

YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF ECONOMICS
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**The Role of National Skills Standards Authority for the
Development of National Occupational Competency
Standard in Engineering Sector
(Case Study in Yangon Region)**

KYAW ZIN

EMDevS -14 (17th Batch)

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The Role of National Skills Standards Authority for the
Development of National Occupational Competency Standard in
Engineering Sector
(Case Study in Yangon Region)

A thesis submitted as a partial fulfillment towards the requirements for the Degree of
Master of Development Studies

Supervised by

Daw Phyu Win Ei
(Associate Professor) YU Eco.
Department of Economics
Yangon University of
Economics

Submitted by

Kyaw Zin
Roll No. 14
EMDevS 17th batch
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October, 2022

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This is to certify that this thesis entitled “**The Role of National Skills Standards Authority for the Development of National Occupational Competency Standard in Engineering Sector (Case Study in Yangon Region)**” submitted as a partial fulfillment towards the requirements for the Degree of Executive Master of Development Studies has been accepted by the Board of Examiners.

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(Examiner)

Professor

Department of Economics

Yangon University of Economics

Daw Phyu Win Ei

(Supervisor)

Associate Professor

Department of Economics

Yangon University of Economics

ABSTRACT

The development of vocational and competency standards, as well as the delivery of national skills certification systems, is one of the most major parts of HR development for industrial growth. In this study, the Metal and Engineering Sector was used to analyze the role of NSSA in the development of the National Occupational Competency Standard, competency-based assessment. The purpose of the study is to focus on the role of NSSA for the development of NOCS and career chances of training graduates, and also on the job opportunity before and after the vocational training. The descriptive methods was used in this study and the primary data were collected from the vocational training graduates from four engineering sector at Yangon region. It has been discovered that there are currently insufficient stakeholder commitments to collaborate with NSSA for workforce development, as well as a lack of communication and information network. It is suggested that sector committees and NSSA create a proper training system and pathways to achieve certificates at each skill level. Employers must also be aware the role of NSSA certificate and its importance.

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Kyaw Zin

Roll No.14, EMDevS 17th Batch

Yangon University of Economics, Myanmar

TABLE OF CONTENTS

	Page
ABSTRACT	i
ACKNOWLEDGEMENTS	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	v
LIST OF ABBREVIATIONS	vi
CHAPTER I INTRODUCTION	
1.1 Rationale of the Study	10
1.2 Objective of the Study	12
1.3 Method of Study	12
1.4 Scope and Limitations of the Study	13
1.5 Organization of the Study	13
CHAPTER II LITERATURE REVIEW	
2.1 The Importance of Human Resource Development	15
2.2 Vocational Training Concepts and its Opportunity	15
2.3 Advantages of a Vocational Courses	18
2.4 TVET Practice in ASEAN	19
2.4.1 TVET Practice in Myanmar	22
2.4.2 TVET Practice in Cambodia	27
2.4.3 TVET Practice in Viet Nam	32
2.5 Review on Previous Studies	38
CHAPTER III CONTEMPORARY DEVELOPMENT OF NSSA IN ENGINEERING SECTOR	
3.1 Historical Background of TVET	41

3.2 Vocational Education Policy in Myanmar	42
3.3 Management and Organization in TEVET	43
3.4 Skill Assessments and Recognition Programs	44
3.5 National Cooperation of NSSA	45
3.6 Regional Cooperation of NSSA	46
3.7 Vocational Education Policy in Myanmar	48
3.8 Legislative Background of Vocational Education	49
CHAPTER IV SURVEY ANALYSIS	
4.1 Survey Profile	52
4.2 Survey Design	52
4.3 Analysis on Survey Findings and Results	53
CHAPTER V CONCLUSION	
5.1 Findings	72
5.2 Suggestions	74
REFERENCES	
APPENDICES	

LIST OF TABLES

Table No.	Title	Page
2.1	Employment and contribution to GDP (2007 Vs 2017) per sector	26
4.1	Demographic Information and Educational level of Respondents	53
4.2	Years of Field Service Experience of Respondents	54
4.3	Reasons of taking Skills Assessment Programs of NSSA	55
4.4	Assessment Process of NSSA	57
4.5	Advantages of NSSA Certificate	58
4.6	Employer Participation for NSSA training	59
4.7	Challenges of NSSA training candidates	60
4.8	Acknowledgement to NSSA certificate	61
4.9	Recognition of the Assessment Center Manager (NSSA)	62
4.10	NSSA Standards in Industry	64
4.11	NSSA Units Required in the Workplace	65
4.12	The use of NSSA competency units in Real Workplaces	67
4.13	Cooperation with Employer for NSSA Development	69
4.14	Assurance of NSSA Quality Development	70

LIST OF ABBREVIATIONS

AAC	Accredited Assessment Center
AANZFTA	ASEAN Australia New Zealand Free Trade Area
ADF	Agency Française de Development
ACC	Assessment and Certification Committee
AEC	ASEAN Economic Community
ASEAN	Association of Southeast Asian Nations
ASRA	ASEAN Skills Recognition Arrangement
BMO	Business Membership Organization
BMZ	German Federal Ministry for Economic Cooperation and Development
CAT	Competency Assessment Tools
CAMFEBA	Cambodian Federation of Employers and Business Associations
CoEs	Centers of Excellence
CGTI	Cambodia Garment Training Institute
C-VET	Continuing Vocational Education and Training
CoC	Certificate of Competency
CoCU	Curriculum of Competency Unit
CU	Competency Unit
DCoHT	Dong Nai College of High Technology, Vietnam
DoF	Department of Fisheries
DoP	Department of Planning
DSD	Department of Skills Development
DTVET	Department of Technical Vocational Education and Training
DVET	Directorate Vocational Education and Training, Vietnam
DGTVET	Directorate General of Technical and Vocational Education and Training
ECOP	Employers' Confederation of the Philippines
ESD	Employment and Skills Development
ESDL	Employment and Skills Development Law

Fed.MES	Federation of Myanmar Engineering Societies
FDI	Foreign Direct Investment
GIZ	Deutsche Gesellschaft für International Zusammenarbeit (German Technical Cooperation)
GDP	Gross Domestic Product
GMP	Good Manufacturing Practices
GMAC	Garment Manufacturing Association of Cambodia
GOM	Government of Myanmar
HRD	Human Resources Development
ITC	Industrial Training Centers, Myanmar
ILB	Industry Lead Bodies
ILO	International Labor Organization
ISO	International Organization for Standardization
ISO	International Organization for Standardization
JICA	Japan International Cooperation Agency
KAPPK	Kod Amalan Pentauliahan Program Kemahiran
LBVD	Livestock Breeding and veterinary Department
LGBT	Lesbian, Gay, Bisexual and Transgender
LIRC	Logistics Industry Reference Committee, Vietnam
LMIS	Labor market information system M and E Metal and Engineering
MNQF	Myanmar National Qualification Framework
MOALI	Ministry of Agriculture, Livestock and irrigation
MOC	Ministry of Construction
MOE	Ministry of Education
MOGE	Myanmar Oil and Gas Enterprise
MOHS	Ministry of Health and Sport
MOHT	Ministry of Hotel and Tourism
MOI	Ministry of Industry
MOLIP	Ministry of Labor, Immigration and Population
MONREC	Ministry of Natural Resources and Environmental Conservation

MOSQF	Malaysian Occupational Skills Qualifications Framework
MOSWRR	Ministry of Social welfare, Relief and Resettlement
MOTC	Ministry of Transport and Communication
MOT	Ministry of Tourism, Cambodia
MEAP	Mitsubishi Electric Asia Pte Ltd
MLVT	Ministry of Labour and Vocational Training, Cambodia
MQF	Malaysian Qualification Framework MRS Mutual Recognition of Skills
MSCO	Myanmar Standard Classifications of Occupations
MTE	Myanmar Timber Enterprise
NC	National Certificate
NCS	National Competency Standards
NEP	National Employment Policy (Cambodia)
NGOs	Non-Government Organizations
NIVET	National Institute for Vocational Education and Training, Vietnam
NOCS	National Occupational Competency Standard
NOS	National Occupational Standards
NOSS	National Occupational Skills Standards
NQF	National Qualification Framework
NSDA	National Skill Development Agency
NSDC	National Skill Development Corporation
NSDC	National Skills Development Council
NSQF	National Skills Qualification Framework
NSSA	National Skills Standards Authority
NTB	National Training Board, Cambodia
OCS	Occupational Competency Standard
PPP	Public Private Partnership
PQF	Philippine Qualifications Framework
PTQF	Philippine TVET Qualifications Framework
PCCI	Philippines Chamber of Commerce and Industry

PME	Peace Myanmar Electric
PSD	Private Sector Development
PTCACs	Philippine TVET Competency Assessment and Certification System
QATESDF	Quality Assured Technical Education and Skills Development Framework
QMS	Quality Management System
RCC	Recognition of Current Competency
RPA	Recognition of Prior Achievement
RPL	Recognition of Prior Learning SAG Self-Assessment Guide
SC	Sectorial Committee
SMVTI	Singapore-Myanmar Vocational Training Institute
SDF	Skills Development Fund
SSC	Sector Skills Committee
STED	Skills for Trade and Economic Diversification
SRA	Skills Recognition Arrangement
TC	Training Committee
TESDA	Technical Education and Skills Development Authority, Philippines
TR	Training Regulations
TVET	Technical Vocational Education and Training
TWG	Technical Working Group
UMFCCI	Union of Myanmar Federation of Commerce, Chamber and Industry
VCCI	Vietnam Chamber of Commerce and Industry
VTC	Vocational Training Centers
VWSA	Vietnam Water Supply and Sewerage Association
WIM	Written Instructional Materials
WBL	Work-based Learning
WWII	World War II

CHAPTER I

INTRODUCTION

1.1 Rationale of the Study

The development of vocational and competency standards, as well as the delivery of national skills certification systems, is a critical component of human resource development for national industry growth. One of the tools used to facilitate the free flow of skilled labor in both the national and ASEAN contexts is national skills certification systems. However, Myanmar's skill development and legislative systems lag behind those of surrounding ASEAN countries, and the country faces the problems of ASEAN's planned shared labor market and free flow of human resources as part of the ASEAN vision. As a result, Myanmar must both quantitatively and qualitatively strengthen its vocational training and skills development system, in addition to supply workers with reliable productive skills to meet industry and national demand. (Trinder, J. C. (n.d.). COMPETENCY STANDARDS 2008)

As technological improvements change the nature of many employment, labor markets today place a greater emphasis on knowledge and skills. Some tasks necessitate an ever-increasing level of technological expertise. Consider manufacturing workers who must adapt to utilizing semi-automated tools rather than manual ones. They must program automated machines to do their work instead of using hand tools. Myanmar is currently attempting to increase the quality and level of its skill workforce. Workers' competency can be strengthened by governmental and private sector training, as well as job experience. Workers' skills must be improved in order to eliminate poverty and enhance human resources.

To improve one's career, current businesses place a greater premium on the ability to integrate technical and non-technical skills, such as communication, collaboration, or empathy. People are expected to take on supervisory or management positions when they spend more time on the job, which necessitates the development of specialized abilities. As a result of globalization, new jobs emerge all over the world. International firms have transferred their operations to developing countries in quest of lower labor costs and less environmental and social regulations, shedding some jobs in rich countries while establishing new, primarily manufacturing jobs in developing countries. This approach has dramatically raised demand for specialized jobs and skills

that are normally outside of the formal schooling system and must be acquired through on-the-job training.

Despite substantial economic progress in the previous decade, Myanmar remains a highly closed economy, with decades of underinvestment in formal education and training institutions. From 1988 until 2011, the State Law and Order Restoration Council closed all higher-education institutions for years at a time. As a result, just 5.6 percent of adults in Myanmar have completed upper secondary school, and only 7 percent have completed university in 2017. (World Bank 2020). Around 30% of the labor force has no formal education, and only 2% has some vocational training (MOLIP and ILO 2016). The technical and vocational education and training system is also rated as subpar in comparison to other South-East Asian countries, and it is generally run without involvement from the private sector, employers' or workers' organizations (Milio, Garnizova, and Shkreli 2014; ILO 2020). Enterprises in Myanmar, like those in many other developing nations, report that a lack of skills among employees significantly limits business performance (Berkel et al. 2018; Hansen et al. 2020). The National Skill Standards Authority (NSSA) began providing skills certificates to bridge the gap between formal education and work-related abilities in order to bridge the gap between semi-skilled workers and supervisors.

