

Assessment of occupational safety and health (OSH) in Lao PDR

Vanphanom Sychareun, MD, PhD

Souksamone Thongmyxay, MD, PhD Candidate,

Faculty of Public Health, University of Health Sciences, Lao PDR

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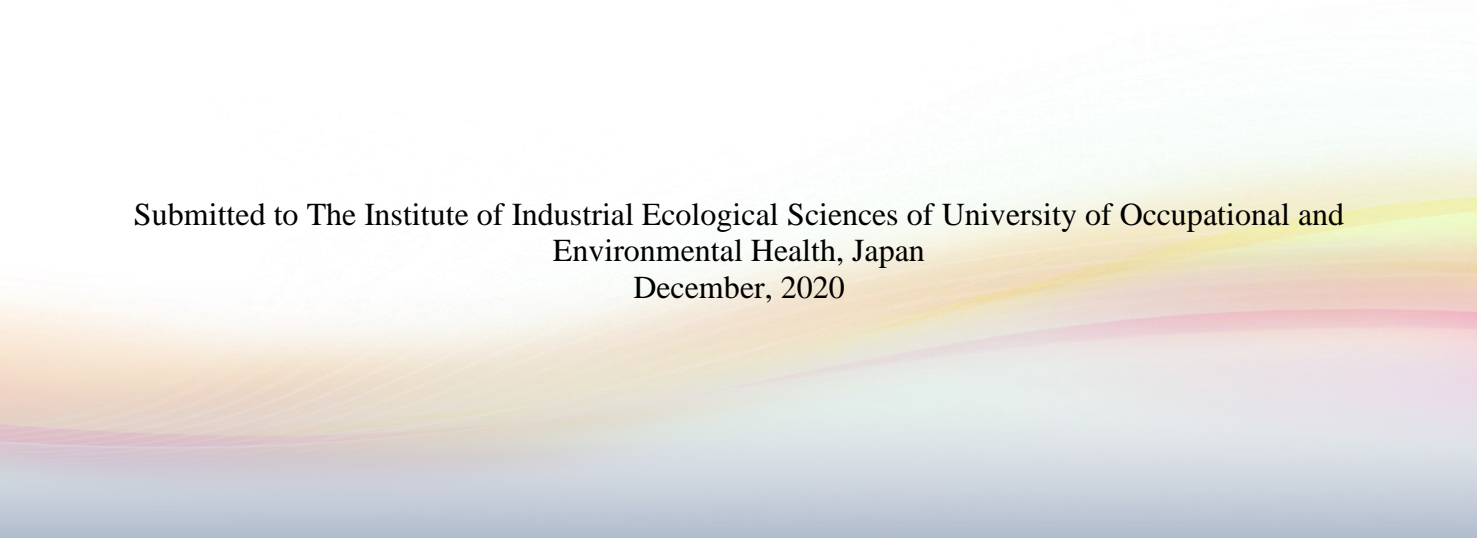


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Abbreviation

ACL	Action with Lao Children
ADRA	Adventist Development and Relief Agency
AIDS	Acquired immunodeficiency syndrome
ACM	Asbestos Containing Material
ANC	Antenatal care
ARD	Asbestos Related Diseases
ASGM	Artisanal and Small Scale Gold Mining
ASEAN	Association of Southeast Asian Nations
ART	Antiretroviral therapy
BBC	British Broadcasting Corporation
BCG	Bacillus Calmette–Guérin
BEmONC	Basic emergency obstetric and newborn care
BOHS	Basic Occupational Health Services
CBM	Christian Blind mission
CEmONC	Comprehensive Emergency Obstetric and Newborn Care
COPD	Chronic obstructive pulmonary disease
CMR	Center for Medical Rehabilitation
CT	Computerized tomography
DWCP	Decent Work Country Programme
GDP	Gross domestic product
COVID-19	Coronavirus Diseases 19
DHO	District Health Office
DHS	Demographic Health Survey
EPI	Expanded Programme on Immunization
ECG	Electrocardiogram
EKG	Electrocardiography
GIZ	Deutsche Gesellschaft für Technische Zusammenarbeit
GoL	Government of Laos
HBV	Hepatitis B virus
HCV	Hepatitis C virus
HPA	Health Poverty Action
HIV	Human immunodeficiency viruses
HRH	Human Resource for Health
ILO	International Labour Organization
JICA	Japan International Cooperation Agency
JETRO	Japan External Trade Organization
JOVC	Japan Overseas Cooperation Volunteers
IR	Industry Relations
Lao PDR	Lao People’s Democratic Republic
LaoTPHI	Lao Public Health and Tropical Medicine
LDCs	Least developed countries
LEC	Lao Evangelical Church
LFTU	Lao Federation of Trade Union
LPRP	The Lao People’s Revolutionary Party

LNCCI	Lao National Chamber of Commerce and Industry
LRI	Lower Respiratory Infection
LSW	Labor Social Welfare
MAF	Ministry of Agriculture and Forestry
MCH	Mother and Child Health
MCNV	Medical Committee Netherland-Vietnam
MD	Medical Doctor
MOH	Ministry of Health
MoLSW	Ministry of Labour and Social Welfare
MoIC	Ministry of Industry and Commerce
MOFA	Ministry of Foreign Affairs
MPS	Ministry of Planning Service
MR	Minimum Requirement
MSDS	Material Safety Data Sheets
NCDs	Non-communicable Diseases
NA	National Assembly
NAFRI	National Agriculture and Forestry Research Institute
NGOs	Non-Governmental Organization
NOSH	National Occupational Safety and Health Center
NSSF	National Social Security Fund
NSEDP	National Socio-Economic Development Plan
OBGYN	Obstetrics and Gynaecology
OPD	Outpatient Department
ODA	Official Development Assistance
OSAC	Overseas Security Advisory Council
OSHNET	Occupational Safety and Health Network
OSH	Occupational Safety and Health
PHC	Primary Health Care
PPP	Public Private
PPE	Personal Protective Equipment
RTI	Road Traffic Injuries
SBA	Skilled Birth Attendant
SDGs	Sustainable Development Goals
SEZs	Special Economic Zones
SMEs	Small- and medium-sized enterprises
SSO	Social Security Organization
SSF	Social Security Fund
TB	Tuberculosis
UHC	Universal Health Coverage
UOEH	University of Occupational and Environmental Health
UNESCAP	The United Nations Economic and Social Commission for Asia and the Pacific
UNICEF	The United Nations Children's Fund
UNESCO	The United Nations Educational, Scientific and Cultural Organization
US	United States

USAID	The United States Agency for International Development
UHS	University of Health Sciences
UXO	Unexploded ordnance
VZF	Vision Zero Fund
WFP	World Food Programme
WISE	Work Improvement for Small Enterprises
WISCON	Work Improvement in Small Construction
WHO	World Health Organization

Executive Summary

A national occupational health system profile is critical for policy-making and programme development at the national and international levels, and is included in the WHO Global Plan of Action on Workers' Health and the ILO Promotional Framework for Occupational Safety and Health Convention. This document provides an overall picture of the current status of governance for workers' health in Lao PDR, focusing on the national policy framework, priorities for action, objectives and targets, mechanisms for implementation, and promotion of workers' health. The objective of this paper is to assess of current situation of Occupational Health and Safety (OHS) in Lao Peoples Democratic Republic" ("Assessment") to identify the country needs in OHS area and further to provide support based on country needs and to conduct OSH legal gap analysis, and then successively develop the technical supports.

This study is a literature review with data validation and gap analysis undertaken through the following: literature search using various search engines such as Google Scholar, MEDLINE, PubMed and websites of the World Health Organization and International Labor Organization regarding global occupational health and safety frameworks. In addition, key informant interviews were conducted to fully understand the scope of the roles and responsibilities of the stakeholders involved in OSH including ILO, WHO, Department of Labour, MOLSW, Lao National Chamber of Commerce and Industry (LNCCI), Lao Federation of Trade Unions, Department of hygiene, MoH, National Social Security Fund (NSSF), NAFRI, Ministry of Industry and Commerce.

Basic country information

Lao PDR has a population of 7,304,508 of which 35.7% of the population is urban (2,600,131 people in 2020) and with 4 major ethnicities (Lao-Tai, Mone-Kmer, Chino-Tibetan and Hmong-Mien), The nation's population is the youngest in ASEAN, with 32% of the population aged 14 years or younger. The working population aged 15–64 years accounts for 64% of the total, with another 4% of the total population aged 65 years and older.

Lao PDR is moving to a middle-income status country. The country has experienced strong economic growth, and has reduced poverty. Economic growth averaged 7% in year 2016, and Laos' growth has been amongst the fastest in Asia, averaging nearly 8% per year for most of the last decade, although growth has declined over the past year. GDP composition in the agriculture sector was 27%, manufacturing (11%), power and mining (18%), construction and services (44%). The economy has benefited from high-profile foreign direct investment in hydropower dams along the Mekong River, copper and gold mining, logging, and construction, although some projects in these industries have drawn criticism for their environmental impacts. The Lao labour market is predominantly rural and agrarian, with farming and allied activities accounting for more than 66% of all employment and the manufacturing (7%), power and mining (1%), construction and services (26%).

Laos is exposed to natural hazards such as floods, typhoons, cyclones, drought, and earthquakes. and is vulnerable to recurrent, sudden-onset and slow onset natural disasters with flooding, storms and typhoons having a large effect on the population. The country remains highly vulnerable to agricultural shocks and natural disasters.

Health system and public health services

The healthcare system consists of 1) Public healthcare system (predominant); 2) Private healthcare system (attendance increase); 3) Joint public-private healthcare system (PPP).

Life expectancy is 67.9 in 2019. The total fertility rate reduced from 6.3 to 2.7 between 2011 to 2017 and significant have been made in child mortality, declining from 51 per 1000 live births in 2016 to 34 per 1000 live births in 2019 (MOH, 2020). The under 5 years old mortality rate per 1000 live births has also declined. While the maternal mortality ratio (MMR) decreased from 206 (in 2016) to 167 per 100 000 live births in 2019, it remains high compared to the rest of the region. The nutritional status of children under 5 years remains challenging and a priority for the government. For instance, 32.5% of children under the age of five have low height for their age (stunting) and 20.5% have low weight for their age (underweight) in 2019.

OSH framework

1. OSH Laws & Regulations

Lao PDR is in the process of developing the national OSH laws and regulations under MoLSW. There are eight laws related to OSH, and other related occupational safety and health regulations, which are Labour law modified in 1994 and 2013, Social security law modified in 2013 and 2018, Law on Hygiene, Disease Prevention and Health Promotion No. 04/NA dated 10 April 2001, Law on Mining No. 04-97/NA dated 12 April 1997, Law on Manufacturing, Agreement of National Assembly No. 01-99/NA, dated 3 April 1999, Law on Construction No. 159/PO dated 16 December 2009, Law on Industrial Processing No. 01/99/NA dated 3 April 1999 and Law on Agriculture No. 01/98/NA, dated 10 October 1998.

2. ILO conventions ratified

Laos has been a member of the ILO since 1964. The country has ratified a total of ten ILO Conventions, of which 9 are in force, No Convention has been denounced; 1 instrument abrogated; none have been ratified in the past 12 months.

3. Authorities or Body, Responsible for OSH

The Labour Management Department comes under the Ministry of Labour & Social Welfare and tasked with protection & prevention in Occupational Safety & Health, which inhabiting with Lao Federation of Trade Unions on behalf of representing of employees, Lao National Chamber of Commerce and Industry which is the representing of employers in Lao PDR. Herein called “Tripartite Organization” which is the main counterpart of Labour Management Department. Apart from those, there is still got relevant sectors which are from the Central to Local Authority for instance: Ministry of Public Health, Ministry of Industry and Commerce, Ministry of Public Works & Transportation, Ministry of Energy & Mine, Ministry of Education, Water Resources & Environmental Organization.

Currently, there are 87 labor inspectors in Lao PDR, of which 9 are in the Department of Labor, 13 in Vientiane Capital, 5 in each major province such as Savannakhet, Champassak and Luang Prabang, and 3 in each remaining province.

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

The National Assembly endorsed a new Social Security Law and revised in 2019, which aims to harmonize existing contributory social security schemes for the private, and the public sectors, and which for the first time, allows individuals outside the formal economy to become voluntarily contributing members, providing access to health care along with benefits in disability, sickness, maternity and old age. The Social Security law is applied to enterprises, which employ more than 10 workers, although all employers with one or more employees are encouraged to apply. The main health insurance benefits include outpatient services, in-patient services, emergency services, and medical care in case of employment injury of occupational diseases.

6. Occupational disease list

The National list for occupational diseases in Lao PDR has been developed using ILO list of Occupational Diseases was revised in 2010. The first National list of Occupational Diseases for Lao PDR was developed for the purpose of prevention, recording, notification and compensation of occupational diseases in the country. Now there are four classifications of occupational diseases including 1) Diseases caused by agents, 2) Diseases caused by target organ, 3) Occupational cancer, and 4) Others, but the implementation of the list of Occupational Diseases is not reinforced.

7. Workplace Organization for OSH Management

Lao PDR has the OSH committee, which are the National OSH committee and OSH provincial committee. The National Committee of Occupational Safety and Health is nominated by the Prime Minister based on the proposal of the Ministry of Labor and Social Welfare, which functions as a secretariat of the government for developing policy, law, rules, regulations, monitoring and supporting relevant ministries, organizations and other sectors in implementing the OSH nationwide with secretariat support from the national OSH center. The provincial governor based on the proposal of the Provincial Labor and Social Welfare department nominates the Provincial Committee of Occupational Safety and Health.

OSH level

1. National Policy and Strategies for OSH

Lao occupational safety and health (OSH) is regulated by a wide range of national policy, strategies and plans for OSH, in particular: 1st National OSH Strategy (2005-2010); 2nd National OSH Strategy (2011-2015); Decree on Occupational Safety and Health, No 22/Gov, dated 5/2/2019 as developed a set of specific rules on OSH; Ministerial Decision on OSH in the construction site, No 3006/MoLSW, dated 21/8/2013.

2. Work-related injuries and Occupational Diseases Statistic

There is no recording and reporting system of occupational accidents and injuries. According to the OSH decree however, the OSH unit must report occupational accidents and diseases to the labour unit and labour management authority for record, improving and seeking the solutions periodically.

3. Coverage by reporting and compensation schemes

The Social Security Scheme tries to compensate and cover all kinds of occupational accidents and injuries for those who have maintained their contribution to the Social Security Scheme. Following

an occupational injury, the employer must take the injured person to the hospital and inform the Social Security organization (SSO) and record the case. In the case of a major injury, the police should be informed and a report made. This data however is incomplete and not all enterprises with more than 10 employees report injuries. In 2019, SSO featured 2,287 member enterprises with 113,714 insured employees and 7087 voluntary insured persons. Moreover, the total number of beneficiaries (including persons and their dependents) covered by the schemes was 258,102 persons.

4. Legal compliance status for OSH regulations

Compliance with OSH regulations ensure a workplace free from serious recognized hazards and complies with standards, rules and regulations issued under the OSH decree. The Labor management department, and the Occupational Safety and Health committee oversees compliance with the OSH regulations, although compliance is inconsistent.

5. Human resources for OSH

The main organizations providing OSH training are the National Occupational Safety and Health Center (NOSH Center), the Lao National Chamber of Commerce and Industry (LNCCI), ILO, the Lao Federation of Trade Union and the Ministry of Industry and Handicraft. There are no long term training for occupational physicians, occupational hygienists, nurses and others.

Gap Analysis

The gaps identified in this report related to] governance are: (1) Weak implementation of OSH legislative framework, (2) Weak implementation of the OSH inspection, (3) Inadequate awareness on OHS mandate of some enterprises, (4) Lack of coverage of the smallest enterprises by OSH, (5) Poor coverage of SSO for the small and medium enterprises, (6) Lack of recording and reporting system of Occupational injuries and accidents, (7) Lack of employer's awareness on OSH at the working place, (8) Lack of development of OSH committee and OSH standard at some working places, (9) Lack of development of OSH policy, OSH management system documentation, communication, planning and implementation at the working places, (10) Limited of OSH officers at the working places, (11) Lack of health promotion and well-being at workplace, (12) Inadequate of OSH officers and inspectors in terms of quantity and quality, (13) Irregular and no continuing short term training of OSH, (14) No long-term training of OSH physicians, nurses, hygienists and others.

Recommendation

- The action points for national OSH systems consists of: 1) Increased enforcement of the Labor law and OSH Decree, 2) Increased enforcement the OSH inspection and monitoring, 3) Efforts will also be made to link the National OSH programme, 4) Need for Information campaign at governmental level, 5) Increased enforcement of the law of Social Security, 6) need to improve the OSH statistics and set up the notification and registration system for occupational accidents and occupational diseases, 7) legislate the occupational diseases, and list of occupational diseases, and 8) Strengthening OSH inspector management system
- The action points for OSH management at workplaces consists of: 1) implement the Decree of OSH at their working place, 2) set up an OSH policy, organizing, planning and implementation, evaluation and action improvement, 3) develop of new managerial cultures and modern leadership, giving high value to OSH and well-being at work, 4)

Promote the concept of Basic Occupational Health Services (BOHS) delivery, 5) developed and approved OSH standard and National Guidelines on occupational safety and health management systems, 6) information campaign for World Day Safety and Health at the working place, 7) interactive educational programme based on a training of trainer's, 8) set up the notification and recording system of the work-related injuries and occupational diseases at the working place

- The action points for personnel engaged in the area of OSH consists of: 1) The employers must provide the general induction training to all employee, 2) disseminated OSH information through several channels, 3) short training courses to safety managers, 4) develop recognition and identification of occupational diseases, 5) training of medical practitioners on the diagnosis of occupational diseases, 6) short training courses (3 to 6 months) to produce OSH staff to build the capacity of OSH officers and OSH inspectors, 7) Develop the long term training of curriculum of OSH hygienists, OSH practitioners, 8) strengthening the National OSH Training center, 9) improve protection for informal workers, e.g. through the provision of BOHS, and 10) Studies of the types of occupational injuries and diseases and the impact of the current biological and chemical risks among staff in the water sector industry.

Introduction

The Institute of Industrial Ecological Sciences of University of Occupational and Environmental Health, Japan (hereinafter called UOEH Japan) was designated as WHO Collaborating Center (CC) on Occupational Health (OH) in 1988. The one of Terms of Reference of current designation as WHO CC is to support strengthening the base of the occupational health in Mekong countries including Vietnam, Cambodia and Laos. In past 3 years, UOEH Japan supported Vietnam to improve the capacity for diagnosing and preventing occupational lung diseases and management of dust workplace. In 2020, UOEH Japan provided technical support to Cambodia for the development of National profile on Occupational Health to identify the country's needs in occupational health and safety. In 2019, UOEH Japan collaborated with WHO Laos and organized a two-day workshop on improving the capacity of doctors to diagnose occupational lung diseases. Several major challenges in occupational health area were identified but evidence is limited. At the same time, Prof. Koji Mori received a financial support from the Ministry of Health, Labour and Welfare of Japan to identify what kind of support is needed in occupational health and safety area of Asian countries. UOEH Japan team planned to visit Laos on an assessment mission but due to COVID-19 outbreak has worked with WHO to assess the current situation of occupational health and safety in Laos to identify the country needs in this area. WHO Laos supported to intermediate the communication with responsible person from Ministry of Health of Laos (MOH Laos) and School of Public Health. School of Public Health agreed to develop the current report and analysis.

Objectives

The Objective of this consultancy is to conduct the “Assessment of current situation of Occupational Health and Safety (OHS) in Lao Peoples Democratic Republic” (“Assessment”) to identify the country needs in OHS area and further to provide support based on country needs and to conduct OSH legal gap analysis, and then successively develop OSH Bill. The review will provide information on gaps between existing national legislations, regulations, policies and programmes, and the requirements of ILO Conventions.

Methodology

The study is a literature review. Data validation and gap analysis were undertaken through a literature search on the following search engines Google Scholar, MEDLINE, PubMed and websites of the World Health Organization and International Labor Organization regarding global occupational health and safety framework was also done. Key words used were “occupational health and safety,” “national profile,” and “stakeholder framework.” Articles included were those in English and Lao language. A review of agencies' mandates was also conducted to identify occupational health and safety stakeholders and their functions. Collection of information in accordance with the checklist provided by the WHO CC. Methods of information collection can be either review of available documents or interview with relevant stakeholders.

Key Informant Interviews

The key informant interviews were conducted to fully understand the scope of the roles and responsibilities of the stakeholders involving in OSH such as ILO, WHO, Department of Labour, MOLSW, Lao National Chamber of Commerce and Industry (LNCCI), Lao Federation of Trade

Unions, Department of hygiene, MoH, National Social Security Fund (NSSF), NAFRI, Ministry of Industry and Commerce. The questions in the in-depth interview included the following topics specifically on Occupational Health and Safety: 1) Mechanism and status for enactments of OSH laws & regulations (including the role of central and local authorities); 2) Authority or body, responsible for OSH; 3) Number and inspection status of labour inspection office; 4) Utilization of private agency for inspection; 5) Reporting and notification system for workplaces; 6) Occupational injury and disease statistics; 7) Legal qualification requirements for personnel engaged in the area of OSH, such as safety and health officers, safety engineers, occupational physicians, and hygienists; 8) Regal requirements for regular activities related to OSH, such as management system, risk assessment, health examination, environmental monitoring, and etc, 10) Mechanisms to prevent industrial disaster protect environment and promote public safety; 11) Supply and availability for personnel engaged in the area of OSH; OSH activities and involvement by international organizations, academic insistutes and other agencies, such as Non-Governmental Organization; 12) List of occupational health service providers and their service contents and quality (national/private); 13) 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.

Chapter 1 National Information

1.1 History Lao People's Democratic Republic

1.1.1 Summary of country history

Lao People's Democratic Republic (Lao PDR), commonly known as Laos, is situated within the ASEAN region and has a rich history. Chao Fa Ngum was the first king of what is now modern day who successfully united numerous medieval city states and subsequently founded the Lanexang Kingdom, that encompassed the Mekong River in the middle from North to South ([Asia Pacific Parliamentary Forum, 2009](#)).

Luang Prabang was the capital city of the Lanexang Kingdom; which has been listed as a World Heritage Site. In the middle of the 16th century, the capital city was changed from Luang Prabang to Vientiane. Eying on the Mekong River, this move facilitated economic and cultural growth. In the middle of the 17th century, the Lanexang Kingdom reached its golden age and started the trade relation with foreigners. The eighteenth century brought the decline of the Lanexang monarchy. The Kingdom split into three hostile dynasties and was invaded and controlled by Siamese feudalism. Strategically located and rich with natural resources, in the 18th and 19th centuries Laos became a target of neighbouring countries and Western powers. At the end of the 19th century, the country became a colony of France ([Asia Pacific Parliamentary Forum, 2009](#)).

Following the end of World War II in 1945, Laos declared Independence. The French returned in Under the [Geneva Accords](#) of 1954, Laos came under the rule of the Lao royal government although experienced internal conflict between different factions. The country came embroiled in the Vietnam War which saw a large US presence. On 2nd December 1975 following the US defeat, Lao became the independent Lao People's Democratic Republic ([Asia Pacific Parliamentary Forum, 2009](#)). Initially under a command economy, in 1986, the Lao PDR began to carry out a comprehensive renovation policy, shifting from a centralized economy to a market-oriented economy, carrying out marketing mechanism, opening up the country and cooperation with foreign countries. Today, the Lao PDR has the political stability, constant economic growth and favourable conditions of investment ([Asia Pacific Parliamentary Forum, 2009](#)).

1.2 Religion and Ethnicity

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

Lao PDR is the most ethnically diverse country in Southeast Asia. Lao people comprise four main ethno-linguistic families: Lao-Tai 62.4%, Mon-Khmer 23.7%, Hmong-Iu Mien 9.7 %, and Chinese-Tibetan 2.9% ([Lao Statistics Bureau, 2016](#)), which are officially divided into 50 ethnic groups ([Kongphaly, 2018](#)). The 50 ethnic groups in the country can be further broken down into more than 200 ethnic subgroups ([King & Dominique van de Walle, 2010](#)).

Figure 1: Ethno-Linguistic Groups in Lao PDR (2005)

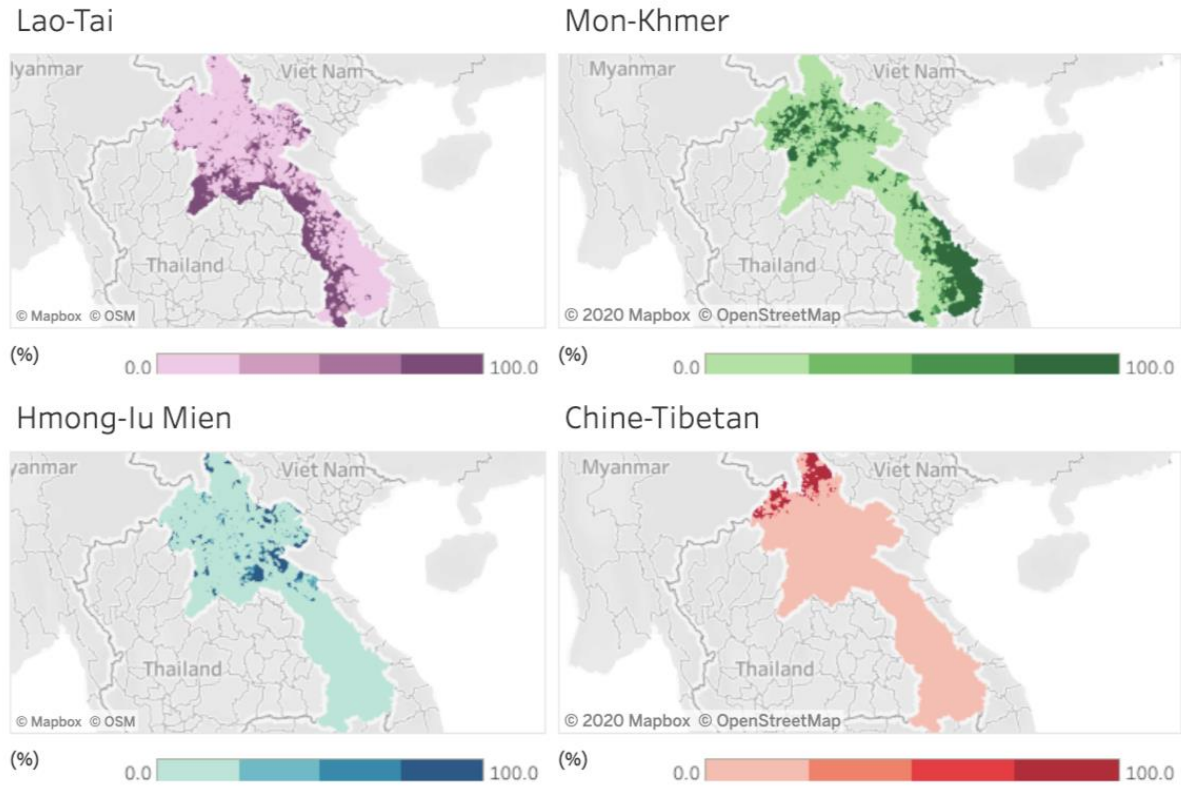


Chart by: *Open Development Laos*. Source: www.decide.la ([Lao-Tai](#), [Mon-Khmer](#), [Hmong-lumien](#), and [Chine-Tibetan](#))

The 50 ethnic groups are geographically dispersed and were historically referenced in terms of three topographic locations: the Lao Loum (lowlands), Lao Theung (mid-lands), and Lao Soung (uplands). These categorizations also implied traditional agricultural production systems, with lowland peoples generally cultivating paddy rice, and midland and upland peoples pursuing shifting cultivation practices (Ministry of Health, 2015).

The Lao-Tai ethno-linguistic family is composed of eight individual ethnic groups, and generally inhabits lowland areas. The Mon-Khmer family includes 33 individual ethnic groups. There are two ethnic groups belonging to the Hmong-lu Mien ethno-linguistic family, and seven groups belonging to the Chine-Tibetan family. Both Hmong-lu Mien and Chine-Tibetan peoples have traditionally inhabited the uplands of Laos. Buddhism is the most common religion in Lao-Tai groups, while animism is prevalent in non-Lao-Tai groups (Minority Rights Group, 2018). *Ethno-Linguistic Families in Laos are comprised of 50 sub-ethnics as below:*

Figure 2: Trees of Ethno-Linguistic Families in Laos

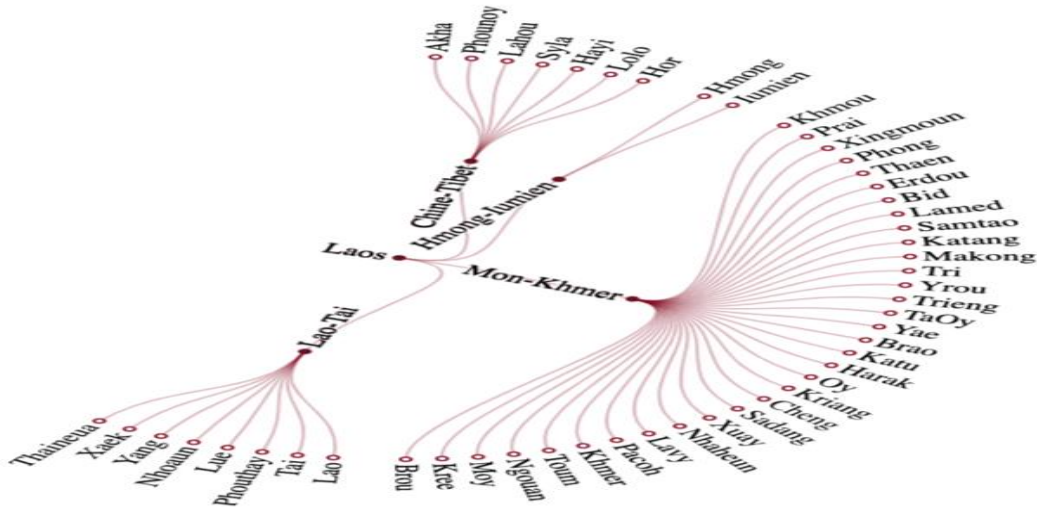


Chart: *Trees of ethno-linguistic groups 2018*. Created by: *Open Development Laos*. Source: Douangtavanh Kongphaly. 2018. “[List of all ethnicity in Laos](#).” License: [MIT](#)

1.2.2 Lifestyles and dietary restriction for culture and religion

The history and culture of the country is represented in temples and monuments. Almost every town and predominantly Lao-Tai village has a Buddhist temple (wat or vat). Most lowland Lao and some midland groups practice Theravada Buddhism, but also believe in spirits of places or of deceased persons. Upland and most midland ethnic groups are animist, with religious practices oriented towards protective or guardian spirits commonly associated with places or with a family or clan. Shamans or other spirit practitioners are recognized and respected for their divinatory and healing powers ([International Religious Freedom, 2009](#)).

The Government officially recognizes four religions: Buddhism, Christianity, Islam, and the Baha'i Faith. Recognized Christian groups include the Catholic Church, the LEC, and the Seventh-day Adventist Church. The Government maintains, however restrictions on the publication of non-Buddhist religious materials and Buddhism is excluded from many of the Decree 92 restrictions placed on other religions with Theravada Buddhism holding an elevated status ([International Religious Freedom, 2009](#)).

The hill tribes (15%) mostly practice animism mixed with ancestor worship. A small number have converted to Christianity. Some of the remaining members of the French-educated elite are also Christians. Proselytizing is frowned upon by the government and missionaries and evangelical groups have not made as much headway in Laos as they have in other places. There are a few Muslims. They are mostly of Arab, South Asian and Cham descent ([International Religious Freedom, 2009](#)).

