report and implementing the strategic environmental assessment; Additional subject to make statements strategic environmental assessment (Article 13, Article 14 and Article 15); Put some specific provisions in the Law on the subject to make environmental impact assessment and delivered to the Government providing detailed list of projects in this area (Article 18); Regulations add objects, content, sequence planning environmental protection in Section 4 of Chapter II; The environmental protection in the mining and use of natural resources more concretized in Chapter III.

- **Chemical Law** No.06 / 2007 / QH12 dated 21/11/2007: have the regulations concerning development of the chemical industry; production, sales and use of chemical safety, environmental safety and community management responsibilities of ministries, ministerial-level agencies directly related to the operation of chemicals. MOH is responsible for managing chemicals used for the preparation of pharmaceuticals for the chemicals used in disinfectants, insecticides for domestic and public health; in collaboration with the ministries of regulations on labor safety in chemical activities; in collaboration with the Ministry of Trade and Industry to develop lists of chemicals banned or limited lists of chemicals production and business in the healthcare sector to submit to the Government for issuing; To issue the lists of chemicals which are not used, limited use and used in the medical field and chemicals used in disinfectants, insecticides for domestic and medical, pharmaceutical and additive products; in collaboration with Ministry of Labour - Invalids and Social Affairs under the authority or the competent authority to promulgate regulations on occupational safety, occupational health for workers engaged in chemicals.
- **The Law on Fire Prevention and Fighting** issued in 2013 stipulates that employers in production and business establishments must set up fire prevention and fighting teams and be equipped with tools and means of fire protection in obligatory nature.
- **The Law No. 06/2006/QH11 dated 29 June 2006 on Standards and Technical Regulations.** This Law provides for the formulation, announcement and application of standards; the formulation, promulgation and application of technical regulations; and the assessment of conformity with standards and technical regulations. This Law applies to Vietnamese and foreign organizations and individuals and overseas Vietnamese carrying

out activities related to standards and technical regulations in Vietnam. It included 7 chapter and 71 articles.

3.1.3. ILO conventions ratified:

(https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11200:0::NO::p11200_country_id:103004)

Vietnam has ratified 25 ILO conventions, including:

- Fundamental Conventions: **7 of 8**
- Governance Conventions (Priority): **3 of 4**
- Technical Conventions: **15 of 178**
- Out of **25** Conventions ratified by Viet Nam, of which **22** are in force, **2** Conventions have been denounced; **1** has been ratified in the past 12 months.

25 ratified ILO conventions are as follows:

Fundamental

No.	Convention	Date	Status	Note
1.	<u>C029 - Forced Labour Convention, 1930 (No. 29)</u>	05 Mar 2007	In Force	
2.	<u>C098 - Right to Organise and Collective Bargaining Convention, 1949 (No. 98)</u>	05 Jul 2019	In Force	
3.	<u>C100 - Equal Remuneration Convention, 1951 (No. 100)</u>	07 Oct 1997	In Force	
4.	<u>C105 - Abolition of Forced Labour Convention, 1957 (No. 105)</u>	14 Jul 2020	Not in force	The Convention will enter into force for Viet Nam on 14 Jul 2021.
5.	<u>C111 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111)</u>	07 Oct 1997	In Force	

No.	Convention	Date	Status	Note
6.	<u>C138 - Minimum Age Convention, 1973 (No. 138)</u> <i>Minimum age specified: 15 years. Pursuant to Article 3, the minimum age for admission to underground work has been specified to be 18 years.</i>	24 Jun 2003	In Force	
7.	<u>C182 - Worst Forms of Child Labour Convention, 1999 (No. 182)</u>	19 Dec 2000	In Force	

Governance (Priority)

No.	Convention	Date	Status	Note
8.	<u>C081 - Labour Inspection Convention, 1947 (No. 81)</u>	03 Oct 1994	In Force	
9.	<u>C122 - Employment Policy Convention, 1964 (No. 122)</u>	11 Jun 2012	In Force	
10.	<u>C144 - Tripartite Consultation (International Labour Standards) Convention, 1976 (No. 144)</u>	09 Jun 2008	In Force	

Technical

No.	Convention	Date	Status	Note
11.	<u>C005 - Minimum Age (Industry) Convention, 1919 (No. 5)</u>	03 Oct 1994	Not in force	Automatic Denunciation on 23 Jun 2004 by convention C138
12.	<u>C006 - Night Work of Young Persons (Industry) Convention, 1919 (No. 6)</u>	03 Oct 1994	In Force	

No.	Convention	Date	Status	Note
13.	<u>C014 - Weekly Rest (Industry) Convention, 1921 (No. 14)</u>	03 Oct 1994	In Force	
14.	<u>C027 - Marking of Weight (Packages Transported by Vessels) Convention, 1929 (No. 27)</u>	03 Oct 1994	In Force	
15.	<u>C045 - Underground Work (Women) Convention, 1935 (No. 45)</u>	03 Oct 1994	In Force	
16.	<u>C080 - Final Articles Revision Convention, 1946 (No. 80)</u>	03 Oct 1994	In Force	
17.	<u>C088 - Employment Service Convention, 1948 (No. 88)</u>	23 Jan 2019	In Force	
18.	<u>C116 - Final Articles Revision Convention, 1961 (No. 116)</u>	03 Oct 1994	In Force	
19.	<u>C120 - Hygiene (Commerce and Offices) Convention, 1964 (No. 120)</u>	03 Oct 1994	In Force	
20.	<u>C123 - Minimum Age (Underground Work) Convention, 1965 (No. 123)</u> <i>Minimum age specified: 18 years</i>	20 Feb 1995	Not in force	Automatic Denunciation on 09 Jul 2020 by convention C138
21.	<u>C124 - Medical Examination of Young Persons (Underground Work) Convention, 1965 (No. 124)</u>	03 Oct 1994	In Force	
22.	<u>C155 - Occupational Safety and Health Convention, 1981 (No. 155)</u>	03 Oct 1994	In Force	

No.	Convention	Date	Status	Note
23.	<u>C159 - Vocational Rehabilitation and Employment (Disabled Persons) Convention, 1983 (No. 159)</u>	25 Mar 2019	In Force	
24.	<u>MLC, 2006 - Maritime Labour Convention, 2006 (MLC, 2006)</u> <i>In accordance with Standard A4.5 (2) and (10), the Government has specified the following branches of social security: medical care; old-age benefit and employment injury benefit.</i>	08 May 2013	In Force	
	Amendments of 2014 to the MLC, 2006	18-Jan-2017	In Force	
	Amendments of 2016 to the MLC, 2006	08-Jan-2019	In Force	
	Amendments of 2018 to the MLC, 2006	26-Dec-2020	Not in force	The amendments of 2018 to the MLC, 2006 have been accepted and will enter into force for Viet Nam on 26 Dec 2020
25.	<u>C187 - Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)</u>	16 May 2014	In Force	

3.2. Mechanism and Status for Law Enactments

3.2.2. Mechanism and status for enactments of OSH laws & regulations (including the role of central and local authorities)

❖ **The mechanism of coordination and enactments in occupational safety and health** as follows (The Article 91 of the OSH Law):

1. *Coordination in occupational safety and health shall be conducted as follows:*

a/ The Ministry of Labor, War Invalids and Social Affairs shall assume the prime responsibility for, and coordinate with other ministries, ministerial level agencies, government-attached agencies and provincial-level People's Committees in, implementing coordination activities specified in Clause 2 of this Article under its responsibilities;

b/ Occupational safety and health state management agencies at all levels shall coordinate with political organizations, socio-political organizations, socio-politico-professional organizations, socio-professional organizations and other organizations in occupational safety and health activities in relevant fields.

2. *Contents of coordination in occupational safety and health include:*

a/ Formulation of occupational safety and health policies and laws; formulation of occupational safety and health standards and technical regulations;

b/ Formulation of national occupational safety and health programs and records;

c/ Investigation of occupational accidents; accidents and technical incidents endangering occupational safety and health; and policies and regimes for victims of occupational accidents and diseases;

d/ Occupational safety and health information, communication, education, training, statistical work and reporting; inspection of machinery, equipment and supplies subject to strict requirements for occupational safety and health;

e/ Occupational safety and health inspection, examination and supervision; and handling of violations of the occupational safety and health law;

f/ Commendation and reward related to occupational safety and health;

g/ Research and application of occupational safety and health science and technology.

❖ **Status for enactments of OSH laws & regulations:**

- The enactments of OSH laws & regulations is regulated in the OSH Law at Article 84, 85 and 86 as follows:

- **The Ministry of Labor, War Invalids and Social Affairs (MOLISA):** To formulate and submit to competent state agencies for promulgation or promulgate according to

his/her competence occupational safety and health laws, policies, plans and national programs, compiling national occupational safety and health records;

- **The Ministry of Health (MOH):** To formulate and submit to competent state agencies for promulgation, or promulgate according to his/her competence legal documents on working environment monitoring; assessment, control and management of hazardous factors at the workplace; and management and organization of working environment monitoring, management of workers 'health and occupational diseases
 - **People's Committees at all levels:** To formulate and submit to competent state agencies for promulgation or promulgate according to their competence legal documents and local technical regulations.
- The responsibility to formulate and announce national occupational safety and health standards and formulate and promulgate national occupational safety and health technical regulations are regulated as follows (Article 87 of OSH Law and Gov. Decree No. 39, Chapter VI: State Management on OSH, Item II):
1. **The Ministry of Labor, War Invalids and Social Affairs (MOLISA):**
 - To formulate national OSH technical regulations on personal protective equipment for employees; technical equipment and devices in vocational training establishments; products, goods, services, processes, environment; machinery, equipment and materials subject to strict requirements for occupational safety.
 - To formulate national OSH technical regulations and to issue the list of machinery, equipment, supplies and substances subject to strict requirements for OSH
 - To formulate national OSH technical regulations for employees participating in chemical activities; manage the use of chemicals in vocational training establishments;
 - To assume the prime responsibility for, and coordinate with ministries and ministerial-level agencies in, submitting to the Prime Minister for decision assignment of responsibility for formulating and promulgating national technical regulations on OSH for products, new goods, services, processes or environments or related to the scope of management of many ministries and ministerial-level agencies arising in the course of administration or management.
 2. **The Ministry of Health (MOH):**
 - To formulate national occupational health standards and technical regulations occupational hygiene for the working environment; health standards for pre-employment, periodic and occupational disease examination; OD diagnosis and expertise, etc.

- To issue the list of machinery, equipment, supplies and substances subject to strict requirements for OSH used in health sector

3. The Ministry of Science and Technology

- Shall approve the plan for formulating national occupational safety and health standards and announce national occupational safety and health standards.
- To formulate national OSH standards and technical regulations for nuclear reactors, nuclear materials, source nuclear materials, radioactive substances, radiation equipment.
- To organize the appraisal of draft OSH national technical regulations in accordance with the Law on Standards and Technical Regulations.

4. The Ministry of Agriculture and Rural Development

- To formulate national OSH standards and technical regulations (except for machinery, equipment and materials with strict OSH requirements) for: agricultural products, forest products, aquatic products, salt; cattle, poultry, domestic animals; agricultural, forestry and aquatic materials; fertilizer; products in the cultivation, harvesting, processing, preservation and transportation of agricultural, forestry, aquatic and salt products; additives and chemicals used in agriculture, forestry and fisheries; plant and animal protection drugs; irrigation works, dykes.
- To formulate national OSH standards and technical regulations for machinery, equipment and materials with strict requirements on occupational safety in the group of agricultural, forestry, salt and aquaculture machinery, equipment and materials.

5. Ministry of Transportation:

- To formulate national OSH standards and technical regulations (except for machines, equipment and materials with strict requirements on occupational safety) for: vehicles, vehicles, loading and unloading equipment, specialized construction used in transportation (except for vehicles serving national defense, security and fishing ships); specialized technical equipment and equipment in transportation; means and equipment for marine exploration and exploitation.
- To formulate national OSH standards and technical regulations for machines and equipment with strict requirements on occupational safety in the following group of machines and equipment: means of transport must be registered in accordance with the law in the field. Transportation; specialized loading and unloading and construction means and equipment in transportation; means and equipment for marine exploration and exploitation

6. Ministry of Industry and Trade:

- To formulate national OSH standards and technical regulations (except for machinery, equipment and materials with strict requirements on occupational safety) for: mechanical industry, metallurgy; electricity production, transmission and distribution; new energy, renewable energy; coal mining; exploiting, processing, transporting, distributing, storing oil and gas and petroleum products, except for marine exploration and exploitation means and equipment.
- To formulate national OSH standards and technical regulations for machines, equipment and materials with strict requirements on occupational safety in the following group of machines, equipment and materials: industrial explosives; pressure equipment, specialized lifting equipment for industries; equipment for oil and gas exploitation, except for equipment and means for sea exploration and exploitation.

7. Ministry of Construction:

- To formulate national OSH standards and technical regulations for technical measures and construction organization
- To formulate national OSH standards and technical regulations for machinery, equipment and materials with strict requirements on occupational safety used in construction.

8. Ministry of Information and Communications:

- To formulate national OSH standards and technical regulations (except for machines and equipment with strict requirements on occupational safety) for telecommunications works; telecommunications, electronics and information technology networks.
- To formulate national OSH standards and technical regulations for machines and equipment with strict requirements on occupational safety in the group of telecommunications machines and equipment; radio transmitters and transceivers.

9. Ministry of Defense

- To formulate national OSH standards and technical regulations for military means and equipment, weapons and ammunition, products serving national defense, and defense works that are not subject to national secrets.
- To formulate national OSH standards and technical regulations for machines, equipment and materials with strict requirements on occupational safety exclusively used for the purpose of national defense and military specialties.

10. Ministry of Public Security

- To formulate national OSH standards and technical regulations for technical equipment, weapons, ammunition, weapons, support tools, explosives and other products used by the

People's Public Security Forces outside subject to national secrets, except for the case specified at Point a, Clause 8 of this Article.

- To formulate national OSH standards and technical regulations for fire prevention and fighting machine and equipment with strict requirements on occupational safety.

3.3. Authority or Body, Responsible for OSH

3.3.1. Authority or body, responsible for OSH:

The state management of occupational safety and health is mentioned in the Chapter VI of the OSH Law, including the contents and authorities responsible for OSH, as follows:

❖ Contents of state management of occupational safety and health (OSH Law, Article 82)

1. Promulgating, and organizing the implementation of, legal documents on occupational safety and health; and formulating, promulgating or announcing national occupational safety and health standards and technical regulations and local occupational safety and health technical regulations according to assigned management competence.
2. Conducting communication, dissemination and education of the occupational safety and health law.
3. Monitoring, compiling statistics and providing information on occupational accidents and diseases; formulating national occupational safety and health programs and records.
4. Managing the organization and operation of occupational safety and health service organizations.
5. Organizing and conducting research and application of science and technology in occupational safety and health.
6. Inspecting, examining, settling complaints and denunciations related to occupational safety and health, and handling violations of the occupational safety and health law.
7. Organizing training in occupational safety and health.
8. Implementing international cooperation on occupational safety and health

❖ State management responsibilities for occupational safety and health (OSH law, Article 83)

1. The Government shall perform the uniform state management of occupational safety and health.
2. The Ministry of Labor, War Invalids and Social Affairs shall take responsibility before the Government for performing the uniform state management of occupational safety and health.
3. Ministries and ministerial-level agencies shall, within the scope of their respective tasks and powers, perform the state management of occupational safety and health.

4. People's Committees at all levels shall, within the scope of their respective tasks and powers, perform the state management of occupational safety and health

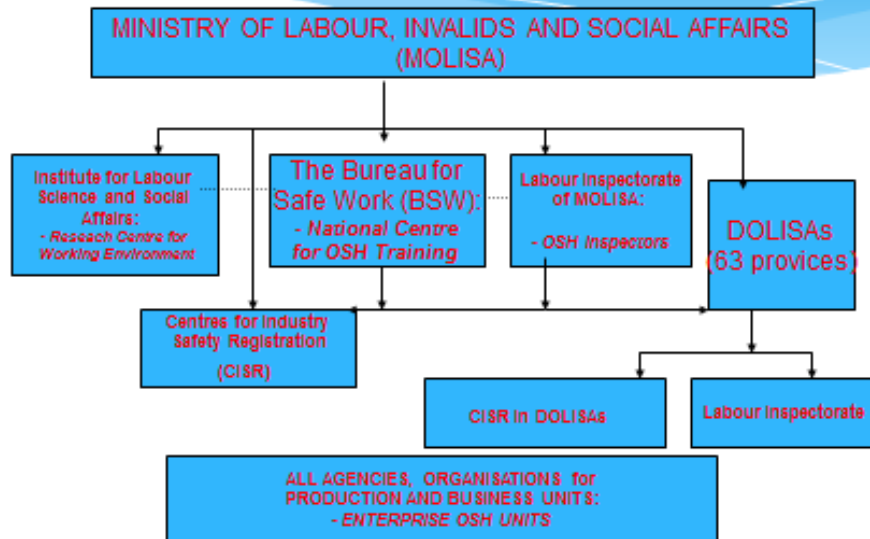
❖ *State management responsibilities for occupational safety and health of different organizations as follows:*

- **The Minister of Labor, War Invalids and Social Affairs (OSH Law, Article 84)**

1. To assume the prime responsibility for formulating and submitting to competent state agencies for promulgation or promulgate according to his/her competence occupational safety and health laws, policies, plans and national programs, and organizing the implementation thereof; to compile national occupational safety and health records.
2. To issue the list of machinery, equipment, supplies and substances subject to strict requirements for occupational safety and health as prescribed in Clause 2, Article 28 of this Law; to assume the prime responsibility for performing the state management of occupational safety and health training activities and inspection of machinery, equipment and supplies subject to strict requirements for occupational safety.
3. To formulate, or participate according to his/her competence in the formulation of, national occupational safety and health standards and technical regulations as prescribed in Article 87 of this Law.
4. To monitor, summarize and provide occupational safety and health information; compile occupational safety and health statistics in accordance with the statistics law.
5. To assume the prime responsibility for conducting communication, dissemination and education of the occupational safety and health law; to prevent technical incidents endangering occupational safety and health, occupational accidents and diseases.
6. To submit to the Government for decision solutions in necessary cases to protect the legitimate rights and interests of employees related to occupational accident and disease insurance.
7. To inspect, examine, and handle violations of the occupational safety and health law; to investigate, and coordinate in the investigation of, occupational accidents and technical incidents endangering occupational safety and health; to propose the Ministry of Public Security and the Supreme People's Procuracy to investigate and handle occupational accidents with signs of crime.
8. To implement international cooperation on occupational safety and health.



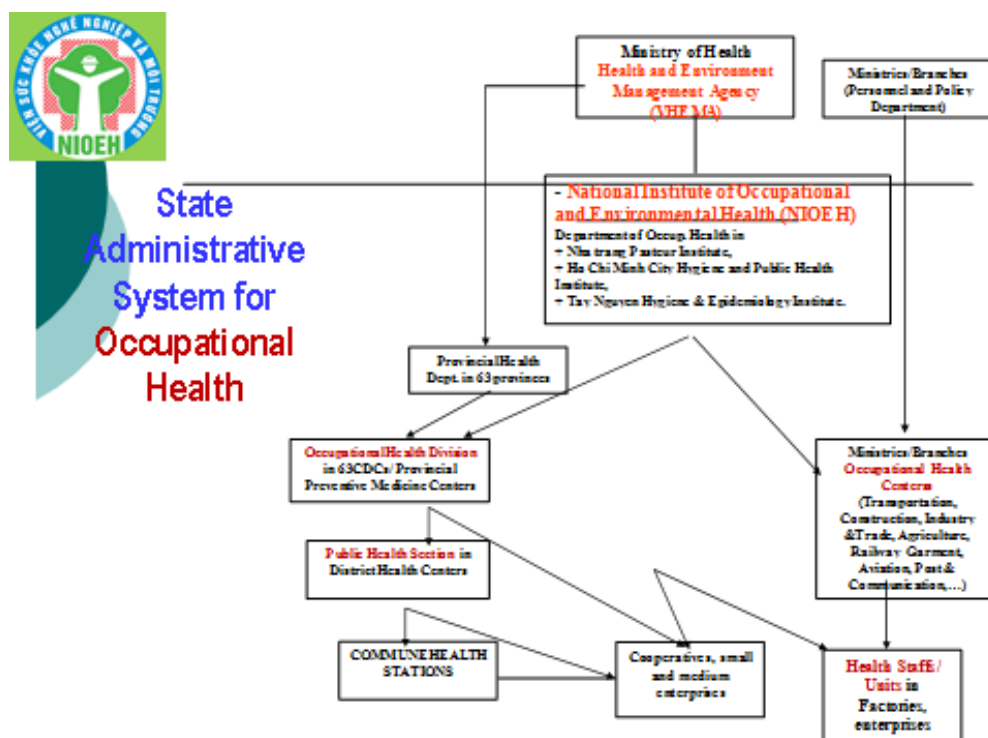
State administrative system of Occupational Safety in Vietnam



- **The Minister of Health (OSH Law, Article 85)**

1. To formulate and submit to competent state agencies for promulgation, or promulgate according to his/her competence legal documents on working environment monitoring; assessment, control and management of hazardous factors at the workplace; and management and organization of working environment monitoring.
2. To formulate national occupational safety and health standards and technical regulations applicable to occupational health factors in the working environment; to give opinions on occupational health contents according to his/her competence as prescribed in Clause 5, Article 87 of this Law.
3. To guide according to his/her competence the management of occupational health and prevention and control of occupational diseases.
4. To guide the provision of health check-up and medical examination to detect occupational diseases, assessment to determine the level of working capacity decrease, treatment and functional rehabilitation for victims of occupational accidents and diseases; to manage health records of employees.
5. To coordinate with the Ministry of Labor, War Invalids and Social Affairs in developing training contents on occupational health; to communicate, disseminate and educate about the occupational health law.

6. To draw up, issue and periodically review, revise and modify the list of occupational diseases as prescribed in Clause 1, Article 37 of this Law; to organize assessment of occupational diseases; to formulate and promulgate health standards for each occupation and job after consulting related ministries and sectors.
7. To monitor, summarize and provide occupational safety and health information; to compile statistics and build a database on occupational diseases; to manage employees' health at the workplace.
8. To coordinate with the Ministry of Labor, War Invalids and Social Affairs in establishing evaluation criteria for the list of heavy, hazardous and dangerous occupations and jobs and extremely heavy, hazardous and dangerous occupations and jobs.
9. To coordinate with the Ministry of Labor, War Invalids and Social Affairs in inspecting and examining the observance of the occupational safety and health law in accordance with law.
10. To send to the Ministry of Labor, War Invalids and Social Affairs annual reports on the implementation of occupational safety and health policies and laws under their management.



- People's Committees at all levels (OSH Law, Article 86)

1. To formulate and submit to competent state agencies for promulgation or promulgate according to their competence legal documents and local technical regulations.
2. To manage occupational safety and health in the localities; to formulate, and organize the implementation of, occupational safety and health policies and laws in the localities.
3. To send annual reports on the implementation of occupational safety and health policies and laws in the localities to the People's Councils of the same level or prepare extraordinary reports at the request of competent state agencies in accordance with law.
4. To annually arrange resources suitable to their practical local conditions for communication, dissemination and education on the occupational safety and health law in the localities; to prioritize communication, dissemination and education on the occupational safety and health law for employees without labor contract in the localities.
5. To inspect, examine, and handle violations of the occupational safety and health law in the localities according to their competence.

- National Occupational Safety and Health Council, provincial-level Occupational Safety and Health Councils (OSH Law, Article 88)

1. The National Occupational Safety and Health Council is an advisory body assisting the Government in the formulation, amendment and supplementation of occupational safety and health policies and laws. The Council shall be established by the Prime Minister with members being representatives of the Ministry of Labor, War Invalids and Social Affairs, the Ministry of Health, the Vietnam General Confederation of Labor, the Vietnam Farmers' Association, employers' representative organizations and related ministries and sectors, and a number of occupational safety and health specialists and scientists.
2. Provincial-level Occupational Safety and Health Councils are advisory bodies assisting provincial-level People's Committees in organizing the implementation of occupational safety and health policies and laws in the localities. Such a council shall be established by the chairperson of the provincial-level People's Committee with members being representatives of the provincial-level Department of Labor, War Invalids and Social Affairs, the Department of Health, the Confederation of Labor, the Farmers' Association, a number of enterprises, agencies and organizations, and a number of occupational safety and health specialists and scientists in the locality.
3. Occupational Safety and Health Councils shall organize annual dialogues for sharing information, increasing understanding among employers, employees, trade unions, employers' representative organizations and state agencies to promote equal and safe

working conditions for employees, and improve the effectiveness of the formulation and implementation of occupational safety and health policies and laws.

4. The Government shall prescribe in detail the establishment, functions, tasks, organization and operation of the National Occupational Safety and Health Council and provincial-level Occupational Safety and Health Councils.

3.4. Mechanisms for Ensuring Compliance including the System of Inspection

3.4.1. Number and inspection status of labour inspection office

- ❖ Occupational safety and health inspectorates is regulated in the Article 89 of OSH Law as follows:
 - Occupational safety and health inspectorates are specialized inspectorates of central- and provincial-level labor state management agencies.
 - Occupational safety and health inspection in the fields of radiation, oil and gas exploration and exploitation, railway, waterway, land and air transportation and in people's armed forces units shall be conducted by state management agencies of such fields in coordination with occupational safety and health inspectorates.
- ❖ **Agencies performing the inspection function of Labor - Invalids and Social Affairs** (Article 3 of Gov. Decree No. 110/2017/ND-CP dated 4 October 2017 on organization and operation of inspectorates in Labour, War Invalid and Social Affairs
 - **State inspection agency:**
 - a) Inspector of the Ministry of Labor, War Invalids and Social Affairs (MOLISA):
Department of Occupational Safety
 - b) Inspectors of Departments of Labor, War Invalids and Social Affairs (DOLISA) in provinces and centrally run cities

So, at central level, Department of Occupational Safety of MOLISA is responsible for state OSH inspectorates and at provincial-level, there are 63 offices of inspectorates located in Provincial Department of Labour, Invalid and Social Affairs (DOLISA)

- ❖ **Contents of the specialized inspection on labor and OSH** is regulated in the Article 15 of Gov. Decree No. 110/2017/ND-CP dated 4 October 2017 on organization and operation of inspectorates in Labour, War Invalid and Social Affairs as follows:
 - To inspect the observance of the labor law provisions: The observance of the obligations of employees and employers; labor contract; apprenticeship, internship; dialogue at workplace, collective bargaining, collective labor agreement; salary;

working time and rest time; labor discipline, material responsibility; the implementation of separate regulations for female employees, young workers and some other types of employees; compliance with other regulations of the labor law.

- To inspect the observance of the OSH law provisions: The implementation of measures to prevent and combat the dangerous and harmful factors for workers; measures to handle technical incidents causing occupational unsafe and unsanitary conditions, occupational accidents and occupational diseases; ensure OSH for a number of particular employees; ensuring OSH for production and business establishments; operation of OSH service organizations

❖ **OSH Inspection order and procedures:**

a) The formulation and approval of inspection plans, dissemination of inspection plans, and formulation of outlines to request inspected subjects to report, comply with Articles 18 and 19. Article 20 of Decree No. 07/2012 / ND-CP.

In case of conducting consecutive inspections, with the same composition of the inspection team and the inspection contents, the inspection plan shall be built together for the inspections.

b) Announcing the announcement of an inspection decision shall comply with Article 21 of Gov. Decree No. 07/2012 / ND-CP.

If there are grounds to believe that the prior notice will affect the inspection results or must immediately intervene to protect the workers' rights or ensure OSH at the workplace, the inspection team or an inspector assigned to conduct an independent inspection has the right to enter the production, business or service establishment regardless of day or night without prior notice and must obtain the consent of the head of the management agency at the same level.

Inspection at night, outside office hours is coordinated by relevant authorities, police and local authorities (if deemed necessary). The Minister of Labor, War Invalids and Social Affairs takes the lead in developing a coordination mechanism with relevant authorities.

c) Announcing the inspection decision: Within 15 days from the date of signing the inspection decision, the head of the inspection team shall announce the inspection decision to the subject of inspection, the inspection record announcement record shall be made together with the working record of inspection team.

d) Report on inspection results: Within 10 days from the end of the final inspection of the inspection plan, the head of the inspection team must make a general report on inspection results.

Synthesized report on inspection results ensures that the contents are specified in Article 25 of Decree No. 07/2012 / ND-CP.

- ❖ For Specialized inspection conclusions: Based on the general report on inspection results and explanatory contents of the inspected object (if any), within 15 days after receiving the inspection result report, the inspection decision issuer must issue a inspection conclusions for each inspected object.
- ❖ **Inspection reporting regime (Article 25 of Gov. Decree No. 110/2017/ND-CP dated 4 October 2017 on organization and operation of inspectorates in Labour, War Invalid and Social Affairs):**
 - The Ministerial Inspectorate shall report to the Minister and the Government Inspector General on the inspection and settlement of complaints and denunciations, citizen reception and anti-corruption within their assigned responsibilities according to law provisions.
 - Heads of agencies assigned to perform the specialized inspection function shall report on the specialized inspection work to the Ministry Inspectorate for summing up and reporting to the Minister.
 - Department Inspectorate reports to Department Director, Provincial Chief Inspector on inspection, settlement of complaints and denunciations, citizen reception and anti-corruption; report to the Chief Inspector of the Ministry on the specialized inspection, settle complaints and denunciations, and receive citizens according to the provisions of law.
 - The regime of periodical reporting on the inspection and reception of citizens, settlement of complaints and denunciations and the prevention and fight against corruption comply with the provisions of law.
- ❖ **Coordination in inspection and checking OSH prescribed in Article 43 of Gov. Decree No. 39/2016/ND-CP as follows:**
 1. The Ministry of Labor, War Invalids and Social Affairs shall assume the prime responsibility for, and coordinate with ministries, ministerial-level agencies and agencies attached to, the Government in, inspecting, examining and supervising OSH; handle according to its competence the violations of the law on OSH.

2. State management agencies in the fields of radioactivity, oil and gas exploration and exploitation, railway, waterway, road and air transport vehicles and units of the armed forces. report the plan of OSH inspection in these fields to the Ministry of Labor, War Invalids and Social Affairs and the local Department of Labor, War Invalids and Social Affairs where the inspection is organized to coordinate implementation.

3. The OSH inspector of the Ministry of Labor, War Invalids and Social Affairs makes an unscheduled inspection of OSH in the fields specified in Clause 2 of this Article in the following cases :

a) Under the direction of the Prime Minister;

b) When there are risks of occupational unsafety and unsanitary causing accidents or seriously affecting the employee's health;

c) At the request of line ministries.

4. Ministries and ministerial-level agencies, when conducting OSH inspections within the scope, tasks and powers of their state management, shall invite representatives of the Ministry of Labor, War Invalids and Communes. join association; sending inspection results and recommendations to the Inspector of OSH of the Ministry of Labor, War Invalids and Social Affairs.

5. The inspector of OSH of the Ministry of Labor, War Invalids and Social Affairs is responsible for handling and handling the results of the inspection and recommendations on OSH of the ministries and agencies. ministerial level according to authority; notify the results to the agency sending the petition.

6. Provincial-level People's Committees shall stipulate the coordination among local Departments, Committees and branches in inspecting and examining OSH in their respective localities.

❖ **Inspection Status:**

According to statistics of the MOLISA Inspectorates, in 2014 there are 465 labor inspectors nationwide to undertake the inspection function of the implementation of labor policies, OSH regulations, people with meritorious services, social insurance, young workers, settlement of complaints and denunciations about the implementation of the labor policy regime. The number of officers working in the inspection of labor and OSH policies in the over country only reached over one third of the above number of labor inspectors. During 2011-2015, each year, OSH inspectorates only conducted about 5,600 enterprises / 525,000 enterprises and just focused on large enterprises that are at high risk of strikes, strikes and occupational accidents.

Many occupational accidents were not promptly reported by enterprises (*Source: The national OSH Profile during 2011-2015, MOLISA 2016*)

3.4.2. Utilization of private agency for inspection: there is no private agency involved in inspection on OSH

3.4.3. Reporting and notification system for workplaces

3.4.3.1. Reporting and notification system for occupational accidents and injuries at workplaces:

❖ **Notification of occupational accidents and technical incidents** endangering occupational safety and health prescribed in the Article 34 of OSH Law and Gov. Decree No 39/2016/ND-CP, Chapter III: notification, investigation, reporting of occupational accidents, technical incidents causing serious OSH failure as follows:

1. The notification of occupational accidents and technical incidents endangering occupational safety and health shall be carried out as follows:

a/ Upon the occurrence or facing of the risk of an occupational accident or a technical incident endangering occupational safety and health at the workplace, the victim of the accident or the person knowing the incident shall immediately report it to the direct supervisor or employer for taking measures to timely handle the accident or incident and remedy its consequences;

b/ If an accident causes death or serious injuries to at least 2 employees, the employer shall immediately notify it to the provincial-level labor state management agency of the place where the accident occurs. For an accident that causes death, the employer shall also notify it to the Public Security agency of the district, town or provincial city

c/ For accidents and incidents in the fields of radiation, oil and gas exploration and exploitation, railway, waterway, road and air transportation and in army forces, employers shall notify them in accordance with specialized laws.

d/ For an occupational accident that causes death or serious injuries to employees without labor contract, the relative of the victim or the person who detects it shall immediately notify it to the People's Committee of the commune, ward or township where the accident occurs for taking timely handling measures.

Upon the occurrence of an accident that causes death or serious injuries to at least two employees, the commune-level People's Committee shall immediately notify it to the district-level Public Security agency and the provincial-level labor state management agency of the place where the accident occurs for taking timely handling measures.

Upon the occurrence of a technical incident endangering occupational safety and health related to employees without labor contract, the person who detects the incident shall notify it to the commune-level People's Committee of the place where the incident occurs.

2. Within the scope of their responsibilities, competent agencies and organizations shall consider and deal with information on occupational accidents and technical incidents endangering occupational safety and health, inform the results of dealing with such information to agencies, organizations and individuals notifying such accidents or incidents upon request, and apply necessary measures to protect lawful and legitimate rights and interests of informants.

❖ **Time and form of occupational accident report** (Article 24 of Gov. Decree No. 39/2016/ND-CP) as follows:

The occupational accident report as prescribed in Article 36 of the Law on OSH is done as follows:

1. The employer shall send a report on the labor accident situation to the Department of Labor, War Invalids and Social Affairs, where the employer's head office is located; reports sent before July 5 every year for the first 6 months of the year and before January 10 of the following year, for the annual reports, according to the form provided in Appendix XII to this Decree. The report is sent by one of the following forms: in person, fax, post, email.

2. Commune-level People's Committees shall report occupational accidents and technical incidents causing serious occupational unsafety and insanitation related to employees working without labor contracts occurring in their localities, specified in Clause 2, Article 36 of the Law on OSH with district-level People's Committees under the form prescribed in Appendix XVI issued together with this Decree before July 5 for the first 6-month report and before January 5 of the following year for annual reports.

3. The district-level People's Committee shall synthesize labor accidents and technical incidents causing serious occupational unsafety and unsanitary problems related to employees working without labor contracts occurring in the locality. to report to the Department of Labor, War Invalids and Social Affairs under the form provided in Appendix XVI to this Decree before July 10, for the first 6-month reports and before January 10 of the following year, for reports. year.

4. Reporting responsibilities of the Department of Labor, War Invalids and Social Affairs are as follows:

- a) Quickly report fatal occupational accidents and serious occupational accidents that injure two or more employees to the Ministry of Labor, War Invalids and Social Affairs using the form specified in Appendix XIII issued with according to this Decree;
- b) Summarize the occupational accident situation that happened in the first 6 months of the year and a year in the province; send reports on occupational accident situation in the form specified in Appendix XIV and Appendix XV issued together with this Decree to the Ministry of Labor, War Invalids and Social Affairs (Department of Labor Safety) and Department of Statistics. statistics before July 15 for the first 6 months of the year and before January 25 of the following year for annual reports.

5. The agencies in charge of investigation of occupational accidents in the specific domain (radiation, oil and gas exploration and exploitation, railway, waterway, road and air transportation and in army forces) are responsible for reporting the accident situation. occupational accidents under the competence of investigation and send to the Ministry of Labor - Invalids and Social Affairs before July 15 for the first 6-month report and before January 25 of the following year for the annual report according to the form specified in Appendix XVII issued with this Decree.

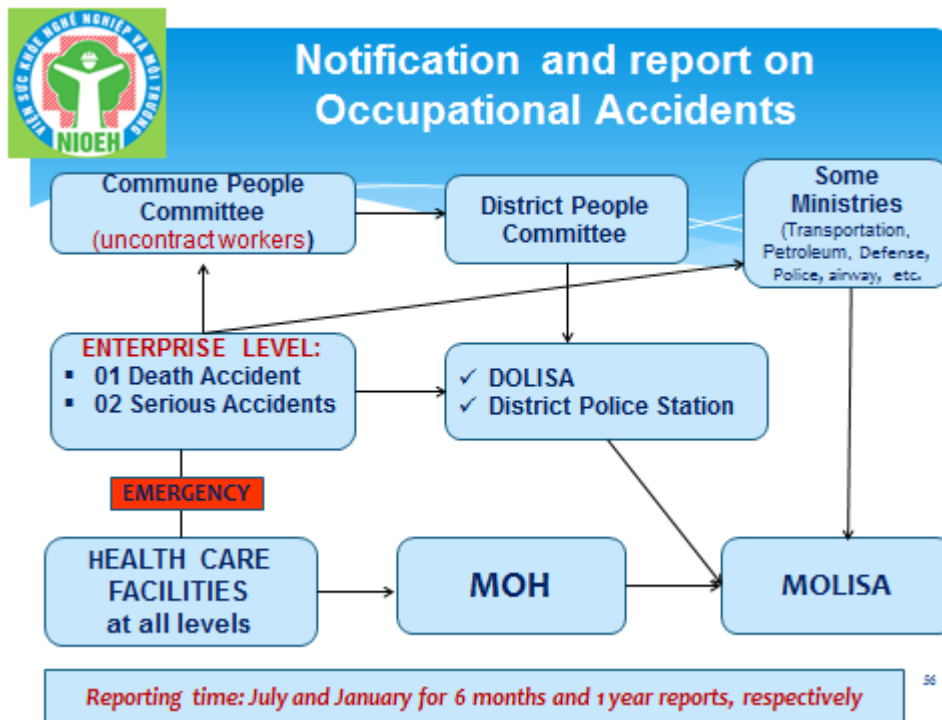
❖ **Reporting and providing information cases of occupational accident victims who receiving medical examination and treatment at medical examination and treatment establishments** (Article 25 of Gov. Decree No 39/2016/ND-CP) as follows:

1. The medical examination and treatment establishment shall make statistics of occupational accidents cases for examination and treatment at the establishments and send them to the Department of Health before July 5, for the first 6-month reports and before January 10 of the following yea, for annual reports using the form provided in Appendix XVIII to this Decree.

2. The Department of Health shall sum up the victims of occupational accidents for examination and treatment at local medical examination and treatment establishments according to the form provided in Appendix XIX to the Decree and send them to the

Ministry of Health before the 15th. July for the first 6-month report and before January 25 of the following year for the annual report.

3. The Ministry of Health shall send a general report on occupational accident victims of examination and treatment at medical examination and treatment establishments to the Ministry of Labor, War Invalids and Social Affairs before July 31, for the 6-month data of the beginning of the year and before February 15 of the following year for the annual data according to the form provided in Appendix XX to this Decree.



❖ **Reporting, investigating and reporting technical incidents** causing OSH failure and technical incidents causing serious OSH failure as prescribed in Article 26 of Gov. Decree No 39/2016/ND-CP as follows:

1. When an incident that causes death or serious injury of 2 or more people but the victim is not the employee under the management or the employee has an accident but the casualties are unknown, the employer The establishment's actions to occur the incident must be reported as quickly as possible to the inspector of the Department of Labor - Invalids and Social Affairs, where the incident occurred, to the District Police if the victim dies according to the prescribed form. in Appendix III attached to this Decree.

2. In addition to the declaration as prescribed in Clause 1 of this Article, technical incidents causing OSH failure and serious technical incidents causing serious OSH failure must be declared, Investigate, make statistics and report in accordance with specialized law.

3. For technical incidents causing serious occupational unsafety and insanitation but the specialized law does not provide for the declaration, the following actions shall be taken:

a) The person who discovers or receives the notification of a technical incident causing serious occupational unsafety and unsanitary shall immediately notify the employer of the establishment of the incident or the People's Committee of the commune, where the problem occurred. The employer and the communal People's Committee shall immediately notify the People's Committee of the district where the incident occurs;

b) For a technical incident causing serious occupational unsafety and unsanitary incident related to many production and business establishments or localities, the employer, the locality where the incident occurred, has Responsibility to immediately report to the People's Committees of districts and the People's Committees of provinces.

4. After conducting the investigation of the technical incident causing serious occupational unsafety and insanitation according to the provisions of the specialized law, the competent state agency in charge of the investigation shall send results or conclusions, Minutes of investigation to the provincial Department of Labor, War Invalids and Social Affairs where the incident occurred, the Ministry of Labor, War Invalids and Social Affairs and relevant agencies.

3.4.3.2. Reporting and notification system for employees' health and occupational diseases at workplaces

❖ **Circular No. 19/2016/TT-BYT by MOH** on guide the management of occupational hygiene and employees' health including Reporting regulations as follows:

***At Grassroots level:**

1. Unit and content of report:

a) The labor establishment shall make the occupational health report using the form prescribed in Appendix 8 enclosed the **Circular No. 19/2016/TT-BYT by MOH**;

b) District-level medical facilities and medical stations of communes, wards and townships shall report occupational accidents cases under the form specified in Decree

No. 39/2016 / ND-CP dated May 15, 2016 of the Government detailing the implementation of a number of articles of the Law on Occupational Safety and Health (hereinafter referred to as Decree No. 39/2016 / ND-CP) .

2. Unit receiving report:

- a) The medical centers at the district, urban district, town or provincial city (hereinafter referred to as the medical center) where the head office of the labor establishment is located;
- b) Health management units of industrial ministries and branches, for cases where labor establishments fall under the management of industrial ministries or branches.

3. Time to send report:

- a) Before July 5 every year for the first 6-month report;
- b) Before January 10 of the following year for the annual report.

***At District level**

1. Unit and content of report:

- a) The medical center shall make the occupational health report according to the form in Appendix 9 to this Circular;
- b) Provincial medical facilities that report occupational accidents are examined and treated at the units using the form specified in Decree No. 39/2016 / ND-CP.

Report recipient: Department of Health.

3. Time to send report:

- a) Before July 10 every year for the first 6 month report;
- b) Before January 15 of the following year for the annual report.

*** Provincial level**

1. Unit and content of report:

- a) Departments of Health and health management units of ministries and branches shall make occupational health reports according to the form provided in Appendix 10 to this Circular;
- b) The Department of Health shall report on the list of units eligible for working environment observation in the area using the form provided in Appendix 11 to this Circular.

2. Unit receiving report: Ministry of Health (Department of Environmental Management of Health).
3. Time to send report:
 - a) For the occupational health report:
 - Before July 15 every year for the first 6 month report;
 - Before January 25 of the following year for annual reports.
 - b) For the report on the list of units eligible for working environment observation:

Within 03 working days from the date the Department of Health announced the unit eligible for working environment observation on the portal Information of the Department of Health.

3.5. Workmen's Compensation Insurance and Social Security Schemes covering Occupational Injuries and Diseases

3.5.1. Workmen's compensation insurance and social security schemes:

This issue is regulated in OSH Law, Section 3: Occupational accident and disease insurance Regimes, Gov. Decree No. 37/2016 / ND-CP dated May 15, 2016 detailing a number of articles of the OSH Law regarding compulsory occupational accident and disease insurance and **Circular No. 26/2017/TT-BLDTBXH (dated 20/9/2017)**: Regulations and guiding the implementation of compulsory work accident and occupational diseases insurance as follows:

- ❖ The Occupational Accident and Disease Insurance Fund is a component of the Social Insurance Fund that cover the compensation for the victims suffer from occupational accidents (OA) and occupational diseases (OD)
- ❖ **The Occupational Accident and Disease Insurance Fund covers the following payments:**
 1. Payment of expenses for medical assessment of injuries and illnesses caused by occupational accidents and diseases; payment of expenses for medical assessment in case employees get on their own initiative medical assessment for determination of the level of working capacity decrease with the assessment results showing that such employees are eligible for higher benefits for occupational accidents or diseases.
 2. Payment of lump-sum allowance, monthly allowance and service allowance.

3. Payment of costs of assistive and orthopedic devices.
4. Payment of expenses for convalescence and health rehabilitation.
5. Payment of expenses for prevention and sharing of risks of occupational accidents and diseases.
6. Payment of expenses for victims of occupational accidents and diseases to change their occupations or jobs when they return to work.
7. Payment of expenses for management of occupational accident and disease insurance in accordance with the Law on Social Insurance.

❖ **The contribution to the OA & OD Insurance Fund:** Employers shall pay monthly premiums as follows:

- a) The rate of 1% of the employee's salary fund for paying social insurance premiums. In case the employer is an enterprise, cooperative, individual business household or cooperative group operating in the fields of agriculture, forestry, fishery or salt production with pay based on product or contract every month, every 3 months or every 6 months.
- b) The rate of 1% of the base salary for each employee

❖ **Employees are subject to compulsory occupational accident and disease insurance,** including:

- a) Cadres, public employees
- b) National defense workers, police workers, other workers in cipher organizations; officers and professional army soldiers; Professional officers and non-commissioned officers, professional and technical officers and non-commissioned officers of the People's Public Security; Cipher workers receive the same salary as soldiers; non-commissioned officers and soldiers of the People's Army; People's Public Security non-commissioned officers and men who serve a definite time; Military students, police and cipher students who are studying will enjoy living expenses;
- c) Persons working under indefinite term labor contracts, fixed-term labor contracts, seasonal labor contracts or for a certain job with a term of between full 3 months and under 12 months
- d) Persons working under labor contracts with a term of between full 01 month and under 03 months;

- dd) The enterprise managers, the managers and the cooperatives enjoying salary;
- e) Persons working under labor contracts signed between the employer and the legal representative of the person under 15 years old in accordance with the labor law;

❖ **Conditions for enjoying the occupational accident regime:** Employees participating in occupational accident and disease insurance fund are entitled to the occupational accident regime if they fully meet the following conditions:

1. Having an accident in one of the following cases:

a/ At the workplace and during working hours, even when they are doing personal activities at the workplace or during working hours allowed by the Labor Code and regulations of their production or business establishment, including breaks between working hours, mid-shift meals, inkind meals, menstruation breaks, shower time, breastfeeding time, and toilet

use;

b/ Outside the workplace or out of working hours while performing a task requested by the employer or a manager authorized by the employer in writing;

c/ On the way going to or coming back from the workplace along a reasonable route and within a reasonable time;

2. Having their working capacity decreased by at least 5% due to the accident

❖ **Conditions for enjoying the occupational disease regime**

1. Employees participating in occupational accident and disease insurance fund are entitled to the occupational disease regime if they fully meet the following conditions:

a/ Getting an occupational disease on the list of compensated occupational diseases issued by the Minister of Health;

b/ Having their working capacity decreased by at least 5% caused by a disease

2. After retiring or no longer performing the occupation or job at risk of occupational diseases on the list of compensated occupational diseases issued by the Minister of Health, if the employee is detected to have got an occupational disease within the prescribed time, he/she may be provided with medical assessment for consideration and provision of the regime under regulations of the Government.

➤ **COMPENSATION SCHEME:**

➤ **Subsidy for an employee getting work accident and occupational disease who is assessed work capacity decrease for the first time (Article 5)**

1. **The one-time benefits** for occupational accidents and diseases are calculated as follows:

One-time subsidy = The allowance level is calculated according to the working capacity decrease + The benefit level is calculated according to the number of years paid to the occupational accident and disease insurance fund

$$= \{5 \times L_{\min} + (m-5) \times 0,5 \times L_{\min}\} + \{0,5 \times L + (t-1) \times 0,3 \times L\}$$

In which:

- L_{min}: base salary at the time of entitlement.
- m: degree of work ability decrease due to a work accident or an occupational disease (take absolute number $5 \leq m \leq 30$).
- L: Salary paid for insurance premiums into the occupational accident and disease insurance fund.
- t: Total number of years of insurance payment to the occupational accident and disease insurance fund

2. The monthly allowance for occupational accident and disease benefit is calculated as follows:

Monthly allowance level = The allowance level is calculated according to the working capacity decrease + The benefit level is calculated according to the number of years paid to the occupational accident and disease insurance fund

$$\{0,3 \times L_{\min} + (m-31) \times 0,02 \times L_{\min}\} + \{0,005 \times L + (t-1) \times 0,003 \times L\}$$

In which

- L_{min}: base salary at the time of entitlement.
- m: decrease in working capacity due to a occupational accident or an occupational disease (take absolute number $31 \leq m \leq 100$).
- L: Salary and insurance contributions to the occupational accident and disease insurance fund.
- t: Total number of years paid to the occupational accident and disease insurance fund

3. Persons who are enjoying the monthly work accident or occupational disease allowance, when they go abroad to settle down and request, may be entitled to a lump-sum allowance, the lump-sum allowance level is equal to 3 months of the current enjoyed subsidy rate.

➤ **Settlement of benefits for work accidents and occupational diseases for the employees whose decreased work capacity is re-assessed after their injuries and diseases recur (Article 6)**

1. For the employees enjoying the work accident or occupational disease allowance:

a) For the employee who has received the lump-sum occupational accident or occupational disease benefit in accordance with the law on social insurance before January 1, 2007:

- If, after re-assessment, there is a working capacity decrease of less than 31%, he / she will be entitled to a lump-sum allowance as follows:

Work capacity decrease before re-assessment	Work capacity decrease after re-assessment	One-time subsidy
From 5% to 10%	From 10% and less	Not enjoying the new subsidy
	From 11% to 20%	4 months base salary
	From 21% to 30%	8 months base salary
From 11% to 20%	From 20% or less	Not enjoying the new subsidy
	From 1% to 30%	4 months base salary
From 21% to 30%	From 30% or less	Not enjoying the new subsidy

- If, after re-assessment, there is a working capacity decrease of 31% or more, they will be entitled to a monthly work accident or occupational disease allowance. The entitlement level is specified at Point b below.

b) For the employees who have received the monthly work accident or occupational disease allowance in accordance with the law on social insurance before January 1, 2007, after re-assessment, based on the results of re-assessment of the working capacity decrease, to enjoy the monthly allowance according to the following provisions:

Work capacity decrease	Monthly subsidy
Group 1: from 31% to 40%	0,4 months base salary
Group 2: from 41% to 50%	0,6 months base salary
Group 3: from 51% to 60%	0,8 months base salary
Group 4: from 61% to 70%	1,0 months base salary
Group 5: from 71% to 80%	1,2 months base salary

Group 6:from 81% to 90%	1,4 months base salary
Group 7: from 91% to 100%	1,6 months base salary

2. For an employee who has received the one-off labor accident or occupational disease allowance from January 1, 2007:

a) After re-assessment, if there is an increase in decreased working capacity compared to the previous one and less than 31%, they shall enjoy a lump-sum allowance. The one-time subsidy rate is calculated by the difference between the subsidy rate calculated according to the new working capacity decrease rate and the allowance rate calculated at the previous working capacity decrease.

b) After re-assessment, with a working capacity decrease of 31% or more, they are entitled to a monthly allowance, in which the allowance level calculated according to the working capacity decrease that is calculated on the level of the new decreased work capacity; The level of subsidy is calculated according to the number of years of social insurance payment that is calculated with the number of years of social insurance payment and the salary and wages of the month of social insurance payment before the one-time subsidy is calculated.