Myanmar must take practical steps to recognize the talents of its existing workforce, which is now functioning competently, because in some situations, Myanmar workers face employment challenges in FDI enterprises due to a lack of a skills recognition system. To address the aforementioned concerns, the Myanmar government passed the Employment and Skills Development (ESD) Act in 2013. (Pyidaungsu Hluttaw 2013) MOLIP was the key implementing agency for the NSSA program for this improvement. Since 2007, the NSSA has issued the National Skills certificate to existing skilled workers. It is comprised of 15 sectorial committees directed by the relevant Ministries and Organizations. (National Employment & Skill Development)

The role of skilled workers in the labor market plays a key role in the development of the country's market economy. Skills development process in human resource development is contributing to the country's economic development. A driving force behind the mechanism for skills development is the skill recognition programme.

NSSA has therefore piloted a “Skills Recognition programme in 2014 with the support of GIZ TVET programme and introduced appropriate approaches and methods as workforce development tools” (GIZ 2015). Since 2015, “Swisscontact and other development partners, private sector associations and companies have been supporting to the workforce skills development activities”. (GIZ TVET 2015)

This is the ways forward and proposals for how to strengthen the “National Occupational Competency Standard” (NOCS) and NSSA certification process in the “Metal and Engineering Sector” as part of Myanmar workforce development framework and ESD law implementation. “The National Skills Standards Authority (NSSA) has issued a total of 17,103 skill certificates for 30 types of employments since 2014” (NSSA 2014). The NSSA will make an assessment of 5,000 workers for 30 types of employments in the fiscal year of 2022-2023. This study focuses on how to strengthen and sustain the employment opportunity of “National Occupational Competency Standards” in NSSA's “Metal and Engineering Sector” from (2015 - 2022).

1.2 Objective of the Study

The main objectives of thesis are,

(1) to study the status of National Occupational Competency Standard Development and its opportunity to get a job focus on engineering sector

(2) to understand Occupational Competency Standards based Training and Assessment as it is importance for Employers and Workers

1.3 Method of study

The primary data from 160 apprentices who finished Level 1. Key Informant Interview with 12 Assessment Center Managers using a simple random sampling method for primary data. The descriptive method, as well as secondary and primary data, are used in this study. The gender scope is Male because the majority of employment categories work with men. Data were gathered using two methods: face-to-face or on called interviews with samples and the assistance of officials from those total 9 NSSA training centers. Secondary data were gathered from NSSA training

centers in the Yangon region and relevant research publications from the school library and the internet.

1.4 Scope and Limitations of the study

The study mainly focused on the employment opportunities of occupational training at M&E sector in Yangon Region. The selected 4 occupations are most demanded occupational areas from Engineering Sector for the semi-skilled worker Level 1 in Yangon area. The study courses are Electrician, Pneumatic, Air-con Installation and Automobile mechanic.

The “National Skills Standards Authority” (NSSA) in Myanmar is the source of this research. NSSA works with 15 Sectorial Committees and implements their recommendations. NSSA has now trained 87 inspectors and 771 assessors, recognized 145 assessment centers, certified 16,519 candidates. The Metal and Engineering Sectors have already produced 23 “National Occupational Competency Standards” (NOCS) and trained a total of 16519 skilled employees (Semi skills workers Level 1 - 15325 and Skills workers Level 2 -1194). (Base on ESD legislation NSSA and ASEAN MRS Movement 2010-2022)

The difficult period since 2020 slowed down the education reform’s tempo just as a massive group of students have difficulties completing their curriculum. The survey period is 2015-2022. However, aside from the selected industry, this study does not address other occupational training roles or other technical skills. The survey was conducted in October of 2022.

1.5 Organization of the study

There are five chapters in this thesis. Chapter 1 is an introduction that provides the study's motivation, objective, technique, scope and limitations, and organization. Chapter 2 includes the importance of “Human Resource Development”, review of the literature on general education and describes about the competency framework and its practices in International & ASEAN Context. It highlights the role and function of Technical and Vocational Education and Training, as well as the advantages it offers, particularly in the Metal and Engineering industry. Chapter 3 discusses opportunity of

NSSA's training in the metal and engineering sectors based on ESD laws and the ASEAN MRS (2010-2018). Chapter 4 is an assessment survey of the role and function of the NSSA training education program. Chapter 5 concludes with a study of findings and recommendations, as well as recommendations and needs for more research.

CHAPTER II

LITERATURE REVIEW

2.1 The Importance of Human Resource Development

Lew and Schwarty introduced the concept of human resource accounting in 1971. Human resources are not people in and of themselves, but rather the qualities they possess that can be put to good use by the community. (International Journal for Research in Applied Science and Engineering Technology IJRASE- Mar 2020) Human resource development (HRD) is the field of training and development given by the organization to improve their employees' knowledge, skills, education, and abilities. Human resource development in many organizations begins with the hiring of a new employee and continues throughout that employee's with the organization. Many employees enter with only fairly basic skills and experience and lack the experience to do their jobs effectively. Others may already have the necessary skills for the job but lack knowledge of that specific job. (Johnason, 2009). HR development is intended to provide employees with the knowledge they need to adapt to the culture of their organization and do their jobs effectively. "Human resource development is a diverse, dynamic, and multi-dimensional process Human resource development is the process of assisting people in developing skills. Only the development of human resources is the key to a nation's overall socioeconomic development". (Prithwish Roy 2007).

2.2 Vocational Training Concepts and its Opportunity

Vocational training refers to educational programs or courses that focus on the skills needed for a specific job or trade. Education in vocational training prepares students for specific careers while neglecting traditional academic subjects. Vocational training, also known as "Vocational Education and Training or Career and Technical Education", provides hands-on, job-specific instruction and can lead to certification, a diploma, or even an associate's degree.

Students do not go into the workforce with little hands-on experience with the tools and environments in which they trying to work. Instead, they have spent their entire education working in these situations under the supervision of their trainers. This

results in a more desirable assessment of employability skills. Potential employers can look at these students' academic records to determine what kind of skills they will have when they first enter the workplace. This effect is accelerated when a training institution uses a competency-based training approach that is aligned with the needs of the industry.

Opportunities for vocational learning are crucial for skill development and employment. The distinction between theoretical knowledge and actual skills reflects the significance of vocational development. Students in non-vocational studies may spend hours researching a variety of subjects. Their class time is typically limited to a few hours per week, since they will spend many hours in the library and on computers performing research and producing papers that will aid them in continuing to improve their theoretical knowledge in a number of subjects. (Vocational Education Wikipedia)

Even within their chosen field, they frequently invest a lot of time on researching the theories, concepts, and methods that other experts in the field utilize. Compared to students who are enrolled in a vocational education program, they have much less possibilities to put these concepts into practice. These students' career options and paths to the workforce are severely constrained since their theoretical knowledge lacks the practical job experience that would enable them to move from a course of study into a real-world profession. When the students graduate and enter the workforce, this might occasionally provide problems.

This problem is corrected for students in a vocational education and training program. Every week, students spend hours in practical workshops acquiring hands-on practical skills linked to their chosen field. In these schools, class time tends to be longer than outside research time since students spend more time researching real work opportunities that prepare them for their future jobs. They spend less time investigating the theoretical and more time studying the practical.

Students will also be guided through classes that will expose them to opportunities to use the highly specialized equipment and facilities needed to carry out their work properly. Instead of only studying about this type of equipment or how it may be beneficial on the job, students get the opportunity to practice their own abilities while still in school. When the time comes for them to move to a job in the real world,

they will have the necessary experience to get started right away. They will not have to spend time on the job learning how to physically operate the equipment, allowing them to become a valued employee and advance in their career more quickly.

Employers know they want to employ workers who can do the job effectively and quickly adjust to the workplace when they are looking for new workers to join their company. Company used a lot of money attempting to onboard new workers since there is a training procedure involved and a learning curve that must be anticipated for the employee in a new position. Students do not join the workforce without much hands-on experience with the equipment and settings in which they have to work. Instead, under the guidance of their instructors, they have worked particularly in these circumstances throughout their studies. As a result, the assessment of employability qualities and opportunities is improved. Employers may examine these students' academic records to determine the kind of talents they will possess before they even step foot inside the office. When a training facility uses a competency-based training method that is aligned with the objectives of the business, this impact may be utilized even further. (Onboarding New Employees - Talya N. Bauer. 2011)

Therefore, the first option for people looking to learn how to improve their employability skills should be vocational learning possibilities. These abilities can assist students in gaining the knowledge and skills they especially need for this line of employment, ensuring that they are equipped to succeed. Employers may be sure that the applicants they receive from a reputable institution already have the knowledge and skills required to start working right away. Students frequently want to know how they might improve their employability. The solution is to get the job experience that companies seek. Having this experience can make it much easier to find job. Employers have a better understanding of how a candidate will perform on the job and how many resources would be required to train a new worker. These job experiences become part of the curriculum for vocational students. Students acquire hands-on experience throughout their studies through internships and practical learning opportunities. Completing real-world job projects, like they do in a number of schools, helps students with creating usable resumes before they graduate. (ILO -2013)

When it comes to student education, the importance of developing skills-based education cannot be underestimated. Students who attend courses that specialize in

teaching them the skills they need to compete in a specific area will graduate well-prepared to enter their chosen field. Throughout their study, they acquire on-site job experience, reducing the transition to the working world and assisting them professionally and financially. Businesses who recruit them know they can rely on their new workers to go right into the field and operate with a high degree of independence and proficiency, resulting in a positive experience for everyone involved. The advantages mentioned here should be carefully considered by anybody interested in taking a vocational pathway for their education and a future in one of the many fascinating trade sectors that these types of institutions offer (Non Standard Employment around the World ILO- 2016)

2.3 Advantages of a Vocational Courses

Vocational courses are offered through private and state institutions, as well as specialized training institutes, and range in length from a few weeks to a few years. In essence, vocational courses provide them the knowledge and training they require for particular occupations or careers, and some even allow them to further their education by offering them access to degree programmed at technical institutions.

Taking a vocational course will provide them job-relevant skills. The following are some advantages of opting to take a vocational course:

(i) Vocational training could be less expensive than taking a course at a university, depending on the school they decide to attend. Their training period can also be shorter, which enables them to start working and making money sooner in addition to saving money on study expenses.

(ii) It provides them the opportunity to obtain a certificate that is closely related to the job path they have selected. Without wasting time on theoretical concepts and intangible things that are not immediately applicable in the workplace, they may acquire the practical information and skills they need to obtain employment through vocational education.

(iii) They become a more desirable applicant for companies in particular industries. Instead of requiring extensive training that consumes important time and

costs the business money, many companies prefer applicants who can start producing on their first day.

Whether they have practical experience that is relevant to their field of study but need a formal education to advance their career or apply for a better job, they may also benefit from vocational training. As not all vocational courses are created equal, they must conduct research after they have decided that vocational training is the best option for them. Each institution has a different training program's cost, length, and quality. It is a good idea to consider criteria like accreditation, fees, student support services, course duration, and content in order to choose the correct course and the right institution. Find a course / training programmed and organization that will be a suitable fit by taking into account their requirements and expectations in these areas. (Vocational education is the need of the hour, Anne-Céline Renaud- 2022)

2.4 TVET Practice in ASEAN

Competency standards are created in the Philippines by TESDA for middle-level skilled employees. The units of skill that make up competency standards comprise descriptions for acceptable standards of performance in work. Qualifications are formed from these descriptions. Matching the professions in the primary industry sectors. The credentials correlate to a certain stage in the Philippine TVET Qualifications Framework (PTQF).

The national training rules (TR) include the competency requirements and qualifications, together with training standards and assessment procedures, and the accompanying competency assessment methods (CAT). The TR and CAT development process adheres to a quality assurance approach that actively incorporates TVET stakeholders from business, academia, and the labor sectors. By giving the competency criteria and job requirements for a given qualification in the sector they represent, industry experts are consulted at various phases of development. (PTQF).

TRs serve as the foundation for TVET programme registration, delivery, evaluation, certification, and the creation of curriculum for the various credentials. The Philippine Chamber of Commerce and Industry (PCCI) and the Employers' Confederation of the Philippines, in particular, are represented on the TESDA board,

which is responsible for promulgating them (ECOP). For a better and more uniform understanding, TESDA organizes zonal orientations on TRs and CATs up to the province level. During the sessions, industry professionals who contributed to the creation of these papers frequently act as resource people.

Thailand offers tax incentives to businesses which spend money on employee training. As a result, businesses with more than 100 workers can deduct 200% of the cost of staff training from their yearly tax payment. According to the Skills Development Promotion Act, B.E.2545 (2002), businesses must offer training to at least 50% of their whole workforce. If not, they must pay into the Skills Development Fund established by the Ministry of Labor. Currently, businesses with less than 100 workers are not required to contribute to the Fund but are still required to disclose their employee counts yearly. The Fund offers Thailand's TVET system an extra source of funding.