Laos's ethnic groups other than the majority Lao ethnic peoples, generally live in more remote and rural areas. Upland peoples continue to practice agriculture using the traditional approach of shifting cultivation. Properly practiced, this method of farming endorses the sustainable use of forestlands. For example, rotational farming with proper management systems, without encroaching on new forestlands, can be environmentally sustainable and even carbon neutral ([Minority Rights Group, 2018](#); [Kenney-Lazar, M. 2013](#); [Erni & Christian, 2015](#)). Around 67% of

the country's population are Buddhist, other religions including animism accounted for about 30.9%, 1.5% are Christians and less than 1% are Muslims and Bahai. Catholics make up 0.6% of the population. The majority of Laotian also believe in spirits. Most Buddhist are lowland Lao and some tribal groups ([International Religious Freedom, 2009](#)).

Dietary restriction

Food restrictions during pregnancy and postpartum are practiced in Lao PDR, and vary by ethnic group. The practice of “eating down” to avoid a perceived difficult delivery of a large baby is fairly common and, while some women report reducing vigorous physical activity and eating more meat or fruit during pregnancy, pregnancy and childbirth are not widely associated with extra care or attention ([USAID Nurture 2016](#); [UNICEF 2017](#)). Specific taboos and practices vary by ethnolinguistic group, but one common restriction is for women to limit their diets to rice, salt, and ginger or galangal for up to one month after delivery ([Ministry of Agriculture and Forestry 2013](#); [USAID Nurture 2016](#)). Other postpartum taboos include no meats that are white in colour, no fruit or vegetables, and no foods that are fermented, oily, sour, raw, or spicy ([USAID Nurture 2016](#); [UNICEF 2017](#)).

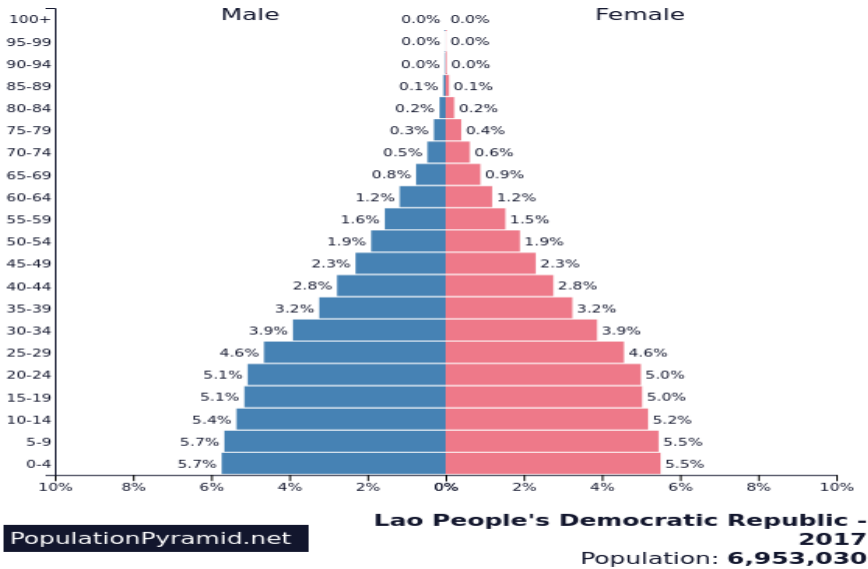
1.3 Population

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

The current population of the Lao People's Democratic Republic is estimated to be 7,304,508, making it equivalent to 0.09% of the total world population and ranking number 105 in the list of countries (and dependencies) by population. The population density in Laos is 32 per Km² (82 people per mi²). The total land area is 230,800 Km² (89,112 sq. miles); while 35.7% of the population is urban (2,600,131 people in 2020) ([Worldometer, 2020](#)). The median age in Laos is 24.4 years.

The rural population accounts for 67% of the national total, population, most of whom have road access ([Lao Statistical Bureau, 2016](#)). The Lao Loum lives in the relatively densely populated lowlands on the eastern bank of the Mekong River. The Lao Theung lives in the lower mountain ranges in the south. Ethnic minority groups live in the higher mountain areas (Jane's by IHS Markit, 2017). The nation's population is the youngest in ASEAN, with 32% of the population aged 14 years or younger. The working population aged 15–64 years accounted for 64% of the total, with another 4% of the total population aged 65 years and older. In 2015, the total dependency ratio for every 100 people of working age was 57 people, down from 77 in 2005 ([Lao Statistical Bureau, 2016](#)).

Figure 3: Lao Population Pyramid



1.3.2 Demography, literacy and other relevant information

Literacy is defined as the “ability to identify, understand, interpret, create, communicate and compute, use printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society (UNESCO, 2005).

As of 2015, the literacy rate of the population aged 15 and above in Lao PDR was 85% with a large gender gap. The male population was found to be 90% literate, while only 80% for females were. Literacy levels were also along the urban-rural dimension. Both male and female populations living in urban areas have literacy levels above 90%. The levels are lower however in rural areas with roads and lowest in those areas without roads. the gender gap is also largest in rural areas with the lowest literacy rate among the female population living in rural areas without roads (Lao Statistical Bureau, 2016).

Literacy among the various ethnic groups that comprise Lao society is unequal (Lao Statistical Bureau, 2016). Education is generally provided in the official Lao language, rather than the spoken languages of different ethnic groups, which can cause challenges for non-Lao ethnic students. While the Lao government seems to view learning Lao language as a way to reduce educational inequalities, many civil society organizations see promotion of Lao language instruction as a barrier to ethnic children’s education in itself (Ministry of Education and Sports, 2015; King and Walle, 2010).

While cultural traits may explain some variations, socio-economic factors and geographical location that affect access to education may also have an impact. For example, in some ethnic groups proportions who have never attended school hit at least 50%, such as Lahou (63%), Akha (50%), Tri (54%), Katang (41%) and a few others. Figure 4 shows a comparison of literacy levels among the population grouped into main ethnic groups. The predominantly major group, Lao-Tai, had the highest literacy rate, 95% and 92%, for males and females, respectively. Mon-Khmer and Hmong-lewmien, the second and third largest groups, have similar literacy levels (71.1% and

69.8%, respectively). The lowest literacy was observed among the China-Tibet ethnic group at 46.8%.

Figure 4: Literacy Rates by Ethno-linguistic Group

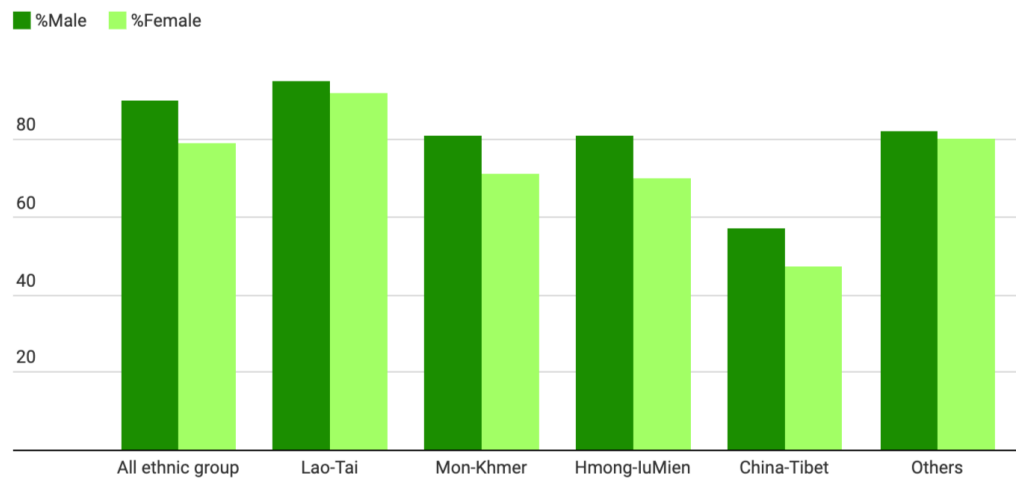


Chart: Open Development Laos Source: [Lao Statistic Bureau](#) [Get the data](#)

Source: <https://laos.opendevdevelopmentmekong.net/topics/ethnic-minorities-and-indigenous-people/>

1.4 Politics and Policy

1.4.1 Current political system

Laos' first, French-written and monarchical constitution was promulgated on May 11, 1947 and declared it to be an independent state within the French Union. The Lao People's Revolutionary Party (LPRP) provides Lao with government stability and leadership; however some policy issues exist. The main policy issues are the administration of the opening of the economy to foreign investment beyond China and ASEAN to the United States, the European Union, Japan, and South Korea, and advancing transportation connections, due to its landlocked position, which will allow Lao to trade effectually with other nations. Continual examinations of laws and investment policies in Lao emphasize the ongoing corruption and expropriation risks, which are present in Laos (Simon Creak & Keith Barney, 2018).

According to the government of Laos (2020a), the political movement in the country is related to the working mechanism of the three major operating organizations of the country. The three major operating organizations are 1) the central legislative organization (national assembly), 2) the central administrative organization (president and government), and 3) the central Judiciary organization (courts and public prosecutors).

1.4.2 Current political party and results of a recent election

The government is a one-party communist state, led by the Lao People's Revolutionary Party (LPRP). Lao has been ruled by the LPRP since 1975. As a traditional communist state, Lao's top decision-making body is the LPRP's Politburo and the military holds a prominent function in politics (BBC, 2020).

The President is elected by the National Assembly (NA) for a five-year term. The Prime Minister and the Council of Ministers are appointed by the president with the approval of the National Assembly for a five-year term. The most recent election took place in March 2016. The Party Congress is held every five years, which elects a new Politburo. The 10th LPRP Congress concluded in January 2016, electing Bounnhang Vorachith as the new party Secretary-General. The LPRP leader also becomes the country's president is Excellency Mr. Bounnhang Vorachith. The NA also elected Thongloun Sisoulith, the second-ranked politburo member, as prime minister in April 2016. Sisoulith runs the government while Vorachith is primarily concerned with heading the LPRP (BBC, 2020; Creak, & Sayalath, 2017). Internal LPRP factions divide according to whether they lean more towards China or Vietnam. The next election for Laotian National Assembly is expected to be in March, 2021 (National Assembly, 2020).

1.4.3 Main national policy and political challenges

Each national policy is approved by the minister of the responsible ministry or institution. There are nineteen ministries and institutions that issue all national policies, they are Ministry of 1) Education and Sport, 2) Foreign Affairs, 3) Finance, 4) Industry and Commerce, 5) Natural Resources and Environment, 6) Agriculture and Forestry, 7) Health, 8) Planning and Investment, 9) Labor and Social Well Fare, 10) Science and Technology, 11) Road and Transportation, 12) Information - Culture and Tourism, 13) Post and Communication, 14) National Defense, 15) National Security, 16) National Affairs, 17) Power and Mines, 18) National Bank, and 19) Ministry of Justice. There are twenty-six national policies in Laos that could be available online as followed (Government of Laos, 2020b).

Table 1 shows the main National Policies in Lao PDR. During the past, the Lao government endorsed several policies related to different Ministry lines. The LPRP governs policy within the Politburo and Central Committee; however significant policy resolutions may enlist the actions of the Council of Ministers and NA.

Table 1: Main National Policies in Lao PDR

No	Date approval	Name of Policies
1	04/07/2016	National Policies on Energy Saving and Protection
2	05/01/2016	Vision to 2030, strategy to 2025 and VIII th development plan of education and sports 5 years (2016-2020)
3	10/03/2015	Strategy of development of Capital Market, Lao PDR (2016-2025)
4	04/11/2014	Strategy of sustainable development of the socio-environment in the hydropower sector.
5	05/09/2014	Strategy of development health staff to 2020
6	05/09/2014	National Action Plan of water supply and sanitation in the rural areas
7	05/09/2014	Strategy of development and National Action plan on Nutrition

8	05/09/2014	National Policy on the Health Impact Assessment
9	05/09/2014	Development Framework in the education sector 2009-2015
10	05/09/2014	National Policies on Population and Development
11	05/09/2014	Strategy of development of National Statistic System- 2010-2020
12	30/03/2014	Policy on Diseases Surveillance and control of Non-Communicable Diseases
13	26/09/2013	Strategy of anticorruption to 2020
14	22/06/2012	National Strategic Plan for Unexploded Ordnance for 2011 to 2020 "Path to Security II"
15	31/03/2012	Second Strategic Plan for the Advancement of Women in the Education and Sports to 2015
16	06/03/2012	4 years Strategic Plan of Department Costumers, 2012-2017
17	29/02/2012	National Strategic Plan for the Advancement of Women 2011-2015
18	12/11/2011	Strategy of development of special zone and specific economic zone from 2011-2020.
19	07/11/2011	Lao PDR Civil Service Management Strategy to 2020
20	01/11/2010	Management Plan and Allocation of Khun Xe-Phong Ma NPA, Bualapha District, Khammouane Province
21	01/11/2010	Management and Management Plan of Pha Tham Binh Protected Area, Bualapha District, Khammouane Province
22	17/07/2010	Education Administrator and Management Development Plan for 2011-2015
23	25/01/2009	National Policy on Information Communication Technology
24	01/03/2007	National Education System Reform Strategy 2006-2015
25	02/02/2006	The Sixth Five-Year Plan for the Development of Industry and Handicrafts (2006-2010)

The LPRP exercises democratic centralism, demanding the undisputed support of party leaders in all resolutions. Policy is established and executed by the LPRP Politburo. The party has a membership roll of approximately 3% of the populace. The greatest structural constraint on effective governance in Laos is been geography. Another significant constraint is the low level of human resource development. Laos's civil society traditions are very weak, with a regime committed to making the LPRP the "nucleus" of the political system rather than encouraging autonomous political participation. The long-term aims of the LPRP politburo and central committee are preserving the current system and developing the economy and raise living standards ([Bertelsmann Stiftung, 2020](#)).

1.5 Constitution and General Law System

1.5.1 Summary of constitution

After the Lao People's Democratic Republic was established, the party and government did not raise constitutional issues as is focused on protecting and building a socialist nation. More recently the state has strengthened the people's right to self-determination in socio-economic development based on the realities and special features of the country; make people politically aware, contribute to building the national economic base. Through the process of evolution of development - economic made a focus on constitutional matters important. In August 14, 1991, the Constitution was adopted by the Assembly and was promulgated by the Presidential Government on 15 August 1991 ([Government of Laos, 2020c](#)).

The Constitution is important to the development of the country and provides the basis for the nation to move towards state governance, social governance by the constitution and the rule of law and serves the interests of ethnic groups. basic rights and obligations of citizens are clearly defined and enshrined in the Constitution ([Government of Laos, 2020c](#)). Based on [Government of Laos \(2020c\)](#), the Constitution is the basic law of the Lao PDR, expressing the intentions of the multi-ethnic Lao people of all walks of life and determine the political, socio-economic regime and the basic obligations of the people and the machinery of the Lao PDR. Therefore, the Constitution of Lao PDR contains the following key features:

The real nature of the class of the Constitution: The Constitution of the Lao PDR is a constitution that serves the common interests of the multi-ethnic Lao people, because all power belongs to the people in accordance with the people's democracy.

The constitution is an operational program: The Constitution not only summarizes the turning point in history and the results of the revolution, but also sets out a long-term direction for the future. The Constitution establishes the aspirations of the people of all ethnic groups to continue and expand the people's democracy, laying the foundation for socialist progress in the future.

The constitution turns the party's policy guidelines into a state regime: The Constitution is closely linked to the political party and the Party's policy guidelines. The resolution of the Fifth National Congress of the Party set out to continue to build and expand the people's democracy, lay the foundations for building socialism in the future, the basic content of the resolution of the Fifth National Congress has entered into the Constitution. The state has carefully implemented the party's policy guidelines as a basic rule.

The constitution is the basic rule: The Constitution is at the heart of Lao PDR's laws. The Constitution sets out the political system, the state apparatus sets out the principles, issues that cover the most important issues of the people's democracy and the legal basis for the establishment of the legal system of the Lao PDR.

According to the [Government of Laos \(2020c\)](#), the Constitution has the role of both protecting and building: protecting the people's democracy, protecting the effects of the revolution, and suppressing internal and external enemies. Build aspirations, aspirations, aspirations, good cultures and aspirations to good citizens. The Constitution has three basic functions:

Political functions: The constitution defines the political system, the socio-economic status of the state power, the domestic and foreign political policies, the rights and obligations of citizens, the principles of organization and functioning of the state apparatus.

Legal duties: The Constitution is the basic law, at the heart of Lao PDR's legal system, it is the legal strategy of Lao PDR.

Ideological functions: The Constitution has an impact on social ideology, educates the people to be patriotic, loves the people's democracy, promotes the ownership of the nation, and respects the rule of law.

The constitution of Laos has five main contents as the basic contents which include 1) Political regime, 2) Socio-economic regime, 3) National Defense – Security, 4) Rights and fundamental rights of citizens, and 5) Administrative unit of the Lao PDR. The current constitution document was issued in 2015 and approved by the National Assembly, signed by the president of assembly, Mrs. Pany YATHOTOU ([Government of Laos, 2020c](#)).

1.5.2 Summary of general law system

The National Law was approved under the NA, in total, there are 154 law documents that constituted to three domains of the National Law. The three domains of National Law are 1) the Social-cultural Law, which is consisted of 31 documents. 2) the Economics Law, which is consisted of 60 documents. And 3) the Law of Governance and Government Administration, which is consisted of 63 documents. Detail of the law document could be available at ([Government of Laos, 2020d](#))

1.6 Industry and Economy

1.6.1 Major industry

The Lao PDR's major industry is classified into 8 categories: (1) agriculture and food processing, (2) mining and energy, (3) garment and other labour-intensive industries, (4) electrical and electronic machinery, (5) transport equipment (automobiles and motorcycles), (6) tourism, (7) finance, and (8) transportation. These eight sectors, from agriculture and food processing to transportation, could be broadly categorized and positioned in relation to each other ([Economic Research Institute for ASEAN and East Asia, 2016](#)).

1.6.2 Economic status and employment scene

Lao PDR is becoming a middle-income status country. The country has strong economic growth, and has reduced poverty ([World Food Programme \(WFP, 2017\)](#)). Economic growth averaged 7% in year 2016 ([UNESCAP, 2017](#)), and Laos' growth has been amongst the fastest in Asia, averaging nearly 8% per year for most of the last decade, however, growth has declined over the past year ([World Bank Group, 2017](#)). GDP composition in the agriculture sector was 27%, manufacturing (11%), power and mining (18%), construction and services (44%) ([Ministry of Planning and Investment, 2016](#)). The economy has benefited from high-profile foreign direct investment in hydropower dams along the Mekong River, copper and gold mining, logging, and construction, although some projects in these industries have drawn criticism for their environmental impacts ([World Bank Group, 2015](#)).

Recently however, the country has faced a persistent current account deficit, falling foreign currency reserves, and growing public debt, as slow recovery of the global economy. Laos' economy is heavily dependent on capital intensive natural resource exports.

The Lao labour market is predominantly rural and agrarian, with farming and allied activities accounting for more than 66% of all employment and the manufacturing (7%), power and mining (1%), construction and services (26%) (World Bank, 2014).

The small and medium-sized enterprise (SME) sector dominates economic activity in Lao PDR and accounts for substantial employment. A total of 178,557 registered enterprises were operating in Lao PDR as of 2013, of which around 75%, or 134,577, participated in the country's 2013 Economic Census. According to the census, around 99.8% of the participating units, or 124 567, were classified as SMEs. The majority of these were micro enterprises, with those employing five workers or less accounting for 86% of all enterprises. This, alongside data from other surveys (GIZ, 2014), suggests that there may be a "missing middle" in the country's production structure, in common with many other emerging economies in Southeast Asia and beyond. A missing middle may indicate that SMEs face significant barriers to expansion, and this could be compounded by the fact that Laotian enterprises have access only to a small domestic market for goods and services. Surveys suggest that very few private Laotian enterprises export (GIZ, 2014). There are textiles and shoe factories (Nike has factories in Laos) and motorcycle parts in Laos. The country produced our own bricks, cement, soft drinks, beer, cigarettes, but the country imports most of its consumer foods from China and Thailand (ADB, 2011). The government has built the special economic zone in Savannakhet, and in Vientiane.

The 2017 labour force survey in 2017 showed that 1,757,733 were "employed" with the labor force participation rate of 40.8%. The unemployment rate was 9.4% in 2017 and it rose to 25% in May 2020, from 16% at the end of 2019 due to Covid-19 (Ministry of Planning and Investment, Lao Statistics Bureau, 2018; World Bank Group, 2020). Most employed people in Lao PDR were either unpaid family workers (43%) or own-account workers (38%). Paid employees constituted 19% of the country's workforce in 2015, of which more than half worked as government employees or in state cooperatives. Less than 1% of the total workforce were employers (Lao Statistics Bureau, 2016). Among women in the labour force, 61% worked as unpaid family workers, compared to only 26% of men. Nearly 15% of employed men worked in government jobs or in state cooperatives, compared with 7% of employed women.

The share of vulnerable employment in Lao PDR remained high at 84% of the workforce overall. Sectors with particularly high vulnerability levels included agriculture and fisheries (93%) and sales workers (73%). Vulnerable and informal employment was also widespread in other sectors, characterized by low pay, poor working conditions and no social protection (Lao Statistical Bureau, 2010). The 2017 labour force survey reveals that 35% of total employment took place in the informal sector while the formal sector accounted for 27% of total employment. When including informal employment outside the informal sector (in the formal sector and in households), the total informal employment rate was 83%. The rate was higher among women and in the rural areas (Ministry of Planning and Investment, Lao Statistics Bureau, 2018).

1.7 Labour Management relations, Contractors, Informal Sectors Workers and Migrants

1.7.1 Labour dispute and other labour-management relations

The Labour Law include the management of labour disputes ([President Office, 2006](#)).

Despite the relative stability of the industrial relations (IR) environment, industrial disputes have been on the rise in recent years. From 2006-2010, MoLSW documented 254 disputes (70 cases in 2009-2010), of which just over half (55%) were resolved through conciliation, 25% were withdrawn, and 19% referred to the courts. Of these, most cases were law-related, particularly concerning termination of employment contracts, overtime and benefit payments, and workplace injury. Individual disputes between employer and workers are hard to define but are generally uncommon. It is likely that official figures however, understate the true number of disputes. Challenges identified by the Ministry include the lack of clarity in the labour law, uncertain roles and responsibilities of social partners and different levels of government, as well as weak coordination with the courts. Officials also cite low legal awareness and binding capacity constraints among all parties as major obstacles to effective dispute resolution ([ILO, 2011](#)).

Informal Sectors Workers

A worker in informal employment refers to any worker who does not have access to at least one social security scheme or employment benefit. The social security schemes and employment benefits referred to the following: pension fund; basic health insurance; injury insurance; disability benefits; survivors' benefits; paid annual leave; paid sick leave; paid maternity leave; paid baby delivery; and unemployment insurance. Informal employment in Lao PDR is defined as comprising the following: those employed in informal sector enterprises which are not registered and do not keep accounts of their business; those who are employed in the formal sector but whose employers do not contribute to social protection, and who do not receive work-related benefits such as paid leave and annual leave; and contributing family workers. This is very close to ILO-suggested operational definition, except for the unit of measurement used, which is the worker rather than the job ([ASEAN Secretariat, 2019](#)).

The rate of informal employment is about 82.7% and is higher in rural areas compared to urban areas, though not by much (79.5% against 75%). Females have a higher rate of informal employment compared to males (85.9% vs. 79.9%) and informal employment rate drops by level of education (from 98.6% for those with no education to around 37% for those with high vocational education or university or higher education. By the economic sector, informal employment is typically lower in sectors with large government presence (education, human, health and social work, and public administration and governance), and generally higher in sectors such as construction, and wholesale and retail trade. Males generally contribute more to informal employment, mainly because they comprise a bigger share of the employed. There is no clear pattern as to whether rural or urban areas contribute more to informal employment. By age group, the plurality of informal employment workers are those in the 25-39 age group in Laos. The informal employment workers work about the same number of hours as formal employment workers ([ASEAN Secretariat, 2019](#)).

Migrants

There are a significant number of Lao migrant workers working with irregular status in Thailand. There are different reasons for working in Thailand, such as poverty, seasonal work after rice

harvesting to gain additional income, being lured, voluntary migration, being pushed by parents, being eager to enjoy new developments in Thailand and uninformed decision making (MOLSW, MOFA and MPS, 2016). It is estimated there were approximately 588,561 Lao workers employed in numerous countries worldwide in 2010, and should increase slightly by 2013. The majority of them were employed in Thailand (49%), the United States (33%) and France (8%). A sizeable Lao migrant workers were also employed in other advanced economies, including Canada (16,845—3%), Australia 11,352—2%), Japan (2,603), Germany (1,608), Belgium (1,481), New Zealand (981), Switzerland (917), United Kingdom (615), Spain (527), and Sweden (470). These figures of Lao migrant workers include those who migrated as refugees and resettled abroad as permanent residents. Registered Lao migrant workers represented only a smaller portion of the total stock of Lao migrant workers in Thailand. Also, WB's estimates of Lao migrant workers in other GMS countries are thought to be too conservative (Mana Southichack, 2014).

For employment overseas thus far, the Lao government has issued permission for Lao workers to work in Thailand, and workers to go for on-the-job training in Japan with legal conditions. In order to ensure legal status for Lao workers, the Lao government has issued decree No. 68/PM and other regulations to promote and manage the sending of Lao workers to work overseas.

Migrant labour made up around 8% of the working population, mostly in low-paid, labour-intensive work in neighbouring Thailand. Remittances sent back home by Lao migrants in 2013 accounted for between 1.9% and 2.5% of national GDP. In 2014, 11.5% of the adult population received international remittances, varying from nearly 20% in the South to 2.7% in the North (Mana Southichack, 2014; World Bank Group, 2015).

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

In the Labor Law, Article 23 outlines an employment contract is an agreement made between employee and employer or their representatives. Employees and employers must strictly comply with employment-related contractual obligations: employees must perform their duties according to their specialization and experience, employers must assign employees to work or positions that are stipulated in the employment contract, pay them salary or wages, and ensure their legitimate interests in accordance with the employment contract and the laws. Employment contracts must be made in writing between the employer and the employees in accordance with laws and regulations, based on the principles of equality and consensus. An employment contract may be made either for a fixed term or for an indefinite period depending on the agreement between the employer and the employee concerned (National Assembly, 2013).

1.8 Public Security, Disaster and Public Safety

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

Crime Threat

Vientiane Capital City is a relatively safe city and criminals do not target or single out foreign citizens based on nationality, but do frequently target foreigners for crimes of opportunity. In recent years, there has been an increase in overall crimes of opportunity and drug trafficking. The most common type of crimes include purse snatching, typically committed by thieves operating on motorcycles/mopeds; pickpocketing; theft of unattended property; and residential crime.

Criminals generally target homes with poor security – such as accessible windows, unlocked doors, and the absence of a guard.

Although violent crimes tend to remain relatively uncommon, there has been an increase in violent crime involving the use of weapons, including firearms. This trend may relate to the increase in illicit drug use. Laos has long been a transshipment point for the illegal drug trade and illegal trafficking in general, but the last few years have seen an increase in drug use (primarily methamphetamines) among the local population (OSAC, 2020).

Traffic Accidents (RTIs)

Lao PDR, is experiencing a rapid increase in RTIs associated with its economic growth ([World Health Organization, 2013](#); [Slesak et al., 2015](#)). Police reports stated that 1,086 deaths were caused by traffic accidents in 2016, with the number of injuries caused by traffic accidents reaching 8,912. The total number of accidents reached 5,616, and the cost of these accidents was a whopping 83 billion kip ([Vientiane Times, 2017a](#)).

Most often fatalities and RTIs affect motorcyclists (84 %), in particular young drivers (17–25 years of age) on Friday and Saturday nights ([Ferrand et al., 2006](#); [Inthalath et al., 2011](#)). The presence of alcohol and amphetamines are frequently associated with these crashes ([Inthalath et al., 2011](#)). Hospital surveys in the Vientiane Capital City show that head injuries are common (42 %) among motorcyclists; less than 30 % of them wore helmets and 42% had consumed alcohol ([Ferrand & Peyronnie 2006](#); [Inthalath et al., 2011](#)).

According to the latest WHO data published in 2013, Road traffic Accidents Deaths in Laos reached 1,058 of 2.48% of total deaths ([WHO, 2013](#)). Road traffic accidents continue to plague Vientiane Capital, with the latest figures for the year so far reaching a staggering 525 cases with 89 death cases, according to a recent announcement by police. Although the number of road accidents remains high, the capital city has at least seen fewer incidents than in previous years, with nine fewer accidents than in 2018, and 17 fewer deaths ([Vientiane Times, 2017b](#)).

Disasters (Drought, Floods, storms, Landslide..)

Laos is exposed to natural hazards such as floods, typhoons, cyclones, drought, and earthquakes. The country is vulnerable to recurrent, sudden-onset and slow onset natural disasters with flooding, storms and typhoons having a large effect on the population. The country remains highly vulnerable to agricultural shocks and natural disasters (Center for Excellence in Disaster Management & Humanitarian Assistance, 2017)

Drought

Lao PDR is vulnerable to prolonged droughts. The number of droughts over the last three decades has increased. Moderate drought frequently occurs while severe and extreme droughts are less common; except for severe drought in the dry season which has occurred many times. In 2003 for example, a severe drought occurred which could not be attributed to El Niño, and was thought to be climate related. Drought was relatively more frequent in the first and third 5-year periods of analysis from 1993-2012, with a lull in between. Probability of occurrence of drought of any category is found to be highest (27%) in Phalan district of the Savannakhet province in the dry season. It is also found to be high (25-27%) in Phiengluang district. The total number of droughts

from 1993-2012 was 1,205 events and there were 3,496,846 affected persons and 115 deaths (National Disaster management Office, 2012; Center for Excellence in Disaster Management and humanitarian, 2017).

Floods

The tropical monsoon climate in Lao PDR has two distinct seasons, wet and dry. Flood events are common in Lao. Flooding occurs from August to September, predominately in the central and southern provinces of the country, following the southwest monsoon season. The number of floods over the last three decades has increased with increased flooding experienced in the central and southern parts of the country and flash floods in the northern mountainous areas and eastern region in 1995, 1996, 2000, 2002 and 2005 (Center for Excellence in Disaster Management and humanitarian, 2017). The country has also experienced a number of tropical storms including “Xangsane” (2006), “Lekima” (2007), Ketsana (2009) and Haima/ Nokten (2011). Based on the data available on DesInventar database floods affected a very high number of people (nearly 3.5 million people have been reported to be affected by floods). The provinces mostly affected by flood are located in central and southern part of Lao PDR such as Vientiane Capital, Vientiane province, Borikhamxay, Khammuane, Savanakhet, Saravane, Champasack, Sekong and Attapeu provinces. The number of floods from 1993-2012 was 1,205 events and 3,496,846 persons were affected and 15 were died (DesInventar 2012 (1993 – 2012)).

Flash Floods

The number of flash floods has also increased with the northern mountainous areas and eastern region experiencing flash floods in 1995, 1996, 2000, 2002 and 2005. In particular, flash floods are relatively common in the provinces located in the northern part of Lao PDR: Phongsaly, Oudomxay, Luangnamtha, Bokeo, Xayabury, Luang Prabang, Houaphan and Xiengkhouang (National Disaster management Office, 2012).

According to DesInventar from 1993-2012, flash floods were reported in Bokeo, Houaphan, Luang Prabang, Phongsaly, Vientiane, Xayabury and Xiengkhouang. While flash floods are not a frequent event, they still affect a large number of people, although the impact of flash floods on crops is less severe. When analyzing the impact of floods on the different districts, Thathom district in Xiengkhouang and Vangvieng in Vientiane are identified as the districts with the highest number of events (4 each) (National Disaster management Office, 2012; Center for Excellence in Disaster Management and humanitarian, 2017).

Storms

For 50 years return period, a class 3 (178 – 209 km/hr) storm is expected to hit parts of Khammuane province. Storms can also cause floods including flash flooding and landslides especially in northern Lao PDR. At the end of rainy season in 2009 typhoon Ketsana hit the southern part of Lao PDR causing server damages in three provinces in the south, namely Saravane, Sekong and Attapeu. According to the DesInventar from 1993-2012, all provinces experienced storms, however, not all the provinces experienced a high number of storms within the last 20 years. Storms are associated with a high number of destroyed roads. The total number of storms from 1993-2012 was 693 events and there were 550,415 affected persons and 38 deaths (DesInventar 2012 (1993–2012) (National Disaster management Office, 2012; Center for Excellence in Disaster Management and humanitarian, 2017)).