3. For employees who have received monthly work accident or occupational disease allowance from January 1, 2007 onwards, when re-assessment has a change in working capacity decrease, the rate of monthly allowance is changed. The new monthly allowance is calculated, in which the allowance level is calculated according to the working capacity decrease rate calculated on the new working capacity decrease. The rate of subsidy calculated according to the number of years of social insurance payment is the current rate.

4. The employee who suffers a work accident or an occupational disease but the degree of working capacity decrease is ineligible for the benefit of an occupational accident or disease and the injury or disease recurs after the assessment, and the working capacity decrease is eligible for benefits for occupational accidents and diseases, the allowance level is calculated according to the provisions of Clauses 1 and 2, Article 5.

5. The rate of allowance for occupational accident and disease for the employee whose work capacity decrease re-assessed as prescribed in Clauses 2 and 3 of this Article is calculated according to the base salary at the month of re-examination by the Medical Examination Council.

6. A dossier for a work accident or an occupational disease benefit for a person who has a work accident or an occupational disease and re-examined after the injury or disease recurs, comprises:

- a) Social insurance book for cases of occupational accident or occupational disease that have been assessed but ineligible for reduction of working capacity to enjoy benefits; a valid copy (is an authenticated copy from the master register or a copy from the original or a copy that has been compared with the original) of the dossier for entitlement to benefits for occupational accidents and diseases, for cases already received work accident and occupational disease benefits.
- c) Record of investigation of occupational accident or result of environmental measurement in case of completion of treatment or hospital discharge before July 1, 2016 but the previous assessment fails to meet the impairment level of reduced working capacity to enjoy work accident and occupational disease benefits; In case of a traffic accident which is determined to be an occupational accident, one of the following papers is additionally required: Record of scene examination, outline of the scene of the traffic accident or Record of traffic accident of the facility by police officer or military criminal investigation agency.
- d) The latest assessment of the working capacity decrease, issued by the Medical Examination Council, for the case that has been assessed but has not met the working capacity decrease condition to enjoy the benefits.
- dd) Record of re-assessment of the degree of work ability decrease after treatment of recurrent injury or disease of the Medical Assessment Council.
- e) Designation of medical examination and treatment facility, orthopedic or functional rehabilitation facility according to regulations on provision of living aids and orthopedic devices (if any).

➤ **Settlement of the labor accident or occupational disease allowance regime for employees who have received a lump-sum or monthly benefit and suffer an occupational accident, a new occupational disease or infected with HIV / AIDS due to an accident Occupational risks are assessed collectively (Article 7)**

1. For an employee who has a lump-sum or monthly work accident or occupational disease allowance and has suffered a new work accident or an occupational disease from January 1, 2007, depending on the degree of failure reduced working capacity due to a work accident or an occupational disease after a general assessment to settle benefits for occupational accidents and diseases, in which:

a) The rate of subsidy calculated according to the new working capacity decrease that is calculated according to the base salary in the month with the conclusion of the general assessment of the Medical Assessment Council or the month, in that the certificate of HIV / AIDS infection is issued. .

b) The rate of benefit calculated according to the number of years of payment to the occupational accident and disease insurance fund after the general assessment is calculated according to the number of years of payment to the occupational accident and disease insurance fund up to the time of Final occupational accident and disease and monthly salary paid to the occupational accident and disease insurance fund as prescribed in Clause 7, Article 4 of this Circular of the time of occupational accident or determined having the ultimate occupational disease.

2. An employee who suffers from a work accident or an occupational disease when participating in occupational accident and occupational disease insurance under many labor contracts, then continues to suffer from a work accident or an occupational disease at the time of the number of labor contracts for occupational accidents and diseases participating in occupational accident and disease insurance with the number of labor contracts is less than the number of labor contracts when having the last work accident or occupational disease. The rate of subsidy according to the number of years paid to the occupational accident and disease insurance fund, after being calculated according to Clause 1 of this Article, is lower than the current rate, the current entitlement rate remains.

3. The time for enjoying benefits is counted from the month when the employee completes the treatment or is discharged from the hospital after the last treatment of occupational accident or disease or from the month when the conclusion of the Medical Examination Council is obtained in the absence of inpatient treatment or in the absence of definite time of stable treatment, discharge from hospital.

4. A dossier for a person who suffers from a work accident or an occupational disease after a general assessment due to continued occupational accident or an occupational disease includes:

a) Social insurance book; A valid copy (is an authenticated copy from the master register or a copy from the original or a copy that has been compared with the original) of the dossier for entitlement to benefits for occupational accidents and diseases, for cases already settlement of benefits for labor accidents and occupational diseases.

b) Certificate of discharge or an extract of medical records after receiving treatment for the occupational accident or occupational disease of the last inpatient treatment.

c) Record of investigation of occupational accident; In case of a traffic accident which is determined to be an occupational accident, one of the following papers is additionally required: Record of scene examination, map of the scene of the traffic accident or record of traffic accident of the facility. police officer or military criminal investigation agency in case of treatment is completed, discharged before July 1, 2016 without assessment of working capacity decrease.

d) The results of environmental measurement with hazardous and toxic factors for the case where the treatment is completed and discharged before July 1, 2016 without assessment of the degree of working capacity decrease.

dd) Record of assessment of the degree of working capacity decrease, made by the Assessment Council of the Medical Assessment Council; In case of previous occupational accident or disease whose working capacity decrease has been assessed but ineligible for benefit, there is an additional record of assessment of the degree of work ability decrease of this assessment.

e) A written request for the settlement of the work accident or occupational disease regime according to the form for the last time of work accident or occupational disease; In case the previous time of having a work accident or an occupational disease but the benefits have not been settled, a written request for settlement of the unit where the previous occupational accident or disease occurred is required.

g) Designation of medical examination and treatment facility, orthopedic and functional rehabilitation facility according to regulations on provision of living aids and orthopedic devices (if any).

➤ **Order and dossier for settlement of the occupational disease regime for employees who have retired or no longer work in occupations or jobs at risk of occupational disease (Article 10)**

1. In cases where an employee has retired or quit his job but is still in the guarantee period, he / she shall send his / her personal health record to the occupational disease examination establishment for occupational disease examination, after receiving the result of occupational disease examination, the occupational disease facility shall complete the dossier of occupational disease examination for employees according to regulations of the Ministry of Health.

2. In cases where the employees change jobs no longer work in occupations or jobs at risk of occupational diseases but also during the guarantee period, the employees shall send their personal health records to the medical examination establishments. The employee or the employer where the employee is working shall prepare an occupational disease examination dossier on the basis of the health management dossier after the occupational disease examination for detection of occupational diseases for workers.

The occupational accident and disease insurance fund pays the full cost of occupational disease examination for the cases specified in Clauses 1 and 2 of this Article after being paid by health insurance.

3. After completing the dossier of occupational disease examination, the employee shall take the initiative to examine for assessment of the degree of working ability decrease or request the unit where the employee used to work or is working to introduce it.

4. After having the result of assessment of the working capacity decrease of 5% or more, then send the dossier to the social insurance agency at provinces and cities to deal with occupational disease regimes.

5. The time for enjoying occupational disease benefit is counted from the month with the conclusion of the Medical Assessment Council.

3.5.2. Approval standards for occupational injuries and diseases

3.5.2.1. Approval standards for occupational injuries

Occupational accident by OSH Law (2015) means an accident causing injury to any part or function of the body or causing death to employees, which happens during the working process and is closely related to the performance of the assigned work or task.

➤ **Classification of occupational accidents (OAs):**

○ **Occupational injury causing death in the following cases**

- At workplaces where the accident happened;
- On the way or during the emergency
- During treatment or due to recurrence of wounds as stated in the forensic medical examination records
- The declaration by the court's conclusion

○ **Serious OAs:** at least one of the injuries specified in Appendix II to the Gov. Decree No. 39/2016/ND-CP as follows:

01 Injuries on the Head, face, neck

011 Open or closed cranial trauma;

012 Crushed brain;

013 Intracranial hematoma;

014 Broken skull;

015 Scalp peeling;

016 Injured pupil;

017 Fracture and bruising of the scapula;

018 Broken facial bones;

019 Injured large soft tissues on the face;

0110 Injured neck, damaging the larynx and esophagus

02 Injuries on the chest and abdomen

021 Injured chest harms internal organs;

022 Median mediastina pressure syndrome;

023 Injured chest or chest is severely pressed;

024 Broken ribs;

025 Injured large soft tissues on the abdomen;

026 Abdominal trauma and crush damage to internal organs;

027 Perforation, rupture of organs in the abdomen;

028 Touching, crushing, affecting the movement of the spine;

029 Spine fracture or dislocation;

0210 Pelvic fracture;

0211 Pelvic injury greatly affects movement of the body and lower extremities;

0212 Injured genital organs

03. Injuries in the upper extremities

031 Injured bones, nerves, blood vessels affecting movement of the upper limbs;

032 Widespread soft tissue injuries in the upper extremities;

033 Injured shoulder, arm, hand, or wrist, causing tendons damage;

034 Crushed, fractured, shattered collarbone, shoulder, arm, forearm, wrist, hand, knu04

04. Lower extremities

041 Injured lower extremities causes damage to blood vessels, nerves and bones, affecting movement of the lower extremities;

042 Large injuries on the lower extremities;

043 Broken and bruised hip, hip joints, thigh, knee, tube, ankle, foot and toes joints;

035 Dislocated joints.

05 Burns

051 3rd degree burns;

052 2nd degree, 3rd degree burns due to widespread heat;

053 Severe burns caused by chemicals at degree 2 or 3;

054 Severe electric burns;

055 A degree 3 cold burn;

056 2nd degree, 3rd degree cold burns

06 Severe poisonings caused by the following substances

061 Carbon monoxide: fainting, delirium, skin nutritional disturbance, pneumonia, state of shock, psychological fatigue, drowsiness, memory impairment, marked changes in the cardio-vascular system;

062 Nitrogen oxide: complete pneumonia; complicated or uncomplicated form of bronchitis;

063 Hydrogen sulphide: strong irritation, epilepsy possible pneumonia, delirium;

064 High concentrations of carbon monoxide: apnea, then slow breathing, bleeding in the nose, mouth and intestines, weakness, fainting;

065 Acute toxicity of plant protection chemicals;

066 Acute toxicity of other toxic chemicals on the declared and registered list.

- **Light OAs:** the OAs do not belong to deaths and serious OAs
- **Conditions for enjoying the occupational accident regime (OSH Law, Article 45):**
Employees participating in occupational accident and disease insurance are entitled to the occupational accident regime if they fully meet the following conditions:

1. Having an accident in one of the following cases:
 - a/ At the workplace and during working hours, even when they are doing personal activities at the workplace or during working hours allowed by the Labor Code and regulations of their production or business establishment, including breaks between working hours, mid-shift meals, inkind meals, menstruation breaks, shower time, breastfeeding time, and toilet use;
 - b/ Outside the workplace or out of working hours while performing a task requested by the employer or a manager authorized by the employer in writing;
 - c/ On the way going to or coming back from the workplace along a reasonable route and within a reasonable time;
2. Having their working capacity decreased by at least 5% due to the accident prescribed in Clause 1 of this Article;
3. Employees are not entitled to the regime paid by the Occupational Accident and Disease Insurance Fund if they fall into one of the cases specified in Clause 1, Article 40 of this Law.

3.5.2.2. Approval standards for occupational injuries and diseases

- *Definition of Occupational disease by OSH Law (2015):* an illness caused to employees by their hazardous working conditions.
- Circular 15/2016/TT-BYT dated 15/5/2016 by MOH: This Circular provides the list of compensated occupational diseases eligible for social insurance and provides guidance on diagnosis and assessment of occupational diseases: diagnosis and medical expertise criteria. If employee who suffer from any disease during work that is included in the list of compensated ODs and meet the criteria of diagnosis and medical expertise in this Circular, can be entitled OD victim and get social compensation depending on the percentage of decreased work capacity. Each occupational disease is described in this Circular with the following parts:
 - Definition of OD,
 - Occupational factor causing OD;
 - Common exposed jobs/occupations;
 - Minimum exposure limit (is the lowest exposure to harmful factors during work that can cause occupational disease).
 - Minimum exposure time (is the shortest time of exposure to harmful factors in the working process causing occupational diseases);
 - Minimum exposure time is the shortest time of exposure to harmful factors in the working process in order to cause occupational diseases.

- Guaranteed period (is the period from the time the employee is away from exposure to the harmful factor to the time when the disease is still likely to develop due to such harmful factor);
 - Diagnosis criteria (including clinical and para-clinical criteria);
 - Progression, complications of OD
 - Combination disease
 - Differential diagnosis
 - Medical expertise Guide including the table of percentage of injured body caused by an occupational disease (percentage of decreased working capacity)
- Conditions for enjoying the occupational disease regime (OSH Law, Article 46)
1. Employees participating in occupational accident and disease insurance are entitled to the occupational disease regime if they fully meet the following conditions:
 - a/ Getting an occupational disease on the list of compensated occupational diseases issued by the Minister of Health;
 - b/ Having their working capacity decreased by at least 5% caused by a disease prescribed at Point a of this Clause.
 2. After retiring or no longer performing the occupation or job at risk of occupational diseases on the list of compensated occupational diseases issued by the Minister of Health, if the employee is detected to have got an occupational disease within the prescribed time, he/she may be provided with medical assessment for consideration and provision of the regime under regulations of the Government.

3.5.3. Occupational disease list:

The list of 34 compensated Occupational Diseases in Vietnam:

*** *Group I: Occupational Pneumoconiosis and bronchial diseases:***

1. Silicosis
2. Asbestosis
3. Byssinosis
4. Occupational chronic bronchitis
5. Asthma
6. Talcosis
7. Coal lung diseases

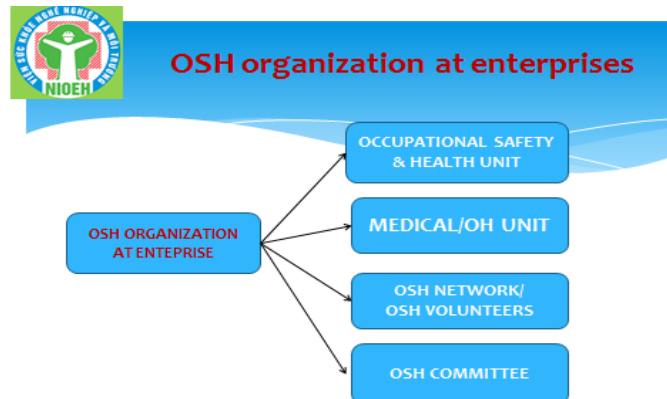
*** *Group II: Occupational poisonings:***

8. Lead poisoning

9. Benzene poisoning
10. Mercury poisoning
11. Manganese poisoning
12. TNT (trinitrotoluene) poisoning
13. Arsenic and Arsenic compound poisoning
14. Pesticide poisoning
15. Nicotine poisoning
16. Carbon monoxide poisoning
17. Cadmium poisoning
- * ***Group III: Occupational Diseases due to physical factors***
 18. Noise Induced Hearing Loss
 19. Diseases caused by compressed or decompressed air
 20. Diseases caused by Whole body Vibration
 21. Diseases caused by Local Vibration
 22. Diseases caused by ionizing radiations
 23. Occupational Cataracts
- * ***Group IV: Occupational Skin diseases***
 24. Occupational oil acne diseases
 25. Occupational Mellanosis
 26. Irritant contact dermatoses caused by Chromium
 27. Skin disease caused by prolonged exposure to wet and cold environments
 28. Occupational skin disease caused by exposure to natural rubber, chemical additives
rubber
- * ***Group V: Occupational Infectious Diseases***
 29. Leptospirosis
 30. Hepatitis Virus B
 31. Tuberculosis
 32. Hepatitis Virus C
 33. HIV infection by occupational accident
- * ***Group VI: Occupational Cancers***
 34. Mesothelioma

3.6. Workplace Organization for OSH Management

3.6.1. Workplace organization for OSH management by regulations:



❖ Occupational safety and health units (According to Article 72 of OSH Law)

1. Based on the size and characteristics of work, risks of occupational accidents and diseases, and working conditions, employers shall assign occupational safety and health officers or establish an occupational safety and health unit at their establishments. The Government shall detail this Clause.
2. Occupational safety and health officers or the occupational safety and health unit shall assist and advise the employer in the implementation of occupational safety and health in the production and business establishment, with the following major tasks:
 - a) Formulating regulations, procedures and measures to ensure occupational safety and health and prevent and fight fires and explosions;
 - b) Making, and monitoring the implementation of, annual plans on occupational safety and health; assessing risks and making emergency rescue plans;
 - c) Managing and monitoring the notification and inspection of machinery, equipment, supplies and substances subject to strict requirements for occupational safety and health;
 - d) Organizing occupational safety and health information, communication and training activities; organizing first aid and emergency care, and prevention and control of occupational diseases for employees;
 - e) Organizing occupational safety and health self-examination; investigating in accordance with law occupational accidents and technical incidents endangering occupational safety and health; f/ Assuming the prime responsibility for, and coordinating with the health unit in, monitoring and controlling dangerous factors and hazardous factors;

- f) Summarizing, and requesting the employer to deal with, recommendations on occupational safety and health of inspection teams, examination teams and employees;
 - g) Coordinating with the establishment's trade union executive committee in guiding the performance of tasks of occupational safety and health workers;
 - h) Organizing emulation, commendation and reward, disciplining, statistical work and reporting on occupational safety and health.
3. Occupational safety and health officers and occupational safety and health units have the following rights:
 - a) To request the heads of production units to order work suspension, or to temporarily suspend work in emergency circumstances if detecting risks of occupational accidents in order to implement occupational safety and health measures and at the same time report it to the employer;
 - b) To stop the operation of machinery and equipment that fail to meet safety requirements or have expired;
 - c) To be sent by the employer to training and refresher courses to improve occupational safety and health knowledge and skills in accordance with law.
 4. Occupational safety and health officers must have technical knowledge, skills and good understanding of practical production and business activities of their establishment.
 5. In case a production and business establishment cannot arrange occupational safety and health officers or form an occupational safety and health unit as prescribed in Clauses 1 and 4 of this Article, it shall hire a qualified organization as prescribed by law to perform occupational safety and health tasks prescribed in Clause 2 of this Article

❖ **Health units (According to Article 73 of OSH Law)**

1. Based on the size and characteristics of work, risks of occupational accidents and diseases, and working conditions, employers shall assign health workers or form a health unit responsible for taking care of and managing employees' health. The Government shall detail this Clause.
2. Health workers or health units shall assist and advise employers in managing, and directly manage, employees' health with the following major tasks:
 - a) Preparing plans and facilities for first aid and emergency care, essential drugs, and scenarios of emergency rescue for victims of occupational accidents; organizing training in first aid and emergency care for employees in their establishments;

- b) Planning and organizing health check-up, medical examination to detect occupational diseases, medical assessment to determine the level of working capacity decrease for employees getting occupational accidents and diseases, convalescence and working function rehabilitation, and counseling on measures to prevent and control occupational diseases; and proposing assignment of jobs suitable to employees' health;
- c) Providing medical examination and treatment of common diseases at their establishments and rendering first aid and emergency care for victims of occupational accidents and technical incidents endangering occupational safety and health under regulations;
- d) Communicating and disseminating information on occupational safety and health, prevention and control of occupational diseases, and health improvement at the workplace; examining the observance of sanitation regulations, organize prevention and control of epidemics, ensure food safety and hygiene for employees in their establishments; and organizing provision of in-kind allowances under regulations;
- dd/ Collecting and managing information on occupational safety and health at the workplace; organizing working environment monitoring to assess hazardous factors; and managing health records of employees and victims of occupational diseases (if any);
- e) Coordinating with the occupational safety and health unit in performing relevant tasks prescribed in Clause 2, Article 72 of this Law.

3. Health workers and health units have the following rights:

- a) To require heads of production units to order work suspension, or decide to temporarily suspend work in emergency circumstances when detecting signs of violation or risks that are likely to cause harm, diseases and illnesses to employees and at the same time report on the situation to the employer; to manage medical equipment and facilities, drugs to serve first aid and emergency care at the workplace; to guide employees in their establishments on first aid and emergency care;
- b) To stop the use of substances that fail to meet occupational safety and health requirements;

- c) To be sent by the employer to meetings and seminars with local health agencies or health agencies of ministries and sectors to improve professional knowledge and coordination.
4. Health workers at the establishment must possess health qualifications and certificates of occupational health.
5. In case an establishment cannot arrange health workers or form a health unit as prescribed in Clauses 1 and 4 of this Article, it shall sign a contract with a qualified health establishment as prescribed by the Minister of Health to provide health care for its employees as prescribed in Clause 2 of this Article.

❖ **Occupational safety and health workers (According to Article 74 of OSH Law)**

1. Each production group in production and business establishments must have at least one part-time occupational safety and health worker during the working hours. The employer shall issue a decision on the establishment and regulations on the operation of the network of occupational safety and health workers after consulting the establishment's trade union executive committee, if any;
2. An occupational safety and health worker must be a direct employee who possesses occupational safety and health knowledge and techniques, is voluntary and exemplary in observing occupational safety and health regulations and is elected by employees in his/her group.
3. Occupational safety and health workers shall work under the management and guidance of the establishment's trade union executive committee in accordance with the regulations on the operation of the network of occupational safety and health workers; coordinate technically with occupational safety and health officers or occupational safety and health management unit, health workers or health unit at their establishment in the performance of their tasks.
4. Occupational safety and health workers have the following obligations:
 - a) To urge, remind and instruct every person in groups, teams and workshops to strictly obey occupational safety and health regulations, preserve safety devices and personal protective equipment; to remind the heads of groups, teams and workshops to obey occupational safety and health regulations;
 - b) To supervise the implementation of occupational safety and health standards, procedures and regulations, detect wrongdoings and violations related to

occupational safety and health, and unsafe and unhygienic machinery, equipment, supplies, substances and workplace;

- c)* To participate in the making of occupational safety and health plans and the instruction of safe working measures to new employees in the group;
- d)* To propose the head of the group or supervisors to fully implement regulations on labor protection and occupational safety and health measures, timely deal with unsafe and unhygienic machinery, equipment, supplies, substances and workplace;
- e)* To report to trade unions or labor inspectorates upon the detection of occupational safety and health violations at the workplace or unsafe machinery, equipment, supplies and substances subject to strict requirements for occupational safety and health which have been reported to the employer but have not been dealt with.

5. Occupational safety and health workers have the following rights:

- a)* To be provided with adequate information on measures used by the employer to ensure occupational safety and health at the workplace;
- b)* To spend part of their working hours to perform tasks of occupational safety and health workers while still getting paid for the time of performance of these tasks and enjoying a responsibility allowance. The level of responsibility allowance shall be agreed by the employer and the establishment's trade union executive committee, and shall be stated in the regulations on the operation of the network of occupational safety and health workers;
- c)* To request employees in the group to stop working for implementing occupational safety and health measures if seeing imminent risks that are likely to cause incidents or occupational accidents, and take responsibility for such request;
- d)* To participate in training and refresher courses to improve their professional knowledge and working methods.

3.6.2. OSH committee:

❖ Establishment's occupational safety and health committee (According to the Article 7 of OSH Law)

1. Based on the size and characteristics of work, risks of occupational accidents and diseases, and working conditions, employers shall establish occupational safety and health committees in their establishments. The Government shall detail this Clause as follows:
 - a) Establish an OSH Committee in the following cases:

- For the mining, coke production, refined petroleum, chemicals & metal production and products from metal, non-metallic mineral products, shipbuilding, ship building and repair, power generation, transmission and distribution with >300 workers
 - Others with >1,000 workers
 - Economic groups, State corporations
- b) Others can establish an OSH Committee if it finds necessary and qualified to operate.
2. The occupational safety and health committee has the following tasks and powers:
- a) To advise and coordinate with the employer in formulating regulations, procedures, plans and measures to ensure occupational safety and health at the production and business establishment;
 - b) To organize annual dialogues at the workplace between employees and the employer to share information, increase understanding, promote equal and safe working conditions for employees; to improve the effectiveness of the implementation of occupational safety and health policies and laws in the production and business establishment;
 - c) To examine the implementation of occupational safety and health activities in the production and business establishment;
 - d) To request the employer to implement remedies if finding risks of unsafe and unhygienic problems.
3. The occupational safety and health committee shall be composed of:
- a) A representative of the employer as the committee president;
 - b) A representative of the establishment's trade union executive committee, or a representative of the collective of employees in the establishment where there is no trade union, as the committee's vice president;
 - c) Occupational safety and health officer of the production and business establishment as the standing member cum secretary of the committee;
 - d) Health workers in the establishment;
 - e) Other related members. The committee must ensure a certain percentage of female members in accordance with the gender equality principle and the practical situation of the establishment.

3.6.3. OSH training at workplaces(see more details in Item 3.8.1.12):

➤ **OSH Law, Article 14 regulates the training in occupational safety and health as follows:**

1. Occupational safety and health managers, occupational safety and health officers, health workers and occupational safety and health workers at production and business establishments shall participate in occupational safety and health training and may obtain a certificate from the occupational safety and health training institution after passing an examination. In case there is a change in occupational safety and health policies and laws or science and technology, these persons shall be retrained to update their occupational safety and health knowledge and skills.

2. Employers shall organize training for employees performing jobs subject to strict requirements for occupational safety and health and provide them with safety cards before assigning them to such jobs.

3. Employees without labor contract shall be trained in occupational safety and health before performing jobs subject to strict requirements for occupational safety and health and provided with safety cards.

The State shall adapt policies to support part of training fee for employees participating in the training mentioned in this Clause. The levels of support, eligible trainees and support duration shall be prescribed in detail by the Government depending on the socio-economic development conditions in each period.

4. Employers shall organize occupational safety and health training by themselves and are responsible for the quality of such training for employees other than those specified in Clauses 1, 2 and 3 of this Article, and apprentices, interns and employees on probation prior to recruitment or assignment of jobs; and provide periodical retraining in order to equip enough knowledge and skills needed to ensure occupational safety and health during the working process and suitable to their assigned jobs.

5. The occupational safety and health training prescribed in this Article must conform to the characteristics and nature of each profession and working position and number of employees, and must not cause difficulties to production and business activities. Depending on specific conditions of each production and business establishment, employers shall take the initiative in organizing separate training in occupational safety and health or combined training in occupational safety and health and fire prevention and fighting or other contents specified by specialized laws.

6. The Minister of Labor, War Invalids and Social Affairs shall promulgate the list of jobs subject to strict requirements for occupational safety and health after consulting ministries managing related sectors or fields.

7. Occupational safety and health training institutions include public non-business units and enterprises providing occupational safety and health training service in accordance with the investment law and this Law. In case an enterprise organizes occupational safety and health training by itself for the subjects defined in Clauses 1, 2 and 3 of this Article, it must meet the conditions applicable to occupational safety and health training institutions.

8. The Government shall prescribe in detail agencies competent to grant, conditions on physical and technical foundations, criteria for occupational safety and health trainers, the order, procedures and dossiers for granting, re-granting, extending or revoking certificates of eligibility for occupational safety and health training to the institutions defined in Clause 7 of this Article; and occupational safety and health training and self-training.

3.7. Personnel engaged in the area of OSH

3.7.1. Legal qualification requirements for personnel engaged in the area of OSH, such as safety and health officers, safety engineers, occupational physicians, and hygienists

3.7.1.1. Legal qualification Requirements of the full-time OSH officer:

1. The full-time occupational safety officer must satisfy one of the following conditions:

- a) Having university degrees in technical disciplines; have at least 01 year of experience working in the field of business and production of the establishment;
- b) Having college degree in technical disciplines; have at least 03 years of experience working in the field of business and production of the establishment;
- c) Having intermediate qualifications in the technical specialties or directly doing technical jobs; has 05 years of experience working in the field of production and business of the establishment.

2. Part-time occupational safety officer must satisfy one of the following conditions:

- a) Having university degrees in technical disciplines;
- b) Having college degree in technical disciplines; have at least 01 year of experience working in the field of business and production of the establishment;

c) Having intermediate qualifications in the technical specialties or directly doing technical jobs; has 03 years of experience working in the field of production and business of the establishment.

3.7.1.2. Legal qualification Requirements of health staffs (occupational physicians, nurses, etc.)working in medical center/division at enterprise:

1. A person performing medical/health care activities at an enterprise/production and business establishment must fully satisfy the following conditions:

a) Having medical qualifications including: general doctors/practitioners, preventive medicine doctors, bachelor of nursing, physician/doctor assistants, nurses with intermediate levels midwives;

b) Having a certificate of professional occupational health (*see more details the certificate training program on occupational health in Item 3.8.12*)

2. The employer must notify the information of health staffs to the Department of Health of the province where the establishment is headquartered.

3. In case the establishment cannot arrange a health staffs or cannot establish a medical division, the business and production establishment shall comply with regulations as the followings:

a) Sign a contract with a qualified medical facility as follows: provide a sufficient number of medical personnel as prescribed in the Article of minimum requirement of number of medical staffs; to be present promptly at the business and production establishment when an emergency occurs within 30 minutes for the plain, town or city and 60 minutes in the mountainous, remote and isolated areas;

b) Notify the information of the above medical facility to the Department of Health of the province where the head office is located.

3.7.1.3. Legal qualification Requirements of occupational disease doctors

1. A medical doctor performing occupational disease detection must fully satisfy the following conditions:

a) Having medical qualifications including: general doctors/practitioners, and specialized doctors

b) Having a certificate of professional occupational disease.

2. The content of Occupational disease certificate training program

Minimum training time: 03 months. For occupational disease-oriented specialty training comply with current regulations (9 months). However, from 2020, there is no more the 9 months course training on occupational disease-oriented specialty

a) Overview of occupational diseases

b) Basic respiratory disease overview, basic ear, nose and throat disease

c) Outline of basic dermatological diseases

d) Overview of basic cardiovascular disease

e) Group of occupational respiratory diseases, basic diagnostic techniques and preventive measures

f) Reading technique of pneumoconiosis is according to classification guidelines of the International Labor Organization

g) Group of diseases caused by occupational physical factors, basic diagnostic techniques and preventive measures

h) Group of occupational infections, basic diagnostic techniques and preventive measures

i) Group of occupational skin diseases, basic diagnostic techniques and preventive measures

j) Group of occupational diseases caused by biological agents, basic diagnostic techniques and preventive measures

k) Synthesize data, report and propose advice on effective prevention of occupational diseases in the working environment

l) Clinical practice at occupational disease examination facilities and laboratory practice

3. Training Institutions:

- The National Institute of Occupational & Environmental Health

- Hanoi Medical University, Institute of Preventive medicine Training and Public Health

- Qualified Institutions in occupational diseases

3.7.1.4. Legal qualification Requirements of occupational hygienists who involved in working environment monitoring

Gov. Decree No. 44/2016/ND-CP, Article 33 prescribed Conditions of the organization operating working environment monitoring including requirement of human resource:

The working environment monitoring organization must satisfy the following conditions:

1. Non-business units or enterprises providing working environment monitoring services.

2. Having enough human resources to perform the working environment monitoring as follows:
 - a) The person directly in charge of working environment observation has the following qualifications:
 - Bachelor's degree or higher in the fields of health, environment, biochemistry;
 - Have at least 02 years of experience in the field of working environment observation or 05 years of experience in the field of preventive medicine;
 - Having a training certificate in working environment monitoring.
 - b) Having at least 05 people working under contract with term from 12 months or more or contract with indefinite term with qualifications as follows:
 - Intermediate or higher qualification in the fields of health, environment, biochemistry; in which at least 60% of people have university degrees or higher;
 - Having a training certificate in working environment monitoring

*** The contents of certificate training on working environment monitoring:**

- Minimum training time: 01 month.
- Content:
 1. General introduction on occupational safety and health
 2. Make a working environment monitoring plan
 3. Method of measuring and evaluating physical factors in working environment
 4. Method of measuring and evaluating dust elements in working environment;
 5. Method of measuring and evaluating chemical factors in working environment
 6. Method of measuring and evaluating psycho-physiological and ergonomic factors at work
 7. Assessment of occupational exposure for microbiological factors, allergens, and carcinogenic factors, ...
 8. Fieldwork and practice at the labor establishment to observe the working environment
 9. Synthesize data, report and propose advice on effective prevention of harmful factors in the working environment
- Training institutions: qualified Institutions under management of MOH such as the National Institute of Occupational & Environmental Health (NIOEH); Institute of Public Health in HoChiMinh City, Pasteur Institute

3.7.2. Minimum staffing standards for personnel engaged in the area of OSH

***Occupational safety Unit/Division (OSH Law & Gov. Decree 39/2016, Article 36):**

The organization of the occupational safety division under Clause 1, Article 72 of the Law on occupational safety and health is specified as follows:

1. For production and business establishments operating in the fields and lines of mining, production of coke coal, production of refined petroleum products, chemical production, metal production and products from metal, manufacture of non-metallic mineral products, construction of construction works, building and repairing ships, producing, transmitting and distributing electricity, employers must organize occupational safety Units/division that meets the following minimum requirements:

a) The business and production establishments that employ less than 50 people must arrange at least 01 part-time OSH officer to perform the work of occupational safety

b) The business and production establishments that employ between 50 and less than 300 employees must arrange at least 01 full-time OSH officers to perform the work of occupational safety;

c) The business and production establishments that employ between 300 and less than 1,000 employees must arrange at least 02 full-time OSH officers to perform the work of occupational safety;

d) The business and production establishments that employ more than 1,000 employees must establish the occupational safety division or arrange at least 03 full-time OSH officer to perform the occupational safety.

2. For production and business establishments operating in fields and trades other than those specified in Item 1 above, employers must organize a occupational safety division that meets the following minimum requirements:

a) The business and production establishments that employ less than 300 people must arrange at least 01 part-time OSH officer to perform the work of occupational safety;

b) The business and production establishments which employ from 300 to less than 1,000 employees must arrange at least 01 full-time OSH officer to perform the occupational safety;

c) The business and production establishments that employ more than 1,000 employees must establish an occupational safety division or arrange at least 2 full time OSH officers to perform the occupational safety.

***Health Unit/Center (Article 73 of OSH Law & Article 37 of Gov. Decree 39/2016):**

The organization of the medical division specified in Clause 1, Article 73 of the Law on occupational safety and sanitation is specified as follows:

1. For production and business establishments in the fields and industries of processing and preserving aquatic products and products from aquatic products, mining, manufacturing textile products, garment, leather, shoes, coke production, chemical production, rubber and plastic products manufacturing, scrap recycling, sanitation, metal production, ship building and repair, building materials production, users The employer must organize the medical division at the establishment to ensure the following minimum requirements:

- a) The business and production establishments that employ less than 300 people must have at least 1 health staff with intermediate qualification to perform the health care activities;
- b) The business and production establishments that employ between 300 and less than 500 people must have at least 01 medical doctor / physician and 01 health staff with intermediate qualification to carry out the health care activities;
- c) The business and production establishments that employ between 500 and less than 1,000 employees must have at least 1 medical doctor and each shift must have 01 health staff with intermediate qualification to perform the health care activities;
- d) Production and business establishments that employ at least 1,000 employees must set up health center/ facility in an organized form in accordance with the law on medical examination and treatment.

2. For production and business establishments operating in fields and trades other than those specified in Item 1 above, the employer must organize the medical unit/division at the facility. The medical unit/division ensures the following minimum requirements:

- a) The business and production establishments that employ less than 500 people must have at least 01 health staff with intermediate level to perform the health care activities;
- b) The business and production establishments that employ between 500 and less than 1,000 people must have at least 1 physician and 01 health staff with intermediate level to perform the health care activities;
- c) Production and business establishments that employ more than 1,000 employees must have 1 medical doctor and 1 health staff to do other health care activities.

3.8. Legal Requirements for Workplace Activities for OSH Management

3.8.1. *Legal requirements for regular activities related to OSH, such as management system, risk assessment, health examination, environmental monitoring, and etc.*

3.8.1.1. *Legal requirements for Control of dangerous factors and hazardous factors at the workplace*

➤ ***OSH Law, Article 18 prescribed Control of dangerous factors and hazardous factors at the workplace as follows:***

- Employers shall evaluate and control dangerous factors and hazardous factors at the workplace in order to work out occupational safety and health technical measures and take care of employees' health; implement decontamination and disinfection in areas where there are hazardous or infectious elements.
- For hazardous factors with permissible contact limits set by the Minister of Health to control their harm to employees' health, employers shall conduct working environment monitoring to assess hazardous factors at least once a year. Working environment monitoring organizations must meet all required conditions on physical foundations, equipment and manpower.
- For dangerous factors, employers shall regularly control and manage them in accordance with technical requirements to ensure occupational safety and health at the workplace and at least once a year organize inspection and assessment of these factors in accordance with law.

➤ ***Decree No. 39/2016 / ND-CP dated May 15, 2016 of the Government providing for the basic contents of controlling dangerous and harmful factors at the workplace as follows:***

- ***Contents of control over dangerous and harmful factors at the workplace (Article 4):***

1. Identifying and evaluating dangerous and harmful factors.
2. Determination of the objective and measures to prevent and control the dangerous and harmful factors.
3. Implement and evaluate effectiveness of measures to prevent and control dangerous and harmful factors.

- ***Identification and assessment of dangerous and harmful factors (Article 5):***

1. Analysis of Working Condition Characteristics, relevant work procedures and workplace test results.
2. Surveying employees about factors that can cause injury, disease or impair their health in the workplace.

3. In case of failure to identify and assess completely and accurately sensitively, appropriate machines and equipment must be used to measure and test the dangerous or harmful factors; prepare a dossier on occupational environmental sanitation for harmful factors and prevention of occupational diseases using the form specified in Appendix I to this Decree.

- *Determination of objectives and measures to prevent and control the dangerous and harmful factors (Article 6)*

1. Based on the identification and assessment of dangerous and harmful factors, the employer determines the objectives and appropriate measures to prevent and combat the harm of dangerous factors, Harmful factors at the workplace, according to the following priority order:

- a) Eliminate the dangerous and harmful factors right from the stage of workshop design, selection of technology, equipment and materials;
- b) Preventing, limiting exposure, minimizing harms of dangerous and harmful factors by using technical measures and applying organizational and administrative measures (information, propaganda, education and training on OSH; development of rules and procedures for OSH; labor protection regime, health care for employees; management machinery, equipment, materials and substances with strict requirements on OSH).

2. Clearly define the time, place and resources for the implementation of the Goals, take measures to prevent and control the dangerous and harmful factors.

- *Deploying and evaluating effectiveness of measures to prevent and control dangerous and harmful factors (Article 7)*

1. The employer shall guide the employee to take measures to prevent and control the dangerous and harmful factors at the workplace.

2. Employers must plan and organize the inspection and assessment of effectiveness of measures to prevent and combat dangerous and harmful factors at least once a year; For production and business establishments, they must be inspected and evaluated to the level of groups, teams or workshops.

3. The examination of measures to prevent and control the dangerous and harmful factors at the workplace includes the following contents:

- a) Occupational safety and hygiene of machine, equipment, workshop, warehouse and workplace;
- b) Use and preservation of personal protective equipment; fire prevention and fighting means; essential medicines, local first aid and emergency facilities;

- c) The management and use of machinery, equipment, materials and substances with strict requirements on occupational safety and sanitation;
- d) Employee knowledge and ability in emergency response and handling;
- dd) Implementation of the regime of labor protection and health care for employees;
- e) Compliance with recommendations of inspection teams for OSH and investigation of occupational accident.

4. The assessment of effectiveness of measures to prevent and control the dangerous and harmful factors at the workplace includes the following contents:

- a) The implementation of measures to prevent and control the dangerous and harmful factors at the workplace;
- b) Result of improving working conditions.

➤ ***Legal requirements for Working Environment Monitoring (prescribed by Gov. Decree No. 44/2016/ND-CP):***

- Period of monitoring hazardous factors in the working environment: at least once/year and twice/year when very hazardous factors exist, e.g. chemicals, radiation, etc.)
- When the hazardous factors exceed allowed limits under Decision 3733 BYT / QD dated 10/10/2002 and National Technical Regulations of the Ministry of Health, then take measures to correct immediately.
- The measurement and monitoring the working environment must be carried out by qualified organizations in terms of material facilities, equipment and personnel's
- Fee for Working Environment Monitoring is paid by employer.
- Keeping records and profile at enterprise and at the organization doing WE monitoring
- The list of hazardous factors need to be monitored/checked in working environment, including (Gov. Decree No.39/2016/NĐ-CP):
 - Physical factors (micro-climate, e.g. temperature, humidity, air velocity; lighting, noise, vibration, electro-magnetic field, radiation, etc.
 - Dusts (different types, e.g. total and respiratory dust, silica, coal, talc, metal, cotton dusts, etc.)
 - Chemical factors (chemicals, toxic gases, etc.)
 - Psycho-physiological and ergonomic factors, e.g. physical and mental workload, ergonomic factors
 - Biological factors (virus, bacteria, gem, mold, etc.
 - Factors causing hypersensitivity and allergy

3.8.1.2. Legal requirements for hygiene and sanitary facilities at workplace:

Circular No. 19/2016/TT-BYT by MOH: Guideline on Management of Occupational Hygiene, hygiene and sanitary facilities (number of workers/rest room/bath room/tap water for cleaning hand, etc.)

Hygiene and sanitary facilities	Requirements for work shift	Applicable for enterprise with number of employees
1. Pepper pit	11-20 employees/pit	< 300 employees
2. Urinary pit	11-35 employees/pit	>300 employees
	11-20 employees/pit	< 300 employees
3. Bath room	1-20 employees/room	1-300 employees
	21-30 employees/room	3001-600 employees
	30 employees/room	> 600 employees
4. Menstrual rest room	1-30 females/room	1-300 employees
	30 females/room	>300 employees
5. Water tap	15-20 employees/tap	<300 employees
	35 employees/tap	> 300 employees
6. Nơi để quần áo	1 person/drawer box, or hang hook, or locker.	Applicable for enterprises exposed to hazardous, infectious and poisonous factors/risk of causing occupational diseases.

3.8.1.3. Legal requirements for Pre-employment Health Examination

- Employers shall organize health check-up for new employees before assigning jobs to them in order to place employees to works suitable for their health, to identify occupational diseases later and to develop health profile for each employee
- Content of health check-up is followed by the Circular No. 14/2013 / TT-BYT dated 6 May 2013 by MOH
- The results of health check-up, health classification are followed by the Decision No.1613/QĐ-BYT dated 5 August 1997 by MOH
- Development of health profile for employees in general is followed by the Circular No. 14/2013 / TT-BYT dated 6 May 2013 by MOH; for employees at risk occupational

diseases is followed by the Circular No. [28/2016/TT-BYT](#) dated 30 June 2016
Guidelines for management of occupational diseases

3.8.1.4. Legal requirements for Periodic Health Examination:

- Employers shall provide health check-up for employees at least once a year; employees performing heavy, hazardous and dangerous occupations or jobs or extremely heavy, hazardous and dangerous occupations or jobs, employees with disabilities, minor employees and elderly employees shall be provided with health check-up at least once every six months.
- When taking health check-up, female employees shall be provided with obstetric examination; people working in an environment where there are factors likely to cause occupational diseases are entitled to medical examination for detection of occupational diseases.
- Content of health check-up is followed by the Circular No. 14/2013 / TT-BYT dated 6 May 2013 by MOH
- The results of health check-up, health classification are followed by the Decision No.1613/QĐ-BYT dated 5 August 1997 by MOH
- Development of health profile for employees in general is followed by the Circular No. 14/2013 / TT-BYT dated 6 May 2013 by MOH; for employees at risk occupational diseases is followed by the Circular No. [28/2016/TT-BYT](#) dated 30 June 2016
Guidelines for management of occupational diseases
- Expenses for health check-up for employees paid by employers

3.8.1.5. Legal requirements for Employment placement Health Examination

- Employers shall organize health check-up for employees before assigning jobs to them and before moving them to heavier, more hazardous or more dangerous occupations or jobs or when they return to work after having treatment of occupational accident/ injuries or diseases, except when their health has been examined by a Medical Council to assess their working capacity decrease.
- Content of health check-up and development of health profile is followed by the Circular No. [28/2016/TT-BYT](#) dated 30 June 2016 Guidelines for management of occupational diseases by MOH (Annex II). The para-clinical examination (including testing, diagnostic image, etc.) should be suitable for that are exposed by employees at workplaces

- The results of health check-up, health classification are followed by the Decision No.1613/QĐ-BYT dated 5 August 1997 by MOH
- Expenses for health check-up for employees paid by employers

3.8.1.6. Legal requirements for Occupational Disease Detection

- Employers shall provide to employees medical examination for detection of occupational diseases at health establishments that meet professional and technical requirements and conditions.
- Employers shall send employees who are diagnosed of occupational diseases to health establishments that meet professional and technical conditions for treatment under the treatment guidelines issued by the Minister of Health.
- Period of taking OD detection: 1 time/year, 1 time/6 months for heavy, hazardous and dangerous jobs/works
- Contents of OD Detection include personal and occupational information; followed by the Annex 4 of the Circular 28/2016/TT-BYT by MOH that determine examination contents of 34 compensated occupational diseases. Examples of Examination contents of some occupational diseases as follows:

No.	Occupational Diseases	Hazardous factors	Examination contents	
			Clinical Examination	Para-Clinical Examination
1.	Silicosis	Silica dusts	Respiratory and Cardio-vascular systems	- Lung X-ray; Respiratory function. - CT scan, find AFB in sputum (if needed).
2.	Asbestosis	Asbestos dusts	Respiratory and Cardio-vascular systems	- Lung X-ray; Respiratory function. - CT scan, find AFB in sputum (if needed).

3.	Byssinosis	Cotton, jute, linen, hemp dusts	Respiratory and Cardio-vascular systems ENT examination.	<ul style="list-style-type: none"> - Respiratory function. - Skin picking test - Blood formula - Lung X-ray, Pharmacokinetic test, IgE, IgG in blood (if needed). - Bronchial recovery test (if needed).
4.	Chronic Bronchitis	Factors causing bronchitis	Respiratory and Cardio-vascular systems	<ul style="list-style-type: none"> - Respiratory function - Lung X-ray (if needed)

- Criteria for diagnosis of 34 compensated occupational diseases are regulated in the Circular 15/2016/TT-BYT dated 15 May 2016: Regulations on compensated occupational diseases: 34 compensated ODs; diagnosis and medical expertise criteria
- Expenses for medical examination for detection of occupational diseases, and treatment of occupational diseases for employees paid by employers, shall be accounted as deductible expenses for determination of taxable incomes in accordance with the Law on Enterprise Income Tax and as regular operation expenditures in administrative agencies and non-business units that have no service activities.

3.8.1.7. Legal requirements for Periodic Occupational Disease Examination

- Employees who are already getting occupational diseases, shall be taken periodic Occupational Disease Examination
- The interval and the contents of Periodic OD Examination is followed by the Annex 6 of the Circular No. 28/2016 / TT-BYT by MOH that determine the interval and examination contents of 34 compensated occupational diseases. Examples of interval of taking periodic OD examination and examination contents of some occupational diseases as follows:

No.	Occ. Diseases	Interval	Examination contents	
			Clinical Examination	Para-Clinical Examination

1.	Silicosis	12 months	Respiratory and Cardio-vascular systems	- Lung X-ray; Respiratory function. - CT scan, find AFB in sputum (if needed).
2.	Asbestosis	12 months	Respiratory and Cardio-vascular systems	- Lung X-ray; Respiratory function. - CT scan, find AFB in sputum (if needed).
3.	Byssinosis	12 months	Respiratory and Cardio-vascular systems ENT examination.	- Respiratory function. - Skin picking test - Blood formula - Lung X-ray, Pharmacokinetic test, IgE, IgG in blood (if needed). - Bronchial recovery test (if needed).
4.	Chronic Bronchitis	6 months	Respiratory and Cardio-vascular systems	- Respiratory function - Lung X-ray (if needed)

- Criteria for diagnosis of 34 compensated occupational diseases are regulated in the Circular 15/2016/TT-BYT dated 15 May 2016: Regulations on compensated occupational diseases: 34 compensated ODs; diagnosis and medical expertise criteria
- Expenses for medical examination for detection of occupational diseases, and treatment of occupational diseases for employees paid by employers, shall be accounted as deductible expenses for determination of taxable incomes in accordance with the Law on Enterprise Income Tax and as regular operation expenditures in administrative agencies and non-business units that have no service activities.

3.8.1.8. Legal requirements for handling technical incidents and first aid at workplace

- ❖ ***OSH Law (2015) regulates*** handling technical incidents seriously endangering occupational safety and health and provide emergency rescue as follows:
 - Employers must have plans to handle technical incidents seriously endangering occupational safety and health and provide emergency rescue, and periodically organize drills in accordance with law; provide technical and medical facilities to ensure prompt

rescue and first aid when technical incidents occur, seriously endangering occupational safety and health and causing occupational accidents.

- Responsibilities for handling technical incidents seriously endangering occupational safety and health and providing emergency rescue:

a/ Employers shall immediately order the immediate stoppage of the operation of the machinery and equipment, the use of supplies and substances and working activities at the workplace which are likely to cause occupational accidents or technical incidents seriously endangering occupational safety and health; and may not force employees to continue their work or to return to their workplace if the risks of occupational accidents which seriously threaten their life or health have not been addressed; implement remedial and other measures according to the plan for handling of technical incidents seriously endangering occupational safety and health, provide emergency rescue to save people and property, ensure occupational safety and health for employees and people around the workplace, property and the environment; and promptly notify the local administration of the place where the incident or emergency rescue takes place;

b/ Upon the occurrence of a technical incident seriously endangering occupational safety and health, the employer of the production and business establishment or the locality where the incident occurs shall urgently mobilize manpower, materials and facilities to promptly respond to the incident in accordance with specialized laws;

c/ Upon the occurrence of a technical incident seriously endangering occupational safety and health which is related to various production and business establishments or localities, the employers of the establishments or the localities where the incident occurs shall respond to the incident and report it to the immediate superior agency in accordance with specialized laws. If the incident is beyond the responding capacity of the production and business establishments or localities, it shall be urgently reported to the immediate superior agency for promptly mobilization of other production and business establishments and localities to respond to it; the mobilized production and business establishments and localities shall implement and coordinate in implementing emergency rescue measures within their capacity.

- Gov. Decree NO. 39/2016/ND-CP, Article 8 prescribed the *Measures to handle technical incidents causing serious OSH problems and provide emergency response*

1. A plan for handling technical incidents causing serious OSH problems, should contain the following contents:

- a) Forces involved in on-site troubleshooting and duties of each participating member; support forces from nearby production and business establishments;
 - b) Technical means must be available in accordance with specialized laws; Necessary measuring equipment used in the incident handling process (these equipment must be inspected and calibrated according to the current regulations of the law on measurement);
 - c) How and sequence of troubleshooting.
2. Approve or send to the competent agency for approval and periodically organize a rehearsal of the plan for handling technical incidents causing serious OSH failure in accordance with the specialized law.
 3. Promptly notify the local authorities of the occurrence of technical incidents causing serious OSH failure.

❖ **The Circular No. 19/2016/TT-BYT** dated 30 June 2016 by MOH: Guideline on management of workers' health, provides the guideline on number of first-aid and emergency staffs at enterprises

➤ Requirements for first aid and emergency operations

1. The arrangement of the first-aid and emergency team, equipment, facilities, supplies must be based on the following factors:
 - a) Type of production and nature of the dangerous or harmful factor;
 - b) Number of employees, number of working shifts; arrangement of work shift;
 - c) Risk of accidents may occur at the workplace;
 - d) Distance from workplace to nearest medical facility;
 - dd) Rate of occupational accident (if any).
2. For the worksite using toxic chemicals or corrosive substances, there must be an emergency shower and eye-washing means at an easily accessible location in the work area and maintained in accordance with regulations of manufacturer or legal regulations (if any).
3. For workplace using chemicals that have been classified as dangerous chemicals according to the provisions of the chemical law, they must have chemical safety sheets in Vietnamese, clearly stating the instructions on first aid. first aid for that chemical, placed near the location of the first aid kit, first aid for easy access. If a chemical is used with an antidote, it must have an antidote available and Vietnamese instructions for use in first aid and emergency bags.