Tourism is one of Cambodia's most important economic sectors, and it also plays an important role in the Industrial Policy (2015–2025). Through a number of programme and initiatives, the Ministry of Tourism (MOT) supports skill development. The Department of Training and Development at MOT is responsible for coordinating and supporting all of the programme. One of the primary objectives of the programme is to add 1.8 million direct employments by 2028 and one million jobs in the tourist sector by 2020. (Ly, 2018). Clearly, the industry needs more skilled people. (National Implementation of the Mutual Recognition Arrangement (MRA) on Tourism Professionals-2015)

According to a recent skills mapping of the industry by MOT, the current training capacity of the Cambodian TVET sector is a maximum of 2,000 skilled graduates each year. A Public Private Partnership Skills Development Taskforce for the tourist sector is being formed by MOT in order to expand the training capacity. MOT also plans to construct two national tourism schools (in partnership with the French development agency AFD). Thus, it appears that MOT is utilizing the Industrial Policy (2015–2025) to create skills for the Cambodian tourist industry.

A private training organization called the Singapore-Myanmar Vocational Training Institute (SMVTI) was founded in 2015. The Institute has partnered with a number of businesses, including Peace Myanmar Electric (PME) Holding and

Mitsubishi Electric Asia Pte Ltd (MEAP). The corporate partners support educational resources and participate in technological transfers in the home air conditioning industry. The curriculum used in the training at SMVTI was created by the institute with assistance from MEAP, PME, and other businesses. (GIZ Partnerships-for-Skilling-ASEANs-Workforce. 2019)

Companies are obviously drawn to SMVTI because of its connections to Singapore. However, the institute has been putting up constant effort to enhance its corporate interaction strategy. It has created a BMO, SMVTI, and corporate representative-led Academic Advisory Committee. The goal of the committee is to provide guidance for the development and upgrading of SMVTI curriculum to ensure that training is relevant to industry standards and demands as well as government policy. The institution hosts employment fairs twice a year that provide businesses the chance to find out more about prospective partnerships and graduate hiring. (GIZ Partnerships for Skilling ASEANs Workforce.2019)

The pilot on cooperative training for wastewater engineering technicians, which was conducted as a part of the Programme of TVET Reform in Vietnam financed by GIZ, is an illustration of WBL in Vietnam (Germany). The purpose of the pilot project was to develop the expertise of wastewater and sewerage professionals in Vietnam in accordance with German standards. (Reform of Technical and Vocational Education and Training (TVET) in Viet Nam. 2019)

Enhancing the capacity of the Vietnam Water Supply and Sewerage Association to fulfil its role as the focal organization for further implementation, roll-out, and improvement of the outcomes through the development of occupational standards and training courses & curriculum in sewage engineering and wastewater treatment, as well as the development of the occupational competence assessment/examination system. In 2018, the first 17 engineering technicians graduated. The initiative is regarded as a watershed moment in vocational training in Vietnam since it is the first cooperative training model based on German standards and is led by an industry organization (VWSA).(Kingdom of Cambodia: Provincial Water Supply and Sanitation Project. 2017)

2.4.1 TVET Practice in Myanmar

The NSSA formed 15 sectorial occupational standards and training committees to draw you, for over one hundred priority occupations in the various sectors, occupational competency standards for the training and certification of the skilled workforce. For the successful implementation of the occupational competency-based training and certification embodied in the ESD Law, it is imperative for Employers, Workers and Interested Training & Assessment Service to know about and understand Occupational Competency Standards based Training and Assessment as it affects them all. (National Employment & Skill Development. 2018) (Ei Ei Khin. 2019)

Assessment and development of skills are crucial for providing workers with the technical knowledge they need. The skilled labor might effectively contribute to Myanmar's development if they had solid technical knowledge and expertise. Since the country began to open up in 2011, there has been an increase in demand for competent workers across all industries who not only have experience but also hold the necessary technical certifications. Various ministries and organizations conduct vocational evaluation, testing, and certification processes to evaluate the capacity of unskilled and semi-skilled workers in order to minimize the gap between the demand for skilled labor and supply of the existing workforce. To address the actual needs of the industry, they have been using their own standards and unique methods. This will be effect to the job opportunity of competent workers at engineering sector. (TVET system review: Myanmar 2019)

In Myanmar, there is currently no formal or recognized platform for skill certification for semi-professional occupation levels. “The Ministry of Labor, Employment, and Social Security” took part in the ASEAN initiative "Enhancing Skills" from 2004 to 2008. A project called "Recognition Systems in ASEAN" sought to create national and regional qualifications Framework for the recognition of semi-professional skills (NQF and AQF) occupations. AQF will function as a regional organization for the planned ASEAN Economic Community. (ASEAN Secretariat, 2016) A benchmark that will facilitate understanding, comparison, and identification certifications among the various ASEAN countries' systems during the free skilled labor flows. (Tin Moe Win. 2019)

This study explores the TVET system in Myanmar's manufacturing industry from both historical and current viewpoints. Due to its importance in boosting the country's overall level of social and economic development by generating highly competent skilled laborers, Technical Vocational Education and Training (TVET) is one of the six key areas of Myanmar's Comprehensive Education Sector Review (CESR). The skills of state “Vocational Education and Training Institutes” must be upgraded urgently to satisfy the need for trained workers and technicians in developed technical industrial fields. The ASEAN project proposed the construction of NSSA in accordance with the NQF and AQF, and also the development of occupational competency criteria for certification at four levels. (ASEAN Secretariat. 2016)

Level 1 Semi- skilled worker/ Assistant

Level 2 Skilled worker/Journeyman

Level 3 Advanced skilled workers

Level 4 Technicians/Supervisors

The ASEAN Qualification Framework not only allows for qualification comparisons across all ASEAN countries, but it also promotes the relevance of education and training sectors and broader goal of lifelong learning. According to the competency standard, a semiskilled worker could advance from assistant to supervisor level through a variety of technical know-hows, work experiences, trainings, and assessments.

However, the rules and regulations governing the evaluation of talents at various levels were still being drafted. In November 2014, the “National Skills Standard Authority” (NSSA) team conducted a "Fast Track Skills Assessment Pilot Project" with support from GIZ, Swiss contact, and international experts from Singapore Polytechnic International (SPI) and the Asian Development Bank to recognize the urgency of assessing and certifying skilled workers needed in the current workforce. (ADB. 2014)

Before WWII, Myanmar's technicians and skilled professionals were mostly imported from India to operate in the existing industries. They returned to their nations

after WWII, and the country had a scarcity of qualified laborers, craftsmen, mid-level technicians, and engineers. To address this gap, the “Ministry of Education” (MoE) formed the Department of Technical, Agricultural, and Vocational Education, which has been providing TVET for many years.

By the 1970s, numerous foreign students from neighboring countries had enrolled in Myanmar's TVET institutions, which were among the best in the Southeast Asian region. However, as the social context has changed, the quality of schooling has declined. The velocity of reform and increase in FDI, privatization plans, and the development of industrial parks and special economic zones has intensified since Myanmar's economy opened in 2011. Myanmar's education system is undergoing a major transformation in order to follow with the country's rapidly growing economy. After the transition of power from a military to a democratic system in 2011, the new administration has implemented rapid changes. Myanmar's economy has opened up, resulting in a surge in demand for trained and talented workers, underscoring the necessity of government-led TVET. There are four major passes in TVET: (Myanmar Data Collection Survey on Technical and Vocational Education and Training. 2016)

(1) The Ministry of Science and Technology (MoST) oversees four official categories of institutions: Government Technical High Schools (GTHSs), Government Technical Institutes (GTIs), Government Technical Colleges (GTCs), and Government Technological Universities (TUs).

(2) TVET provided by a total of thirteen (13) ministries, including the Ministry of Industry, the Ministry of Agriculture, the Ministry of Environmental Conservation and Forestry, the “Ministry of Social Welfare”, the Ministry of Co-operatives, and the Ministry of Education; Ministry of Hotels and Tourism; the Ministry of Education; the Ministry of Border Affairs; the Ministry of Transport; the Ministry of Culture; and the Ministry of Sports.

(3) The “Ministry of Labor, Employment and Social Security” (MoLESS) offers vocational training in the form of short courses held at one of their three skill development centers or in businesses.

(4) Private vocational training, such as that given by the Swiss-supported Centre for Vocational Training (CVT) in Yangon. Furthermore, many (medium- and large-scale) businesses are expected to provide on-the-job skill training and upgrading, possibly in the form of unregulated apprenticeships. Myanmar's TVET system was rather broken off. There is no widely agreed-upon definition or nomenclature for what is known as TVET. The MoST's distinction between post-primary TVET and higher education is incompatible with international standards. So far, no overall TVET policy has been developed.

As a result, TVET in Myanmar faces a number of challenges. To begin with, training is dispersed and controlled by a variety of government ministries. Second, TVET in Myanmar has lacked strong ties with private industry and enterprises, resulting in training that is not necessarily matched with labor market needs. Third, there is a serious dearth of infrastructure, as well as technology, equipment, and well-trained teachers. As a result, there is a lack of faith in the programs and qualifications available. (Myanmar Data Collection Survey on “Technical and Vocational Education and Training” Final Report November. 2016)

Myanmar's TVET system is supply-driven, with ad hoc rather than systematic business and industry participation. Stakeholders are aware of the need of involving businesses in order to guarantee that skill development fulfils the needs of the employment market. There have also been initial initiatives to engage the corporate community, although collaboration is still absent. At the policy level, policy talks including the corporate sector are taking place. The “Government of Myanmar” (GoM) has formed the Private Sector Development (PSD) Committee, which is led by the Vice President and consists of five working committees, one of which is focused on human capital development. Members from line ministries in charge of skill development, as well as representatives from the business community, such as the “Union of Myanmar Federation of Chambers of Commerce and Industry” (UMFCCI) and sectoral associations, sit on the Human Capital Building Committee. The group strives to identify training gaps and collaborates across ministries and stakeholders to address those requirements. (Pyidaungsu Hluttaw. 2017) (Inclusive Business in Myanmar An Agenda to Catalyst Social Impact. 2018)

The formation of a TVET Council is anticipated under the pending TVET Law. The Minister of Education will preside over the Council, which will comprise state education officials and the business sector in an attempt to improve the quality and relevance of TVET in Myanmar. The primary business and industry organization in Myanmar, UMFCCI, is active but has not yet established itself as a clear promoter of cooperation between its members and training providers. (The Evaluation of the UNESCO thematic area, TVET. 2015)

The Federation was established in 1919. There are eight state chambers of commerce and industry, eight regional chambers of commerce and industry, nine border trade chambers of commerce, and fifty trade and services associations (2017). In 2017, 75 national federations and organizations are represented. It offers training, information, and consulting services, among other things. The Federation is involved in a variety of projects that benefit its members, including those in education. In a number of policy conversations, working groups, and other interactions, UMFCCI represents business and industry. However, there does not appear to be a plan or systematic method in place to facilitate long-term collaboration between training providers and UMFCCI member organizations at the time.

There is a strong understanding of the need to connect corporations with the education sector to manage to overcome skill mismatches, but there is no comprehensive plan for systemizing engagement in the TVET sector. TVET's divided duty limits opportunities for long-term collaboration. The Ministry of Education is the primary national government organization in charge of TVET, however there are an estimated 13 additional ministries responsible for skill training institutes in Myanmar (Lythe, 2015). MOE has been working to facilitate partnerships with the business sector through government-to-government agreements requiring the development of training centers in close collaboration with firms, as well as direct agreements with sectoral associations and corporations.

While training provision in Myanmar has grown in terms of both student numbers and new TVET schools, responsibility for TVET remains fragmented, making a coordinated approach to business and industry participation in TVET challenging. At this moment, active enterprises choose to connect directly with TVET schools in the site of their commercial activities, which might be regarded a realistic reaction to the

difficulties of understanding the duties within Myanmar's TVET industry. (TVET system review: Myanmar. 2019)

2.4.2 TVET Practice in Cambodia

Cambodia has achieved the position of a lower middle-income nation, with a GNP per capita of US\$ 1,230 in 2017 and a population of 16 million people (2017). Between 1995 and 2017, it had an average growth rate of 7.7%, making it the world's sixth fastest-growing economy. GDP growth in 2018 and growth predictions through 2021 remain constant at roughly 6.8%. Poverty in Cambodia is still declining, but more slowly than in the past. According to government figures, the poverty rate in 2014 was 13.5%, down from 47.8% in 2007. The countryside is host to around 90% of the poor. Around 4.5 million individuals remain near-poor, vulnerable to sliding back into poverty when exposed to economic and other external shocks. Despite these positive achievements, Cambodia still challenges a number of development issues, such as the need for high-quality public services, a stronger business environment, better land administration, and better natural resource management (World Bank. 2019a).

Tourism, agriculture, natural resources, clothing, and construction are the primary economic sectors. In terms of industrial sectors, the largest contributors to GDP are garment manufacture, construction, and food and beverage processing. In 2017, 26.71% of Cambodians were working in agriculture, 27.02% in industry, and 46.28% in the service sector. As seen in Table 2.1, this reflects a significant shift from 2007 to 2017.