Landslides

Landslides or slope stability is mainly related to weather conditions. Rainfall is the main cause for landslide occurrences with most landslides occurring during the monsoon season. A large part of the country is located in low to medium landslide susceptibility zones. Only 5.24 % of the country however is prone to very high landslide susceptibility. These high susceptibility zones are localized in the southeast and central part of Lao PDR ([National Disaster management Office, 2012](#)). Landslides result economic losses, delays to traffic, restricted movement of transport, and further require debris removal, repairs to retaining walls, roadside drains, and the resurfacing of roads ([National Disaster management Office, 2012](#); [Center for Excellence in Disaster Management and humanitarian, 2017](#)).

1.9 Relationship with Japan

1.9.1 Relations with Japan in politics and economy

The relationship between Lao PDR and Japan was established since 1955. The number of Japanese nationals residing in Laos was 863 (as of October 2017). The Lao PDR is also acknowledged as the first country to have receive Japan Overseas Cooperation Volunteers (JOVC) in 1965. The Vientiane Office was established in 1967 oversaw major development projects, including the construction of Nam Ngum Hydropower Station from late 1960s to early 1970s. Even after closure of the office in 1978, Japan continued to provide support to the Lao PDR through Grant Aid projects.

In 1990, the Vientiane office was reopened as a JOVC office and the dispatch of volunteers started. In 1996, the JOVC office was renamed as JICA office, with JICA in charge in providing Aid to Laos across various sectors. JICA is continued to support socio-economic development of the Lao country and strengthen the friendship between Laos and Japan ([JICA, 2014](#)).

Japan has committed to supporting Lao PDR meet its Five Years of the National Socio-Economic Development Plan VIII (2016-2020) (hereinafter referred to as the “8th NSEDP”) illustrated “New Tokyo Strategy 2015” for Mekong-Japan Cooperation adopted at the Seventh Mekong-Japan Summit Meeting in July 2015 ([MOFA of Japan, 2016](#)).

Based on the Within the 8th NSEDP there are “3 Outcomes (Outcome 1: The Economy: A strong economic foundation and reduced economic vulnerability; Outcome 2: Society: Human resources development, poverty eradication, access to high-quality education and healthcare, and the preservation and development of Lao PDR’s unique culture; and Outcome 3: The Environment: Green and sustainable natural resources and environmental protection and management, and preparedness for natural disasters and climate change)”. Lao PDR will be: I. Achieving greater connectivity with neighboring countries; II. Lifting competitiveness through industry diversification, the development of small- and medium-sized enterprises (SMEs) and training the industrial workforce; and III. Rectifying disparity through balanced regional and urban development that takes environmental and cultural preservation into account

In this Joint Plan, Japan and Lao PDR will seek to bring about Lao PDR’s graduation from LDC status by 2020 and make progress toward achieving the SDGs as a result of realizing the following points:

- Land and air routes will be developed as a transportation network that meets ASEAN and international standards and is resistant to natural disasters. This will ensure safe and smooth flows of goods and people and form the basis for a distribution hub for the Mekong region.
- Promoting the development of power generation that utilize Lao PDR's abundant water resources and developing the electricity networks will lead to infrastructure sustainable development and enhanced industrial competitiveness. Therefore, electricity exports to the Mekong region will be promoted, thus contributing to the economic development of Lao PDR and neighboring countries as well as stronger domestic finances.
- An environment conducive to the development of the industrial human resources will be prepared so that increased competitiveness and the establishment of diverse companies that contribute to green growth will be encouraged. The investment and business environment will be streamlined with the goal of vitalizing private-sector companies' activities.
- Irrigation agriculture will be made possible so that agricultural commodities that are safe and have a regional flavor can be produced, and they will be supplied freshly and safely to domestic and overseas markets through a cold chain, which will ultimately serve to establish agriculture as an industry that employs a large number of citizens and lift farmers' incomes.
- Public social infrastructure such as health, medical care, education, waterworks and sewerage systems, electricity and public transport will be put in place in a balanced manner in cities and regions, and green growth will be promoted throughout the country. This will enable each region's unique cultural and lifestyle base to be preserved.

1.9.2 Local status of Japanese companies

There 160 Japanese companies are operating in Laos (The Vientiane Times, 2020). The Japan External Trade Organization (JETRO) Vientiane has worked with the developers of four special economic zones (SEZs) to encourage more Japanese investment. Since the establishment of JETRO Vientiane, investments by Japanese companies in Laos had and Japanese companies continue to seek information on Laos' investment laws and information related to establishing a company, tax payments, marketing studies, and business partners.

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

The Japan International Cooperation Agency (JICA) implements Japanese the Official Development Assistance (ODA) providing three forms of assistance: 1) technical cooperation, 2) grant aid, and 3) concessionary loans (Japanese ODA Loans).

JICA assisted Laos in the following areas:

(1) Development of Economic and Social Infrastructure

JICA supports numerous transport and economic infrastructure projects important in strengthening ASEAN connectivity. It also supports logistics projects to facilitate investment a from the private sector, including Japanese companies. JICA has also provided assistance in the fields of environmental management, water treatment, and urban planning that contribute significantly to creating environments that meet the needs of local communities

(2) Agriculture

JICA assistance aims to increase productivity in agriculture, through projects that promote irrigated agriculture and the cultivation of commercial crops. These activities have the potential to

increase farmers' incomes, many of whom remain poor, and narrow the development gap between urban and rural areas.

(3) Improvement of Educational Environment and Human Resource Development.

JICA provides assistance to help develop the country's human resources through the educational environment, raising the quality of teachers school management.

(4) Improvement of Healthcare Services.

JICA provides assistance strengthen the Lao healthcare system to contributes to health-related SDGs. health sector project focus on developing human resources, improving health facilities and access to services particularly those targeting Maternal, Neonatal and Child Health.

(5) Others

JICA assisted Lao PDR to improve governance such as administrative capacity, institutional building and the judicial system, to help promote development and improve the effectiveness of assistance, green environment, sustainable development, and the need for measures against climate change and Unexploded ordnance (UXO).

By sector, Japan's assistance for Lao PDR since 2004 has prioritized the social infrastructure and services sector. Assistance in the economic infrastructure and services sector, which was the second largest area of assistance, accounted for 10% to 19% of the total, except in 2005 and 2011 when ODA Loan is provided, and less than half the 20% to 60% of the social infrastructure and services sector. By subsectors, Japan's assistance has prioritized transportation and storage, education, health, government and civil society (see Table 2) (ALMEC Corporation, 2014).

Table 2. Trends of Japan's Assistance for Lao PRD by Sector

Year	2004	2005	2006	2007	2008	2009	2010	2011
Social Infrastructure and Services	62.5	20.9	55.8	53.9	43.7	32.2	32.3	19.6
Education	28.4	8.8	4.6	11.3	12.1	20.5	21.6	8.8
Health	13.8	6.0	10.0	13.9	15.1	4.6	2.9	1.8
Population policy/program and Reproductive health	0.2	0.0	0.0	1.2	1.9	1.2	0.7	0.8
Water supply and sanitation	2.4	1.5	27.8	0.6	0.8	1.5	1.8	1.1
Government and civil society								
Others								
Economic Infrastructure and Services	6.0	60.1	28.0	18.9	11.4	9.8	15.2	69.8
Transport and storage	1.4	22.3	24.3	14.4	5.0	1.5	2.0	65.0
Communications Business and Other Services	1.3	1.3	0.7	0.7	0.7	0.7	1.4	1.7
Energy	2.8	36.0	2.4	1.9	1.7	2.7	7.9	1.5
Banking and Financial Service	0.1	0.1	0.4	0.5	0.7	1.3	2.4	1.0
Business and Other Services	0.4	0.3	0.2	1.4	3.3	3.6	1.6	0.5
Production Sectors	7.2	5.2	5.0	9.9	19.0	11.1	11.1	7.2
Agriculture, Forestry, Fishing	6.0	4.2	3.8	6.9	11.8	6.4	5.1	4.6
Industry, mining, construction								

Source: OECD, OECD Stats: Creditor Reporting System (<http://stats.oecd.org/>)

The Japan-Lao PDR Joint Development Cooperation Plan for the Sustainable Development of Lao PDR" that was agreed upon in September 2016, JICA has set three pillars of cooperation; 1) strengthening connectivity with countries in the region on the tangible and intangible fronts; 2) Develop the industrial human resources in order to diversify Lao PDR's industries and enhance their competitiveness; 3) Rectify disparity through balanced urban and regional development that takes environmental and cultural preservation into account. In order to steadily implement these three pillars, JICA is also tackling cross-sectoral issues such as macroeconomic and fiscal stabilization, promotion of the rule of law, enhancement of administrative capabilities, and removal of unexploded ordnance (MOFA Japan, 2016).

Lao PDR received ODA in the forms of Grant Aid and Loan Aid from JICA and technical assistance. For example, the cumulative Loans in 2016 were 48.43 billion, the cumulative grants were 152.97 billion yen and Technical Cooperation in 2016 was 73.08 billion yen. Table 3 presents the Grant and Loan Aid from JICA – 2015-2020.

Table 3: Trends of Grant Aid and Loan Aid from JICA from 2015-2020

Project's name	Date End	100 million Yen
Fiscal Year 2015		
The Project for Reconstruction of the Bridges on the National Road No.9 (Detailed Design)	November 24, 2015	0.70
The Project for Acceleration of UXO Clearance for Rural Development and Poverty Eradication (Phase 2)	July 4, 2015	8.45
The Economic and Social Development Programme	July 4, 2015	5
The Project for Strengthening Research and Development on Fisheries and Aquaculture	May 26, 2015	7.14
Loan Aid		
Vientiane Capital Water Supply Expansion Project	March 17, 2016	102.71
Fiscal Year 2016		
The Economic and Social Development Programme	October 4, 2016	5
The Project for Reconstruction of the Bridges on the National Road No.9	May 4, 2016	25.28
The Project for Human Resource Development Scholarship		2.47
Fiscal Year 2017		
Grant Aid		
The Project for the Improvement of Setthathirath Hospital and Champasak Provincial Hospital	February 9, 2018	19.40
The Project for the Improvement of Irrigated Agriculture in Tha Ngon	December 26, 2017	8.37
The Project for Improving Secondary School Environment in the Central and Southern Provinces	October 23, 2017	13.69
Food Assistance (through WFP)	September 18, 2017	3.50

	The Project for Human Resource Development Scholarship	June 22, 2017	3.21
	The Project for Improving Secondary School Environment in the Central and Southern Provinces (Detailed Design)	May 26, 2017	0.46
	Fiscal Year 2018		
	Grant Aid		
	Project for the Expansion of Water Supply System in Luang Prabang City (Detailed Design)	March 20, 2019	0.97
	The Economic and Social Development Programme (Fisheries and Aquaculture Sector)		2
	The Economic and Social Development Programme (Public Security Sector)		2
	The Economic and Social Development Programme		5
	The Project for the Improvement of Water, Sanitation and Hygiene (WASH) in Schools and their Surrounding Communities in Floods Affected Areas (through UNICEF)	March 6, 2019	2.50
	The Project for the Rehabilitation and Reconstruction of School Education Sector in Floods Affected Areas (through UNICEF)		2.50
	The Project for the Rehabilitation and Reconstruction of Agricultural Sector in Floods Affected Areas (through FAO)		1
	The Project for the Rehabilitation and Reconstruction of Housing Sector in Floods Affected Areas (in collaboration with UN and implemented through UN-Habitat)		2.50
	The Project for the Acceleration of the Clearance of Unexploded Ordnance in the Southern Region	October 8, 2018	9
	The Project for Human Resource Development Scholarship	June 12, 2018	3.10
	Fiscal Year 2019		
	Grant Aid		
	The Economic and Social Development Programme	December 23, 2019	10
	Project for the Expansion of Water Supply System in Luang Prabang City	October 5, 2019	19.22
	The Project for Human Resource Development Scholarship	May 30, 2019	3.08
	Fiscal Year 2020		
	Grant Aid		
	he Project for Improving Teacher Training Colleges	August 23, 2020	19.12
	The Economic and Social Development Programme		5

	The Project for Human Resource Development Scholarship	July 16, 2020	3.17
	The Economic and Social Development Programme	June 5, 2020	15

Source: MOFA of Japan. Official Development Assistance. Website: https://www.mofa.go.jp/policy/oda/page_000040.html.

Chapter 2: 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.

Health outcomes such as the life expectancy in Lao People’s Democratic Republic (Lao PDR) have improved significantly (see Table 4). Compared to women, men have a lower life expectancy of 66.43 years than the average (68.22 years,) and lower than women’s life expectancy at 70.6 years in 2020 (<https://populationstat.com/laos/>, 2020). Improvements have also been observed in the total fertility rate which reduced from 6.3 to 2.7 between 2011 to 2017. The child mortality has reduced significantly, declining from 51 per 1000 live births in 2016 to 34 per 1000 live births in 2019 (MOH, 2020). Similarly, the under 5 years old mortality rate per 1000 live births also was declined. The maternal mortality ratio (MMR) decreased from 206 (in 2016) to 167 per 100 000 live births in 2019 (Lao Statistics Bureau, 2017; MOH, 2020), however, it remains high compared to the rest of the region. The nutritional status of children under 5 years remains challenging and a priority for the government. For instance, 32.5% of children under the age of five have low height for their age (stunting) and 20.5% have low weight for their age (underweight) in 2019.

In terms of the Sustainable Development Goals (SDGs) progress for Lao PDR is shown in Table 1, demonstrating some of SDG 3 targets are on track to be achieved by 2020 and 2030 (WHO, 2014).

Table 4: Health status of the Lao people

No	Health Indicators	2011	2016	2017*	2018	2019	2020 Target	SDG 2030
1	Life expectancy	64.8	66.9	67.3	67.6	67.9	68.9	
2	TFR	6.3		2.7				
3	Prevalence of wasting among children under 5 years old		25.5%	21.1%	21%	20.5%	20%	10%
4	Prevalence of stunting among children under 5 years		35.6%	33%	33.2%	32.5%	32%	23%
5	Infant mortality per 1000 live births		51	40	38	34	30	<12
6	Children under 5 years old mortality per 1000 live births		67	46	51	42	40	<25
7	Maternal mortality per 100,000 live birth		206	185	175	167	160	<70
8	Prevalence of use clean water		90.80%	83.9%	83.9%	85%	90%	>95%
9	Prevalence of use latrines		70.2%	73.80%	73.8%	75%	80%	>90%
10	Percent of the National Health Insurance Coverage		32%	71%	75%	94%	80%	

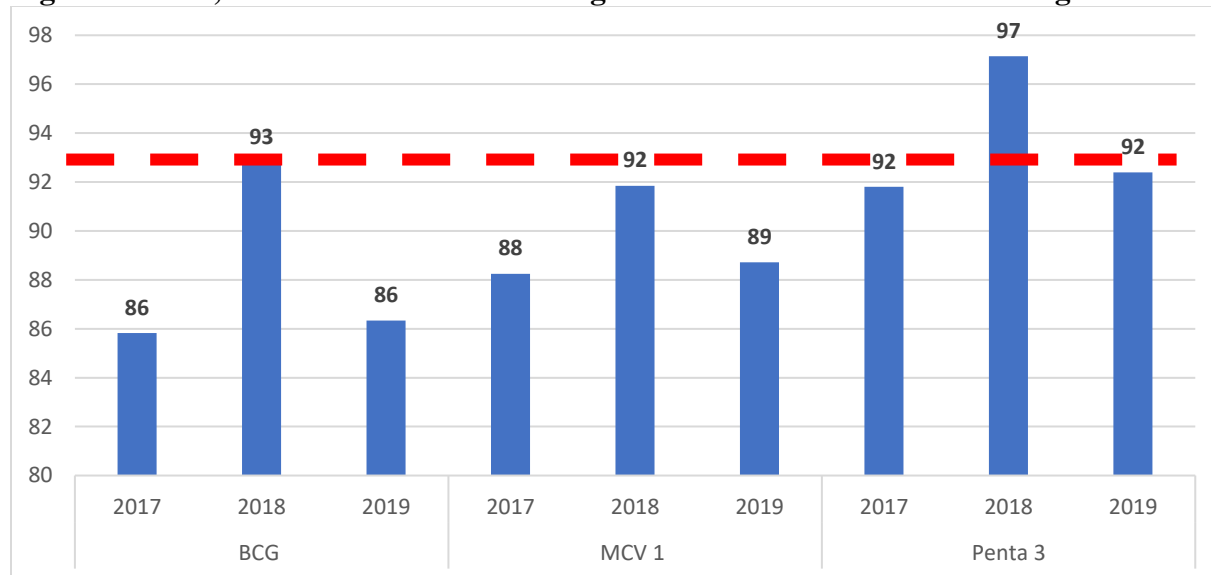
Source: MOH & Lao Statistics Bureau. (2017). Lao Social Indicator Survey.
 Department of Planning and Cooperation, Ministry of Health 2019. Health Management Information System.

Immunization coverage

Vaccination saves lives and keeps children healthy and is a successful and cost-effective public health interventions to. As such, immunisation is a central pillar of the Lao PDR’s universal health coverage. Increasing vaccination coverage and reducing vaccine preventable diseases also achievement of the SDGs and can help to solve antimicrobial resistance problems (WHO, SAGE, 2018). In 2019, birth dose vaccines such as BCG were mainly provided at fixed sites (59%) (Department of Planning and Cooperation, Ministry of Health, 2019). For non-birth vaccine doses, vaccines were mainly administered at outreach and mobile visits, representing over 50% of total vaccines provided (Figure 5).

The coverage of children’s health services, such as the Expanded Programme on Immunization (EPI), has improved as seen in the Ministry of Health (MOH) administrative data (i.e. from the DHS) and from population survey data from 59.7% in 2017 to 57.5% in 2018 and 60.8% in 2019 (see Figure 5).

Figure 5: BCG, MCV1 and Penta 3 coverage from 2017 to 2019 and 2019 target



Source: Department of Planning and Cooperation, Ministry of Health 2019. Health Management Information System.

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

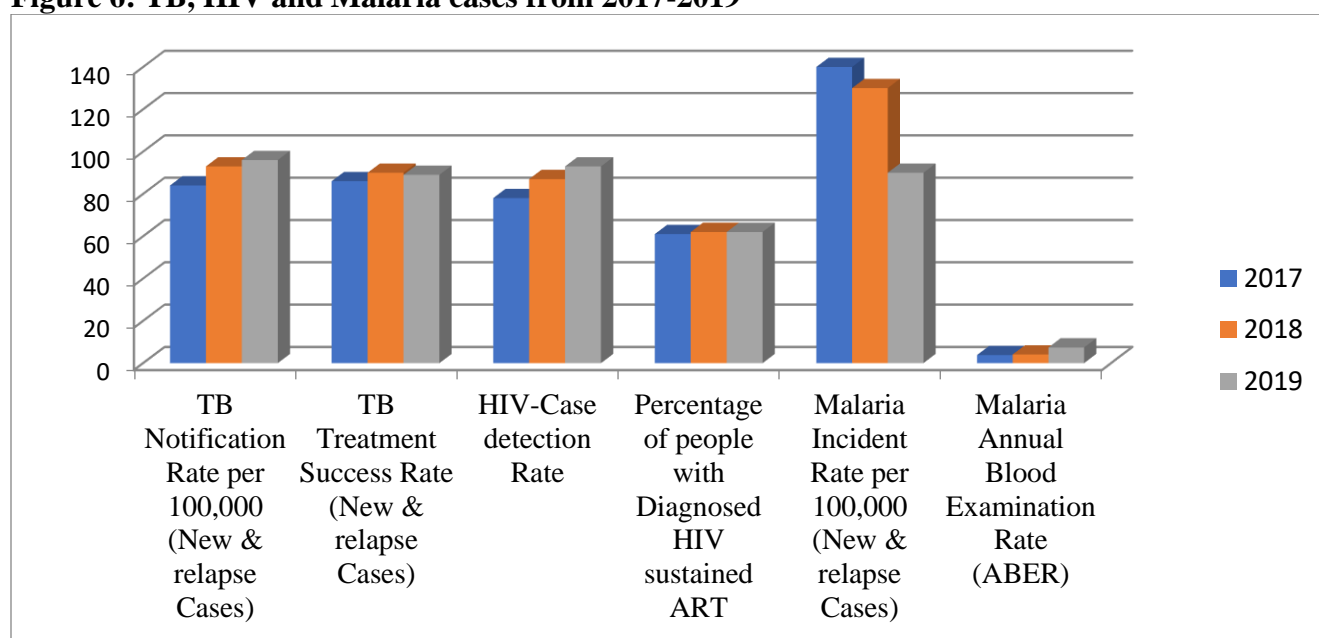
TB, HIV/AIDS, Malaria

Figure 6 presents the state of HIV, TB and malaria in Lao PDR. Overall, the TB notification rate increased over the period 2017 - 2019 from 84 to 96 cases per 100,000 inhabitants. The notification rate varies significantly however, across provinces, ranging from 11 in Xiengkhouang to 155 in Vientiane Capital (Department of Planning and Cooperation, Ministry of Health, 2019).

The HIV case detection rate increased from 78 in 2017 to 87 in 2018 and 93 in 2019. The percentage of people with diagnosed HIV and sustained ART increased from 61 in 2017 to 62 in 2018 and 78 in 2019.

Overall, the incidence of malaria has decreased from 1.35 in 2017 to 0.93 per 1,000 population in 2019. The decline in malaria incidence is associated with increased testing; the Annual Blood Examination rate for example rose from 3.8% in 2017 to 7.4% in 2019. The incidence of malaria Laos is driven mainly by the southern provinces with Attapu and Xekong having the highest incidence of malaria in with 10.69 and 8.88 cases per 1,000 population respectively. The incidence of malaria however has been declining steadily with the exception of Xekong which recorded a 12% increase in 2019 compared to 2018 (Department of Planning and Cooperation, Ministry of Health, 2019).

Figure 6: TB, HIV and Malaria cases from 2017-2019



Dengue

Lao PDR had a dengue outbreak in 2019 which prompted a large increase in the number of cases in 2019. A total of 59332 Dengue cases were registered in 2019 as opposed to 6893 cases in 2018 (the figures includes mild and severe cases) (table 5). The largest outbreak was in Vientiane Capital, which registered close to half of the total number of cases (22354), followed by Savannakhet (over 10000 cases) and Khammuane (over 5000 cases). Eighteen provinces recorded an increase in the number of dengue cases in 2019 (Department of Planning and Cooperation, Ministry of Health, 2019).

Table 5: Notifiable Dengue

Dengue	2017	2018	2019
No of Dengue cases	11469	6893	59332

No of Deaths due to Dengue	27	10	54
Case fatality Rate			0.09

Maternal and Child Health

MCH indicators have been steadily improving over the period 2017-2019. The coverage of postnatal care increased by 3 percentage points between 2018 and 2019. The coverage of ANC1 has been between 97% and 101% between 2018 and 2019 (Figure 7). The coverage of over 100% may be due to an underestimated number of live births or poor data quality associated with counting subsequent ANC visits as ANC1. The coverage of ANC1 and ANC4 have reached the target set in the five-year MCH Strategic Plan. Coverage of deliveries by SBA and PNC within 2 days however, are one percentage point below the set targets.

The percentage of births in health facilities with a complete birth notification form, increased by 8 percentage points between 2018 and 2019 (Figure 8). This increase was observed across most provinces, however Xaysoboun has a significantly lower percentage of births notified (37%). Deliveries assisted by SBA ranges from 44% in Attapeu and Phongsalai to 83% in Xiengkhouang (Department of Planning and Cooperation, Ministry of Health, 2019).

Figure 7: ANC, Delivery from 2017-2019

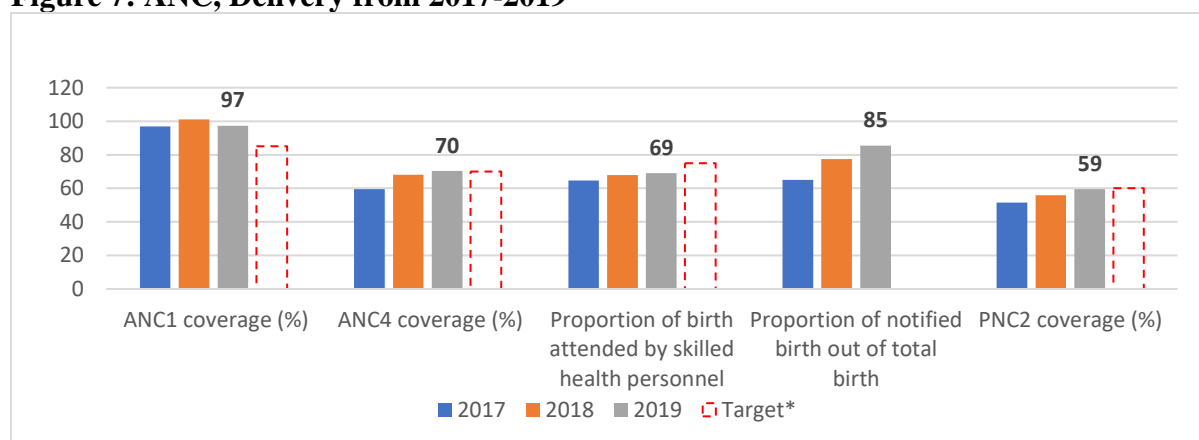
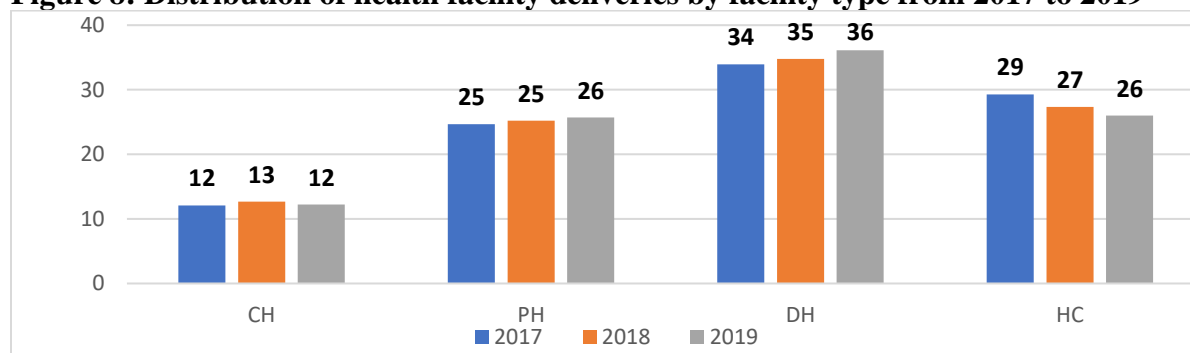


Figure 8: Distribution of health facility deliveries by facility type from 2017 to 2019

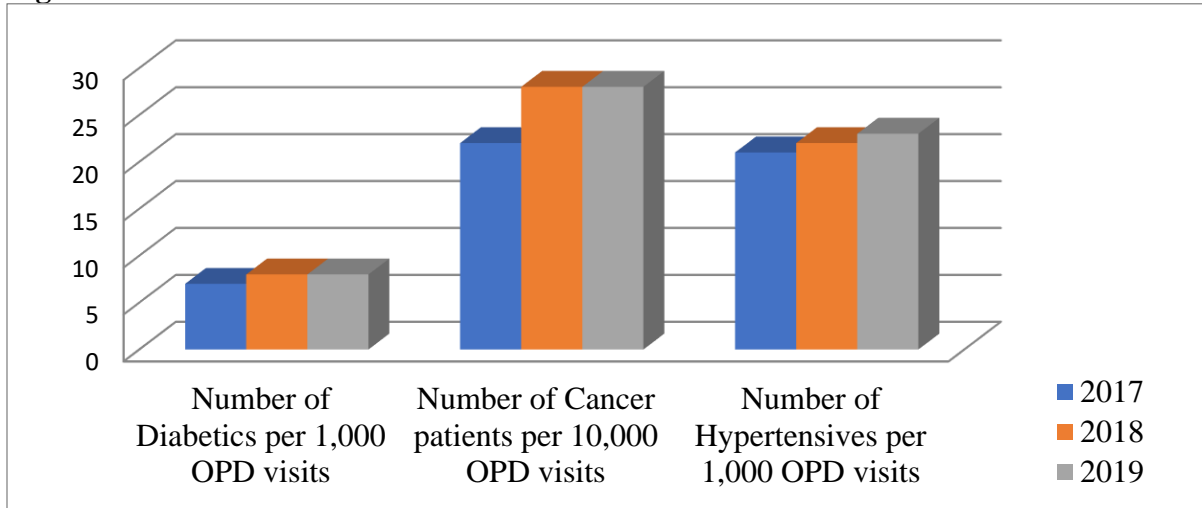


Source: Department of Planning and International Cooperation, Ministry of Health. 2019. Health Management Information System.

Non-communicable diseases

Figure 9 below presents the proportion of OPD visits per 1000 OPD visits over time for three non – communicable diseases: diabetes cancer and hypertension (Department of Planning and Cooperation, Ministry of Health, 2019).

Figure 9: Non-Communicable Diseases



Causes of morbidity and mortality in Laos

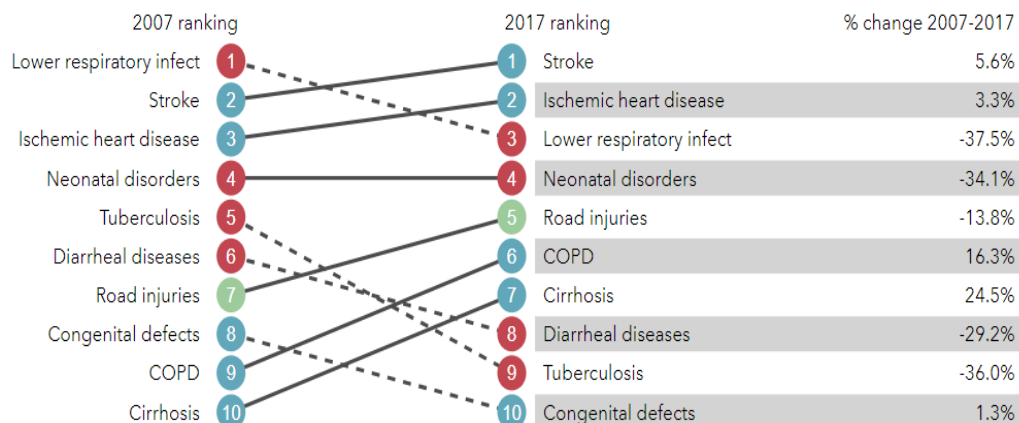
Representative population-based data on causes of mortality are not available in Lao PDR due to the limitations of the civil registration system, both in terms of the number of deaths and the accurate diagnosis of the cause of death. The only available mortality data are from hospital records.

Mortality pattern

The top 10 causes of death in 2017 and percent change, 2007-2017, all ages, number, suggested by the Health Metric modeling were stroke, Ischemic Heart diseases, LRI, neonatal disorders, road injuries, COPD, Cirrhosis, diarrheal diseases, TB, Congenital defects.