4. Having first-aid and emergency staff meeting the conditions specified in Article 7 of this Circular.

5. Publicly announcing information about the location, quantity of first aid kit, equipment, means of emergency, first-aid or emergency room or area and the list of first-aid and emergency staff members rescue at the working areas of the labor establishment to let employees know and use when necessary.

6. First aid and emergency aid equipment and means (including first aid kit) and the number of first and emergency aid workers must be periodically checked and reviewed to ensure they are always in use. use well and in accordance with the requirements specified in this Circular.

Organization of the first-aid and emergency team

1. The first-aid and emergency aid team includes:

a) The employee is assigned by the employer to join the first aid force. The assignment of employees to join the first aid force must meet the following criteria:

- Being healthy enough and volunteering to participate in first aid and emergency care activities;

- Be able to be present at the earliest location of an occupational accident to provide first aid and emergency aid during the working time;

- To be trained in first aid and first aid as regulates in this Circular.

b) The person performing the medical activities at the production and business establishment.

2. For production and business establishments whose jobs are on the list of jobs with strict requirements on occupational safety and sanitation, the employers shall arrange and assign the number of employees to work as employees. First aid and emergency work is as follows:

a) Less than 100 employees must arrange at least 01 employee to do the work of first aid and emergency care;

b) For every 100 additional employees, at least 01 additional employee must be assigned to perform the work of first aid and emergency care.

3. For other production and business establishments, the employer shall arrange and assign the number of employees to perform the first aid and first aid work as follows:

a) Less than 200 employees must arrange at least 01 employee to do the work of first aid and emergency care;

b) For every 150 additional workers, at least 01 additional employee must be arranged to do the work of first aid and emergency.

4. To ensure that each work shift or working group must have a person or force responsible for first aid and first aid.

Requirements for the first aid and emergency care area:

1. In cases where more than 300 people work together on the same ground, there must be a first-aid and emergency-aid area.
2. The first aid and emergency care area must meet the following minimum requirements:
 - a) Must be large enough to place an ambulance and have room for the injured person to lie down and be ventilated, illuminated and with a sign (cross);
 - b) Located near toilets, easy to access to the working and production areas and easy in the first aid, first aid or transportation of workers in case of occupational accidents;
 - c) The list of equipment for first aid and emergency care facilities is specified in Appendix 5 to this Circular.

Regulations on first aid bag at workplace: Provisions on first aid bags:

- First aid bags must be placed in the workers' working areas, in visible and easy-to-reach places with a cross symbol.
- The contents and quantity of first aid bags comply with as follows:

1. General requirements:

- The number of first aid bags equipped with the number of employees is consistent with the provisions of Section 2;
- For each working ground or floor or mobile part, at least 01 suitable first aid kit must be arranged;
- First aid bags at the workplace must have the minimum number of necessary equipment and tools for first aid as prescribed in section 3. Do not use them to store other items;
- Check regularly to ensure the full number and contents of first aid bags as prescribed.

2. Set the number of bags for the work area as follows:

No.	Work area size	Number and type of first aid bags
1	≤ 25 employees	Having at least 01 first aid bag type A
2	From 26 - 50 employees	Having at least 01 first aid bag type B
3	From 51 - 150 employees	Having at least 01 first aid bag type C

** Note: 01 bag B is equivalent to 02 bags A and 01 bag C is equivalent to 02 bags B.*

No.	Minimum requirement of equipment	Type A	Type B	Type C
1	Adhesive tape (roll)	02	02	04
2	Tape size 5 x 200 cm (roll)	02	04	06
3	Tape size 10 x 200 cm (roll)	02	04	06
4	Tape size 15 x 200 cm (roll)	01	02	04
5	Triangular tape (piece)	04	04	06
6	Elastic bandages	04	04	06
7	Absorbent gauze (10 pieces / pack)	01	02	04
8	Absorbent cotton (pack)	05	07	10
9	Rubber Garo Size 6 x 100 cm (piece)	02	02	04
10	Rubber Garo Size 4 x 100 cm (piece)	02	02	04
11	Scissors cut the tape	01	01	01
12	The straight bolt is 16 - 18 cm in size	02	02	02
13	The rim is not curved, measuring 16-18 cm	02	02	02
14	Examination gloves (pair)	05	10	20
15	Suitable respirator	01	01	02
16	NaCl 9 ‰ physiological saline (500ml bottle)	01	03	06
17	Antiseptic solution (vial):			
	- Alcohol 70 °	01	01	02
	- Betadine solution	01	01	02
18	Safety tape needles (sizes)	10	20	30
19	Waterproof plastic liner	02	04	06
20	First aid regimen	01	01	01
21	Eye protection	02	04	06
22	Equipment catalog registration slip in pocket	01	01	01

23	Neck brace (piece)	01	01	02
24	Arm brace (set)	01	01	01
25	Forearm braces (set)	01	01	01
26	Thigh brace (set)	01	01	02
27	Leg braces (set)	01	01	02

(*) Note: Items from 24 to 27: store in the same place as the first aid bag.

EQUIPMENT LIST OF FIRST AND EMERGENCY AREAS:

1. First aid kit at work
2. The hand sink has enough clean water
3. Hand wipes
4. Nylon apron
5. Record keeping cabinet
6. Flashlight
7. Fabric, canvas clean
8. Thermocouple
9. Bed, pillow, blanket
10. Hard stretcher
11. Hand soap
- 12 Containers of hazardous and non-hazardous waste
13. Potty or potty holds the patient's waste
14. Waiting chair
15. Consumables cabinet and first and emergency aid tools and facilities

3.8.1.9. Legal requirements for Medical assessment/expertise for cases of occupational diseases and occupational accidents and injuries

Assessment of the level of working capacity decrease (OSH Law, Article 47):

1. Victims of occupational accidents or diseases shall be assessed or reassessed to determine the level of their working capacity decrease in one of the following cases:
 - a/ After receiving treatment for injuries or illnesses for the first time, their health conditions have become stable but such injuries or illnesses still effect their health;
 - b/ After receiving treatment for recurring injuries or diseases and their health conditions have become stable;

c/ In case of getting an injury or occupational disease which cannot be stably treated as prescribed by the Minister of Health, employees can seek medical assessment before or during the treatment process.

2. Employees may take thorough assessment to determine the level of their working capacity decrease in one of the following cases:

a/ Getting both an occupational accident and an occupational disease;

b/ Getting occupational accidents repeatedly;

c/ Getting many occupational diseases.

3. Employees specified at Point b, Clause 1 of this Article are entitled to re-assessment of occupational accidents and diseases past 24 months after the Medical Assessment Council makes conclusions on the level of their work capacity decrease; in case employees get an occupational disease that reduces their health rapidly, the medical assessment may be conducted earlier in accordance with regulations of the Minister of Health.

3.8.1.10. Legal requirements for Convalescence and health rehabilitation after medical treatment of injuries and diseases

1. After completing treatment for injuries caused by occupational accidents or illnesses caused by occupational diseases, within the first 30 days after returning to work, employees whose health has not yet recovered are entitled to convalescence and health rehabilitation for between 5 days and 10 days for each time getting an occupational accident or disease.

In case an employee does not receive conclusions on the level of working capacity decrease from the Medical Assessment Council within the first 30 days after returning to work, he/she is still entitled to convalescence and health rehabilitation applicable to employees after treatment of injuries or diseases if the Medical Assessment Council concludes the employee has his/her working capacity decreased to a level eligible for the occupational accident or disease regime.

2. The specific number of days for convalescence and health rehabilitation shall be decided by the employer and the establishment's trade union executive committee, or by the employer in case the establishment has no trade union. The maximum duration for convalescence and health rehabilitation is prescribed as follows:

a/ Ten days, for victims of occupational accidents or diseases whose working capacity is decreased by at least 51%;

b/ Seven days, for victims of occupational accidents or diseases whose working capacity is decreased by between 31% and 50%;

c/ Five days, for victims of occupational accidents or diseases whose working capacity is decreased by between 15% and 30%.

3. Employees prescribed in Clause 1 above are entitled to a daily allowance equaling 30% of the basic salary.

3.8.1.11. Legal requirements for management of workers' health records

❖ *Statistics and Reporting on occupational accidents and technical incidents seriously endangering occupational safety and health is prescribed in Article 36 of OSH Law (2015) as follows:*

1. Employers shall biannually and annually compile statistics and report on occupational accidents and technical incidents seriously endangering occupational safety and health occurring within their establishments to provincial-level labor state management agencies, unless otherwise prescribed by specialized laws.

2. Commune-level People's Committees shall biannually and annually compile statistics and report on occupational accidents and technical incidents seriously endangering occupational safety and health related to employees without labor contract to district-level People's Committees for summarization and reporting to provincial-level labor state management agencies.

3. Provincial-level labor state management agencies shall report on occupational accidents and technical incidents seriously endangering occupational safety and health which have been reported to the Ministry of Labor, War Invalids and Social Affairs, specifically:

a/ Making immediate reports on fatal occupational accidents and technical incidents seriously endangering occupational safety and health occurring in the localities;

b/ Making biannual and annual reports on occupational accidents, technical incidents seriously endangering occupational safety and health, and occupational safety activities in the localities.

4. Biannually and annually, the Ministry of Health shall compile statistics on occupational accident victims receiving medical examination and treatment at health establishments and send reports to the Ministry of Labor, War Invalids and Social Affairs for summarization.

5. The Ministry of Labor, War Invalids and Social Affairs shall organize and guide the collection, storage, summarization, provision, publicization and assessment of data on

occupational accidents and technical incidents seriously endangering occupational safety and health; and organize the building and management of a national database on occupational safety.

❖ *Statistics and reporting on occupational diseases is prescribed in Article 37 of OSH Law (2015) as follows:*

1. All cases of occupational diseases shall be counted and reported under regulations of the Minister of Health.

2. Employers shall submit annual reports and statistics on the prevention and control of occupational diseases to provincial-level health state management agencies for summarization and reporting to the Ministry of Health.

3. The Ministry of Health shall send annual reports and statistics on assessment of data on occupational diseases and prevention and control of occupational diseases to the Ministry of Labor, War Invalid and Social Affairs for summarization and reporting to the Government.

4. The Ministry of Health shall organize and guide the collection, storage, summarization, provision, publicization and assessment of data on occupational diseases; organize the building and management of a database on prevention and control of occupational diseases; and organize the investigation of occupational diseases.

➤ Circular No. 19/2016/TT-BYT by MOH regulates management of occupational health records as follows:

- Employers shall compile and manage occupational health records of employees, health records of victims of occupational diseases; inform employees of results of health check-up and medical examination for detection of occupational diseases; and annually report on the management of their employees' health to competent health state management agencies.

- An employee's health management dossier includes:

1. Employee's personal health records include:

- a) A health certificate or a pre-employment health checkup certificate in case the employee is exposed to harmful factors that cause occupational disease; the employee does heavy or hazardous occupations or jobs. dangerous and extremely heavy, toxic or dangerous according to current law provisions;

- b) Periodical health checkbook or Occupational disease detection health checkbook in case the employee is exposed to harmful factors causing occupational disease, the

- employee does heavy or hazardous occupations or jobs. dangerous and extremely heavy, toxic or dangerous according to current law provisions;
 - c) The employee's record of occupational disease (if any);
 - d) Certificate of discharge, sick leave or other relevant treatment papers (if any)
2. Health and illness management profile of all employees working at the workplace is followed by the form specified in Appendix 2 issued with the Circular No. 19/2016/TT-BYT dated 30 June 2016 by MOH: Guideline on management of workers' health.
- Management of occupational accident emergency records
 - All cases of work accidents or poisoning at the workplace must be compiled with the occupational accident emergency dossier.
 - The occupational accident emergency dossier is made according to the form provided in Appendix 3 to the Circular No. 19/2016/TT-BYT dated 30 June 2016 by MOH: Guideline on management of workers' health and must be kept at labor establishments according to current law provisions.

3.8.1.12. Legal requirements for providing adequate personal protective equipment for employees performing jobs with dangerous factors and hazardous factors; to have occupational safety and health equipment at the workplace

- Employees exposed to dangerous factors and hazardous factors at work shall be provided by their employers with adequate personal protective equipment and shall use them during the working process.
- Employers shall implement technological and technical measures and procure equipment to exclude or minimize dangerous factors and hazardous factors and improve working conditions.
- When providing personal protective equipment, employers shall abide by the following principles:
 - a/ Ensuring proper types of personal protective equipment for eligible employees, adequate quantity and proper quality according to national standards and technical regulations;
 - b/ Not providing money instead of personal protective equipment; neither requiring employees to buy personal protective equipment by themselves nor collecting money from them to buy personal protective equipment;
 - c/ Instructing and monitoring employees in using personal protective equipment;

d/ Organizing the implementation of detoxification, disinfection and radioactive decontamination to ensure hygiene for personal protective equipment which has been used in areas at risk of intoxication, infection and radioactive contamination.

3.8.1.13. Legal requirements for training on OSH at workplace

According to Gov. Decree No. 44/2016/ND-CP dated 16 June 2016, Legal requirements for training on OSH at workplace and Gov. Decree No. 140/2018/ND-CP as follows:

❖ **Subjects for OSH training:** 6 following groups should be trained on OSH:

1. Group 1: Heads of units, production and business establishments, and affiliated departments, branches; in charge of production, sales and engineering; workshop manager or equivalent;

The deputy head of the head as prescribed in this Clause is tasked with the task of OSH.

2. Group 2: Persons performing the work of OSH include: Full-time and part-time OSH officers of the establishment; the person directly supervising OSH at the workplace.

3. Group 3: Employees doing work with strict OSH requirements are those who do work on the list of jobs with strict OSH requirements set by the Ministry of Labor, Invalids, and Social Affairs.

4. Group 4: The employees who do not belong to groups 1, 3, 5, 6 specified in this Clause, including also apprentices, interns, and probationers to work for employers.

5. Group 5: Health workers.

6. Group 6: OSH workers in OSH network accordance with Article 74 of the Law on occupational safety and sanitation. ”

❖ **Contents of training in OSH**

1. Group 1:

a) System of policies and laws on OSH

b) OSH operations include: Organizing the apparatus, management and implementation of regulations on OSH at the facility; assignment of responsibility and assignment of powers to OSH; basic knowledge about dangerous and harmful factors, measures to prevent and improve working conditions; safety culture in production and business.

2. Group 2:

a) System of policies and laws on OSH;

b) OSH operations: Organize the apparatus, manage and comply with regulations on OSH at the facility; building internal rules, regulations, processes and measures to ensure OSH;

assignment of responsibilities and assigning powers to OSH; safety culture in production and business; basic knowledge about dangerous and harmful factors, measures to prevent and improve working conditions; elaborate and urge the implementation of annual OSH plans; analysis, risk assessment and development of emergency response plans; building a management system for occupational safety and sanitation; professional self-inspection; investigation of occupational accident; requirements of the work environment inspection, training and monitoring; manage machinery, equipment, materials and substances with strict requirements on OSH; information, propagation and training activities on OSH; first-aid for occupational accidents and prevention of occupational diseases for employees; emulation, commendation, discipline, statistics, reporting on occupational safety and health;

c) Contents of specialized training: General knowledge of machinery, equipment, materials and substances generating dangerous and harmful factors; a safe working process with machinery, equipment, materials and substances with strict requirements on OSH.

3. Group 3

a) System of policies and laws on OSH;

b) Basic knowledge about OSH: policies and regimes on OSH for employees; basic knowledge about dangerous and harmful factors at work and methods to improve working conditions; functions and duties of the workers in OSH network; safety culture in production and business; rules of OSH, signs, signboards indicating OSH and using safety equipment, personal protective equipment; professional skills and skills in first aid to occupational accidents and prevention of occupational diseases;

c) Content of specialized training: General knowledge of machinery, equipment, materials, substances generating dangerous and harmful factors and methods of analysis, assessment and management of risks related to public having strict requirements on OSH that the trained person is doing; safe and hygienic working process; OSH techniques related to the employees' work.

4. Group 4:

a) Basic knowledge about OSH: Rights and obligations of employers and employees; policies and regimes on OSH for employees; basic knowledge about dangerous and harmful factors at work and methods to improve working conditions; functions and duties of the workers in OSH network; safety culture in production and business; OSH rules, signboards, instruction boards for OSH and use of safety equipment, personal and professional protection equipment, first aid skills for occupational accidents , prevention of occupational diseases.

b) Direct training at the workplace: Working process and specific requirements on OSH at the workplace.

5. Group 5:

a) System of policies and laws on OSH

b) OSH operations include: Organizing the apparatus, management and implementation of regulations on OSH at the facility; assignment of responsibilities and assigning powers to OSH; basic knowledge about dangerous and harmful factors, measures to prevent and improve working conditions; safety culture in production and business;

c) Training for issue of Certificate of professional occupational health: Harmful factors at workplace; monitoring the working environment to assess the harmful factors; make records of occupational hygiene at the workplace; common occupational diseases and prevention measures; how to organize occupational disease examination, job placement examination, and prepare dossiers of occupational disease assessment; organization and skills of first aid and first aid; disease prevention at work; food safety; procedures for taking and storing food samples; organizing the implementation of in-kind and nutritional fostering for employees; improve workplace health, prevent non-communicable diseases at work; knowledge, skills, methods to develop plans, plans, equipment and necessary conditions for the implementation of occupational hygiene; methods of communication and education about occupational hygiene and occupational disease prevention; establishing and managing information on occupational hygiene and occupational diseases at the workplace; make and manage employee health records, health records of people with occupational diseases. Coordination with OSH officers or the division in charge of occupational safety and health to perform related tasks in accordance with regulations.

6. Group 6:

Employees participating in the OSH network, in addition to the contents of OSH training according to regulations, are also provided with additional training in skills and operating methods of OSH workers.

❖ **Training period:** The minimum initial training time is specified as follows:

1. Group 1, Group 4: Total training time is at least 16 hours, including testing time.
2. Group 2: Total training time is at least 48 hours, including training time in theory, practice and test.
3. Group 3: Total training time is at least 24 hours, including testing time.

4. Group 5: Total training time is at least 56 hours, including testing time. In which, the training time for issue of certificates of occupational health expertise is at least 40 hours, the training content for issuing certificates of OSH is at least 16 hours.

5. Group 6: The total training time is at least 4 hours apart from the content trained in OSH.

❖ **Training, retraining, updating knowledge and skills on and periodic training on OSH**

1. Training and updating knowledge and skills on OSH as follows:

At least every 2 years from the effective date of the training certificate or safety card, the trained person must attend the training course to review the trained knowledge and update the new knowledge on OSH. The training time is at least equal to 50% of the first training time.

2. Periodic training: Employees of group 4 are trained periodically at least once a year to review the trained knowledge and update new knowledge and skills on OSH. The periodic training time is equal to 50% of the first training time.

3. Training when there is a change in the job; changes in equipment, technology and training after hours off work

a) Changing jobs or changing equipment and technology: Before assigning jobs, they must be trained in OSH in accordance with the new job or new equipment and technology.

In case the subject has been trained for less than 12 months since moving to a new job or since there is a change of equipment or technology, the retrained content is exempt from the trained part.

b) Returning to work after the time off work: If the establishment stops working or the employee is off work for 06 months or more, before returning to work, the employee is re-trained with the same contents as the first training. The retraining time is equal to 50% of the first training time.

❖ **The time limit for issuance and new issuance of training certificate, safety card as follows:**

1. The training certificate, the safety card is valid for 2 years. The certificate of professional occupational health is valid for 5 years.

2. Within 30 days, prior to the expiration of the training certificate or safety card, the employer shall make a list of the persons issued with the training results or documents proving the knowledge update, OSH skills send to training organizations or enterprises to train themselves.

If the training results are satisfactory, a new training certificate or safety card will be issued according to the provisions of this Decree. "

3.8.1.14. Legal requirements for training on first aid at workplace

According to the Circular No. 19/2016/TT-BYT dated 30 June 2016 by MOH: Guideline on management of workers' health , Legal requirements for first aid training at workplace as follows:

❖ Subjects trained in first aid and emergency aid include:

- a) Employees, unless they have the Certificate of training in occupational safety and health;
- b) Persons assigned to join the first aid and emergency aid team.

❖ The first time of first aid training:

Duration of training:

- For employees: 4 hours
- For the first aid and emergency rescue team: 16 hours (2 days)

Training content:

1. The basic principles of first aid on site
2. Dressing the wound (Principles, means of equipment used for dressing, dressing technique)
3. Technique of temporary hemostasis (Principle of hemostasis, measures to stop bleeding temporarily)
4. Techniques of fixing a temporary fracture (Principles of fixing fractures, means of fixing fractures)
5. Cardiopulmonary resuscitation technique (Recognize signs of stopping respiratory circulation, guide airway ventilation and support breathing, guide cardiopulmonary resuscitation)
6. Handling burns; (Assess the cause and severity of burns, and treat burn first aid)
7. The method of transporting the victim safely without a stretcher and has a stretcher for first aid
8. Types of emergency:
 - Emergency electric shock
 - First aid for drowning
 - Emergency for chemical accident
9. General guidance on contents and use of first aid bags
10. General practice for the content

❖ Retraining every year

The training content shall comply with the provisions of the first time training for the following time:

- For employees: 2 hours;
- For the first aid and emergency rescue team: 8 hours (1 day).

3.8.1.15. *Legal requirements for Management of machinery, equipment, supplies and Substances subject to strict requirements for OSH:*

Accreditation of machinery, equipment and supplies subject to strict requirements for occupational safety

1. Machinery, equipment and supplies subject to strict requirements for occupational safety shall be accredited before being used and periodically during the use by occupational safety inspection organizations.
2. The accreditation of machinery, equipment and supplies subject to strict requirements for occupational safety must be accurate, open and transparent.
3. The Government shall prescribe in detail agencies competent to grant, conditions on physical and technical foundations, the order, procedures and dossiers for granting, re-granting, extending or revoking certificates of eligibility to occupational safety accreditation organizations; criteria for accreditors to meet accreditation requirements of inspected objects;

3.8.2. *Mechanisms to prevent industrial disaster protect environment and promote public safety*

➤ **Article 109 of Vietnam Environmental Protection (2014) regulates Environmental emergency response as follows:**

1. Responsibility for environmental emergency response
 - a) Any entity that causes an environmental emergency shall take emergency measures to ensure safety of people and property; rescue people and property, then notify the local government or a local agency specialized in environmental protection;
 - b) The head of the establishment and administrative division where the environmental emergency occurs shall promptly mobilize forces, equipment and vehicles to emergency response;

c) If an environmental emergency occurs to many establishments or administrative divisions, the heads of such establishments and administrative divisions shall cooperate with each other in emergency response;

d) If the situation is beyond the capability of them, the heads shall request the superior agency to mobilize forces from other establishments or administrative divisions to environmental emergency response; the requested establishments or administrative divisions shall implement the emergency response measures within their competence.

2. Response to particularly serious environmental emergencies shall be carried out in accordance with regulations of law on state of emergencies.

3. Manpower, supplies, and vehicles for environmental emergency response shall be reimbursed in accordance with law.

4. This Law and relevant regulations of law shall apply to responsibility for paying compensation for environmental emergencies.

❖ **Article 110 of Vietnam Environmental Protection (2014) prescribed Developing environmental emergency response forces**

1. Manufacturing and business establishments shall improve their ability to prevent and respond to environmental emergencies.

2. The State shall develop environmental emergency response forces and environmental emergency warning system.

3. Investment in emergency response services is encouraged.

❖ **Article 111 of Vietnam Environmental Protection (2014) regulate the Determination of damage caused by environmental emergencies**

1. The investigation into damage caused by an environmental emergency shall deal with:

a) Determine the boundary of the area polluted because of the environmental emergency;

b) Pollution levels;

c) Causes and accountability or relevant parties;

d) Measures for pollution reduction and environmental remediation;

dd) Damage to the environment as the basis for claiming compensation.

2. Responsibility for investigation into damage caused by environmental emergencies:

a) The People's Committee of the province shall carry out investigation into damage caused by local environmental emergencies;

b) The Ministry of Natural Resources and Environment shall instruct the People's Committees of provinces to determine the scale of pollution and damage caused by interprovincial environmental emergencies.

3. Investigation results must be announced.

❖ **Article 112 of Vietnam Environmental Protection (2014) regulate the Responsibility for environmental remediation**

1. Any entity that causes an environmental emergency is obliged to:

a) Comply with the requests of environment authorities during the investigations to determine the pollution scale, levels, and remedial measures.

b) Immediately take measures to prevent the pollution sources, stop the pollution from spreading and affecting local people's health;

c) Take measures for pollution reduction environmental remediation at the request of environment authorities.

d) Pay damages in accordance with this Law and relevant regulations;

dd) Submit reports on environmental emergency response and environmental remediation to environment authorities.

2. If the environmental emergency is caused by multiple entities and they fail to reach an agreement on responsibility, the environment authority shall cooperate with relevant entities to attribute responsibility for pollution reduction and environmental remediation of each entity.

3. If the environmental emergency is caused by a natural disaster or an unknown cause, competent authorities shall mobilize forces to carry out pollution reduction and environmental remediation.

4. If an environmental emergency occurs in multiple provinces, the Prime Minister shall direct the pollution reduction and environmental remediation.

❖ **The Circular No. 35/2015/TT-BTNMT** dated June 30, 2015, providing for the environmental protection of economic zones, industrial parks, export processing zones and hi- tech parks

➤ **Article 12 regulates Prevention, response to and remediation of environmental incidents/disasters in industrial parks:**

1. An industrial park's program on environmental management and supervision must include a plan on prevention, response to and remediation of environmental incidents with the following major contents:

a/ Identification and assessment of dangers of environmental incidents that may occur during the operation of the industrial park, circumstances for each type of dangers of environmental incidents that are likely to occur;

b/ Preventive measures for each environmental incident; measures to eliminate causes of environmental incidents;

c/ A plan on arrangement of on-the-spot forces to be ready to respond to and remedy each specific environmental incident circumstance; plan on training and drilling in the prevention, response to and remediation of environmental incidents;

d/ Installation and inspection of necessary equipment, tools and facilities for responding to environmental incidents;

dd/ Implementation mechanism, notification and alert methods and mobilization of manpower and equipment and facilities in and outside the industrial park to cope with environmental incidents of different levels; mechanism for coordination among related organizations and individuals in the area in responding to environmental incidents;

e/ Solutions to addressing environmental pollution when an environmental incident occurs;

g/ A plan to mobilize financial sources for the implementation of the plan on prevention, response to and remediation of environmental incidents.

2. Owners of industrial park infrastructure construction and commercial operation projects shall make and implement plans on prevention, response to and remediation of environmental incidents according to Clause 1 of this Article.

➤ **Article 14. Responsibilities of an economic zone or industrial park management board**

1. To establish a specialized section to organize the environmental protection of the economic zone or industrial park in accordance with law. The head of this section must satisfy the following conditions:

a/ Possessing a university or higher degree in environmental management; environmental science, technology and techniques; chemistry or biology;

b/ Having at least three (3) years' experience in environmental work.

2. To draft a coordination regulation for environmental protection of the economic zone or industrial park between the economic zone or industrial park management board and the provincial-level Department of Natural Resources and Environment and the People's Committee of the district, provincial city or town, and submit it to the People's Committee of the province or centrally run city (below referred to as provincial-level People's Committee) for approval.

3. To guide and inspect the owner of the construction and commercial operation of industrial park infrastructure project and production, business and service establishments operating in the economic zone or industrial park under its management in implementing environmental protection regulations; to detect and promptly report violations of the environmental protection law to competent state management agencies for settlement and handling; to mobilize forces to respond to and remedy environmental incidents occurring in the economic zone or industrial park.
4. To make a regular report on environmental protection of the economic zone or industrial park and send it to the provincial-level People's Committee and the Ministry of Natural Resources and Environment before January 15 every year. The report form is provided in Appendix 5 to this Circular.
5. To publicize information on environmental protection of the economic zone or industrial park; to educate about and disseminate legal documents on environmental protection to the owner of the industrial park infrastructure construction and commercial operation project and production, business and service establishments operating in the economic zone or industrial park.
6. To coordinate with functional agencies in settling environmental disputes among production, business and service establishments operating in the economic zone or industrial park or organizations and individuals outside the economic zone or industrial park.
7. To jointly examine, inspect, and handle violations of environmental protection committed by the owner of the industrial park infrastructure construction and commercial operation project and production, business and service establishments operating in the economic zone or industrial park.
8. To implement environment management and protection in other economic zones and industrial parks under their assigned or authorized functions and tasks.

3.9. Education and Supply for Personnel engaged in the area of OSH

3.9.1. Educational system and contents for personnel engaged in the area of OSH

The personnel engaged in the area of OSH have different backgrounds, multi-disciplinary backgrounds that include medical doctors (MDs) (e.g. general, specialized MDs; MDs of Epidemiology and Preventive Medicine); doctor assistants; nurses; pharmacists; engineers (e.g. environment engineers, engineers of labor protection/occupational safety, chemical, physical engineers, etc.); bachelor/MPH/PhD. of public health, biologists, psychologist, bio-chemists, hematologist, multi-discipline technicians, etc.

So, the educational system for OSH personnel is included in almost education system in Vietnam consisting of the system of universities and schools of intermediate level with graduate and post-graduate training programs (MSc. and Ph.D). This system consists of both state and private ones.

The educational system for OSH personnel includes:

- (1) Institutions of the preventive medicine system;
- (2) Universities/Schools of medicine and pharmacy,
- (3) Universities/Schools of the environment
- (4) Universities/Schools of Social and Humanities
- (5) Universities/Schools of occupational safety and labor protection
- (6) Schools of intermediate level and Colleges

Institutions of the preventive medicine system: There are 4 institutes under the management of the Ministry of Health that are responsible for research, training, coordination, international cooperation, and service provision in OH, including the National Institute of Occupational and Environmental Health (NIOEH), the Institute of Public Health (Ho Chi Minh City), the Tay Nguyen Institute of Hygiene and Epidemiology, the Nha Trang Pasteur Institute and the Institute of Marine Medicine.

Universities/Schools of medicine and pharmacy, public health:

- Graduate training: medical doctors, pharmacists, nurses, doctor assistants, medical doctors specialized in epidemiology, preventive medicine, bachelor of public health, and technicians, etc.
- Postgraduate training: MSc. and PhD in preventive medicine; MPH, PhD. in public health; PhD. in occupational health (some university and Institutions), Specialized MD degree I and II,

Universities/Schools of the environmental sciences and technology: provides trainings for engineers/bachelor/master/Ph.D. in the environment, environmental technology, monitoring, and testing,...

National Universities and University of Social and Humanities: train chemical, physical engineers, biologists, psychologist, etc.

Universities/Schools of occupational safety and labor protection: provides occupational safety engineers, bachelor of labor protection.

Schools of intermediate levels: train multi-disciplinary technicians, doctor assistants and nurses at intermediate levels, etc.

There is no any university of medicine and pharmacy that train physicians/doctors specialized in occupational health. To become occupational health physicians/doctors, it should be fulfilled the followings conditions:

- Being medical doctors (general, specialized MDs, MDs of Epidemiology)
- Working experience at least 3 years in clinics
- Having certificate of occupational disease (see Item 3.7.1 for more details of training program: attending the training course on occupational disease for 3 months in the National Institute of Occupational Health or 9 months in Institute of Preventive Medicine training and Public Health of Hanoi Medical University. However, from 2020, there is no more the 9 months course)

For training PhD. in occupational health, the training institutions are the National Institute of Occupational Health (NIOEH), the National Institute of Epidemiology and Hygiene (before 2015), Army Academics (before 2015). Subjects for PhD.training are with background of general and specialized MDs, except MD specialized in preventive medicine, MSc. in preventive medicine, Specialized MD degree I and II.

For occupational hygienists, there is no any university that trains this specialization. If any OSH personnel want to be involved in the working environment monitoring, they need to attend the 1 month course of working environment monitoring (see Item 3.7.1 for more details of training program). The training institutions that are certified by MOLISA according to the requirements of training these personnel as stipulated in Gov. Decree No 140/2018/ND-CP dated 8 Oct. 2018 on amendment of some articles of OSH Law related to OSH training.

Regards occupational safety, there are two universities (Trade Union University in the North of Vietnam and Ton Duc Thang Univeristy in the South of Vietnam) that train Master and bachelor of labor protection/occupational safety. The training program related to labor protection/occupational safety for bachelor includes: Overview of Labor Protection, Factory power supply, Personal protective equipment, Occupational health, Ergonomics, Electrical safety, Chemical safety, Noise and vibration handling techniques, Industrial lighting engineering, Fire prevention, Safety techniques in construction, Regimes, policies and laws on labor protection, Occupational Safety and health Statistics and Analysis, Identify and evaluate the working environment risks, Solid waste treatment techniques, Treatment techniques of water pollution, Treatment techniques of air environmental pollution, Safety lifting equipment,

transportation, Safety engineering projects, occupational Hygiene engineering projects, Safety management in construction, Working environment risk management, Solid waste management, Water environmental pollution management, Air pollution management, Safety management of lifting and transporting equipment, Project of management of occupational safety and health at the workplace.

3.9.2. *List of universities and training institute*

List of universities and training institute in the area of OSH

No	Name	Educational contents for OHS/Training services
I. Institutions		
1.	The National Institute of Occupational and Environmental Health (NIOEH)	Ph.D training program on Occupational Health OHS training for group 1, 4, 5 and 6 Certificate training on working environment monitoring, occupational health for medical staff working in enterprises, occupational disease detection
2.	The Vietnam National Institute of Occupational Health and Safety (VNIOSH)	OSH training program for group 1,2,3,4 and 6
3.	Institute of Public Health in Ho Chi Minh City	Training for students in the Medical University in Ho Chi Minh City, technicians, and bachelors of Public Health; OSH training for group 1,4,5 &6 Certificate training on working environment monitoring, occupational health for medical staff working in enterprises
4.	Nha Trang Pasteur Institute	Training medical technicians OSH training for group 1,4,5 &6 Certificate training on working environment monitoring, occupational health for medical staff working in enterprises
5.	Tay Nguyen Institute of Hygiene and Epidemiology	OSH training for group 1,4,5 &6

6.	The Institute of Maritime Medicine;	Continuous training, retraining and certificate training on maritime Medicine, training on emergency and disaster recovery at sea, health care and health protection for workers and people at the sea and island;
II. Schools of medicine and pharmacy		
7.	Hanoi Medical University (HMU)	Bachelor/Master/Ph.D. in Public Health, Medical doctors, Doctors of Medicine Preventive, specialized MDs and specialized MDs degree I & II, PhD. Nurses Medical Testing Technicians
8.	Ha Noi University of Public Health (HUPH)	Bachelor/Master/Ph.D. in Public Health Bachelor of medical and environment testing Medical Testing Technicians Environmental Technicians
9.	Thai Nguyen University of Medicine and Pharmacy (TNUMP)	Bachelor/Master/Ph.D. in Public Health Medical doctors, Doctors of Medicine Preventive, specialized MDs and specialized MDs degree I & II, PhD. Nurses Medical Testing Technicians Pharmacist
10.	Hai Phong University of Medicine and Pharmacy (HPUMP)	Bachelor/Master/Ph.D. in Public Health Medical doctors, Doctors of Medicine Preventive, specialized MDs and specialized MDs degree I & II, PhD. Nurses Medical Testing Technicians Pharmacist
11.	School of Medicine of Hanoi and Ho Chi Minh National University,	Bachelor/Master/Ph.D. in Public Health

		Medical doctors, Doctors of Medicine Preventive, specialized MDs and specialized MDs degree I & II, PhD.
12.	Nam Dinh University of Nursing (NDUN)	Nurses
13.	Thai Binh University of Medicine and Pharmacy	Bachelor/Master/Ph.D. in Public Health Medical doctors, Doctors of Medicine Preventive, specialized MDs and specialized MDs degree I & II, PhD. Nurses Medical Testing Technicians Pharmacist
14.	Hue University of Medicine and Pharmacy (HUMP)	Bachelor/Master/Ph.D. in Public Health Medical doctors, Doctors of Medicine Preventive, specialized MDs and specialized MDs degree I & II, PhD. Nurses Medical Testing Technicians Medical imaging technicians Pharmacist
15.	Tay Nguyen University (TNU)	Bachelor/Master/Ph.D. in Public Health Medical doctors, Doctors of Medicine Preventive, specialized MDs and specialized MDs degree I & II, PhD. Nurses Medical Testing Technicians Pharmacist
16.	University of Medicine and Pharmacy at Ho Chi Minh City (HCMUMP)	Bachelor/Master/Ph.D. in Public Health Medical doctors, Doctors of Medicine Preventive, specialized MDs and specialized MDs degree I & II, PhD. Nurses Medical Testing Technicians Pharmacist

17.	Pham Ngoc Thach University of Medicine (UPNT)	<p>Bachelor/Master/Ph.D. in Public Health</p> <p>Medical doctors, Doctors of Medicine Preventive, specialized MDs and specialized MDs degree I & II, PhD.</p> <p>Nurses</p> <p>Medical Testing Technicians</p> <p>Medical imaging technicians</p> <p>Pharmacist</p>
18.	Can Tho University of Medicine and Pharmacy (CTUMP)	<p>Bachelor/Master/Ph.D. in Public Health</p> <p>Medical doctors, Doctors of Medicine Preventive, specialized MDs and specialized MDs degree I & II, PhD.</p> <p>Nurses</p> <p>Medical Testing Technicians</p> <p>Medical imaging technicians</p> <p>Pharmacist</p>
19.	Hai Duong Medical Technical University (HDMTU)	<p>Nurses</p> <p>Medical Testing Technicians</p> <p>Medical Imaging Technicians</p> <p>Rehabilitation Technicians</p>
20.	Vinh Medical University (VMU)	<p>Bachelor/Master/Ph.D. in Public Health</p> <p>Medical doctors, Doctors of Medicine Preventive, specialized MDs and specialized MDs degree I & II, PhD.</p> <p>Nurses</p> <p>Medical Testing Technicians</p>
21.	Da Nang University of Medical Technology and Pharmacy (DNUMTP)	<p>Medical doctors</p> <p>Nurses</p> <p>Pharmacist</p> <p>Medical Testing Technicians</p> <p>Medical Imaging Technicians</p> <p>Rehabilitation Technicians</p>
22.	Tra Vinh University (TVU)	<p>Nurses</p> <p>Doctors of Preventive Medicine</p>

		Medical Testing Technicians Medical Imaging Technicians Rehabilitation Technicians
23.	Vietnam University of Traditional Medicine	Medical Doctors Pharmacist
24.	Hanoi University of Pharmacy	Pharmacist
25.	Thang Long University	Bachelor/Master. in Public Health Nurses
26.	Dai Nam University	Medical Doctors Pharmacist Nurses
27.	Hoa Binh University	Pharmacist Nurses
28.	Hanoi University of Business and Technology	Medical Doctors Nurses Pharmacist
29.	Phenikka University	Pharmacists Nurses Medical Testing Technicians Biomedical Technicians
30.	Thanh Do University	Pharmacist
31.	Ton Duc Thang University	Pharmacist
32.	Nguyen Tat Thanh University	Medical Doctors Nurse Doctors of Preventive Medicine Pharmacist Medical Testing Technicians Biomedical Technicians
33.	Hong Bang International University	Medical Testing Technicians Nurse Pharmacist Medical doctors
34.	Van Lang University	Nurse

		Pharmacist Medical Testing Technicians
35.	Vietnam Tokyo University of Medicine	Nurse Medical Testing Technicians Medical Imaging Technicians Rehabilitation Technicians
36.	East Asia University of Technology	Nurse Pharmacist
37.	Thanh Dong University	Nurse Pharmacist
38.	Trung Vuong University	Nurse
39.	Buon Ma Thuot University	Medical doctors Nurses Pharmacist Public Health
40.	Duy Tan University	Medical doctors Pharmacist Nurses
41.	Dong-A University	Nurses Pharmacist
42.	Yersin University	Nurses Pharmacist
43.	Phan Chau Trinh University	Medical doctors Nurses Medical Testing Technicians
44.	Quang Trung University	Nurses Public Health
45.	Dong Nai University of Technology	Nurses Medical Testing Technicians
46.	Mien Dong University	Pharmacist
47.	Cuu Long University	Nurses Medical Testing Technicians Pharmacist
48.	Lac Hong University	Pharmacist

49.	Binh Duong Economics and Technology University	Pharmacist
50.	Nam Can Tho University	Medical doctors Pharmacist Medical Testing Technicians Medial Imaging Technicians
51.	Mien Dong International University	Nurses
52.	Tan Tao University	Medical doctors Nurses Medical Testing Technicians
53.	Tay Do University	Nurses Pharmacists
54.	Vo Truong Toan University	Medical doctors Pharmacists
55.	Vietnam Military Medical University	Medical doctors
III. Schools of environment		
56.	Hanoi University of Sciences	Bachelor/Master/PhD in Environmental Sciences/Technology/Monitoring
57.	Hanoi University of Science and Technology	Biomedical Technicians Pharmaceutical Chemistry technician Environmental Technician
58.	Hanoi University of Sciences and Technology	Pharmacist Environmental Technician/Bachelor Bachelor in Medical Science and Technology
59.	Hanoi University of Industry	Environmental Engineer
60.	Hanoi University of Mining and Geology	Environmental Technicians
61.	Hanoi University of Natural Resources and Environment	Environmental Technicians
62.	Ha Noi University of Public Health (HUPH)	Environmental Technicians
63.	Hanoi Metropolitan University	Environmental Technicians
64.	Thuy Loi University	Environmental Technicians
65.	Electric Power University	Environmental Technicians
66.	National University of Civil Engineering	Environmental Engineer

67.	Dong Do University	Environmental Engineer
68.	Hanoi University of Business and Technology	Environmental Engineer
69.	Nguyen Trai University	Environmental Engineer
70.	Vietnam National University of Agriculture	Bachelor in Environmental Science Environmental Engineer
71.	Hanoi architectural University	Environmental Engineer
72.	Ho Chi Minh University of Technology	Environmental Engineer
73.	Ho Chi Minh University of Sciences	Environmental Scientist Environmental Engineer
74.	Ho Chi Minh University of Food Industry	Environmental Engineer
75.	Nong Lam University	Environmental Scientist Environmental Engineer
76.	Sai Gon University	Environmental Scientist Environmental Engineer
77.	Ho Chi Minh University of Natural Resources and Environment	Environmental Scientist Environmental Engineer
78.	Ton Duc Thang University	Environmental Scientist Environmental Engineer
79.	Ho Chi Minh University of Technology	Environmental Engineer
80.	Van Lang University	Environmental Engineer
81.	Thai Nguyen University of Agriculture and Forestry	Environmental Scientist
82.	Thai Nguyen University of Sciences	Environmental Scientist
83.	Viet Tri University of Industry	Environmental Engineer
84.	Vietnam Maritime University	Environmental Engineer
85.	Hung Yen University of Technology and Education	Environmental Engineer
86.	Tan Trao University	Environmental Scientist
87.	Hai Phong University of Management and Technology	Environmental Engineer
88.	Vinh University	Environmental Scientist Environmental Engineer
89.	Ha Tinh University	Environmental Scientist
90.	Hue University of Sciences	Environmental Scientist Environmental Engineer

91.	Da Nang University of Sciences and Technology	Environmental Scientist Environmental Engineer
92.	Da Nang University of Technology and Education	Environmental Engineer
93.	Da Lat University	Environmental Sciences
94.	Nha Trang University	Environmental Engineer
95.	Tay Nguyen University	Environmental Engineer
96.	Duy Tan University	Environmental Engineer
97.	Yersin University	Environmental Engineer
98.	An Giang University	Environmental Engineer
99.	Can Tho University	Environmental Scientist Environmental Engineer
100.	Mien Tay University of Construction	Environmental Engineer
101.	Dong Nai University	Environmental Scientist
102.	Dong Thap University	Environmental Scientist
103.	Kien Giang University	Environmental Scientist Environmental Engineer
104.	Vinh Long University of Technology Education	Environmental Engineer
105.	Ba Ria Vung Tau University	Environmental Engineer
106.	Dong Nai University of Technology	Environmental Engineer
107.	Nam Can Tho University	Environmental Engineer
IV. National Universities and University of Social and Humanities		
108.	Hanoi National University	Bachelor/Master/PhD. in chemist, physics, biology, psychology, etc
109.	HoChiMinh national University	Bachelor/Master/PhD. in chemist, physics, biology, psychology, etc
110.	Academy of Social and Humanity Sciences	Bachelor/Master/PhD. in social and humanity sciences
V. Schools of labor protection/safety		
111.	Trade Union University	Bachelor in labor protection (Labor protection engineers)
112.	The University of Labour and Social Affair	Bachelor in Insurance
113.	Ton Duc Thang University	Bachelor in labor protection (Labor protection engineers)

VI. Schools of intermediate level and Medical College		
114.	Hanoi School Intermediate Medicine and Pharmacy	Intermediate level Pharmacists, dental technicians, Physician (General Practitioner), Traditional Medicine Physician
115.	HoChiMinh School Intermediate Medicine and Pharmacy	Intermediate level Pharmacists, dental technicians, Physician (General Practitioner), Traditional Medicine Physician
116.	Hanoi Medical College	Nurses, Midwives; College level Pharmacists, Medical testing technicians and Medical imaging technicians
117.	Hadong medical College	Nurses, Midwives; College level Pharmacists; Medical testing technicians and Medical imaging technicians Intermediate Physicians
118.	The Hanoi College of Technology and Commerce	Intermediate and college Pharmacists, Nurses, General College Physicians
119.	Pharmaceutical and Medical College at 63 provinces over the country	Intermediate and College Pharmacists, Nurses, dental technicians; Physiotherapy and rehabilitation technicians, Physician (General Practitioner), Traditional Medicine Physicians Midwives
120.	Dai Viet Saigon College	College Pharmacists, Nurses, Medical testing Technician sand Midwives;
121.	Bach Viet College	College Pharmacists and Nurses
122.	Ho Chi Minh City College of Economics and Technology	Traditional Medicine Phisicians
123.	Vien Dong College	Nurses
124.	Tue Tinh Medical College	General Physicians, Pharmacist, Traditional Medicine Physicians, Acupressure Massage technicians
125.	Etc.	

3.9.3. Supply and availability for personnel engaged in the area of OSH

There is no data of personnel working in OSH area over the country until now.

According to the results of NIOEH's investigation on actual situation on capacities and the needs for enhancing provision of basic occupational health service in 1590 preventive medicine facilities and labour inspection units at different levels over the country in 2009-2010, the total number of OH personnel was 4928. Most OH personnel had intermediate educations (55.3%), while those with university and postgraduate degrees accounted for more than 1/3 (38.5%) of the personnel. With respect to professional levels, doctor assistants accounted for the highest proportion (28.2%), followed by nurses (16.2%) and engineers/Bachelors (15.5%). Medical doctors (MDs) constituted only 13.6% and MDs specialized in epidemiology and preventive medicine accounted for only 1.2%.

Distribution by professional levels varied by organizational level: At the national level, MDs predominated (40%), followed by other disciplines (35.1%), with technicians accounting for almost 26%. At the provincial level, medical doctors accounted for 20.0-32.6% of the OH personnel, with especially high proportions (1/3 of the total staff) seen in the Centers for Occupational Health and Environment (COHEs) and the occupational health centers of the industrial branches/sectors. Bachelors/engineers in environment accounted for 20.6-22.1%, followed by technicians (13.5-20.3%). At the district level, doctor assistants constituted more than 1/3 of all personnel, technicians accounted for 27.5%, and medical doctors comprised only 3%. At the commune and enterprise levels, doctor assistants and nurses predominated (75 and 70%, respectively). In comparison with the national standards in personnel aspect, at provincial level, all investigated Provincial Preventive Medicine Centers (PPMCs) met only 64.2% of leadership standards and 60.7% of staff standards. 67.3% of PPMCs and 62.5% of COHEs had needs for supplementing personnel's. For PPMCs, personnel's should be supplemented as medical doctors, bachelors and technicians. For COHEs, they need OH practitioners and public health bachelors for work assignments of occupational health, biochemical and hematological testing, occupational disease examination and detection, etc. At District level, there is a needs of supplementing personnel's for OH tasks with medical doctors and technicians. At commune level, it needs of supplementing personnel as medical doctors and doctor assistants who would be responsible for primary health care and occupational health activities at communes. 39.2% of health units at enterprises need more personnel's as medical doctors and doctor assistants who would be responsible for occupational health activities at enterprises. 94% of OSH inspection at provincial level and 75% of Department of Work and Employment at district level has needs of supplementing personnel's as medical doctors and HSE engineers to undertake OSH inspection

(Nguyen Bich Diep et al (2012). *Need assessment for capacity building in provision of basic occupational health services in Vietnam. Journal of Practical Medicine No. 849-850, p.364-369*)

According to the annual OH report by VHEMA, MOH, in 2015, total number of OH staffs over the country was 1,796 people. These data were collected from 55 Provincial/City Centers of Preventive Medicine, 8 Centers for Protection of workers' Health and Environment and 13 Health/Occupational Health Centers at Industrial Branches/sectors. There were 285 medical doctors involved in OH activities, e.g. working environment monitoring, health care for workers, periodic health examination, OD detection and diagnosis, etc. So, in average there were 4 medical doctors per center working in OH area. The number of centers with more than 5 doctors was mainly concentrated in provinces with developed industries such as Hanoi, Ho Chi Minh City, Vinh Phuc, Dong Nai, Quang Ninh, Bac Ninh, etc. Many provinces had only a few doctors, even some provinces do not have any doctors in charge of occupational health. Meanwhile, work-related diseases evolved silently, so early detection depends a lot on the qualifications of doctors and the results of working environment monitoring, periodic health checkup, and occupational disease examination.

In 2015, there were 50 occupational disease clinics established at 55 Provincial/city Preventive Medicine Centers, 8 Centers for Occupational Health and Environmental Protection and 8 Health/Occupational Health Centers at Industrial Branches. It means that not every center has occupational disease clinic where can do OD detection, diagnosis and examination.

No.		55 Provinces	8 Industrial Branches /sectors	2015
1	Total No. of OH staffs	1.404	392	1796
2	Medical Doctors	182	103	285
	Pharmacists	19	9	28
	Engineers	62		
	University level	235	150	385
	Other levels	87	125	321
3	OD expertise officers	46	13	62
4	OH Dept.	59	4	63
5	OD Clinics	50	3	53

Source: OH annual reports by VHEMA –MOH, 2015 (from 55 provinces and 8 OH/Health Centers/Hospitals of Industrial Branches/Sectors)

As mentioned above, there is no any university of medicine and pharmacy that train physicians/doctors specialized in occupational health. Since OSH Law in effective (1 June 2016), to become occupational health physicians/doctors, the medical doctors should attend 3 months certificate training course on occupational disease at NIOEH or 9 months special orientation on occupational disease at the Institute of Preventive Medicine and Public Health of Hanoi Medical University.

Before 1 June 2016, physicians/doctors involved in OD diagnosis and detection just attended the short courses from one week to three months organized by preventive medicine Institutions, e.g. NIOEH and Ho Chi Minh Institute of Public Health. According to the data of the training activities on occupational disease from 2010-2015 organized by NIOEH and HoChiMinh Institute of Public Health in the National program on OD prevention 2010-2015 and ADB project on strengthening capacities in OD detection and diagnosis for OD physicians/doctors at provincial and district levels, there were 69 courses organized and for 1,689 MDs working in OH area (*Source: The National OSH Profile 2010-2015 by MOLISA, 2016*)

For health staffs working in the health unit/center at enterprise, they need to attend the certificate training course on occupational health (see more details in the Item 3.7.1). The training institutions are certified by MOLISA according to the requirements of training these personnel as stipulated in Gov. Decree No 140/2018/ND-CP dated 8 Oct. 2018 on amendment of some articles of OSH Law related to OSH training.