Table 2.1: Employment and contribution to GDP (2007 vs. 2017) per sector

Sector	Employment (2007)	Employment (2017)	Contribution to GDP (2007)	Contribution to GDP (2017)
Agriculture	70.88%	26.71%	29.7%	23.38%
Industry	9.59%	27.02%	24.94%	30.88%
Services	19.53%	46.28%	38.51%	39.67%

(World Bank - 2017)

TVET in Cambodia include all types of study that have a significant technical or vocational component. Formal technical or vocational education, whether in a

school, college, university, or workplace situation, formal training programme, less formal and more informal learning while working, and other modes of learning that may be self-directed or incorporate social learning are all included. However, the main types of TVET are formal TVET delivered by public TVET institutions, non-formal TVET, which includes any form of training offered by private providers, NGOs, but also provincial training centers, Vocational Training Centers (VTC), and in-company training programme offered by or in collaboration with business and industry, and vocational training centers (VTC) (SEA-VET, n.d.) (TVET Country Profiles- UNESCO. 2009)

The TVET National Policy (2017-2025) serves as a blueprint for creating an effective skills development system in Cambodia. The “Ministry of Labor and Vocational Training” (MLVT) and its “Directorate General of Technical and Vocational Education and Training” (DGTVET) are currently creating, updating, and implementing the TVET system at all levels in line with the policy. The TVET National Policy outlines a number of issues in Cambodia's TVET system, such as the goal of promoting public-private collaborations (PPP). (Cambodia: Technical and Vocational Education and Training Sector Development Program- ADB. 2016)

The key elements of the TVET National Policy are:

- (i) Improving TVET quality to meet national and international demands;
- (ii) Increasing equitable access to TVET for Cambodia's "employment" generation (the population aged 18-65);
- (iii) Promoting PPPs and aggregating resources from stakeholders to support the TVET system's sustainable development; and y improving TVET system governance.

Furthermore, the National Employment Policy (NEP) (2015-2025) and its Action Plan are relevant to the situation of TVET. Through respectable and productive work, the NEP attempts to enhance the Cambodian people's dignity and livelihood. It was established in accordance with Cambodia's Industrial Development Policy (2015–2025). Goal 1 focuses on developing skills and human resource development, whereas Goal 2 focuses on strengthening the relevance of education and TVET to labor market demands. The creation of mechanisms through which employers may contribute to

greater job-relevant skills is emphasized in Objective 2. The NEP Policy specifies particular initiatives aimed towards industry and business:

- (i) Strengthen and promote connections between education and TVET providers
- (ii) Business and industry sectors to reduce skills gaps;
- (iii) Encourage work-based learning, internships, and apprenticeships;
- (iv) Promote and encourage business and industry to play take part actively in policy formulation, skills development, training delivery, and financing.

In terms of governance, the DGTVET is Cambodia's principal TVET body. However, the National Training Board (NTB) is the decision-making authority in Cambodia's TVET sector. It approves policies, develops programed objectives, and creates measurable targets. NTB members include representatives from several ministries, business and industry, employees, training providers, international organizations, and non-governmental organizations. NTB is in charge of policy direction and coordination and is made up of delegates from 14 ministries and training institutes. NTB serves as a coordinator and takes the lead in aligning national training programs to the requirements of the economy, as guided by the National Strategic Development Plan (NSDP).

DGTVET serves as the NTB Secretariat, however it has to be strengthened to carry out its secretariat tasks. According to interview findings, NTB was relatively weak in the past but has recently gained traction. Other key government participants in the TVET system are the National Employment Agency (also under MLVT) and the Ministry of Economy and Finance, which oversees the two financing methods that augment DGTVET's block funding for TVET institutions.

Cambodia has started financing skills training through a new mechanism known as the Skills Development Fund (SDF). Until recently, the Voucher Skills Training Program (VSTP) was the primary way to fund the TVET system. The government runs the programme, which offers direct funding to approve TVET providers. SDF, the new financing mechanism, distributed its first cash in 2019 to chosen projects following a competitive application procedure. However, for the time being, SDF is also mostly government-funded and managed by the Ministry of Economy and Finance. The VSTP

and SDF may be integrated in the future. (Partnerships for Skilling ASEAN's Workforce GIZ. 2020)

Despite the NEP's emphasis on the value of stronger collaborations, there is currently no official regulation of partnerships between the TVET system and business and industry. Nonetheless, the continuing ADB-funded project intends to develop the TVET system by implementing several pilots of business and industry engagement inside the TVET system at the national, sectoral, and institutional levels. Standards framework creation, curriculum design, and competency evaluation in courses such as ICT, construction, electrics, machines, and welding are among the tasks. Furthermore, MLVT collaborates with business and industry on:

- (i) Policy development (e.g., NEP and TVET National Policy);
- (ii) Graduate internships and job opportunities;
- (iii) Development of standard training packages (competency standard, competency-based curriculum, and competency assessment package);
- (iv) Provision of tools and equipment to TVET schools; and
- (v) Provision of information on skill needs.

Sector Skills Councils (SSCs) have been created in Cambodia to connect business and industry with TVET. SSCs serve as links between industry and TVET. However, there is currently no complete system or coverage of SSCs across sectors and industries, despite the fact that four SSCs were operating by February 2019 in the following sectors: construction, mechanics, electricity, and electronics. Some of the SSCs in place have produced occupational standards and curriculum, which are submitted to MLVT for approval and then adopted into the national TVET system.

Prior to the foundation of SSCs, the ILO funded a number of Industry Advisory Groups, which may be considered its forerunners and are now integrated into the SSC system. More particular, the ADB program (through outcome 3) seeks to improve employer engagement in TVET delivery. Here are some examples of project's expected outcomes:

- (i) Improving internship programs
- (ii) Creating Sector Skills Councils (SSCs)

(iii) Creating Centers of Excellence (COEs)

TVET institutions are progressing in their implementation of business and industry partnerships in TVET. Many of the projects take the form of collaborations between “TVET institutions” and big (often international) corporations in which the industry partners invest in specialized infrastructure at the TVET institution, give internships, and have access to graduates for recruitment/employment. Where feasible, TVET institutions customize training programme to the demands of industrial partners. Partnerships in the automotive sector include the “Industrial Training Institute” (ITI) in Phnom Penh with ARM Cambodia (Ford), Tasaki (Thailand) and the China ASEAN Innovation Centre, and the National Polytechnic Institute of Cambodia (NPIC), which has agreements with Samsung (electronics), Hyundai (automotive), and Chip Mong Insee (cement).

The “Cambodian Federation of Employers and Business Associations” (CAMFEBA) is an umbrella organization that represents and protects employers' rights and interests in labor matters, and it plays a major part in the current TVET reform procedures. It has formed a TVET subcommittee to promote TVET reform efforts and to reflect employers' interests and commitments to TVET. The CAMFEBA has recently committed to (technically) supporting SSCs. This was agreed upon in a Memorandum of Understanding between CAMFEBA and DGTVET.

Examples of corporate and industry-driven initiatives to engage the TVET sector are provided. The “Garment Manufacturers Association of Cambodia” (GMAC), an employers' association serving the clothing sector, is one of them. GMAC established the Cambodia Garments Teaching Institute (CGTI) in 2017, with the goal of training medium and higher-skilled garment workers through diploma programme and a variety of short courses. Employers can send their employees to training as long as they employ them and pay at least the minimum wage. The center was supposed to be a joint venture between GMAC and DGVET, but GMAC felt the discussions were too long, therefore GMAC chose to take complete responsibility for the center, including financial responsibilities.

The CGTI is funded by GMAC members via a mechanism similar to an internal “training levy,” and it also acquired a commercial loan from the “Agency Française de Development” (AFD). CGTI is now financially viable, according to GMAC.

Regardless of the fact that the joint venture with DGVET did not come to fruition, the center and its certifications are fully recognized by DGVET. Currently, the CGTI is entirely industry-driven.

Furthermore, there have been advancements in business and industry partnership in TVET in the tourist sector. Tourism is the greatest contribution to Cambodia's GDP in the service sector and, together with agriculture and the textile industries, is the major engine of the Cambodian economy. The Ministry of Tourism (MOT) has taken a novel approach to skill development by establishing the Department for Training in the Tourism Sector. The Department coordinates and launches operations that are frequently the responsibility of SSCs or other industry entities. According to MOT, Cambodia needs to create 1,000,000 extra jobs by 2020 in order to achieve tourism development expectations. In addition, the Ministry intends to train 50,000 more trained professionals (the present capacity is roughly 2,000 per year) and to establish two national tourist training institutions (one in Phnom Penh and one in Siem Reap). Discussions with AFD on the latter are nearing completion. Furthermore, MOT has formed a task group to encourage increased corporate and industry collaboration in tourism and hospitality training. (Sustainable Tourism, Swisscontact.2016)

2.4.3 TVET Practice in Viet Nam

Vietnam's development record during the last 30 years is considered as excellent. Economic and political changes implemented under the "Doi Moi" programme, which began in 1986, have driven significant economic development and growth, transforming Vietnam from one of the world's poorest countries to a lower middle-income country. The GDP of Vietnam is expected to rise to 7.1% in 2018 from 6.8% in 2017. GDP growth was broad-based, driven by 13% increase in manufacturing and boosted by robust foreign demand (World Bank, 2019c). Tourism, agriculture, mining and minerals, and food processing are the primary economic sectors.

However, focusing just a few sectors would be unfair because industries beyond the top four or five have significant development potential considering the size and growth of the economy. Light manufacturing, for example, has soon comes.

It should also be mentioned that 98% of Vietnamese businesses are classed as SMEs, which account for 40% of GDP and 50% of employment (Dezan Shira, 2017). The 2018 Vietnamese Economic Policy (World Bank, 2018c) calls for, among other things, if classified as continuous education. Transform Vietnam's "image" as a low-cost labor nation, invest in higher-value businesses, and prepare for "Industry 4.0". Viet Nam is undergoing fast demographic and socioeconomic transformation. After years of expansion, Vietnam's population reached around 95 million in 2017 (up from approximately 60 million in 1986) and is predicted to increase to 120 million before declining around 2050. Currently, 70% of the population is under the age of 35, while the "average life expectancy" is close to 73 years. ("Partnerships for Skilling ASEAN's Workforce" GIZ. 2020)

MOLISA's Directorate of "Vocational Education and Training" (DVET) is in charge of managing the formal and non-formal TVET systems. DVET is the consulting and implementing agency in charge of aiding MOLISA in carrying out its management role in "vocational education and training". It is in charge of ensuring that TVET programme are of high quality and relevant. The official TVET system distinguishes three types of TVET institutions that operate throughout the country:

- (i) "Vocational Education and Training" centers (elementary level),
- (ii) Vocational education and secondary schools (intermediate level),
- (iii) And "Vocational Education and Colleges" (college level).

There are 1,289 public TVET institutions, with colleges accounting for 23.8%, secondary schools accounting for 22.9%, and training centers accounting for 54.3%. There were 655 non-public (private and foreign-invested) TVET institutes (33.5%). (DVET 2018). In their last year of training, TVET students typically undergo internship programme. Viet Nam, like the majority of ASEAN nations, is undergoing extensive TVET changes. In July 2015, the TVET Law went into force. It implemented changes such as a comprehensive set of policies and a better mechanism for fostering skill development in key areas. Concerning the ongoing reforms, the following remarks can be made:

(i) TVET-related state management agencies collaborated to draught and distribute new under-law documents (e.g., decrees, circulars, and judgments) that teach and guide TVET-related organizations in implementing the legislation.

(ii) National TVET policies that are still consistent with the TVET system's objectives (e.g., the Vocational Training Development Strategy 2011-2020) are still being implemented.

(iii) According to the 5-year Socio-Economic Development Plan 2016-2020 (SEDP), the focus of TVET should be on quality and access rather than just expanding by building more TVET institutions. While Viet Nam has achieved significant progress in TVET in recent years, the government still needs to speed the reform process in order to boost the TVET system's relevance to labor market requirements, promote fair access for disadvantaged groups, and improve overall quality. A summary paper from MoLISA/DVET provides an overview of the existing normative texts in the legal framework in Vietnamese and English (2017). Participation of industry in policy and programme development The Vocational Training Development Strategy establishes these priorities. Referring to the TVET Law, DVET has started to actively support and promote pilot projects that enhance cooperative initiatives and agreements with business and industry.