Figure: 10 Cause of deaths in Lao PDR

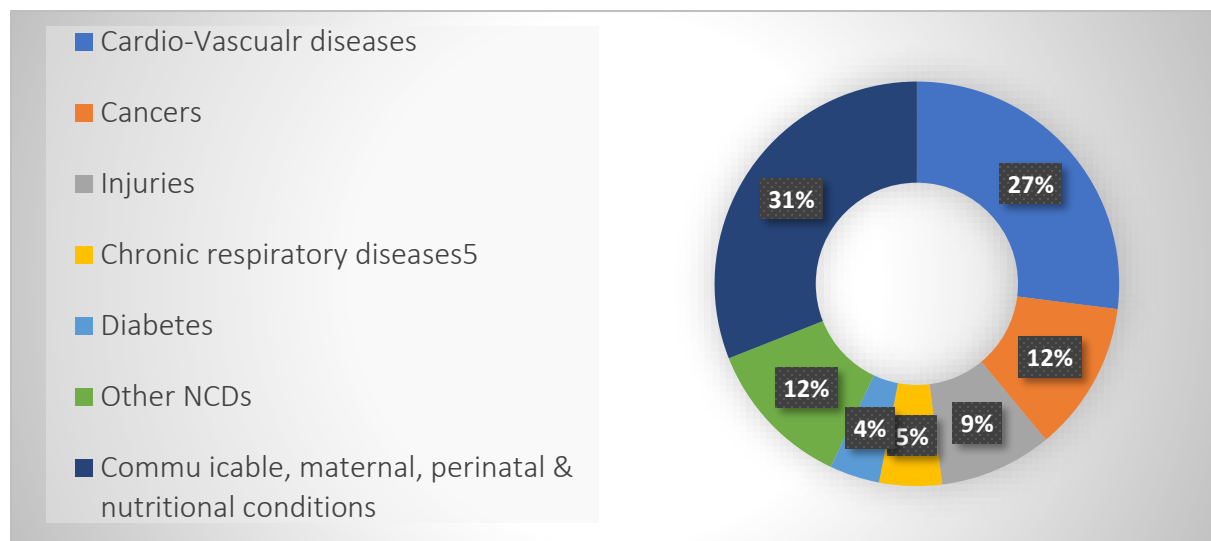
What causes the most deaths?



Source: Institute for Health Metrics and Evaluation

Increased incidence of NCDs and traffic injuries are policy concerns; about 60% of mortality in people of all ages was attributable to NCDs. The NCDs attributable to the causes of death among adults in 2017 were: (1) cardio-vascular diseases, 27%; (2) cancers, 12%; (3) injuries, 9%; (4) chronic respiratory diseases, 5%; (5) diabetes, 4%; and (6) other NCDs, 12% (Figure 11). Communicable diseases, maternal, perinatal and nutritional conditions contributed to 31% of mortality cases in 2017 (WHO, 2018). The population exposure to health risks such as tobacco and alcohol consumption, poor nutrition, physical inactivity and environmental hazards varies based on modelling from 2% (low physical activity), 3% (alcohol), to 29% (High systolic blood pressure).

Figure 11: NCD Burden in Lao PDR



Source: WHO Noncommunicable country profile 2018

2.2 Training and Supply for Physicians and Healthcare Professionals

2.2.1 Educational system for healthcare professionals

Education for health professionals is managed by the MOH and fully funded through taxes. The body responsible for setting educational standards is the Educational Development Centre, which established in 2011 as part of the University of Health Sciences. Its main role is to improve the quality of health professional development through improvements to training curricula, teaching skills, educational resources, materials, and educational facilities.

Medical training

There are five levels of medical training in Lao PDR. The first level is medical assistant or a mid-level PHC worker, the upper-secondary-school students require 3 years of training, while low-level PHC workers can upgrade to these positions with a 1-year program. The 2nd level is medical associate which is a high-level diploma course requiring 4 years of training for upper-secondary-school students or 1 year for those who wish to upgrade their medical assistant qualifications. The bachelor's medical doctor degree (MD), is a 6-year training program with a 'foundation' first year followed by 2 years of pre-clinical sciences, 2 years of clinical studies, and a final year of clinical practice. After completing a bachelor's medical doctor degree (MD), graduates can enroll in specialist training level 1 and level 2 as subspecialists. Specialist training is available at the University of Health Sciences under the Faculty of Medicine. Many specialties are offered, including obstetrics, gynecology, pediatrics, internal medicine, anesthesia, surgery, radiology, and family medicine, among others. Most specialties require 3 years of training and candidates are called 'first-level specialists' during the first 2 years, after which they can apply for the second level if there is a relevant course (WHO, 2014).

Nurse and Midwife training

Training of nurses includes four levels such as 1) a technical nurse (mid-level) requires 2.5 years of studies after upper secondary school; 2) a registered nurse (high-level diploma) requires 3 years of studies; 3) a graduate nurse requires 4 years of studies (bachelor level), and 4) a specialized nurse requires first achieving the bachelor level and then completing an additional 2 years of training. For midwife training, there are two levels: community midwife; and midwifery bachelor's degree. The community midwife training course is offered at seven schools, while the high-level diploma and bachelor-level midwife programs are run by the Faculty of Nursing at the University of Health Sciences. The midwifery bachelor's degree 4-year program (so far only one batch has graduated), but there are also training programs (1.5 years) that technical nurses or community midwives can complete to achieve a high-level midwifery diploma (WHO, 2014).

A main focus of the country's HRH strategy is to upgrade the qualifications of existing auxiliary nurses (there are currently more than 3000) to mid-level nursing qualifications such as a technical nurse or community midwife, requiring a 1-year course. Mid-level nursing training is offered by four provincial public health schools while the high-level diploma program is offered by three colleges of health sciences (WHO, 2014).

Dentist training

It takes 6 years of studies for an upper-secondary-school student to qualify as a dentist. After the first 'foundation' year, the students pursue preclinical studies at the Faculty of Basic Sciences during years 2, and the last 2 years are spent in clinical training. To become a dental assistant, 3

years of training are required, including the first year of foundation studies for upper-secondary-school students (WHO, 2014).

Pharmacist training

A bachelor's degree in pharmacology takes 5 years to complete. The first year of foundation studies is followed by 2 years of general pharmaceutical sciences. The fourth-year provides students with a choice of two professional tracks: pharmaceutical care or pharmaceutical sciences. The last year offers clerkship opportunities for students in both tracks. Training to be a pharmacist assistant requires 3 years of studies, including the first 'foundation' year for upper-secondary-school students (WHO, 2014).

Medical Technician training

The Faculty of Medical Technology has a curriculum for a 4 year undergraduate diploma in rehabilitation, and a 3 year higher diploma in rehabilitation; a curriculum of orthopedic technician is 3 years; a curriculum of higher diploma of X-ray technicians is also 3 years while an undergraduate diploma for X-ray technicians takes 4 years. There is also a 2 year undergraduate diploma of laboratory training for 2 years and an undergraduate diploma for laboratory of 4 years and 3 year higher diploma for laboratory as well as a 2 year master program for hematology for 2 years (Faculty of Medical Technology, 2019).

Public health training

The Faculty of Public Health offers a Master of Public Health, major Health management (introduced in 2005) and a Master of Public Health, major Epidemiology and Nutrition (introduced in 2017). The Faculty plans to develop a curriculum for a Master of Public Health, with a in major Environmental and Occupational Health and a Bachelor of Public Health Sciences in 2021 (Faculty of Public Health, 2020).

2.2.2 List of universities for healthcare professionals

Ten institutions provide health care professional training. The University of Health Sciences, the Institute of Public Health and Tropical Medicine (LaoTPHI) are the major training institutions in Vientiane. At the provincial level, there are three Colleges of Health Sciences (Luang Prabang, Savannakhet, and Champassack) and four public health schools (Oudomxay, Xiengkhuang, Vientiane, and Khammuane).

The University of Health Sciences (UHS) offers bachelor's level and postgraduate training, including master's programs and specializations, while the colleges of health sciences offer mid-to high-level diploma courses required to qualify as a technical nurse, community midwife, medical assistant or medical associate PHC worker. The UHS consists of 2 cabinets of Administrative and Academic affairs and 6 faculties: Faculty of Medicine, Nursing, Dentistry, Pharmacy, Medical Technology, Public Health. The LaoTPHI provides the Tropical Medicine Master training for International Public Health and Tropical Medicine for Lao and Vietnamese students.

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

Health Work Force

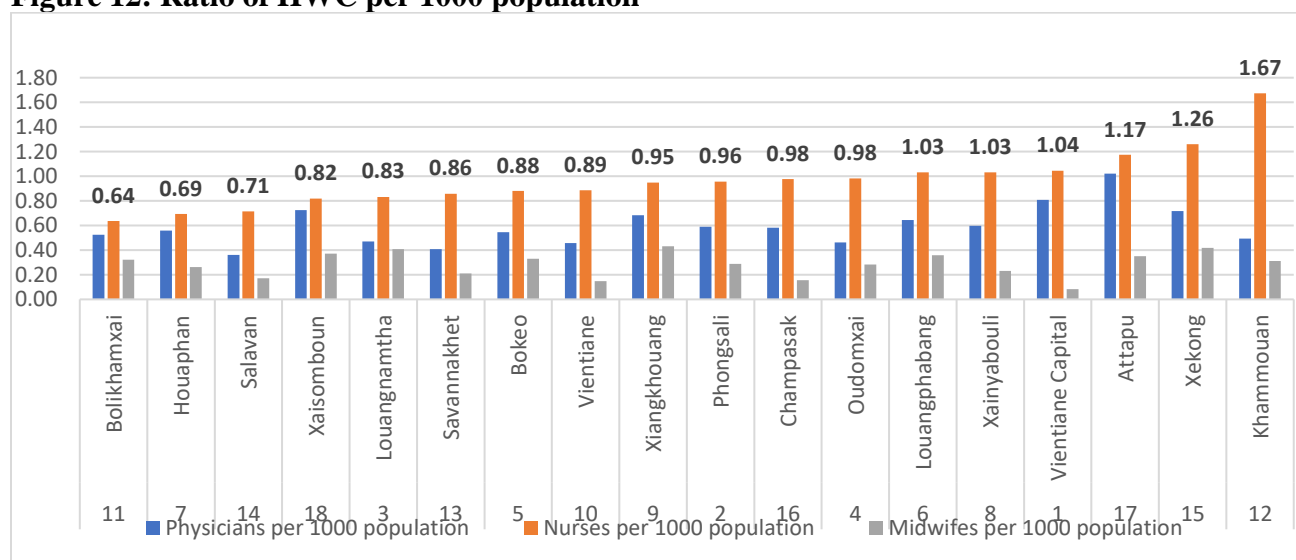
The Lao PDR has only 0.24 doctors, 0.82 nurses, and 0.09 midwives per 1000 population (Table 6), including some with only low-level qualifications. The reporting system managed by the Department of Health Personnel, however, only includes civil servants on the Ministry of Home Affairs payroll while contractual and volunteer health workers represent approximately 25% of the total health workforce and are therefore not included in the official figures.

In 2019, there was an average of 0.97 nurses per 1,000 population. Nurses represent the largest share of health workers in Lao PDR; however, there are significant disparities across provinces. Khammouan has the highest rate of nurses per 1,000 population (1.7) and Bolikhamxay. There is an average of 0.62 medical doctors per 1,000 population with Vientiane Capital having the highest number of medical doctors per 1,000 population (0.81) and Salavan the lowest (0.7). In total, 8% of the total medical doctors are based in Vientiane Capital. There is an average of 0.24 midwives per 1,000 population, ranging from 0.4 in Xekong to 0.1 in Vientiane Capital (Department of Planning and Cooperation, Ministry of Health, 2019).

Table 6: Number of Health Work Force in Lao PDR, 2019

No	Health Work Force	2019
1	Health facility by type by province	1221
2	Coverage of Health facilities by 1000 population	1.7
3	Medical doctors per 1000 population	0.62
4	Nurses per 1000 population	0.97
5	Midwives per 1000 population	0.24

Figure 12: Ratio of HWC per 1000 population



2.3 Status and Quality of Healthcare

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

Health facility definition

- **Provincial hospitals** are public hospitals typically with 50-250 beds managed by a hospital director, under the supervision of the Provincial Health Office to provide healthcare, diagnostic services, treatment, rehabilitative services, research, capacity building, vaccination, and health promotion services to patients as well as supportive supervision of lower-level facilities.
- **Community hospitals** are public hospitals under the supervision of the District Health Office which provides healthcare, diagnostic services, treatment, and rehabilitative services at the intermediate-level, to patients referred by health centers.
- **Community hospital type A** has the capacity to provide basic surgery such as deliveries by cesarean section. Services are offered to patients referred by community hospital type B and health centers.
- **Community hospital type B** provides all of the above, however, does not have the capacity to perform basic surgery.
- **Health Center** is a public health facility located closer to the communities it serves under the supervision of DHO to provide primary healthcare services including medical treatment, hygiene, vaccination, disease prevention, health promotion, examination, diagnosis, treatment, and rehabilitation.
- **Health Center Type A** is located more than an hour away by vehicle from a provincial or community hospital. It is responsible for more than 7,000 people with at least 5 beds.
- **Health Center Type B** is located less than an hour away by vehicle from a provincial or community hospital. It is responsible for up to 7,000 people with no more than 5 beds.

Health services

The health-care delivery system is essentially a public system, with government-owned and operated health centers and district and provincial hospitals, complemented by private clinics/hospitals. The level of health care services in the public sector consists of four levels: 1) Primary care: 1060 Health centers and around 5239 village drug kits; 2) Secondary care: 135 District Hospitals (25 A type CEmONC, 110 B type BEmONC); 3) Secondary care: 17 Provincial Hospitals; 4) Tertiary care Central Hospitals: 3 general hospitals, 2 specialized hospitals, 3 centers for Eye, Dermatology & Venereology and Centre for Medical Rehabilitation, located in Vientiane capital (Table). Additionally, there is one Military hospital (103 Hospital) and one Police Hospital (Hospital 5 April).

The Lao public health system is mainly divided under the three arms of (a) health care; (b) prevention, promotion, and disease control and (c) health management and administration with traditionally a strong vertical structure. Healthcare systems in Lao PDR, according to the law of healthcare, consist of 1) Public healthcare system (predominant); 2) Private healthcare system (attendance increase); 3) Joint public-private healthcare system (PPP).

The private sector consists of two types of facilities: 1) Private hospitals - 29 hospitals (18 hospitals are located in Vientiane capital, but have a low level of competency), 3 new hospitals expected to have high competencies are currently under construction, 2) Private clinics reserved only for Lao

citizens - 1050 clinics (Two types: 24h and after working hours), including General Practice, Dental, EENT, Traditional medicines, Rehabilitation and others (MOH, 2019).

Almost all hospital beds are designed for acute care. There are no designated psychiatric hospitals and no long-term care institutions in the country. The chronically ill and the elderly are cared for at home (Table 7). Recently, some tertiary care hospitals have been transformed to specialist hospitals, including obstetric, orthopedic, and ophthalmology (MOH, 2019).

Table 7: Health facility profiles, 2019

Level of care	Type of Health care facilities	Number	No of beds	Range No of beds capacity
Tertiary	Central and specialist hospitals	8	1330	60–450
Secondary	Provincial/regional hospitals	17	1944	40–250
Primary	District hospitals	135	2025	10–20
	Health centres	1060	5280	1–2
	Drug kits	5239	–	NA

Source: MOH, 2019.

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

About 90% of the population is reported to be covered by public insurance, and that number is growing. Along with UHC, over the past decade, the Ministry of Health has been promoting positive change to improve healthcare through quality management tools. The first quality management tool, 10 Minimum Requirements (10 MR), was released in 2003, instituted the foundational commitment to patient-centered care and data tracking (MOH, 2008). The 10 minimum requirements are these:

- (1) the hospital is accessible to all patients 24 hours a day;
- (2) the hospital welcomes all patients with warmth and hospitality;
- (3) the hospital has all the essential drugs;
- (4) the hospital diagnoses and treats diseases of four major medical care departments (internal medicine, surgery, obstetrics and gynecology, pediatrics);
- (5) the hospital does tests of diseases using basic techniques of medical science;
- (6) the hospital has a patient referral system;
- (7) the hospital keeps records of all patients daily;
- (8) the hospital gives routine vaccinations and maintains a good quality cold chain;
- (9) the hospital promotes safe delivery for all mothers and gives well-baby check-ups to all children; and
- (10) the hospital monitors and evaluates maternal and child health activities regularly (MOH, 2008). The recently released 5 Goods and 1 Satisfaction (5G1S), which builds on the foundation of 10MR and focuses on better diagnosis and treatment to improve patient outcomes (MOH, 2015a).

These efforts to improve quality are important but to date, do not provide specific indicators to guide and track change. The general indicators items are: (1) warm welcome, (2) cleanliness, (3)

convenience, (4) accurate diagnosis, (5) good and quick treatment, and satisfaction by the patient (MOH, 2016).

There is high demand for quality public health care services, however, there are limitations in human resources and their distribution and limited budgets. Typically, there is an overconsumption of services at Central and Provincial hospitals and underutilization at District Hospitals and Health Centers. Private Hospitals are reported to have a low quality of care and are expensive. Private hospitals also sometimes refer the patients who are unable to pay to public hospitals. Some Lao citizens travelled to neighboring countries for better care.

2.4 Status of Public Health Agency

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

The Education for Development Fund (EDF-Lao) was founded and began operations in 1997 with the aim of providing educational opportunities to local underprivileged children in Lao. <http://www.edflao.org>.

There are many donor and international agencies working in specific health activities, especially in health promotion and prevention at the grass-roots level in Lao PDR. The international organizations and donors working in specific health activities included WHO, the Asian Development Bank, Australia, European Commission, France, Japan, Luxemburg, US Centers for Disease Control and Prevention, USAID, ILO and the World Bank. Key areas for cooperation include health sector development, emerging and infectious disease surveillance and response, HIV/ AIDS, tuberculosis, malaria, maternal and reproductive health, immunizations and vaccines, child and adolescent health, non-communicable diseases, injury prevention, mental health, and environmental health. There is however fragmentation among health programmes supported by donors and a lack of coordination among the different initiatives (INGO Lao Network, 2020). USAID works to reduce child stunting in targeted areas of Lao and supports people with physical disabilities to access prosthetic, orthotics and physical therapy, including victims of unexploded ordnance. USAID also focuses on assisting with the modernization of the country's economy, promote sustainable development and biodiversity conservation, and another area of USAID's work is strengthening capacity to mitigate the spread of infectious diseases and reduce the threat of further pandemics.

According to the INGO Directory, 2020, the following international NGOs work in the health sector within the Lao PDR: Care International, Medical Committee Netherland-Vietnam (MCNV), World vision International, International Organization for migration, Adventist Development and Relief Agency (ADRA), Action with Lao Children (ACL), Chritoffel-Blinde-mission Christian Blind mission (CBM), Health Poverty Action (HPA), Union Aid Broad-APHEDA, Basic Needs (BN), Care Laos, Caritas Luxemburg, Catholic Relief Service (CRS), Child Fund Laos, Christian Outreach for Relief and Development (CORD), Family Health International 360 (FHI360), Fred Hollows Federation Australia (FHF), Danish Red Cross (DRC), Norwegian Church Aid (NCA), Norwegian People Aid (NPA), Plan International Laos, Save Children International (SCI), Population Services International (PSI), Swiss Red Cross (SRC), World Concern, World vision, World Education (WEI) (INGOs Lao Network, 2020).

The United Nations has several specialized agencies in Lao, as well as different funds and programs that work with the World Bank and the Asian Development Bank to support the SDGs and Lao's national development targets. Part of the mission of the UN Lao Country Team is to help fight poverty by ensuring a rights-based approach to development, supporting sustainable use of natural resources and preservation of cultural heritage, and promoting human rights, gender equality and good governance. Women, children, youth, and the most vulnerable populations tend to be the focus of the UN's assistance in Lao (105). There are UNAIDS, UNDP, UNEP, UNV, UNFPA, UNICEF, UNIDO, UNODC, OHCHR, ILO, FAO, WHO, IOM, IFAD, WFP, IAEA...([INGOs Lao Network, 2020](#)).

The International Labour Organization in Laos also has been working in building capacity on occupational safety and health, giving recommendations on advanced methodologies for further actions, organizing international workshops and seminars, and building a national capacity training program. According to the tripartite rule, the International Labour Organization works collaboratively with the government and private employers. According to the Decent work Lao country program- 2017-2021, ILO worked on 3 main Development Cooperation Projects (1) on Occupational Safety and Health in Lao PDR supply chains - a Vision Zero Fund project, (2) ILO-Korea partnership on Occupational Safety and Health (OSH), and (3) the "Improving the Garment Sector in Lao PDR: Compliance through Inspection and Dialogue" project, ended in mid-2017 ([ILO, 2019](#)).

The Japan International Cooperation Agency (JICA) is advancing its activities around the pillars of a field-oriented approach, human security, and enhanced effectiveness, efficiency, and speed and other stakeholders in the Lao ([JICA, 2020](#)).

Chapter 3 OSH framework

3.1 OSH Laws & Regulations

3.1.1 Major OSH laws & regulations and recent amendments

Lao PDR is in the process of developing the national OSH laws and regulation. Law and regulations relating to OSH issued under MoLSW. The following laws and regulations have regulated Laos OSH:

- Labour law modified in 1994 and 2013
- Social security law modified in 2013 and 2018
- Law on Hygiene, Disease Prevention and Health Promotion No. 04/NA dated 10 April 2001
- Law on Mining No. 04-97/NA dated 12 April 1997
- Law on Manufacturing, Agreement of National Assembly No. 01-99/NA, dated 3 April 1999
- Law on Construction No. 159/PO dated 16 December 2009
- Law on Industrial Processing No. 01/99/NA dated 3 April 1999
- Law on Agriculture No. 01/98/NA, dated 10 October 1998

1. Labour law modified in 1994 and 2013

The first labour law of Lao People's Democratic Republic, Decree No.24/PR of the President of Republic, dated 21 April 1994, promulgating law No. 002/NA of 14 March 1994 (NA, 2006), concerning Labour and amended in 2013, No. 43/NA. The law defines the principles, regulations and measures on administration, monitoring, labor skills development, recruitment, and labor protection in order to enhance the quality and productivity of work in society, so as to ensure the transformation to modernization and industrialization aimed at safeguarding the rights of employees and employers, as well as the legitimate interests and the continual improvement of their livelihoods, while contributing to the promotion of investment, national socio-economic development, and regional and international links. Legislative frameworks for OSH discuss in the Section VIII Labor occupational safety and health, Chapter 1: Protection of Labor safety and health (Article 117-126) and Chapter 2: Labors accidents and occupational diseases (Article 127-129). Also, in the Section IV: Labor Protection, Chapter 1: Labor regulation (Article 51-53) related to OSH (NA, 2013a).

2. Social security law modified in 2013 and 2018

The new law of “Social security law” amended in 2018 No. 54/NA of 27 June 2018. The law identifies that person and family members receiving benefits from social security fund in order to ensure basic livelihoods when it comes to health care, employment injury, occupational diseases, maternity, sickness, invalidity, pension, death, survivor's benefit and unemployment as prescribed on each qualifying condition. Part IV Social security benefits for enterprise sector and voluntary insured person, Chapter 2: Employment injury and occupational diseases benefits (Article 45-46) (NA, 2019).

3. Law on Hygiene, Disease Prevention and Health Promotion No. 04/NA dated 10 April 2001

Law on Hygiene, Disease Prevention and Health Promotion, published by Ministry of Health in cooperation with Department of Law's Campaign and Distribution, Ministry of Justice, Decree

No. 49/President of Lao PDR, dated 25 April 2001, promulgating law No. 04/NA. President of National Assembly dated 10 April 2001, concerning Hygiene, Diseases Protection and Health Promotion (NA, 2001).

Article 18: Sanitation in the workplace:

Sanitation in the workplace refers to taking care of the working conditions focusing on the health protection of the workers in the industry, agriculture, and handicraft sectors, etc. The workers shall be protected from diseases, chemicals, etc. which are hazardous to the workers' and their family members' health and lives.

The employer shall provide personal protective equipment for the workers, including ensuring sufficient sanitation of the work place, such as good lighting and ventilation. Temperature, relative humidity, noise, odours, dust shall not exceed the allowed standards which have been mentioned in the regulations.

The workers shall have the right to receive health checks and treatment according to the regulations stated in the Labour law, especially for those who work in the hazardous sectors.

Article 20: Sanitation in the Construction sites and Repair stations:

Sanitation in the Construction sites and Repair stations refers to the implementation of necessary measures and methods in the construction of roads, buildings and repair of houses and other activities. This implementation should meet the sanitation regulation to ensure safety and should not be hazardous to the health and lives of the workers, the community in the nearby area as well as the people who travel in the area.

To ensure the safety, sanitation and convenience of the construction sites and repair stations, the employer or the manager shall install safety signs and fences, use screens and nets to cover the said sites, or shall water the sites to protect the construction material from dusts.

4. Law on Mining, Decree No. 36/PDR, President of Republic, dated 31 May 1997, promulgating law No. 04/97/NA of 12/4/1997, concerning mining.

Article 42: Responsibility of entrepreneurs who operate mining businesses:

Chapter 6: Ensure the training and further qualification in technical fields for Lao personnel including ensuring the welfare, health and safety of the workers.

Article 45: Standard of Techniques and Technology:

When performing any mining activity, the allowed person shall use proper techniques and technology, which meet international standards and are approved by the Ministry of Industry and Handicraft and other concerned authorities to guarantee the capacity and safety to serve the environment (NA, 1997)

5. Law on the Processing Industry, Agreement of National Assembly

Law on the Processing Industry, Agreement of National Assembly No. 01-99/NA, dated 3 April 1999, regarding the approval of the law on manufacturing and Decree of the President No. 10/PDR, dated 26 April 1999, regarding the promulgation of the law on manufacturing (NA, 1999).

Chapter II: Manufacturing in Industry and Handicraft sector:

Article 14: Condition of the performance of the factory:

A factory which has received a performance license has to start its operating activity following the agreed goal, as well as ensuring the quality and standard of products and observing the regulation on safety and health and factory environment.

Group V: Environment preservation:

Article 20: Measures of environment preservation:

The establishment and performance of factory activities must be done in such a manner as to avoid or reduce the impact to society and the environment on transportation, noise, light, color, outdoor, poisons, dust, smoke, vibration, temperature, relative humidity and so on. Also, the transportation and use of poisonous chemicals must follow the regulation of the environment preservation and the regulation of the Ministry of Industry and Handicraft.

Chapter IV: Rights and duties of the manufacturer:

Article 42: Duties of the manufacturer: Provision of technical training and upgrading the status of Lao workers including ensuring the wages, welfare, health and safety of the workers.

5. Law on Construction

Law on Construction No. 0197/NA, dated 26 November 2009, regarding the approval of the law on construction and Decree of the President No.159/PO, dated 16 December 2009, regarding the promulgation of the law on construction (NA, 2009).

Chapter 6 Implementation of the Construction Project

Article 34. Prevention for Safety

The prevention of safety in general cases shall use measures according to the rules of relevant sector for example: there is an alert signal, fence around the construction site, protection tools for labor: helmets, shoes, gloves, glasses.

During any construction project execution if there is a force majeure has been arisen such as: floods, storm, fire, earthquake, soil collapse or other catastrophe that affect to the construction project operation, the contractor shall have measures of prevention and timely solve as follows:

1. Make alert signal at the construction site;
2. Temporary stop the construction then timely use reasonable measures to settle in order to ensure the safety to laborers and protect assets of the construction project;
3. Urgently reports of the events to the project's owner, relevant officers, local administration in order to have measures to timely solves.

6. Law on Agriculture

Law on Agriculture No. 01/98/NA, dated 10 October 1998, regarding agriculture, President of the National Assembly (NA, 1998).

Chapter I: General Provision, Article 6: environment protection:

A person or organization that performs agricultural activities has an obligation to preserve the environment.

Chapter II: Agricultural enterprise, Article 10: rights and obligation of agriculture entrepreneurs: obligations:

- Do not cause difficulties during agricultural production to other persons or the environment and natural resources.
- Implement technical safety measures.
- Cooperate with the management official for agricultural inspection.

Chapter V: The protection of environment:

Articles 65, 66 and 67 formulate the methods of protection environment, human resources.

Article 65: the social and natural environments have to be protected, including people, animals, earth, water, forest and air.

Article 66: Care must be taken when using and storing pesticides to prevent their negative impact.

Article 67: environment protection measures for livestock:

Livestock must be kept in appropriate places and should not be under the house or near the (water-) spring, etc. There must be regular sanitation maintenance to protect humans and the environment.

- Regulation on the Control of Pesticides in Lao PDR No. 2860/MAF, dated 11 June 2010

This regulation defines the principles, rules, and measures for controlling activities that involve pesticides in Lao PDR in order to protect human, animal and plant health, and the environment, and to be harmonized with international obligations and regulations in which Lao PDR is contracting party ([Ministry of Agriculture and Forestry, 2010](#)).

Article 23. Use of pesticides

Any person intending to use a pesticide shall recognize its characteristics and pay attention to following matters:

1. Use Integrated Pest Management and give priority to controlling pests by using natural enemies;
2. Use pesticide properly and as described on the label;
3. Wear protective equipment whenever applying pesticides. Employers should provide employees with proper equipment and training in pesticide application;
4. Ensure that the necessary measures are taken to prevent harmful effects of pesticides to human health, animals and the environment; and
5. Any accident involving pesticides that requires specialist assistance or poses a threat to human health or the environment should immediately be reported to the relevant authority.

Article 24. Disposal of pesticides

Substandard or counterfeit pesticides, expired products or pesticide waste, including empty containers shall be properly disposed or buried in an approved landfill without risk to environment. The location should be on a flat ground, far from water resources, well or ground water and follow the technical guidelines specified by Water Resources and Environment Administration (WREA).

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

Currently utilized occupational safety and health regulations of the Government are as follows:

- **Ministry of Labour and Social Welfare** ([Department of Labour Management, 2020](#))
 1. Decree on Occupational Safety and Health No. 22/Gov. dated 5. February 2019
 2. Agreement on diseases adoption in Laos No. 3002/MoLSW dated 16 August 2018
 3. Minister's Decision on identification of hazardous work that prohibits the use of youth employees No. 4182/MoLSW dated 23 November 2016.
 4. Agreement on Labour Inspection No. 4277/MoLSW dated 5 December 2016
 5. Instructions for the appointment of inspector and agencies responsible for OSH No. 2159/MoLSW dated 21 May 2015.
 6. Minister's Decision on Occupational Safety and Health in construction site No. 3006/MoLSW dated 21 August 2013.
 7. Agreement of organizational and implementation of OSH inspectors committee in provincial level and Vientiane capital No. 1818/MoLSW dated 20 August 2010.
 8. Agreement of organizational and implementation of OSH inspectors committee in Central level No. 4321/MoLSW dated 8 September 2009.

- **Ministry of Industry and Commerce:**
 1. Law on Chemical management (Amended) No. 07/NA, issued date 10 Nov. 2016 ([Ministry of Industry and Commerce, 2016](#));
 2. The decision on Industrial Substance and Chemical Management No. 1041/MOIC.DIH issued on 28 May 2012 ([Ministry of Industry and Commerce, 2012a](#));
 3. Agreement on managing the waste from the industrial and handicraft processing No.0555/IC, issued on 20 March 2012 ([Ministry of Industry and Commerce, 2012b](#));

- **Ministry of Agriculture and Forestry:**
 1. Decision of the Minister of Agriculture and Forestry on Organic Agriculture Standards No. 1666/MAF Issued Date: 30-12-2005 ([Minister of Agriculture and Forestry](#))

- **Ministry of Natural Resources and Environment:**
 1. Law on Environment Protection (amended) No.29/NA, issued date 18Dec. 2012 ([NA, 2013c](#))
 2. Agreement on Environmental National Standard No.2734/PMO-WREA, issued on 7 December 2009 ([Ministry of Natural Resources and Environment, 2009](#)).
 3. Decree on Approved and adopted the projects accounting and activities that will be conducted preliminary study on the impact to the environment or impact on the environment, society and nature No.8056/MoNRE, issued date 17 Dec.2013 ([Ministry of Natural Resources and Environment, 2013](#)).
 4. Instruction on the Management of Hazardous Waste, No. 0744/MoNRE, date 11 February 2015 ([Food and Agriculture Organization of the United Nations, 2015](#))
 5. Guideline on Pollution Control No. 0745/MoNRE, date 11 December 2015 ([Ministry of Natural Resources and Environment, 2015](#))

3.1.3 ILO conventions ratified

The Lao People's Democratic Republic has been a member of the ILO since 1964. The country has ratified a total of ten ILO Conventions, including:

- Fundamental Conventions: 5 of 8
- Governance Conventions (Priority): 1 of 4
- Technical Conventions: 4 of 178

Out of 10 Conventions ratified by Lao People's Democratic Republic, of which 9 are in force, No Convention has been denounced; 1 convention abrogated; none have been ratified in the past 12 months (Table 8).