For occupational hygienists, there is no any university that trains this specialization. If any OSH personnel want to be involved in the working environment monitoring, they need to attend the 1 month course of working environment monitoring (see Item 3.7.1 for more details of training program). The training institutions that are certified by MOH, are 3 Institutions of the preventive medicine system (the National Institute of Occupational and Environmental Health (NIOEH), the Institute of Public Health (Ho Chi Minh City), the Nha Trang Pasteur Institute). Reported by NIOEH and HoChiMinh Institute of Public Health from 2010-2015 on the training activities on working environment monitoring organized in the National program on OD prevention 2010-2015 and ADB project on strengthening capacities for OH staffs at provincial and district levels, there were 42 courses organized and for 1,080 OH staffs working in OH area (*Source: The National OSH Profile 2010-2015 by MOLISA, 2016*)

Occupational health personnel are included in the human resource of health sector in general and preventive medicine in particular that play an important role in the care, protection

and improvement of the people's health including workers' health. The following is analysis of causes for the shortage of preventive medicine personnel including OH personnel.

Currently the training, recruiting and using human resources for the preventive medicine system is an urgent issue in the development of the Health sector's Planning, Strategy and Policy. For many years, the training program for preventive medicine human resources in training institutions has not really attracted students to attend, the training program has not been consistent, there is no close association between theory and practice (school – hospitals /institutions). In addition, the remuneration (salary, allowance) for preventive medicine staff is low, inadequate, not commensurate with the specific labor of the industry. The above fact leads to the situation that the staff structure working in the units is not reasonable, there is a lack of staff with formal training, in-depth knowledge in the fields of preventive medicine, many officials are trained in subjects that are not suitable for work requirements, graduates do not want to work in preventive medicine facilities and staff do not feel secure to work with prevention work.

According to the 2009 statistics, the whole country has about 16,500 health workers working in the field of preventive medicine at central, provincial and district facilities. By 2011, this number reached approximately 17,100 staff, increasing only about 3.5% compared to 2009, showing that the growth in the number of human resources for preventive medicine in general is still very modest. In comparison with the provisions of Joint Circular No. 08/2007 / TTLT of the Ministry of Health and the Ministry of Home Affairs dated June 5, 2007 on the non-business payroll norms in state health facilities (considered as the demand norm of health sector), the above number of human resources only meets about 42% of the staff needs for the preventive medicine system in the country. Thus, it is necessary to add about 23,800 staff, accounting for 58% of the total demand for human resources. Analysis of the need to increase human resources by level shows that for the central level is 1,018 (accounting for about 4.3%), at the provincial level 5,340 (accounting for 22.4%) and at the district level 17,508 (accounting for 73.5%). . Analyzing according to the structure of the training area and the training level, it can be seen that the demand for medical and pharmaceutical staff is about 77.6%, for the other backgrounds about 22.4%. More specifically: The need for medical doctors / preventive medicine is about 33.8%; for public health bachelor about 16.7%; for bachelor's medical testing about 5.3%; about 4.8% for intermediate technicians, about 5.9% for midwives, 4.6% for university pharmacists, 3.8% for intermediate pharmacists; While human resources at medical secondary level have the demand to decrease at rates appropriate to each facility,

especially for units at the provincial level. For other backgrounds, including staff of biotechnology, environmental technology, analytical chemistry, bachelor of economics, information technology, sociology ... the number of human resources is about 5300 people , accounting for 22.5% of the total number of on-demand deprivation, of which the highest concentration is in university graduates, accounting for 57% of the total number of additional needs in this group.

To meet the needs of preventive medicine human resources nationwide, a network of universities, schools of medical and pharmaceutical, colleges and secondary schools in all three regions and in most provinces and cities is established. Current situation of tertiary education: The country has 26 medical human resources training institutions of university level, of which 18 are public institutions. Currently, there are 5 universities training bachelor of public health and 7 schools for training preventive medicine doctors. College training: As of 2010, there are 74 colleges, including 3 schools under the Ministry of Health, the rest under provinces and cities. The number of medical colleges upgraded from medical secondary schools has increased rapidly in the last two years. Secondary training: There are 44 schools directly under the provinces, cities or centrally managed by the Ministry of Health. Most of the provinces and cities nationwide already have a vocational training institution for intermediate professional health workers (nurses, pharmaceutical technical workers).

We are currently maintaining 8 training modes for preventive medicine staff at universities, colleges and intermediate schools across the country, including: Formal training; Contract training by address; Joint training; Election training; Training while working and studying; Training two degrees; Certification training for demanding learners and Continuing Training.

With an extensive network of medical and pharmaceutical schools and a rather diverse and plentiful training method, over the past years the training system has basically provided sufficient staff in the field of preventive medicine according to qualifications the same type of professional diploma as today. However, compared with the human resource needs specified in the Joint Circular No. 08/2007 / TTLT of the Ministry of Health and the Ministry of Home Affairs on the non-business payroll norms in state health facilities, the ability to meet Medical and pharmaceutical training institutions across the country also need to increase about 2 times the current training capacity* .

(*Source: **Human resources for preventive medicine: current situation, challenges and solutions, Preventive Medicine Journal, 2014. <http://www.tapchihocduphong.vn/tin-tuc/dien-dan-y-hoc-du-phong/nhan-luc-y-te-du-phong-thuc-trang-thach-thuc-va-giai-phap-o81E2104B.html>*)

Regards training MDs specialized in preventive medicine, it can solve the shortage of MDs at different levels as analyzed above. According to Table 2. 13. Health professions graduates in university 2013-2018 in Part 2, each year, from 2013-2018 in average about more than 3000 MDs specialized in preventive medicine were graduated from university of medicine. These preventive medicine doctors can work in preventive medicine system, e.g. preventive medicine Institutions, Provincial/city Preventive Medicine Centers (now changed to Centers for Disease Control, CDCs), Centers for Occupational Health and Environmental Protection and Health centers/Occupational Health Centers at Industrial Branches. However, preventive medicine MDs cannot be involved in health examination and treatment in general according to the Law of Medical Examination and Treatment. In Oh area, they cannot be involved in health check-up and OD detection and diagnosis in special. So, they cannot become MDs specialized in ODs, just can provide another OH services, e.g. working environment monitoring, etc. As a results, it need to develop a special curriculum for training MDs specialized in OD in university of medicine as in other country like Japan, US. And European countries, etc. to deal with the shortage of these personnel.

For medical staffs working at enterprise, the large state and foreign investment companies can hire medical doctors, assistant doctors, nurses, etc. because they can pay high salary while in private and medium size enterprises cannot. There is no problem for these personnel to get the certificate of training on occupational health.

For labour protection/occupational safety engineers, there are two universities over the country that provide trainings. According to data published by the University of Trade Union (Hanoi), from 1992 to 2012, the Labor Protection Department trained about 2,000 engineers, meaning there are only 100 Labor Protection/occupational safety engineers in average each year. "come out" from here. From school years of 2010-2015, the University of Trade Union (Hanoi) trained 273 labor protection engineers, and from 2013-2015, 23 Master of OSH management and 68 occupational safety officers.

At Ton Duc Thang University: By 2015, the Faculty of Environment & Labor Protection has enrolled 19 full-time undergraduate courses, 03 undergraduate courses for both working and studying people and 01 diploma course in two branches of labor protection. From 2010 to 2015, the University had 06 courses of Labor Protection Engineer graduating on schedule and a number of graduates exceeding progress with the number of more than 193 graduates. The rate of students employed after one year of graduation: year of 2013 (reaching 90%), 2014 (reaching 95%), 2015 (reaching 95%). In addition, the Center for Occupational Safety and

Environmental Technology (COSENT) under Ton Duc Thang University also organized 16 short-term training courses on Business Safety, Health, Safety and Environment (HSE) with Training time is 8 months. The course content includes specialized subjects related to occupational safety and health and the environment, helping students to understand the basics of relevant issues.

(Source: The National OSH Profile 2010-2015 by MOLISA, 2016)

With the actual number of trained labour protection/occupational safety engineers by two universities mentioned above, the shortage of these personnel working at enterprises is very serious as according to the OSH Law, 2015, each enterprise with 300 or more employees must arrange at least one full-time OSH officer. For specific enterprises, in production there are many dangerous factors, from 50 employees or more must also arrange a person to be in charge of OSH. Enterprises with 1,000 or more employees must set up OSH departments.

3.10. Activities and Involvement by International Organizations, Academic Institutes and Non-Governmental Organization

3.10.1. OSH activities and involvement by international organizations, academic institutes and other agencies, such as Non-Governmental Organization

➤ ILO office in Vietnam:

Working in partnership with the Government of Viet Nam, especially the Ministry of Labour, Invalids and Social Affairs, the Viet Nam General Confederation of Labour, the Viet Nam Chamber of Commerce and Industry, and the Viet Nam Cooperative Alliance, the ILO has offered support through policy advice, capacity building and technical cooperation to open opportunities for women and men to gain access to better jobs and have a voice in the decisions that affect their lives.

Among the key issues that the country has been cooperating with the ILO are green jobs, skills development, labour statistics, industrial relations development, occupational safety and health and social security. International labour standards and gender equality are viewed as cross-cutting issues being mainstreamed in all the above key issues under the framework of cooperation between the ILO and our tripartite constituents.

The ILO in Viet Nam is now helping Viet Nam implement the [2017-21 Decent Work Country Programme](#), a continuation of the first two successful decent work country cooperation frameworks which covered the periods of 2006-10 and 2012-16.

The third Decent Work Country Programme between the ILO and tripartite constituents (the

Government, the workers' and employers' organizations) aims to address the decent work challenges faced by the country.

It sets out three country priorities namely:

- Promote decent employment and an enabling environment for sustainable entrepreneurship opportunities;
- Reduce poverty by extending social protection for all and reduce unacceptable forms of work, especially for the most vulnerable; and
- Build effective labour market governance compliant with fundamental principles and rights and at work.

There are some recent OSH projects/programs:

- **Decent work in Viet Nam:** The Decent Work Country Programme for Viet Nam is the main framework for ILO co-operation with the Government, workers' and employers' organizations over the 2017-21 period. It is in line with the Viet Nam United Nations One Plan for the same period, which embraces the Sustainable Development Goals, and the national Five-year Socio-Economic Development Plan . The third Decent Work Country Programme sets out three country priorities namely to:
 - Promote decent employment and an enabling environment for sustainable entrepreneurship opportunities;
 - Reduce poverty by extending social protection for all and reduce unacceptable forms of work, especially for the most vulnerable;
 - Build effective labour market governance compliant with fundamental principles and rights and at work.

- **Building a generation of safe and healthy workers - SafeYouth@Work** (1 December 2014 - 18 December 2018). The global project of which Viet Nam is a pilot country seeks to make workplace safer and healthier for young workers, aged 15-24 years, and to promote a culture of prevention on occupational safety and health.
 - **Supplementation to the Occupational Safety and Health project in Hazardous Work in Viet Nam (2016)**. This supplementation project aims to build on the outcomes of the previous phase, promote effective consultation and provide the Government with improved recommendations on policies and regulations on occupational safety and health under the Law on Occupational Safety and Health.
 - **Effective Implementation of National OSH Programme for Improving Safety and Health at the Workplace in Viet Nam**. The project contributes to implementing Decent Work Country Programmes (DWCP) and National OSH Programme through realization of safe and healthy workplaces and communities, and productive workplace environment in small and medium-sized enterprises (SMEs) and poverty reduction in the community level. The project is implemented in cooperation with WHO to promote One-UN Policy.
- **WHO office in Vietnam:** WHO's work in Viet Nam is based on the country's need for support in implementing its national health policies, strategies and plans (NHSP) to address key health issues and fulfil its commitment to the WHO Constitution and other international health laws and treaties. Global and regional priorities as well as joint priorities with the United Nations further guide the work of WHO in Viet Nam. Providing the overarching framework is the 2030 Agenda for Sustainable Development, which was adopted at the United Nations General Assembly in September 2015.

One Strategic Plan 2017 – 2021:

The One Strategic Plan 2017-2021 represents the programmatic and operational framework for delivering United Nations (UN) support to the Government over the next five years and sets out how the UN will deliver as one in support of national development priorities. The Plan is aligned with the Socio-Economic Development Strategy 2011-2020, the Socio-Economic Development Plan 2016-2020, the Sustainable Development Goals (SDGs) and Viet Nam's international human rights commitments.

In preparation, the UN conducted an Independent Review of the One Plan 2012-2016, a Common Country Assessment, a Consultative Review of the Role, Position and Partnerships for the UN in

a Lower Middle-Income Context, a strategic planning process and extensive consultations with the Government, development partners and other stakeholders.

National health policies, strategies and plans of Viet Nam

All top-level decisions in the country come from the Communist Party of Viet Nam. In October 2017, the sixth plenary session of the 12th Party Central Committee adopted a new resolution on the protection, care and improvement of people's health (No. 20-NQ/TW). It updated the previous resolution of the 7th Party Central Committee in 1992. Incorporating findings from a stock-take of the implementation of the 1992 resolution and an assessment of the current situation, the new resolution includes set viewpoints and objectives of national health policy as well as major tasks and specific targets to achieve by 2025 and 2030.

Three strategic priorities of WHO in Viet Nam

Strategic priorities 1: Strengthening key health system functions to deliver the system objectives, towards universal health coverage

WHO will support the Government of Viet Nam in the following areas laid out in Resolution No. 20-NQ/TW:

- Renovate fundamentally and comprehensively the training of human resources for health, meeting both ethical and professional requirements in conditions of proactive and active integration into the world.
- Renovate health financing to mobilize resources adequately and equitably for effective protection, care and improvement of the people's health, with the focus on vulnerable people, ethnic minority people, and people living in remote, mountainous, border and island areas.
- Increase domestic resources for prevention and control of priority public health conditions such as HIV/AIDS, tuberculosis and [malaria](#).
- Renovate the organization, provision, and management of health care services, focusing on grassroots health system, commune-level health system serving as frontlines in disease prevention and health care.
- Raise the capacity of research and production of drugs and vaccines.
- Improve the quality of health care services, basically overcome the hospital overcrowding through strengthening of primary care level.
- Pay special attention to maternal and child health, especially in mountainous, remote, difficulty areas, border and island areas.
- Develop appropriate models for elderly care.

Strategic priorities 2: Building sustainable national capacities and partnerships to ensure public health security and safety

- Ensure public health security, strengthen and improve the effectiveness of detecting, preparing for and responding to the epidemic and public health emergencies.
- Urgently complete the system of standards and indicators on food safety.
- Implement synchronous measures to minimize negative impacts from environmental pollution and climate change on health.
- Ensure access to clean water and hygienic latrines.
- Synchronously implement measures to ensure traffic safety, work safety, prevent and control accidents, injuries and occupational diseases.

WHO will support the Government of Viet Nam in the following areas laid out in Resolution No. 20-NQ/TW: WHO will also promote and facilitate policy and technical dialogue on antimicrobial resistance across sectors in Viet Nam. The Organization will provide strategic support for scaling up comprehensive and sustainable actions to tackle antimicrobial resistance and related specific pathogens.

Strategic priorities 3: Managing effectively communicable and noncommunicable diseases of public health importance

WHO will support the Government of Viet Nam in the following areas laid out in Resolution No. 20-NQ/TW:

- End AIDS epidemic, reduce tuberculosis burden and eliminate malaria.
- Firmly strengthen the vaccination system. Increase the number of vaccines in the expanded vaccination program in line with the budget.
- Strengthen propaganda and mobilization to build a civilized, healthy lifestyle, keep good hygienic habits; eliminate backward practices that negatively affect health.
- Increase excise taxes on goods harming health such as alcoholic beverages, carbonated drinks and cigarettes to limit consumption.
- Synchronously implement prevention and control of noncommunicable diseases; focus on preventive medicine, improve capacity for screening, early detection and control of diseases; promote the management and treatment of noncommunicable diseases, chronic diseases, long-term care at local health facilities.

Through this support, Viet Nam will achieve its goal to extend life expectancy at birth to 74.5 years by 2025 and 75 years by 2030 and contribute substantially to WHO's global target of *1 billion more people enjoying better health and well-being*.

➤ **Vietnam Society for Occupational Safety and Health**

Functions and duties of this agency:

1. To gather and unite the forces performing the management and scientific-technological research and practical activities in the field of labor insurance; coordinate activities of all levels of the Association and members nationwide to further promote the work of labor insurance and OSH.
2. Organize information, propagate, exchange professional knowledge, disseminate knowledge and coordinate with State agencies to provide professional training for officials and experts in the field of OSH. Propagating, educating, and raising awareness and understanding about OSH for employees and employers.
3. To contribute opinions to the Party and State on OSH guidelines, policies, plans and measures; providing social assessment consultancy and criticism on issues related to OSH.
4. Participating in scientific and technological development activities, implementing projects, scientific topics on OSH. Implementation of OSH services for production, employees and employers.
5. Closely cooperating with State agencies, social organizations and establishments related to the work of labor insurance and OSH.
6. Cooperate and exchange experiences with associations, international and regional organizations in the field of OSH in accordance with the law.

➤ **Vietnam Society for Occupational Health**

1. To participate in scientific and technological development activities, implementing projects on occupational health, eg. researches on, monitor, assess and forecast risk factors, hazardous working environment, and occupational safety, occupational diseases and adding to the list of compensated occupational diseases in Vietnam; in development of methods, standards and national technical regulations for occupational hygiene and occupational disease diagnosis; in expertise and examination of occupational diseases and work-related diseases;
2. Organize information, propagate, exchange professional knowledge, disseminate knowledge and coordinate with State agencies to provide professional training for officials and experts in the field of OSH. Propagating, educating, and raising awareness and understanding about OSH for employees and employers.

3. To contribute opinions to the Party, State and government management organizations on OSH standards, guidelines, policies, plans and measures; providing social assessment consultancy and criticism on issues related to OSH.

4. Cooperate and exchange experiences with associations, international and regional organizations in the field of OSH in accordance with the law.

3.11. Occupational Health Services including Industrial Hygiene

3.11.1. List of occupational health service providers and their service contents and quality (national/private):

No.	Occupational health service providers	Service contents	Quality
1	The National Institute for Occupational and Environmental Health (NIOEH)	<ul style="list-style-type: none"> - Industrial hygiene, working environment monitoring, - Health check-up (including pre-employment, periodic, Employment placement Health Examination), - Occupational disease examination (including OD detection and periodic OD examination) - OSH trainings (for employers, employees, health staffs at enterprises, eg. Occ. Physicians, nurses; OSH network volunteers, etc) - First aid training - Certificate Trainings on Industrial hygiene, working environment monitoring, psycho-physiology of work & ergonomics, OD detection, diagnosis; OH for Occ. Physicians, nurses, etc 	National
2	Vietnam National for Occupational Safety and Health (VNIOOSH) and their	<ul style="list-style-type: none"> - Industrial hygiene, working environment monitoring, 	National

	2 Regional Institutions in the central and South of VN)	<ul style="list-style-type: none"> - Health check-up (including pre-employment, periodic, Employment placement Health Examination), - Occupational disease examination (including OD detection and periodic OD examination) - OSH trainings (for employers, employees, OSH officers OSH network volunteers,) 	
3	Institute of Public Health in Ho Chi Minh City	<ul style="list-style-type: none"> - Industrial hygiene, working environment monitoring, - Health check-up (including pre-employment, periodic, Employment placement Health Examination), - Occupational disease examination (including OD detection and periodic OD examination) - OSH trainings (for employers, employees, health staffs at enterprises, eg. Occ. Physicians, nurses, OSH network volunteers) - First aid training - Certificate Trainings on Industrial hygiene, working environment monitoring, psycho-physiology of work & ergonomics, 	National
4	Nha Trang Pasteur Institute	<ul style="list-style-type: none"> - Industrial hygiene, working environment monitoring, - Health check-up (including pre-employment, periodic, Employment placement Health Examination), - Occupational disease examination (including OD detection and periodic OD examination) - OSH trainings (for employers, employees, OSH network volunteers) 	National

		- First aid training	
5	Tay Nguyen Institute of Hygiene and Epidemiology	<ul style="list-style-type: none"> - Industrial hygiene, working environment monitoring, - Health check-up (including pre-employment, periodic, Employment placement Health Examination), - Occupational disease examination (including OD detection and periodic OD examination) - OSH trainings (for employers, employees, OSH network volunteers) - First aid training 	National
6	The Institute of Maritime Medicine	<ul style="list-style-type: none"> - Industrial hygiene, working environment monitoring, - Health check-up (including pre-employment, periodic, Employment placement Health Examination), - Occupational disease examination (including OD detection and periodic OD examination) - OSH trainings (for employers, employees, OSH network volunteers) - First aid training 	National
7	The Departments of Public Health in Medical Colleges and Universities over the country	<ul style="list-style-type: none"> - Health check-up (including pre-employment, periodic), - OSH trainings (for employers, employees) - First aid training - Certificate Trainings on OD diagnosis 	National
8	13 Health Centers/Hospitals at Industrial Branch/Ministry	<ul style="list-style-type: none"> - Industrial hygiene, working environment monitoring, - Health check-up (including pre-employment, periodic, Employment placement Health Examination), 	National

		<ul style="list-style-type: none"> - Occupational disease examination (including OD detection and periodic OD examination) - OSH trainings (for employers, employees, OSH network volunteers) - First aid training 	
9	63 Provincial Centers for Disease Control (in 63 provinces)	<ul style="list-style-type: none"> - Industrial hygiene, working environment monitoring, - Health check-up (including pre-employment, periodic, Employment placement Health Examination), - Occupational disease examination (including OD detection and periodic OD examination) - OSH trainings (for employers, employees, OSH network volunteers) - First aid training 	National
10	Centers for Preventive Medicine in districts, towns and cities	<ul style="list-style-type: none"> - Working environment monitoring, - Health check-up (including pre-employment, periodic) - First aid training 	National
11	Health service at the grassroots, commune/ward and enterprise levels	<ul style="list-style-type: none"> - Periodic Health check-up - First aid training - First aid service for local enterprises 	National
12	Centers for environment monitoring (including Centers belong to Ministry/Department of Natural Resources and Environment and private ones)	Working environment monitoring	National and Private

13	State and General hospitals/clinics/health centers	- pre-employment and periodic Health check-up - First aid services	National and Private
14	63 Provincial and a Central Medical assessment/expertise Councils	- Medical assessment/expertise for occupational disease and injuries	National
15	Health stations/centers at enterprises	- pre-employment and periodic Health check-up - First aid services	National and Private
16	Institute of Labor Science and Social Affairs	- Working environment monitoring	National
17	Center for trainings	- OSH trainings	National and Private
18	Centers for public health and environment protection	- OSH trainings	Private

3.12.Support Mechanisms for Disadvantageous Group of Workers

3.12.1. Status and support mechanisms for workers in small and medium-sized enterprises, workers in micro-enterprises, workers in the informal economy, migrant workers, and contractors

- OSH policies for some particular groups of employees are regulated in OSH Law (2015), Chapter IV: Assurance of occupational safety and health for Particular groups of employees as follows:

Article 63. Occupational safety and health for female employees, minor employees and employees with disabilities, Occupational safety and health for female employees, minor employees and employees with disabilities must comply with the Labor Code, the Law on People with Disabilities and this Law.

Article 64. Conditions for employment of elderly employees to perform heavy, hazardous or dangerous occupations or jobs:

1. Elderly employees may be employed to perform heavy, dangerous or dangerous occupation18s or jobs or extremely heavy, hazardous or dangerous occupations or jobs that adversely affect their health when the following conditions are fully met:

- a/ The elderly employee is experienced and highly skilled with at least 15 full working years; and possesses a vocational certificate or is recognized as artisan in accordance with law;
- b/ The elderly employee is physically fit to perform heavy, hazardous or dangerous occupations or jobs according to the health standards issued by the Minister of Health after consulting line ministries;
- c/ The elderly employee may be employed for no more than 5 years;
- d/ The elderly employee shall work together with at least another employee who is not elderly.
- dd/ The elderly employee works on a voluntary basis.

2. The Government shall detail this Article.

Article 65. Occupational safety and health in case of labor lease

1. A labor leasing enterprise has the following responsibilities:

- a/ To negotiate with the hiring party on the guarantee of lawful occupational safety and health-related rights and interests of leased employees, which must not be lower than those of the hiring party's employees who have the same qualification, perform the same jobs or perform jobs of the same value; to include these contents in the labor lease contract and perform obligations of the employer in accordance with the Labor Code and this Law;
- b/ To coordinate with the hiring party and inspect if the hiring party guarantees occupational safety and health for leased employees. To guarantee all interests of leased employees in case the hiring party fails to fully implement its commitments on occupational safety and health guarantee stated in the signed labor lease contract;
- c/ To preserve occupational safety and health dossiers related to leased employees; to make reports on occupational accidents and diseases in accordance with Articles 36 and 37 of this Law.

2. A hiring party has the following responsibilities:

- a/ To fully implement its commitments in the labor lease contract; to have no discriminative treatment in occupational safety and health between leased employees and its own employees;
- b/ When a leased employee gets an occupational accident or a technical incident endangering occupational safety and health, to promptly provide first aid and emergency care for the victim and at the same time notify the labor leasing enterprise and notify and investigate the case as prescribed in Articles 34 and 35 of this Law;
- c/ To organize occupational safety and health training for leased employees in accordance with this Law, except the case that the labor leasing enterprise has provided appropriate training for leased employees in the jobs they are assigned; to biannually and annually review occupational

accidents and diseases of leased employees and send reports thereon to the labor leasing enterprise;

d/ To coordinate with the labor leasing enterprise in investigating occupational accidents; to preserve occupational safety and health dossiers related to leased employees.

3. Leased employees shall observe occupational safety and health regulations, procedures and measures issued by the hiring party.

4. The Government shall prescribe in detail occupational safety and health in case of labor lease; responsibilities of labor leasing enterprises and hiring parties for leased employees, guaranteeing lawful rights and interests of leased employees in accordance with the Labor Code and this Law.

- **Article 66.** Occupational safety and health at workplaces with employees of different employers . At a workplace where there are many employees of different employers working together, project owners shall make arrangement for these employers to jointly prepare a document which clearly specifies the occupational safety and health responsibility of each employer and assign staff to coordinate in occupational safety and health examination.

Article 67. Occupational safety and health for Vietnamese guest workers

1. Vietnamese guest workers referred to in this Article include Vietnamese employees who are assigned by their employers to perform tasks overseas and those working overseas under contracts as defined in the Law on Vietnamese Guest Workers.

2. Employers shall comply with occupational safety and health laws of host countries and the following provisions:

a/ To fully implement occupational safety and health measures and occupational accident and disease insurance regimes, and perform their responsibilities to employees as prescribed in this Law; in case regulations of host countries provide better benefits for employees, to apply such regulations;

b/ To coordinate with competent agencies of host countries in investigating occupational accidents and diseases occurring to employees;

c/ For fatal and serious occupational accidents, to provide dossiers and materials related to the accidents to Vietnam's provincial-level occupational safety and health inspectorates of the places where their head offices are based.

3. Vietnamese guest workers shall comply with Vietnam's laws and the laws of host countries unless otherwise prescribed by treaties to which the Socialist Republic of Vietnam is a contracting party.

Article 68. Occupational safety and health for domestic workers

1. Employers shall instruct domestic workers how to use machinery, equipment and utensils and implement fire and explosion prevention and fighting measures in their homes which are related to domestic work; and implement other regulations to guarantee occupational safety and health for domestic workers.
2. Domestic workers shall strictly follow instructions on use of machinery, equipment and utensils, and on fire and explosion prevention and fighting.
3. The Minister of Labor, War Invalids and Social Affairs shall detail occupational safety and health provisions applied to domestic workers.

- Article 69. Occupational safety and health for home-based employees

1. Upon entering into written agreements with employers on home-based working, employees shall ensure occupational safety and health requirements for the work assigned to them.
2. In case an occupational accident occurs during the working process at home, the home-based employee or his/her relatives shall inform it immediately to the employer.

If the victim of the occupational accident has participated in occupational accident and disease insurance, he/she is entitled to policies and benefits applicable to victims of occupational accidents and diseases prescribed in this Law.

If the victim of the occupational accident is not subject to occupational accident and disease insurance, the employer shall provide him/her with benefits prescribed in Clauses 1, 2, 3, 4, 5, 6, 7, 8 and 10, Article 38 of this Law.

3. Employers shall check the occupational safety and health conditions at the workplace of home-based employees; implement commitments in the agreements with the home-based employees; and include occupational accidents occurring to home-based employees in the general report on occupational accidents as prescribed in Article 36 of this Law.

➤ **Government promulgated some legislative documents on SME support as follows:**

- **The Law of SME support No. 04/2017/QH14** dated 12 June 2017: This Law include 4 chapters and 35 articles that provides for the principles, contents, and resources to support small and medium enterprises; responsibilities of agencies, organizations and individuals related to SME support.
- Resolution No. 35-NQ / CP on supporting and developing enterprises to 2020;
- Decree No. 34 / ND-CP on the establishment, organization and operation of the Credit Guarantee Fund for SMEs;

- Decree No. 39 / ND-CP on organization and operation of the SME Development Fund .
 - Circular No. 34/2019/TT-BLDTBXH on guiding management of labour, wages, remuneration and bonuses for small and medium enterprise development fund. This Circular provides guidelines for management of labour, salaries, remunerations and bonuses paid to employees and managers of the small and medium-sized enterprise development fund
 - Circular No 06/2019/TT/BKHDT on the network of consultants for SMEs and
 - *Circular No 05/2019/TT/BKHDT* on subsidies for training courses for women-owned SMEs
- **Circular No 06/2019/TT/BKHDT – consulting support for SMEs.** Issued by the Ministry of Planning and Investment, Circular 6 gives guidelines and instructions on rules around the network of consultants providing advice to SMEs and support through a network of consultants. The government has prescribed certain criteria for companies that can avail subsidized support through the network of consultants. SMEs, as per the law, are defined as micro, small, and medium-sized enterprises having no more than 200 employees registered with the state social insurance scheme and with a total capital not exceeding US\$4.4 million (100 billion VND) a year.

To avail the consulting services and subsidies, an SME must submit a dossier that includes:

- A copy of the business registration certificate; and
- A consulting service agreement with the business and consultant belonging to the counselor network.

SMEs can then avail the following subsidies:

- Micro businesses can avail a 100 percent subsidy but no more than US\$128 (3 million VND) a year;
- Small enterprises are entitled a subsidy of 30 percent of the consultancy contract value but not exceeding US\$213 (5 million VND) a year; and
- Medium enterprises are entitled to avail a subsidy of 10 percent of the contract value but not more than US\$426 (10 million VND) a year.

The government is also expected to launch an online platform for organizations and individuals to register and be automatically admitted to the consultant network. SMEs will then be able to look up information on the consultant network, including the name, registration number, and

other details on the websites of the National Portal as well as the local ministry websites, such as the Government Inspectorate.

If an individual wants to apply and be a part of the consultant network, he or she needs to submit a CV, training certificate, experience record, and other supporting documents. For a consulting organization, it needs to submit an establishment license, experience files, and any relevant documents by regulatory bodies. The relevant authority at the local ministry will then consider the application and publish the results on its website within 10 working days.

Administrative procedures

The government introduced Decision no 1696/QĐ-BTP on administrative procedures to allow SMEs to apply for subsidies on consulting support. This decision came into effect on August 16.

In order to apply for consulting support, SMEs must submit records including:

- Declaration identifying them as a small, medium or micro enterprise according to the form in Decree 39/2018/ND-CP;
- Copy of business registration certificate; and
- Service contract between legal consultant and enterprise stating the consultation contents and service charges.

➤ **Circular No 05/2019/TT/BKHDT – training incentives for women-owned SMEs**

As per Circular No 5, the government will provide subsidies for Human Resources of SMEs owned by women. A women-owned SME as defined by the government is one or more women who own at least 51 percent of its charter capital. Details of the circular are below:

- The government will provide 100 percent subsidy for expenses for training in entrepreneurship, business administration, and advanced business administration for women at women-owned SMEs;
- A 100 percent subsidy of expenses in training courses for employees of SMEs located in extremely disadvantaged areas as per Decree No 118.2015/ND-CP; and
- A subsidy of at least 50 percent of expenses for organizing a training course in entrepreneurship and business administration.

The government will then open accounts for SMEs to join online training courses.

PART IV
OCCUPATIONAL SAFETY AND HEALTH LEVEL

5.4.National Policy and Strategies for OSH

5.4.1. Conditions, details and operational status of national policy, strategies and plans for OSH

5.4.1.1.National Policy and strategies related to OSH

Ensuring OSH for employees is a major and consistent policy of our Party since its establishment, and expressed in the Party's Documents through the congresses and in the Decision, Directive of the Party. In the 2010-2020 periods, the Party and State's guidelines, lines and policies are showed in the following documents:

- The political report submitted to the XI National Congress of the Party clearly states "Caring for labor protection; improving working conditions; limiting occupational accidents"; "Research, supplement and complete policies on labor protection, social insurance, maternity and other regimes and policies for female employees".
- In Directive 29-CT-TW (dated 18/09/2013), the Vietnam Central Committee of the Communist Party emphasized the need of promoting OSH activities during this period of industrialization, modernization and international integration and requires party committees, Party organizations, administrations, Fatherland Front and mass organizations to implement some tasks as follows: 1) to renew the existing educational content in the effort of enhancing awareness and increasing initiatives to ensure OSH; 2) to strengthen trainings on improving skills of prevention of occupational accidents and diseases and to ensure occupational health for workers; 3) to promote OSH researches and scientific and technological application in production and manufacturing machines/equipment to aimed at ensuring OSH and improving the working conditions and environment for employees; 4) to improve the effectiveness of state-level management for OSH; 5) to improve the policy aimed at diversifying social resources in the implementation of OSH activities; and 6) being actively in international cooperation of occupational safety and health.
- Decision 255/2006/QĐ-TTg dated 09/11/2006 by the Prime Minister approving the National Strategy of Preventive Medicine in Vietnam until 2010 and orientations towards 2020 stated: enhancing activities for environmental and occupational health; implementing strategies for monitoring the working environment; and preventing occupational diseases. Priority was given to monitoring and proposing measures to handle wastes capable of polluting the environment

and negatively affecting human health (e.g., hospital waste, industrial waste, plant-protection chemicals, etc.).

- Decision No. 122 / QĐ-TTg dated 01/10/2013 by the Prime Minister approving the National Strategy for health care, protection and promotion for people in the period 2011-2020, with a vision to 2030. The general objective is "To ensure all people receiving primary health care services, expanding to access and use the qualified health services. People are living in safe communities, developing good physical and mental health. Reducing morbidity, disability and improving physical health, increasing life expectancy and improving quality of population".

- The National Socio-Economic Development Strategy for the period 2021-2030 with 16 specific goals, in which one of 6 environment goal is 100% of production and business establishments meet environmental standards

- Decision No. 622//2017/QĐ-Ttđ dated 10 May 2017 on Issuing the National Action Plan for implementation of the 2030 program for sustainable development. In which, MOH is responsible to implement Goal 3: Ensure healthy lives and enhance well-being for people of all ages

Goal 3.7: Achieve universal healthcare coverage, including financial risk protection, access to essential healthcare services, drugs and vaccines, and are safe, effective, quality, and within affordability for all (Global target 3.8): Continue to implement the tasks and solutions of the National Strategy for the protection, care and promotion of the people's health in the period 2011 - 2020, with a vision to 2030.

Goal 3.8: By 2030, significantly reduce morbidity and mortality from toxic chemicals and pollution of the air, water and soil environments (Global target 3.9): Develop a project to reduce impacts of toxic chemical pollution, air, water and soil pollution on human health in the period 2021 - 2030.

5.4.1.2. National strategies and program on OSH

❖ **Gov. Decision No. 05/QĐ-TTg** dated 1 June 2016 by Prime Minister on Approval of the National Program on Occupational Safety and Health for the period 2016 – 2020

1. General goal

Caring for improving working conditions, reducing working environment pollution; prevent occupational accidents and diseases, take care of employees' health; raising awareness and

compliance with the law on labor protection, ensuring safety of lives for workers, property of the State, property of enterprises and organizations, contributing to sustainable development of the country.

2. Specific objectives to 2020

- a) The annual average, reducing 5% of the frequency of fatal occupational accidents;
- b) More than 50% of employees working in facilities at risk of common occupational diseases are entitled to occupational disease check-ups; Over 70% of large enterprises and 30% of small and medium enterprises with high risks of occupational diseases perform working environment monitoring;
- c) On average, an annual increase of 2,000 small and medium enterprises can effectively apply some basic contents of the management system of OSH, initially building a safety culture;
- d) More than 90% of people in charge of management, directing and organizing the implementation of OSH at district level and in the management boards of economic zones, industrial parks, export processing zones, High-tech parks are trained to improve capacity in OSH;
- dd) Over 80% of the employees perform occupations and jobs with strict requirements on OSH; 80% of OSH officers and health workers; 90% of OSH workers in production and business establishments are trained in OSH;
- e) More than 80% of people involved in the first-aid and emergency forces at the workplace are trained to update first aid;
- g) Over 80% of craft villages and 70% of cooperatives at high risk of occupational accidents and diseases have access to appropriate information on OSH;
- h) 100% of workers with confirmed occupational accidents and diseases receive treatment and rehabilitation in accordance with the law;
- i) 100% of fatal occupational accidents are declared, investigated and handled in accordance with the law.

TIME AND SCOPE OF THE PROGRAM

1. Time: Implementation in the period 2016 - 2020.
2. Scope: nationwide.

MAIN CONTENT OF THE PROGRAM

1. Activities to improve the capacity and effectiveness of the State management over OSH, including:

- a) Reviewing, amending and supplementing legal documents, standards and technical regulations on OSH;
- b) Continue to study the application of the International Labor Organization (ILO) standards on OSH;
- c) Improve capacity and effectiveness of product quality inspection, system of inspection, inspection and supervision of OSH;
- d) Investigate, statistically, synthesize and evaluate the situation of occupational accidents, occupational diseases and technical incidents causing serious OSH failure; consolidating the national database on OSH;
- dd) Implement the appropriate OSH management systems in enterprises, production and business establishments and trade villages that are at high risk of occupational accidents and diseases.

2. Activities to improve professional occupational health and health care for workers at the workplace, including:

- a) Taking measures to prevent and control common occupational diseases for agencies, units, enterprises, and business establishments at high risk of occupational diseases;
- b) Training to improve the capacity of diagnosis, assessment, treatment and functional rehabilitation for victims of occupational accidents and diseases; professional working environment monitoring, assessing harmful factors;
- c) To provide professional training and guidance to medical personnel at enterprises, production and business establishments; train first-aid and emergency forces at the workplace;
- d) Activities aimed at preventing, minimizing and overcoming consequences of occupational diseases, especially TNT poisoning in the defense sector.

3. Activities of propagation, education, training and counseling on OSH include:

- a) Raise the operational capacity of OSH training and counseling centers;
- b) To consolidate training and communication programs and documents; professional training, support to expand the network of OSH coaches and communicators;
- c) Conduct training and propaganda about OSH; providing technical advice and support to improve working conditions for employers and employees under the Program's target;
- d) Improve the efficiency of mass movements to perform the work of OSH in the period of industrialization and modernization.

❖ **Gov. Decision No.** No.899/QD-TTg dated 20 June 2017 by Prime Minister on approving Target Program for Vocational Education, Employment and Occupational Safety during 2016 – 2020

1. General objective: Support the development of vocational education; promoting labor market development; improve the efficiency of labor supply - demand connection; creating jobs, increasing labor export, labor safety and hygiene to meet the requirements of national construction and development and international economic integration; Promote sustainable employment associated with increasing labor productivity, improving working conditions, increasing income and preventing occupational accidents.

2. Specific objectives related to OSH to strive to 2020:

dd) An average annual reduction of 5% in frequency of fatal occupational accidents in a number of sectors and fields at high risk of occupational accident (mining, construction, metal production, chemical production and some other professions and occupations).

e) Pilot support for 600 SMEs to effectively apply the OSH management system, gradually meeting international standards on OSH (OHSAS 18001, SA 8000, ...) and build a safety culture at work.

Project 3: Strengthen occupational safety and health

a) Objectives of the Project:

* *General goal:* Caring for improving working conditions, preventing labor accidents and occupational diseases; Raising awareness and compliance with the law on labor protection, ensuring safety for employees' lives, property of the State, property of enterprises and organizations, contributing to sustainable development. national firm.

**Specific goals up to 2020:*

- On average, 5% reduction in the frequency of fatal occupational accidents in some sectors and fields at high risk of occupational accidents (mining; construction; metal production and chemical production) ;

- Supporting a pilot of 600 small and medium enterprises to effectively apply the management system of OSH, step by step meeting international standards on OSH and building a culture of safety. in labor.

- Average annual support for training in OSH: 15,000 people doing occupations and jobs with strict requirements on OSH, 20,000 people doing heavy occupations and jobs toxic, dangerous;

10,000 people working in OSH, 2,000 people working in health care and 1,000 people doing safety and hygiene activities in enterprises, production and business establishments.

- Annually, on average, to support the dissemination of appropriate information on OSH to 50 trade villages and 200 cooperatives at high risk of occupational accidents and occupational diseases.

b) Scope and target of implementation:

* Scope: Depending on the nature and scale, each project activity is carried out in a number of provinces and centrally run cities.

* Objects of implementation: Ministries, branches, localities and units are assigned to perform the tasks of the project; key businesses, production and business establishments, industries / occupations with high risks of occupational accidents, occupational diseases and working environment pollution.

c) Main contents:

* Improve management capacity and effectiveness in terms of OSH

- Piloting the system of reporting and statistics on occupational accidents, consulting and supporting the law on OSH for employees working not under labor contracts;

- Evaluate samples, complete methods of classifying employees according to working conditions for heavy, hazardous and dangerous occupations and jobs in the process of international economic integration;

- To consolidate the national database on OSH (to conduct statistical surveys on the implementation of the project's objectives; to deploy information technology applications to manage the national database on OSH);

- Implement appropriate OSH management systems in enterprises, production and business establishments and trade villages that are at high risk of occupational accidents and diseases. .

* Propaganda, training, education to raise awareness, skills and compliance with the law on OSH

- Continue to improve and upgrade the training center for OSH under the Ministry of Labor, War Invalids and Social Affairs;

- Strengthening training programs, materials, communication; professional training, support to expand the network of OSH coaches and communicators;

- Deploying model training, counseling and training support on OSH for people doing occupations and jobs with strict requirements on OSH; people doing heavy, hazardous or

dangerous occupations and jobs; people in charge of OSH, health care and safety and hygiene in enterprises, production and business establishments;

- Introduce and perfect the contents and textbooks on OSH established in the period 2011 - 2015 into the teaching programs at higher education and vocational education institutions;
- Implement communication, consultation and support information on OSH to enterprises, craft villages, and cooperatives at high risk of occupational accidents and diseases.

* Consulting, supporting the application of technical measures to prevent occupational accidents and diseases

- Implement pilot application of safety technical solutions model in small and medium enterprises with high risk of occupational accidents (mining and processing of minerals; metallurgy; chemicals; construction and number of other industries and occupations);
- Consulting and assisting enterprises in building safe cultural models combined with technical solutions to improve working conditions in small production areas;
- Consulting and supporting pilot occupational accident prevention and control when using machines and equipment with strict requirements on occupational safety in the non-structural area (supporting inspection; consulting on selecting machines and equipment equipment; instructions and monitoring of use);
- Support for occupational disease examination and detection in occupational disease statistical surveys.

d) Funding for implementation

The total cost of implementing the project is 680 billion VND, of which: Central budget is 300 billion VND (non-business capital); Local budget 50 billion VND (non-business capital); Other mobilization 330 billion VND (non-business capital).

***The initial results of implementation of this program:**

On December 5, 2018, in Hanoi, the Ministry of Labor, War Invalids and Social Affairs held a three-year preliminary conference (2016-2018) Project 3 - Strengthening Occupational Safety and Health under the Program of Vocational education - Employment and occupational safety for the period 2016-2020.

According to reports from localities, by October 2018, over 4,500 enterprises have been consulted, built and effectively applied the OSH management system. In which, there are over 400 enterprises with intensive support, modeling the OSH management system according to the international standards on OSH; Building an occupational safety culture; The project

supports training for more than 60,000 people working in occupations and jobs with strict requirements on OSH and heavy, hazardous or dangerous occupations, OSH officers, health officers and OSH workers, reaching 100% of the set targets. Regularly support OSH information dissemination in 63 provinces, cities, over 40 craft villages, 600 cooperatives, over 50,000 small and medium enterprises, 2,000 farmer members working in hazardous and dangerous occupations. Activities of the Project on OSH activities are based on the principles of supporting and promoting the autonomy of employers and employees to participate in the work of ensuring OSH in order to sustain the goals.

However, due to the difficult economic situation, the project also faced many difficulties in operation, such as: summoning labor managers who perform safety work to participate in orientation training; coordinate to build a model for the management, measurement, inspection and assessment of the working environment; consulting to improve working conditions ...

At the conference, representatives of the Vietnam Chamber of Commerce and Industry informed: Implementing the program, by the end of November 2018, VCCI has organized 34 training courses for 1,940 people from 425 enterprises; organize 01 seminar to disseminate standards on OSH; Award Ceremony for the top 100 sustainable businesses in 2018 voted by the Business Council for Sustainable Development.

According to the representative of the Ministry of National Defense, the project has significantly improved the working environment for the entire army cadres and soldiers; raising awareness of OSH, minimizing occupational accidents and occupational diseases (On average, the number of occupational accidents decreases by 11%, the number of deaths decreases by 8.32%, the number of seriously injured people decreases by 19.77%).

Implementing the project, in the 3 years 2016-2018, Lao Cai province held 04 training courses on OSH knowledge for 255 managers at commune, ward and town levels of 09 districts and cities; organized 09 training courses to build OSH management system for 691 employers and employees working on OSH in enterprises; Organize conference to propagate and disseminate the law on OSH, Law on OSH for 420 leaders, officials of departments, branches, districts, cities, enterprises in the province.

Ministries, branches and localities also made a number of recommendations to better perform the project in the coming time, such as: Adjusting OSH training content and time accordingly to improve production and business efficiency and enterprise competitiveness in international integration; Strengthen inspection, examination and supervision for OSH work at enterprises; Guide and facilitate procedures to support OSH training funding from the Insurance Fund for occupational accidents and diseases for agencies and enterprises ...

(Source: <http://www.molisa.gov.vn/Pages/tintuc/chitiet.aspx?tintucID=28615>)

- ❖ **Gov. Decision No. 659/QĐ-TTg dated 20 may 2020** by Prime Minister on approving the Program on Care and Improvement of Employees' Health and Occupational Disease Prevention in the 2020 - 2030 period

GOAL OF THE PROGRAM

1. General objective: To protect, care for and improve employees' health, promote healthy lifestyles and nutrition in the workplace, and prevent and combat diseases, and occupational diseases for employees, ensuring the quality of human resources, contributing to the sustainable development of the country.

2. Specific goals

- a) The localities complete the construction of the database on monitoring of the working environment and occupational diseases by 2025 and connect to the national data system by 2030.
- b) Management of the workplace with harmful factors causing occupational diseases: manage 50% of the work establishments by 2025 and 80% by 2030.
- c) Inspecting the working environment monitoring: checking 30% of labor establishments with harmful factors causing occupational diseases by 2025 and 50% by 2030; 100% of labor establishments using asbestos will be monitored and supervised in accordance with regulations in 2025.
- d) By 2025: Integrating health care services for employees without labor contracts into primary health care at grassroots health care facilities (according to the Scheme on building and developing grassroots healthcare facilities in the new situation). 100% of labor establishments are consulted about non-communicable diseases, take measures to prevent and improve health, , provision of hygienic nutrition and suitable to working conditions, increase mobility at work.

- dd) Health management of workers at work establishments at risk of occupational diseases (including workers exposed to asbestos): 50% of workers at work establishments are at risk of Occupational diseases have access to information on harmful factors, preventive measures and early detection of occupational diseases by 2025 and 100% by 2030.
- e) By 2025: 100% of employees exposed to asbestos will receive health management and occupational medical examination; 100% of labor establishments using asbestos are supervised and monitored the working environment according to regulations.
- g) 100% of people suffering from occupational accidents and diseases receive first aid, medical examination, treatment and functional rehabilitation at the workplace.
- h) By 2030: 100% of employees in industrial zones and export processing zones will be consulted and provided with reproductive health care, HIV / AIDS prevention and breastfeeding services (for female employees).
- i) By 2025, to reduce 15% of the cases of food poisoning in mass in labor establishments and by 2030, reduce by 25% compared with the period 2010-2018.

SCOPE, SUBJECTS AND TIME OF PROGRAM IMPLEMENTATION

1. Scope and subjects: The program is implemented nationwide, including labor establishments, employers and employees; Priority is given to small and medium labor establishments, agricultural sectors, craft villages, female workers, elderly workers and workers without labor contracts and health care facilities.