(iv) The TVET Law also established a TVET skills development fund to which businesses are required to contribute, although the fund is not yet operating. Employers currently do not realize the benefits of contributing to it and frequently argue that business and industry fall beyond the MOLISA's legal and policy mission, which is in charge of the TVET Law and the fund. According to reports, the Ministry of Finance rejects the fund's concept and methodology. (“Partnerships for Skilling ASEAN’s Workforce” GIZ. 2020)

In Vietnam, non-formal and informal training are referred to as ongoing vocational education and training (C-VET). C-VET is defined as training given as in-service, correspondence, or guided self-study at the primary, intermediate, and college levels under the TVET Law (2015). C-VET also includes flexible or part-time vocational training programmed. MOLISA is in charge of C-VET programmed. The period of continuous education is determined by the programmed and the type of learners targeted (unemployed youths, ethnic minority groups, p people with

disabilities, employed people wanting to pursue further training, etc.). Non-formal and informal TVET is provided through TVET institutions as well as other groups such as the Women Union, Farmer Union, Youth Union, associations, and businesses.

Despite continuing improvements, coordination between the official TVET system and business and industry remains quite poor. The TVET Law (2015) establishes a legislative framework that includes rules for business and industry partnership. It establishes the rights and duties of businesses, providing a foundation and impetus for collaboration (NIVET, 2016). Despite the terms of the legislation, there is a lack of understanding among TVET institutions, as well as business and industry, about the need of collaboration, as well as a lack of expertise about how to interact. According to reports, many corporations consider the major "benefit" of this relationship as access to relatively inexpensive labor and lower recruitment and training costs. Stakeholders are probably unaware that working on TVET might result in "win-win" circumstances, such as lower personnel recruiting and retraining costs. An important stakeholder in business and industry collaboration in TVET is the Viet Nam Chamber of Commerce and Industry (VCCI), which champions dialogue and supports policies and collaborative practices. In general, VCCI promotes trade and business relations with enterprises in Viet Nam.

It is a non-profit, non-governmental organization that has also funded the so-called Quality Advisory Boards, which provide advice on the methodology, quality assurance mechanisms, and governance of joint projects. There is also an agreement in place between the VCCI and DVET to form national sector skills councils (SSC), but these SSCs have only just begun, so assessing their impact is premature. The tourist sector was an initial priority, and it has also benefitted from technical assistance from Australia and the ILO (STED Project. 2014).

NIVET is DVET's "think tank," doing several research and evaluations on TVET in general, as well as engagement with business and industry. This covers the Annual Report on Vocational Education and Training in Vietnam. The 2016 study gives an overview of current business and industry partnerships in TVET. This paper presents viewpoints that are diametrically opposed from the perspectives of TVET institutions and business and industry. TVET institutions are increasingly working with industry, for example, through "industry advisory boards," however they function at an

institutional level and serve primarily to initiate dialogue between specific TVET institutions and business partners. This has not, however, been properly institutionalized at the national, sectoral, and/or regional levels.

The report also describes the engagement, including opportunities and challenges, and includes reasons such as "no need for training by industry, inability to establish contact, lack of specialized staff to develop relationships, and TVET institutions not being able to provide the required training (from the viewpoint of industry)." (NIVET. 2017).

Business and industry partnership in TVET is nearly entirely funded or driven by development partners in Viet Nam, as it is in other countries in the area. The scale of activities that support business and industry relationships in TVET is described below.

(i) The BMZ (Germany)-funded and GIZ-implemented programmed "Reform of TVET in Vietnam" is now the principal catalyst for supporting critical legislative reforms in the TVET system, including business and industry partnership, which is a feature of the application program's key topics. The initiative encourages the establishment of Centers of Excellence and other pilot programmed that emphasize partnership with business and industry. It also offers technical assistance to the government, industry, and vocational and technical education institutes. GIZ is also developing institutions' and trainers' capacity to implement dual training. GIZ, for example, is training in-house trainers.

(ii) A pilot project the "Danish-Vietnamese Technical and Vocational Education and Training (TVET) Project," funded by the Danish Ministry of Foreign Affairs, intends to provide dual vocational training in two majors (graphic design and interior design) in four Vietnamese TVET institutions. Local occupational skills councils were established at the colleges chosen as part of the project, and the colleges were assisted in developing curricula that met the needs of businesses and piloting in-company apprenticeship programs in order to increase practical experiences for students and improve the capacity of lecturers.

(iii) The logistics industry is the focus of the Australian government's (DFAT) backed "Aus4Skills" initiative (2016-2020). The Vietnam Logistics Association (VLA) estimates that the logistics industry will require 250,000 more trained professionals by

2030. Six TVET institutions in Vietnam are supported by the programmed, including many in the south and Da Nang. Eight corporations are involved in the project and 40 companies. It concentrates on the five most in-demand jobs: warehouse operator, warehouse supervisor, logistics administration officer, freight forwarder, and materials handling operator/forklift operator. Australian TVET is organized on work packages/competency units and is guided by Industry Reference Committees. A Logistics Industry Reference Council (LIRC), similar to an SSC, has been established for this project. The VCCI and the Vietnam Logistics Business Association are also members of the LIRC and contribute to the establishment of skill standards, units of competence, and curriculum.

(iv) The British Council has provided assistance to the Vietnamese TVET industry under the "Raising Quality and Standards - Vietnam/UK Advanced International Skills Partnerships Project" (2015–2018). The assistance was intended for DVET and four TVET colleges. Curriculum based on industry demand was developed and implemented as part of the updated project. (British Council. 2019).

(v) Several non-governmental organizations (NGOs) collaborate with the hotel and tourist industries to provide skill development programs. REACH Viet Nam, for example, is said to have agreements with over 100 hotels, many of which are 4- and 5-star properties. The government is thought to have collaborated with Australia to promote tourism, and Australian models are used as standards for the tourist and hospitality sectors. NIVET is in responsible of benchmarking and providing advice on worldwide best practices, as well as how and whether they may be applied in Vietnam. There are also numerous industry-led skill development efforts that are realistic and motivated by the industry's urgent demands. Other significant instances of industry-driven efforts include the programs of Bosch Rexroth, which has formed a business unit for training Vinfast, Vinacomin (coal sector), Thaco Group (local Mazda manufacturers), EVN (Electricity), and Mitsubishi. There are additional quality assurance efforts that explicitly target collaboration with industry. The Quality Advisory Board, for example, was established to give advice to stakeholders in an automobile cooperation initiative between Toyota, Ford, and Hyundai, and Dong Nai College of High Technology (DCoHT).

VCCI and the Nordic Federation of Employers also provided support to the Board. DCoHT has formed a similar board for a kitchen and restaurant project with Saigon Tourist School, REX Hotel, Riverside Renaissance Hotel, and Pandanus Resort as partners (NIVET. 2017).

The tourist industry is fairly advanced in terms of collaborative partnerships. According to reports, the Hanoi Tourism College and the Saigon Tourism College have established several internship connections with businesses. Other tourism-related training institutes are part of the government's master plan to enhance high-quality tourism colleges. It is two of them are in the provinces of Thua Tien-Hue and Quang Nam. They partnered with VCCI on the enterprise survey to identify the most needed tourist jobs in their provinces, and they collaboratively established the requisite curriculum for colleges with tourism firms and organizations, as well as concerned local government officials/institutions (Gregg. 2016).

Viet Nam is undergoing TVET reforms, however, there is still more work to be done to address the ongoing skills shortages. Vietnam is one of Asia's fastest rising countries, with enormous socioeconomic potential. However, economic progress has not been matched by a stronger TVET system that promotes business and industry partnership. Nonetheless, TVET reforms are in place, and Viet Nam is on track to catch up. Despite the fact that business and industrial collaboration has a far way to go, there are some active pilot initiatives, particularly in the southern portion of Vietnam that may be reproduced and, if successful, may help Viet Nam catch up with other ASEAN nations.

2.5 Review on Previous Studies

The future of work and skills development is addressed in several studies and most of these studies focus on the relevance of “required adaptation” and “what has to be done”, although fewer authors are specific on the “how”. A collection of studies by the ILO (Sakamoto and Sung, 2018) states that a future skills strategy needs to address not only “what skills” and “who gets access to training” but also whether and how these skills are having an impact on creating better employment and business outcomes.

In an ADB study (Ra, Chin & Liu. 2015), the key global trends shaping skills demand and supply are described and connected with the potential skills mismatch in Asia. The study describes the gaps in access to education and training and gaps in quality and relevance. It also connects these gaps with the potential costs of skills mismatches. A country level technical assessment by ADB (2013) analyses the mismatch between the skills supply and demand of the labor force in Laos and provides recommendations on policy tools.

There are also a number of country-level studies that focus on the economic aspects of skills shortages and mismatches. For example, a recent study on Indonesia highlights the need to enhance “productivity through quality jobs”, which it states requires improvements in education and training (Ginting, Manning & Taniguchi, 2018). There are also a number of studies focusing on the gaps emerging from the schooling system in Cambodia (Madhur, 2014), ways to identify the skills gaps in sectors such as the garment industry (Kingdom of the Netherlands, 2018) or the automotive industry in Viet Nam (JICA. 2016).

In a policy paper by JICA (2014), the general skills mismatches in Viet Nam are addressed and tripartite partnerships are proposed as solutions. A recent World Bank study presents the scenarios for Viet Nam’s future jobs and the impact on cooperation with industry (Cunningham & Pimhidzai, 2018). The changing nature of work is also presented in the World Bank Development Report 2019 (World Bank. 2019).

Myanmar studies “A Study on Current Status of National Occupational Competency Standards Development and its Usefulness” by Ei Khin (2017-2019) and “Technical and Vocational Education and Training (TVET) for Hotel Industry in Yangon Region” by Thaw Zin Maung (2015-2018). Found that all certificate holders have continued to follow their respective NSSA competency standard, which is considered a success. As a result, the NSSA should continue with the tests and provide additional training and assessments as needed. There are many potential employees who are interested in taking the certificate assessments. The certificate holders are convinced that the certificate can be used as a vocational document in their future careers. A study by the ILO (Bernhardt. 2017) that provides the perspectives of food processing and garment manufacturing companies recommends that the government

provides incentives and supports business-driven training initiatives as a way to increase labor productivity in Myanmar.

CHAPTER III

CONTEMPORARY DEVELOPMENT OF NSSA IN ENGINEERING SECTOR

3.1 Historical background of TVET

As in many other transitional countries, HRD in Myanmar is closely linked to the country's political, social, and economic developments. As a primary source of HRD, the TVET system, including all of its formal, informal, and non-formal components, has currently undergoing several transformations over the last 50 years. Following independence in 1948, the country's educational level was among the highest in Asia. The education system has deteriorated across the country as a result of underinvestment and civil conflict. Education system developments have been focused on the quantity of degrees and diplomas offered rather than the quality of the courses. This contributed to the creation of a gap between the supply of training and education and the labor market demand. The education system (including the TVET system) has yet to recover, and Myanmar is currently experiencing an education and human resource development crisis in both urban and rural areas. Until 1996, all vocational schools were administered by the MOE. Following that, they were separated and assigned to each of the relevant vocational organizations. As a result of this shift in responsibility, many vocational schools were closed, leaving a significant gap in education and training for mid-level technicians.

The MOE has recently been making an effort to revitalize and enhance the existing vocational schools, but there is still considerable doubt about the financial resources available for this endeavor and for ongoing maintenance. As a result, many unauthorized schools in the private sector have been founded to try to fill this gap in the main urban centers in order to fulfil the demands of the expanding labor market. These schools primarily teach English, but other courses are frequently taught as well. These private schools and centers operate alongside the state system, which remains mandatory. Currently, numerous state TVET providers risk operating empty courses due to poor quality and other concerns, whilst private-sector providers are overloaded with students yet lack the financial means to meet the labor market's high demand for skilled workers.

3.2 Overview of the “National Skills Standards Authority”

NSSA was established in 2007 by a group of government ministries and private organizations as part of the ASEAN Skills Recognition Project within ASEAN countries in preparation for the “ASEAN Economic Community's implementation” (AEC). The “Ministry of Labor, Immigration, and Population” has been a focal ministry in strengthening NSSA, with the goal of establishing a National Unified Skills Development, Recognition, and Certification System as a provision for skilled labor movement within ASEAN, based primarily on “Mutual Recognition of Skills” (MRS). In February 2019, NSSA received “ISO 9001: 2015 Quality Management System” certification.

NSSA was founded in 2012 as a regulatory body authorized by the Employment and Skills Development Law (enacted in 2013), with three main committees;

- (1) The Assessment and Certification Committee (ACC) chaired by MOI (now MOPFI),
- (2) The Training Committee chaired by DTVET/MOE in 2019, and
- (3) The Competency Development Committee

The Competency Development Committee was composed of fifteen sectorial committees. In 2009, “the Metal and Engineering Sector, Construction Sector, Woodworking Sector, Agriculture Sector, Livestock and Fishery Sector, Transport Sector, Mining Sector, Health Sector, Social Welfare Sector, Manufacturing Sector, Commercial Sector, Hotel and Tourism Sector, Oil and Gas Sector, Electrical Engineering Sector, and IT Sector” presided over the meeting. NSSA is establishing a “Skills Development Fund Committee”.