Table 8 Ratifications for Lao People's Democratic Republic

	Conventions	Date	Status	Note
Fundamental				
	C029 - Forced Labour Convention, 1930 (No. 29)	23 Jan 1964	In Force	
	C100 - Equal Remuneration Convention, 1951 (No. 100)	13 Jun 2008	In Force	

	C111 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111)	13 Jun 2008	In Force	
	C138 - Minimum Age Convention, 1973 (No. 138) <i>Minimum age specified: 14 years</i>	13 Jun 2005	In Force	
	C182 - Worst Forms of Child Labour Convention, 1999 (No. 182)	13 Jun 2005	In Force	
Governance (Priority)				
	C144 - Tripartite Consultation (International Labour Standards) Convention, 1976 (No. 144)	29 Oct 2010	In Force	
Technical				
	C004 - Night Work (Women) Convention, 1919 (No. 4)	23 Jan 1964	Not in force	Abrogated Convention - By decision of the ILC at its 106th Session (2017)
	C006 - Night Work of Young Persons (Industry) Convention, 1919 (No. 6)	23 Jan 1964	In Force	
	C013 - White Lead (Painting) Convention, 1921 (No. 13)	23 Jan 1964	In Force	
	C171 - Night Work Convention, 1990 (No. 171)	04 Jun 2014	In Force	

Source:

https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:103060

3.2 Mechanisms and Status for Law Enactments

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

There are some mechanism and status for enactment of OSH law and regulation. As mentioned in the Section XVI Policies about toward persons with outstanding achievements and Measure Against Violators, Article 179 about Measures Against Violators mentioned that any individual or legal entity that violate the law shall be re-educated, warned, fined, subject to temporary suspension of business, subject to withdraw of business license or brought to the court proceeding based on the nature of the offence, including having to compensate for the civil damage caused, as regulated by the laws and regulation (NA, 2013a).

Based on the Labour law (NA, 2013a) and OSH Decree (NA, 2019b), laws and regulations relating to OSH issued under MoLSW, the MoLSW has a function as a secretariat of the government for developing policy, law, rules, regulations, monitoring and supporting relevant ministries, organizations and other sectors in implementing the OSH nationwide with secretariat support from

the national OSH center. In management of the OSH, the Ministry of Labor and Social Welfare has rights and duties as following:

1. Developing policies, laws, strategies, regulations of OSH and propose to the government for consideration and implementation;
2. Supervise, monitor and support the National Occupational Safety and health implementation;
3. Consider issuing license for establishing Occupational Safety and Health unit;
4. Collaborate and coordinate with other relevant ministries, organizations, and local government to implementation of occupational safety and health;
5. Implement good policy to those perform well and give penalties to those who violate the law and regulation of OSH;
6. Collaborate with other countries, regional, and global relate to OSH activities;
7. Report OSH implementation to government regularly;
8. Utilize right and perform other duties as defined in the law

The Provincial and District Department of Labor and Social Welfare has right and responsibility to the OSH as following:

1. Implement policies, laws, strategy and regulations on occupational safety and health;
2. Disseminate law and regulations on occupational safety and health;
3. Supervise, support, monitor and encourage implementation of the OSH
4. Collaborate and coordinate with other relevant departments and organizations to implementation of occupational safety;
5. Implement good policy to those perform well and give penalties to those who violated law and regulations of OSH;
6. Monitoring and collecting information of OSH;
7. Supervise, monitor, and manage activities of the OSH service unit;
8. Collaborate with international level on OSH activities based on supervision from the government;
9. Report OSH activities to provincial government and ministry of Labor and Social Welfare as regularly and timely as indicated in this decree;
10. Utilize right and perform other duties as defined in the law and regulations.

Also in the OSH decree mentioned about find for violation on Article 70 Fine for Violation. Individual, legal entities and organizations that violated this decree, law and regulation relates to Occupational Safety and Health which is not criminal shall be fine as following:

1. Against Occupational Safety and Health inspector relates entering the place to conduct inspection at the labor unit shall be fined 5 million kip per incident.
2. Does not have rules and regulations of Occupational Safety and Health at the labor unit shall be fined 5 million kip per time for labor unit which has employee less than 100 and 10 million kip which has employee more than 100.
3. Does not following with warning notification by the Occupational Safety and Health inspector particularly does not improve, correct, fix, and not stop working and using machines, equipment, and personal protective equipment shall be fined 3 million kip per time;
4. Does not follow rules and regulations of Occupational Safety and Health, not intend to improve workplace condition and environment which would lead to occupational accident

and diseases and caused employee death shall be fined 20 million kip per death of each employee.

5. Does not have Occupational Safety and Health officer or responsible person shall be fined 3 million kip per time;
6. Does not have medical checkup for employees according to rule and regulation of this decree shall be fined five hundred thousand kip per employee per time;
7. Use pregnant employee or postpartum women with breastfeeding baby during less than 12 months of age to do overtime or works which prohibits under labor law shall be fined 5 million kips per person per time;
8. Force employees to work overtime beyond indicated in the labor law shall be find 2 million kips per time.
9. Implement fine penalty shall not be over three times, if still found violation other measurement and penalties will be applied such as withdraw and temporally suspend business license.

Although, in the Labour law and OSH have mentions clearly the role of central and local authorities in enforcing the law, but the implementation and enforcement challenges remained. This is especially mechanism for small and medium-sized enterprises, micro-enterprises, formal economy, migrant workers, and constructors.

3.3 Authorities or Body, Responsible for OSH

3.3.1 Authority or body, responsible for OSH

The Authorities or body, responsible for OSH are the Ministry of Labour & Social Welfare, Lao Federation of Trade Unions and Lao National Chamber of Commerce and Industry. The Labour Management Department, Ministry of Labour & Social Welfare is one part of the Ministry and its tasks deal with protection & prevention on Occupational Safety & Health, which corporate with Lao Federation of Trade Unions on behalf of representing of employees, and the Lao National Chamber of Commerce and Industry which is the representing of employers in Lao PDR (MoLSW, 2019). Herein called “Tripartite Organization” which is the main counterpart of Labour Management Department. The tripartite refers to representative entity consisting of the government representative as MoLSW being secretariat, the employee’s representative as Lao Federation of Trade Union (LFTU), and the employer’s representative as National Chamber of Commerce and Industry (LNCCI). The Government is having centralize and unity OSH management throughout the country and giving direct responsibility to the Ministry of Labor and Social Welfare with leadership to collaborate with other relevant ministries, organizations, and local governance authority. The Minister leads the MoLSW directly under the supervision of the Minister are 2 Vice Ministers. There are 8 departments and one Office of the Minister as following: 1) Department of Labour, 2) Department of Inspection, 3) Department of Organization, 4) Department of Social Welfare, 5) Department of Veteran and Disabled, 6) Department of Pensions and Elderly, 7) Department of Social Security and 8) Office of the Minister. Department of Labour is under the supervision of the Head of Department. There are 4 sectors: 1) Labour Policy and Planning office, 2) Labour management office, 3) Labour inspection office and 4) Labour occupational safety and health office. There are 2 offices work directly with OSH (<http://www.molsw.gov.la/ministry?a=1%20ທີ່ອົງກວມ,%208%20ກົມ>).

Based on the OSH decree No. 22/Gov, dated 5th February 2019, this is the following section briefly introduces right of authority or body, responsible for OSH at the different levels.

The Organization of the Occupational Safety and Health management

The Government is having centralize and unity OSH management throughout the country and giving direct responsibility to Ministry of Labor and Social Welfare with leadership to collaborate with other relevant ministries, organizations, and local governance authority.

Right and Responsibility of the Ministry of Labor and Social Welfare

In management of the OSH, the Ministry of Labor and Social Welfare has rights and duties as following:

1. Developing policies, laws, strategies, regulations of OSH and propose to the government for consideration and implementation;
2. Supervise, monitor and support the National Occupational Safety and health implementation;
3. Consider issuing license for establishing Occupational Safety and Health unit;
4. Collaborate and coordinate with other relevant ministries, organizations, and local government to implementation of occupational safety and health;
5. Implement good policy to those perform well and give penalties to those who violate the law and regulation of OSH;
6. Collaborate with other countries, regional, and global relate to OSH activities;
7. Report OSH implementation to government regularly;
8. Utilize right and perform other duties as defined in the law.

Right and Responsibility of the Provincial Labor and Social Welfare Department

The Provincial Department of Labor and Social Welfare has right and responsibility to the Occupational Safety and Health as following:

Implement policies, laws, strategy and regulations on occupational safety and health;

1. Disseminate law and regulations on occupational safety and health;
2. Supervise, support, monitor and encourage implementation of the OSH
3. Collaborate and coordinate with other relevant departments and organizations to implementation of occupational safety;
4. Implement good policy to those perform well and give penalties to those who violated law and regulations of OSH;
5. Monitoring and collecting information of OSH;
6. Supervise, monitor, and manage activities of the OSH service unit;
7. Collaborate with international level on OSH activities based on supervision from the government;
8. Report OSH activities to provincial government and ministry of Labor and Social Welfare as regularly and timely as indicated in this decree;
9. Utilize right and perform other duties as defined in the law and regulations.

Right and Responsibility of the District Labor and Social Welfare office

The District office of Labor and Social Welfare has right and responsibility to the Occupational Safety and Health as following:

1. Implement policies, laws, strategy and regulations on occupational safety and health;

2. Disseminate laws and regulations on occupational safety and health;
3. Monitor support and encourage implementation of the OSH
4. Collaborate and coordinate with other relevant offices to implementation of occupational safety and health works within areas of each entity responsibility;
5. Propose implementing good policy to those perform well and give penalties to those who violated law and regulations of OSH;
6. Monitoring and collecting information of OSH;
7. Summarize and Report OSH activities to district government and provincial department of Labor and Social Welfare as regularly and timely as indicated in this decree;
8. Utilize right and perform other duties as defined in the law and regulations.

Right and Responsibility of the Ministry of Health

In OSH management, the Ministry of health has rights and responsibility as following:

1. Implement policies, laws, strategy and regulations on occupational safety and health;
2. Lead organization on developing, revising the legislation for the occupational health legislation monitoring, assessing and managing;
3. Supervise and manage on WASH (water, sanitation and hygiene), disease outbreak prevention and other communicable diseases which might be occurred at the workplace;
4. Supervise health checkup for all employees include diagnostic, treatment, therapy and issue health and medical certification for victims of occupational accident and diseases including record and submit to the Ministry of Labor and Social Welfare;
5. Consider approval in establishing a unit to provide occupational diagnostic service and certification to the employees;
6. Train specialist on OSH such as nurse, physician, OSH physician specialist and technical hygienist;
7. Perform other tasks as functions of the health sector as indicates in this decree.

Rights and Responsibilities of the Relevant Ministries

Rights and responsibilities of other relevant Ministries on Occupational Safety and Health are as following:

1. Ministry of Industry and Commerce has rights and liabilities in the formation of factory's standard, buildings, and workplace; and approve the permission of import for chemical substances, machineries, manufacturing supplies; inspection of factory's standard, installation of machines, manufacturing equipment;
2. Ministry of Natural Resources and Environment has rights and being liable for managing, monitoring and protecting the environments in labor units and put measures to the labor units to avoid the impacts to neighboring communities;
3. Ministry of Public Works and Transport has rights and liabilities for developing OSH regulation and standard using in construction company, land-water –air transportation and courier service;
4. Ministry of Energy and Mining has rights and functions for developing OSH regulation and standard using in mining and energy business;
5. Ministry of Agriculture and Forestry has rights and functions to be in charge of propaganda, dissemination of information, providing for knowledge to agriculturists on the occupational safety and health; develop specific regulation on providing tools and

equipment, the use of chemical, prevention system and addressing the occupational safety and health issues under the supervision scope;

6. Ministry of Education and Sports has rights and responsibility for develop the curriculums of occupational safety and health from vocational education level in order to develop the technical specific field on occupational safety and health;
7. Minister of Science and Technology has rights and functions to conduct standard management for tools, equipment, OSH prevention system;
8. Minister of Information, Culture and Tourism has rights and be liable for develop IEC material on occupational safety and health.

Rights and Obligations of the Representative Body of the Employers

The representative body of the employers has obligations on the works of occupational safety and health as following:

1. Involve in study and consultation meeting to develop and modify policies, law and regulation on occupational safety and health;
2. Encourage and support employees, business associations, business groups to implement the laws and regulations on occupational safety and health;
3. Provide OSH advice, knowledge, and information to the employers, business associations, business groups, and other agencies under the membership.
4. Perform other duties and responsibilities as roles and functions indicated in the law.

Rights and Obligations of the Representative Body of the Employees

The Representative Body of the Employees has right and obligations to the Occupational Safety and Health as following:

1. Involve in study and consultation meeting to develop and modify policies, law and regulation on occupational safety and health;
2. Training, encourage, raise awareness raising and support employees, representative of employees, trade union units at work to implement the law, regulations relevant to Occupational Safety and Health;
3. Provide a consultancy and information to the employees, the representative body of the employees and trade union unit at the workplace;
4. Perform other duties and responsibilities as roles and functions indicated in the law.

3.4 Mechanisms for Ensuring Compliance including the System of Inspection

3.4.1 Number and inspection status of labour inspection office

Based on the Minister's Decision on Labour Inspection No. 4277/MoLSW, dated 5 December 2016 (MoLSW, 2020a), the implementation of inspection office is defined as the national inspection organization under division of inpection of labour department at the central level (MoLSW), the appointed person is considered to be a national labour inspector, which are standing at the center and every province by the specified number as mentions: in the central 10 inspectors and 3 inspectors in each province.

Previously, throughout the entire country, there were 188 labour inspectors who were under the labour division of the provincial and district levels. Due to the large number of labor inspectors, but the work was not as efficient as it should, therefore, the number of labour inspectors at the district level has been reduced, only in central, provincial and the district with a large

manufacturing industry with many workers. Currently, there are 87 labor inspectors in Lao PDR, of which 9 are in the Department of Labor, 13 in Vientiane Capital, 5 in each major province such as Savannakhet, Champassak and Luang Prabang, and 3 in each province (Table 9).

Table 9 Number and inspection status of labour inspection office

No	Provinces/Division of Labour and Social Welfare	Number of inspections	Workplaces at provincial labour division
1	Division of Labour Management	9	
2	Sekong		3
3	Attapeu		3
4	Saravanh		3
5	Champasak		5
6	Savannakhet		5
7	Khammoun		3
8	Borlikhamxay		3
9	Vientian Capital	13	
10	Vientiane Province		5
11	Xayyabouly		5
12	Luangprabang		5
13	Luangnamtha		5
14	Borkeo		3
15	Oudomxay		5
16	Phongsaly		3
17	Xiengkhuang		3
18	Huaphan		3
19	Xaysomboun Special Zone		3
	Total	22	65

In addition, the above information about the number of inspectors under the MoLSW Department of Labor, the Ministry of Agriculture (MoA), Ministry of Industry and Commerce (MoIC) also conducted inspection.

In the law on manufacturing, the role of the management and inspection authority is formulated. The said authority consists of Industry and Handicraft division, related agencies and local administration. They also have the right to inspect factories. Where the activity of the factory relates to other authorities, the inspection will be done in close cooperation with the concerned authorities and the representatives of the said authorities will participate at the inspection. The establishment and performance of the factory will be inspected focusing on the appropriate methods of building construction that meet the technical standards, the standards of machinery and equipment, product standard, safety standards, use of labour, the implementation of their rights and duties, health and impact on the environment. Furthermore, it should be an inspection as the regulation of other related authorities requested.

In the law on agriculture, there are elements that related for occupation safety health that is use a chemical; their responsibility is to train the staffs about the safety. The Ministry of agriculture enforces this.

The right of Labor inspector:

The rights of the labor inspector were first mentioned in the Agreement on Labour Inspection No. 4277/MoLSW, dated 5 December 2016 (MoLSW, 2020b) and later extended to the Decree on Occupational Safety and Health No. 22/Gov, dated 5th February 2019.

The Inspector of Occupational Safety and Health has main duties as following:

- Create plans, project, action plans and procedures on the inspection of occupational safety and health monthly, quarterly and annually;
- Enforce labour laws and regulations in labor units throughout the country efficiently and effectively by planning, monitoring and implementing labor inspections;
- Implement sanctions imposed by fines or administrative sanctions for employees and employers who violate labor laws and regulations;
- Ensure the provision of technical information and provide a consultancy to employees and employers on implement the labour laws and regulations;
- Coordinate with the related sectors in the activities and implementation of the inspections. However, in the case of necessary, the labor can be inspected but must report the results of the labour inspection to the relevant authorities later;
- Taking the issue that violated or the acts that are not yet covered by legislation inform to related authorities;
- Summarize and report the results of monthly labour inspections to provincial labour social welfare department (for the provincial level) and quarterly to MoLSW regularly;
- Perform other duties that it deems appropriate/not in conflict with legislation and not offending at other organizations, not biased or beneficial to either party, do not damage Government organization or legal entity, and do not adversely affect the relationship between employees and employers

Also in the Decree on OSH (NA, 2019b) has mentioned in the Chapter VIII, the Occupational Safety and Health Inspection as mentions below:

The Inspector of Occupational Safety and Health has he following rights:

1. Conduct inspection at all labor units and workplace at day and night time with or without advance notification if necessary;
2. Conduct inspection with each working procedure within working unit, machine operation, tools and every equipment;
3. Interview for data collection and relevant documents from employers or representative body of employers, employees or representative of employees, or other relevant people;
4. Copy all or some part of documents which found necessary for inspection;
5. Collect sample, object particle or chemical sample to examine and analyze;
6. Invite specialist/expert in the field and relevant technical officers to participate in sample examination and analysis;
7. Record motion, none motion pictures and sound for examination, analyze, and use as evident;
8. Introduce yourself by showing Inspector Identification Card or does not necessary to self - introduce to the labor unit in case self-introduction would influence work performance or dangerous.

9. Conduct inspection and measurement of workplace environment by using specific investigation tools for physical measurement include indoor air quality such as: toxic chemical, dust, noise, light, and others.
10. Order employers to improve and solving problems within appropriate time period, if workplace is probably hazardous and unsafe for employees.
11. Order to stop operating all machines or equipment or partially in case investigation found that unsafe and dangerous to employees. The stop duration of operating machines and equipment must not be more than 15 days which employers must pay for full salary to employee as normal rate during factory close for inspection.
12. Utilize right as indicates in the law and regulations.

Standards and Conditions of the Labor Inspector (MoLSW, 2020c)

The Labor Inspector is an employee appointed by the Labor Administration to conduct the Labor Inspection; the labor inspector has the following standards:

- 1) Is the officer of labor and social welfare for 3 years or more;
- 2) Has undergone training on labor inspection;
- 3) Qualified, ethical, responsible, hones;
- 4) Keeping the confidentiality of the labor unit he/she inspects;
- 5) Be respectful and strictly follow the rules and regulations;
- 6) Able to work as a labor inspector for at least 3 consecutive years before retiring or relocating to another department.

The current inspection status of labour inspection office, not all companies or business enterprises did have the labor inspector, even though, they have the labor inspector, but they did not carried out the inspection regularly. The inspectors from MoLSW did not have enough capacities and the number of inspectors to carry out inspection at the business enterprises and companies. Although by law companies are meant to undergo safety inspections by labour inspectors at least once a year, the research team found little evidence of these inspections being conducted in coffee plantations and mills. The functions of labour inspectors include enforcing the Labour Law, providing technical information and advice to employers and workers to comply with the Labour Law, and notifying the competent authority of defects or abuses not specifically covered by existing legal provisions (ILO, 2020). In addition, the studies have been carried out by ILO (2019) also showed that there were no hazards and risk assessments in the surveyed garment factories. The factories didn't establish OSH policy and procedures. There was no role and responsibilities assigned for OSH management at workplace. There were no documents relevant with OSH implementation. Some factories developed the OSH policy with signature from the top management and posted in the office, but there were 5 statements stated about OSH improvement at workplace. However, there was no actions to achieve the objectives, lack of OSH procedures such as emergency preparedness, hazard and risk management/control, OSH committee, chemical management etc. Roles and responsibilities of OSH officers were not clearly defined.

3.4.2 Utilization of private agency for inspection

The inspection of OSH is a staff of the OSH Management organization, which appointed by the MoLSW to monitor the implementation law and regulations concerning the occupational safety and health at the workplace, ensuring the employers and employees to follow their rights, functions and responsibilities. There is no private agency for inspection, however, there are private

freelances and NGOs providing the OSH consultancy, carried out the short training and small researches.

3.4.3 Reporting and notification system for workplaces

The experts highlighted that the collection, recording and notification of data concerning occupational accidents and diseases were instrumental in prevention and that it was also important to identify and study the causes of such accidents and diseases in order to develop the preventive measures. They accordingly amended a draft prepared by the Office and adopted the code of practice, noting that its provisions should be considered as the basic requirements for the collection, recording and notification of reliable data on occupational accidents and diseases, and related statistics. In addition, recommendations were made concerning equivalent requirements for the recording and notification of commuting accidents, dangerous occurrences and incidents.

Based on the motioned that, each government should nominate a competent authority or authorities, as appropriate, which should, in the light of national conditions and practice and in consultation with the most representative organizations of employers and workers, formulate, implement and periodically review a coherent national policy (hereafter referred to as “the policy”) and principles on :

- a) The recording, notification and investigation of occupational accidents and diseases;
- b) The recording, notification and investigation of commuting accidents, dangerous occurrences and incidents; and
- c) The compilation, analysis and publication of statistics on such accidents, diseases and occurrences (ILO, 2013)

The government of Lao PDR attaches great importance to OSH, distributed to the Department of Labor Management, Ministry of Labor and Social Welfare on behalf of the Government. As mentioned in OSH decree, MoLSW has appointed a labor inspector to monitor the implementation law and regulations concerning the occupational safety and health at the workplace, ensuring the employer and employee to follow their rights, functions and responsibilities. Also set out in article 26 of the OSH decree, “Record and report on occupational accident and diseases” that the employers must seek and record the causes of occupational accident and disease. The record of the causes of occupational accidents should be kept in the storage for at least 5 years and the occupational diseases should be kept at least 20 years.

The employer must report numbers of victims from occupational accident and disease to the labor management and control division every 3 months, six months, and one year. In case of there is severe occupational accident at the workplace or there are many severe employees injured from occupational accident, the employers must take following procedures:

1. There is death of an employee, serious injured or severe workplace damaged which lead to closing factory, the employer must immediately report to the labor management authority and report in written about the causes of accident include amount of lost and damage, solution, and preventive procedure within 48 hours.
2. The employers must notify social insurance about the amount of employee injured and death from the occupational accident within seven days to receive compensation according to law on social insurance including report to labor management authority.

3. If employer does not report on 1 and 2 above, employee or the representative or federation of Trade Union or family members of the victims also have a right to report.

Unfortunately, until now, there is no reporting and notification system for workplaces yet. Only the Security Scheme (SSO) keeps all records of occupational accidents involving members, since payment for hospital treatment of accidents has to be settled by this division. Until now, only occupational accidents have been reported. There have been no cases of occupational diseases reported as yet, because doctors have not certified whether or not the accident is really an occupational disease. This division has stated that it would be difficult to say which case could be occupational diseases since the OSH management is not yet strong enough.

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

The decree No. 207/PM, dated 23 December 1999, promulgated the regulation on the Social Security System. In 2013, the National Assembly endorsed a new Social Security Law and revised in 2019 (NA, 2019b), which aims to harmonize existing contributory social security schemes for the private, and the public sectors, and which for the first time allows individuals outside the formal economy to become voluntarily contributing members, providing access to health care along with benefits in disability, sickness, maternity and old age. The Social Security law is applied to enterprises, which employ more than 10 workers, however, right now, the Social Security Organization (SSO) persuades any employers with one or more employees to apply for social security voluntary. Since 2001, the Social Security Organization (SSO) is responsible for the social insurance scheme of the private sector, including state-owned enterprises.

The SSO is administered as a self-financing judicial entity under the supervision of the Ministry of Labour and Social Welfare. The social insurance scheme for the private sector is a contributory and compulsory scheme wherein both employer and employee have to pay a monthly contribution to the Social security Fund (SSF) at an equal rate of 4.5% of insurable earning, with the employer paying an additional 5% for compensation fund. The Government of Lao PDR does not contribute to the fund but provides a guarantee from bankruptcy and supervises fund management. The Government's social insurance package consists of benefits such as health insurance, sickness and maternity benefit, funeral allowance, invalidity and old age pension, and occupational disease and work accident grants to insured persons and dependents.

The division of Claim of the SSO is responsible for the collection of statistics of occupational accidents. This division keeps all records of occupational accidents involving members, since payment for hospital treatment of accidents has to be settled by this division. Until now, there only occupational accidents have been reported, but not yet the cases of occupational diseases, because doctors have not certified whether or not the accident is really an occupational diseases. The data has still not been completed because not all enterprises with more than 10 employees are members of the organization (SSO, 2015).

The main health insurance benefits include outpatient services, in-patient services, emergency services, and medical care in case of employment injury of occupational disease. SSO pays the contracted hospital for each beneficiary an advanced amount or capitation for possible treatment cost according to the number of patients that have chosen them as their hospital of treatment. The

Social Security Scheme tries to compensate and cover all kinds of occupational accidents and injuries for those who have maintained their contribution to the Social Security Scheme. Once the occupational injury had happened, the employer must take the injured person to the hospital and then informed the Social Security Organization (SSO) and the employer must record the case. If the major injury, the police was informed and a report was made. The data has still not been completed because not all enterprises with more than 10 employees are members of the said organization. Chapter 4 of the Social Security law is articulated about Employment Injury and Occupational Disease Benefit and non-work related cases in the articles 20 to 27.

The sickness benefit includes insurance for temporary incapacity at work or loss of income due to illness or injury with SSO paying 60% of the insured employee's salary. The maternity benefit equal to 100% of insured earnings is applicable for a period of 3 months after childbirth or miscarriage resulting in an injured person's inability to return to work for medical reasons. Also, in case of work injury, SSO members are entitled to financial compensation for accidents occurring in the course of their job performance. Moreover, the 'occupational disease benefit' can be redeemed for all covered health and mind diseases registered in the Ministry of Health. If a particular disease is not included in the list, the SSO Medical Board can issue a certificate that the employee acquired the disease in the course of his/her duties. Lastly, SSO can also provide financial contribution to funeral costs with a benefit equal to 2 months (death of child), 3 months (death of spouse), or 6 months (death of insured person) of an employee's insured earnings. Table 10 shows the type and benefit payments for work injury and occupational disease.

Table 10: Type and Benefit payment for work Injury and Occupational Diseases

Type of Benefits	Reason for Payment	Description of Payment	Calculation and Benefit amount
Medical Care	- Coverage of expenses for medical treatment of illness or injury caused by industrial accidents	- Medical care benefits under workplace-related benefits such as work injury and occupational disease benefits i.e. loss of physical and mental working capacity.	- Insured employee wounded by work accident or occupational diseases will receive free medical care. - If medical costs are paid from other sources, SSO will pay the balance between payment made and actual cost of medical care.
Temporary loss of work	- If the insured person's health status has not improved within 6 months, the sickness benefit will be reduced to 60% of the salary for a period of another 18 months. Thereafter, entitlement will switch to a benefit for permanent loss of working capacity.	- SSO will pay the equivalent of 100% of the insured salary or wage of the insured person for a period of 6 months. However, the first 7 days will always have to be paid by the employer. Payment will be made until employee can resume work.	- SSO will pay the equivalent of 100% of the salary or wage payable to the insured person for a period of 6 months. - Upon the expiry of the 6-month period, if the insured person's health status has not improved, the benefit will be reduced to the equivalent of 60% for a period of 18 months. - Thereafter, SSO will switch to a benefit for permanent loss of working capacity.

Partial Return to Work	<ul style="list-style-type: none"> - In case the employer refuses to comply without sufficient justification, the employer must be responsible for the sickness benefit for the employee concerned during his sickness leave. 	<ul style="list-style-type: none"> - If the new job is on a part-time basis with less income, SSO will pay the previous and current wage difference. 	<ul style="list-style-type: none"> - The employer has the duty to seek alternative work for beneficiaries whose health has not yet fully normalized. - If the new job is on a part-time basis with less pay, SSO will pay the wage differential.
Caretaker Benefit	<ul style="list-style-type: none"> - In case an employee with loss of working capacity is unable to move alone, SSO will provide benefits to caretakers. 	<ul style="list-style-type: none"> - Benefits are assessed on an hourly basis according to the time spent by the caretakers in looking after the person sustaining a loss of working capacity. This is based on the minimum salary or wage set by the Government. 	
Funeral benefit	<ul style="list-style-type: none"> - In case the employee dies due to a work accident or occupational disease 	<ul style="list-style-type: none"> - SSO will pay a funeral benefit equivalent to 6 months of the insured person's earnings. - Thereafter, the insured person's spouse and dependents are entitled to receive a survivors' benefit. 	
Survivor Benefit	<ul style="list-style-type: none"> - In order to be eligible for survivor's benefit, the spouse of dead insured person has to fulfil at least one of the following conditions: <ul style="list-style-type: none"> ▪ The surviving wife has reached 44 years of age or more; ▪ The surviving wife is disabled or without working capacity; ▪ The surviving wife has at least one child under the age of 18; - The surviving husband is disabled or unable to work. 	<ul style="list-style-type: none"> - Surviving spouse or parent benefit equal to 50% of the average insured earnings over a period of 12 months. - Surviving children's benefit equal to 15% of the beneficiary's average earnings during 12 months of insurance. In case there is no surviving spouse or parents, each child will receive benefits equal to 20% In cases of several children, insurance benefits must not exceed 60%. - The maximum survivors' benefit will not exceed the benefit payable for assumed permanent loss of working capacity. Children and widows remarrying within one year can receive payment. 	<ul style="list-style-type: none"> - Amount paid as benefits related to work injury and occupational diseases could not be broken down is available in Table 7.

Source: MoLSW. (2005). SSO Manual and Procedures, 2005.

3.5.2 Approval standards for occupational injuries and diseases

Laos has no occupational injury and diseases standards yet, only the Ministerial Agreement of each Ministry related to the occupational injury and diseases (Table 11).

Table 11 Approval standards for occupational injuries and diseases

	Name of the Ministerial Agreement	Reference:
1	Agreement on diseases adoption in Laos	No. 3002/MoLSW dated 16 August 2018
2	Minister's Decision on identification of hazardous work that prohibits the use of youth employees	No. 4182/MoLSW dated 23 November 2016
3	Minister's Decision on Occupational Safety and Health in construction site	No. 3006/MoLSW dated 21 August 2013
4	The decision on Industrial Substance and Chemical Management	no. 1041/MOIC.DIH issued on 28 May 2012
5	Agreement on the Establishment of the Environmental and Chemical Management Unit	
6	Agreement on Wastewater Release	No.0555/IC, issued on 20 March 2012
7	Agreement on air standards	
8	Agreement on Noise Standards	
9	Agreement on Industrial Waste Management	
10	Agreement on Boiling Water Management	
11	Regulation on Management and use of pesticides	No.0886/AF, dated 10 March 2000
12	Agreement on Environmental National Standard	No.2734/PMO-WREA, issued on 7 December 2009
13	Instruction on the Management of Hazardous Waste	No. 0744/MoNRE, date 11 February 2015

3.5.3 Occupational disease list

The National list for occupational diseases in Lao PDR has been developed using ILO list of Occupational Diseases was revised in 2010 (MoLSW, 2018). The first National list of Occupational Diseases for Lao PDR No. 3002/MoLSW, dated 16 August 2018, has developed for the purpose of prevention, recording, notification and compensation of occupational diseases in the country. The National list of Occupational Diseases for Lao PDR is following:

1. Occupational diseases caused by exposure to agents arising from work activities

There are 40 chemical against that mentioned in the Diseases caused by chemical agents such as beryllium or its compounds, cadmium or its compounds, phosphorus or its compounds, chromium or its compounds, manganese or its compounds, arsenic or its compounds, mercury or its compounds, lead or its compounds, fluorine or its compounds, carbon disulfide, halogen derivatives of aliphatic or aromatic hydrocarbons, benzene or its homologues, nitro-and amino-derivatives of benzene or its homologues, nitroglycerine or other nitric acid esters, alcohols, glycols or ketones, asphyxiants like carbon monoxide, hydrogen sulphide, hydrogen cyanide or its derivatives, acrylonitrile, oxides of nitrogen, vanadium or its compounds, antimony or its compounds, hexane, mineral acids, pharmaceutical agents, nickel or its compounds, thallium or its compounds, osmium or its compounds, selenium or its compounds, copper or its compounds, platinum or its compounds, tin or its compounds, zinc or its compounds, phosgene, corneal irritants

like benzoquinone, ammonia, isocyanates, pesticides, sulphur oxides, organic solvents, latex or latex-containing products, and chlorine.