2. Implementation time: From 2020 to 2030.

LIST OF PRIORITY PROJECTS FOR IMPLEMENTATION OF THE PROGRAM OF CARE AND ENHANCING WORKER' HEALTH AND OCCUPATIONAL DISEASE PREVENTION IN THE 2020-2030 STAGE

(Issued together with Decision No. 659 / QD-TTg dated May 20, 2020)

No.	Priority Projects	Implementing organizations	Organizations in coordination	Period	Budget
1.	Capacity building of occupational health, health care for workers, prevention of occupational diseases.	MOH	Units are qualified for training	2020-2030	State budget, other legal capital
2.	Enhancing occupational health systems/ organizations, medical personnel and first aid activities at production and business establishments.	MOH	MOLISA, Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2025	State budget, other legal capital

No.	Priority Projects	Implementing organizations	Organizations in coordination	Period	Budget
3.	Building a system of testing centers - reference to ensure the quality of working environment monitoring results nationwide.	MOH	MOLISA, Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2030	State budget, other legal capital
4.	Reduce work burden, continuous working time, stress factor in some occupations, jobs in some labor establishments such as textiles, health care, electronics, leather shoes.	MOLISA	MOH, Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2025	State budget, other legal capital
5.	To ensure the conditions of payment to employees suffering from occupational diseases when taking medical examination and treatment beyond working time in labor establishments registered with the health insurance agency.	MOLISA	MOH, General Federation of Labour (VGFL), related ministries/sectors	2020-2022	State budget, other legal capital
6.	Guide and improve health care capacity for employees; implementing the basic occupational health service package for small and medium enterprises, craft villages and for employees without labor contracts.	MOH	MOLISA, Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2022	State budget, other legal capital
7.	Pilot a model of basic occupational health service for small and medium enterprises, craft villages and for employees without labor contracts.	MOH	Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2025	State budget, other legal capital
8.	Occupational health management is integrated in the personal health management profile at the commune level.	MOH	Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2025	State budget, other legal capital

No.	Priority Projects	Implementing organizations	Organizations in coordination	Period	Budget
9.	Improve the quality of workers' shift meals in some occupations.	MOH	MOLISA, Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2025	State budget, corporate capital and other legal capital
10.	Building and scaling up models for prevention of communicable and non-communicable diseases at the workplace.	MOH	MOLISA, Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2030	State budget, corporate capital and other legal capital
11.	Strengthen policy advocacy, improve communication capacity on health care and health promotion for employees	Vietnam General Federation of Labour (VGFL),	MOH, MOLISA, related ministries/sectors	2020-2030	State budget, corporate capital and other legal capital
12.	Develop and replicate prevention models for some common occupational diseases; strengthening capacity for treatment and functional rehabilitation for occupational diseases and occupational accidents.	MOH	MOLISA, Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2030	State budget, corporate capital and other legal capital
	Building a national database on working environment monitoring and occupational disease.	MOH	MOLISA, Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2025	State budget, other legal capital
14.	Research on occupational hygiene and factors causing occupational diseases arising in new conditions	MOH	MOLISA, Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2030	State budget, other legal capital
15.	Updated national profile on asbestos and human health.	MOH	MOLISA, Vietnam General Federation of Labour (VGFL), related ministries/sectors	2020-2025	State budget, other legal capital

4.2. Occupational Injury and Disease Statistics

4.2.1. Occupational injury and disease statistics:

4.2.1.1. Occupational injury

Figure 4.1 Situation of Occupational Injury from 2001-2019

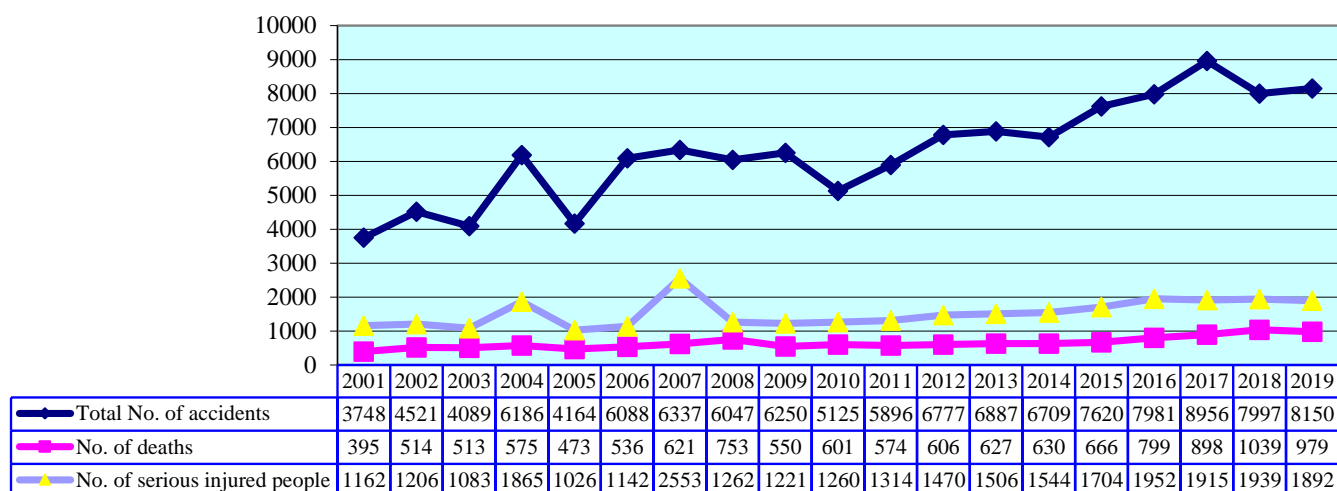


Table 4.1: Situation of occupational accidents from 2010-2019

Year	Total No. of cases	No. of cases with death	No. of cases with 2 and more victims	Number of deaths	No. of people with serious injuries	No. of female victims
2010	5125	554	105	601	1260	944
2011	5896	504	90	574	1314	1363
2012	6777	552	95	606	1470	1842
2013	6695	562	113	627	1506	2308
2014	6709	592	166	630	1544	2136
2015	7620	629	79	666	1704	2432
2016	7981	799	106	862	1952	2371
2017	8956	898	101	928	1915	2727
2018	7997	972	112	1039	1939	2667
2019	8150	927	146	979	1892	2771

Source: Annual Report on situation of occupational accidents and injuries, Occupational Safety Agency, MOLISA

Table 4.2: Status of occupational accidents and injuries during 2010-2019 in some high risk industries

Year	Construction		Mining		Electricity production & business/Mechanics & metallurgy	
	No. cases with death	No. of deaths	No. cases with death	No. of deaths	No. cases with death	No. of deaths
2010	390	Including both construction and mining		103	173	98
2011	1269	Including both construction and mining		210	225	77
2012	752	Including both construction and mining		93	No data	
2013	In construction, there were 28.6% of total accident cases with death and 26.5% of total deaths		In mining, there were 15.4% of total accident cases with death and 14.3% of total deaths		Electricity production & business, there were 6.3% of total accident cases with death and 5.8% of total deaths	
2014	There were 33.1% of total accident cases with death and 33.9% of total deaths in construction		In mining, there were 11% of total accident cases with death and 12% of total deaths		Electricity shock accounted for 23.8% of total accident cases with death and 21.8% of total deaths	
2015	In construction, there were 35.2% of total accident cases with death and 37.9% of total deaths		In mining, there were 5.5% of total accident cases with death and 6.9% of total deaths		Electricity shock accounted for 18.% of total accident cases and 17.2% of total deaths	
2016	In construction, there were 23.8% of total accident cases with death and 24.5% of total deaths		In mining, there were 11.4% of total accident cases with death and 12.9% of total deaths		In the sector of Mechanics & metallurgy, there were 5.9% of total accident cases with death and 5.6% of total deaths	
2017	In construction, there were 20.8% of total accident cases with death and 19.7% of total deaths		No data		In the sector of Mechanics & metallurgy, there were 6.9% of total	

Year	Construction		Mining		Electricity production & business/Mechanics & metallurgy	
	No. cases with death	No. of deaths	No. cases with death	No. of deaths	No. cases with death	No. of deaths
					accident cases with death and 8% of total deaths	
2018	In construction, there were 15.8% of total accident cases with death and 15.6% of total deaths		In mining, there were 9.6% of total accident cases with death and 10.5% of total deaths		In the sector of Mechanics & metallurgy, there were 7.9% of total accident cases with death and 7.4% of total deaths	
2019	In construction, there were 17.12% of total accident cases with death and 17.8% of total deaths		In mining, there were 10.8% of total accident cases with death and 10.2% of total deaths		In the sector of Mechanics & metallurgy, there were 9% of total accident cases with death and 9.3% of total deaths	

Source: Annual Report on situation of occupational accidents and injuries, Occupational Safety Agency, MOLISA

Table 4.3. Comparison of occupational injury indicators in three periods of 2006-2010 and 2011-2015 and 2016-2019

	Indicators	Average of OI during 2006- 2010 (1)	Average of OI during 2011- 2015 (2)	Average of OI during 2016- 2019 (3)	Comparison of 1&2 periods (%)	Comparison of 2&3 periods (%)
1	Number of accident cases	5809	6739	8271	16.02%	22.7%
2	Number of accidents with death	516	568	899	10.08%	58.3%
3	Number of people getting occupational injuries	6040	6857	8495	13.53%	23.9%
4	Number of deaths	576	621	952	7.71%	53.3%
5	Occupational injury frequency (deaths/ 100.000 workers)	7.97	7.56	6.74	-5.14%	-10.77%

Source: Annual Report on situation of occupational accidents and injuries, Occupational Safety Agency, MOLISA

Comparison of occupational injury in two periods of 2006-2010 and 2011-2015 showed that the number of accident cases, Number of accidents with death, Number of people getting occupational injuries, Number of deaths increased by 16%, 10%, 13,5% and 7,7%, respectively in period of 2011-2015 in comparison with that of 2006-2010. The Occupational injury frequency (deaths/ 100.000 workers) was decreasing by 5.14% in 2011-2015 in comparison with that of the period of 2006-2010 (Table 4.1).

Comparison of occupational injury in two periods of 2011-2015 and 2016-2019 showed that all indicators are increasing significantly in the period of 2016-2019 in comparison with that of 2011-2015, except the Occupational injury frequency (deaths/ 100.000 workers) that was significantly decreasing by 10.77%. Number of accidents with death and Number of deaths increased by 58.3% and 53.3%, respectively (Table 4.3)

➤ **Status of occupational injury in 2019 in details** (*Annual report on occupational accidents and injury by MOLISA, 2019*)

(Source: <http://antoanlaodong.gov.vn/catld/pages/chitiettin.aspx?IDNews=2453>)

According to the report of 63/63 provinces and centrally-run cities in 2019, nationwide, there were 8,150 occupational accidents causing 8,327 people to be injured (including the area with the labor relation and in the area where the employee is not working under the labor contract) in which:

- Number of deaths from occupational accidents: 979 people (of which, the area with labor relations: 610 people, a decrease of 12 people, corresponding to 1.93% compared to 2018; in workers working without contract labor: 369 people, a decrease of 48 people, corresponding to 11.5% compared to 2018);
- Number of fatal occupational accidents: 927 cases (of which, in the area with labor relations: 572 cases, a decrease of 06 cases, corresponding to 1.03% compared to 2018; in employees working without labor contracts: 355 cases, decreasing 39 cases, corresponding to 9.9% compared to 2018);
- Number of seriously injured people: 1,892 people (of which, the area with labor relations: 1,592 people, a decrease of 92 people, corresponding to 5.5% compared to 2018; in employees working without labor contracts: 300 people, an increase of 45 people, corresponding to 17.6% compared to 2018);
- Victims are female employees: 2,771 people (in which, the area with the labor relations: 2,535 people, an increase of 48 people, corresponding to 1.84% compared to 2018; in workers

working without labor contracts: 236 people, an increase of 58 people, corresponding to 32.6% compared to 2018);

- Number of occupational accidents with two or more victims: 146 cases (of which, the area with labor relations: 119 cases, an increase of 43 cases, corresponding to 56.6% compared to 2018; employment without labor contracts: 27 cases, reducing 09 cases, corresponding to 25% compared to 2018).

****The following production and business sectors, in which high rate of fatal work accidents occurred:***

- The service sector accounted for 19.2% of the total number of cases and 22.03% of the total number of deaths;

- The construction sector accounted for 17.12% of the total number of accidents and 17.8% of the total number of deaths;

- The field of mining and mineral exploitation accounted for 10.81% of the total number of cases and 10.17% of the total number of deaths;

- The field of mechanics and metallurgy accounted for 9.01% of the total number of cases and 9.32% of the total number of deaths;

- The field of construction material production accounted for 8.11% of the total number of cases and 7.63% of the total number of deaths.

****The major types of accidents causing deaths:***

- Traffic accident accounts for 30.64% of the total number of cases and 28.81% of the total number of deaths;

- Falls and falling accounted for 18.92% of the total number of cases and 17.8% of the total number of deaths;

- Rolling, clamping and rolling machines and equipment accounted for 15.32% of the total number of cases and 14.41% of the total number of deaths;

- Electric shock accounts for 9.01% of the total number of cases and 8.47% of the total number of deaths;

- Collapsing accounts for 7.21% of the total number of cases and 9.32% of the total number of deaths.

**** The main causes of fatal occupational accidents***

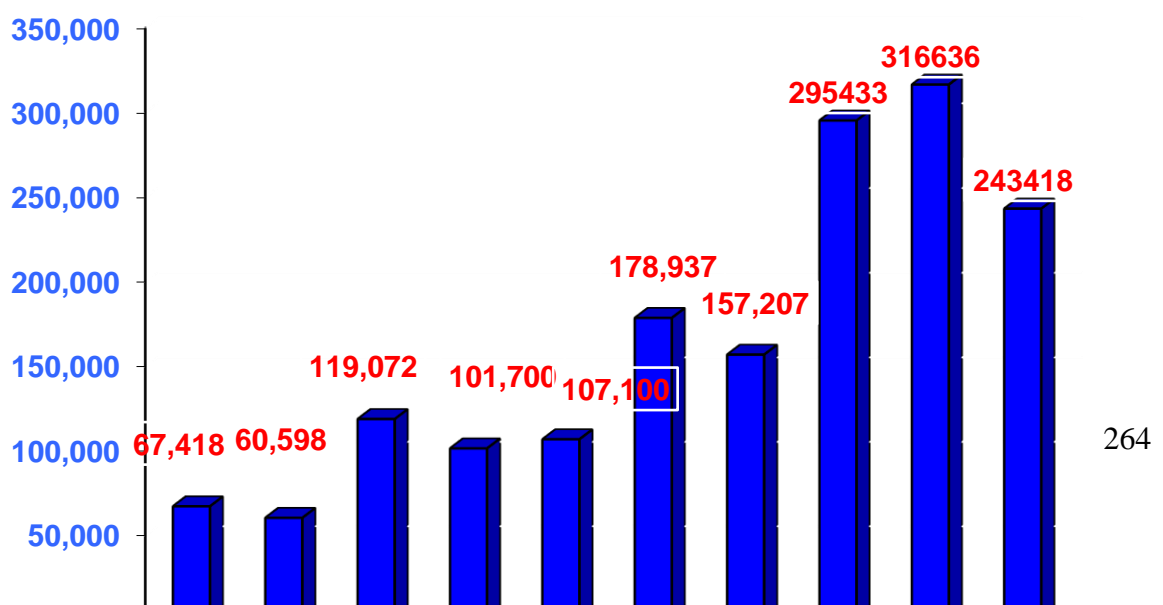
* The reason is that the employer accounted for 47.74% of the total number of cases and 49.99% of the total number of deaths, specifically:

- Employers who did not build safe working procedures and measures accounted for 24.32% of the total number of cases and 26.27% of the total number of deaths;
- The employer did not provide training on occupational safety or inadequate training of OSH for employees, accounting for 14.41% of the total number of cases and 13.56% of the total number of deaths;
- Due to the work organization and working conditions accounting for 7.21% of the total number of cases and 8.47% of the total number of deaths;
- Equipment not ensuring occupational safety accounts for 1.8% of the total number of cases and 1.69% of the total number of deaths;
- * The cause of employees violating occupational safety regulations accounted for 14.41% of the total number of cases and 14.41% of the total number of deaths.
- *The remaining 37.85% of the total number of occupational accidents and 35.6% of the total number of deaths occur due to other reasons such as traffic accident, occupational accident caused by others, avoidable objective causes.

4.2.1.2. Occupational disease statistics:

According to the annual report of occupational health, every year about 100,000-300,000 workers are involved in occupational disease examination to detect occupational diseases. In 2019, 45 provinces among 63 provinces over the country organized occupational disease detection for 27 among 34 compensated occupational diseases. 243,218 workers who work in hazardous environment were examined occupational diseases in which 7,265 cases of occupational diseases were detected (accounted 3% of examined workers). Among 7,265 OD cases, occupational deafness accounted for the highest rate (58.6% of total cases), followed by occupational talcosis (15.3%), occupational chronic bronchitis (5.8%), occupational coal pneumoconiosis (4.5%) and silicosis (1.44%)

Figure 4.2. Number of workers involved in occupational disease detection from 2010-2019



Source: Annual Occupational health reports reported by Vietnam Health and Environment Management Agency (VIHEMA) in from 2010 to 2019

The number of employees involved in occupational disease detection is increasing by years. In average, about 200-300 thousand of employees who work in hazardous and very harmful working environment are examined occupational diseases.

Table 4.4. Number of workers involved in each occupational disease detection from 2015-2019

No	Occupational diseases	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
1	Occupational Silicosis	36,776	5,756	29,374	29,950	13,869
2	Occupational Asbestosis	1,739	276	5,013	9996	266
3	Occupational Byssinosis	2,483	3679	15,469	14419	4114
4	Occupational talcosis	12	0	14,703	17423	5073
5	Occupational coal pneumoconiosis	229	5671	15,299	36506	27164
6	Occupational Chronic bronchitis	11,611	10167	42,584	36328	56502
7	Occupational bronchial asthma	1,557	3096	4,117	11288	7346
8	Lead and lead compound poisoning	1801	1738	1,173	1342	1547
9	Benzene and benzene compound poisoning	18,927	28,481	20,918	15793	11179
10	Mercury and mercury compound poisoning	0	0	27	63	0
11	Manganese poisoning	7	0	0	42	54
12	TNT poisoning	3376	85	142	123	0
13	Arsenic poisoning	0	0	0	24	123
14	Pesticide poisoning	1011	342	4,200	276	99
15	Nicotine poisoning	363	803	584	311	211
16	Carbon monoxide poisoning	368	907	287	460	287
17	Cadmium poisoning	0	0	0	373	12
18	Noise-induced hearing loss	88,003	87,813	121,281	94,564	85,953
19	Occupational disease caused by compressed or decompressed air		0	2,110	13475	2930
20	Occupational disease caused by whole body vibration	49	969	1,655	1465	1708
21	Occupational disease caused by local vibration	1988	308	336	672	977
22	Occupational disease caused by ionizing radiation	1105	408	3,938	557	2762

No	Occupational diseases	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
23	Occupational cataracts		0	383	2264	1656
24	Occupational oil acne disease	970	931	581	1096	2336
25	Occupational melanosis	3181	6042	5,203	7344	5722
26	Irritant contact dermatitis caused by Chromium	960	59	86	4283	37
27	Occupational Skin disease caused by prolonged exposure to wet and cold environments	1622	1902	3,317	7387	3018
28	Occupational skin disease caused by exposure to natural rubber, chemical additives rubber	0	103	571	4931	1415
29	Occupational leptospirosis	191	61	32	55	1906
30	Occupational tuberculosis	244	276	568	2050	80
31	Occupational Hepatitis Virus B	344	757	819	1491	2830
32	Occupational hepatitis C		83	283	2543	1849
33	HIV infection by occupational accidents	0	134	390	622	393
34	Mesothelioma	0	0	0	1120	0
Total		178,937	157,207	295.443	316,636	243,418

The number of employees involved in occupational disease detection is increasing by years. In 2018, the highest number of employees were examined occupational diseases.

The number of employees who are examined occupational lung diseases/pneumoconiosis, (e.g. silicosis, talcosis, coal lung diseases, etc.), ODs caused by physical factors, especially noise induced deafness and occupational melanosis, accounted the highest rate.

Table 4.5. Numbers of workers suffering from each occupational disease from 2015-2019

No	Occupational diseases	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
35	Occupational Silicosis	1908	332	310	256	104
36	Occupational Asbestosis	57	0	0	0	0
37	Occupational Byssinosis	56	0	0	0	0
38	Occupational talcosis	0	0	0	0	0
39	Occupational coal pneumoconiosis	5	69	455	350	424
40	Occupational Chronic bronchitis	127	165	79	71	1035
41	Occupational bronchial asthma	1	1	0	0	424
42	Lead and lead compound poisoning	181	0	0	7	41
43	Benzene and benzene compound poisoning	821	0	0	1	74

No	Occupational diseases	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
44	Mercury and mercury compound poisoning	0	0	0	0	0
45	Manganese poisoning	0	0	0	0	0
46	TNT poisoning	185	0	0	0	0
47	Arsenic poisoning	0	0	0	0	0
48	Pesticide poisoning	16	14	0	0	14
49	Nicotine poisoning	0	46	40	38	15
50	Carbon monoxide poisoning	0	105	0	0	0
51	Cadmium poisoning	0	0	0	0	0
52	Noise-induced hearing loss	6567	2105	2766	2354	4253
53	Occupational disease caused by compressed or decompressed air	0	0	0	0	6
54	Occupational disease caused by whole body vibration	0	225	0	0	3
55	Occupational disease caused by local vibration	44	14	0	0	0
56	Occupational disease caused by ionizing radiation	558	0	0	58	152
57	Occupational cataracts	0	0	0	0	0
58	Occupational oil acne disease	0	0	0	23	0
59	Occupational melanosis	280	142	129	25	89
60	Irritant contact dermatitis caused by Chromium	16	0	0	0	0
61	Occupational Skin disease caused by prolonged exposure to wet and cold environments	55	0	0	9	282
62	Occupational skin disease caused by exposure to natural rubber, chemical additives rubber	0	0	0	0	0
63	Occupational leptospirosis	34	4	5	0	279
64	Occupational tuberculosis	3	5	10	3	0
65	Occupational Hepatitis Virus B	27	40	7	0	69
66	Occupational hepatitis C		1	0	0	1
67	HIV infection by occupational accidents	0	1	1	0	0
68	Mesothelioma	0	0	0	0	0
Total		10,941	3,268	3,802	3,535	7,265

Source: Annual Occupational Health reports reported by VIHEMA

The number of detected occupational cases was increasing by years. The number of occupational disease cases detected in 2019 nationwide was almost twice in comparison with that in 2018 and 2017. The number of occupational hearing loss cases was the highest, followed

by Occupational Silicosis, Occupational Coal pneumoconiosis and Occupational Chronic bronchitis (Table 4.5)

Table 4.6. Numbers of workers under medical expertise/assessment of each occupational disease from 2015-2019

No	Occupational diseases	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
	Occupational Silicosis	579	50	38	530	19
2	Occupational Asbestosis	0	0	0	0	0
3	Occupational Byssinosis	0	0	0	0	0
4	Occupational talcosis	0	0	0	0	0
5	Occupational coal pneumoconiosis	0	0	455	250	509*
6	Occupational Chronic bronchitis	3	12	0	1	0
7	Occupational bronchial asthma	0	0	0	0	0
8	Lead and lead compound poisoning	0	0	0	0	0
9	Benzene and benzene compound poisoning	0	0	0	0	0
10	Mercury and mercury compound poisoning	0	0	0	0	0
11	Manganese poisoning	0	0	0	0	0
12	TNT poisoning	139	0	0	0	0
13	Arsenic poisoning	0	0	0	0	0
14	Pesticide poisoning	0	0	0	0	0
15	Nicotine poisoning	0	0	40	0	1
16	Carbon monoxide poisoning	0	57	0	0	0
17	Cadmium poisoning	0	0	0	0	0
18	Noise-induced hearing loss	322	126	209	148	88
19	Occupational disease caused by compressed or decompressed air	0	0	0	0	0
20	Occupational disease caused by whole body vibration	0	0	0	0	0
21	Occupational disease caused by local vibration	0	0	0	0	0
22	Occupational disease caused by ionizing radiation	0	1	1	0	0
23	Occupational cataracts	0	0	0	0	0
24	Occupational oil acne disease	0	0	0	0	0
25	Occupational melanosis	0	0	32	0	0
26	Irritant contact dermatitis caused by Chromium	0	0	0	0	0

No	Occupational diseases	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019
27	Occupational Skin disease caused by prolonged exposure to wet and cold environments	0	0	0	0	0
28	Occupational skin disease caused by exposure to natural rubber, chemical additives rubber	0	0	0	0	0
29	Occupational leptospirosis	0	0	0	0	0
30	Occupational tuberculosis	2	5	7	2	7
31	Occupational Hepatitis Virus B	3	4	2	0	0
32	Occupational hepatitis C		1	0	0	0
33	HIV infection by occupational accidents	0	1	1	0	0
34	Mesothelioma	0	0	0	0	0
Total		1,048	256	785	931	624

**This data included 85 OD cases detected in 2018, but in 2019 going under OD assessment/expertise*

Source: Annual Occupational health reports reported by VIHEMA

There are from 8%-26.3% of workers who suffer from occupational diseases going under medical expertise/assessment for getting compensation. The highest number of workers going under medical expertise/assessment for getting compensation was in workers suffering from occupational coal pneumoconiosis (8.1% in average), followed by occupational Silicosis (3.8% in average) and occupational hearing loss (2.9% in average) (Table 4.6)

Table 4.7. Numbers of workers getting compensation for each occupational disease from 2015-2019

No	Occupational diseases	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Acc. No. of workers*
	Occupational Silicosis	550	19	38	530	18	21,407
2	Occupational Asbestosis						3
3	Occupational Byssinosis						278
4	Occupational talcosis						
5	Occupational coal pneumoconiosis				250	509	729
6	Occupational Chronic bronchitis				1		121
7	Occupational bronchial asthma						
8	Lead and lead compound poisoning						321
9	Benzene and benzene compound poisoning						2

No	Occupational diseases	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Acc. No. of workers*
10	Mercury and mercury compound poisoning						24
11	Manganese poisoning						
12	TNT poisoning	139					535
13	Arsenic poisoning						
14	Pesticide poisoning						297
15	Nicotine poisoning		1			1	260
16	Carbon monoxide poisoning						
17	Cadmium poisoning						
18	Noise-induced hearing loss	265	60	113	98	60	5,174
19	Occupational disease caused by compressed or decompressed air						
20	Occupational disease caused by whole body vibration						20
21	Occupational disease caused by local vibration						
22	Occupational disease caused by ionizing radiation						15
23	Occupational cataracts						
24	Occupational oil acne disease						
25	Occupational melanosis						633
26	Irritant contact dermatitis caused by Chromium						
27	Occupational Skin disease caused by prolonged exposure to wet and cold environments						
28	Occupational skin disease caused by exposure to natural rubber, chemical additives rubber						
29	Occupational leptospirosis						6
30	Occupational tuberculosis	1	4	1	2	7	91
31	Occupational Hepatitis Virus B		4	1		4	287
32	Occupational hepatitis C						
33	HIV infection by occupational accidents		1				1
34	Mesothelioma						
Total		955	89	153	881	599	30,204

* Accumulative Number of workers getting compensation is counted from the first case of occupational disease until now, 2019

Source: Annual Occupational health reports reported by VIHEMA, MOH

The accumulative number of workers getting compensation for occupational diseases until 2019 is 30,204 cases, in which the silicosis cases are getting the most compensation, account for 70.8%, followed by Noise-induced hearing loss (17.1%), Occupational coal pneumoconiosis (2.4%), Occupational melanosis (2.1%), etc.

Table 4.8. Number of workers suffering from different groups of occupational diseases from 2011-2019

No.	Groups of Occupational diseases	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
1	Group of occupational lung and bronchial diseases	1001	1733	2039	982	1558	567	844	1017	1984	11,725
2	Group of occupational poisonings	128	89	171	130	382	165	40	46	144	1,295
3	Group of ODs caused by physical factors	1762	3040	4145	4638	6611	2344	2766	2412	4,414	32,132
4	Group of occupational skin diseases	445	243	356	653	351	142	129	55	371	2,745
5	Group of ODs caused by micro-biological factors	221	66	761	174	64	49	23	3	349	1,710
	Total number	3,557	5,171	7,472	6,577	8,966	3,267	3,802	3,535	7,265	49,607

Source: Annual Occupational health reports reported by VIHEMA from 2011 to 2019

Vietnam Health and Environment Management Agency (VIHEMA) estimated that annually there are about 1000 – 1500 cases of new occupational diseases. The total number of occupational diseases from 2011 to 2019 is 49,607 cases. The highest rate of occupational disease group is the group of occupational diseases caused by physical factors (64,8%), followed by the group of occupational lung and bronchial diseases (23.6% of total cases), the

Group of occupational skin diseases (5.5%), then, the Group of occupational diseases caused by micro-biological factors (3.4%).The lowest is the Group of occupational poisonings (2.6%),

It is found that the number of occupational diseases is changed significantly year by year (see table 4.4 to 4.8). The reason for that it depends on first the capacities of Provincial Preventive Medicine Centers (now called CDCs) and OH Centers/Hospitals of Industrial Branches/Sectors in OD detection and diagnosis as these organizations reported these data to VHEMA, MOH. The second reason is their target of each year to the types of industry and the coordination between the enterprises and the organization doing OD examination (it means the enterprises agree to do OD examination and they allow them to do that). The capacities of OD examinations also change depending on the personnel doing OD detection and diagnosis (having certificate/license) and the facilities. In recent years, the number of MD specialized in OD and OD clinics are increasing as many courses on OD examination and diagnosis were organized.

4.2.2. Coverage by reporting and compensation schemes and estimated occupational injury and disease

4.2.2.1. Coverage by reporting estimated occupational injury and disease

Table 4.9. Coverage by reporting estimated occupational injury and disease

No.	Years	Estimated Rate of enterprises reporting Occupational injury (%) (1)	Estimated Rate of enterprises organized working environment monitoring (%) (2)	Estimated Rate of employees involved in Occupational disease detection (%) (3)
1	2019	5.9	8.5	8.1
2	2018	6.1	7.1	10.5
3	2017	5.4	8.8	9.8
4	2016	9.5	8.8	6.0
5	2015	6.9	7.1	5.2

(1) Annual Report on situation of occupational accidents and injuries, Occupational Safety Agency, MOLISA

(2) Annual Occupational health reports reported by VIHEMA: number of enterprises taking working environment monitoring/number of enterprises under management by annual reports

(3) Annual Occupational health reports reported by VIHEMA: Number of employees involved in OD detection/estimated number of employees doing hazardous and harmful jobs/occupations (about 3 millions)

According to the Annual Report on situation of occupational accidents and injuries by Occupational Safety Agency, MOLISA, the rate of production establishments/enterprises report occupational accidents and injury is approximately 6.7% in average. So, the number of accidents and injury in fact is much higher (maybe more than 10 times) than the reported one.

The Annual Occupational health reports reported by VIHEMA pointed out the estimated rate of enterprises organized working environment monitoring and employees involved in Occupational disease detection is lower than 10%. So, similar to the number of accidents and injury, the number of employees suffering from occupational diseases in fact is much higher (maybe more than 10 times) than the reported one.

According to experts, the first and foremost reason is that most businesses, especially small and medium enterprises, due to their small scale and small capital, have not really paid attention to investment in ensuring OSH, do not pay adequate attention and care to their employees' health.

Along with that, many employers are not aware of the importance of notification, statistics and reporting. Many business leaders are afraid that letting the authorities know the shortcomings and "incidents" in occupational safety and health, occupational accidents and occupational diseases happening at the enterprises will affect exam results, race, to the reputation, the brand of the business and themselves.

Equally important cause is pointed out as the employer's lack of awareness of complying with the laws. Many employers are aware of the provisions of the law, but due to the many mistakes and shortcomings in the implementation of the labor protection, they often find all possible ways to conceal and negotiate during an occupational accident. compensate the victim or their family.

In addition to the "fault" of businesses, the situation of violating the law on occupational safety and health also comes from the fact that management agencies have not had any solution, legal, not yet drastic in urging and reorganizing businesses within the scope of management.

Moreover, the inspection, examination and handling of occupational accidents are not strict, while the regulations on forms of occupational accident statistics and reports are still cumbersome, difficult to implement, causing anxiety for enterprises when reporting, making statistics and reporting on occupational accidents and diseases

4.2.2.2. Coverage by compensation schemes of occupational injury and disease

Table 4.10. Situation of participating in occupational injury and disease compensation scheme 2010-2015

Indicators	Unit	2010	2011	2012	2013	2014	2015
1. Total of people participating in social insurance	Million	9441.3	10104.5	10431.6	10881	11452.5	12065.4
2. In which number of people participating in OI & OD compensation fund	Million	9439	10102.3	10429.6	10878.6	11450.2	12063
3. the Rate of people participating in OI & OD compensation fund in social insurance	%	99.98	99.98	99.98	99.98	99.98	99.98
4. the Rate of people participating in OI & OD compensation fund among people having work	%	19.1	19.9	20.3	21.1	x	x

Source: The National OSH Profile, MOLISA 2016

*** The situation of using the occupational accident and occupational disease fund:**

In parallel with the payment of social insurance, the number of beneficiaries of social insurance benefits is also increasing, in which the number of people enjoying the occupational accident and occupational disease benefits has steadily increased over the years. The number of people entitled to occupational accidents and diseases (monthly and one time) in 2006 was 35,355 people, in 2007 was 37,086 people (increased 4.9% compared to 2006); in 2010 it was 44,493 people, increasing by 25.85% compared with 2006; in 2011 there were 48,333 people, an increase of 8.63% compared to 2010 and an increase of 36.71% compared to 2006.

From 2008-2013, the Vietnam Social Security settled for an average of 7121 people / year to enjoy the occupational accident and occupational disease benefits, accounting for about 0.73% of the participants. Of which, the number of people entitled to the monthly benefits is 2573 people / year, accounting for 0.027% of the participants and 36.2% of the number of

people suffering from occupational accidents and diseases; the number of people enjoying the one-time benefits is 3906 people / year, accounting for 0.04% of the participants and 54.7% of the number of people suffering from occupational accidents and diseases.

In addition, the Fund also makes monthly payments for victims of occupational accidents and occupational diseases, who are entitled to a cumulative monthly allowance from previous years, as of 2013, 37,502 cases of occupational accidents; 9,320 cases of occupational diseases.

Due to only implementing the benefits for occupational accidents and diseases after workers have stabilized treatment for their injuries; Payment for subsistence vehicle subsidies; very few orthopedic tools, service allowances, convalescence and health rehabilitation after the treatment of injuries and illnesses; not implementing the rewarding regime; There is no re-investment mechanism to prevent occupational accidents and occupational diseases, so it is not effective in sharing risks with enterprises, when occupational accidents happen, the fund has a large balance, the spending rate is only about 11% of the collection.

**Table 4.11. Results of enjoying occupational injury and occupational disease regimes
in 2010-2015**

Indicators	Millions	2010	2011	2012	2013	2014	2015
1. Total Number of new people enjoying in each year	People	6842	7347	7802	7956	6644	6571
Comparing to the number of people participating	%	0.073	0.075	0.073	0.073	0.06	0.05
1.1. Receiving subsidy every month	people	2681	2693	2602	2724	2230	2417
Comparing to the number of people participating	%	0.028	0.027	0.025	0.026	0.02	0.02
Comparing to the number of people suffering from OI & OD	%	39.18	36.65	33.35	34.24	33.56	36.78

Indicators	Millions	2010	2011	2012	2013	2014	2015
1.2. One time subsidy	People	3608	3990	4500	4518	3494	3317
Comparing to the number of people participating	%	0.038	0.039	0.043	0.042	0.03	0.028
Comparing to the number of people suffering from OI & OD	%	52.72	54.31	57.68	56.79	52.59	50.48
1.3. Deaths due to OI & OD	People	554	664	700	714	560	578
Comparing to the number of people participating	%	0,006	0,007	0,007	0,007	0.0049	0.0048
Comparing to the total number of OI & OD	%	8,10	9,04	8,97	8,97	8.43	8.8
2. Total number of Beneficiary receiving monthly until at the end of year	people	27965	30173	32461	34459	51109	54970
Beneficiary of compensation for OI & OD	People	27500	29661	31812	33882	50302	54003
Beneficiary of service allowance	People	465	512	649	577	807	967
3. Total of received subsidies	Billions VND	220	262	342	374	590	542
Comparing to number of payment	%	9,73	9,26	8,43	8,55	4.5	3.7

(Source: Vietnam social Insurance - Calculating the balance of the Fund for occupational accidents and diseases) in the National OSH Profile by MOLISA, 2016

4.3. Legal Compliance Status

4.3.1. Legal compliance status for OSH regulations

In general, the legal compliance status for OSH regulations is better in the formal sector, in the large state and foreign investment companies/enterprises. In the informal sector, e.g. SSEs, craft villages, household business, the OSH regulations usually are not complied or compliance is not adequate.

The annual report of OSH inspection describes the legal compliance status for OSH regulations. The followings are examples of the report of OSH inspection by some years.

In the two years of 2018 and 2019, the Department of Labor Safety, MOLISA organized 18 teams to inspect the compliance with the regulations of the law on occupational safety and health, the quality of group 2 products, inspection of training services on OSH, responding to "Month of action on OSH" at 127 organizations, units and enterprises. Through the inspection, there were 410 recommendations and proposals for sanctioning according to their competence 24 Decisions on sanctioning administrative violations in the field of labor, 02 Decisions on sanctioning administrative violations in the field of standards, metrology and quality products and goods with a total amount of 914.5 million dong. At the same time, revoke the right to use Certificate of inspector for 1 to 3 months of 03 violating inspectors, suspend the Certificate of eligibility to operate training services for 2 to 3.5 months for 04 organizations, units, issue a decision to revoke the Certificate of OSH training for 01 unit and revoke the Certificate of technical inspection for 01 unit.

In addition, in 2019, implementing the inspection for informal sector of 80 households in 06 craft villages in the 06 provinces: Bac Ninh, Hanoi, Dong Nai, Vinh Phuc, Thai Binh and Nam Dinh. According to the approved inspection plan, through the inspection, 371 recommendations were shown. At the same time in coordination with Inspector of MOLISA, to inspect in 29 units operating in technical inspection of occupational safety and occupational safety training. In which, 10/29 units make records of administrative violations, 01 unit requested the Department of Labor Safety and the Department of Labor, War Invalids and Social Affairs of Ho Chi Minh City to revoke the certificate (GCN) for training activities and at the same time set up a judgment. baggage cheating in OSH training activities; coordinated with the State Department of Construction Quality Inspection of the Ministry of Construction

to inspect the work of occupational safety in construction at 05 key projects in Hanoi, HCM City and Khanh Hoa.

The inspection results showed that basically the unit has complied with the provisions of the law on OSH, providing OSH inspection and training services. However, the OSH training service units still have some major violations such as: the contents of the framework program, training materials for groups have not fully updated new legal policies according to regulations. The detailed training program, training documents, list of trainees, test results, test results, and copies of the trainer's eligibility papers have not been properly and fully kept. Technical inspection services on occupational safety were mainly violated such as: not updating enough technical documents about each subject under the inspection scope according to regulations (QCVN 2016, 2017 of the Ministry of Labor, War Invalids and Social Affairs promulgated regulations on inspection).

In addition, violations such as providing personal protective equipment for employees that do not ensure the quality according to the respective national technical standards and regulations; has not appointed a person with professional expertise in accordance with regulations on OSH work, has not developed detailed annual OSH plans; Periodically reporting on OSH work, occupational accidents, OSH inspection and training activities have not been fully implemented.

(Sources: <http://vnniosh.vn/Details/id/31316/Buoc-dau-thuc-hien-co-hieu-qua-chuc-nang-Thanh-tra-chuyen-nganh-an-toan-ve-sinh-lao-dong>)

According to the Annual Report of the inspector of the Labor, Invalids and Social Affairs sector in 2018, it has implemented 6,979 inspections (up 3.1% compared to 2017). Through inspection, issued 41,446 recommendations; 1,076 decisions to sanction administrative violations with a total fine of 32,234 billion VND; discovered 25 officers incorrectly implementing policies and regulations; propose revocation of 01 License to operate overseas Vietnamese workers under the contract and 01 Certificate of eligibility for training of OSH.

In the field of labor, inspecting the compliance of regulations of labor law and social insurance at 102 enterprises in 08 provinces. Through inspection, issued 993 recommendations to request the inspected objects to implement, 15 decisions to sanction administrative violations with a total amount of 340 million VND; Inspection of compliance with regulations of law on labor and social insurance: issued 513 recommendations to request the subjects to correct their mistakes, 02 decisions to sanction administrative violations with the total amount

of 30 million VND. Some main mistakes: The labor contract signed with the employee did not specifically show the rights and obligations of the employee; has not conducted periodic dialogue at the workplace as prescribed by law; the content of the collective labor agreement copied the provisions of the labor law; not arranged for employees to take at least 04 days / month off as prescribed; Social insurance, health insurance and unemployment insurance have not yet been paid to employees' wages under labor contracts with a term of less than 03 months; have not yet paid in full overtime wages for employees as prescribed.

In the field of OSH, inspection of the compliance of the OSH law responded to "Month of action on OSH" at 53 enterprises in mining of minerals as building materials and production of building materials and 09 construction buildings; inspecting the compliance of the law on technical inspection of occupational safety, training of OSH in 28 units. Through the inspection, issued 1,432 recommendations to request units to fix violations, 25 decisions to sanction administrative violations with a total fine of 1,176 billion VND; propose revocation of Certificate of eligibility for training service of OSH from 01 unit.

(Source: the Annual Report of the inspector of the Labor, Invalids and Social Affairs sector in 2018, MOLISA: <http://www.molisa.gov.vn/Pages/tintuc/chitiet.aspx?tintucID=28926>)

*According to the results of the labor inspection campaign in 2015, with the theme "Raising awareness of the labor law in the garment industry" shows some results of implementing occupational safety and health of textile-garment enterprises are as follows:

- Regarding personal protective equipment: The risk-zoning activity indicates violations for the use of personal protection equipment. The inspection results show that 28.29% of enterprises have not equipped personal protective equipment for all employees; 45.39% of enterprises provide inadequate quantity of personal protective equipment for employees as prescribed; 20.39% of enterprises do not keep books to track the distribution of personal protective equipment or make allocation books but do not have the employee's signature; 3.2% of businesses have employees that do not use personal protective equipment for the right job.
- Internal routes and exit doors: The results of risk zoning show that many businesses do not check and maintain emergency exits, do not rehearse to respond to emergency situations: 13,16 % Of enterprises design internal roads not to ensure the prescribed width; 11.18% of enterprises have internal roads still leave obstacles and obstacles; 18.52% of businesses do not have safety warning signs, prohibition signs, instruction signs for people and vehicles; 9.21% of businesses do not inform employees about escape regulations and post them in visible places

for everyone to know and obey; 11.84% enterprises did not have diagrams to guide the escape routes; 9.21% of businesses do not have signboards, signboards indicating emergency exit.

- Electrical risks: The activities of locating the risks showed that 24% of enterprises violated the neutral connection of working equipment: 8.55% of enterprises did not perform the neutral connection of metal shells of machines and electrical equipment. to prevent electricity from touching or connecting but not guaranteed; 9.21% of enterprises have electrical wires that are not on insulating porcelain, installed on metal structures of factories; 22.37% of enterprises do not equip or have insufficient personal protective equipment suitable for electricians; 7.24% of enterprises do not design or install lightning protection systems or not install properly; 18.41% of enterprises do not periodically check the resistance of the factory grounding, and the equipment.

- Working environment at the workplace: 24.34% of enterprises do not measure and check the working environment annually; 9.87% of enterprises did not take measures to improve working conditions and environment.

- Planning and implementing the plan of occupational safety and health: 42.11% of enterprises have not developed annual OSH plans; 13.82% of enterprises develop labor safety plans but do not ensure the prescribed contents; 10.53% of enterprises do not consult employees' representatives when making plans.

- Occupational safety and health training: This include the inspection of occupational safety and health training for all subjects working in the enterprise: 59.21% The employer does not participate in labor safety training or participates inadequately; 40.13% of enterprises have employees working in safety in enterprises that have not been trained in occupational safety and health or have not yet trained enough people according to regulations; 44.74% of enterprises have people who work with strict labor safety requirements who are not trained in safety or participate inadequately; 9.87% of enterprises did not provide training on occupational safety for employees of group IV or trained but not fully; 38.82% of enterprises do not provide training on OSH for apprentices or trainees when they are recruited or are not fully trained.

(Source: The National OSH Profile by MOLISA, 2016)

4.4.Problems concerning OSH and Exposure to Specific Hazards

4.4.1. Problems concerning OSH in all and specific industries:

According to the annual reports of working environment monitoring in all industries, the harmful factors in working environment that are measured and checked, usually are temperature, humidity, air velocity, lighting, dust, noise, vibration, chemicals/toxic gases, microbiological factors (e.g. fungi/mold, hemolytic cocci), radiation and electromagnetic fields. Since July 2016 when the OSH Law was effective, the measurement of psycho-physiological and ergonomic factors (e.g. assessment of physical workload, mental workload and ergonomic factors) are included in the working environment monitoring. Annually, the number of measured samples is about from 500,000 to 900,000 samples and tends to be increasing by years. The number of samples exceeding the permissible exposure limits (PELs) accounts for 6- 10% and tends to be decreasing nowadays. The checked harmful factors with high rate of samples exceeding PELs are radiation, electromagnetic fields, dust, noise and lighting. The annual reports do not reflect working environment pollution in the specific industries (Table 4.11 and Figure 4.3)

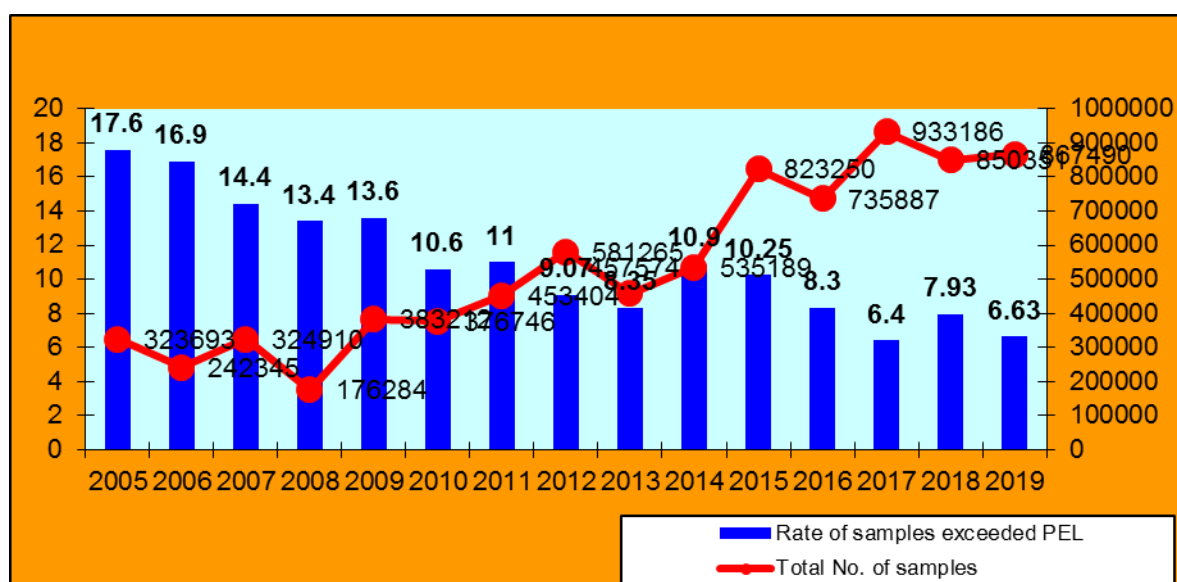


Figure 4.3. Status of exposure to hazardous factors in working environment (2005-2019)

Table 4.12. Results of working environment monitoring from 2010 - 2019

No	Harmful factors	2011		2012		2013		2014		2015		2016		2017		2018		2019	
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
1	Microclimate	216158	8.96	260139	8.80	203282	7.97	270764	8.9	375258	9.06	333623	6.58	537186	3.58	347420	5.62	387954	4.61
2	Dust	50115	6.3	69108	5.97	46677	5.55	49815	18.7	90984	3.67	79674	2.35	66482	3.53	120648	1.84	92017	2.71
3	Noise	64617	20.3	76123	16.26	66025	13.15	72771	17.5	109257	17.46	99441	14.7	98633	13.10	109430	13.23	113088	12.6
4	Lighting	72233	15.2	84427	10.43	69874	10.72	82304	17.4	122558	15.84	110233	15.9	112474	18.67	113904	18.16	122239	14.77
5	Toxic gas	36053	5.64	46687	4.07	46895	2.89	38258	9.4	93772	5.5	75435	5.13	70860	4.12	89801	3.72	108579	3.47
6	Vibration	4942	5.36	10521	3.74	8093	15.77	10240	10.7	723	3.24	13854	5.45	15108	13.36	19414	3.37	13118	4.86
7	Radiation, electromagnetic fields	8199	8.34	20802	6.49	16292	3.19	9447	19.9	21226	12.77	14839	6.17	6510	5.55	2988	5.29	7565	4.01
8	Other factor	1487	14.1	10458	5.33	436	25.23	1590	28.7	2965	15.04	8788	15.9	10271	8.84	18289	12.49	22930	11.08
	Total	453,804	10.99	581,265	9.07	457,574	8.35	535,189	10.99	823,250	10.25	735,887	8.3	933,186	6.41	850,351	7.93	867,490	6.63

Note: (1): Sample size; (2): Rate of samples exceeding PELs

(Source: Annual Report on OH Activities by VHEMA, MOH)

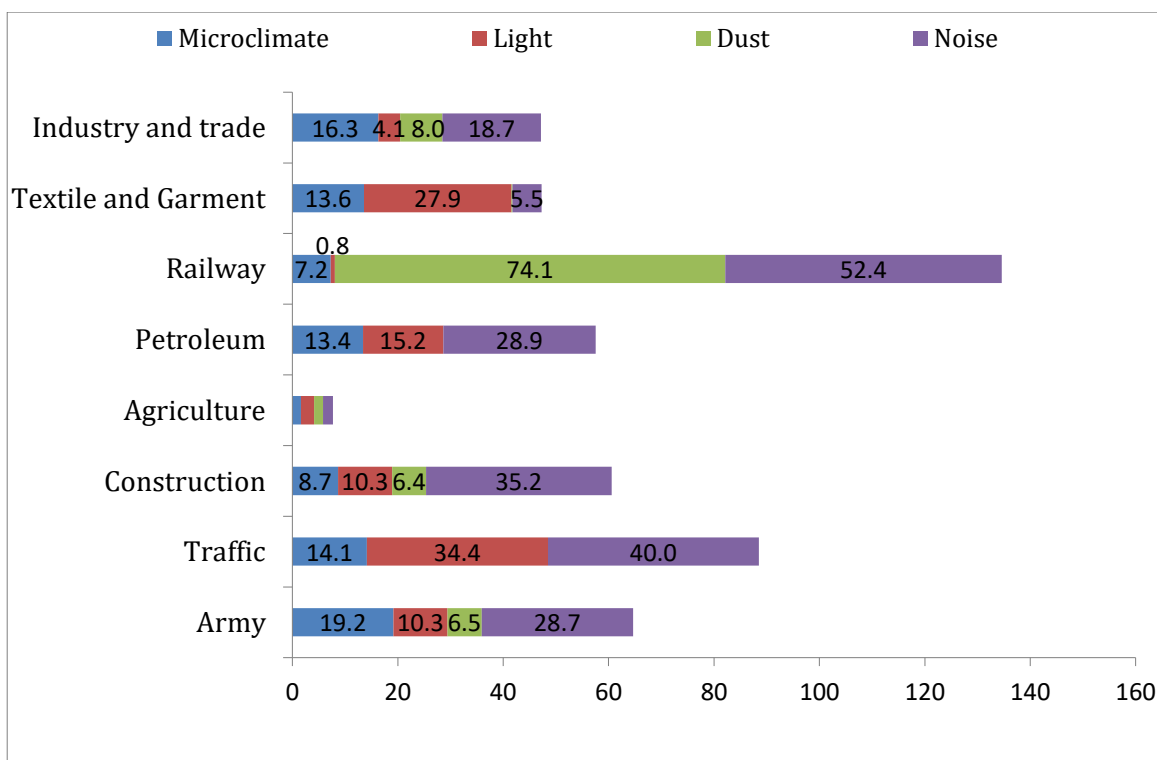
In 2019, there were 6,288 production establishments/enterprises organized the working environment monitoring with the total number of checked samples was 847,490 samples. The most checked working environment factors are: microclimate (temperature, humidity, wind speed) 387,594 samples (accounted for 44.72%); Physical factors include: lighting 122,239 samples (14.09%); noise 113,088 samples (13.06%); toxic gas vapors: 108,579 samples (12.52%); Dust factor 92,017 samples (including total dust, respiratory dust, silica dust and other dusts) accounted for 10.6%, the rest was 5% of other factors

The total number of working environment monitoring samples that do not meet PELs/hygiene standards was 57,556 samples, accounting for 6.6% (decreased by 1.3% at the same period in 2018). Samples with high rates that did not meet the hygiene standards include: lighting (14.8%); noise (12.6%); microclimate (4.6%). The rate of dust samples exceeding PELs or hygiene standards accounted for 2.7% .