NSSA identifies and promotes priority occupations in order to develop NOCS for the labor market's most in-demand occupations and accredit the skills of present and potential workers. The National Skills Qualification Framework has four levels: “level I for semi-skilled workers, level II for skilled workers, level III for advanced skilled workers, and level IV for supervisory”. As stated in the Qualification Framework,

NSSA established and approved NOCSs in partnership with the relevant sectorial committee, private organizations, and professional associations.

The role of skilled workers in the labor market is essential for the development of the country's market economy. The process of skill development in human resource development leads to the economic development of the country. “Skill Recognition Program” is a driving activity for skill development mechanisms that aims to be long-term beneficial for more job opportunities and improved performance of skilled workers. As a result, with the aid of the GIZ TVET programme, NSSA implemented a “Skills Recognition Programme” in 2014, and provided relevant concepts and procedures as workforce development tools. Since 2015, Swisscontact and other development partners, private sector associations, and business owners have supported worker skill development initiatives. As of July 2020, over 16,000 NSSA certifications, primarily on Level 1 and 2, had been awarded in over 30 demanded occupational areas to those who are already in the workforce and have acquired their occupational skills through experience and on-the-job learning. According to regional and state industry needs, NSSA is accrediting “Competency-Based Curriculum Training Centers” and Assessment Centers. With NSSA approval, the “Assessment and Certification Committee” accredits Assessment Centers.

3.3 Management and organization in TVET

In Myanmar, responsibility for TVET supply is distributed among 13 to 19 ministries. They provide a variety of vocational courses of varying lengths. The courses range from short-term (a few weeks or months) to long-term education (three to five years of presecondary, secondary, and higher education). They also differ in terms of skill level, style of delivery, and expected outcome. In the future, the entire education system will undergo a transformation meant to improve TVET quality and aligning the system with labor market demands. The CESR process analysis and follow-up actions are expected to contribute to reforms in the education system.

Pyidaungsu Hluttaw passed the “Employment and Skills Development (ESD) Law” in 2013. This gave the NSSA a legal structure. MOLES also expanded its efforts to strengthen NSSA's capabilities to participate in the implementation of the “ASEAN Economic Community (AEC)” by 2015. The Federal Republic of Germany and the

“Ministry of Foreign Affairs of the Republic of the Union of Myanmar” continue with the Exchange of Notes, in which MOLES and the Deutsche Gesellschaft für International Zusammenarbeit (GIZ) agreed on the provision of technical assistance for strengthening the NSSA organizational structure and quality assurance system in the context of the National Qualifications Framework, and also for developing rules related to the skills decentralization. Currently, about 1 million young people are dropping out of the general school system in Myanmar annually. The overwhelming majority of them does not have access to any type of further education or vocational skills development. At the same time, it has been found that businesses are short of workers with the required skills. The second most serious barrier to doing business in Myanmar is a lack of skilled workers (after corruption). The institutional (center-based) TVET system is not well developed and can only provide for a limited number of skilled graduates. The existing TVET system is not providing the quality of skills required in the work place.

Myanmar's economy and industry have seen significant and significant transformations in recent years. This transition process goes along with changing technologies in enterprises, changing work patterns and thus changing skill requirements. Future skill requirements and the emerging mix of previous (before privatization) and upcoming work patterns are difficult to predict. It is expected that following the elections the investment climate will further improve resulting in even higher demands for skilled labor in many sectors.

The Government of Myanmar enacted the Employment and Skills Development Law (ESDL) in August 2013. NSSA was formed with main committees i.e. Assessment and Certification Committee (ACC) Chaired by MOI (now MOPFI) in 2012, the Training Committee Chaired by DTVET/MOE in 2019 and Competency development Committee consist of 15 sectorial committees Chaired by 15 respective ministries and private sectors in 2009. (<https://www.nssa.gov.mm>)

3.4 Skill Assessments and Recognition Programs

NSSA selects and continues to promote priority occupations in order to generate NOCS for the most in-demand occupations in the labor market and accredit the abilities of current and potential workers. The National Skills Qualification Framework comprises four levels: level one for semi-skilled workers, level two for skilled workers,

level three for advanced skilled workers, and level four for supervisors. NOCSs have been developed and approved by NSSA through collaboration with the five respective sectorial committee

1. National Skills Standards Authority (NSSA)
2. Skills Assessment and Certification Committee
3. Skills Training Committee
4. Industrial Occupational Competency Standards Committee
5. Occupational Curriculum Development Committee.

As stated in the Qualification Framework, private organizations and professional associations have knowledge, skill, and ability. As of July 2020, over 16,000 NSSA certifications, mostly on Level 1 and 2, had been issued in over 30 demanded occupational areas to persons who are already in the field and have acquired their occupational skills through experience and on-the-job training. NSSA is accrediting Assessment Centres and “Competency-Based Curriculum Training Centres” depending on industry need at respectively State and Region. Assessment Centres are accredited by “Assessment and Certification Committee” with approval of NSSA.

3.5 National Cooperation of NSSA

NSSA is implementing and collaborating with ministries And agencies such as “Ministry of Planning, Finance and Industry, Ministry of Agriculture, Livestock and Fishery, Ministry of Commerce, Ministry of Transport and Communication, Ministry of Natural Resources and Environmental Conservation, Ministry of Electricity and Energy, Ministry of Education, Ministry of Health and Sport, Ministry of Construction, Ministry of Social Welfare, Relief and Resettlement, Ministry of Hotel and Tourism, Employer Organizations and Federations such as UMFCFI, Myanmar Garment Manufacturers Association, Myanmar Industries Association, Myanmar Federation of Mining Association, Myanmar Computer Industry Association, Myanmar Construction Entrepreneurs Association, Myanmar Tourism Federation, Textile and Loom Association (Mandalay), Myanmar Private Hospitals’ Association, Myanmar Livestock

Federation, Bagan Lacquerware Society, Professional Associations such as Myanmar Engineering Society, Myanmar Nursing and Midwife Council, Myanmar Hospitality Professionals Association, Myanmar Beauty and Hair Professional Association, and Development Partners such as GIZ, Swiss contact, JICA, ILO, IOM, ADB, Lux Development Agency and others” to develop Occupational Competency Standards, to train skilled workers and to assess and certify skilled workers for skills development program of existing workforce. (<https://www.nssa.gov.mm>)

3.6 Regional Cooperation of NSSA

The “ASEAN Qualification Reference Framework” (AQRF) was endorsed by the ASEAN Economic Ministers (AEM); the ASEAN Education Ministers (ASED); and the ASEAN Labor Ministers (ALMM) in 2014. The AQRF aimed to support free flow of skilled labor (through harmonization and standardization) within the region, as indicated in the ASEAN Economic Community (AEC) 2015 Blueprint; and ASEAN Socio-Cultural Community (ASCC) 2015 Blueprint which seeks “to establish national skills frameworks as an incremental approach towards an ASEAN skills recognition framework”. AQRF have two parts “Mutual Recognition Arrangement” (MRA) and “Mutual Recognition of Skills” (MRS). MRA for skilled personnel targets 8 categories of mostly high-skilled occupations and MRS targets middle-to-low skill categories of workers. Thailand led in the MRS pilot implementation in collaboration with CLM countries in the following areas;

- 1 - Bricklaying and Plastering - Thailand with Lao PDR, Cambodia, and Myanmar
- 2 - Building Electrical Wiring - Thailand with Cambodia
- 3- Sewing Machine Operator -Thailand with Myanmar

Myanmar and Thailand are considering these two occupations for National Competency Standard, Assessment, and Certification benchmarking.

Taking this process, a step further SDC suggested in February to start with a stock taking study of existing apprenticeship models in Myanmar and in the region. The meeting of the TVET cluster of the TEOSWG approved a related work plan. Meanwhile, UMFCCI, GIZ and Swiss contact / INBAS conducted empirical studies on

apprenticeships and other forms of in-company training in Myanmar enterprises. The following analysis summaries, examines and compares the findings from these studies on existing models of apprenticeships and in-company training in Myanmar. Based on these studies and some other consultations with related stakeholders, the study draws some conclusions and suggests a way forward with the implementation of apprenticeships in Myanmar.

Myanmar joined ASEAN in 1997, and ASEAN Member Countries committed to developing AEC into a single market and production base, a highly competitive economic region, an equitable economic development region, and a region fully integrated into the world economy. An ASEAN single market and production base consisted of five key components: 1. the free flow of goods; 2. the free flow of services; 3. the free flow of investment; 4. the free flow of capital; and 5. the free flow of skilled labor. The ASEAN Labor Ministers' Meeting agreed to establish an ASEAN Mutual Recognition Agreement through the National Qualification Framework, and also agree to allow skilled labor and goods to move freely. According to the Agreement, the ASEAN Skill Recognition System was developed by supporting the ASEAN-Australia Strategic Partnership in 2014. (ASEAN-Australia Strategic Partnership in 2014)

The ASEAN Skill Recognition System was formed with Cambodia, Laos, Myanmar, Vietnam, and Thailand, which have yet to adopt Occupational Competency Standards, by formulating National Occupational Competency Standards and implementing an Extension Project in 2016. For this project, Cambodia, Laos, Myanmar, Vietnam, and Thailand developed competency standards for Arc Welder, Air Condition Technician, Concreter, Poultry Farm Worker, and Tour Guide occupations as a pilot test to assess and compare skills qualification framework.

Myanmar established the National Skills Standards Authority (NSSA) in 2007 and NSSA establishes four levels of skills qualification framework from supervisor level to below and is accrediting workers' skills. The vision of the ASEAN Economic Community (AEC) must be implemented, and Myanmar must develop highly skilled people capable of competing in the labor market with other countries. ASEAN Qualification Reference Framework (AQRF) was adopted by ASEAN Member States for benchmarking mutual or bilateral countries to improve qualification reference framework each country, and to harmonies skilled qualifications of occupations. The

AQRF aspires for free movement of accrediting services within ASEAN countries and the establishment of the ASEAN Regional Accreditation Framework via the National Skills Framework.

3.7 Vocational Education Policy in Myanmar

Until the 1970s, TVET organizations in Myanmar were under the “Ministry of Education” (MoE), and their functions were shared among numerous Ministries; however, the present MoE is only responsible for engineering-related TVETs. As a result, the individual Ministries have their own TVET policies without sharing common terminology. Following the 2015 election, the new administration merged the “Ministry of Science and Technology” (MoST) with the Ministry of Education (MoE) in 2016. Furthermore, with the assistance of Development Partners (DPs), the National Education Strategy Plan (NESP) was produced based on a Comprehensive Education Sector Review (CESR).

According to NESP, in order to reach a broader variety of beneficiaries, TVET should consider strategic engagement with basic and secondary education based on industrial needs and capability. As of October 2016, new TVET laws based on NESP were under consideration. The “National Skills Standards Authority” (NSSA) was founded in 2007, and its committee is made up of 28 Director Generals (DG) from 14 Ministries involved in TVET. Furthermore, the Chairperson of MoLIP was selected, and the “Secretary General of the Department of Labor” serves as the committee's Secretary General. After discussion with the ASEAN Skill Standard Authority, NSSA has been establishing a skill standard based on ASEAN's skill standard (ASSA). NSSA has identified 173 vocational skill categories and is preparing a 4-level skill standard for each. The Gesellschaft für International Zusammenarbeit (GIZ) and other “Development Partners” (DPs) have helped to develop 25 occupational competency standards and 11 assessment standards for level 1. (Lowest level). Furthermore, NSSA has already launched a skill exam for five categories.

Furthermore, MoLIP held an electric wiring skill exam for 100 examinees as a criterion in the new regime's 100-day plan, in order to boost the societal recognition of the certificate of skill exam. This shows that the new government recognizes national skill requirements as a critical concern. As part of the 100-day plan, MoLIP cooperated

with the Thai government and the International Labor Organization to execute a skill-improvement programme in border communities (ILO). Furthermore, MoLIP requested Thailand to improve the working conditions of Myanmar laborer's in the country, and MoLIP implemented a number of human resource development measures as part of ASEAN's economic integration. Ms. Aung San Suu Kyi, Myanmar's National Advisor, presented efforts related to the "Japan Mekong Connectivity Initiative" and ensured human development based on industry demands by developing the "Japan-Myanmar Joint Initiative" for a better investment environment. Ms. Aung San Suu Kyi emphasized the importance of TVET in the new government's policies. According to the 2014 census, only 0.13% of Myanmar's population receives TVET, and the new leadership has promised to increase that percentage twice.