Diseases caused by physical agents such as 1) Hearing impairment caused by noise, 2) Vibration (disorders of muscles, tendons, bones, joints, peripheral blood vessels or peripheral nerves), 3) Compressed or decompressed air, 4) Ionizing radiations, 5) Optical (ultraviolet, visible light, infrared) radiations including laser, and 6) Heat stroke caused by outdoor work and extreme hot temperature (over 42C).

Biological agents and infectious or parasitic disease: 1) Hepatitis viruses (laboratory workers, healthcare workers), 2) Human immunodeficiency virus (HIV) (laboratory, healthcare workers), 3) Tuberculosis (healthcare workers), 4) Brucellosis (need some data, veterinarian can be considered), 5) Anthrax (laboratory workers, veterinarian), and Leptospirosis.

2. Occupational diseases by target organ system

Respiratory diseases such as 1) Pneumoconiosis y fibrogenic mineral dusts (silicosis, anthracosilicosis, asbestosis), 2) Silico-tuberculosis, 3) Pneumoconiosis caused by fibrogenic mineral dust, 4) Siderosis, 5) Bronchopulmonary diseases caused by hard-mineral dust, 6) Bronchopulmonary diseases caused by dust of cotton, flax, hemp, sisal or sugar cane, 7) Asthma caused by recognized sensitizing agents or irritants inherent to the work process, 8) Extrinsic allergic alveolitis caused by inhalation of organic dusts or microbially contaminated aerosols, arising from work activities, 9) Chronic obstructive pulmonary diseases caused by inhalation of coal dust, dust from stone quarries, wood dust, dust from cereals and agricultural works, dust in animal stables, dust from textiles, and paper dust, 10) Diseases of the lung caused by aluminium, and 11) Upper airways disorders caused by recognized sensitizing agents or irritants inherent to the work process.

Skin diseases such as: 1) Allergic contact dermatoses and contact urticaria caused by other recognized allergy-provoking agents arising from work activities not included in other items, and 2) Irritant contact dermatoses caused by other recognized irritant agents arising from work activities not included in other items.

Musculoskeletal disorders such as 1) Radial styloid tenosynovitis due to repetitive movements, forceful exertions and extreme postures of the wrist, 2) Chronic tenosynovitis of hand and wrist due to repetitive movements, forceful exertions and extreme postures of the wrist, 3) Olecranon bursitis due to prolonged pressure of the elbow region, 4) Prepatellar bursitis due to prolonged stay in kneeling position, 5) Epicondylitis due to repetitive forceful work, 6) Meniscus lesions following extended periods of work in a kneeling or squatting position, and 7) Carpal tunnel syndrome due to extended periods of repetitive forceful work, work involving vibration, extreme postures of the wrist, or a combination of the three. Mental and behavioural disorders: 1) Post-traumatic stress disorder (table 12-14).

3. Occupational cancer

Cancer caused by the following agents: 1) Asbestos, 2) Benzidine and its salts, 3) Bis-chloromethyl ether (BCME), 4) Chromium VI compounds, 5) Coal tars, coal tar pitches or soots, 6) Betanaphthylamine, 7) Vinyl chloride, 8) Benzene, 9) Toxic nitro- and amino-derivatives of benzene or its homologues, 10) Ionizing radiations, 11) Tar, pitch, bitumen, mineral oil, anthracene, or the

compounds, products or residues of these substances, 12) Coke oven emissions, 13) Nickel compounds, 14) Wood dust, 15) Arsenic and its compounds, 16) Beryllium and its compounds, 17) Cadmium and its compounds, 18) Ethylene oxide, and 19) Hepatitis B virus (HBV) and C virus (HCV) (healthcare and laboratory workers)

4. Other diseases such as Miners' nystagmus caused by low light and underground work

Table 12 Key criteria for diagnosing an occupational disease*

Key criteria	Additional explanation
The clinical features must fit in with what is known about the health effects following exposure to the specified agent.	The symptoms and signs should fit, and this may be supported in some cases by suitable diagnostic tests.
There must be indication of sufficient occupational exposure.	Evidence on exposure may be obtained through taking the: <ul style="list-style-type: none"> - occupational history, - results of occupational hygiene measurement taken at the workplace, - biological monitoring results, if any test is available and - records of incidents of over-exposure, if any record available.
The differential diagnosis must be considered.	There are non-occupational condition that have similar clinical features as occupational diseases, and a physician will have to take this into account before diagnosing or excluding an occupational disease.

The key criteria for diagnosing occupational disease developed based on EU Guideline. Refer to Information notices on occupational disease: a guide to diagnosis. Luxembourg: Office for Official Publications of the European Communities, 2009:227-261.

Table 13. Templates for national occupational diseases statistics

Classification of occupational diseases	Number of new cases	Number of cumulative cases	Number of cases per 10 000 employed persons
Diseases caused by agents			
<i>Diseases caused by chemical agents</i>			
<i>Diseases caused by physical agents</i> 1. Hearing impairment caused by noise 2. Diseases caused by vibration			
<i>Diseases caused by biological agents</i>			
Diseases caused by target organ			
2.1 Occupational respiratory diseases 2.1.1 Pneumoconiosis caused by fibrogenic mineral dust			

2.1.3. Pneumoconiosis caused by non-fibrogenic mineral dust 2.1.5. Bronchopulmonary diseases caused by hard-metal dust 2.1.6. Bronchopulmonary diseases caused by dust of cotton 2.1.7. Asthma 2.1.8. Extrinsic allergic alveolitis			
2.2 <i>Occupational skins diseases</i> 2.2.1. Allergic contact dermatoses and contact urticarial caused by other recognized allergy-provoking agents arising from work activities not included in other items 2.2.2. Irritant contact dermatoses caused by other recognized irritant agents arising from work activities not included in other items			
2.3 <i>Occupational musculoskeletal disorders</i> 2.3.1. Radial styloid tenosynovitis 2.3.2. Chronic tenosynovitis 2.3.5. Epicondylitis 2.3.7. Carpal tunnel syndrome			
2.4. <i>Mental and behavioural disorders</i>			
Occupational cancer Asbestos-induced diseases and cancer Wood dust 3.1.20. Hepatitis B virus (HBV) and hepatitis C virus (HCV)			
Others			

Table 14: Template of Occupational diseases by category of industry.

#	Type of enterprises/or occupation	Number of occupational disease cases			Cases per 10 000 employed persons		
		Men	Women	Total	Men	Women	Total
1	Agricultural employers and self-employed farmers						
2	Mine, mining industries						
3	Construction and building materials						

4	Manufacture, and all other types of industries						
5	Public service sector, health, education						
6	Others						
	Total						

However, the list of occupational injuries and diseases were not implemented into practice yet as there were no training on the list of occupational injuries and diseases yet.

3.6 Workplace Organization for OSH Management

3.6.1 Workplace organization for OSH management by regulations, the approval standards for occupational injuries and diseases

According to the Labour law and Decree on OSH, section 6, article 30 mentioned that the workplace organization for OSH management by regulations, the approval standards for occupational injuries and diseases while policy oversight is the responsibility of the department of Labour, MoLSW. The approval standards for occupational injuries and diseases are based on the Labour law and OSH decree, The Social Security Organization was established to respond to the necessity of the Social Security Scheme. There were no OSH management at the working places.

According to the study have been carried out in the garment factory, the factory didn't establish OSH policy and procedures. There was no role and responsibilities assigned for OSH management at workplace. In addition, there was no documents relevant with OSH implementation (ILO, 2019).

3.6.2 OSH committee

According to the Decree on Occupational Safety and Health No. 22/Gov, dated 5th February 2019 (NA, 2019b), the Committee of Occupational Safety and Health is not officers sitting in one duty station and it consists of members as following:

1. The National Committee of Occupational Safety and Health
2. The Provincial Committee of Occupational Safety and Health

Committee of OSH at each level has its own secretariat

The National Committee of Occupational Safety and Health is nominated by the Prime Minister based on the proposal of the Ministry of Labor and Social Welfare, which function as a secretariat of the government for developing policy, law, rules, regulations, monitoring and supporting relevant ministries, organizations and other sectors in implementing the OSH nationwide with secretariat support from the national OSH center. The Minister of MoLSW is the Chair of OSH national committee, Deputy Minister of the Labor and Social Welfare, Deputy President of Lao Federation of Trade Union, and Deputy President of Lao National Chamber of Commerce and Industry are the Vice-chair of OSH national committee. Representative of the Ministry of Health, Ministry of Industry and Commerce, Ministry of Natural Resources and Environments, Ministry of Public Works and Transports, Ministry of Energy and Mining, Ministry of Education and Sports, Ministry of Agriculture and Forestry, Ministry of Sciences and Technology, and Ministry of Information, Culture and Tourism are the member of OSH national committee.

The Provincial Committee of OSH is nominated by the provincial governor based on the proposal of the Provincial LSW department. The committee has function as a secretariat for the provincial governance to monitor and support relevant departments and other sectors in implementing the OSH under the responsible area by having the provincial LSW department as a secretary. In Provincial Committee of OSH, Director of the Provincial MoLSW Department is the Chair of OSH provincial committee, Deputy director of Provincial Labor and Social Welfare Department, Deputy President of the Provincial Federation of Trade Union, and Deputy President of the Provincial Chamber of Commerce and Industry are the Vice-chair of OSH provincial committee. Representative of the Provincial Health Department, Provincial Natural Resources and Environment Department, Provincial Public Works and Transport Department, Provincial Industry and Commerce Department, Provincial Energy and Mining Department, Provincial Education and Sports Department, Provincial Agriculture and Forestry Department, Provincial Science and Technology Department, and Provincial Information, Culture and Tourism Department are the member of OSH provincial committee.

3.6.3 OSH training at workplaces

MoLSW cooperation with the ILO (ILO/OSH office BANGKOK), have organized several OSH training courses on small construction sites (WISCON) and Work Improvement for Small Enterprises (WISE). The ILO has provided a lot of support, especially the technical knowledge as well as the financial support to train the Labour involved staff. From this project the MoLSW and the ILO focused on the capacity building. Many staff of the representative of government, employers and workers has been trained.

Department of Labor Management, MoLSW

Department of Labor Management, MoLSW is one department under the organizational structure of the Ministry (http://www.molsw.gov.la/assets/source/document/ພາລະບົດບາດກົມຄຸ້ມຄອງ.pdf). The roles of the departments are: Assist the Minister in drafting Labour policy, regulations, regulation on the management of the use of Labour, Labour skill development and employment promotion for Lao citizens based on the Labour law and decree on the organizational structure and activity of the Ministry of Labour and Social Welfare. The Department of labor management consists of 4 Divisions: 1. Division of Labour Policy and Planning; 2. Division of Labour Protection; 3. Division of labor control; 4. Division of OSH. The Division of Labour Protection is responsible for Occupational safety. Decree of the organization and the activities of labor management No. 2828/MoLSW, dated 8 August 2013/Minister of MoLSW is referred to the Organization and Activity of the Department of Labour which is described the roles and responsibilities of the Division of Labour Protection. In terms of OSH, Faculty of Medical Technology, UHS has tools for checking air (given by an international organization/no further details) which are used to educate students.

The National OSH Training Center, LNCCI

The “National OSH Training Center” is the only institution, which organizes OSH-related training courses for employers of small enterprises and their workers. The “National OSH Training Center” is the only institution, which has an OSH trainer team, which can provide OSH training. Besides that, there are more than 20 WISE trainers who participated at the first WISE training of

trainers in August 2000. Most of them returned to their original institutions or enterprises. They could operate as OSH practitioners at their enterprises to help the enterprises in OSH improvement.

The Ministry of Industry and Handicraft has sometimes organized OSH-related training in industry. This kind of activity has mainly occurred in cooperation with a donor agency. It is observed that the training activity depends on the action plan of the donor agency. The ministry just operates as a coordinator.

Lao Federation of Trade Union

The workers' organization – Lao Federation of Trade Union – also has an OSH trainer team of their own. The team organizes OSH training in the enterprises using the HIV/AIDS Programme in addition to OSH and ILO's WISE programmes.

ILO

The ILO supported the MoLSW in organizing many OSH training and has conducted the first Training-of-Trainer course in Lao PDR to improve occupational safety and health in the country's coffee sector. Organized in the context of the Vision Zero Fund (VZF) project for Lao PDR – funded by the EU- the training aims to reduce the number of fatal and severe occupational accidents and diseases in the coffee sector. The course built participants' knowledge on occupational safety and health in agriculture in general and the specific safety and health issues faced by coffee farmers in particular (ILO, 2019).

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

The labour law (GoL, 2013) mentioned in the section VIII Labour Occupational Safety and Health, Article 123 (New) Officials and Responsible Unit on the Labor Health and Safety in a Labor Unit

Economic labor units with one hundred or less employees must have at least one employee responsible for labor health and safety. Labor units or workplaces working in the area of construction and mining must have at least one employee responsible for labor health and safety. Labor units with over with one hundred employees must appoint a unit and in case of necessity, a safety and health board responsible for labor and health shall be established.

Employee responsible for labor health and safety must have the knowledge or have undergone training, or have a degree or certification from an institute or organization in regards to labor health and safety recognized by the Labor Administration Agency. In the OSH decree in the Chapter III, the Occupational Safety and Health Services Organization; Article 36 training OSH specialist mentioned that the National Occupational Safety and Health Center including public and private educational institution must train OSH specialist in order to ensure every areas of work such as: engineering, hygienist, OSH physicians and nurses, and OHS researchers.

3.7.3 Minimum staffing standards for personnel engaged in the area of OSH

As well as in the Article 28, Occupational Safety and Health Specialist mentioned that each labor unit complies of between 101 to 1000 employees; the employer must hire an occupational safety and health specialist particularly occupational physician/ doctor, nurse, hygienist, engineer either

as a full or part time. For labor unit, which have more than 1000 employees, the employer must hire one full time OSH specialist.

However, this minimum staffing standard had not been inspected yet at the labor unit, especially in labor units with over with one hundred employees, whether the employee responsible for labor health and safety have been legal qualification requirements. Meanwhile, no data has been collected on how many employees responsible for labor health and safety are currently working and applying in OSH.

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.

Decree on occupational safety and health, Section 4 Prevention and Control of Hazardous factors (article 16-18) are articulated Regal requirements for regular activities related to OSH, such as management system, risk assessment, health examination, environmental monitoring, and etc. (MoLSW, 2019). However, in practice, there are still many issues that have not been strictly addressed, such as many workplace especially small and medium-sized enterprises have no OSH committee or some have committee but it was not functioning as the committee, didn't conduct the hazard assessment at workplace with implementation of corrective action plan. In addition, the OSH committee procedure, roles and responsibilities of the OSH committee members were not clearly defined. There was no training documents or degree or certification from an institution or organization in regard to labor health and safety recognized by the Labor Administration Agency for the review. Also, there was no hazard and risk assessment conducted and some enterprises didn't know their have to do risk assessment.

Health examination mentioned in the decree on OSH, Section 5 Prevention and Assistance to Employees with Occupational Accidents and Diseases (article 24, 25).

Health Checkups of Employees

Employer should allow the domestic and foreign employees to have yearly health examination or check as indicated on Article 126 of Labor Law on occupational safety and health which employee has been assigned and as to provide assistance on time. Prior to hiring new employee and employee transferred from hazardous workplace, they must receive physical checkup and examination which employee must cooperate with employer.

For employee regular checkup, the employer has to sign contract with the health facility which certify by health sector and labour and social welfare sector to do the said health check-up. It does not allow employer-paying cash to employee for proceeding health checkup by themselves.

The Ministry of Labor and Social Welfare in collaboration with MOH determines the periodic-employment health checkup based on the work risk and dangerous level and result of the actual health examination. However, all employees must have health check-up at least 1 time per year. The result of medical checkup will not be used for the purpose of discrimination or for other reason that may be negative effect to the employee.

Recording of Employment Health Checkup

Based on the current condition at each period, MoLSW collaborate with MOH identify and provide indicator list of health checkup to the occupational health clinic/facility. MoLSW and MoH have the right to record information on health checkup of all employees for medical purpose and social insurance including follow up monitoring, treatment and compensation according to the rules. Employees have right to know every health check-up result of them. However, not yet investigation that all the workplace has follows the decree on OSH on health checkup of employees.

3.8.2 Mechanisms to prevent industrial disaster protect environment and promote public safety

The Ministry of Industry and Commerce (MoIC) has the law and regulation to prevent industrial disaster protect environment and promote public safety such as Law on Chemical Management, There are six environmental agreements as following: Agreement on the Establishment of the Environmental and Chemical Management Unit, Agreement on Wastewater Release, Agreement on air standards, Agreement on Noise Standards, Agreement on Industrial Waste Management, and Agreement on Boiling Water Management.

MoIC has appointed officials from the Ministry to inspect the management of industry in the implementation of chemical safety management. All chemical business operations must conduct research and assess the risks of chemicals to health and the environment in transportation, storage, use, carding and disposal. In addition, it provides detailed information on preventive, remedial and first aid and initial assistance in case of emergency. However, implementation and enforcement challenging remain. This is particularly the small and medium-size enterprises do not follow the safety regulation and health.

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

There is no specific educational system for personal engaged in the area of OSH. There are 10 health care educational institutions are currently under the jurisdiction of the MOH (Ministry of Health). Its main role is to improve the quality of health professional development through improvements to training curricula, teaching skills, educational resources, materials, and educational facilities (See in the chapter 2).

Faculty of Public Health, - UHS

The Faculty of Public Health, of the University of Health Sciences run the Master of Public Health, which has one Module on Environmental Health and Occupational Health and Safety under Master of Public Health program. This module provides postgraduate students with the basic concepts, principles and current trends on occupational health and safety. It also provides the participant the opportunity to administer specific preventive, control and maintenance programs necessary for the health and safety of the worker.

Master of Environmental and Occupational Health

The curriculum of Master of Environmental and Occupational Health curriculum will be developed which is intended to prepare students for careers or responsibilities dealing with environmental health and health and safety problems in the workplace. It is designed for professionals with diverse academic backgrounds. The curriculum is also designed to provide in-depth knowledge and skills in specific areas of environmental health and work in occupational

health and public health relevant to the student's career goals. There are no laboratories for general hygiene, occupational hygiene, and environmental hygiene.

3.9.2 List of universities and training institute

Totally ten institutions provide the health care professional training. The University of Health Sciences, the Institute of Public Health and Tropical Medicine (LaoTPHI) are the major training institutions in Vientiane. At the provincial level, there are three colleges of health sciences (Luang Prabang, Savannakhet, and Champassack) and four public health schools (Oudomxay, Xiengkhuang, Vientiane, and Khammuane) (The detail in chapter 2).

3.9.3 Supply and availability for personnel engaged in the area of OSH

Public/Private OSH agency

Only short-term training available for personal engaged in the area of OSH, and the training hold by the enterprises. The tripartite (MoLSW, LFTU, and LNCCI) has a role in the implementation of training on OSH at workplace. The Design Center is the training center of the LNCCI (an employer's organization). The center has an OSH trainer capacity and can provide OSH advice and organize OSH training. On the other hand, a trainer from the Design Center assisted in training of trainers from the Lao Federation of Trade Union (a workers' organization). The team of trainers for LFTU provides OSH training for enterprises.

Only one private OSH agency has approved from the department of Labour management to provide OSH training to the private company in Lao PDR and can providing the OSH certificate. Also, in the big company have OSH trainer and provide OSH training in their enterprises.

3.10 Activities and Involvement by International Organizations, Academic Insistutes and Non-Governmental Organization

3.10.1 OSH activities and involvement by international organizations, academic institutes and other agencies, such as Non-Governmental Organization

There are some Non-Governmental Organization working such as ILO, Vision Zero Fund (VZF), and WHO.

ILO have been carried out the OSH activities based on the framework and strategy of ILO. ILO decent work strategy (2011-2015) to improve nstitutional and legal mechanisms for the [promotion of Occupational Safety and Health in the workplace](#). To help Lao PDR achieve this goal, the ILO provided assistance in finalizing and implementing the national OSH programme based on the existing ILO Plan of Action (2010-2016) to achieve widespread and effective implementation of the OSH instruments (Convention No 155, its 2002 Protocol and Convention No 187). It will also seek to strengthen –through a programme of capacity building- national OSH capabilities in a range of areas, including legislation and inspection, awareness-raising, and training for small enterprises and informal workplaces. ILO also provided assistance to enable social partners to apply existing good practices developed by ASEAN OSHNET in small entreprises and informal economy workplaces across the country ([ILO, 2011](#)).

The joint development process of the 2017–21 Decent Work Country Programme (DWCP) is interrelated and mutually reinforcing programme drivers underpin the DWCP and are reflected in the four DWCP priorities:

- Promotion of **decent employment** (particularly in rural areas), through the development and implementation of a National Rural Employment Strategy; strengthening of employment services and labour market information; entrepreneurship promotion; improving labour migration policy frameworks; and technical/vocational skills development to meet the demands of a changing labour market;
- Promotion of **formalization of employment** through implementation of the Vientiane Declaration on Transition from Informal Employment to Formal Employment towards Decent Work Promotion in ASEAN (2016), which in turn is closely linked to addressing vulnerability and increasing decent and productive employment opportunities, especially in rural areas;
- Strengthening and expansion of **social protection**, including measures to ensure Lao PDR is able to meet the vulnerability criteria for Lao PDR to achieve eligibility for LDC graduation;
- Strengthening of **tripartite mechanisms** as well as **partner institutional and technical capacities** to (1) work effectively with each other to achieve national development objectives and (2) promote and serve the interests of their respective constituencies; and
- Ongoing ratification and implementation of **international labour Conventions**, which provide the cornerstones of all aspects of the programme, including implementation of the Labour Law (2014).

WHO works related to OSH in Laos included working with the Ministry of Public Health and Ministry of Labor and Social Welfare. The Ministry of Labour and Social Welfare in Lao People's Democratic Republic in partnership with the World Health Organization had invited stakeholders from the government, Federation of Trade Unions, National Chamber of Commerce and development partners to review the occupational health and safety regulations under the Prime Minister Decree to protect the health, safety and well-being of its workforce. WHO worked with the government to address the gaps, challenges, and essential occupational health and safety services; the health, safety and well-being of the workers should not be compromised and this comes in timely as the country continues to grow and we will see more young and rural people joining the workforce." The five strategic priorities for WHO collaboration with the Lao People's Democratic Republic in 2017–2021 are: 1) resilient health systems towards universal health coverage; 2) effective delivery of essential public health programmes; 3) enhanced health security; 4) effective policy dialogue and advocacy; and 5) active partner in the Greater Mekong Subregion and the Association of Southeast Asian Nations (ASEAN) (WHO, 2017).

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)

The occupational services in Laos include in the general health service, there is no specialize occupational services providers. The occupational injury and diseases were treated in the public hospital or general private hospitals.

The health-care delivery system in the Lao People's Democratic Republic is historically a predominantly public system, with government-owned and -operated health centres and district and provincial hospitals. The private health sector has emerged recently along with increasing demand for better services; public facilities are perceived as substandard.

Health services at the secondary and tertiary levels in the Lao People's Democratic Republic are provided through 4 central general hospitals: Mittaphab (Friendship) Hospital, Mahosot Hospital, Setthathirath Hospital, 103 hospital; 3 specialist hospitals: Mother, Child Hospital, National Child hospital, and obstetric, orthopaedic or ophthalmology hospitals; and 1 center care: Rehabilitation center in the capital city, in addition to 16 regional and provincial hospitals.

Almost all hospital beds in the Lao People's Democratic Republic are designed for acute care. There are no designated psychiatric hospitals and no long-term care institutions in the country. The chronically ill and the elderly are cared for at home. There have been some changes within the hospital system: some tertiary care hospitals were transformed to specialist hospitals, such as obstetric, orthopaedic or ophthalmology hospitals.

Emergency care is mainly provided by Mahosot Hospital for internal medicine and Mittaphab Hospital for surgery. Involvement in emergency care has an important meaning for Setthathirath Hospital too, however, as this hospital transferred serious cases of injury to Mittaphab Hospital, it is presumed that external injuries treated by Setthathirath Hospital are mild to moderate cases, such as non-open fracture and soft tissue injury. Likewise, for emergency care in internal medicine, as this hospital is not able to carry out CT examination at present, serious cases need to be transferred to Mahosot Hospital.

Mittaphab (Friendship) Hospital

Mittaphab Hospital is in charge of external injury treatment, orthopedics, neurosurgery and renal dialysis. The hospital is also Specialized in internal medicine, pediatrics, OBGYN and infertility, ophthalmology, X-ray, echo ultrasound, ECG, and EKG, mammogram, laboratory facilities, and mental health. A new wing has opened at Mittaphab Hospital (Friendship Hospital) in Vientiane as part of efforts to improve the standard of healthcare and raise the country's health services to international standards. The new block will have about 308 beds, to add to the hospital's existing 300-bed capacity ([Vientiane Times, 2019](#)). The building will be fitted out with modern equipment for use in general diagnosis, as well as for radiology and magnetic resonance imaging and other specialised fields. The extension to the hospital is in line with the government's policy to modernise healthcare through the use of the latest equipment and skilled personnel.

Mahosot Hospital

Mahosot Hospital was established in 1903. The hospital specializes diagnosis and treatment of infectious diseases and also serves as an important medical research and training center. Since 2000, the hospital has included the Lao-Oxford-Mahosot Hospital-Wellcome Trust Research Unit which is funded by the Wellcome Trust in collaboration with the University of Oxford. The Infectious Diseases Centre in the hospital consists of two floors: a patient ward on the ground floor with rooms varying on degree of isolation, a laboratory and research area and offices and conference rooms on the upper floor ([Wikipedia, 2020](#)).

Recently, the Mahosot Hospital will be reconstructed as a four-building compound spread over 31,000 m² comprising one 8-story building, two 4-story buildings and one 5-story building. The hospital will have a total of 600 beds. The hospital will be built to international standards to ensure

it can provide standard medical service to more patients thus helping limit people seeking medical services ([Vientiane Times, 2017](#)).

Setthathirath Hospital

Setthathirath Hospital has more cancer outpatients and inpatients. In recent years, the number of its outpatients has been significantly increasing, reaching 90,000 per year ([Vientiane Times, 2019](#)).

Centre for Medical Rehabilitation (CMR)

The Lao government Centre for Medical Rehabilitation (CMR) provides physiotherapy, prosthetics and orthotics, and orthopaedic surgery outpatient services, including an early intervention program for children with disabilities and developmental delay rehabilitation services in provinces community-based rehabilitation. The CMR project is focused on improving the technical skills and knowledge of current CMR and PRC staff through sending staff for 1 week up to 3 months to training programs in Thailand and conducting trainings at the CMR with international trainers. Doctors, nurses, physical therapists, and ortho-prosthetist from CMR and local hospitals will be trained. Training will take place in Khon Kaen, Chiang Mai (Thailand), or at the CMR ([WHO, 2014](#)).

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

Decree on OSH is articulated in the Section VI responsible to informal workers, small scale labor unit, households and migrant workers between countries (Article 29-32) which was mentioned on support mechanism for informal workers, small scale labour unit, household and migrant workers between country such as

Article 29: Responsible to Work in Informal Labor

The labor management authority has responsible for giving consultation, advice relate to Occupational Safety and Health to employee working outside the labor unit, including self-employed workers on protection plan develop, risk assess and reporting information relate to occupational accidents and diseases.

Article 30: Responsible for Small Scale labor unit

The labor management authority encourages and assists the labor unit which has employee less than 10 persons to implement OSH.

Article 31: Responsible to Household

The labor management authority encourages the household which use employees to have contract signed between the employer/household and the employee. In case of occupational accident and disease occurred, the head of household must responsible for taking for expenses under signed contract agreement and law.

Article 32: Responsible for Labor Migrant Between countries in Lao PDR

Foreign workers work in Lao PDR will received protection on safety and health the same as other Lao workers and must receive health examination from the relevant unit which certified by health sector prior to getting approval to work in Lao PDR.

Lao workers which to work in foreign countries must receive basic training on OSH and health examination according to Lao regulation and host country where employee is going to work including social insurance for occupational accident and disease in that countries.

Chapter 4: OSH level

4.1 National Policy and Strategies for OSH

4.1.1 Conditions, details and operational status of national policy, strategies and plans for OSH

Lao occupational safety and health (OSH) has been regulated by a wide range of national policy, strategies and plans for OSH, in particular:

- 1st National OSH Strategy (2005-2010)
- 2nd National OSH Strategy (2011-2015)
- Decree on Occupational Safety and Health, No 22/Gov, dated 5/2/2019 as developed a set of specific rules on OSH.
- Ministerial Decision on OSH in the construction site, No 3006/MoLSW, dated 21/8/2013

1. 1st National OSH Strategy (2005-2010)

The establishment of an Occupational Safety and Health (OSH) Master Plan in 2005 by the MoLSW initiated awareness of OSH issues. The national OSH master plan focused on building on inspector capacity and OSH protection in small enterprises and construction sectors. The strategy helped to highlight the changing nature of occupational risk in the emerging economic environment (MoLSW, 2005).

Implementation and enforcement of OSH has remained challenging however particularly where use of new technologies and chemicals within industrial processes are common but the risks often unknown by workers or, in some cases, OSH inspectors. Support to OSH from development partners has been limited; however, the significant rise in FDI and new risks indicate that this is an area where further effort is required (ILO, 2011).

2. 2nd National OSH Strategy (2011-2015) articulates the establishment of OSH at the provincial level; Enact OSH Legislation; Capacity building for OSH staff; Strengthen OSH Inspection; Improve work accident and Occupational Diseases reporting system. The 2nd National OSH Strategy (2011-2015) consists of 1) Establish Occupational Safety and Health Organizations at Provincial Level; 2) Enact Essential Occupational Safety and Health (OSH) Legislation; 3) Capacity Building for Occupational Safety and Health Staff; 4) Strengthen Occupational Safety and Health Inspection; 5) Improve Work Accident and Occupational Diseases Reporting Systems; 6) Occupational Safety and Health Research and Development; 7) Control Prevention Work Accidents and Occupational Diseases; 8) Occupational Safety and Health Promotion and Dissemination; 9) Study & Research for Establish Occupational Safety and Health Institute (MoLSW, 2011).

3. Decree on Occupational Safety and Health, No 22/Gov, dated 5/2/2019 developed a set of specific rules on OSH.

The new national decree on Occupational Safety and Health (No. 22/G) was formally approved by the Prime Minister on 5 February 2019 and provides clarification on the chapter on OSH in the Labour Law (NA, 2019b). The Decree is the first legislative instrument that defines the minimum requirements for OSH management systems in the workplace; the obligations of the Government and the structure of coordination at the central and provincial levels; the roles of employers and employees; and a basic set of occupational health and safety services, such as workplace inspection, workers' health surveillance, and notification and cause investigation of occupational diseases and injuries in the workplace.