The results of working environment monitoring in enterprises of different specific industries were showed in the figure 4.4, according to the annual report on occupational health activities from Health Centers/Hospitals belonging to Industrial Branches, Sectors/Ministries. These results indicated that the noise pollution occurred in almost industries, especially in railway, transportation, construction, petroleum sectors and army enterprises (52.4%, 40%, 28.9% and 28.7%, respectively of measured samples exceeding PELs). Dust pollution seriously happened in railway sector with 74.1% of measured samples exceeding PELs. Lack of lighting seriously happened in textile-garment and transportation sectors (27.9% and 34.4%, respectively of measured sample did not meet hygiene standards) (Figure 4.4)

The results of microbiological monitoring of working environmental air at provincial and central hospitals for the period 2010-2014 (as investigated by NIOEH) are presented in the table 4.12. It showed that the rate of monitoring samples exceeding TLV were decreasing from 2010 to 2014, but still comprised high proportions (51.7-93.4%) (Table 4.13)

Figure 4.4. Percentage of physical factor samples exceeding the permissible exposure limits (PELs) by sectors in 2014



Source: National Occupational Health Profile, NIOEH 2015

Table 4.13. The data of microbiological monitoring of environmental air at provincial and central hospitals for the period 2010-2014

Unit: Rate of samples (%)

Indexes	2010		2011		2012		2013		2014	
	Met TLV	Exceeded TLV	Met TLV	Exceeded TLV	Met TLV	Exceeded TLV	Met TLV	Exceeded TLV	Met TLV	Exceeded TLV
Rate of samples	7.64	92.36	20.00	80.0	20.10	79.9	48.30	51.70	36.30	63.70
Total of samples	877		522		194		145		193	
Number of hospitals monitored	54 Hospitals		29 Hospitals		8 Hospitals		5 Hospitals		7 Hospitals	

4.4.2. Existing occupational health hazards and possible occupational diseases, and problems in all and specific industries (Source: The National OSH Profile by MOLISA, 2016)

1. Mineral exploitation: Mining is one of the leading industries with many potential risks of unsafely in the industrial sector.

Vietnam Coal - Mineral Industries Group (TKV) (2014) reported:

- Total number of employees: 121,991 people;
- Direct employees: 108,780 people;
- Employees working with strict requirements on OSH: 92,270 people;
- OSH officers: 13,820 people;
- OSH workers: 7,825 people.
- The main danger factors for pit coal mining: The furnace collapsed; Gas and coal dust explosion; Asphyxiation; The water platform; Risk of electric shock; Risks caused by equipment operation (rollers, wagons, rakes, conveyors ...); Risk of slipping; etc.
- The main danger factors for open coal mining and Common hazards of incidents and accidents in open-cast mining: Floor erosion or the whole bank system; Land erosion; Inundation of mines (mine bottom area with active equipment); Electrical hazard; The risk of operating and repairing equipment (cars, excavators, drills, wiper ...); Risk of slipping; Other hazards (Water platforms; asphyxiation ...).
- Working environment monitoring: Total samples for working environment (2014): 22,686 samples, in which number of samples exceeding PELs: 1,345 samples (accounted 5.9%), including humidity (28% samples), temperature (2 3.2% samples), wind speed (2 1.3% samples), dust (10.9%), noise (8.5%), toxic gas (4.4%)
- Situation of occupational accidents, occupational diseases:
 - + In 5 years from 2010 to 2015, the units under TKV had 2526 cases of occupational accidents and 2579 workers were involved in occupational accidents. The number of fatal occupational accidents was 147, causing 172 deaths. The main cause of fatal occupational accidents in the pit production sector is kiln collapse, electromechanical, mining transportation, gas asphyxiation, gas fires, water platforms and blasting. For the open-cast mining sector, deadly

occupational accidents mainly occurred in the fields of repair, transportation, loading and unloading, landfill, drilling and blasting.

+ For occupational diseases; As of June 2015, the total number of people suffering from occupational diseases was 1,956 people, mainly workers with pneumoconiosis compared to 1866 cases in 2010. That proved that working conditions have been improved, and adequate means of labor protection have been brought into play. Combined with the regular inspection and supervision of related departments and the increasing awareness of employees, the number of workers suffering from occupational diseases has decreased significantly.

2. Chemical Industry:

The workforce in chemical production and use is about 5 million people, most concentrated in areas such as the chemical industry, the oil and gas industry, the defense industry, the coal industry and the mineral industry.

Vietnam National Chemical Group (2014):

- Number of enterprises (Vietnam Chemical Group enterprises account for over 50% of the charter capital): 28 enterprises;

- Total number of employees: 27,130 people;

- Employees working in heavy, hazardous or dangerous conditions: 15,120 people;

- Officer of occupational safety and health: 323 people;

- OSH workers: 2,453 people.

*Hazardous factors associated with chemical activities include:

- The risk of chemical incidents: Leaks, fire and explosion can cause catastrophic fire to humans and the ecological environment;

- There is a great risk of using chemicals for improper purposes and improper techniques, causing accidents and chemical poisoning;

- The risk of hazardous chemicals appearing more in consumer products (food, medicine, cosmetics ...) affecting human health.

*The situation of occupational accidents and occupational disease

No.	Occupational accidents	Unit	Number						
			2010	2011	2012	2013	2014	2015	Tổng
1	Number of OAs	case	73	64	39	39	54	49	318

2	NO. of people getting OAs	people	73	65	39	39	54	50	320
3	Number of fatal OAs	case	04	05	0	02	03	2	16
4	Number of deaths	people	04	05	0	02	03	2	16

(Source: Reported by Vietnam Chemical Group)

In the 5 years from 2010 to 2015, units under the Vietnam Chemical Group had 318 cases of occupational accidents causing 320 employees to be involved. The number of fatal occupational accidents was 16, causing 16 deaths.

3. Mechanical Engineering – Metallurgy Industry:

Vietnam Steel Corporation:

- Total number of employees: 8,500 people;
- Direct employees: 6,937 people;
- Employees working with strict requirements on occupational safety and health: 4,674 people;
- Officer of occupational safety and health: 42 people;
- OSH workers: 893 people.

****Dangerous and hazardous factors:*** Common causes of occupational accidents:

- In cold processing - assembly - repair:
 - + Due to the impact of hand tools to the employee (employee) or careless use of tools; clamping details are not careful, not technically correct; equipment layout is not in accordance with specifications;
 - + Machine tools with unstable structure, lack of safety mechanisms;
 - + Due to working posture, lack of safety procedures or shortcut process; grinding wheel is broken, grinding object is shot at people, etc.
- In mechanical processing: danger is caused by splashes of lathe chips, splashes;
- In metal cutting: Electric shock (electric welding), Heat burns, Fire and explosion, Toxic gas and dust.
- In pressure machining: Heat burns caused by rolling, free forging or volume stamping are usually processed in a hot state; because the forge is hot at a high temperature;

- + Throwing tools: hammer handle is not tight or clamps are not tight, causing forging object to fall off; Due to the incorrect placement of the forge on the anvil, it is easy to be thrown out when using the hammer.
- + Expand the mold by clamping the work piece and adjusting the mold when stamping on the machine is incorrect.
- In casting: Heat radiation, ultraviolet rays; Metal splashing; Injury in cleaning the system of pouring and tightening on the casting ...
- In steel production: Plant for making blast furnace iron, Risk of dust and drive system for fuel preparation area, feeding and feeding into blast furnace; Risk of slag explosion, liquid iron explosion, heat radiation in the area where slag discharge, liquid iron discharge; Coal gas leak leads to gas explosion, coal gas poisoning to employees at the coal gas storage and use system; Poisoning coal gas, dust or falling high in the working area atop the blast furnace.
- + Steel furnace for electric furnace: Exploding the acetylene gas cylinders used for scrap steel sand in the material preparation area; Spill liquid iron out of tanks, splash liquid iron, blasting slag ... at the system of transporting and supplying liquid iron into the mixing furnace, steel furnace; Electric shock at electric furnace transformer area; Exploding, splashing liquid slag or liquid steel, dust, exhaust gas, heat radiation at the area where liquid slag and liquid steel are discharged from electric arc furnaces; Incidents from lifting cranes transporting scrap and liquid steel; Explosion of acetylene gas cut billets, burns due to contact with hot billets, heat radiation in the area of continuous casting machines.
- + Steel rolling mill: Risk of falling steel billets, crashing people, crane lifting and transporting billets in the billet storage area; Coal gas leak leads to gas explosion, coal gas poisoning to employees in the coal gasification furnace area to provide coal gas for burning rolling billets; Risk of rolling device actuator; negligence in the process of maintenance and repair of the rolling machine, rolling steel splashes from the steel rolling axis, broken drive shaft coupling... at the steel rolling machine area;
- + The risk of collapse of bundles of steel products, from the incident of crane lifting transporting rolled steel products (bundles of steel bars or coils).

****Occupational accidents and diseases:***

According to data on occupational accidents of the Ministry of Labor, Invalids and Social Affairs, the number of fatal occupational accidents in the field of mechanical

engineering in 2010 - 2014 and 2015-2019 accounts for from 1.81% to 7.76% and 5.9% to 9.01%, respectively of the number of fatal occupational accidents. The number of deaths due to occupational accidents in the field of mechanical engineering accounts for from 1.65% to 6.82% and 5.6% to 9.32%, respectively of the total number of deaths caused by occupational accidents.

In the Vietnam Steel Corporation, in the five years from 2010 to 2014, there were 142 fatal occupational accidents, causing 153 deaths. The main cause leads to accidents in the field of mechanics - metallurgy due to slag explosion, falling, rolling steel bar crashing into human legs, asphyxiation due to toxic gas, burns ...In addition, most of employees were subjective compliance and did not comply completely safety regulations.

There is no comprehensive data on occupational diseases in the field of mechanics - metallurgy. In the Vietnam Steel Corporation, as of June 2015, the total number of people suffering from occupational diseases was 144 people.

4. Construction industry

Total number of enterprises operating in this industry (construction, production of building materials, construction consultancy and real estate) according to the report of the Ministry of Construction and the General Statistics Office as of the year 2014 includes 72,190 enterprises.

By December 2014, enterprises under the Ministry of Construction:

- Total number of employees: 187,470 people;
- Direct employees: 166,634 people;
- Employees working with strict requirements on occupational safety and health: 36,350 people;
- Officer of occupational safety and health: 2,320 people.

Working conditions in construction have unique characteristics, outdoor constructions, in different geographical regions. Employees always work outdoors, in natural environmental conditions such as hot weather, erratic rain and wind, in a dangerous state such as overhead, deep pits, underground tunnels, vertical walls and in a restrictive, uncomfortable position, temporary accommodation, unsatisfactory labor hygiene, environmental pollution ... especially works stretching along the route, temporary accommodation and accommodation must be changed frequently.

Total samples for working environment monitoring (2014) were 20,268 samples in which 2,360 samples (mainly factors of temperature, dust, and noise) did not meet hygiene standards.

***The situation of occupational accidents and occupational diseases**

+ According to the announcement of the Ministry of Labor, Invalids and Social Affairs every year, in the construction sector: On average, more than 800 occupational accidents cases / year (accounting for about 25% of the total number of cases); the number of occupational accidents with deaths is more than 140 people / year (accounting for about 26% of the total number of cases with deaths); an average of more than 170 deaths / year.

+ Units under the Ministry: On average about 150 occupational accidents / year with 150 victims, the average number of deaths is about 13 cases / year, the average number of deaths is 15 people / year. In fact, the situation of occupational accidents occurring in small and medium enterprises has not been fully reported and statistically reported.

The main cause of occupational accidents occurs: fall from height, electric shock, falling materials, crushing, falling, etc.

+ *Occupational diseases in construction*

According to the survey results of INT / 95 / M10 / DAN conducted by NILP, common occupational diseases in the construction industry include: silicosis, occupational deafness, occupational skin disease, occupational diseases due to vibration and lead poisonings. The proportion of people suffering from silicosis is the highest (in building materials production alone, accounting for 33.41% of the total number of people identified with this disease in the country).

Employees in the construction industry have very high symptoms of fatigue and sickness and often suffer from many other common diseases such as gastrointestinal disease, ear, nose and throat disease, respiratory disease, eye disease, musculoskeletal disease, skin diseases ...

5. Oil and gas Industry

Vietnam National Oil and Gas Group (PVN)

- Total number of employees: 55,496 people;

- Employees in jobs with strict requirements on OSH: accounting for 44% of the employees (about 24,418 people);

- Regarding the training and retraining on OSH work: in 2014, the entire oil and gas industry organized training courses for more than 80,000 people, of which more than 50% were retrained.

*** Dangerous factors**

- Oil and gas is a specific industry, most of the harmful factors for employees' health are present such as microclimate, noise, vibration, radiation, radiation, dust, toxic chemicals ...

- Activities in the oil and gas industry are at high risk and in many cases due to the requirement of work to carry out many activities on the works at the same time, so the risks are very great.

These risk factors include:

- For offshore drilling and exploitation of oil and gas: oil and gas eruption, fire, explosion, storm, collision, crash at sea, helicopter accident, person falling into the sea, chemical spill, oil spill.
- For offshore oil and gas transportation and processing: fire, explosion, oil and gas leak, collision, crash, oil spill, storm.
- For onshore oil and gas work operation: fire, explosion, oil and gas leak, toxic gas leak, storm.
- For construction and installation of oil and gas projects: lifting, cranes, scaffolding, confined spaces, electricity, hand tools, radiation, contact of energy sources, welding, cutting, working at height, digging , Warehouse.
- For maintenance and repair of oil and gas projects: lifting, cranes, scaffolding, confined spaces, electricity, hand tools, radiation, contact of energy sources, welding, cutting, working overhead, excavation, warehouse.

***Working environment monitoring:** Total samples for working environment (2014) were 25,804 samples, in which 1,734 samples (6.72%) did not meet hygiene standards (such as microclimate and noise)

***Situation of occupational accidents, occupational diseases and causes**

Data on occupational accidents in the units of Vietnam Oil and Gas Group in the period 2010-2015 are as follows:

No.	Indicators	Unit	Years						
			2010	2011	2012	2013	2014	2015	Total
1	No. of OAs	cases	29	37	39	38	21	32	196

2	No. of people getting OAs	people	32	47	37	40	23	32	211
3	No. of fatal OAs	cases	1	1	2	2	0	2	8
4	No. of deaths	people	1	1	2	2	0	2	8

(Source: Vietnam Oil and Gas Group Report)

***The main cause of occupational accidents:**

- The factors of the offshore working environment: The ground is undulating in turbulent days, slippery ground on the drilling floor, special heavy equipment, high positions, and rockiness are the direct risks. injuries and accidents such as falling into the sea, falls, crashes, and stamping. Exposure to high noise, constant vibration, isolated working conditions, shift changes causing circadian rhythm disturbances with heavy work pressure are factors causing occupational accidents for workers in the oil and gas industry.
- Onshore working environment factors: frequently working in environments with high risk of fire and explosion, exposure to equipment operating under complicated procedures are the causes of occupational accidents for employees working onshore.

***Occupational diseases:** As of June 2015, the total number of people suffering from occupational diseases was 500 people, of which 499 workers suffered from occupational deafness and 01 worker with occupational tuberculosis.

6. Electricity industry

Vietnam Electricity (EVN) is a corporation mainly assigned to carry out the main business lines of production, transmission, distribution and trading in electricity; direct and operate the system of production, transmission, distribution and distribution of electricity in the national electricity system; import and export of electricity; investing and managing investment capital of power projects; management, operation, repair, maintenance, overhaul, renovation and upgrading of electrical, mechanical, control, and automation equipment of production, transmission and distribution lines of electricity, electrical works; electrical experiment.

- Total number of employees by June 2015: 106,420 people;
- Total number of direct employees: 71,314 people;

- Employees working with strict requirements on occupational safety and health: 23,231 people.

- Officer of occupational safety and health: 1,971 people;

- OSH workers: 6,395 people

***Dangerous and hazardous factors**

The main dangerous factors causing unsafety to employees in the electricity industry are electric shock and high falls, especially with power repair and installation.

In addition, employees working in factories also face other dangerous factors such as: transmission factors, motion; heat burns, heat radiation; asphyxiant smoke, asphyxiation gas; chemical poisoning ...

***Situation of occupational accidents and causes**

In the 5 years from 2010 to 2015, EVN had 135 occupational accidents cases, 145 people involved in occupational accidents, 44 people dying from occupational accidents.

The main cause of the occupational accident was that the employee has not followed the proper working process, at the same time the management of the staff at the site has not followed the occupational safety process, the sense of law observance. , compliance with the regulations on labor discipline, procedures and standards on occupational safety and health and fire protection is not high, the inspection, supervision and handling of violations at the scene are not drastic and ineffective.

***Situation of occupational diseases and causes**

By the end of June 2015, the total number of people suffering from occupational diseases was 45 people, mainly workers with pneumoconiosis and occupational deafness.

8. Textile and Footwear Industry

a) General information

By the end of 2014, there were more than 10,000 enterprises operating in the textile and footwear industry nationwide. This is the main export sector of Vietnam in recent years. The workforce in the garment and footwear industry is very large, attracting more than 2.5 million workers; accounting for about 25% of the employment of the industrial sector. The labors of this industry are mostly unskilled workers with low qualifications; their spirit and sense of

observing the labor discipline in many places are not good, requiring further strengthening of the work of occupational safety and health.

Number of enterprises and employees in Textile and Footwear Industry

		2010	2011	2012	2013	2014
1	Total number of enterprises	7.150	8.430	8.752	9.176	10.125
2	Total number of employees	1.771.333	2.000.268	2.035.405	2.260.893	2.518.433

Source: General Statistics Office, Annual Enterprises Census

b) Working environment and occupational risks

Textile and garment - leather and footwear industry attracts a large amount of labor. There are many risks of occupational and work-related diseases as well as labor safety. Sewing workers have to contact and inhale a variety of jute fibers, spikes, cotton ..., if they are not equipped with masks during the production process, their risk of contracting cotton dust is very high. Besides this disease, the rate of garment workers suffering from sinus infections, allergic rhinitis, asthma, and occupational chronic bronchitis is also very high.

In addition, the characteristic of the garment and footwear industry is that the working environment is affected by factors such as dust, noise, light and the potential for fire and explosion. Therefore, occupational safety and health for employees (employees) need to be focused on by business owners.

*According to the results of the labor inspection campaign in 2015, with the theme "Raising awareness of the labor law in the garment industry" shows some results of implementing occupational safety and health of textile-garment enterprises are as follows:

- Regarding personal protective equipment: The risk-zoning activity indicates violations for the use of personal protection equipment. The inspection results show that 28.29% of enterprises have not equipped personal protective equipment for all employees; 45.39% of enterprises provide inadequate quantity of personal protective equipment for employees as prescribed; 20.39% of enterprises do not keep books to track the distribution of personal protective

equipment or make allocation books but do not have the employee's signature; 3.2% of businesses have employees that do not use personal protective equipment for the right job.

- Internal routes and exit doors: The results of risk zoning show that many businesses do not check and maintain emergency exits, do not rehearse to respond to emergency situations:

13,16 % Of enterprises design internal roads not to ensure the prescribed width; 11.18% of enterprises have internal roads still leave obstacles and obstacles; 18.52% of businesses do not have safety warning signs, prohibition signs, instruction signs for people and vehicles; 9.21% of businesses do not inform employees about escape regulations and post them in visible places for everyone to know and obey; 11.84% enterprises did not have diagrams to guide the escape routes; 9.21% of businesses do not have signboards, signboards indicating emergency exit.

- Electrical risks: The activities of locating the risks showed that 24% of enterprises violated the neutral connection of working equipment: 8.55% of enterprises did not perform the neutral connection of metal shells of machines and electrical equipment. to prevent electricity from touching or connecting but not guaranteed; 9.21% of enterprises have electrical wires that are not on insulating porcelain, installed on metal structures of factories; 22.37% of enterprises do not equip or have insufficient personal protective equipment suitable for electricians; 7.24% of enterprises do not design or install lightning protection systems or not install properly; 18.41% of enterprises do not periodically check the resistance of the factory grounding, and the equipment.

- Working environment at the workplace: 24.34% of enterprises do not measure and check the working environment annually; 9.87% of enterprises did not take measures to improve working conditions and environment.

- Planning and implementing the plan of occupational safety and health: 42.11% of enterprises have not developed annual OSH plans; 13.82% of enterprises develop labor safety plans but do not ensure the prescribed contents; 10.53% of enterprises do not consult employees' representatives when making plans.

- Occupational safety and health training: This include the inspection of occupational safety and health training for all subjects working in the enterprise: 59.21% of employers did not participate in work safety training or participated inadequately; 40.13% of enterprises having occupational safety officers who were not trained in occupational safety and health or did not provide training to enough number of people according to regulations; 44.74% of enterprises

having people who work with strict work safety requirements who were not trained in safety or participated inadequately; 9.87% of enterprises did not provide training on occupational safety for employees of group IV or trained but not fully; 38.82% of enterprises did not provide training on OSH for apprentices or trainees when they were recruited or were not fully trained.

c) The situation of occupational accidents and occupational diseases

There are no complete statistics on the situation of occupational accidents and diseases in this industry. However, according to the survey data on 1,000 garment workers aged 25-35, at 3 enterprises in Binh Duong, Ho Chi Minh City and Dong Nai by the Institute of Public Health in Ho Chi Minh City, up to 93% of workers suffer from fatigue after working, of which 47% are completely tired; 16.7% had severe headaches and headaches; 15.1% were exhausted; more than 80% of muscle and joint pain in the waist, neck and shoulders ...

8. Electronic industry

a) General information

In 2017, there were about 610 enterprises in the field of electrical - electronic components (component manufacturing enterprises: accounting for 52.28%).

Number of employees: 500,000 employees

Export turnover: more than 70 billion USD. (Source: Ministry of Industry and Trade, 2017)

Major corporations: Samsung, Foxconn, LG, Panasonic, Intel, Electronics, Nokia, etc.

Samsung companies have invested 2.5 billion USD in BacNinh province and 2 billion USD in Thai Nguyen province with more than 100,000 employees

b) Working environment and occupational risks

In electronic industry, many chemicals are used in different production process. The common chemicals used in electronic industry are Acid (inorganic and organic) that is commonly used in cleaning, corrosion, plating and extraction ... in liquid or powder form; Alkaline (Base) that is used mainly for cleaning, scouring; Frozen gas that means "super cooled", stored in a liquid form under high pressure, used in the wafer fabrication process; Some are "carrier gases", which carry additives into the furnace chamber (Argon and deuterium); Additives that are alloys in solid (e.g. aluminum, antimony and arsenic, Bo and phosphorus), liquid, or gaseous form, and are used to make chips; Metals are used and exist in many forms such as bulk solids, powders and liquid solutions, suspended in gaseous form, and

generate some as a vapor when heated and generate dust when mechanical processing such as drilling, cutting, turning ... Oxidants are highly reactive chemicals that can be used to clean or corrode metal surfaces; Many types of resins: resins, epoxy, glues, adhesives, paints, waxes, neoprene, synthetic fibers, and others, that are organic polymeric compounds, complex chemicals and contains the most toxic ingredients,

In addition, employees in electronic industry are working in uncomfortable postures (long lasting sitting or standing), with repetitive movements of hand and fingers and very small size of objects to be observed and in long time of concentration, etc. These working conditions cause mental strain and fatigues to employees.

The followings are the results of working environment monitoring in 90 electronic enterprises with 225,674 employees in 2016-2017. The results showed that the number of samples exceeding the hygienic standards accounted a small percentage in almost harmful factors.

For the psycho-physiological and ergonomic factors, in some workplaces, it required great physical exertion such as Buffing (grinding products by hand), Packing (Packing products). The physical workload was at 2/6 or 3/6 levels (51%). At the workplaces of manufacturing electronic components and repairing small components, employees need to manipulate and observe the objects with the size $\leq 1\text{mm}$. This work is the high precision work, causing strain on eyes. In the bonded inspection, product assembling and testing, employees are doing repetitive works with time interval less than 20 seconds. The time of observation and paying close attention on the works accounted for more than 76% of total time of work shift. Employees in electronic industry usually work in long lasting standing or sitting postures that last in all work shifts. The head bow angle was 25-45 degree that did not guarantee optimal viewing angle causing neck pain. Many positions, distance from eye to objects was 20 - 30cm, causing visual stress and eye diseases

Workshop	Temperature °C			Humidity (%)			Air velocity m/s		
	No. of samples	Range	No. of samples exceeding Hygiene Standards	No. of samples	Range	No. of samples exceeding Hygiene Standards	No. of samples	Range	No. of samples exceeding Hygiene Standards

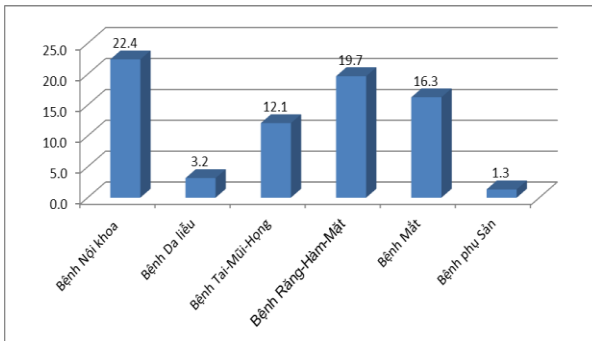
Producing	1,127	22.1 – 33.9	56	1,127	56.2– 78.6	0	1,127	0.11 - 1.78	72
Assembling	1,600	23.4 – 32.7	42	1,600	60.5– 65.4	0	1,600	0.07– 0.41	66
Completing	900	24.6 – 32.5	25	900	60.3– 65.5	0	900	0.08- 0.32	34
	<i>QCVN 26 : 18 – 32° C</i>			<i>QCVN 26 : 40 – 80%</i>			<i>QCVN 26 : 0,2 – 1.5m/s</i>		
	Lighting (Lux)			Noise (dBA)			Electro-magnetic field at high frequency (v/m)		
Producing	4,137	113 -914	21	5,432	77.4 - 85.9	30	325	0.85 -2.30	0
Assembling	5,932	62 -1.782	54	3,630	67.1– 83.8	0	460	1.1 - 4.20	0
Completing	4,048	305 - 872	27	3,048	62.7 - 80.3	0	350	0.92 - 2.60	0
	<i>QCVN 22 : >300 ; 750lux</i>			<i>QCVN 24 : 85dBA</i>			<i>QCVN 21 : 614v/m</i>		
	CO₂ (mg/m³)			CO (mg/m³)			SO₂ (mg/m³)		
Producing	7.178	736 - 1237	0	3.120	0,1 – 3,6	0	3.120	< 0,26	0
Assembling	10.969	923– 3.514	198	5.642	0,08 – 2,1	0	5.642	< 0,26	0
Completing	3.360	592 - 1348	0	1.786	0,03 - 0,42	0	1.786	< 0,26	0
	<i>TCVS 3733 :1.800mg/m³</i>			<i>TCVS 3733 :40 mg/m³</i>			<i>TCVS 3733 :10mg/m³</i>		
	Toluene (mg/m³)			VOCs (mg/m³)			Total hydrocarbon (mg/m³)		
Producing	567	0,567– 10,754	0	5.320	0,761- 45,98	0	5.320	0,462- 12,41	0
Assembling	758	0,432 – 2,651	0	8.416	0,324- 3,162	0	8.416	0,056- 3,030	0
Completing	493	0,329 – 0,753	0	2.360	0,242- 1,586	0	2.360	0,038- 0,641	0
	<i>TCVS 3733 :300mg/m³</i>			-			-		
	Tin oxide (mg/m³)			Titanium (mg/m³)			Crome (VI) (mg/m³)		
Producing	97	0,0007 - 0,0011		130	0,0008 - 0,0049		166	0,0003 - 0,0072	

Assembling	320	0,0008- 0,0055			-			-	
	TCVS 3733 : 2 mg/m³		TCVS 3733 :10mg/m³			-			

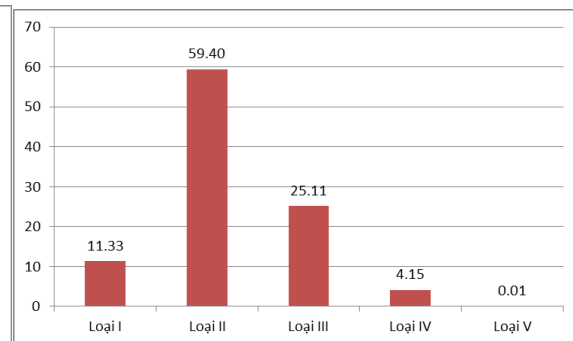
c) The situation of occupational accidents and occupational diseases

There is no data on occupational accidents and occupational diseases among electronic employees.

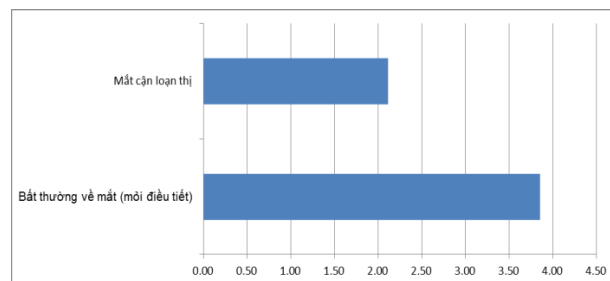
The followings are the results of periodic health examination for electronic employees taken by NIOEH. Almost employees had health categories I and II (very good and good health, respectively), accounted for 70.73%. The health categories IV and V (bad and very bad health, respectively) accounted for 4.16%. The common diseases are internal diseases (22.4%), maxillo-facial-dental diseases (19.7), eye diseases (16.3%). Regards eye problems, more than 2% of employees suffer from near sighted and astigmatism, and nearly 4% was eye abnormalities (difficult eye regulation)



The common diseases of electronic workers



Health categories of electronic workers

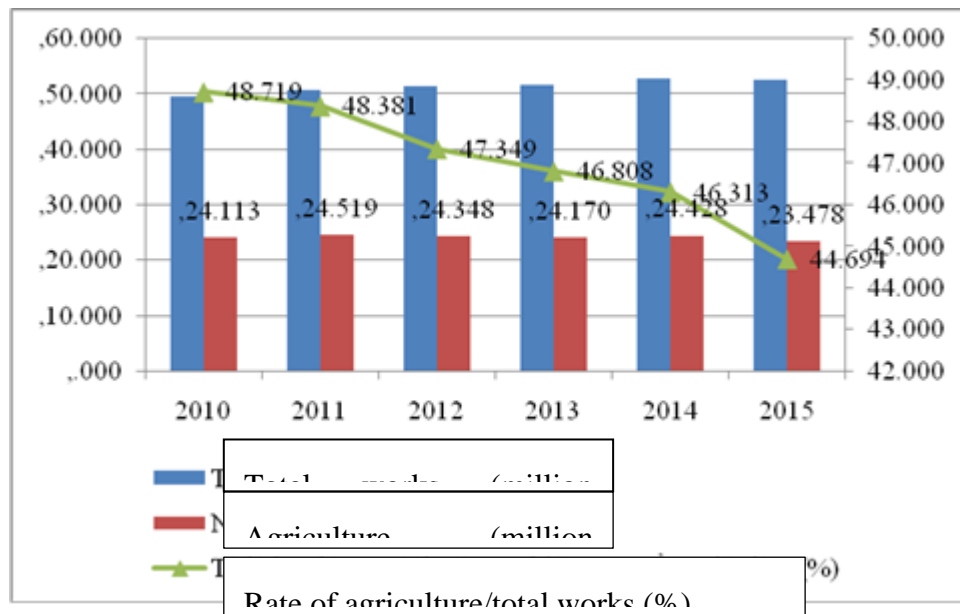


Eye problems among electronic workers

9. Agriculture

a) General information

Agriculture, forestry and fisheries (hereinafter referred to as agriculture) is the industry that uses a huge amount of labor. According to the General Statistics Office, by the second quarter of 2015, the number of employees working in the agriculture, forestry and fishery sector was 23.48 million people, accounting for 44.7% of the total number of working people in the country.



b) Current working environment and occupational risks

Agriculture is considered as one of the industries with many potential risks of occupational accidents and work-related diseases, ranking third after the mining and construction industry, when using machines, poisoning pesticides and other chemicals, etc.

The risk of accident when using machinery and equipment as well as the risk from the transportation, preparation, use and preservation of unsafe chemicals and plant protection chemicals increase the working environment pollution, adversely affect the safety and health of employees.

Jobs in the agricultural industry have many potentially harmful factors:

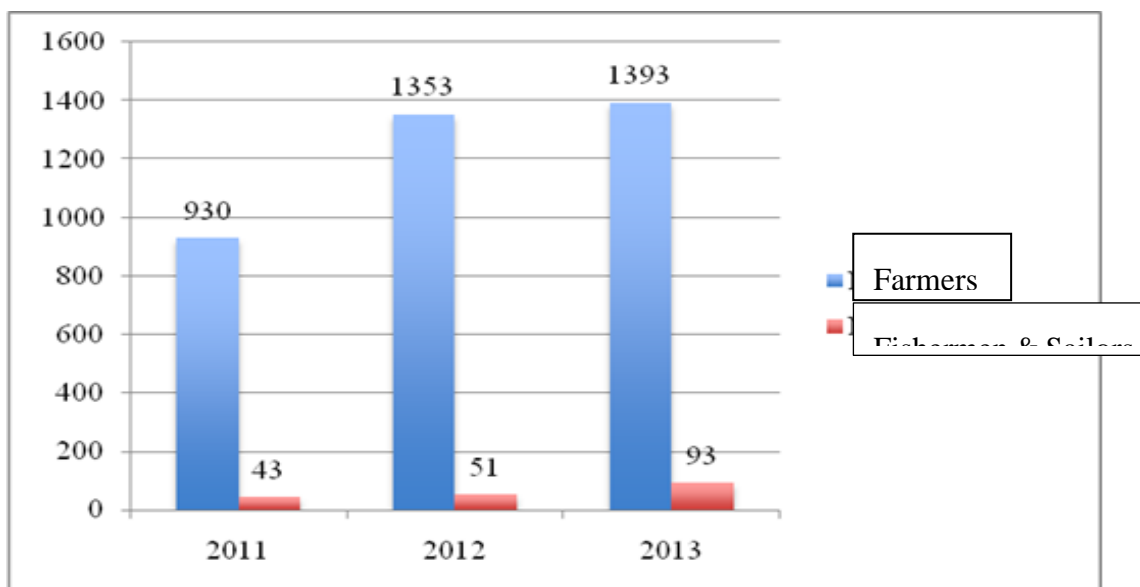
- Parts, moving parts: machine shaft, gears, chains, chains ... and other actuators.

- The moving parts: rotating parts with high speed (saws, knife plates of lawn mowers or slicers, flywheels, centrifuges ...); moving parts (hammers, milling machines, punching machines ...) or movement of the machine itself (cars, plows, tractors ...) creating the risk of rolling, rolling, clamping, cut ...
- Falling, falling, collapsed objects: often the result of unsound warehouses, factories, barns ... causing collapses, dropping objects from above to the employees;
- tool fragments or material splashes from machines, such as grass clippings, branches splashed from mowers, choppers or forage choppers; paddy ...
- The floor of the house, the yard or the barn floor is slippery, causing slippage and falls for workers and livestock.
- Electrical dangers: According to each voltage level and exposure method, there is a risk of electric shock, electric discharge, electromagnetic field, paralysis of the respiratory system, cardiovascular system, nervous system or causing fire and burns of employees. In addition, there is a risk of fire due to electric shock or electrical discharge.
- Harmful microbiological factors: pathogenic microorganisms, viruses, parasites, fungi, insects, etc.

c) The situation of occupational accidents and occupational diseases

According to incomplete reports of the Department of Agriculture and Rural Development, it shows that the problem of occupational accidents in agricultural production and rural occupations tends to increase. For the agricultural enterprise sector, on average, there are about 1,200 occupational accidents a year, the number of people having an accident is about 2,400 people, the level of compensation, treatment, and property damage is greater than the household scale by 2.5 times. (Tran Minh Manh, Department of Agro-forestry Processing & Factory-Ministry of Agriculture and Rural Development)

According to the final report of the National Program on occupational safety and health, in the period 2011-2013, 3,676 farmers, 187 fishermen and sailors died from occupational accidents and this number has increased over the years.



Source: Ministry of Labor, Invalids and Social Affairs (2015), Report on implementation of the National program on occupational safety and health period 2011-2015, proposed program for the period 2016-2020

10. Small and medium enterprises

a) General information

According to the GSO census, by the end of 2014, the whole country had 397.68 thousand small and medium enterprises, of which 288.29 thousand were micro enterprises (with 10 employees or less), 102.13 thousand enterprises. small (From over 10-200 employees in agriculture - forestry - fisheries and industry - construction; from over 10-50 people for trade and service) and 7.26 thousand medium enterprises (from over 200-300 people for agriculture - forestry - fisheries and industry - construction; from over 50-100 people for trade and service)

Total number of small and medium enterprises by size of employees

	2010	2011	2012	2013	2014
Micro enterprises	189.158	226.794	244.691	266.695	288.290
SSEs	84.401	100.068	99.018	99.576	102.126
SMEs	5.719	7.088	6.841	7.091	7.264
Total	279.278	333.950	350.550	373.362	397.680

Source: GSO, Annual Enterprise Census

According to the report of the Vietnam Small and Medium Enterprises Association, in 2016, there are nearly 600,000 small and medium enterprises in the country, accounting for 97.5% of the total number of active enterprises, with a total registered capital of about 121 billion USD. accounting for 30% of total registered capital of enterprises. Every year, SMEs contribute about 40% of GDP; 33% of industrial output value, 30% of export value and attracts nearly 60% of labor.

The Government's target orientation in the following years is to continue promoting enterprises in general and SMEs in particular to reach a total of 2 million enterprises, in 2015 alone, over 93,000 enterprises were newly established

b) Working environment and occupational risks

Factories: Most of the production facilities are narrow, the factories are temporary, lack of light; production materials and products make the arrangement, messy arrangement, making the workshop premises more narrow and unsanitary.

Labor machines, equipment and tools: In the past 5 years, private enterprises and small-scale handicraft households have made significant changes in the use of machines, equipment and tools. labor. Machines and equipment used in labor are often small, with medium technology. The proportion of machines and equipment with strict requirements on OSH used in small and medium enterprises is quite high, accounting for 31.4% of the total number of listed machines and equipment, mainly boilers (8.17%).) and air compressors (5.48%). But up to 21.59% of machines and equipment with strict requirements on OSH are in use but have not been declared; 42.54% of machines and equipment with strict requirements on occupational safety and health have not been tested or licensed to use.

Execution of working time and rest time: Many enterprises, private production establishments violate the law on working time and rest time: extending the work shift beyond 8 hours without need agreement, reduction of break time between shifts; mobilize workers to work 7 days a week. Some enterprises intentionally prolong the working time of workers by giving too high labor norms, forcing employees to work from 10 to 12 hours a day to finish, adversely affecting the employees' health.

c) The situation of occupational accidents and occupational diseases

- Up to now, there are no statistics on the situation of occupational accidents and occupational diseases in small and medium enterprises

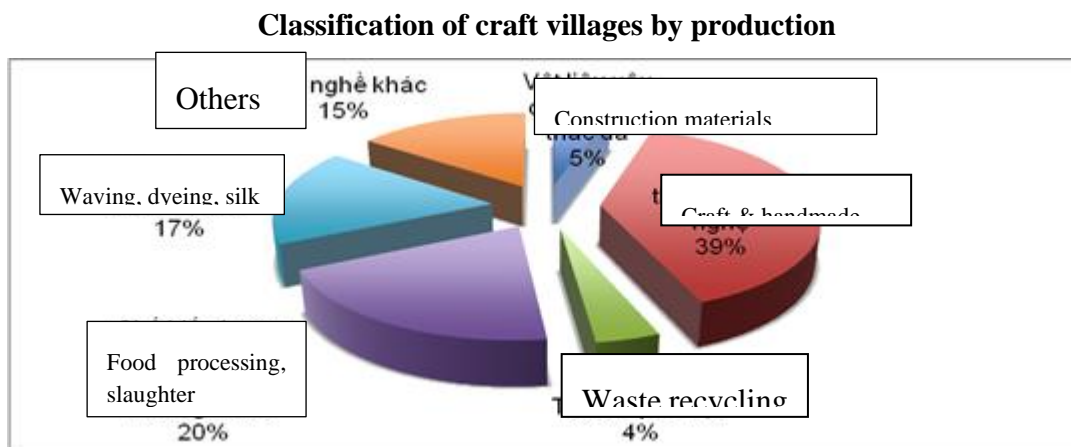
11. Craft Villages, Cooperatives

a) General information

Cooperatives: According to the Vietnam Cooperative Union, as of 2014, the whole country had 18,592 cooperatives, including 10,194 cooperatives operating in the agricultural sector (54.83%) and 8398 non-agricultural cooperatives (45.17%).

The total number of cooperative members in 2014 was 7,386,572, of which the number of regular employees working in the cooperative was 1,585,382. The total number of members of agricultural cooperatives is about 6.7 million people; transportation cooperatives with a total of 57,683 members; construction cooperatives attract more than 13,000 regular workers, etc. (Pham Thang (2015), Collective economic development, ensuring sustainable economic development, Communist Review)

Craft villages: By the end of 2014, the number of craft villages and handicraft villages in our country is 5,096. The number of traditional craft villages recognized according to the current government's craft village criteria is 1,748, attracting about 10 million workers. Craft villages not only bring high income but also bring a significant source of foreign currency for the country. Through export, these items have contributed to the export turnover of the country. However, the issue of ensuring the safety of workers in craft villages has not yet been focused.



b) Working environment and occupational risks

The common characteristic of most cooperatives and craft villages is small scale, lack of facilities, poor, outdated: narrow workshops, simple, outdated machinery and equipment technology ...

Especially the production establishments in the craft villages follow the model of households, production mixed with daily life, so it has caused many shortcomings in OSH.

The quality of labor and professional and technical qualifications in cooperatives and craft villages are generally low, mainly unskilled labor.

Working environment in craft villages:

- Toxic substances: Almost businesses in all 6 groups of craft villages generate toxic gases. Each production type emits different gases and at different levels.

- Noise: The fairly common factor causing occupational environment pollution in craft villages is noise. The extraction, processing and processing of raw materials, and processing of raw materials with the use of rudimentary and outdated machinery and tools have generated high noise. The noise generated mainly from production machines is higher than the permitted standard when they are located alternately in residential areas.

- Dust: During the production process, these craft villages all use coal as fuel, thus emitting coal dust into the air. In addition, the activities of weaving and dyeing villages also create a large amount of cotton dust, coal dust, polluting the labor environment.

- Harmful microbiological factors: Currently, biological factors in working environment are generated in most craft villages, but mainly concentrated in food processing craft villages, especially in food processing zones. animal husbandry, slaughtering, weaving and dyeing craft village.

- Microclimate factor: Microclimate with factors such as temperature, humidity, air and wind speed is one of the important factors causing occupational pollution.

c) The situation of occupational accidents and occupational diseases

Up to now, there are no statistics on the situation of occupational accidents and occupational diseases in cooperatives and craft villages. In fact, most of the establishments do not have books to track and statistic of occupational accidents and occupational diseases and do not strictly comply with the reporting regime of investigation when occupational accidents occur, including fatal occupational accidents. However, the situation of occupational accidents and work-related diseases in craft villages often occurs due to many reasons: the living environment is increasingly polluted because production facilities have not been able to handle solid wastes, factories. causing noise, dust, toxic emissions; There is a great risk of risks and unsafety, the owner of the

production facility does not pay attention to providing protective equipment for employees, a poor sense of observance of labor discipline, etc.

12. Informal sector

a) General information

The unstructured sector considered in this analysis includes non-agricultural businesses that do not have legal status. In fact, the craft village area has many business and production establishments operating in the form of families, not registered for business under the Law on Enterprises, Law on Cooperatives.

According to the General Statistics Office, as of 2014, the whole country had 4671.3 thousand non-agricultural individual production and business establishments, attracting nearly 7945.4 thousand employees.

b) Current working environment and occupational risks

According to an ILO report on the World Day of Workplace Safety and Health (Geneva, 2003), workers in the informal sector face serious safety and hygiene issues. The concept of nonstructural variation is very different, but it basically covers a lot of temporary jobs, and is mainly in developing countries where workers do not have a formal relationship with their employers. Some jobs are very dangerous by themselves, for example garbage collection and treatment. More generally, informal employees often have to work in a poor working environment and do not enjoy satisfactory social benefits. It is therefore obvious that workers working in these industries will not receive occupational health services, so there are accurate statistics on accidents, injuries and illnesses in this sector is very rare. However, the rate of injury and sickness must be at least equal to or higher than that in the formal employment sector. Often the cramped residence of the informal workers is also their workplace. They and their families are therefore continually subject to direct impacts from the dangers of work as well as environmental pollution.

Although the unstructured area implies many risks of labor safety, the management of occupational safety and health in this area so far has been left open. There is no agency responsible for the main management of this area in general and OSH in particular. Therefore, there is no statistical information and reports on the management of occupational safety and health as well as the situation of occupational accidents and occupational diseases.

4.5. Measures against Problems concerning OSH

4.5.1. OSH policies and programmers of organizations of employers and workers

➤ **Employee's organization:** The Vietnam General Confederation of Labor (VGCL) is tasked with representing workers' interests as a single and unified union organization in Vietnam that is made up of 18 National Unions and 63 provincial/cities Confederations of Labor across the country. The number of members of the VGCL is now more than 6 million people.

VGCL promulgated the Resolution No. 10^C/NQ-BCH dated 12 January 2017 on improving the efficiency of OSH in trade union organizations in the new situation with the following targets:

***General target:** Creating a positive change in the awareness and responsibility of trade union officials, employers and employees for effective implementation of occupational safety and health in the period of industrialization, modernization and international integration; continue to consolidate and improve the capacity of the apparatus and trade union officials working on occupational safety and health to meet the new situation requirements; improve working conditions, ensure occupational safety and health to prevent occupational accidents and occupational diseases for employees, build a culture of safety, build harmonious and stable labor relations advancement in the workplace, contributing to production development and increased work productivity.

Through good implementation of occupational safety and health, it contributes to affirm the role, consolidate and enhance the position of the union, develop union members, attract workers to join the union, build the strong worker class and strong trade unions.

***Specific targets:**

Strive from now to 2023, the work of occupational safety and health of the trade union organization will achieve the following targets:

- 100% of trade union officers working on occupational safety and health at higher levels are trained in occupational safety and health.
- 100% of key trade union officials of grassroots trade unions in enterprises at high-risk occupations are trained in occupational safety and health.
- 100% of businesses in industries at high risk, the networks of OSH workers are established

- 100% of state-owned enterprises, public service agencies and 50% or more of non-state enterprises responded to the movement "Green - Clean - Beautiful, Ensuring occupational safety and health".
- 100% of serious and fatal occupational accidents are reported, investigated and union representatives join the investigation team, supervise the settlement of regimes, vocational training and job placement for workers getting occupational accident, occupational disease.
- To initiate a lawsuit when the rights of the employee or group of the employees on OSH are seriously violated.

***Tasks and solutions:**

1. To improve the capacity and efficiency of trade unions to participate in building and supervising the implementation of laws, technical standards and regulations, and policies on occupational safety and health:
 2. Renew the form, improve the efficiency of information, propaganda, education and training to raise awareness and sense of responsibility for ensuring occupational safety and health for employers and officials , union members and workers
 3. Promote and improve the effectiveness of the mass movement for the work of occupational safety and health and contribute to promoting the implementation of the National Strategy on Green Growth and the response to climate change.
 4. Enhance effectiveness in coordination with functional agencies, employers in occupational safety and health
- Local trade unions actively coordinate with employers: develop occupational safety and health plans, internal rules, procedures and measures to ensure occupational safety and health, establish a safety network, negotiating and signing a collective labor agreement, organizing a dialogue at the workplace including specific, detailed terms and conditions on working conditions and occupational safety and health and is beneficial for employees; organize self-inspection of the work of occupational safety and health, assess risks and risks at the workplace; fully, promptly and accurately investigating all serious and fatal occupational accidents, supervising and urging the settlement of benefits for workers suffering from occupational accidents and diseases; organize the launch of emulation movements, mass movements to do the work of occupational safety and health, build an occupational safety culture at the workplace.

5. Promote and improve the quality of training for labor protection engineers, research and apply science, technology, safety and hygiene, improve working environment and conditions for employees: Improving the quality of training of labor protection engineers at Trade Union University and Ton Duc Thang University and training on occupational safety and health in vocational training institutions of the public system

There is no recent data of VGCL in the National program on OSH in the period 2015-2020. In the period of 2011-2015, VGCL provided propaganda, communication and information on OSH to 310 craft villages, 630 SMEs & SSEs and gave guideline on applying OSH management in 377 enterprises. Regards OSH trainings, VGCL organized the courses for 170 Employees working in jobs/occupations with strict requirements on OSH, 120 Employees working in heavy, hazardous and dangerous jobs/occupations and for 1,202 OSH officers at enterprises.

(Source: The National OSH Profile 2011-2015 by MOLISA, 2016)

***Employer organization:**

- **The Vietnam Chamber of Commerce and Industry (VCCI)** plays an important role on behalf of the business community (private, public and foreign companies) and is a member of the International Organization of Employers (IOE).
- **The Vietnam Union of Cooperatives (VCA)** is another employer organization that includes 17,000 cooperative members and small businesses nationwide.

Occupational Safety and Health Program at VCCI (<http://vbcsd.vn/detail.asp?id=468>)

1. Purpose:

Propagating, training and consulting to improve the quality of occupational safety and health in small and medium enterprises that are members of the Vietnam Chamber of Commerce and Industry

2. The goals of the activity

- Promote communication, information and counseling for employers and employees, raise their awareness and responsibility on labor insurance, strive to reach the target of 70% of medium and Small member of VCCI is informed and updated with appropriate information.

- Strengthen training for small and medium enterprises, members of VCCI on improving labor registration, preventing occupational accidents, reducing the proportion of polluted working environment, in order to strive to achieve the following goals: Over 60% of small and medium enterprises are VCCI members to improve the efficiency of occupational safety management and initially form a safety culture at the enterprise.
- Promote and expand international cooperation with countries and international organizations on OSH and labor protection to achieve the goal of technical assistance for nearly 50% of small and medium enterprises under VCCI in the process regional and world economic integration.

3. The detailed content of the activity

- Promote propaganda for employers and employees of small and medium enterprises, members of VCCI, to be aware of the importance of labor protection and OSH.

- Organizing workshops to disseminate OSH standards to raise awareness for employees
- Publish a quarterly newsletter on labor insurance
- Develop content and print all kinds of leaflets and posters on OSH and labor protection to serve the broad propaganda for associations, VCCI member enterprises.
- Update information on Labor protection and OSH on press, television and website of VCCI
- Conducting investigation and writing reports on the working conditions and improvement situation in small and medium-sized enterprises at high risk.

- Strengthen training and retraining for professional associations and members of VCCI to improve working conditions, prevent occupational accidents, and reduce the proportion of the working environment pollution.

- Organize training courses for small and medium enterprises on the improvement of working conditions, OSH to improve the efficiency of production and business.
- Organize training courses for VCCI's source staff on labor protection

- Advising small and medium enterprises to well implement occupational safety issues, making everyone and employees in the company comply with the labor regime well to build a good image for the company. In addition, VCCI also promotes the work of supporting companies to comply with professional ethics rules, creating a culture of behavior, setting up a beautiful image for enterprises.

- Consulting and guiding businesses to perform the work of occupational safety and health to implement corporate social responsibility (CSR)
- Building and upgrading the system of monitoring software for enterprises that have been trained in the work of labor protection and OSH to serve the year-end evaluation.
- Organize awards for businesses that perform well in CSR

- Develop documentary films on OSH in SMEs, broadcast regularly on television; Organize the OSH forum on television; Editing and posting information on OSH activities, information and documents on OSH on websites, newspapers

- Promote and expand international cooperation with countries and international organizations on OSH and labor protection to achieve the goal of technical assistance for nearly 50% of small and medium enterprises under VCCI in the process regional and world economic integration.

+ Invite experts to support the development of training curriculum / materials

+ Organize specialized business delegations to survey, study models and exchange experiences with foreign countries / companies on labor protection and OSH, then apply the OSH management model at the enterprise. .

4. Project implementation schedule, target, and scope

Project implementation period is 5 years, from 2011 to 2015. Project activities are conducted in small and medium enterprises that are members of VCCI nationwide.

5. Administrative agency (ministry, branch, ..) implementing agency, coordinating agency

- Research on the implementation of OSH work in enterprises to come up with reasonable programs.

- Coordinate with the Council of Employers in the provinces and Business Associations

- Collaborate with experts, lecturers from Institutes, Universities, etc. having research on OSH and specialized OSH Associations
- Coordinate with the branches of Vietnam Chamber of Commerce and Industry nationwide to implement the project activities.
- Increase the participation of employees and employers in the project activities
- The project's content is integrated with other related activities of the Vietnam Chamber of Commerce and Industry.