Furthermore, the government instructed the Minister of the Yangon Region to reopen the closed Government Technical High School (GTHS) and Government Technical Institution (GTI) under the military regime, as well as to provide general education and TVET to children of domestic migrants from rural areas. This movement represents a spike in interest in TVET as a measure of poverty reduction as well as economic development, which supports Myanmar's industry. Vocational Education Policy in Myanmar.

3.8 Legislative Background of Vocational Education

"Every citizen shall, in accordance with the educational policy laid down by the Union: (a) have the right to education; (b) be given basic education which the Union prescribes by law as compulsory; and (c) have the right to conduct scientific research, explore science, work with creativity and write, develop the arts, and conduct research freely with other branches of culture," according to Article 366 of the Myanmar Constitution. Myanmar's education authorities adopted the National Education Law (NEL) in September 2014 and amended it in 2015. The NEL and NEL amendment establish the foundation for a comprehensive execution of complementary reforms in the national education system. (NEL. 2014)

The NEL defines the role of vocational education as follows: After finishing primary school, one can study basic vocational education; after finishing secondary school, one can continue medium vocational education; and after finishing high school,

one can go higher-level vocational education. Private vocational education schools offer a variety of “Technical and Vocational Skill Training” in compliance with existing regulations & standards to encourage the skill development of trainees of different educational levels and ages.

The Technical, Agricultural, and Vocational Education Act was enacted by the Myanmar government in 1974, and it was revised in 1983 (Law No. 8) and 1989 (Law No. 20/89). The law also regulates all types of occupational education and training. The Act's purpose is to train outstanding personnel who can effectively use advanced technologies to carry out agricultural and animal husbandry activities, to expand or increase vocational education courses that fit the national political, economic, and social system, and to train technicians and intellectuals with national spirit.

Myanmar's new Employment and Skill Development Law (ESDL), the country's second important vocational education law, was promulgated in 2013. It specifies numerous types of skill development for both present and future employees. The law also establishes the “National Skill Standard Authority” (NSSA) and its functions, as well as the skill development tax initiated by employers to fund training. Despite its potential young workforce, Myanmar continues to struggle in delivering skilled labor for a number of important sectors, including manufacturing, construction, and tourism. (ESDL. 2013)

The nation needs more certified personnel to show their skills to foreign investors as it starts to attract in more investment. Businesses gradually face a scarcity of skilled personnel; therefore, they need a long-term solution. Four skill levels for 19 different occupational groups served as the foundation for the numerous certificates that Myanmar's “National Skills Standards Authority” (NSSA) gave to its qualified personnel. According to the nation's Minister of Labor, Immigration, and Population, more than 5000 certifications were issued by NSSA to recognize workers' skill during the 2017–2018 fiscal year. Out of 5,855 employees, a total of 5,164 received a certificate in accordance with international standards. With an 88% success rate, the number exceeded the NSSA's estimated target. The significant shortage of skilled workers is also assumed to be a factor of Myanmar's high dropout rates. The United Nations Children's Fund (UNICEF) estimates that “more than a million children in Myanmar did not attend school, that one in five of them are not educated it beyond the

primary level, and that less than 70% of them finish primary school at the appropriate age”. In order to further improve Myanmar's economy, the Ministry believes it is critical for Myanmar to shift its economy away from natural resources and toward human resources. Labor must be trained in order to compete with workers from adjacent countries. As a result, the skills certificates are intended to benefit the workers' job opportunities. (UNICEF.2020)

CHAPTER IV

SURVEY ANALYSIS

4.1 Survey Profile

The purpose of this study is to examine the effects of employment opportunities based on National Skills Standards Authority certificates on unskilled labor in Myanmar. In order to achieve this objective, this research uses both secondary and primary data. Secondary data is collected from the Assessment Center in the Yangon region. Primary data is collected from semi-skilled level 1 certificate holders through personal interviews or phone conversations, as well as the assessment center management and the skills workers' employers. The questionnaire method is used to examine workers' skills and employers' perceptions of the NSSA certificate (level 1). A sample was chosen from among the NSSA candidates who completed their applications.

The survey is based on data from Myanmar's National Skills Standards Authority (NSSA). The selected 4 occupations from the most demanded Occupational areas for the Semi-Skilled worker Level 1, and related Assessment Center managers focus on the Electrical Engineering and Metal & Engineering sector in Yangon area. The samples were collected with convenience sampling consisting of 160 candidates (Semi- Skilled worker), who completed semi-skills level only the assessing of NSSA certificate for skills labors, and 12 Assessment center managers from Yangon Region.

4.2 Survey Design

According to semi-skilled worker survey questionnaires, the NSSA programmed is evaluated using three criteria. They are-

1. Demographics of Respondents
2. NSSA Assessment Process
3. NSSA Certificate Benefits

For the sample, the (1962) certified candidates were selected. Determining size As a result, 160 certified certificate holders were chosen as the required total sample at the survey location for this study. A total of 160 certified certificate holders were selected from four occupations in the Electrical Engineering and Metal & Engineering sectors in the Yangon area, with 40 certificate holders per occupation. And there are the total of 12 Assessment Center Managers from the Yangon Area.

4.3 Analysis on Survey Finding and Results

4.3.1 Demographic Information and Educational level of Respondent

Out of the entire 160 research respondents (semi-skilled workers), all questionnaires were selected for analysis, achieving a response rate of 100%. Table (4.1) shows the respondents' socio-demographic characteristics. As per the table below that most of the respondents 6 (4%) are primary school level, 51 (32%) are Middle school level, 64 (40 %) are High school level and 23 (14%) are under Graduate Level and 16(10%) are Graduate Level respectively. As a result, it is possible to assume that the majority of the respondent in the survey have a high school level. According to a respondent survey, the majority of respondent are not receiving Certificates of Diplomas and are instead occupied with Skills Training Certificates.

Table- 4.1 Demographic information & Educational level of respondent

Variable	Frequency	Percent
Age		
Under 20 years	80	50%
Between 20 - 25 years	51	32%
Between 25 - 30 years	23	14%
Between 35 - 40 years	6	4%
Above 50 years	0	0%
Total	160	100%
Gender		
Male	160	100 %
Female	0	0%
LGBT	0	0%
Total	160	100%
Marital status		
Single	96	60%
Married	48	30%
Divorced	11	7%

Widowed	5	3%
Total	160	100%
Level of education		
No formal school	0	0%
Primary school	6	4%
Middle school	51	32%
High school	64	40%
Under-graduate	23	14%
Graduated	16	10%
Total	160	100%
Other qualification		
Diploma	16	10%
Skill Training	122	76%
Certificate	22	14%
Total	160	100%

Source: Survey data - 2022

4.3.2 Working Experience of Respondent

This survey questionnaire was given to the respondent. The majority of respondents are dropped out of high school and unable to complete their formal education. As per survey result show in table; 51(32%) are working at construction sector, 23 (14%) are working at renovation sector, 64 (40%) are working at industrial sector, 16 (10%) are service sector and 6 (4%) are general workers. It can be concluded that the majority of respondents work in the industrial sector with low-skilled workers.

The years of work experience in their respective field are shown in Table (4.2). Years of job experience have been classified as follows: 1 years, between 2 and 3 years, between 3 and 4 years, between 4 and 5 years above 5 years. As table below 4.2, 80 (50%) of respondents, who worked 1year experience, 51 (32%) worked between 2 and 3 years, 23 (14%) worked between 3 and 4 years, 6 (4%) work between 4 and 5 years and while 0% above 5 years of experience respectively. As a result, it is possible to assume that the majority of the respondent in the survey have one year of work experience in the field service.

Table- 4.2 Years of Field Service Experience of respondent

Previous type job		
Construction	51	32%
Renovation	23	14%
Industrial	64	40%

General Worker	6	4%
Service	16	10%
Total	160	100%
Years of Current job		
1 Years	80	50%
Between 2 and 3	51	32%
Between 3 and 4	23	14%
Between 4 and 5	6	4%
Above 5	0	0%
Total	160	100%
Earning before NSSA		
Within 5000 Ks	6	4%
5001-10000 Ks	96	60%
10001-15000 Ks	52	32%
Above 15000 Ks	6	4%
Total	160	100%

Source: Survey data - 2022

4.3.3 Reasons of Taking Skills Assessment Programs of NSSA

Respondent take the NSSA Exam for many reasons, including professional growth and personal development. There are many reasons to take the NSSA Exam result. According to Table (4.3), most of respondent are easy to get job and want to increase their salary. As per the table below; most of the respondents 74 (46%) want to increase their salary, 38 (24%) to get the promotion, 37 (23%) are in line with skill evaluation standard, followed by the smallest number of respondents 11 (7%) are work on aboard. The highest score of 72 (45%) is information of skills assessment programs found on the internet, while the lowest score of 10 (6%) is get from the employer.

After completion of NSSA the respondent job opportunity state that; 80(50%) are full time, 51 (32%) self-employed, 19 (12%) are Part time and 10 (6%) are oversea job. Follow by 0% is 5000Ks and below, 96(60%) are 5001Ks-10000Ks, 58 (36%) are 10001Ks-15000Ks, 6 (4%) above 15000 Ks. It can be stated that the respondent's job opportunities and earning are really good after completing the NSSA certificate.

Table - 4.3 Reasons of Taking Skills Assessment Programs of NSSA

Interested in NSSA		
Easy to get job	106	66%
Applicable to work	48	30%
Other	6	4%

Total	160	100%
Source of information		
Media	37	23%
Employer	10	6%
Collage	72	45%
internet	41	26%
Total	160	100%
Reason of taking exam		
Skill evaluation standard	37	23%
Promotion	38	24%
Increasing salary	74	46%
Work on aboard	11	7%
Total	160	100%
Type of training		
Electrician	40	25%
Pneumatic	40	25%
Air-con installer	40	25%
Automobile mechanic	40	25%
Total	160	100%
After completing the NSSA		
Self employed	51	32%
Full time	80	50%
Part time	19	12%
Oversea	10	6%
Total	160	100%
After getting NSSA certificate		
5000 Ks	0	0%
5001-10000 Ks	58	36%
10001-15000 Ks	96	60%
Above 15000 Ks	6	4%
Total	160	100%

Source: Survey data - 2022

4.3.4 NSSA Assessment Process Analysis

Table (4.4) represents the respondent's assessment attitudes regarding the NOCS based on the NSSA programmed in the research area. These are the nine components of investigating community assessment qualification. They are: (1) Have you taken any vocationally courses before the assessment (2) Do you satisfy the Assessment Center's courses (3) Do you like Candidate Manual Books on the day of refreshments, (4) Do you prefer the assessment center's facilities, (5) Do you use the Assessment Center's equipment and materials (6) Do you think that is enough time for the Practical Test (7) Do you think the assessment facility's evaluation process and exam to be effective, (8) Do you agree with the assessment's overall conduct of all

assessors (9) Do you agree with your practical test result feedback,(10) Do you have “Any Feedback”. Figure 4.4 below describes the assessment qualification during the assessment in the assessment center. Among the respondents, 66 (41%) were engaged in job-related courses, whereas 94 (59%) were not enrolled prior to the NSSA test. The most of 142 (89%) respondents are satisfied with the Refresher, Familiarization by the Assessment Center course, and all 160 (100%) prefer candidate manual books on the day of refresher. According to survey results, more productive answers were provided for assessors' explanation on the day of the refresher. Figure 4.4 shows the Assessment Center's Practical Test Facilities. The assessment center provided the best facilities for practical tests to 100% of candidates who responded. According to the survey results, there are enough appropriate room conditions, good ventilation, safety notifications, and First Aid items. The majority of candidates 131 (82%) used resources during the assessment time in the assessment center. Candidates are at comfort in the exam because the assessment center has well-equipped instruments and resources. Fully 160 (100%) of respondents' assessors are performing their duties fairly and are happy with the evaluation method and exam in the assessment center. After the practical examination, 100% of applicants satisfied with the exam comments. According to the

Table- 4.4 Assessment Process of NSSA

Sr.	Questions	Yes		No	
		Respondents	Percent	Respondents	Percent
1	Have you taken any vocationally courses before the assessment	66	41	94	59
2	Do you satisfy the Assessment Center's courses	142	89	18	11
3	Do you like Candidate Manual Books on the day of refreshments	160	100	0	0
4	Do you prefer the assessment center's facilities	160	100	0	0
5	Do you use the Assessment Center's equipment and materials	131	82	29	18

6	Do you think that is enough time for the Practical Test	139	87	21	13
7	Do you think the assessment facility's evaluation process and exam to be effective?	160	100	0	0
8	Do you agree with the assessment's overall conduct of all assessors?	160	100	0	0
9	Do you agree with your practical test result feedback?	160	100	0	0
10	Do you have "any feedback"?	0	0	160	100

Source: Survey data - 2022

results, the majority of candidates are satisfied with the evaluation procedures and exam in the assessment center.