The Decree on Occupational Safety and Health consisted of 10 chapters. Chapter 1 is about general provisions and Articles 1-7. Chapter 2 is about Occupational Safety and Health and Articles 8-32. Chapter 3 is about The Occupational Safety and Health Service Organization, Articles 33-44. Chapter 4 is about Revenue of Occupational Safety and Health, Articles 45-46. Chapter 5 is about Prohibitions and Articles 47-49. Chapter 6 is about Committee of Occupational Safety and Health and Articles 50-53. Chapter 7 is about Tripartite Organization and Articles 54-61. Chapter 8 is the Occupational Safety and Health Inspection and Articles 62-65. Chapter 9 is about Incentives to the Good Performers and Measures Against Violators and Articles 66-71. Chapter 10 about the final provisions and Articles 72-73 (NA, 2019b).

The OSH decree, provides for the following:

- 1) Ensure employers follow rules, steps, and measures relate to occupational safety and health;
- 2) Recognize, reward employees and units that are successful in implementing the rules and regulations related to occupational safety and health;
- 3) Collaborate with relevant sectors to develop, lay out measurement, enforce to ensure occupational safety and health of employees, and pay for employee's occupational accident and diseases insurance.
- 4) Train and advise on rules, regulations, steps, and measure safety to employees under employer responsibility.
- 5) Provide and move employees to appropriate position based their ability and characteristics to avoid negative health impact to employee;
- 6) Hire external individuals or a company for evaluation and investigation of imcompliance with occupational health and safety;
- 7) Encourage employees in risk prevention, emergency response, and use individual safety protection equipment and medical first aid.

Employers are responsible for establishing, implementing, and following up each activity to ensure occupational safety and health.

Legal employers are responsible for:

- Providing information and advice to employees related to t workplace hazards, standard operating procedures (SOP) for tools, equipment and materials relevant o area of work in relation to occupational safety and health.
- Providing a comfortable and safe work environment for employees and preventing the risk of individuals being exposed to any occupational health issues caused by chemical, physical and biological products during processing
- Providing protective clothing and additional appliances such as substances, food and products to reduce toxic effects when employees work in unusual working conditions.

The employees' rights are following:

- 1) Request employers to create workplace environment which ensures the occupational safety and health;
- 2) Receive information, knowledge, and protection measure related to risk factors and toxicity;
- 3) Request employer provides appropriate work placement to employees after he/she is recovering from treatment due to occupational accidents or diseases;
- 4) Refuse work with a high risk of adverse health impacts them;
- 5) Claim or report directly to the labor management organization in case the employer does not improve workplace environment as request by employee or follow the labor law and this decree.

4. Ministerial Decision on OSH in the construction site, No 3006/MoLSW, dated 21/8/2013, consisted of XIV chapters (Chapter XII-Personal occupational safety: Article 35-36. Chapter XIII- Appointment of responsible for labour OSH; Article 37-42. Chapter XIV- OSH measurement (Article 43-45). This decree is applied in the specific construction industry ([MoLSW, 2013a](#)).

Employers shall provide equipment and workers shall use such while working in the following:

- 1) Safety helmets, facemasks and boots that cover the heels shall be worn when woodworking, painting, steelworks, tunneling, glass paneling, plastering, concreting, such as: concrete mixing and pouring;
- 2) Masks or safety goggles, trousers and long-sleeved shirts, gloves, boots that cover the heel shall be worn when welding and cutting by electrical equipment, gas and other power sources;
- 3) Safety helmets, goggles, mouth masks, gloves, boots that cover the heel or safety boots shall be worn when doing work that involves cutting, removing and hammering;
- 4) Ear protectors shall be worn when working in noise emitting environments in excess of regulator noise emissions;
- 5) When working with poisonous substances safety helmets, safety masks gloves and rubber soled boots shall be worn at all times;
- 6) Safety helmets, safety harnesses and rubber soled boots shall be worn when working from heights; and
- 7) Appropriate personal protective equipment shall be worn while doing excavation and drilling works.

Employers shall appoint a health and safety officer at construction sites that employ 10 or more workers. For 50 workers or more a health and safety committee shall be appointed at the site. Such committee shall comprise directors and experts from all relevant sectors within the site, including an equal number of worker representatives and employer representatives. Health and safety officers shall be qualified or have received training and certified by the relevant authorities.

The Health and Safety Officers and Committees Worker health and safety officers and committees at [construction] sites have the following duties:

- Formulate worker health and safety plans;
- Provide health and safety training within its labor unity;
- Provide health and safety consultation and advice;
- Inspect and maintain safety equipment and personal protective equipment; - Inspect sites and working conditions of workers, if it is found that any danger could arise the health and safety officer shall notify the employer and resolve the situation urgently;
- Undertake risk analysis, search potential causes of accidents and occupational diseases;
- Disseminate legislations or information from the Labor Management Organization to workers periodically including contract parties; and

- In the event of labor accidents and occupational diseases notify the employer and investigate the cause in order to impose preventative measures.

Employers shall appoint a foreman responsible for workplace safety prior to commencement of the works and during the works.

- 1) Shall keep the construction site clean by storing construction materials and equipment in an orderly manner and separate hazardous waste and non-hazardous waste;
- 2) In the event that explosive materials are used in construction works, employers shall organize a safe storage system and ensure that such is not used for other works;
- 3) In the event that workers work at heights in construction sites from 1.5 meters and above, employers shall supply ladders or walkways and fences or strong barriers to ensure safety;
- 4) Employers are prohibited from permitting workers to work during natural disasters, except in safe places or providing disaster relief, herein, the safety of workers shall be considered;
- 5) Employers shall ensure that there is sufficient emergency lighting for use during power-cuts and also erect warning signs at all vehicle access points and assign a signaler to direct vehicles entering and exiting the construction site;
- 6) Signs displaying the telephone numbers of the relevant authorities shall be erected at construction sites for use in emergency situations, such as the telephone numbers of the nearest hospitals, the fire services, etc.;
- 7) Employers shall provide facilities for the following necessary benefits as follows: - Personal protective equipment as provided in Article 35 of this Decision; - First aid kits; - Clean and safe drinking water for all workers; - Toilets, washrooms, and washbasins which are clean and are of a sufficient number and located to worksites and male and female toilets shall be separated; and - Suitable hygienic rest-rooms and canteens and other necessary facilities.

5. National Strategy for the Elimination of Asbestos - Related Diseases (2018-2030) included Visions, Roles, Goals and Principles; Key strategies and priority areas ([Ministry of Health, Department of Hygiene and Health Promotion Ministry of Health, 2018](#)).

The goal is to protect workers and all people from exposure to asbestos and to eliminate the Asbestos related diseases (ARD).

There are 7 keys strategic action plans to reach this goal. Each key strategic action plan has objectives, outcomes and key activities as below:

4.2.1 Key Strategy Action 1:

Set up a national committee on the elimination of ARD and identify the roles and responsibilities, including coordination mechanism of the central to local levels and coordinate with concerned stakeholders to manage the risk that might impact to health of people by asbestos.

4.2.2 Key Strategy Action 2:

Develop policy, decisions and principles on the ban of asbestos, including chrysotile. This key strategy action is targeted to ban all types of asbestos, and includes not importing, distributing or selling asbestos in the country and compliance with regulations related to ARD of relevant ministries such as conventions, decrees, laws, regulations, agreements, and including the developing standards to promote and use alternative substances. Alternatives should have less impact or no impact on health and substitute asbestos in producing roof tiles and other materials.

4.2.3 Key Strategy Action 3:

Setting up an institutional framework, capacity building for enforcement and implementation of policy and regulatory framework on mitigation of asbestos exposure (custom inspection, sampling, testing) to strengthen the capacity, improve knowledge and experience of the staff of concerned

ministries at all levels to have sufficient knowledge and skills, including sufficient number of staff to enforce the endorsed law related to ban asbestos and Abestos Containing material (ACM).

4.2.4 Key Strategy Action 4:

Establishing monitoring, evaluation and disease surveillance framework including to update national asbestos profile, collecting and sharing data and information on asbestos containing material, its imports, production and volume of asbestos containing wastes. This key strategy action is to establish monitoring, evaluation and disease surveillance framework, as well as reports on the management, the use of asbestos and ACM and ensure a National Asbestos Profile is maintained and shared with relevant stakeholders.

4.2.5 Key Strategy Action 5:

Safe removal or demolishing of buildings, and houses that have ACM, worker’s safety and waste management of ACM.

This key strategy action is to strengthen the capacity of concerned ministries, organizations or companies that are responsible for safely removing theACMs from buildings; and for ensuring company owners and workers are aware of the impact of asbestos and ACM, and understand and are able to protect themselves during removal or demolishing the building safely. A company with special permission should handle demolition and safe removal of ACM depending on needs and inspection results. Their workers should receive mandatory training on safe removal process.

4.2.6 Key Strategy Action 6:

Improving capacity for diagnosis, treatment, rehabilitation of disabled people and compensation for ARD patients. This key strategy action is to strengthen the capacity of medical doctors on the diagnosis, treatment, rehabilitation, palliative care and compensation for ARD patients in a fair and sustainable manner.

4.2.7 Key Strategy Action 7:

Carry out research on ARD surveillance and develop a curriculum for university level students. This key strategy action is to collect the scientific evidence on chrysotile asbestosin its relation to asbestosis, lung cancer and mesothelioma. It is unnecessary to repeat studies with the same objective as earlier studies (“metoo” study), but having a “local context” is sometimes justified and necessary. The study to find new cases in earely stage and study prevalence and incidence of ARDs and recommendation to improve surveillance of ARDs is important. Studies may be observational, analytical, screening and other methods. The research should be used to identify problems, solve the issues and allow evidence-based decisions. Asbestos has been used in many products, especially within the industrial sector which may impact to the worker and people, integrating this topic should be integrated into the university curriculum of medical and public health students is necessary.

4.2 Occupational Injury and Disease Statistics

4.2.1 Occupational injury and disease statistics

According to the OSH decree, the OSH unit must report the occupational accidents and diseases to the labour unit and labour management authority for recording, improving and seeking solutions. However, most the statistical data of occupational accidents and injuries currently are from the statistical unit of the Social Security Organization ([National Fund Social Security Organization, 2020](#)) because the employers reported and submitted the claims due to occupational accidents and injuries and it is likely the number of injuries are underreported.

Table 15: Statistic Data of Occupational injuries and fatality cases

	2016	2017	2018	2019	2020

Occupational Injuries	24	20	14	35	
Disability	1	11	5	4	5
Death	2	2		1	

Source: NFSS, 2020

Global Burden of Asbestos

The WHO estimated in 2004 that, at least 107,000 people died each year from ARDs (mesothelioma, lung cancer and asbestosis). Based on trends from 1990 to 2013 provided by the Institute for Health Metrics and Evaluation, University of Washington, USA, the table 16 shows the comparison causes by ARDs and risks within the Lao PDR from 1990 to 2015 (Ministry of Health, Department of Hygiene and Health Promotion, 2018).

Table 16 Global: GBD2016 (published in 2017) Estimates of ARDs Deaths

Death	1990	1995	2000	2005	2010	2015
Occupational Abestos Cancer	146,844	161,231	172,306	185,360	203,738	222,321
Mesothelioma (occup) - A	15,206	16,722	1995	1995	1995	1995
Lung Cancer (occup) - B	123,231	135,225	143,359	153,540	167,304	181,450
Ovarin Cancer (occup) - C	3,845	4,359	4,754	5,051	5,719	6,022
Larynx Cancer (occup) - D	2,954	3,159	3,194	3,237	3,424	3,743
Asbestosis (occup) - E	1,608	1,939	2,442	2,812	3,185	3,495
Mesothelioma (total) A+F	16,783	18,483	20,493	22,816	26,423	30,208
Mesothelioma (non-occup) - F	1,578	1,762	1,934	2,096	2,317	2,596
% of occupational - A/(A+F)	90.6%	90.5%	90.6%	90.8%	91.2%	91.4%
LC / Meso - B/A	8.10	8.09	7.72	7.41	6.94	6.57
Asbetosis (total)- E+G	1,609	1,940	2,442	2,813	3,186	3,495
Asbestosis (non-occup) - G	0	0	0	0	0	0
% of occupational – E/(E+G)	99.99%	99.99%	99.99%	99.99%	99.99%	99.99%
Total B+C+D+(A+F)+(E+G)	148,422	163,166	174,243	187,456	206,055	224,918

- Source: Lao PDR: Estimates of the burden diseases caused by asbestos; GBD2016 (published in 2017) Estimates of ARDs Deaths.

4.2.2 Coverage by reporting and compensation schemes and estimated occupational injury and disease

According to the OSH decree and the social security law, when an employee suffers an industrial accidents or acute poisoning during the following conditions, benefits and welfare pensions should be reimbursed from the social insurance fund:

- If the injury happened at workplace or in other places when the employee was performing a work-related duty.
- If the injury happened when an employee was preparing work tools and equipment before the actual work or after the daily work
- If the injury or intoxication happened when the employee was on a way to and from work.

The Social Security Scheme tries to compensate and cover all kinds of occupational accidents and injuries for those who have maintained their contribution to the Social Security Scheme. Following an occupational injury, the employer must take the injured person to the hospital and inform the Social Security Scheme (SSS) and record the case. If a major injury, the police are also informed and a report made. The data is incomplete however as not all enterprises with more than 10 employees are members of the said organization. Currently, only occupational accidents have been reported, but occupational diseases, as doctors have not certified whether an accident is an occupational diseases. Further, not all enterprises with more than 10 employees are members of the organization ([National Social Security Fund, 2020](#)). In 2019, SSO featured 2,287 member enterprises with 113,714 insured employees and 7087 voluntary insured persons. Moreover, the total number of beneficiaries (including persons and their dependents) covered by the schemes was 258,102 persons.

Table 17: Coverage of Working Injury and Occupational Disease Insurance

	2011	2012	2013	2014	2015	2016	2017	2018	2019
	No pers	No pers	No pers	No pers	No pers	No pers	No pers	No pers	No pers
Working Injuries and Disease Insurance	80	63	62	75	88	84	110	125	136
Temporary Loss of Work	35	18	28	35	35	28	21	26	57
Permanent Loss of Work	16	3	11	13	19	23	23	4	30
Caretaker Benefit	2	17	-	0	2	3	3	-	5
Funeral Benefit	2	2	7	7	2	2	2	56	
Benefit of the Family of the dead person due to injuries	25	23	16	20	30	28	61	39	44

Source: SSO 5 Years Report, 2020.

Note: Fiscal year- started from October and end of September for each year.

4.3 Legal Compliance Status

4.3.1 Legal compliance status for OSH regulations

Compliance with OSH regulations provide a workplace free from serious recognized hazards and consistent with standards, rules and regulations issued under the OSH decree. The OSH Decree ensure employees have and use safe tools and appropriate and well-maintained equipment. The Decree covers all enterprises (and workers in both informal and formal economic sectors. The Labor management department, and the Occupational Safety and Health committee oversees compliance with the regulations. Workplaces are ranked in priority order on the basis of risks and inspected according to the ranking order. Any worker can complain about the harassment at work, which must be examined by employer and action taken. Employees can notify the Occupational Safety and Health committee of hazardous or unhealthy working conditions and of the absence or malfunctioning of the OHS.

The legal framework of the workplace safety and health however is weak, with few factories or example having OSH committees factories or policies and procedures in place. There were no role and responsibilities assigned for OSH management at workplace or relevant documentation ([International Labour Office, 2020a](#)). A study in the coffee industry and the agriculture sector also found workplace OSH was limited ([International Labour Office, 2020a](#)).

4.4 Problems concerning OSH and Exposure to Specific Hazards

4.4.1 Problems concerning OSH in all and specific industries

Problems concerning OSH in the agriculture sector mainly relate to risks such as slipping/ tripping and falling, and is increased by inadequate footwear and working at a fast pace. Other risks include falling from heights, unguarded machinery, crushing risks, and lack of electrical safety.

The ergonomic risks linked to frequent manual handling of heavy loads with improper lifting methods and poor organization of work-awkward posture/ repetitive movements. Physical risks include exposure to ultraviolet rays and heat, constant loud noise which can lead to have various negative health effects, such as heatstroke, heat exhaustion, heat rashes and dehydration to hearing loss. Biological risks include exposure to vector-borne diseases and parasitic infections, including insect and mosquito bites, snakebites and organic fertilizers. Eye and nose irritations have been reported by workers who lack access to appropriate personal protective equipment. Chemical hazards include exposure to chemical products (fertilizers, pesticides and herbicides). Depending on the type of hazardous chemicals and the duration of exposure, health effects can be acute (such as vomiting, headaches, skin and eye irritation, respiratory distress) and long term (such as cancers, neurotoxicity, liver diseases and allergic dermatitis). Psychosocial risks include long hours of work in industrial mills, which results in fatigue and increases the risk of workplace accidents and injuries (ILO, 2020b).

The OSH problems in the garment factories are mainly due to chemical substances, sewing machines oil, which were not stored properly. Building safety, electricity safety, working behaviors, and Ergonomic hazards (ILO, 2020b). There is limited information on the OSH Problems in other industries such as construction and other industries.

4.4.2 Existing occupational health hazards and possible occupational diseases, and problems in all and specific industries

There is a list of health hazards developed by the MoLSW and ILO and a strategic approach to chemical management. The decision on the Industrial Substance and Chemical Management No 1041/MOIC, DIH issued on 28 May 2012, blue and brown asbestos are from production import, trans-boundary chrysotile that can use under specific conditions if controlled and needs to be registered before imported to Laos (Ministry of Health, Department of Hygiene and Health Promotion, 2018).

The substances and hazardous chemicals are classified into 3 categories:

Category 1: High risk substances and hazardous chemicals are prohibited. This means that importing, using, producing and keeping are not allowed. Exceptions are for scientific research, but the importer/user needs to request to department of industry and handicraft (DOIC) and the government for consideration and approval.

Category 2: Medium risk substances and hazardous chemicals are allowed to be used for running the business, but it needs to be managed before importing or running the business. It needs to be registered and obtain the technical certificate from department of industry and handicraft.

Category 3: Low risk substances and hazardous chemicals are allowed to be used generally, but it needs to be registered with department of industry and handicraft before importing or running a business.

White asbestos (chrysotile) was in the 2nd category of this regulation. This means that chrysotile is allowed to be used, but it needs to be registered and obtain the approval from the department of industry and handicraft before importing or running business.

The key occupational safety and health hazards and risks in the garment factories also identified in an assessment of OSH conditions conducted by the VZF Laos project in January 2019 (ILO, Vision Zero Fund, EU, 2019), include the following:

- a) Fire safety/emergency preparedness (e.g. locked emergency exits, obstructed fire extinguishers)
- b) Electrical safety (e.g. broken wires, unsafe switches)
- c) Machine safety (no safety cover, belt guards, eye guards, lack of boiler maintenance)
- d) Chemical safety (e.g. storage, labeling, MSDS)
- e) Worker protection (workers not provided with PPE or not trained on how to use PPE)
- f) Ergonomic issues (no rest chairs provided for workers who work standing)
- g) Hygiene issues (drinking water quality, toilet cleanliness)
- h) Workplace environment issues (temperature too high, lack of ventilation, high noise levels)
- i) Health & safety issues in dormitories (e.g. electrical safety, overcrowded, cleanliness)

An analysis of the drivers and constraints for occupational safety and health improvement in Lao PDR's coffee sector, conducted in October 2018, identified the following key occupational safety and health hazards at the farm level (phase 1-3):

- a) Safety hazards: injuries from sharp cutting tools, falls and slips, unguarded machinery and moving parts; accidents from motorized vehicles.
- b) Ergonomic hazards: frequent lifting of heavy load; awkward posture; vibrations
- c) Physical hazards: high exposure to ultraviolet rays; constant loud noise
- d) Biological hazards: snakebites; insect and mosquito bites; contamination from organic fertilizer
- e) Chemical hazards: exposure to hazardous chemicals

f) Psychosocial risks: financial insecurity, long hours of work (especially during harvesting) (ILO, Vision Zero Fund, EU, 2019).

Additionally, the analysis established key occupational safety and health hazards at the (post-harvest) primary processing segment:

- a) Safety hazards: unguarded machinery and moving parts; slips and falls; electrocution.
- b) Ergonomic hazards: frequent lifting of heavy load; awkward posture and repetitive movements.
- c) Physical hazards: exposure to ultraviolet rays; constant loud noise
- d) Prolonged exposure to water.
- e) Biological hazards: dust
- f) Chemical hazard: water pollution
- g) Psychosocial risks: long hours of work (ILO, Vision Zero Fund, EU, 2019).

Additionally, the analysis established key occupational safety and health hazards at the (post-harvest) primary processing segment:

- a) Safety hazards: unguarded machinery and moving parts; slips and falls; electrocution
- b) Ergonomic hazards: frequent lifting of heavy load; awkward posture and repetitive movements
- c) Physical hazards: exposure to ultraviolet rays; constant loud noise d) Prolonged exposure to water
- d) Biological hazards: dust
- e) Chemical hazard: water pollution
- f) Psychosocial risks: long hours of work (ILO, Vision Zero Fund, EU, 2019).

List of health hazards and Occupational Diseases

The national list for occupational diseases in Lao PDR is based on ILO list of Occupational Diseases which it was revised in 2010. The first National list of Occupational Diseases for Lao PDR No. 3002/MoLSW, date 16 August 2018. The occupational diseases are classified into 3 categories: 1) Diseases caused by chemical, physical and Biological agents, 2) Diseases caused by target organ, 3) Occupational cancer, and others (Miners' nystagmus caused by low light and underground work). The detail of list of health hazards and occupational diseases are in the chapter 3.5.3, but not currently implemented.

4.5 Measures against Problems concerning OSH

4.5.1 OSH policies and programmes of organizations of employers and workers

As mentioned above, the OSH policies and programmes at the national level include Decree on Occupational Safety and Health, no 22/GOL, dated 5/2/2019. Based on the National OSH decrees, the employers must follow OSH Decree by adopting the preventive measures against. In the article 5, the company should assure the measurement of occupational safety and health according to risk assessment, transparency, justice, equity, and timely, implemented prioritized preventive measures, manage all hazardous and toxic factors during working period. The employer must establish, implementing, follow up each activity in order to ensure occupational safety and health action plan standard at the workplace and improve higher quality to become culture at each step.

However, some working places had no reinforced the implementation of OSH decree as they did not have the OSH committee at the working places and they did not implement the measures of OSH standards. Although some working places had the OSH committees, but they did not function well. There was no hazard and risk assessment conducted. However, there was no training documents or degree or certification from an institution or organization in regard to labor health and safety recognized by the Labor Administration Agency for the review.

4.5.2 Advantages and disadvantages of ongoing activities related to OSH at workplace

There is limited OSH at workplace training as not all companies conducted the OSH training for their employees. There were only the large companies implemented the preventive measures regarding to OSH problems. The advantages of ongoing OSH activities are to prevent the work-related injuries and occupational diseases that could save lives and budget resources.

4.5.3 Educational and awareness-raising arrangements to enhance preventive safety and health culture, including promotional initiatives at workplace

The Social Security Project in cooperation with the Social Security Department, celebrated World Day for Safety and Health at Work in 28 April, 2013, but these campaigns are not implemented regularly. Some large companies organized the Day for Safety and Health in their enterprises such as Namtheun Hydropower and Phoubia mining companies.

According to the OSH Decree, the company or employer must establish, implementing, follow up each activity in order to ensure OSH action plan at the work place and improve quality to became culture at each step (Article 11) and they must create conditions to all employees to obtain training on OSH at the workplace (Article 15). And each labor unit with 101 to 1000 employees must have one OSH officer but this is not enforced. Most companies investing in OHS joint venture or managed by international or foreign executive personnel such as Lao Brewery, Trimax Garment factory, Trio Export (Laos), Mining Companies. However, some companies did not conduct the OSH training to increase the awareness of preventive safety and health. As a study conducted by ILO at the garment factories found that the factory stated that OSH training and awareness were provided to the workers such as First Aid training, firefighting, and fire drill. However, there was no training documents available for the review.

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

Lao PDR does not have an occupational safety and health independent research organization to evaluate occupational hazards and risk factors, to study negative health outcomes of these risk factors, to control hazardous risk factors, to reduce these risks through intervention, and to evaluate outcomes.

The main institutions linked to various aspects of OSH, including research institutes and laboratories concerned with OSH consists of the National Occupational Safety and Health Center, Division of Environmental Health, Department of Hygiene and Health Promotion, MOH, Faculty of Public Health, University of Health Sciences. Additionally, ILO, WHO and other funding agencies hired the private consultants to conduct the OSH researches.

Division of Environmental Health, Department of Hygiene and Health Promotion, MOH consists of 10 staff and there is only 1 staff responsible for OSH. However, they did not have enough staff involving in the OSH training and conducting the researches. The division is responsible for all issues related to occupational health in the workplace.

Faculty of Public Health, - University of Health Sciences (UHS)

The Faculty of Public Health has conducted some studies on the health impact of using pesticides among agricultures and gardeners. In terms of OSH, the Faculty of Public Health, UHS has tools for checking air (given by an international organization/no further details) which are used to educate students.

Lao Tropical Institute and Public Health (LaoTPHI)

The Ministry of Health established the Lao Tropical and Public Health Institute (Lao TPHI) in 2017 by merging the National Institute of Public Health (NIOPH) and the Francophony Institute for Tropical Medicine. The Lao TPHI serves as the technical body of Ministry of Health in promoting, managing, and conducting health research and building human resource for health management and tropical medicine and international health. The LaoTPHI did not carried out any researches in OSH (Anonymous, Available at the website: <http://www.laohrp.com/index.php/hrp/about>).

Institut Pasteur du Laos (IPL)

IPL is the result of a long term and joint decision between Lao Ministry of Health and Institut Pasteur Paris. Sustainability will be achieved by preparing a new generation of Lao doctors and scientists to fill key positions as heads of laboratories and administration at IPL. IPL did not carry out any occupational health and safety research. It has a mandate from Lao Ministry of Health to fulfil activities of public service:

1. Research and diagnostic on emerging infectious diseases and vector borne diseases
2. Training, Education and Capacity building
3. Technical assistance to National Center for Laboratory and Epidemiology (NCLE) for investigation of epidemics (Anonymous, Available at the website: <http://www.laohrp.com/index.php/hrp/about>).

4.6.2 Main research items and projects in OSH research and which institutions implement these (national level / institutional level)

Available OHS research has included: 1) a survey on working conditions on small construction sites; 2) Research on mining artisanal of the effect of mercury; 3) Safety and Health in Lao PDR Supply Chains.

In 2003, as an example, a survey on working conditions on small construction sites was implemented. The main findings were t most construction workers had a very low level of education and a poor understanding of OHS and their rights.

Research on mining artisanal of the effect of mercury which aimed to strengthen Lao PDR's national capacity to ratify the Minamata Convention and implement it effectively to reduce, and feasible eliminate mercury use, emissions and releases from the Artisanal and Small-scale Gold Mining (ASGM) has been conducted. The study showed overall low household awareness of the

potential health implications of exposure to mercury. e Rural communities and the communities that are dependent on ASGM, are at risk for exposure to MeHg resulting in detrimental health effects, particularly to pregnant women and their developing fetus. In utero exposure to Hg results in irreversible neurologic damage which persists through adulthood. Small children are also more susceptible to the health risks of elemental and methylmercury (Ministry of Natural Resources and Environment, 2019; Andre R., Florence P., Tayphasavanth F., Vanphanom S, 2004).

Safety and Health in Lao PDR Supply Chains is a project about the assessment of drivers and constraints for OSG improvement in global supply chains and intervention design in the garment factories and coffee industry which was funded by the Vision Zero Fund project (ILO, 2020).

4.7 Status for Personnel engaged in the area of OSH

4.7.1 Ability and challenges of personnel engaged in the area of OSH

There are a limited number of OSH personnel and the exact numbers of such OSH officers are not available. There are more than 10 OSH experts however who have been trained abroad and returned to the country, but they did not work directly in OSH.

The ability of the personnel engaged in OSH at the national and provincial level is limited. There are provincial OSH committees although they do not function well, only few districts have the district OSH committee. Based on interviews with garment factory Administrative/human resource manager stated that one person was appointed as OSH officer for the factory in Lao PDR, however, there was no training documents or degree or certification from an institution or organization in regard to labor health and safety recognized by the Labor Administration Agency for the review (ILO, 2020b).

4.7.2 Training and information for OSH personnel engaged in the area of OSH

In the decree on Occupational Safety and Health, Article 15, the employer must create conditions for all employees to obtain training on occupational safety and health at the workplace. including where employees are assigned to a different role.

The National Occupational Safety and Health Center of the Lao PDR (NOSHC) established by the government based on proposal from the minister of the Ministry of Labor and Social Welfare play a central role on coordination and support the National Occupational Safety and Health. It has functions as secretarial of the Ministry of Labor and Social Welfare in conducting research, develop rule and regulation, standard, analyzing, teaching, trainings, service providing, support and promote occupational safety and health activities based on direction and policy, socio-economic development plans and also act as a technical center under the organizational structure of the Ministry of Labor and Social Welfare. The NOSHC including public and private educational institution must train OSH specialist in order to ensure every areas of work such as: engineering, hygienist, OSH physicians and nurses, and OHS researchers. The Department of Labour, MoLSW and the Lao Federation Trade Union also provided the OSH trainings.

Due to the limited number of trainers on safety and health, the coverage of OSH training remains limited.

The “National OSH Training Center”, responsible for training on SME (small and medium-sized enterprises) promotion – provides OSH training and advice and is expected to generate income.

The fee for training is charged to participants who are members of the Branch organizations of the Lao National Chamber of Commerce and Industry (LNCCI), but has limited coverage.

The ILO supported the MoLSW in organizing OSH training workshops for small enterprises and construction sites. The ILO Social Security Project supported several trainings on OSH (participants came from Lao Federation of Trade Union and Social Security Organisation and Department), such as Training of Trainers, Follow-up activities. The same project also provided assistance to the trained trainers in organizing OSH training workshops at the enterprises. In the past, there was only one activity in OSH training which was supported by the German Technical Agency (GTZ). The Department of Higher Technical and Vocational Education introduced the Multiplier Training System to upgrade the teaching skills of the Vocational Teachers (ILO, 2011a).

The Ministry of Industry and Handicraft, in cooperation with international organizations such as the Project “Cleaner Production” of Denmark, occasionally conducted training packages containing OSH topics. Two years ago OSH training was conducted in the provinces with funding from the national budget. No further details are available as the training was planned and organized by the international organizations. The Ministry only coordinated the activities.

The Lao Federation of Trade Union is an organization represents the employees which has right and obligations to the Occupational Safety and Health as following:

5. Involve in study and consultation meeting to develop and modify policies, law and regulation on occupational safety and health;
6. Training, , encourage, raise awareness raising and support employees, representative of employees, trade union units at work to implement the law, regulations relevant to Occupational Safety and Health;
7. Provide a consultancy and information to the employees, the representative body of the employees and trade union unit at the workplace;

The Lao Federation of Trade Union in cooperation with Union Aid Abroad APHEDA from Australia is organizing advanced workshops on OSH and OSH Monitoring and Evaluation approaches. During the past, they organized 14 training courses with 507 participants, of which 354 were women. The WISE training method OSH programme for the construction industry was also introduced. Several training workshops on Work Improvement in Small Construction (WISCON) were conducted to upgrade the understanding of OSH for the inspectors of the MoLSW. There were more than 20 WISE trainers who participated at the first WISE training of trainers in August 2000 (Lao Federation of Trade Union, 2019).

The representative body of the employers as National Chamber of Commerce and Industry has obligations on the works of occupational safety and health as following:

- 1) Involve in the study and consultation meeting to develop and modify policies, law and regulation on occupational safety and health;
- 2) Encourage and support employees, business associations, business groups to implement the laws and regulations on occupational safety and health;
- 3) Provide OSH advice, knowledge, and information to the employers, business associations, business groups, and other agencies under the membership.
- 4) Perform other duties and responsibilities as roles and functions indicated in the law.