6. *Total capital and capital structure* (specify corporate contribution, international aid (if any): State budget capital from the National Program on OSH

7. *Scope of implementation and beneficiaries* (who directly impact and enjoy the Program's results)

- The employers
- Labor safety management officers
- Employees

8. *Evaluation of the socio-economic efficiency of the activity* (including indirect beneficiaries).

- Helping small and medium enterprises that are members of VCCI become more and more aware of the implementation of OSH responsibilities to produce clean, labor-consuming and high-quality goods.

***Results of implementing the National Program on occupational safety and health for the period 2011-2015 by VCCI (10 training courses, 700 people)**

- Estimated to date 30/6/2015 within the framework of the program's activities 10 training courses on "Occupational safety and health" were conducted, with more than 700 participants from Hung Yen, Hanoi, Yen Bai, Lang Son and Thai provinces. Number of training courses is increased by 01 course and number of trainees increased by 80 times people over the same period last year. The training courses are organized to popularize and update for managers, OSH officers; Company employees the issue of employee and the employer obligations, OSH partners, institutions, compensation regime for occupational accident and disease and compensation paid by the employer and covered by social insurance. In addition, the trainees were also instructed to perform the exercises on implementing OSH activities in enterprises...

in order to orient helping businesses to build a safe working environment, improve the efficiency of production and business activities, create motivation and link employees for sustainable development; provide knowledge for employees about their own rights and responsibilities, with complete and suitable information about working environment for good career orientation, etc.

(Source: COMMUNICATION ON ENGAGEMENT- COE) 2014-2015 at https://s3-us-west-2.amazonaws.com/ungc-production/attachments/cop_2015/198201/original/Bao_cao_tham_gia_COE_VCCI_Financial.pdf?1445306717)

In addition, VCCI provided propaganda, communication and information on OSH to 8,355 SMEs & SSEs, and gave guideline on applying OSH management to 82 enterprises. Regards OSH trainings, VCCI organized the courses for 6,758 OSH officers

The Vietnam Union of Cooperatives (VCA) provided propaganda, communication and information on OSH to 2,100 craft villages, 22,242 cooperatives, and 500 SMEs & SSEs. Regards OSH trainings, VCA organized the courses, for 819 Employees working in heavy, hazardous and dangerous jobs/occupations and for 8,384 OSH officers at enterprises.

(Source: The National OSH Profile 2011-2015 by MOLISA, 2016)

***100-day program saying no to industrial accidents - SCORE project**

Campaign "100 days say no to occupational accidents" sponsored by Sustainable Business Development Program (SCORE) - representatives of International Labor Organization (ILO) and Vietnam Chamber of Commerce and Industry (VCCI) HCMC branch coordinated to organize from September 27, 2019 to January 15, 2020 with the goal of raising awareness and enhancing the participation of businesses and employees in ensuring occupational safety and health - Preventing fire and explosion at the workplace. The program attracted the participation of more than 60 enterprises, associations and partner organizations to sign up to perform 100 days of saying no to occupational accidents. This is an activity of the campaign to confirm the link between occupational safety and productivity in wood enterprises and supporting industries in Vietnam.

During the implementation of the 100-day program to say no to occupational accidents, there have been many activities built to support the business community such as: Training in

occupational safety management skills; surveying, evaluating and consulting on improving OSH, fire prevention at the factory; sharing experiences in designing, constructing, operating and testing fire protection systems at factories, competitions for sharing good images of occupational safety at factories.

Enterprises participating in the 100-day program of saying no to occupational accidents also actively responded to the program by launching the 100-day program of saying no to occupational accidents at their own enterprises. Pictures of launching ceremonies at the Company and good safety images are constantly being updated to VCCI HCM. Enterprises also actively participate in training, sharing and propaganda about ensuring occupational safety and health, preventing fire and explosion at the workplace. Enterprises wishing to be supported with assessment and consultation at factories also actively contacted VCCI HCM to receive support from the program. During the implementation of the program, many good safety improvements were also shared. The program also achieved impressive results. More than 1,600 people followed the campaign on social media to learn about the importance of workplace safety for employers and workers, as well as measures to help ensure occupational safety. 160 factory safety officers have participated in training activities, seminars and counseling to help identify and prevent workplace hazards and establish an effective fire protection system. 9 enterprises have supplemented and updated their policies on occupational health and safety.

(Source: <https://vcci-hcm.org.vn/tin-tuc/tin-hoat-dong-vcci-hcm/tong-ket-chuong-trinh-100-ngay-noi-khong-voi-tai-nan-lao-dong-du-score/25911/>)

4.5.2. Advantages and disadvantages of ongoing activities related to OSH at workplace

4.5.2.1. Advantages of ongoing activities related to OSH at workplace

Many OSH activities are going on at the workplaces, including activities related to providing basic occupational health services (e.g. information, communication, training on OSH, working environment monitoring, health care activities (health checkup, OD examination and detection, first aid, etc.), notification & reporting of occupational accidents and diseases, keeping health record/profile, providing clean drinking water, nutritious & safe foods, etc.) to activities related to occupational safety (e.g. regularly checking and accrediting machines, equipment, providing PPEs, etc.) and activities related to risk assessment and control, inspection of compliance of OSH regulations, etc. All these activities are aiming at to ensure

the employees to work in occupational safety and health conditions and that all occupational safety and health measures are implemented during the working process; prioritizing measures to prevent, preclude and control dangerous and hazardous factors during the working process in order to prevent occupational accidents and occupational diseases and at the same time to improve work productivity, to reduce the costs spent for occupational accidents and occupational diseases, etc. to ensure a health workforce and to increase the image of business.

To implement OSH activities at workplace is also to guarantee the occupational safety and health-related rights of employees:

a/ To work in fair, safe and occupational safety and health conditions; to request the employer to ensure safe and healthy working conditions during the working process and at the workplace;

b/ To be provided with adequate information on dangerous factors and hazardous factors at the workplace and prevention and combat measures; to be trained in occupational safety and health;

c/ To be provided with labor protection, health care and examination for detection of occupational diseases; to have occupational accident and disease insurance premiums paid by the employer; to enjoy the full regime in case he/she gets an occupational accident or disease; to have expenses for medical assessment of injuries and illnesses caused by occupational accidents and diseases paid; to take the initiative in seeking medical assessment for determination of the level of working capacity decrease and have the assessment expense paid in case the medical assessment results show that he/she is eligible for an increased allowance for occupational accidents or diseases;

d/ To request the employer to arrange an appropriate job after receiving treatment of occupational accident injuries or diseases;

dd/ To refuse to perform work or to leave the workplace while still being paid fully and not considered breaching working discipline when he/she is clearly aware of risks of occupational accidents that seriously threat his/her life or health and immediately notify such to the direct manager for settlement; to continue working only when the direct manager and the officer in charge of occupational safety and health have already addressed these risks to ensure occupational safety and health;

e/ To file complaints, denunciations or lawsuits in accordance with law.

4.5.2.2. Disadvantages of ongoing activities related to OSH at workplace

Beside the advantage of implementing OSH activities at workplace, there are some disadvantages as follows:

- Costly: every year the employers should spent an amount of money to invest in the OSH activities; paying salary to employees when away from work to participate in OSH training, etc.
- Human resource consume: hiring staffs as OSH officers, health workers, establishing OSH committee, OSH network, etc.
- Time consume: self-risk assessment, regular reporting occupational accidents and occupational diseases, OSH activities, investigation of OA & OD, etc.

However, the benefits of implementing OSH activities at workplace are much higher than investment in OSH activities and for both employees and employers

4.5.3. Educational and awareness-raising arrangements to enhance preventive safety and health culture, including promotional initiatives at workplace

Nowadays, the concept of safety culture or culture of OSH or culture of prevention is propogandized and communicated widely on public media and included in the OSH training program for employers and employees (Group 1 & 4) as follows:

1. Group 1:

- a) System of policies and laws on OSH
- b) OSH operations include: Organizing the apparatus, management and implementation of regulations on OSH at the facility; assignment of responsibility and assignment of powers to OSH; basic knowledge about dangerous and harmful factors, measures to prevent and improve working conditions; **safety culture in production and business.**

4. Group 4:

- a) Basic knowledge about OSH: Rights and obligations of employers and employees; policies and regimes on OSH for employees; basic knowledge about dangerous and harmful factors at work and methods to improve working conditions; functions and duties of the workers in OSH network; **safety culture in production and business**; OSH rules, signboards, instruction boards for OSH and use of safety equipment, personal and professional protection equipment, first aid skills for occupational accidents , prevention of occupational diseases

In the OSH training curriculum, the definition of safety culture is introduced, the content of safety culture activities that need to be taken to achieve the goal, are mentioned, levels of safety culture and key decisive factors and benefits of development and building safety culture are analyzed, etc.

Until now, several industrial branches/sectors build safety culture at enterprises such as construction, Vietnam Electric Corporation, Vietnam Aviation Corporation, Agency for Radiation Protection and Nuclear Safety, etc. The example of building a safety culture at Vietnam's construction sites is the environmental dioxin remediation site at Danang International Airport that have successfully adapted to the site's stringent health and safety regulations, equal to the standards of the U.S. Occupational Safety and Health Administration. Workers attend two days of compulsory hazardous waste and construction safety training and annual eight-hour refresher courses. This is a far cry from the one-time 15-30-minute safety briefings common at other local building projects. And at least one health and safety officer is present per five to six workers at all times. Three years into the project, about 500 workers have completed over 800,000 safe work hours.

Vietnam Airlines strives to build an aviation safety culture by organizing dozens of internal training courses, applying various communication measures to achieve many results in building aviation safety culture. According to the Vietnam airline's data, the number of incidents and accidents occurring on average over 10,000 flights decreased from 30 incidents in 2015 to 11 in 2017. In addition, the severity of the incidents also decreased. Besides, the firm successfully built a reporting culture model. Many confidential and security reports are voluntarily implemented in addition to other mandatory and periodic reports. The National Airlines also aims to build an active safety culture and advanced safety culture by 2020 and by 2035, respectively.

4.6. Researches in OSH

4.6.1. List of specialized technical, medical and scientific institutions with linkages to various aspects of OSH, including research institutes and laboratories concerned with OSH

No.	Occupational health service providers	Description
1	The National Institute for Occupational and Environmental Health (NIOEH)	<ul style="list-style-type: none"> - Laboratories for industrial hygiene and environment (measuring microclimate, lighting, noise, vibration, electro-magnetic field, ionizing radiation, analyzing different types of dusts and chemicals, etc.) - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology - Laboratories for psycho-physiology of work and ergonomics
2	Vietnam National for Occupational Safety and Health (VNIOOSH) and their 2 Regional Institutions in the central and South of VN)	<ul style="list-style-type: none"> - Laboratories for industrial hygiene and environment (measuring microclimate, lighting, noise, vibration, electro-magnetic field, ionizing radiation, analyzing different types of dusts and chemicals, etc.) - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology - Laboratories for psycho-physiology of work and ergonomics
3	Institute of Public Health in Ho Chi Minh City	<ul style="list-style-type: none"> - Laboratories for industrial hygiene and environment (measuring microclimate, lighting, noise, vibration, electro-magnetic

		<p>field, ionizing radiation, analyzing different types of dusts and chemicals, etc.)</p> <ul style="list-style-type: none"> - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology
4	Nha Trang Pasteur Institute	<ul style="list-style-type: none"> - Laboratories for industrial hygiene and environment (measuring microclimate, lighting, noise, vibration, electro-magnetic field, ionizing radiation, analyzing different types of dusts and chemicals, etc.) - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology
5	Tay Nguyen Institute of Hygiene and Epidemiology	<ul style="list-style-type: none"> - Laboratories for industrial hygiene and environment (measuring microclimate, lighting, noise, vibration, electro-magnetic field, ionizing radiation, analyzing different types of dusts and chemicals, etc.) - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology - Laboratories for psycho-physiology of work and ergonomics
6	The Institute of Maritime Medicine	<ul style="list-style-type: none"> - Laboratories for industrial hygiene and environment in limited capacity (measuring microclimate, lighting, noise, vibration, electro-magnetic field, ionizing radiation, analyzing different types of dusts and chemicals, etc.)

		<ul style="list-style-type: none"> - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology - Laboratories for psycho-physiology of work and ergonomics
7	The Departments of Public Health in Medical Colleges and Universities over the country	<ul style="list-style-type: none"> - Laboratories for industrial hygiene and environment in limited capacity (measuring microclimate, lighting, noise, vibration, electro-magnetic field, ionizing radiation, analyzing different types of dusts and chemicals, etc.) - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology
8	13 Health Centers/Hospitals at Industrial Branch/Ministry	<ul style="list-style-type: none"> - Laboratories for industrial hygiene and environment in limited capacity (measuring microclimate, lighting, noise, vibration, electro-magnetic field, ionizing radiation, analyzing different types of dusts and chemicals, etc.) - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology
9	63 Provincial Centers for Disease Control (in 63 provinces)	<ul style="list-style-type: none"> - Laboratories for industrial hygiene and environment in limited capacity (measuring microclimate, lighting, noise, vibration, electro-magnetic field, ionizing radiation, analyzing different types of dusts and chemicals, etc.)

		<ul style="list-style-type: none"> - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology
10	Centers for Preventive Medicine in districts, towns and cities	<ul style="list-style-type: none"> - Laboratories for industrial hygiene in limited capacity (measuring by digital equipment microclimate, lighting, noise, vibration, dust and chemicals.) - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology
11	Centers for environment monitoring (including Centers belong to Ministry/Department of Natural Resources and Environment and private ones)	<ul style="list-style-type: none"> - Laboratories for industrial hygiene and environment analysis
12	Department of Environment belong to National University, University of Polytechnics, University of Natural Resources and Environment, University of Sciences, and private university, etc. over the country	<ul style="list-style-type: none"> - Laboratories for industrial hygiene and environment analysis
13	State and General hospitals/clinics/health centers	<ul style="list-style-type: none"> - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology

14	63 Provincial and a Central Medical assessment/ expertise Councils	<ul style="list-style-type: none"> - Laboratories for analyzing micro-biological factors - Laboratories for biochemistry, hematology
	Center for accreditation of machine and equipment technical safety	<ul style="list-style-type: none"> - Laboratories for accreditation of machine and equipment technical safety
15	Center for Certification of conformity with personal protective equipment	<ul style="list-style-type: none"> - Laboratories for conformity of PPEs
16	Institute of Labor Science and Social Affairs	<ul style="list-style-type: none"> - Laboratories for industrial hygiene (measuring by digital equipment microclimate, lighting, noise, vibration, dust and chemicals.)
17	Center for trainings of MOLISA	<ul style="list-style-type: none"> - Laboratories for safety practice

4.6.2. Main research items and projects in OSH research and which institutions implement these (national level / institutional level)

The followings are summarized some OSH projects done mainly by the National Institute of Occupational & Environmental Health (NIOEH), Vietnam National Institute of Occupational Safety and Health (VNIOOSH that is belong to the Vietnam General Confederation of Labour (VGCL) and Thang Long University. Many other Institutions and Medical University have a lot of researches on OSH. However, it is difficult to collect this information.

Table 4.14. OSH-related scientific researches in 2015-2020

No.	Project	Institution	Duration
	National-level project		
1.	Development of bio-chemicals and hematological indicators for detection of compensated occupational diseases in Vietnam	NIOEH	2020-2022

2.	Study on lead poisoning situation in Vietnamese children and effectiveness of some interventions	NIOEH	2018
3.	Ministry-level projects		
4.	Assessment of status and development of national Technical Regulations on air environment at hospitals	NIOEH	2020-2021
5.	Assessment of asbestos pollution level and exposed workers' health and proposal of control measures to control asbestos pollution	NIOEH	2020-2021
6.	Health Impact Assessment of air pollution on people's health and development of a guideline on protection of people's health	NIOEH	2020-2021
7.	Study on the effect of organic solvents on worker hearing and propose preventive measures	NIOEH	2015
8.	Study on psycho-physiological factors and risks of working conditions in long-distance drivers to reduce occupational accidents	NIOEH	2017
9.	Research on interventional solutions for allergic rhinitis caused by cotton dust in garment workers	NIOEH	2018
10.	Situation of working condition and occupational diseases in some health care facilities in Can Tho province 2014-2017	NIOEH	2018

11.	Study on the status of standard prevention in general hospitals under the Hanoi Department of Health and evaluate the effectiveness of interventions	NIOEH	2019
12.	Study on lead poisoning among workers involved in lead battery recycling in the craft village and propose intervention measure	NIOEH	2018
13.	Research and evaluate the level of exposure to chlorine gas affecting the health of workers in seafood processing facilities and propose preventive solutions.	VNIOSH	2020
14.	Research, develop and apply the model of occupational safety and health management according to ISO 45001: 2018 standards in shoe manufacturing establishments	VNIOSH	2020
15.	The study proposes to apply index 1.6 Hexamethylene diamin (HAD) as biological monitoring standard for workers exposed to 1.6- Hexamethylene diisocyanate (HDI) in automobile and vehicle manufacturing facilities.	VNIOSH	2020
16.	Research to determine the level of Methyl Etyl Keton Methyl n- Buthyl Ketone infection in workers in some shoe manufacturing facilities and	VNIOSH	2019

	propose the application of biological surveillance standards.		
17.	Study on combined effects of hot microclimate and organic solvents on mental health of workers in the footwear industry	VNIOSH	2018
18.	Researching the current situation and proposing solutions to ensure occupational safety and health in handling and manually transporting rice in the Mekong River Delta	VNIOSH	2018
19.	Research on styrene exposure of workers working in composite plastic facilities and mitigation solutions	VNIOSH	2018
20.	Researching and manufacturing passive personal nicotine vapor sampling tools to assess occupational nicotine exposure in tobacco factories in Vietnam	VNIOSH	2018
21.	Study to determine the degree of ethylbenzene contamination via the mandelic acid (MA) and phenylglyoxyluc acid (PAG) metabolite in the urine of exposed workers.	VNIOSH	2018
22.	Study on organic dust exposure and extraneous allergic alveolar disease in feed processing and furniture workers	VNIOSH	2018
23.	Study to assess occupational safety and sanitation risks and propose the application of an appropriate	VNIOSH	2018

	management system in stone mining and processing facilities.		
24.	Study on the status of Formaldehyde poisoning diseases of workers in the wood processing industry, contributing to propose to the list of occupational diseases covered in Vietnam	VNIOSH	2017
25.	Research, evaluate and propose solutions to minimize occupational exposure risks of workers operating high frequency laminating machines	VNIOSH	2017
26.	Risk assessment and propose a management system for occupational safety and health at a sugar factory in the Central region according to the OHSAS 18000 model	VNIOSH	2017
27.	Evaluate the application situation and propose a list of national technical regulations and standards on occupational safety and sanitation for the period of international economic integration	VNIOSH	2017
28.	Research to assess occupational safety risks in the tanning industry and propose the application of an occupational safety and health management system according to OHSAS 18000 model	VNIOSH	2017
29.	Research and develop a toolkit to assess and propose solutions to control	VNIOSH	2017

	occupational accident risks in the construction of high-rise buildings		
30.	Building anthropometric Atlas Vietnamese in the current working age period	VNIOSH	2017
31.	Research, investigate, evaluate and forecast developments of working conditions in a number of industrial sectors in the period up to 2020	VNIOSH	2016
32.	"Investigate and evaluate the working conditions of fishermen on a fishing boat off the central coast and propose some scientific and technological solutions to ensure occupational safety for fishermen "	VNIOSH	2016
33.	Studying and evaluating the current situation of safety in using machines and equipment in rice production and proposing a program on occupational safety management and control in the Mekong Delta	VNIOSH	2016
34.	Assessment of occupational harm caused by exposure to aromatic hydrocarbons in the air of workers at Asphalt concrete production stations in the Central region	VNIOSH	2016
35.	Research on building oxygen technology process Completely chemical toluene using a low temperature catalytic material "	VNIOSH	2016

36.	"Study of the monomer's effects Isocyanate in the air environment in paint areas in automobile and motorcycle manufacturing facilities to the health of workers "	VNIOSH	2016
37.	"Additional research, complete the rating system of some filters of masks and semi-respirators "	VNIOSH	2016
38.	"Additional research, complete the rating system of some standard personal anti-fall vehicles "	VNIOSH	2016
39.	"Researching, manufacturing and testing protective shoe soles labor resistant to gasoline, oil and grease by blends of acrylonitrile butadiene rubber (NBR) and polypropylene (PP) thermoplastics "	VNIOSH	2016
40.	"Applied research on qualitative indicators metabolism in urine to determine total permeability of benzene, toluene, xylene, styrene in workers with occupational exposure "	VNIOSH	2016
41.	"Research to perfect the scientific and evidence basis Technical data to determine the manual heavy lifting weight for female workers "	VNIOSH	2016
42.	Study on the chronic effects of benzene, toluene, and xylene in workers exposed to sub-standard concentrations by assaying some hematological indices,	VNIOSH	2016

	CYP2E1 mARN index and variation of the CYP2E1 gene.		
43.	Working conditions and health of female workers in some industrial parks and zones	Hanoi School of Public Health	2015-2017
44.	Study on working conditions and health impacts of urban sanitation workers in Hanoi and implementation of intervention measures to improve OSH knowledge and practice.	Hanoi School of Public Health	2017-2019
45.	Occupational accidents and work-related diseases among young workers in some craft villages in Hung Yen province	VHEMA	2019
	Institute-level projects		
46.	Study on Delta-Aminolevulinic acid Dehydratase (ALAD) genetic polymorphism of workers exposed to lead in Dong Mai craft village - Hung Yen	NIOEH	2015
47.	Application of comet technique to assess DNA damage in peripheral leukemia cells of workers exposed to lead and association with exposure indicators	NIOEH	2015
48.	Research on some road traffic safety violations and related factors in medical staffs participating in traffic	NIOEH	2016
49.	Evaluate the effects of lead exposure on the physical, intellectual and behavioral	NIOEH	2017

	development of children aged 3-10 years in a craft village		
50.	Study on lead poisoning situation in workers at Bac Bo Non-ferrous Metal Joint Stock Company in 2016	NIOEH	2016
51.	Situation of working environment in enterprises of the North in 2016-2019	NIOEH	2016-2019
52.	Situation of working environment in health care facilities of the North in 2016-2019	NIOEH	2016-2019
53.	Occupational disease detection in the leather, footwear, textile, electronics, mechanical industries and in medical facilities in 2018.	NIOEH	2018
54.	Development of 64 national Technical regulations on chemicals and dusts	NIOEH	2017
55.	Assessment of pollution and health impacts in the aluminum recycling village of Van Mon, Yen Phong, Bac Ninh	NIOEH	2018
56.	Eye health care for electronic factory workers	NIOEH	2018
57.	Assess environmental and occupational health risks in craft villages that recycle e-waste and develop guidelines for environmental and occupational health management in metal recycling craft villages in Vietnam	NIOEH	2018
58.	Initially assess air pollution and health impacts in some craft villages in Hanoi	NIOEH	2019

59.	Work stress and associated factors among nursing at Binh Duong general hospital in 2019	Thang Long University	2019
60.	Stress, anxiety, and depression among nursing and associated factors at National Hospital of Endocrinology in 2019	Thang Long University	2019
61.	Stress, anxiety, and depression among nursing and associated factors in clinical department of Vietnam National Children's Hospital in 2019	Thang Long University	2019
62.	Stress, anxiety, and depression among nursing and associated factors in 108 Military Central Hospital in 2019	Thang Long University	2019
63.	Implementation of food safety in street food enterprises and related factors at Ba Vi district, Hanoi in 2019	Thang Long University	2019
64.	Ergonomic intervention to improve working conditions in small and super-small mechanical enterprises at Thanh Thuy commune, Thanh Oai district, Hanoi, 2020 - 2021	Thang Long University	2020
65.	Mental health and associated factors among workers in garment and footwear enterprises in 2020 - 2021	Thang Long University	2020

66.	Situation of working environment and occupational health and safety activities in small and super small mechanical enterprises at one commune of Thanh Oai district, Hanoi, in 2016	Thang Long University	2016
67.	Situation of occupational accidents and associated factors in small and super-small mechanical enterprises at one commune of Thanh Oai District, Hanoi, in 2017	Thang Long University	2017
68.	One-day training workshop on Occupational Health and Safety for the OSH officers working at health care facilities	Thang Long University	2020
69.	Improving the ability to identify the hazards of e-waste and to assess the potential environmental and occupational health impacts for employers and workers involved in household processing of e-waste in the northern province of Vietnam	Thang Long University	2019
70.	Strengthening productivity and improving working conditions for Small and Micro-small enterprises by applying Occupational Safety and Health methods and processes	Thang Long University	2019

71.	The situation of musculoskeletal disorder of health workers at Hanoi Medical University Hospital in 2017 and related factors.	Thang Long University	2017
72.	Mental health and associated factors among staffs of the Emergency Rehabilitation Department at some hospitals in Hanoi in 2016.	Thang Long University	2017
73.	Situation and compliance with food safety regulations confectionery manufacturers in Co Hoang village, Phu Xuyen district, Hanoi, 2017.	Thang Long University	2017
74.	Etc.		

4.7. Status for Personnel engaged in the area of OSH

4.7.1. Ability of personnel engaged in the area of OSH

There is no data of personnel working in OSH area over the country until now and no any investigation on ability of OSH personnel over the country in the past 10 years.

In 2009-2010 with the support of WHO and Japanese Government, NIOEH conducted investigation on actual situation on capacities and the needs for enhancing provision of basic occupational health service in 1590 preventive medicine facilities and labour inspection units at different levels over the country (at that time the ADB project was not yet implemented in preventive medicine system). The results of NIOEH's investigation showed that the total number of OH personnel was 4,928. Most OH personnel had intermediate educations (55.3%), while those with university and postgraduate degrees accounted for more than 1/3 (38.5%) of the personnel. With respect to professional levels, doctor assistants accounted for the highest proportion (28.2%), followed by nurses (16.2%) and engineers/Bachelors (15.5%). Medical doctors (MDs) constituted only 13.6% and MDs specialized in epidemiology and preventive medicine accounted for only 1.2%.

Distribution by professional levels varied by organizational level: At the national level, MDs predominated (40%), followed by other disciplines (35.1%), with technicians accounting for almost 26%. At the provincial level, medical doctors accounted for 20.0-32.6% of the OH personnel, with especially high proportions (1/3 of the total staff) seen in the Centers for Occupational Health and Environment (COHEs) and the occupational health centers of the industrial branches/sectors. Bachelors/engineers in environment accounted for 20.6-22.1%, followed by technicians (13.5-20.3%). At the district level, doctor assistants constituted more than 1/3 of all personnel, technicians accounted for 27.5%, and medical doctors comprised only 3%. At the commune and enterprise levels, doctor assistants and nurses predominated (75 and 70%, respectively). In OSH inspection at provincial level, engineers and bachelors were majority (77.1%). At district level, there were 52.4% of engineers and bachelors and 1/3 of total staffs were other professions such as accountants, administrators, etc (35.5%).

Regards OSH trainings for OHS personnel's at different levels: More than 1/3 staffs were trained on OSH and occupational health. Majority of them attended short courses less than 2 weeks (59%). The basic trainings in university accounted for only 13.3% and post graduate trainings were 6.7%. There was different in trainings at different levels. At the national level, there were mainly basic trainings in university, constituting 43.9% and postgraduate trainings were 13.6%

The capacities of basic occupational health services (BOHS) provision at different levels were weak and limited. At provincial level: 64.6-98.5% of facilities did not have capacities in providing services of working environment surveillance in chemicals and dusts, electric field, electro-magnetic field, biological factor monitoring, biochemical and hematological tests OD diagnosis; skin tests; hearing abilities and lung function tests.

At district level: 90-100% of facilities did not have capacities in providing services of working environment surveillance in aspects of chemicals, dusts, microclimate, lighting, noise, biological factor monitoring, biochemical and hematological tests for OD diagnosis;

(Nguyen Bich Diep et al (2012). Need assessment for capacity building in provision of basic occupational health services in Vietnam. Journal of Practical Medicine No. 849-850, p.364-369)

In 2008 the Minister of Health issued Decision No. 4696 / QD-BYT promulgating the National Standard on Preventive Medicine Centers in provinces and centrally-run cities. So, after

that with ADB project (borrowing loans from ADB Bank), the provincial/City Preventive Medicine Centers over the country were upgraded and built capacities in terms of infrastructure, equipment, human resources and professional activities. This project was implemented from 2010-2015. Since then, the capacities of PPMCs were improved a lot. However, there is no any report of assessment the capacity of PPMCs in occupational health. One source, from that it can be referred to assess the capacity of PPMCs and Health Centers/Hospitals of Industrial Branches/Sectors in carrying out the working environment monitoring and occupational disease detection and diagnosis is the list of organizations capable doing working environment monitoring and the list of occupational disease clinics (being capable to detect and diagnose ODs).

According to Gov. Decree No. 44/2016/ND-CP, the organization that has enough conditions to take working environment monitoring, beside the conditions of infrastructure, equipment, number and qualification of staffs, it should meet the requirements of capacities working environment monitoring as follows:

- Measuring, testing and analyzing at the field and in the laboratory microclimate factors, including temperature, humidity, wind speed and heat radiation;

- Measuring, testing and analyzing at the field and in the laboratory physical factors, including: light, noise, frequency vibration, radiation, electromagnetic fields, ultraviolet radiation;

- Assessment of occupational exposure factors, including: microbiological factors, allergens, hypersensitivity, solvents;

- Assessment of workload and some psycho-physiological and ergonomic indicators: Assessment of physical workload; assessment of neuro-psychological stress/strain; Assessment of ergonomics at workplaces.

- Sampling, preservation, measurement, field testing and laboratory analysis of 70% of the following factors:

- + Dust particles; analysis of silica content in dust, metal dust, coal dust, talc dust, cotton dust and asbestos dust;

- + Minimum chemical factors NO_x, SO_x, CO, CO₂, organic solvents (benzene and homologues - toluene, xylene), mercury, arsenic, TNT, nicotine, insecticide;

Based on these above requirements, MOH released the list of organizations capable doing working environment monitoring. Until now (Nov. 2020), there are 177 organizations over the

country, in which in the OH network, 5 preventive medicine institutions, 61 provincial CDCs among 63 provinces and 5 Health Centers of Industrial Branches/Sectors among 13 ones, 11 District/Town Health Centers are capable to do working environment monitoring (accounted for 46.3% of the total). The remain organizations are Centers for environment monitoring belonging to Ministry/Provincial Department of Natural Resources and Environment and private organizations.

In Nov. 2020, MOH also announce the list of 65 organizations having licenses to examine and treat occupational diseases, in which there 3 preventive medicine institutions, 28 provincial CDCs among 63 provinces and 4 Health Centers of Industrial Branches/Sectors among 13 ones (accounted for 53.3% of the total). The rests are General hospitals and private clinics

4.7.2. Challenges of personnel engaged in the area of OSH:

In the situation of industrialization and modernization with fast economic and technology development and international integration, OSH personnel face the following challenges:

1. The labour cheap will attract more foreign investment in the country. Many new machines, technologies, materials and unknown chemicals are imported and used. In addition to the positive aspects of giving more job opportunities to local people, it increases also potential risks of occupational safety and health as well as environment pollution.
2. The strong development trend of mining, construction, energy, chemical industries and the increase in the use of electricity in industrialization and modernization will increase the risk of unsafely, occupational hygiene and pollution of working environment.
3. The strong development of small and medium enterprises with outdated technology level and not paying attention to occupational safety and environmental sanitation;
4. The development of craft villages, household economic sectors in the market mechanism without control on occupational safety and health also continues to increase pollution of working environment, ecological environment and increase work-related diseases and occupational accidents & diseases.

5. The labor force increases rapidly along with the shift of a large number of workers from the agricultural sector to the industrial sector with low skills and lack of industrial style, increasing the risk of occupational accidents and occupational diseases.
6. The workforce in agriculture - forestry - fishery production accounts for 50% of the total labor force of the whole country, and farmers in the process of industrialization and modernization of agriculture and rural areas are increasingly using more and more machinery, equipment, chemical fertilizers, plant protection chemicals, so the risk of occupational accidents and poisoning of plant protection chemicals is increasing, while the workforce working in labor protection at commune level does not have.
7. Besides, the international economic integration places requirements on corporate social responsibility in ensuring occupational safety and health. This is a big challenge for businesses operating in export. In addition, the global financial crisis and economic recession have had certain impacts on our economic development.
8. New issues and risks of occupational safety and health in working with advanced technology, e.g. Digitalization and ICT, Automation and robotics, and nanotechnology, etc. These advancements, like AI and Big Data, are accelerating and will also have a major impact on the workplace, changing the ways that people work, the environments that they work in, and the conditions under which they do their everyday job. These technology advancements will still provide new opportunities to overcome future challenges. For example, robots will take over dirtier, more dangerous and demeaning jobs previously undertaken by workers. Telework will cut commuting time, the related stress and the risk of accident occurrence. Wearable smart devices will allow managers to monitor worker behavior and relay safety and health advice and information to workers in real time. More importantly, these advancements will disrupt patterns of work-related injuries, deaths, and diseases. This disruption will create new challenges in workplace occupational health and safety for managers—challenges that must be overcome to develop reliable safety cultures within businesses.
9. Additional challenges are aging worker populations, gender gaps, often in the heavy industry and migrant workers. These issues will create unique challenges to companies focused on improving occupational health and safety conditions in the workplace.

4.7.3. Training and information for OSH personnel engaged in the area of OSH

4.7.3.1. Training and information for OSH officers

Table 4.15. Some results of OSH trainings for OSH officers from 2011-2014

No.	Training Subjects	Years			
		2011	2012	2013	2014
1	Employers, OSH officers	10,835	40,332	33,019	19,640

Source: The National OSH Profile 2010-2015 by MOLISA, 2016

On average from 2011 to 2014, each year, there were over 20,000 officers working on occupational safety and health in enterprises were trained and supported in training for occupational safety and health.

From 2011 to 2015, the people in charge of state management of occupational safety and health in the labor sector from the central level to the commune and ward level were trained at least 01 time. The total trainings were 35,597 people (2011 trained 8,162 people; trained 11,823 people in 2012; in 2013, 10,741 people worked in the state management of OSH, 2014 was 4,894 people). The training results at ministries, branches and localities are summarized in the Table below.

Table 4.16. OSH training at Ministries, industrial Branches/Sectors, provinces from 2011-2015

		OSH officers (People)
A	Ministries at central level	32,821
1	MOLISA	2,181
2	Ministry of Construction	3680
3	Ministry of Trade and Industry	835
4	Ministry of Agriculture and rural Development	2,581
5	Ministry of Health	6,000
6	Ministry of Defense	338
7	Ministry of Education and Training	0

		OSH officers (People)
8	Ministry of Communication and Information	0
9	VCCI	6,758
10	Việt Nam Cooperative Union	8,384
11	Vietnam General Confederation of Labor (VGCL)	1,202
12	Vietnamese Farmers Association	862
B	Provinces	71,485

Source: The National OSH Profile 2010-2015 by MOLISA, 2016

4.7.3.2. Training and information for OH staffs in the network by MOH

Table 4.17. Trainings on capacity building for OH network (2010-2013)

No.	Years	Number of training course	Number of participated organizations	Number of participants
1	2010	4510	18260	1,235,320
2	2011	1661	6143	309,994
3	2012	3,396	9,603	426,064
4	2013	1,429	5,577	138,739

(Source: Annual report on occupational health by VHEMA, MOH)

According to the report of the Ministry of Health: Since 2011, have supported an average of 3 training courses per year to guide the application of the model of prevention of occupational diseases and occupational health in high-risk sectors (mining, chemical industry, construction and health sector) in 3 regions for central provinces and cities; The occupational disease prevention model was applied in more than 300 new labor establishments, focusing on high-risk

industries such as construction, chemicals, mining and health sectors; organizing more than 500 training courses for facilities at high risk of occupational diseases, examined occupational diseases for more than 300,000 employees, measured and checked the working environment for more than 25,000 production establishments; organized nearly 100 training courses on completing the process of monitoring the working environment, diagnosis and assessing occupational diseases; Organized 102 training courses to improve the quality of OD examination and treatment; organized 03 training courses (03 areas) per year on occupational diseases prevention and health care for labor establishments in the health sector.

4.7.3.3. Training and information for OSH personnel engaged in occupational disease detection and diagnosis

The table below showed the training activities on occupational disease from 2010-2015 organized by NIOEH and Ho Chi Minh Institute of Public Health in the National program on OD prevention 2010-2015 and ADB project on strengthening capacities in OD detection and diagnosis for OD physicians/doctors at provincial and district levels, These data were under reported.

Table 4.18. Training on occupational disease detection and diagnosis in 2010-2015

Year	Topics	Number of training courses	No, of participants
2010	Skills and techniques of working environment monitoring and OD detection	02	96
	OD Diagnosis	04	107
2011	Occupational health and prevention of ODs	04	50
	Testing techniques of para-clinical indicators in OD diagnosis	06	201
	OD Diagnosis	08	108
2012	Testing techniques of para-clinical indicators in OD diagnosis	01	25
	Control and prevention of ODs	02	71
	OD detection and Diagnosis	07	112

2013	Testing techniques of para-clinical indicators in OD diagnosis	01	23
	Strengthening capacity of OD diagnosis and assessment	04	122
	OD Detection and Diagnosis	17	450
2014	Strengthening capacity of OD diagnosis and assessment, treatment and rehabilitation for OH staffs at provincial levels	02	34
	OD Detection and Diagnosis	07	210
2015	Strengthening capacity of OD diagnosis and assessment, treatment and rehabilitation for OH staffs at district levels	02	23
	OD Detection and Diagnosis	02	57
Total		69	1689

Source: The National OSH Profile 2010-2015 by MOLISA, 2016

In the period 2011-2015, 69 training courses on OD diagnosis and assessment, treatment and rehabilitation for 1,689 medical doctors engaged in OSH area at different levels were organized by the NIOEH and Ho Chi Minh Institute of Public Health, Some courses were in the national program on prevention of OD by MOH while some were in ADB project on strengthening capacities of OH personnel at different levels in OD detection and diagnosis, Others were in term of services.

Table 4.19. Number of participants attending different certificate courses organized by NIOEH from 2016-2020

Courses	2016	2017	2018	2019	8 months of 2020	total
OD detection and diagnosis		150	57	107	17	331
Working environment monitoring	46	453	171	153	25	848
Occupational health		1088	43	41		1172
Medical testing		612	22	45	111	790
Others	875		31	381	65	1352

Total	921	2303	293	727	218	4462
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Source: Report of certificate trainings, NIOEH 2016-2020

For the certificate training on OD detection and diagnosis, 331 medical doctors who work in the Department /Clinics of Occupational Diseases of Provincial CDCs and Health Centers/Hospitals belong to Industrial branches/Sectors and state or private hospitals, have attended this 3 months course organized by NIOEH. In addition, 790 staffs working in laboratories of medical testing attend the special courses on medical testing, e.g. bio-chemical tests for diagnosis of the compensated ODs, measurement of respiratory function, hearing capacity, etc.

For post graduate training program of PhD, in occupational health, the training institutions are the National Institute of Occupational Health (NIOEH from 2013 up to now), the National Institute of Epidemiology and Hygiene (before 2015), Army Academics (before 2015), Subjects for PhD, training are MDs with background of general and specialized MDs, except MDs specialized in preventive medicine, MSc, in preventive medicine with background not MDs specialized in preventive medicine, Specialized MD degree I and II, The NIOEH has enrolled PhD candidates from 2013 and up to now 5 PhD candidates completed their thesis, in which 3 candidates received Ph,D diploma of Occupational Health,

4.7.3.4. Training and information for OSH personnel engaged in working environment monitoring

Table 4.20. Training course on working environment monitoring in 2010-2015

Year	Training topics	No, of training courses	Number of participants
2010	Guideline on the techniques for working environment monitoring	01	28
2011	The techniques for working environment monitoring	03	53
	Working environment surveillance and measurement	05	102
2012	Testing techniques for environment indicators	02	188
2013	Guideline on measurement and checking working environment and	05	207

	controlling risk factors in working environment,		
	Working environment surveillance and measurement	07	139
2014	Capacity building in working environment control for OH staffs at provincial and district levels	03	51
	Working environment surveillance and measurement	08	117
	Basic psycho- physiology of work and ergonomics	02	21
2015	Capacity building in working environment control for OH staffs at provincial and district levels	03	64
	Working environment surveillance and measurement	03	80
	Total	42	1,050

Source: The National OSH Profile 2010-2015 by MOLISA, 2016

Similar to the training course on OD detection and diagnosis, in the period 2011-2015, 42 training courses on working environment monitoring were organized for 1,050 participants at provincial and district levels by NIOEH and Ho Chi Minh Institute of Public Health, Some courses were in the program on prevention of OD by MOH while some were in ADB project on strengthening capacities of OH personnel at different levels in working environment monitoring, Others were in term of services.

The training data by NIOEH from 2016-2020 (Table 4.17) showed that 848 staffs from Provincial CDCs, Health Centers/Hospitals belong to Industrial branches/Sectors and state or private environment monitoring centers, have attended this 1 months certificate course. In addition, NIOEH organized several specific courses on monitoring and measurement of psycho-physiological and ergonomic factors in working environment monitoring, mentoring training on analyzing chemical factors at laboratories, etc.

4.7.3.5. Training and information for medical staffs working in health units/centers at enterprises

Since OSH Law into effective, medical staffs working in the health unit/center at enterprise, who take care employees' health, need to attend the certificate training course on occupational health (see more details in the Item 3.7.1). The training institutions that are certified by MOH, are 3 Institutions of the preventive medicine system, e.g. the National Institute of Occupational

and Environmental Health (NIOEH), the Institute of Public Health in Ho Chi Minh City, the Nha Trang Pasteur Institute and some other OSH training Centers.

There is no nationwide data on the certificate training course on occupational health for medical staffs at enterprises, neither the number of medical staffs working at enterprises. According the annual OH report by VHEMA 2016 from 57 /63 provinces over the country, the total number of enterprises under their management was 71,082, in which the number of enterprises with more than 200 employees was 7,242 (accounted for 10.2%), enterprises with from 51-200 employees was 8,715 (12.3%) and the enterprises with less than 50 employees was 55,125 (77.5%). Among these enterprises, there were 8,291 enterprises (accounted 11.7%) having medical staffs, in which 3,815 enterprises had health centers (5.4%), 33 enterprises had hospitals (0.05%), 145 had clinics (0.2%), 2,478 enterprises had contracts with other health care facilities (3.5%) and the rest of 1,746 ones had medical staffs/units (2.4%). Number of medical staffs working in 8,291 enterprises was 11,223, in which medical doctors were 1,347 (12%), MDs specialized in preventive medicine were 203 (1.8%), university nurses: 680 (6%), doctor assistants: 4,975 (44.3%), college nurses: 2,371 (21.1%) and midwives: 724 (6.4%).

There are data of the certificate training course on occupational health for medical staffs at enterprises organized by NIOEH from 2017 to 2019. Total number of medical staffs at enterprises attending the OH courses was 1,172 in which 2017 was the highest number of 1,088 medical staffs, 43 staffs in 2018 and 41 in 2019 (Table 4.17).

4.8. Status for International Certification at Workplaces

4.8.1. Status for international certification at workplaces (e.g. ISO 45001)

In Vietnam, many enterprises have been managing the occupational health and safety of their work through the propagation, dissemination, and application of policies and regulations relating to labor laws or frameworks; researching and applying technical solutions, applying systems and tools to identify hazards, assess risks and control measures to prevent OSH and occupational health risks. For example, the application of ISO 9001, ISO 14001, OHSAS 18001, 5S, KY method (short for Kizen and Yochi, meaning "Predicting hazardous situations" - Japan Association of Industrial OSH) was implemented in OSH management. However, the assessment of dangerous and harmful factors at the workplace to propose proper measures to eliminate and

minimize potential hazards, improve working conditions, and health care for employees in the enterprises has not been implemented fully and systematically, following an advanced international method and standards⁷⁴.

According to ISO Survey 2019, an overall number of international certificates in Vietnam are presented in Table 4.20

Table 4.20. Number of certificates and sites in Vietnam in 2019⁷⁵

No	ISO standards	Certificates
1.	ISO 9001: 2015 Quality management systems - Requirements	3,441
2.	ISO 14001:2015 Environmental management systems -- Requirements with guidance for use	1,487
3.	ISO/IEC 27001:2013 Information technology -- Security techniques -- Information security management systems -- Requirements	327
4.	ISO 22000:2018 Food safety management systems -- Requirements for any organization in the food chain	470
5.	ISO 45001:2018 Occupational health and safety management systems -- Requirements with guidance for use	304
6.	ISO 13485:2016 Medical devices -- Quality management systems -- Requirements for regulatory purposes	112
7.	ISO 50001:2018 Energy management systems -- Requirements with guidance for use	84
8.	ISO 22301:2012 Societal security -- Business continuity management systems -- Requirements	1
9.	ISO/IEC 20000-1:2018 Information technology -- Service management -- Part 1: Service management system requirements	6
10.	ISO 28000:2007 Specification for security management systems for the supply chain	2

⁷⁴ <http://www.chatluongvacuocsong.vn/nghien-cuu-ap-dung-tieu-chuan-he-thong-quan-ly-an-toan-va-suc-khoe-nghe-nghiep-iso-450012018-vao-doanh-nghiep-viet-nam-d82899.html>

⁷⁵ [Committee 09. ISO Survey of certifications to management system standards - Full results](#)

- | | | |
|-----|---|---|
| 11. | ISO 37001:2016 Anti-bribery management systems -- Requirements with guidance for use | - |
| 12. | ISO 39001:2012 Road traffic safety management systems -- Requirements with guidance for use | - |
-

Up to date, a total of 304 enterprises/organizations in Vietnam officially achieved ISO 45001:2018 - Occupational health and safety management systems. Which, higher numbers of these certificates were found in the following sectors: food products, beverage and tobacco, electrical and optical equipment, basic metal & fabricated metal products, mining and quarrying, textiles and textile products.

Total numbers of sectors for each standard in Vietnam in 2019 are also shown in Table 4.21 below.

ISO 45001:2018 is the new international standard for an Occupational Health and Safety Management System. The objective of the certification is to reduce/prevent accidents, deaths, and injuries of people and loss or damage to the environment and equipment. Implementing an OHSMS enables an organization/enterprise to:

- Protect its workforce and others under its control
- Comply with legal requirements
- Facilitate continual improvement

ISO 45001 would be aligned with other management systems standards, such as ISO 9001:2015 and ISO 14001:2015. This standard will replace the OHSAS 18001.

Table 4.21. Numbers of sectors for each ISO standard in Vietnam in 2019⁷⁶

No	Sectors	ISO standards									
		ISO 9001	ISO 14001	ISO/IEC 27001	ISO 45001	ISO 50001	ISO 22301	ISO/IEC 20000-1	ISO 28000	ISO 37001	ISO 39001
1.	Agriculture, Fishing and Forestry	11	4	-	-	-	-	-	-	-	-
2.	Mining and quarrying	19	17	2	8	-	-	-	-	-	-
3.	Food products, beverage and tobacco	212	80	8	15	7	-	-	-	-	-
4.	Textiles and textile products	83	40	19	8	4	-	-	-	-	-
5.	Leather and leather products	43	24	-	4	-	-	-	-	-	-
6.	Manufacture of wood and wood products	17	4	-	-	-	-	-	1	-	-
7.	Pulp, paper and paper products	82	39	-	6	2	-	-	-	-	-
8.	Publishing companies	1	-	-	-	-	-	-	-	-	-
9.	Printing companies	43	21	-	2	-	-	-	-	-	-
10.	Manufacture of coke & refined petroleum products	14	7	-	1	-	-	-	-	-	-

⁷⁶ [Committee 09. ISO Survey of certifications to management system standards -- Full results](#)

No	Sectors	ISO standards									
		ISO 9001	ISO 14001	ISO/IEC 27001	ISO 45001	ISO 50001	ISO 22301	ISO/IEC 20000-1	ISO 28000	ISO 37001	ISO 39001
11.	Nuclear fuel	-	-	-	-	-	-	-	-	-	-
12.	Chemicals, chemical products & fibers	141	72	-	6	1	-	-	-	-	-
13.	Pharmaceuticals	18	3	-	-	-	-	-	-	-	-
14.	Rubber and plastic products	283	152	-	4	3	-	-	-	-	-
15.	Non-metallic mineral products	23	7	-	1	-	-	-	-	-	-
16.	Concrete, cement, lime, plaster, etc.	16	10	-	1	-	-	-	-	-	-
17.	Basic metal & fabricated metal products	332	150	-	9	7	-	-	-	-	-
18.	Machinery and equipment	90	37	-	5	2	-	-	-	-	-
19.	Electrical and optical equipment	261	192	-	21	1	-	-	-	-	-
20.	Shipbuilding	17	2	-	1	1	-	-	-	-	-
21.	Aerospace	2	-	-	-	-	-	-	-	-	-
22.	Other transport equipment	43	24	-	1	1	-	-	-	-	-

No	Sectors	ISO standards									
		ISO 9001	ISO 14001	ISO/IEC 27001	ISO 45001	ISO 50001	ISO 22301	ISO/IEC 20000-1	ISO 28000	ISO 37001	ISO 39001
23.	Manufacturing not elsewhere classified	74	19	-	4	-	-	-	-	-	-
24.	Recycling	2	4	-	1	-	-	-	-	-	-
25.	Electricity supply	16	4	6	1	-	-	-	-	-	-
26.	Gas supply	4	3	-	2	1	-	-	-	-	-
27.	Gas supply	11	4	-	-	-	-	-	-	-	-
28.	Construction	83	17	-	5	-	-	-	-	-	-
29.	Wholesale & retail trade, repairs of motor vehicles, motorcycles & personal & household goods	190	57	-	5	-	-	-	-	-	-
30.	Hotels and restaurants	4	7	-	-	1	-	-	-	-	-
31.	Transport, storage, and communication	71	15	17	4	1	-	-	-	-	-
32.	Financial intermediation, real estate, renting	122	7	197	-	1	-	-	-	-	-
33.	Information technology	23	2	234	1	-	1	5	-	-	-
34.	Engineering services	68	9	1	3	-	-	-	-	-	-
35.	Other Services	83	14	1	-	2	-	-	-	-	-

No	Sectors	ISO standards									
		ISO 9001	ISO 14001	ISO/IEC 27001	ISO 45001	ISO 50001	ISO 22301	ISO/IEC 20000-1	ISO 28000	ISO 37001	ISO 39001
36.	Public administration	-	1	-	-	-	-	-	-	-	-
37.	Education	17	1	-	1	-	-	-	-	-	-
38.	Health and social work	1	2	-	-	-	-	-	-	-	-
39.	Other social services	7	7	-	-	-	-	-	-	-	-
40.	Sector unknown	1071	529	57	197	53	-	1	1	-	-
Total		3598	1587	542	317	88	1	6	2	0	0

In 2017 - 2019, Quality Assurance and Testing Center 2 (QUATEST 2) carried out a project entitled "Researching and applying the occupational health and safety management system standard ISO 45001: 2018 into the enterprise in Vietnam". The project implemented a piloting ISO 45001 on 15 enterprises over the country. The findings showed that process of building and applying ISO 45001 in those enterprises faced some difficulties such as *****:

- (1) The business plan of enterprises affects the progress of system construction;
- (2) Assignment of personnel does not guarantee the required quantity and capacity;
- (3) Employees' awareness of the OSH is incomplete and synchronous;
- (4) The employee in charge of OSH also is concurrently responsible for many other jobs;
- (5) Investment costs for better improvement of OSH are limited;
- (6) The periodic self-inspection of OSH has not been fully implemented;
- (7) Updating and maintaining knowledge of legal documents on OHS has not been regular;
- (8) ISO 45001 is a newly issued standard, therefore understanding and implementation of the requirements are still limited.

Besides, there are several benefits of applying ISO 45001 for enterprises as follows:

- (1) improving OSH performance, preventing work-related injuries and illnesses, providing a safe and healthy workplace;
- (2) eliminating hazards and minimizing OSH risks by implementing effective preventive and protective measures;
- (3) enhancing OSH implementation and monitoring following required standards/regulations/technical standards;
- (4) socio-economic and environmental efficiency includes:
- (5) improving the ability to meet statutory requirements and other requirements on the management of OSH;
- (6) minimizing occupational accidents, occupational diseases, risks, reducing administrative costs;
- (7) reducing the overall cost of incidents, downtime, and operational interruptions costs;
- (8) reducing insurance costs; reduce absenteeism and labor turnover rates;
- (9) and contribute to improving work productivity and sustainable development.

Case studies:

Currently, many enterprises have focused on sustainable development by applying OHS assessment series to employees, especially the application of ISO 45001:2018 standard.

In April 2018, UNICONS is a pioneer in obtaining ISO certificate 45001:2018 in the construction industry in Vietnam.

In September 2018, Petrol Vietnam Ca Mau Fertilizer JSC was officially achieved ISO 45001:2018 standard issued by International Organization for Standardization ISO††††††††††††††††††††.

In May 2019, LDT Joint Stock Company was officially awarded OHS Assessment Series certified by CAC International Certification Organization according to ISO 45001:2018 issued by International Organization for Standardization ISO.

In March 2019, Honda Vietnam Limited Liability Company was awarded ISO 45001:2018 certificate by Certification Organization, Bureau Veritas Certification. Honda Vietnam is honored to become one of the first companies to receive an ISO 45001:2018 certificate.

Kim Nguu Chemical and Equipment Import-Export Joint Stock Company is one of the enterprises that has registered to participate in building a pilot model for the chemical industry under ISO 45001:2018. The building process of ISO 45001 at the Company brought some outstanding results as follows: (1) implementing identification and assessment of risks in production; (2) arrange danger warning system; (3) completing emergency response plans (fire, explosion, accident, poisoning); (4) upgrading collective kitchen; equipping personal protection and medical medicine cabinets in the working areas; conduct a quarterly legal compliance assessment and consultation ... By end of November 2019, Kim Nguu Company successfully organized an assessment and was granted ISO 45001: 2018 certification by NQA Certification Organization††††††††††††††††††††.

4.8.2. Worker's Awareness and Educational Levels regarding OSH

In recent years, when activities to disseminate knowledge about occupational safety and health, especially in private economic sector, craft villages and in agricultural production where there are hidden factors, high risks of insecurity, unsafely and unhealthy started to be focused.

†††††††††††††††††††† <https://knacert.com.vn/blogs/news/lots-of-enterprises-in-vietnam-successfully-apply-iso-450012018>

†††††††††††††††††††† <https://nscl.vn/thuan-loi-va-kho-khan-khi-trien-khai-iso-45001-tai-cong-tt-hoa-chat-va-thiet-bi-kim-nguu/>

The annual National Week on Occupational Safety & Health and Fire and Explosion Prevention has received a positive response from a large number of workers and production and business establishments across the country. Thanks to that, the awareness and understanding of OSH activities of employees and employers is gradually improved. The role of employees in occupational safety and health has been promoted, contributing to limiting occupational accidents and minimizing damage caused by occupational accidents. Many technical innovation initiatives introduced by employees have contributed to immediately solving problems in reducing risks leading to occupational accidents and diseases at the workplace.

However, the awareness of employers and employees on OSH is still limited: employers, especially in small enterprises, private production households, craft villages, agricultural cooperatives due to lack of understanding and lack of sense of compliance of the law on occupational safety and health, should also chase immediate economic profits without paying attention to the consequences and long-term harms due to not doing well the work of occupational safety and health; Employees move from agricultural to industrial sectors with low educational level, not familiar with industrial manners, and due to lack of training in occupational safety and health, they do not fully understand the dangers that need to take precautions when working with production. The results of analysis of the causes of occupational accidents from local reports showed that 43% of the accidents happened due to violation of technical standards and regulations on occupational safety.

The reason is the followings:

- The enforcement of the OSH law at all levels, sectors, employers and employees is not strict and there are shortcomings.

- Communication and propaganda to raise awareness on OSH is not regular, extensive and has not been properly invested. The dissemination and guidance of legal regulations often only reach the staff of the regulatory agencies, not to the establishments, especially the non-state establishments. The education, training and training of occupational safety and health have not been controlled in terms of quality and comprehensively deployed. The training for employees is still coping form, lack of visualization. Many establishments and enterprises do not organize training on occupational safety and health for workers when they first enter the jobs/occupations; The teaching capacity and expertise of the staff in charge of occupational safety and health are still limited. The number of teachers specialized in teaching OSH in schools is too small, mainly part-time, without professional training and lack of practical experience in occupational safety

and health; lack of textbooks on occupational safety and health for all educational levels ... therefore, most of the graduates lack basic understanding of OSH; workers do not have the necessary knowledge to protect themselves against the risks of occupational accidents, illness and occupational disease; Employers also do not fully see the obligations and benefits of occupational safety and health.

The followings are evidences of achievements in communication, information and trainings on OSH in implementing the National Program on OSH in the 2010-2015 periods. The propaganda about occupational safety and health has been paid more and more attention by the Party, State and Government. In ministries, branches, localities, enterprises, information and communication activities on occupational safety and health have been increasingly concerned and widely deployed nationwide in various and diversified forms.

Broadcast propaganda by Vietnam Television Station: annually on average, more than 20 programs and categories on safety and health have been built and broadcast with many programs being broadcast in the golden hour frame, which are evaluated to be effective, high, attracting a large number of viewers.

Propaganda on the Voice of Vietnam: Regularly maintain 5-10 programs on "occupational safety and health". Propagating and supporting propaganda about occupational safety and health to 62 radio and television stations of provinces and cities; coordinated to build and regularly maintain nearly 20 specialized pages, columns on propaganda on occupational safety and health on central newspapers and magazines and some local newspapers.

More than 300,000 leaflets, posters, 100,000 books, 10,000 CDs ... of over 40 different categories have been printed and distributed to employees. In particular, from 2012-2014, 12 training films on occupational safety and health have been developed and released for groups of industries with high risk and high risks of occupational accidents such as construction, chemicals, mechanics, mining. minerals, textiles ... for delivery to businesses, craft villages, and employees; build and compile 2 original sets of CDs on occupational safety and health, delivered on the radio system of communes, wards, enterprises and trade villages.

On average, each year agencies and organizations have organized dozens of contests to learn the law on OSH in small and medium enterprises, vocational schools; a number of contests were held for farmers in some provinces, the Farmer's Union; integrate propaganda about occupational safety and health in trade village meetings and festivals, on the radio system of the village and commune; organize propaganda and consultation activities, combine training on

occupational safety and health for households and workers in villages, communes and craft villages for more than 10 specific craft villages such as iron and wood craft villages paper, stone mining and processing, handicrafts, rush village, lime production ...; published hundreds of posters, notebooks, documents, leaflets on OSH to households, residential communities ...

Table 4.22. Some results of OSH trainings for workers/employees from 2011-2014

No.	Training Subjects	Years			
		2011	2012	2013	2014
1	Employees working in heavy, hazardous and dangerous jobs/occupations	31,737	60,876	64,623	35,431
2	Employees working in jobs/occupations with strict requirements on OSH	39,952	53,016	60,085	28,248

Source: The National OSH Profile 2010-2015 by MOLISA, 2016

On average from 2011 to 2014, each year, there were over 45,000 people working in occupations and jobs with strict requirements on occupational safety and health; 48,000 people do heavy, hazardous and dangerous occupations and jobs were trained and supported in training for occupational safety and health.

The training results at ministries, branches and localities from 2011 to 2015 for employees working in occupations and jobs with strict requirements on occupational safety and health and doing heavy, hazardous and dangerous occupations and jobs were summarized in the Table below.

Table 4.23. OSH training at Ministries, industrial Branches/Sectors, provinces from 2011-2015 for workers/employees

		Employees working in jobs/occupations with strict requirements on OSH (People)	Employees working in heavy, hazardous and dangerous jobs/occupations (People)
A	Ministries at central level	11,113	9,634
1	MOLISA	1,034	800
2	Ministry of Construction	6,152	500
3	Ministry of Trade and Industry	1,350	0

		Employees working in jobs/occupations with strict requirements on OSH (People)	Employees working in heavy, hazardous and dangerous jobs/occupations (People)
4	Ministry of Agriculture and rural Development	2,097	2,948
5	Ministry of Health	0	0
6	Ministry of Defense	310	120
7	Ministry of Education and Training	0	0
8	Ministry of Communication and Information	0	0
9	VCCI	0	0
10	Việt Nam Cooperative Union	0	819
11	Vietnam General Confederation of Labor (VGCL)	170	120
12	Vietnamese Farmers Association	0	4,327
B	Provinces	175,171	238,251

PART V
ANALYSIS AND ACTION PLAN

5.1. Gaps analysis of existing national OSH systems and recommendations of Action Points

5.1.1. Gaps analysis of existing national OSH systems:

According to OSH Law, the state OSH management agencies include the Ministry of Labour, Invalid & Social Affairs (MOLISA), the Ministry of Health (MOH), Ministries and ministerial-level agencies and the People Committee at different levels (Figure 5.1)

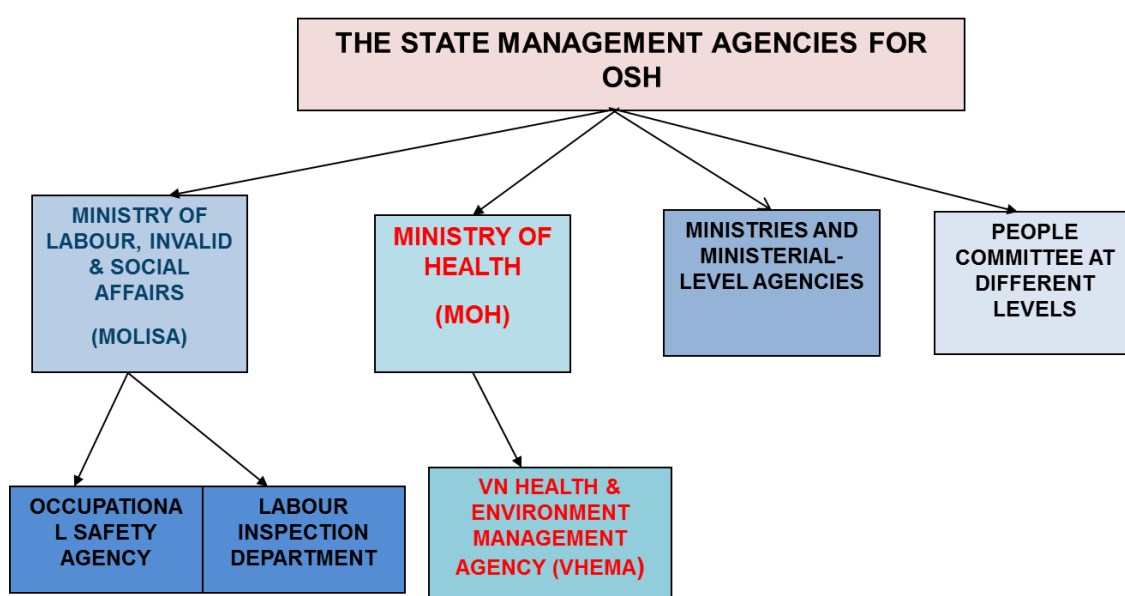


Figure 5.1: State management agencies on OSH at the central level

In addition, there are different agencies and organizations related to OSH, such as the Trade Union (Vietnam General Confederation of Labour: VGCL), the Vietnam Farmers ‘Association, Vietnam Chamber of Commerce and Industry (VCCI), Vietnam Cooperative Union, etc. in addition, National Occupational Safety and Health Council, provincial-level Occupational Safety and Health Councils and different Professional social organizations related to OSH participate actively in OSH. The state management responsibilities of these organizations for OSH are clearly regulated in OSH Law (see more details in Part 3)

The national OSH system is mainly divided into occupational safety (OS) and occupational health (OH) systems. MOLISA is responsible for OS while MOH is responsible for OH.

a/ **The MOLISA** is principally responsible for occupational safety. It has a network for management of occupational safety and reporting occupational accidents and technical incidents from central to enterprise level (See Figure 2). It also conducts OSH inspections (see more detail in Part 3). There are the following agencies under MOLISA

- The Department of Labor Safety is responsible for assisting the Minister in performing the function of state management in the field of occupational safety nationwide in accordance with the law.
- The Inspectorate of the MOLISA has the function of assisting the MOLISA in state management of inspection and performing the specialized inspection function of labor including OSH inspection.
- Institute of Labor Science and Social Affairs has the function of conducting basic researches and applied researches on environmental issues and working conditions to serve the State management of MOLISA; Consulting and participating in capacity building training in the field of occupational safety and health.
- Centers for Industry Safety Registration (CISR) are state accreditation agencies on safety techniques signed by MOLISA with the establishment decision. The Center's activities are implemented in three main areas: State inspection of equipment with strict requirements on occupational safety; safety engineering services, training and vocational training; propaganda and dissemination of knowledge about occupational safety.



Figure 5.2: The network of occupational safety

At provincial level, each province has Department of Labour, Invalid & Social Affairs (DOLISA) that includes Division of Employment & Occupational Safety and Labour Inspectorate. DOLISA has following tasks: Manage and guide the implementation of OS activities in the provinces and cities under its authority to comply with the OSH Law; Checking and inspecting the implementation of OS activities in the locality; synthesize reports to the Provincial People's Committee and the MOLISA on the situation of occupational accidents in the locality; investigating occupational accidents under its authority; guide employers' organizations and individuals to declare, investigate, record, make statistics and report on occupational accidents.

At District level, there is a Division of Labour, Invalid & Social Affairs (DOLISA) with the task related to OS: Professional guidance on the labor field; Monitoring and checking organizations and individuals in the implementation of labor regulations.

There is no any organization responsible for OS at commune level.

At enterprise/production, business establishment, there are OS units or people responsible for OS depending the number of employees (see more detail in Part 3).

b/ **The Ministry of Health** is responsible for occupational hygiene and occupational health. It offers basic occupational health services for the workers through its network from central level to enterprise level. This network also reports occupational health activities in general and occupational diseases in particular.

At the central level, Vietnam Health and Environment Management Agency (VHEMA) has a function of advising and assisting the Minister of Health in implementing state management and law enforcement in the fields of occupational and environmental health. In addition, there are 5 Institutions of the Preventive Medicine system under management of MOH and with functions of research, training and education on occupational health, provision of basic OH services, directing the line, organizing and directing the implementation of national and international programs on occupational health including the Institute of Occupational and Environmental Health, the Institute of Public Health in Ho Chi Minh City, Tay Nguyen Institute of Hygiene and Epidemiology, Nha Trang Pasteur Institute and Institute of Marine Medicine. Furthermore, universities of medical and pharmacy over the country are involved in training on OSH and some OH services (see more detail in Part 3 & 4)

At industrial Sectors/Ministry level: at 13 industrial Sectors/Ministries (e.g. Ministry of Trade and Industry, Ministry of Agriculture and Rural Development, Ministry of Construction,

Ministry of Transportation, Ministry of Security, Ministry of Defense, Rail Way, Aviation, Coal Mine and Mineral, Textile, Rubber, Petroleum, Post and Telecommunications sectors), previously there were Health/Occupational Health Centers, but now most of them have changed to industrial hospitals such as construction , garment & textile, Agriculture and Rural Development, Post hospitals, etc. They have Department of Occupational Health with functions of managing employees' health, providing basic OH services (working environment monitoring, health checkup, OD examination, OSH and first aid training, reporting occupational accidents and diseases, etc.) within their industrial sectors and reporting OH activities to MOH and related ministries. Five of them are capable to do working environment monitoring and 4 of them have occupational disease clinics.

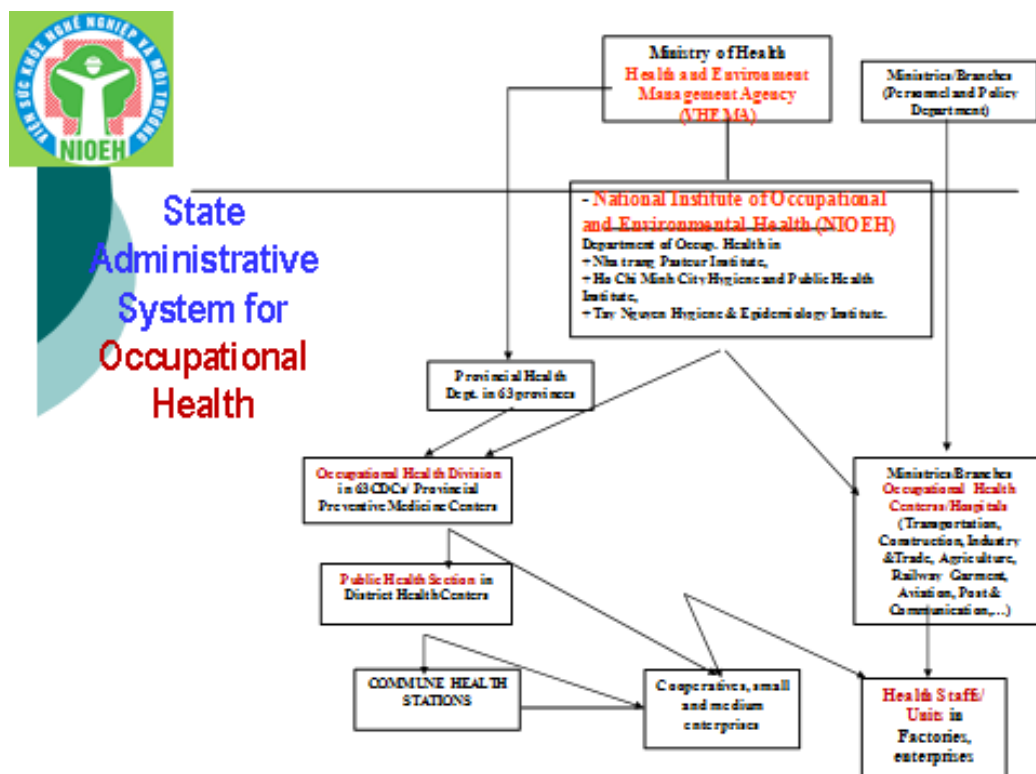


Figure 5.3: The network of occupational health

At Provincial level: The Department of Health (DOH) is responsible for management of OH activities within the province. Under DOH, there is Provincial /city Preventive Medicine Centers (PPMCs) that is a technical organization implementing OH activities. Before implementation of CDC model, throughout the country, there were 55 Provincial /city Preventive Medicine Centers (PPMCs) and eight province/city Centers for Protection of Workers' health and Environment (CPWHEs) where industries have developed fast, such as Hanoi, Vinh Phuc, Bac Ninh, Dong Nai, Binh Duong, Ho Chi Minh City, Can Tho and Kien

Giang. But, now MOH implement CDC model, there are no more PPMCs and CPWHEs (see more detail in the Part 2). At provincial/city level, there are CDCs that have Department of Occupational Health with the functions of managing employees' health, providing basic OH services (working environment monitoring, health checkup, OD examination, OSH and first aid training, reporting occupational accidents and diseases, etc.) within their provinces/city and reporting OH activities to MOH and Department of Health. 61 provincial CDCs are capable to do working environment monitoring and 28 provincial CDCs have licenses to examine occupational diseases

At District level, there are District Health Centers, in which the Section of public health is responsible for OH activities (e.g. working environment monitoring, health checkup, OSH and first aid training, reporting occupational accidents and diseases, etc.). 11 District/Town Health Centers are capable to do working environment monitoring and no ones have licences to examine occupational diseases

Commune/ward level: The Commune/Ward Health Station has duties and functions of primary health care for people, agricultural, household business, and informal sector workers.

Enterprise level: According the current regulations, depending on the number of workers there is medical staff or Medical Unit/Station implementing primary health care activities and provides health care, first aid for employees at enterprise (see more detail in Part 3).

c/ People Committee at provincial, district and commune levels are involved in management and implementation of OSH activities, inspecting and handling violations of OSH law, etc. in the localities. In addition, they send annual reports on OSH activities in the localities to the People's Councils and annually arrange resources for OSH communication, dissemination and education.

d/ The trade union (Vietnam General Confederation of Labour: VGCL) participates actively in OSH activities. It also has a network from central to grassroots levels. Currently, there are 63 Confederation of Labor of provinces and cities, 20 Trade unions of central branches, Trade Unions of the Corporation under the General Confederation all have a Legal Policy Committee and staff working in OSH. It acts as the representative of workers to protect the workers' health. Their activities include organizing educational seminars, trainings on OSH issues and investigating occupational disease or an occupational accident when they are reported, etc.

e/ **The Vietnam Chamber of Commerce and Industry (VCCI)** plays an important role on behalf of the business community (private, public and foreign companies) . **The Vietnam Union of Cooperatives (VCA)** is another employer organization that includes 17,000 cooperative members and small businesses nationwide. They involved in OSH activities with propagating, communication, training and consulting to improve OSH awareness and knowledge of employers and employees, focusing on SMEs & SSEs, informal sectors

f/ **The Vietnam Farmers Association** plays an important role on behalf of farmers. Similar to VCCI and VCA, they involved in OSH activities with propagating, communication, training and consulting to improve OSH awareness and knowledge of farmers. They also participate in investigating occupational accidents involving farmers, in the inspection, examination and supervision of the implementation of OSH regimes, policies and laws concerning the rights and obligations of farmers, etc.

g/ **National Occupational Safety and Health Council, provincial-level Occupational Safety and Health Councils and different Professional social organizations related to OSH participate in OSH activities too.**

The organizational system as well as the assignment and decentralization of the state management of OSH is very clear and more specific for the assignment and decentralization of the rights, duties and responsibilities of ministries and branches as stipulated in the OSH Law. Clearly separating the role of the MOLISA which is accountable to the Government for unified state management of OSH and responsible for occupational safety, the Ministry of Health is responsible for state management in terms of occupational hygiene, occupational health and occupational disease; clearly assigning responsibilities of ministries and branches in development, announcing national standards and regulations on occupational safety and health and in state management of machinery, equipment, materials and substances with strict requirements on OSH; additional responsibilities of the People's Committees at all levels from province, district to commune. The Council for occupational safety and health is organized by 3 levels: National, provincial and grassroots level. Regarding the organizational structure of OSH inspectorate, it is stipulating that the Inspector on OSH is the specialized inspection under the agency implementing the state management of labor at the central and provincial level.

Mechanism of socialization in the field of occupational safety and health has been promoted strongly at this stage in the content of training of occupational safety and health, testing of occupational safety and working environment monitoring. Thus, the state management system on occupational safety and health has been consolidated from ministries, central branches to commune level. At this stage, the participation in OSH activities on the basis of functions and tasks of the VGCL, employer representatives, e.g. VCCI, VCA, Vietnam Farmers Association, non-governmental organizations and professional organizations are more proactive, especially in building and reviewing draft policies, legislation on OSH, national OSH programs, communication, propaganda, mobilizing, training and investigation of occupational accidents and diseases.

However, the Vietnamese OSH administrative system is too fragmented, and each fragment has its own power structure, managerial efficiency is always questioned. In addition, as OSH management at the same time is by areas (e.g. MOLISA responsible for OS and MOH responsible for OH), by ministries (e.g. each industrial ministry/sector responsible for OSH within this ministry/sector) and by geography (by province), so some OSH activities are overlapping. Because information is rarely shared, quite often several ministries are doing the same thing at the same time. The lack of coordination among different departments is the most important weakness of the Vietnamese OSH administration system.

Although the OSH Law is comprehensive, covered all types of enterprises and every employees (with both contract and without contract, state and private sectors, formal and informal sectors) and the OSH administrative system is quite complete from central to grassroots levels, OSH activities in informal sectors, MSEs and SSEs, household business, etc. are not well implemented, employees do not access adequate basic occupational health services, working conditions are bad causing occupational accidents and diseases, etc. The reason is the State management organization system in general is still very lacking and weak, the inadequacies between the functions and tasks and the organizational structure, payroll and staff qualifications. For the OS system, the organizations responsible for OS are at from central to district levels, no ones at commune level. In addition, OSH inspection exist only at central and provincial level. For OH system, although it covers from central to grassroots levels, but the capacity of district and commune levels in providing basic OH services is weak.

Regards the OSH organizational structure, the state OSH inspectorate at recent years has not been stable: The inspection staff is both lacking in quantity and weak in quality; The Inspector on OSH is a part of the general inspection, so there are still many shortcomings and

limitations; personnel for OSH inspection, the labor inspection force with technical expertise to carry out inspection and examination on OSH are less and less, some provinces do not have; The structure of OSH inspection in particular and labour inspection in general just concentrate at the national and provincial level. So, the force doing the OSH inspection is too thin. This leads to an overload when organizing the OSH inspection. Both central and local authorities focus on inspecting OSH but only inspect no more than 2% of enterprises annually.

The current management agency for technical inspection of occupational safety has not brought into play the technical capacity and professional capacity of technical experts. The inspection service market has been formed according to the state socialization policy but has not yet had adequate management guidelines, causing unfair competition and poor quality of inspection services causing irritation in public opinion.

The management of the working environment and the health of the employees at the production establishments is still very limited, the number of working places and employees under management accounts for a very low rate due to limited number of occupational hygienists and occupational disease doctors. The health sector is also facing difficulties in training qualified staff to detect and treat occupational diseases. Some provinces and cities have also set up occupational diseases clinics, but the implementation is ineffective due to the lack of doctors, equipment and laboratories. Most of the medical and nursing facilities for occupational rehabilitation lack materials, equipment and professional staff. In addition, there is not clear assignment of responsibilities in the management of the working environment and health care for employees in different levels. As a result, the informal sector is still gap in OSH implementation. Furthermore, some last years, the organizational structure of OH network at provincial and district levels is changing a lot. At provincial level, the CDC model has been implemented while at district level, the preventive medicine center model has been reestablished that can cause rotation and transfer of OH personnel and uneven professional qualifications.

The state management responsibilities of the People's Committees at all levels for OSH are clearly indicated in OSH Law. However, the compliance with the Law on OSH on the responsibilities of the People's Committees at all levels is also very limited. They do not allocate enough local budget for supporting OSH activities. In addition, the responsibilities in reporting to the People's Councils of the same level on OSH activities is still limited and has not been strictly implemented in many localities.

The work of statistics and reporting is still the weakest step in the implementation of OSH policies and laws, the reason comes from the fact that there are still many state management agencies, especially at the commune level and enterprises, especially in MSEs & SSEs have not fully performed the statutory duties; the application of information technology to improve quality and compliance in the observance of the reporting and statistics regime remains limited.

5.1.2. Recommendations of action points for national OSH systems

- Strengthening coordination among different ministries, levels and organizations related to OSH in OSH management and implementation
- Building capacities for OSH management and implementation at all levels, especially for district and commune levels
- Building capacity for OSH inspection in terms of personnel, capacity and methodology
- Assignment clearly responsibilities of OSH management and implementation in informal sector to which state OSH management agency
- Promoting the role of local authorities in support of OSH management and implementation
- Improvement of reporting system of occupational accidents and occupational diseases

5.1.3. Support needs assessment of national OSH systems from Japanese government

- Sharing experiences on national OSH system in Japan
- Support need assessment on weakness, strength and effectiveness of national OSH system from Japanese government

5.2. Gaps analysis of current OSH Management at workplaces and recommendations of Action Points

5.2.1. Gaps analysis of current OSH management at workplaces

The Legal Requirements for activities for OSH management at workplaces are described in details in the Part 3, Item 3.8. There are a lot of activities that should be done at workplaces for OSH management according to the OSH Law 2015 and other related legislative documents, including establishing OSH Council, OS and medical units/divisions and OSH workers' network; making OSH plans, conducting risk assessments and Working Environment Monitoring, availability of hygiene and sanitary facilities at workplace; developing emergency response plans, organizing the rescue/first aid teams, self-examining/checking, making statistics and reports on OSH activities and occupational accidents, occupational diseases; OSH

trainings; PPEs provision; health care activities (e.g. pre-employment and periodic health checks, Employment placement Health Examination, OD regular and periodic examination/detection, handling technical incidents and first aid, Medical assessment/expertise for cases of ODs and OIs, Convalescence and health rehabilitation after medical treatment of injuries and diseases); Management of machinery, equipment, supplies and Substances subject to strict requirements for OSH, etc. Some activities should be done by enterprises themselves (e.g. establishing OSH Council, OS and medical units/divisions and OSH workers' network; making OSH plans, conducting risk assessments, PPEs provision, etc.) while others are done in collaboration with the professional organizations (OD regular and periodic examination/detection, handling technical incidents and first aid, Medical assessment/expertise for cases of ODs and OIs, OSH trainings, Management of machinery, equipment, supplies and Substances subject to strict requirements for OSH, etc.)

Since OSH Law effective, OSH activities have been paid more special attention. However, our economy is thriving, apart from state-owned enterprises, we have a lot of workers in foreign invested enterprises, private enterprises and even households and cooperatives ...Each year, about two million new employees enter the labor market, nearly 100 thousand new enterprises are born, with many new technologies and equipment, leading to new difficulties in OSH management at workplaces.

As it is estimated that currently the country has about 800,000 enterprises, production and business establishments, of which more than 95% are small and medium enterprises and 2.3 million households do business. In general, the large enterprises do well OSH management at workplaces while in MSEs & SSEs, households and cooperatives, OSH activities are very limited. There is a gap in knowledge and attitudes about OSH in the informal sector where there is no labor relation. According to the general habits of Vietnamese SMEs, only when risks occur, they will find ways to deal with and solve them without the habit of proactive prevention in the beginning (active prevention). A safe working environment is one of the factors that help businesses maintain stability and success in their production and business activities. However, the majority of SMEs in Vietnam have not paid attention to this issue. It is possible that the employer's awareness is still limited, does not pay attention to the rights of employees, not study labor laws and regulations on OSH activities, but only to deal with inspection. On the other hand, today's businesses are also facing many difficulties (in terms of capital, technology, sales, wages, taxes ...). Some businesses only pay attention to what is needed immediately for production and business, but have not paid attention to what may happen in the future, so they have used

technology and equipment, using labor without contracts, untrained, seasonal workers ... to reduce costs. Employees move from agricultural to industrial sectors with low educational level, not familiar with industrial manners, and due to lack of training in occupational safety and health, they do not fully understand the dangers that need to take precautions when working with production. The results of analysis of the causes of occupational accidents from local reports showed that 43% of the accidents happened due to violation of technical standards and regulations on occupational safety.

Investment in OSH is very limited compared to the requirements. Local authorities have not spent much budget to support OSH activities. Enterprises, the majority of small businesses and private enterprises invest very little in OSH, in terms of personnel, training and equipment. So, occupational accidents happen quite a lot, especially in the non-labor relations area, especially in the construction field or in the mining sector, in stone mining.

Regards the working environment monitoring (WEM), according to OSH Law every enterprise should do WEM at least 1 time per year. The annual OH reports from 2015-2019 by VHEMA, MOH showed that the estimated rate of enterprises organized WEM was less than 10% among the total number of enterprises under management (see Table 4.9). Take an example of 2016. According to the Labor Force Survey Report of the General Statistics Office in 2016, out of 53.3 million employed people nationwide, only 12.8 million have a labor contract (accounting for 24%). By the end of 2016, the health sector was able to manage the occupational health information of 71,082 labor establishments with more than 4 million workers (accounting for 31.2% of the total number of employees in the working sector with contract). The number of establishments with dangerous and hazardous factors was 28,747 (40.4%) with 798,926 employees directly exposed to harmful and dangerous factors out of a total of more than 2 million people working in these facilities. The most worrying thing is that out of 7,242 establishments owning over 200 employees, there are 1,419,434 employees working in 1,676 establishments with harmful and dangerous factors; of which 506,624 people were directly exposed to harmful and dangerous factors (235,959 are female). Among 71,082 labor establishments, 6,293 establishments organized WEM (accounted 8.8%). As mentioned in the Part 4, there are 177 organizations announced by VHEMA, MOH over the country that are capable for taking WEM, in which in the OH network, there are 5 preventive medicine institutions, 61 provincial CDCs among 63 provinces and 5 Health Centers of Industrial Branches/Sectors among 13 ones while there are only 11 District/Town Health Centers. The remain organizations are Centers for

environment monitoring belonging to Ministry/Provincial Department of Natural Resources and Environment and private organizations.

For periodic health checkup, the rate of employees getting periodic health examination each year among total employees was also very low. In 2016, according to the annual report by VHEMA, 1,538,056 employees were examined periodically their health over the country, accounted for 12% among employees with work contract (12.8 millions) and 2.9% among total number of employees over the country (53.3 millions). The organizations that are involved in health checkup are organizations in OH network (e.g. preventive medicine institutions, 63 CDCs and 13 Health Centers/hospitals of Industrial Branches/Sectors and District/Town Health Centers), state general hospitals and clinics and private ones.

For occupational disease examination, Table 4.9 indicates that the estimated rate of employees involved in occupational disease detection from 2015-2019 in average is 7.9%. This rate is calculated among employees doing to hazardous and harmful jobs/occupations (estimated 3 million employees). If it is calculated among total number of employees (for example 53.3 million in 2016), the rate would be very small. There are 65 organizations having licenses to examine and treat occupational diseases announced by MOH in 2020, in which there 3 preventive medicine institutions, 28 provincial CDCs among 63 provinces and 4 Health Centers of Industrial Branches/Sectors among 13 ones (accounted for 53.3% of the total). The rests are General hospitals and private clinics.

It is similar situation of occupational accidents. Each year, about two million new employees enter the labor market, nearly 100 thousand new enterprises are born, with many new technologies and equipment. Because if calculated according to the percentage of people suffering from occupational accidents per 100 thousand people, the number of employees usually increases, the frequency of occupational accidents also increases each year. However, according to the annual report, every year there is about 900 people die from occupational accidents. However, the actual number of industrial accidents is much larger. Table 4.9 shows that the estimated rate of enterprises reporting occupational injury is 6.8%. Because, the number of executing enterprises reporting the occupational accident situation is not strict and incomplete, so the synthesis and assessment of the occupational accident situation in Vietnam still faces many difficulties, inaccuracies, not yet properly assess the actual occupational accident situation. One of the reasons for the low reporting rate of occupational accidents is that the occupational accident reporting system still has shortcomings and difficulties in implementing. Besides, the

force doing the OSH inspection is also too thin. Currently there are about 400 labor inspectors nationwide, of which the number of OSH inspectors does not exceed 100 people, both central and local levels. This leads to an overload when organizing the inspection, because at this time there are more than seven hundred thousand enterprises, not to mention the non-labor relations area. Both central and local authorities focus on inspecting OSH but only inspect no more than 2% of enterprises annually.

Regards, OSH training, up to now, according to MOLISA, there are more than 400 OSH training service organizations that contribute significantly to the transmission of OSH information and knowledge. The number of people receiving OSH information and training has increased every year thanks to the socialization of training activities. In the 2011-2015 period, each year, about 500,000 to 1.1 million people were propagated, disseminated and trained; In the 2016-2018 period, the number of trainees trained by OSH training organizations is about 1.2 to 2.1 million people. In addition, in 2018, businesses and organizations also organized training for about 5 million people. So, it is estimated 5 million people are trained per year while the training subjects in accordance with the OSH Law are extended to the area without labor relations with over 35 million people, bringing the total number of employees to be trained to about 55 million people. Comparing with the current training capacity of about 5 million people / year requires more socialization, attracting social resources for training.

Nowadays, there is a huge number of young employees working in agriculture and craft villages in Vietnam. According to statistics, each year Vietnam has about 1 million young workers entering the labor market. They are the future owners of the country, but are facing labor unsafety challenges such as working conditions, lack of skills and knowledge, and a lack of voice on OSH issues. Recent research by the International Labor Organization (ILO) on the status of knowledge, attitudes and behaviors on occupational safety and health of young workers in the agricultural sector and craft villages in some provinces and cities in Vietnam showed that the majority of young workers usually works 40 hours / week and faces many OSH risks. The majority of them are not trained in occupational safety and health. They tend to comply not well with OSH regulations; in particular do not take steps to ensure occupational safety and care about safety procedures at work. As a result, recent studies show that young workers aged 15-24 have rates of occupational injuries and diseases 40% higher than that of older workers. To ensure OSH and ensure a sustainable future for young workers, it is necessary to have policies to ensure OSH for them. In the immediate future, it is necessary to introduce soon OSH knowledge to teaching in high schools and vocational schools

5.2.2. Recommendations of action points for OSH management at workplaces:

- Strengthening information, propaganda and training on OSH for employees and employers, especially in informal sector and young workers by social organizations and local authorities in order to raise the responsibility of employers and employees in the implementation of OSH activities.
- Strengthening socialization of information, propaganda and training on OSH
- Development of specific legislative documents on guideline of implementation of OSH activities, especially health care for workers in informal sector
- Introduction of OSH knowledge to teaching in high schools and vocational schools
- Building capacity in WEM and OD examination for OH organizations at provincial and district levels

5.2.3. Support needs assessment of OSH management at workplaces from Japanese government

- Sharing experiences from Japan how OSH management at workplaces, especially in informal sector and young workers
- Sharing Japanese legislative documents/legal requirements for OSH management at workplaces
- Support to develop legislative documents or specific project on strengthening OSH management at workplaces in informal sector
- Support need assessment of OSH management at workplaces in order to find the measures of improving OSH management at workplaces

5.3. Gaps analysis of existing Professional Education for Personnel engaged in the area of OSH and Recommendations of Action Points

5.3.1. Gaps analysis of existing professional education for personnel engaged in the area of OSH

The personnel engaged in the area of OSH can be divided into two groups: occupational safety and occupational health.

a/ Occupational safety personnel (OS personnel):

As mentioned in the Part 3, regards professional education on occupational safety, there are two universities (Trade Union University in the North of Vietnam and Ton Duc Thang University in the South of Vietnam) that train Master and bachelor of labor protection/occupational safety. The training program related to labor protection/occupational safety for bachelor covers mostly the topics of occupational safety and environment

engineering. For Master training, they train OSH management and occupational safety officers. In addition, the Center for Occupational Safety and Environmental Technology (COSENT) under Ton Duc Thang University also organized short-term training courses on Business Safety, Health, Safety and Environment (HSE) with Training time is 8 months. The course content includes specialized subjects related to occupational safety and health and the environment, helping students to understand the basics of relevant issues.

(Source: The National OSH Profile 2010-2015 by MOLISA, 2016)

In addition, for the college and intermediate level OS personnel, some Technology Colleges, Department of Labour Protection and Environment train 2.5 years for college and 1.5 years for intermediate levels. The training program covers mostly occupational safety and environment engineering, e.g. electricity, machines, chemicals, radiation, lifting equipment and construction safety, waste water and solid waste treatment, air pollution engineering and about 10% of total training time for occupational hygiene, work organization, ergonomics and first aid practice.

The number of trained labour protection/occupational safety engineers by two universities does not meet the actual demands of enterprises, especially during industrialization and modernization in Vietnam many foreign investment companies, industrial zones and parks have been established and the requirements of OS personnel are very big. There is no data on training the college and intermediate level OS personnel. In fact, the shortage of OS personnel working at enterprises is very serious as according to the OSH Law 2015, each enterprise with 300 or more employees must arrange at least one full-time OS officer. For specific enterprises, in production there are many dangerous factors, from 50 employees or more must also arrange a person to be in charge of OS. Enterprises with 1,000 or more employees must set up OS division. Currently the country has about 800,000 enterprises, production and business establishments, of which more than 95% are small and medium enterprises and 2.3 million households do business. Approximately, there are 5% of large enterprises equivalent 40,000 enterprises. If each enterprise has only one OS officer, so the total number of OS would be 40,000. It is assumed that each year 2 universities (University of Trade Union and Ton Duc Thang University) provide 200 graduates of labour protection Bachelors/OS engineers. From 1992 up to now, there would be about 5,600 trained OS engineers. So, the training capacity of two universities would increase 7 times to meet the actual demands.

To deal with the shortage of OS personnel, the environment engineers can also work as OS officers if they can attend the 8 months short course on HSE organized by the Center for

Occupational Safety and Environmental Technology (COSENT) under Ton Duc Thang University as mentioned above.

b/ Occupational health personnel (OH personnel)

The OH personnel engaged in the area of OSH have different backgrounds, multi-disciplinary backgrounds that include medical doctors (MDs) (e.g. general, specialized MDs; MDs of Epidemiology and Preventive Medicine); doctor assistants; nurses; pharmacists; engineers (e.g. environment engineers, engineers of labor protection/occupational safety, chemical, physical engineers, etc.); bachelor/MPH/PhD. of public health, biologists, psychologist, bio-chemists, hematologist, multi-discipline technicians, etc.

In the Part 3, there is a list of all training institutions with graduate and post-graduate training programs for OSH personnel in general and OH personnel in particular.

*** Medical Doctors specialized in occupational disease**

As mentioned in Part 3 too, there is no any university of medicine and pharmacy that train physicians/doctors specialized in occupational health. To become occupational health physicians/ doctors, it should be fulfilled the followings conditions:

- Being medical doctors (general, specialized MDs, MDs of Epidemiology)
- Working experience at least 3 years in clinics
- Having certificate of occupational disease (see Item 3.7.1 for more details of training program: attending the training course on occupational disease for 3 months in the National Institute of Occupational Health or 9 months in Institute of Preventive Medicine training and Public Health of Hanoi Medical University. However, from 2020, there is no more the 9 months course)

For training PhD. in occupational health, the training institutions are the National Institute of Occupational Health (NIOEH), the National Institute of Epidemiology and Hygiene (before 2015), Army Academics (before 2015). Subjects for PhD. training are with background of general and specialized MDs, except MD specialized in preventive medicine, MSc. in preventive medicine, Specialized MD degree I and II. There is no number of trained PhD in OH over the country. In NIOEH, three PhDs in OH have just got diploma.

There is no updated data on OH personnel nationwide. According to the annual OH report by VHEMA, MOH, in 2015, total number of OH staffs over the country was 1,796 people. These data were collected from 55 Provincial/City Centers of Preventive Medicine, 8 Centers for Protection of workers' Health and Environment and 13 Health/Occupational Health Centers at Industrial Branches/sectors. There were 285 medical doctors involved in OH activities, e.g.

working environment monitoring, health care for workers, periodic health examination, OD detection and diagnosis, etc. So, in average there were 4 medical doctors per center working in OH area. The number of centers with more than 5 doctors was mainly concentrated in provinces with developed industries such as Hanoi, Ho Chi Minh City, Vinh Phuc, Dong Nai, Quang Ninh, Bac Ninh, etc. Many provinces had only a few doctors, even some provinces do not have any doctors in charge of occupational health. Meanwhile, work-related diseases evolved silently, so early detection depends a lot on the qualifications of doctors and the results of working environment monitoring, periodic health checkup, and occupational disease examination. In addition, in 2015, there were 50 occupational disease clinics established at 55 Provincial/city Preventive Medicine Centers, 8 Centers for Protection of workers' Health and Environment and 8 Health/Occupational Health Centers at Industrial Branches. It means that not every province has occupational disease clinic where can do OD detection, diagnosis and examination. In Nov. 2020, VHEMA of MOH announces the list of 65 organizations having licenses to examine and treat occupational diseases, in which there 28 provincial CDCs among 63 provinces and 4 Health Centers of Industrial Branches/Sectors among 13 ones. The estimated rate of employees involved in occupational disease detection in 2019 was only 8.1% (see Part 4, Item 4.2.2.1). So, it needs more MDs specialized in occupational disease while the number of training institutions in this area is very limited.

The Part 3, item 3.9.3 analyzed the shortage situation of medical staffs working in preventive medicine facilities at different levels including OH staffs. Analysis of the need to increase human resources by level shows that for the central level is 1,018 (accounting for about 4.3%), at the provincial level 5,340 (accounting for 22.4%) and at the district level 17,508 (accounting for 73.5%). Analyzing according to the structure of the training area and the training level, it can be seen that the demand for medical and pharmaceutical staff is about 77.6%, for the other backgrounds about 22.4%. More specifically: The need for medical doctors / preventive medicine is about 33.8%; for public health bachelor about 16.7%; for bachelor's medical testing about 5.3%; about 4.8% for intermediate technicians, about 5.9% for midwives, 4.6% for university pharmacists, 3.8% for intermediate pharmacists; While human resources at medical secondary level have the demand to decrease at rates appropriate to each facility, especially for units at the provincial level. For other backgrounds, including staff of biotechnology, environmental technology, analytical chemistry, bachelor of economics, information technology, sociology ... the number of human resources is about 5300 people, accounting for 22.5% of the total number of on-demand deprivation, of which the highest concentration is in university

graduates, accounting for 57% of the total number of additional needs in this group. So, the OH personnel is lack both in quantity and quality

Regards training MDs specialized in preventive medicine, it can solve the shortage of MDs at different levels as analyzed above. According to Table 2. 13. Health professions graduates in university 2013-2018 in Part 2, each year, from 2013-2018 in average about more than 3000 MDs specialized in preventive medicine were graduated from university of medicine. These preventive medicine doctors can work in preventive medicine system, e.g. preventive medicine Institutions, Provincial/city Preventive Medicine Centers (now changed to Centers for Disease Control, CDCs), Centers for Occupational Health and Environmental Protection and Health centers/Occupational Health Centers at Industrial Branches. However, preventive medicine MDs cannot be involved in health examination and treatment in general according to the Law of Medical Examination and Treatment. In Oh area, they cannot be involved in health check-up and OD detection and diagnosis in special. So, they cannot become MDs specialized in ODs, just can provide another OH services, e.g. working environment monitoring, etc. As a results, it need to develop a special curriculum for training MDs specialized in OD in university of medicine like in other countries, such as Japan, US. and European countries, etc. to deal with the shortage of these personnel.

*** *Occupational Hygienists:***

For occupational hygienists, there is no any university that trains this specialization. If any OSH personnel want to be involved in the working environment monitoring, they need to attend the 1 month course of working environment monitoring (see Item 3.7.1 for more details of training program). The training institutions that are certified by MOH, are 3 Institutions of the preventive medicine system (the National Institute of Occupational and Environmental Health (NIOEH), the Institute of Public Health (Ho Chi Minh City), the Nha Trang Pasteur Institute.

There is no data of the number of occupational hygienists or OH personnel involved in working environment monitoring (WEM) nationwide. But, there are 159 organizations capable doing working environment monitoring over the country according to the announcement of VHEMA. And these organizations just do WEM in less than 10% among total number of enterprises in Vietnam while currently the country has about 800,000 enterprises, production and business establishments, of which more than 95% are small and medium enterprises and 2.3 million households do business. The enterprises that are monitored working environment are mostly the large scale enterprises. So, to meet the demands of doing WEM covering in all enterprises as regulated in OSH Law, it need a huge number of trained occupational hygienists

while the number of training institution is limited. It would be better if the universities, schools and colleges that train engineers/bachelor/master/Ph.D. in the environment, environmental technology, monitoring, and testing, etc. can be involved in training occupational hygienists.

*** Occupational health staffs working at enterprises**

For health staffs working in the health unit/center at enterprise, they need to attend the certificate training course on occupational health (see more details in the Item 3.7.1). The training institutions are certified by MOLISA according to the requirements of training these personnel as stipulated in Gov. Decree No 140/2018/ND-CP dated 8 Oct. 2018 on amendment of some articles of OSH Law related to OSH training.

There is no nationwide data on the number of medical staffs working at enterprises. According the annual OH report by VHEMA 2016 from 57 /63 provinces over the country, the total number of enterprises under their management was 71,082, in which the number of enterprises with more than 200 employees was 7,242 (accounted for 10.2%), enterprises with from 51-200 employees was 8,715 (12.3%) and the enterprises with less than 50 employees was 55,125 (77.5%). Among these enterprises, there were 8,291 enterprises (accounted 11.7%) having medical staffs, in which 3,815 enterprises had health centers (5.4%), 33 had hospitals (0.05%), 145 had clinics (0.2%), 2,478 enterprises had contracts with other health care facilities (3.5%) and the rest of 1,746 ones had medical staffs/units (2.4%). Number of medical staffs working in 8,291 enterprises was 11,223, in which medical doctors were 1,347 (12%), MDs specialized in preventive medicine were 203 (1.8%), university nurses: 680 (6%), doctor assistants: 4,975 (44.3%), college nurses: 2,371 (21.1%) and midwives: 724 (6.4%).

Most of enterprises that have medical staffs working in, are the large state and foreign investment companies that can hire medical doctors, assistant doctors, nurses, etc. because they can pay high salary while in private and medium size enterprises cannot. There is no problem for these personnel to get the certificate of training on occupational health. However, there is limited number of training institutions. According to the data of the certificate training course on occupational health for medical staffs at enterprises organized by NIOEH from 2017 to 2019, total number of medical staffs certificated in OH was 1,172 (Table 4.17). In addition, in the Part 2, the Table 2.10 showed in 2013, the number of health employees working in all health facilities was 382,348, in which medical doctors were 16% (more than 61,000 MDs) and health employees working in other facilities (assumed health units/stations at enterprises) was 5,012 (accounted 1.3% in total). While table 2.13 showed the number of Health professions graduates in university in 2013 was 70,477, in which medical doctors were 37,114.

Currently the country has about 800,000 enterprises, production and business establishments, of which more than 95% are small and medium enterprises and 2.3 million households do business. If it is estimated that 5% of enterprises are the large scale ones. It means that currently there are about 40,000 enterprises that should have medical staff. If each enterprise has only 1 medical staffs, it needs 40,000 medical staffs certificated in OH. As a result, it demands more number of training institutions in OH certificate as well as more medical students graduate from medical universities, schools and colleges.

****Other OH personnel working in the medical testing and environment analyzing laboratories***

For working environment monitoring, health checkup as well as OD detection, diagnosis, there are a number of OH personnel who work in the medical testing and environment analyzing laboratories. They have multidisciplinary background. For some basic knowledge and skills they are studying at the university/school/college while for the professional ones, they have to study during working or attending a short courses. There are no special requirements by regulation on such types of trainings

5.3.2. Recommendations of action points for personnel engaged in the area of OSH

a/ Occupational safety personnel (OS personnel):

- Continuing to develop and complete textbooks on OSH or OSH components to be taught in the system of universities, colleges, professional secondary schools and vocational training.
- Expanding training this specialty to other universities and colleges related to environment technology and sciences
- Increasing number of graduate and postgraduate students in OS or HSE to meet the actual demands
- Modification of existing training program on OS so that to fit in HSE international training
- Development of HSE short course training program for OSH personnel or open the training code of HSE in universities and colleges

b/ Occupational health personnel (OH personnel)

**In the long term:*

- It needs to develop a training program/curriculum on occupational medicine in medical university/school/college and to open the training code of occupational medicine doctor, occupational physicians, occupational nurses, etc.

- It needs to integrate the training program on occupational hygiene in the training program for environment engineering, environment technology and sciences, etc. or to open training code of occupational hygienist

*In the short term:

- Building capacity and expanding certificate trainings on working environment monitoring, occupational health and occupational diseases to other medical universities/schools/colleges and training institutions of preventive medicines
- Development of online courses

5.3.3. Support needs assessment of personnel engaged in the area of OSH from Japanese government

- Sharing experiences from Japan how to train OSH personnel
 - Support to develop or modify training curriculum and programs for OSH personnel
 - Sharing Japanese training programs and curriculum on occupational medicine, occupational hygiene, HSE, etc.
 - Support needs assessment of personnel engaged in the area of OSH from Japanese government.
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