Some big and large companies hired the OSH personnel from overseas to operate and work at their companies. There are no long-terms training for occupational physician, occupational hygienist, nurses and others.

4.8 Status for International Certification at Workplaces

4.8.1 Status for international certification at workplaces (e.g. ISO 45001)

There are no International Certification at Workplaces yet in most of companies in Lao PDR, except the big companies such as the Beer Lao and Mining companies received the International Certification at Workplaces. The 10 Conventions are ratified by ILO in Lao PDR. Lao PDR has been cooperating with several international organizations on occupational safety and health. Lately, this collaboration has expanded noticeably. For instance, WHO is one of the key organizations that supports a healthy work place campaign, occupational health surveillance and advances in information technology, improvements in occupational health research in Lao PDR.

The International Labour Organization also has been working in building capacity on occupational safety and health, giving recommendations on advanced methodologies for further actions, organizing international workshops and seminars, and building a national capacity training program. According to the tripartite rule, the International Labour Organization works collaboratively with the government and private employers.

An occupational safety and health bipartite cooperation is also functioning at a sufficient level. For example, from 2018-2020, a bipartite cooperative contract was made between the Ministry of Labour and Social Welfare and the Korean Occupational Safety and Health Agency (KOSHA). As a result of the bipartite cooperative contract, consultants worked in particular organizations, short-term trainings were organized on labour and occupational safety and health, an introductory travel took place, and a technical support in improving communication and advertisement was expanded.

4.9 Worker's Awareness and Educational Levels regarding OSH

4.9.1 Worker's awareness and educational levels regarding OSH

Basically, the government created a legal environment to improve health education, to promote health, to adopt healthy behaviours, and to advertise health education and information. According to OSH Decree, all employees should receive SOP of tools, equipment and material as appropriate for works that oneself responsible for and follow instruction and manual of occupational safety and health. Labor unit, workplace, and relevant organization have responsibility for distributing information, rising awareness to employees to have knowledge on prevention, avoid hazardous thing which might impact health or the employee and other people surrounding. However, not all the labor units provided the training on OSH to their employees. According to the survey by ILO, most workers did not have knowledge of OSH as they have not been trained for OSH and not all companies provided OSH training before starting working (ILO, 2019).

Chapter 5 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

- OSH legislative framework is not functioned well and not reinforced to be implemented throughout the country. Currently, there are OSH Decree, 1st National OSH Strategy (2005-2010), 2nd National OSH Strategy (2011-2015 and until 2020), there were no development of the 3rd National OSH Strategy (2021-2025) yet.
- Weak implementation of OSH inspection, as the Department of Labour Management has inadequate OSH inspectors interm of quantity and quality.
- Lack of link or integration of National OSH programme with other national development plans.
- OSH is not fully integrated into the health care system as the health care system is provided the overall health care services, but there are no specific occupational diseases. Occupational health services, health care and rehabilitation systems co-operate in a timely manner in preventing work disability and restoring the workability.
- Not all employers have organized OHS committees regardless of the size of the companies; most of the big companies organized the OSH committees. The OSH authorities did not investigate the serious occupational accidents and major cases of occupational diseases.
- Lack of specific OSH Institution and Organizations responsible for OSH. Currently, there is small division of OSH inspection under Department of Labour Management, MoLSW supervises and oversee OSH inspection in the country.
- Low coverage of SSO as not all employers applied to be the members of SSO. The system for identifying and compensating for occupational diseases does not appear to function in practice.
- Lack of recording and reporting system of Occupational injuries and accidents. There is no specific organization responsible for the statistic of Occupational injuries and accidents. All injury cases were reported only to SSO for clamming health insurance.
- There is a list of occupational diseases and health hazards, but not yet implemented in the health services, as the doctors did not diagnose the diseases related to work as the occupational diseases.
- Low priority of OSH in the national agenda among policy makers and NA members.

5.1.2 Recommendations of action points for national OSH systems

- **Increased enforcement of the Labor law and OSH Decree.** The MoLSW and the tripartite Organization should actively function and should monitor the implementation of OSH decree at the working places, assure measurement of OSH according to risk assessment, implemented prioritized preventive measures, manage all harzadous and toxic factors. The triparties should organize the policy and social dialogue at the sectors level (Industrial Group, Transport and Logistics Group, Private Service Sector Group and Local Public Sector Group). The sector groups and the occupational safety and health committees should carry out the campaigns and plan publishing activities and training courses. There should be reinforced the employers and employees to cooperate in improving and maintaining safety in the workplaces. OSH matters are discussed between the employer, the employees or their representatives.

- **Increased enforcement the OSH inspection and monitoring** by increasing the capacity of OSH officers and OSH inspectors and the number of OSH officers and inspectors in the country. There should be the inspection of OSH inspectors of all business enterprises once per year.
- **Efforts will also be made to link the National OSH programme** with other national development plans to ensure more effective national buy-in and implementation.
- There is also a need for an **information campaign at governmental level**, e.g. with key policy makers and members of the National Assembly, to increase awareness amongst policy-makers of the benefits of social protection cover and to increase political willingness to ensure that both MoLSW and NSSF duly carry out their enforcement responsibilities.
- There is also a need for an **information campaign at governmental level**, e.g. with key policy makers and members of the National Assembly, to increase awareness amongst policy-makers of the benefits of social protection cover and to increase political willingness to ensure that both MoLSW and NSSF duly carry out their enforcement responsibilities.
- **Increased enforcement of the law of Social Security.** The National Social Security Fund (NSSF) should discuss approaches to stronger enforcement with the Ministry of Industry and Commerce (Business Licence Division) and the Tax Agency to reinforce them to be the member of SSO.
- **There is a need to improve the OSH statistics and set up the notification and registration system for occupational accidents and occupational diseases.** An overall review of existing systems for recording, notification and reporting of injuries and illnesses is urgently needed in order to establish a coherent and effective data collection system while eliminating redundant data and procedures. In the long run, this would work towards developing a common basis for nationally and internationally comparative data and the Department of Labor Management should be the focal point for OSH statistics. The scope for improvements in data collection, analysis and dissemination is enormous and, hopefully, concerted efforts on the following issues will bring significant improvements in the years to come.
- **There is a need to legislate** the occupational diseases, and list of occupational diseases.
- **Strengthening OSH inspector management system.** There is a need to be strengthening of the labour inspection function and capacities. The level of fines (in the Decision of the Minister on the Organization and Functions of Labour Inspectors) should also **be increased** so that it reflects a genuine sanction.

5.1.3 Support needs assessment of national OSH systems from Japanese government

- **Technical Support for establishing the OSH statistic system** in recording, notification and investigation of occupational accidents and diseases and accidents, dangerous occurrence and incidents and the compilation, notification and investigation.
- **Increased enforcement the OSH inspection and monitoring** by strengthening the capacity of OSH officers and inspectors.
- **Provided equipment for OSH inspection.**

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

- Almost all provincial health department have no occupational health unit or focal point.

- Surveillance/Screening/Risk assessment/Return to work/Others at the workplace are still limited.
- Lack of employer's awareness on OSH at the working place. Some enterprises did not set up OSH committee and OSH standard at the working place in promoting workability and preventing work-disability. The Committee represents the main forum for collaboration at the enterprise and workplace level between workers and employers on OSH issues, however, the OSH committees are not functioned well at the enterprise level. Establishing OSH committee is limited, even though, in some working places, the OSH committee conducted the regular meeting with minutes. However, it was not functioning as the committee didn't conduct the hazard assessment at workplace with implementation of corrective action plan; eliminating hazards and when this is not possible, minimizing them or substituting with less hazardous means; arranging collective safety measures – ahead of individual-based procedures; Evaluating the effectiveness of the health and safety measures undertaken; Continuously following-up and monitoring working conditions.
- Lack of development of OSH policy, OSH management system documentation, communication, planning and implementation at the working places.
- Limited of OSH officers at the working places. Small enterprises do not follow the OSH decree on OSH officer at the working place.
- Lack of OSH standard and National Guidelines on occupational safety and health management systems.
- In addition, the OSH committee procedure, roles and responsibilities of the OSH committee members were not clearly defined. Lack of OSH guideline at the working places.
- The level of coverage for social insurance of the occupational diseases for the small enterprises with less than 10 workers generally is quite low in Lao PDR (i.e. as a percentage of those who should be covered). The coverage is higher where this is required by buyers and/or where the employer/ investor is a foreign company. The level of coverage appears particularly low especially given that there is a high level of informal workers who may only be eligible for voluntary insurance.
- Lack of system of recording and reporting OSH injury at the working place. The availability and quality of data of occupational injuries is limited and there is also limited co-ordination and sharing of data between key agencies.
- Lack of awareness of workers on OSH and World Day Safety and Health as employer did not provide introductory OSH training at the working place.
- Lack of health promotion and well-being at workplace such as work-related stress, alcohol and drugs abuse, violence (both physical and psychological) and HIV/AIDS all lead to health-related problems for the worker and lower productivity for the enterprise or organization.

5.2.2 Recommendations of action points for OSH management at workplaces

- Reinforcement of the employers to **implement the Decree of OSH at their working place**. For example, one OSH officer per company with more than 100 employees and health specialist related to OSH and OSH committee should be set up. The manager of the company should ensure that all the aspects of OSH decree is implemented, especially training on occupational health and safety at the workplace. This will ensure that employers follow the standards in protecting their workers and providing safe working conditions.

- **The employers should set up an OSH policy, organizing, planning and implementation, evaluation and action improvement.** The OSH Policy include writing an OSH policy, and worker participation. The OSH organizing encompasses the responsibility for the protection of workers' safety and health, and provide leadership for OSH activities in the organization, competence and training, OSH management system documentation, communication. The planning and implementation include initial review, system planning, development and implementation, OSH objectives, hazards prevention. The evaluation consists of performance monitoring and measurement, investigation work-related injuries and occupational diseases, audit and management review.
- There is a need to **develop of new managerial cultures** and modern leadership, giving high value to OSH and well being at work.
- Promote the concept of **Basic Occupational Health Services (BOHS) delivery**, which would train health personnel on the diagnosis of occupational diseases at community level and on providing not only curative but also preventive care.
- There should be developed and approved OSH standard and National Guidelines on occupational safety and health management systems.
- There should establish an inspection mechanism along with the provision of training.
- There is also a need for an **information campaign for World Day Safety and Health at the working place.**
- There should provide the **interactive educational programme based on a training of trainer's** methodology designed to assist in the development of policy and action to address health promotion measures at the workplace in the framework of an enterprise OSH policy.
- There should **set up the notification and recording system of the work-related injuries and occupational diseases at the working place** and report to the Department of Labor management, Ministry of Labor Social Welfare.

5.2.3 Support needs assessment of OSH management at workplaces from Japanese government

- Capacity building of OSH officers.
- Assist to develop the OSH policy, organizing, planning and implementation, evaluation and action improvement at the working places.
- Develop the OSH guideline and develop the Educational and awareness-raising instruments.

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

- Not all employers provided OSH training to employees and no recording of training at the working places;
- Inadequate OSH inspectors and officers training, there are no regular OSH inspection training for OSH inspectors.
- There were also lacked of physicians who diagnose occupational or work-related diseases to report these cases to the OSH inspection;

- Limited of abilities of OSH personnel as OHS officers have no the capacity to respond to the health and capacity challenges in the workplaces in terms of quantity and quality OSH personnel;
- No long-term training on OSH in the country as there are no occupational health physician, Occupational health nurse, and Occupational hygienist.

5.3.2 Recommendations of action points for personnel engaged in the area of OSH

- The employers must provide the general induction training; Job-specific training e.g. manual handling, hazardous substances, plant, noise, office ergonomics, and accident reporting to all employees.
- There should have **disseminated OSH information through several channels**: web site and social media, brochures, posters, etc... The information sharing covers multidisciplinary topics such as safety, work ability, occupational health services, ergonomics, mental health at work, chemical safety, etc.
- There should have the **short training courses to safety managers** which cover the necessary topics to fulfill the fields of competency. These fields are: targets of OHS at workplace; OHS legislation and agreements; tasks and duties and responsibilities in the workplace; OHS cooperation in the workplace; information sources, research and advisory bodies; accident prevention; preventive methods; working ability and well-being; ergonomics; work hygiene; physical and chemical agents in the workplace; psycho-social work environment; safety management.
- There is a need to **develop recognition and identification of occupational diseases**. Further work is needed in relation to the list of occupational diseases so that these are linked to types of work recognized to cause such diseases. There is also a need to develop the expertise to diagnose occupational diseases.
- There is also a need for **training of medical practitioners on the diagnosis of occupational diseases** to be specialist in occupational health care, thus, the curriculum of training of occupational physicians should be developed.
- For short-terms, there is a need **for short training courses (3 to 6 months) to produce OSH staff to build the capacity of OSH officers and OSH inspectors**. OSH training required for those persons conducting OSH verification activities, e.g. OHS committee training, first aid training, bio-safety and radiation safety training.
- There should **strengthening the National OSH Training center** in order to provide OSH short trainings for the country.
- There is a need for further consultation and study to identify **how to improve protection for informal workers, e.g. through the provision of BOHS**.
- For long-terms, there should have training on OSH at the bachelor and master level to increase the number of OSH officer to work as OSH officers at the working places. There is a need to produce Occupational health physician, Occupational health nurse, and Occupational hygienist. Thus, there is a need to develop the curriculums for OSH hygienist, nurses and Occupational health physicians.
- There is a need to conduct the studies to establish the types of occupational injuries/diseases and the impact of the current biological and chemical risks among staff in the mining and energy, and agriculture (using the pesticides) sector industry.

5.3.3 Support needs assessment of personnel engaged in the area of OSH from Japanese government

- Assist to develop the **curriculum of OSH at the bachelor degree such as occupational health** physician, occupational health nurse, and occupational hygienist, ergonomists, physiotherapists.
- Provide the **short training of general physicians** to be specialized in the Occupational health physician.
- There should **strengthening the National OSH Training center** in order to provide OSH short trainings for the country.
- Providing **scholarships for OSH training to study abroad** such as in Japan such as Occupational health nurse, Occupational hygienist, Ergonomists, Physiotherapists.

Reference:

- ADB. (2011). Lao PDR Trade and Industry (Small and Medium-Sized Enterprises) Sector Assessment, Strategy and Roadmap. The South East Asia Department.
- ALMEC Corporation. (2014). Country Assistance Evaluation of Lao PDR.
- Andre R., Florence P., Tayphasavanth F., Vanphanom S. (2004). Removal of barriers to the introduction of cleaner artisanal gold mining and extraction technologies in Pak Ou and Chomphet districts. Lao PDR. Part B: Health Assessment - Final Report.
- ASEAN Secretariat. (2019). Regional Study on Informal Employment Statistics to Support Decent Work Promotion in ASEAN. Jakarta: ASEAN Secretariat, December 2019
- Asia Pacific Parliamentary Forum. (2009). About Laos. History. Accessed 28 October 2020, available: http://www.na.gov.la/files/appf17/lao_history.html
- BBC News Service. (2020). Laos Profile Timeline. Accessed 30 November 2020, available: <https://www.bbc.com/news/world-asia-pacific-15355605>
- Bertelsmann Stiftung. (2020). BTI 2020 Country Report — Laos. Gütersloh: Bertelsmann Stiftung.
- Center for Excellence in Disaster Management & Humanitarian Assistance. (2017). Lao PDR Disaster Management Reference Handbook. Available at: <https://reliefweb.int/sites/reliefweb.int/files/resources/CFE%20DM%20Reference%20Handbook-Lao%20PDR%202017.pdf>
- Creak, S. & Sayalath, S. (2017). Regime Renewal in Laos: The Tenth Congress of the Lao People's Revolutionary Party. Southeast Asian Affairs, 2017, pp.179-200
- Department of Labour Management. (2020). Legislation related to Occupational Safety and Health. Handbook
- Department of Planning and Cooperation, Ministry of Health. (2019). Health Management Information System Report, 2019.
- Economic Research Institute for ASEAN and East Asia. (2016). Lao PDR at the Crossroads: Industrial Development Strategies 2016–2030
- Erni, C. (2015). Shifting cultivation, livelihood and food security: New and old challenges for indigenous peoples in Asia. Shifting Cultivation, Livelihood and Food Security. Accessed 26 October 2020, available: <https://data.laos.opendevelopmentmekong.net/en/dataset/4712e9f7-148a-4b7e-9083-d21d56db5e82>.
- Faculty of Medical Technology. (2019). Annual Report 2019.
- Faculty of Public Health. (2020). Curriculum of Public Health Sciences in 2021
- Ferrand, J., Peyronnie, K. (2006). Les Accidents de la circulation à Vientiane RDP Lao: un enjeu de santé publique nouveau et important. *Espace Popul Soc.* 2006; 2:287–97. <http://eps.revues.org/index1841.html?file=1>. Accessed 17 November, 2020
- Food and Agriculture Organization of the United Nations. (2015). Ministerial Instructions on Hazardous Waste Management. Available at: <http://www.fao.org/faolex/results/details/en/c/LEX-FAOC162898/>
- GIZ (2014), HRDME Enterprise Survey 2013 for Lao PDR, GIZ, Vientiane, <https://www.giz.de/en/downloads/giz2014-en-hrdme-enterprise-survey-2013.pdf>.
- Government of Laos. (2020a). Politics - Administration. Accessed 01 December 2020, available: <http://laogov.gov.la/pages/Administrative.aspx>
- Government of Laos. (2020b). Policy and Strategy. Accessed 01 December 2020, available: <http://laogov.gov.la/esinfo/Pages/document.aspx>
- Government of Laos. (2020c). Constitution. Accessed 01 December 2020, available: <http://laogov.gov.la/pages/Constitution.aspx?ItemID=56&CateID=3>

- ILO. (2011). Decent Work Country Programme Lao PDR (2011-2015).
- ILO. (2013). National System for Recording and Notification of Occupational Diseases – Practical guide First published 2013
- ILO. (2017). Decent Work Country Programme (DWCP)-2017–2021.
- ILO. (2019). Improving the Garment Sector in Lao PDR: Compliance through Inspection and Dialogue. Available at https://www.ilo.org/asia/projects/WCMS_357242/lang-en/index.htm
- ILO. (2020). Improving occupational safety and health in the global value chain of coffee in Lao People’s Democratic Republic: Drivers and constraints. A case study, International Labour Office, Governance Department. Geneva: ILO, 2020.
- International Labour Office, Vision Zero Fund, EU. (2019). Analysis of Employment Injury Insurance in Lao PDR (Vision Zero Fund Lao PDR – LAO/17/50/EUR)
- International Labour Office. ILO. (2020a). Improving occupational safety and health in the global value chain of coffee in Lao People’s Democratic Republic: Drivers and constraints. A case study. Governance Department. Geneva.
- International Labour Office. (2020b). OSH Assessment in the Garment Factories in Lao PDR
- JICA. (2020). JICA in Laos. Available at the website: <http://www.jica.go.jp/english/about/>. Access on 5 November, 2020.
- JICA. (2014). JICA in Laos- 2014-2015- Inclusive Development.
- King, E.M., and Walle, D. (2010). Ethno-linguistic diversity and disadvantage. Indigenous peoples, poverty and development. Accessed 20 November 2020, available: <https://data.laos.opendevlopmentmekong.net/en/dataset/4ea238b8-fadc-4058-b270-fad3d0104c0d>.
- Lao Statistics Bureau. (2017). Lao Social Indicator Survey II: Survey Findings Report. Vientiane, Lao PDR
- Lao Statistics Bureau. (2016). Results of Population and Housing Census 2015. Accessed 12 November 2020, available: <https://data.laos.opendevlopmentmekong.net/en/dataset/4a2c03e0-2402-4691-b2fd-56277fc95c31>.
- Lao Statistics Bureau. (2010). Labour force survey. Available at: <http://www.ilo.org/surveydata/index.php/catalog/1352> [4 November 2020].
- Mana Southichack. (2014). Lao Labor Migration and Remittance. Trends and Economic and Livelihood implications.
- Ministry of Agriculture and Forestry, 2013. Lao PDR Risk and Vulnerability Survey 2012/13: Summary Report, Vientiane, Lao PDR.
- Ministry of Agriculture and Forestry. (2005). Decision of the Minister of Agriculture and Forestry on Organic Agriculture Standards, No. 1666/MAF, 30-12-2005. Available at: <http://www.fao.org/faolex/results/details/en/c/LEX-FAOC141126/>
- Ministry of Agriculture and Forestry. (2010). Regulation on the Control of Pesticides in Lao PDR, No. 2860/MAF 11 June 2010. Available at: https://www.ajcsd.org/chrip_search/dt/pdf/Useful materials/Lao PDR/Regulation on the Control of Pesticides in Lao PDR.pdf
- Ministry of Education and Sports. (2015). Education and Sports Sector Development Plan (2016-2020).” Accessed 02 November 2020, available: <https://data.laos.opendevlopmentmekong.net/en/dataset/f996e17d-d65a-4e8f-b2bf-f0262693c57e>.

- MOH. (2020). Five Years Health Report from 2016-2020.
- MOH. (2008). The Lao PDR Ministry of Health Department of Curative Medicine. Handbook of Minimum Requirements for Service Renovation in District Hospitals. 2008. Unpublished report.
- MOH. (2015a). Guidelines to implement quality of health care in Lao PDR under the 5 Goods, Satisfaction Policy. Unpublished report.
- MOH. (2015b). Lao PDR: Health Sector Governance Program. Accessed 20 October 2020, available:
<https://data.laos.opendevlopmentmekong.net/en/dataset/8e1109a6-0eee-4737-b791-7416096659c9>.
- MOH, Department of Hygiene and Health Promotion Ministry of Health. (2018). National Strategy for the Elimination of Asbestos - Related Diseases (2018-2030)
- MOH. (2019). Five Years Health Report from 2016-2020.
- Ministry of Industry and Commerce. (2012a). The decision on Industrial Substance and Chemical Management, No. 1041/MOIC.DIH, 28 May 2012. Available at:
<https://www.laotradeportal.gov.la/index.php?r=site/display&id=684>
- Ministry of Industry and Commerce. (2012b). Agreement on managing the waste from the industrial and handicraft processing, No.0555/IC, 20 March 2012.
- Ministry of Industry and Commerce. (2016). Law on Chemical management, No. 07/NA 10 Nov. 2016. Available at:
<https://www.laotradeportal.gov.la/index.php?r=site/display&id=1181>
- MOLSW, MOFA and MPS. (2016). Procedures for Sending Lao Workers Abroad and Receiving Foreign Workers in Lao PDR. Supported by Australian AID and ILO. Tripartite action to protect the rights of migrant workers within and from the Greater Mekong Subregion (GMS TRIANGLE).
- Ministry of Natural Resources and Environment. (2009). Agreement on the National Environmental Standards, No.2734/PMO-WREA 7 December 2009.
- Ministry of Natural Resources and Environment. (2013). Ministerial Agreement on the Endorsement and Promulgation of List of Investment Projects and Activities Requiring for Conducting the Initial Environmental Examination or Environmental and Social Impact Assessment, No.8056/MoNRE 17 Dec.2013. Available at:
http://www.investlaos.gov.la/images/sampled/eng/pdf_sample/ESIA-IEE/Ministerial_Agreement_Eng.pdf
- Ministry of Natural Resources and Environment. (2015). Ministerial Instructions on Pollution Control, No. 0745/MoNRE 11 December 2015. Available at:
http://www.laotradeportal.gov.la/kcfinder/upload/files/MONRE_0745_E.pdf
- Ministry of Labour and Social Welfare. (2005). 1st National OSH Strategy (2005-2010).
- Ministry of Labour and Social Welfare. (2011). 2nd National OSH Strategy (2011-2015). Available at: https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-bangkok/documents/policy/wcms_208356.pdf
- Ministry of Labour and Social Welfare. (2013a). Ministerial Decision on OSH in the construction site, No 3006/MoLSW, dated 21/8/2013.
- Ministry of Labour and Social Welfare. (2013b). Decree of the organization and the activities of labor management No. 2828/MoLSW, dated 8 August 2013.
- Ministry of Health, Department of Hygiene and Health Promotion. (2018). National Strategy for the Elimination of Asbestos - Related Diseases (2018-2030)

- Ministry of Natural Resources and Environment. (2019). Minamata Initial Assessment (MIA) Report for Artisanal and Small Scale Gold Mining in Lao PDR.
- Ministry of Labour and Social Welfare. (2018). Agreement of the List of Occupational Diseases.
- MoLSW. (2020a). Legislation on Occupational Safety and Health: Decision of the Minister of Labour Inspection
- MoLSW. (2020b). Legislation on Occupational Safety and Health: Ministerial Agreement on Labour Inspection
- MoLSW. (2020c). Legislation on Occupational Safety and Health: Ministerial Agreement on Occupational Disease List in Lao PDR
- MOFA of Japan. (2016). Official Development Assistance. Website: https://www.mofa.go.jp/policy/oda/page_000040.html
- Ministry of Planning and Investment (MPI). (2016), The Eight National SocioEconomic Development Plan (2016–2020). Vientiane: MPI
- Ministry of Planning and Investment, Lao Statistics Bureau (2018), Lao PDR Labour Force Survey 2017.
- NA. (2019b). Decree on Occupational Safety and Health, No 22/Gov, dated 5/2/2019.
- NA. (2006). Laobor Law (Amended), No. 06/NA 27 December 2006.
- NA. (2020). Election Guide. Democracy Assistance & Election News. Available at the website:<https://www.electionguide.org>. Accessed on 2/11/2020.
- NA. (2013a). Law on Labour (Amended), No. 43/NA 24 December 2013. Available at: https://www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=96369
- NA. (2013b). Law on Social Security. No 34/NA, dated 26, July, 2013. Available at: <https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/95117/128492/F1193623474/LAO95117%20Eng.pdf>
- NA. (2013c). Law on Environment Protection. Available at: <http://extwprlegs1.fao.org/docs/pdf/lao151747.pdf>
- NA. (2019a). Law on Social Security, No. 54/NA 27 June 2018. Available at: https://www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=95117&p_country=LAO&p_count=58
- NA. (2001). Law on Hygiene, Disease Prevention and Health Promotion, No. 04/NA 25 April 2001. Available at: http://ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=73666&p_country=LAO&p_count=54&p_classification=14&p_classcount=2
- NA. (1997). The Mining Law, No. 36/PDR 31 May 1997. Available at: [https://www.vientianetimes.org.la/Laws%20in%20English/36.%20Law%20on%20Mining%20\(1997\)%20Eng.pdf](https://www.vientianetimes.org.la/Laws%20in%20English/36.%20Law%20on%20Mining%20(1997)%20Eng.pdf)
- NA. (1999). Law on the Processing Industry, No. 01-99/NA 3 April 1999. Available at: http://vientiane.thaiembassy.org/upload/pdf/law/02-economy/15_IndustrialProcessing-Decree1999Eng.pdf
- NA. (2009). Law on Construction, No. 0197/NA 26 November 2009
- NA. (1998). Law on Agriculture, No. 01/98/NA 10 October 1998. Available at: [https://www.vientianetimes.org.la/Laws%20in%20English/38.%20Law%20on%20Agriculture%20\(1998\)%20Eng.pdf](https://www.vientianetimes.org.la/Laws%20in%20English/38.%20Law%20on%20Agriculture%20(1998)%20Eng.pdf)
- National Fund Social Security. (2020). SSO Manual and Procedures, 2020.
- National Disaster Management Office. (2012). Lao PDR National Assessment Report on Disaster Risk Reduction: Linkages between Poverty and Disaster Risk. Retrieved from Vientiane

- OSAC. (2020). Laos 2020 Crime & Safety Report. Available at: <https://www.osac.gov/Country/Laos/Content/Detail/Report/da674c3f-3d7a-4dfd-983b-18d51ef61a33>
- President Office. (2006). Labour Law, Amended No. 06/NA, dated 27 December 2006
- Simon Creak & Keith Barney (2018). Conceptualising Party-State Governance and Rule in Laos, *Journal of Contemporary Asia*, 48:5, 693-716, DOI: 10.1080/00472336.2018.1494849 To link to this article: <https://doi.org/10.1080/00472336.2018.1494849>
- Social Security Organization (SSO). (2015). Social insurance scheme of the private sector.
- SSO. (2020). SSO 5 Years Report 2020.
- Slesak G, Slesak R, Inthalath S, Wildmer-Smith A, Barennes H. (2015). Road traffic injuries in the Northern Laos: Trends and risk factors of an underreported public health problem. *Trop Med Int Health*, 20 (11): 1578-1587.
- The Vientiane Times. (2020). Foreign Minister MOTEGI Highlights Japan-Laos Cooperation.
- UNESCAP. (2017). Lao People's Democratic Republic Peace Independence Democracy Unity Prosperity. Ministry of Public Works and Transport Lao Railway Department. 5th Meeting of the Working Group on the Trans-ASIAN Railway Network 13-14 June 2017. Presented by Mr. Sonesack N. Nhansana, Vientiane, Lao PDR. [http://www.unescap.org/sites/default/files/Lao percent20PDR percent20country percent20report-TAR percent20WGM-5.pdf](http://www.unescap.org/sites/default/files/Lao%20percent20PDR%20country%20report-TAR%20WGM-5.pdf)
- Vientiane Times. (2017a). Traffic Accidents the Lao Economy. Available at the website: <https://laotiantimes.com/2017/01/12/traffic-accidents-bleeding-lao-economy/>. 12th January, 2017. Access on 1 December, 2020.
- Vientiane Times. (2017b). Road Accidents continue to Plague Vientiane Capital. Available at the website: <https://laotiantimes.com/2019/07/04/road-accidents-continue-to-plague-vientiane-capital/>. 4th July, 2019. Access on 1 December, 2020.
- Vientiane Times. (2019). Modern Unit opens at the Mittaphab Hospital
- Vientiane Times. (2017). Mahosot Hospital Upgrade to Commence in Late 2018
- Vientiane Times. (2019). Settathilat Hospital
- Wikipedia. (2020). Mahosot hospital, Lao PDR.
- WHO. (2016). Preventing diseases through healthy environments: A global assessment of the burden of disease from environmental risks, 2016.
- WHO. (2014). The Lao People's Democratic Republic health system review (Health Systems in Transition, Vol. 4 No. 1 2014).
- WHO. (2013). Global status report on road safety 2013: Supporting a decade action. Geneva: WHO, 2013. Available from www.who.int/violence_injury_prevention/road_safety_status/2013/en/
- WHO. (2017). LAO PEOPLE'S DEMOCRATIC REPUBLIC–WHO Country Cooperation Strategy 2017–2021
- WHO. (2018). Non communicable Country profile. Available: <https://populationstat.com/laos/>, 2020)
- WHO, SAGE. (2018). Assessment report of the Global Vaccine Action Plan”, 2018
- WHO. (2013). Global status report on road safety 2013: supportinga decade of action. Geneva: WHO, 2013. Available from: www.who.int/violence_injury_prevention/road_safety_status/2013/en/ [9 November 2020].
- World Bank. Lao PDR. (2015). (Available at: <http://data.worldbank.org/country/lao-pdr>) [9 November 2020].
- World Bank Group. (2020). Lao PDR Overview. Available at the www.worldbank.org

- World Bank Group. (2017). Country Partnership Framework for Lao People's Democratic Republic for the period FY2017 – FY2021.
- World Bank Group. (2015). Lao PDR Economic Monitor - April 2015: Towards Restoring Macroeconomic Stability and Building Inclusive Growth. Macroeconomic and Fiscal Management Global Practice, East Asia and Pacific Region.
- World Bank. (2014). Lao People's Democratic Republic – Small and Medium Enterprise Access to Finance Project. Washington, DC: World Bank Group. Available at: <http://documents.worldbank.org/curated/en/2014/05/19546551/laopeoples-democratic-republic-small-medium-enterprise-access-financeproject>
- Worldometer. (2020). Laos population (live). Accessed 15 November 2020, available: <https://www.worldometers.info/world-population/laos-population/>
- World Food Programme (WFP). (2017). Lao PDR Country Strategic Plan (2017-2021). April 2017. <https://www.wfp.org/content/2017-lao-pdr-country-strategic-plan-csp-2017-2021>