4.3.5 Respondent participation on Advantages of NSSA Certificate

According to the Table (4.5) below survey data analysis show that, most of the certificate holders 109 (68% mean score) feel perfect, 51 (32% mean score) are feel good to their certificate design format. Survey result state that; Respondent of 152 (95%) are feel more confident after receiving their certificate and 8 (5%) are feel normal. In the job specification testing, 147 (92%) meet the actual work scope, whereas 13 (8%) do not. The majority of candidates prefer to hear their results within two weeks, with a three-year validity period.

Table- 4.5 Advantages of NSSA Certificate

Description	Frequency	Percent
The validity of the certificate		
Perfect	112	70%
Good	48	30%
Total	160	100%
Signatures of the Institutions and Assessor		

Perfect	96	60%
Good	64	40%
Total	160	100%
Certificate Format		
Perfect	117	73%
Good	43	27%
Total	160	100%
Design of Text		
Perfect	112	70%
Good	48	30%
Total	160	100%
Technical Language		
Perfect	102	64%
Good	58	36%
Total	160	100%
Overall organization Seals		
Perfect	117	73%
Good	43	27%
Total	160	100%
Does the NSSA conduct job-specific testing?		
Yes	147	92%
No	13	8%
Total	160	100%
Do you feel more confident after receiving your certificate?		
Yes	152	95%
No	8	5%
Total	160	100%
How long do you think you should wait to get your certificate after you know your exam results?		
Within 2 weeks	120	75%
Within 3 weeks	24	15%
Within 1 month	16	10%
Others	0	0%
Total	160	100%
How long do you prefer the Renewal NSSA Certificate process should take you? If you consider it necessary;		
1 year period	16	10%
2 years period	24	15%
3 years period	120	75%
Others	0	0
Total	160	100%

Source: Survey data - 2022

4.3.6 Employer Participation for NSSA Training

Table- 4.6 Employer Participation for NSSA training

Sr.	Questions	Yes		No	
		Respondents	Percent	Respondents	Percent
1	Is the NSSA certificate accepted by other businesses or employers (Domestic labor market)?	109	68	51	32
2	Are you supported by your employers in getting this NSSA certificate?	115	72	45	28
3	Do employers consider NSSA qualifications as a requirement?	72	45	88	55

Source: Survey data - 2022

According to the above Table (4.6) survey data analysis show that; 109 (68%) are agree the NSSA certificate accepted by other businesses or employers at Domestic labor market, 51(32%) are not agree, 115 (72%) are supported by their employer, 45 (28%) are not and 72 (45%) consider the NSSA qualifications as a requirement, 88 (55%) are not require. This survey showed that the NSSA evaluation programmed is insufficient and that it has to be extended and expanded to cover more demand sectors.

4.3.7 Challenges of NSSA Training Candidates

Table- 4.7 Challenges of NSSA Training Candidates

Sr.	Questions	Frequency	Percent
1	Do Employer corporate in NSSA training process?		
	Allow to take leave for test	13	8%
	Salary Deduction upon leave	0	0
	Holding certificate for turn over	14	9%
	Others	0	0
	Having no issue for test	133	83%
	Total	160	100%
2	Do you have any issues with the assessment center?		
	It is challenging to arrive on time at the assessment location	0	0

	It is challenging to get leave for the application form	15	9%
	The assessment day information was received from the center very late.	27	17%
	Out of information about assessment center	0	0
	Others.	0	0
	Having no issue	118	74%
Total		160	100%

Source: Survey data - 2022

Candidates have any difficulties or challenges with the test, according to the above table (4.7). The majority of 133 (83%) respondents had no difficulty with the test. The more 13 (8%) respondents' employers faced challenges in not allowing them to take leave. The certificate will be kept by the employers, as per 14 (9%) of the respondents. Employers must fully understand the NSSA certificate and its usefulness, which is difficult because some employers are unfamiliar with the NSSA certificate. Candidates had difficulty contacting the assessment center. The majority of the 118 (74%) respondents had no difficulties contacting the assessment center. The second group of 27 (17%) respondents received information about assessment day from the center very late.

4.3.8 Acknowledgement to NSSA Certificate

Table- 4.8 Acknowledgement to NSSA Certificate

Sr.	Questions	Yes		No	
		Frequency	Percent	Frequency	Percent
1	Do you think the certificate is valid to apply for jobs throughout the whole ASEAN region?	11	7%	149	93%
2	Would you describe your view of the NSSA exam in terms of employment opportunities?	150	94%	10	6%
3	Would you advise others to take the NSSA exams?	120	75%	40	25%

Source: Survey data - 2022

And the evaluation of certificate holders shows that the majority of respondents need to upgrade their NSSA certificate level because the NSSA test meets the job specifications and market requirements. Respondents believe that passing the NSSA test increases their confidence level. And the answers show that the majority of the respondents have a new job and some have been promoted after receiving their certificate. After receiving the certificates, a few of the respondents received salary increases.

As a result, the suggestions that employers should support workers to get more NSSA certificates and to pay higher salary increases and more promotions after receiving the NSSA certificate. In addition, NSSA must create an information networking system for the public and conduct awareness training courses throughout the country. And I noticed during the survey period that some employers kept the NSSA certificates because they were afraid of employee resignation. Employees cannot afford to apply for the new job and faced numerous challenges as a result.

4.3.9 Recognition of the Assessment Center Manager (NSSA)

Table- 4.9 Recognition of the Assessment Center Manager (NSSA)

Sr.	Statement	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean Score
		No.	%	No.	%	No.	%	No.	%	No.	%	
1	Do you believe that the “National Skill Standard Association” (NSSA) covers all of the skills that might be required in the workplace?	-	-	-	-	2	16	6	51	4	33	4.17
2	Do you believe that NSSA is relevant and useful for the certification of workers’ skill?	-	-	-	-	4	33	5	42	3	25	3.9

3	Do you believe that the NSSA Technical, Basic, and Industry Standards are essential for the “Implementation of Curriculum”?	-	-	-	-	3	25	9	75	-	-	3.75
4	Do you believe that the NSSA’s four levels are adequate for an actual workplace?	-	-	-	-	9	75	3	25	-	-	3.25
Overall mean												3.7

Source: Survey data - 2022

The Respondents of Assessment Center Manager with regards to the NSSA programs of the survey, analyzed based on five sectors, they are (1) Do you believe that the “National Skill Standard Association” (NSSA) covers all of the skills that might be required in the workplace? (2) Do you believe that NSSA is relevant and useful for the certification of workers’ skill? (3) Do you believe that the NSSA Technical, Basic, and Industry Standards are essential for the “Implementation of Curriculum”? (4) Do you believe that the NSSA’s four levels are adequate for an actual workplace?

At the table (4.9), among 12 respondents of assessment center manager, 6 (50%) of respondents are agreed, 4 (33%) are strongly agreed and the mean score is 4.2 for the “National Skill Standard Association” (NSSA) covers all of the skills that might be required in the work place questions. Therefore, the survey analysis showed that NSSA covers all of the skills that might be required. 5(42%) of respondents are agreed, 3 (25%) of respondents are strongly agreed and 4(33%) are neutral answered for that NSSA is relevant and useful for the certification of workers’ skill.

The NSSA Technical, Basic, and Industry Standards are required for curriculum implementation, 3 (25%) are neutral and 9 (75%) are agreed. The mean score got 3.75 and that showed the technical, basic and industry needs for the development of curriculum.

That the NSSA's four levels are suitable for an actual workplace, 9 (75%) of respondents answered neutral, and 3 (25%) agreed. The mean score is 3.25, and the

Table- 4.10 NSSA Standards in Industry

Sr.	Questions	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean Score
		No.	%	No.	%	No.	%	No.	%	No.	%	No.
1	Do the Basic Competency Element of NSSA help workers in industry? (For example: Team work, ...)	-	-	-	-	9	75	3	25	-	-	3.25
2	Do the NSSA Technical Competency Element of NSSA help workers in industry? (For example: Roughing in and preparatory activities,.....)	-	-	-	-	-	-	3	25	9	75	4.75
3	Do the Industrial Competency Element of NSSA help workers in industry? (For example: Use Hand Tools, .)	-	-	-	-	3	25	9	75	-	-	3.75
Overall mean												3.91

Source: Survey data – 2022

responses indicated about four levels of NSSA requirement for the real workplace. The overall conclusion on assessment center managers' recognition of NSSA mean score is 3.7, and all respondents were satisfied with the development of NSSA.

4.3.10 NSSA Standards in Industry

Table (4.10) shows 3 (25 %) are agree, 9 (75%) are neutral and got 3.25 mean score on the Basic Competency Element of NSSA help workers in industry. Therefore,

that mentioned the Basic Competency Element of NSSA help workers in industry. 3 (25%) are agreed and 9 (75%) are answered strongly agreed and mean score got 4.75. Thus, the NSSA Technical Competency Element of NSSA help workers in industry. 9 (75 %) are agree, 3 (25%) are neutral and got 3.75 mean score. Therefore, that mentioned the Industrial Competency Element of NSSA help workers in industry. Overall, the findings indicated that basic competency, technical competency, and industrial competency were in line with industry requirements, with an average mean score of 3.91.

4.3.11 NSSA Units Required in the Workplace

Table - 4.11 NSSA Units Required in the Workplace

Sr.	Questions	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean Score
		No.	%	No.	%	No.	%	No.	%	No.	%	
1	Do you believe the NSSA Housekeeping Procedure unit requires workers to store and use equipment at the workplace in a systematic manner?	-	-	-	-	-	-	4	33	8	67	4.66
2	Do you think the NSSA “Workplace Communication Unit” requires workers to communicate at work in a systematic manner?	-	-	2	17	3	25	7	58	-	-	3.41
3	Do you believe that the “NSSA’s Use the Hand Tool” unit requires workers to deal with tools and waste at	-	-	-	-	3	25	5	42	4	33	4.03

	work in a systematic manner?											
4	Do you believe the NSSA “Apply Workplace Safety and Health” unit is necessary for worker’s safety and environmental safety work?	-	-	-	-	2	16	7	58	3	25	4.08
Overall mean												4.04

Source: Survey data - 2022

Table (4.11) shows that Assessment Center Managers needed workplace units in reference to the survey's NSSA programmes, which were studied based on four sectors: (1) The NSSA competency standard “Housekeeping Procedure unit” (2) The NSSA competency standard “Workplace Communication Unit” (3) The NSSA competency standard “Use the Hand Tool” (4) the NSSA competency standard “Apply Workplace Safety and Health” unit is necessary for worker’s safety and environmentally safe work.

As a result, as shown in table (4.11), the majority of assessment center managers agreed and completely agreed on those units. The mean score for the Housekeeping Procedure unit of the NSSA competency standard required at work is 4.66. Workplace Communication unit of NSSA competency standard required in workplace communication systematically received a 3.41 mean score. And a mean score of 4.03 was collected for the question about Using the Hand Tool Unit of NOCS, which requires the worker to apply and manage the instruments and utilizing the necessary instruments in the workplace in an organized, effective manner. The question of Apply Workplace Safety and Health unit of NSSA competency standard requires workers to follow workplace safety and environmental procedures to create safe works and got a 4.08 mean score. The average mean score for the above four questions was 4.04, and the overall conclusion was above the unit of NSSA competency standard required for the actual work place.

4.3.12 The Use of NSSA Competency Units in Real Workplaces

Table- 4.12 The use of NSSA competency units in Real Workplaces

Sr.	Questions	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean Score
		No.	%	No.	%	No.	%	No.	%	No.	%	
1	Do you believe that NSSA competency units and procedures are appropriate for all units, especially when they are assigned in detail at the workplace?	-	-	-	-	4	33	8	66	-	-	3.66
2	Do you believe that all NSSA competency units' policies and procedures help to improve workers' abilities?	-	-	-	-	9	75	3	25	-	-	3.25
3	Do you believe that when we determine a workers' capacity for their pay scale, the rules and process of all NSSA competency unit are modulated?	-	-	-	-	-	-	12	100	-	-	4
4	Are the theories and application	-	-	-	-	-	-	9	75	3	25	4.25

	from every NSSA competency units indicated for the employees' daily route?											
5	Do you believe that having skilled workers is helping your business more?	-	-	-	-	-	-	-	-	12	100	5
Overall mean											4.03	

Source: Survey data - 2022

According to the above table (4.12), 4 (33%) of respondents responded neutrally, 8 (66%) agreed, and the mean score was 3.66 for the question believe that NSSA competency units and procedures are appropriate for all units, especially when assigned in detail at the workplace. For the question that all NSSA competency unit policies and procedures help to improve workers' abilities, 9 (75%) responded neutrally, 3 (25%) agreed, and the mean score was 3.25. When we determine a worker's capacity for their pay scale, the rules and procedures of all NSSA competency units are modulated, according to 12 (100%) respondents. 9 (75%) agreed, 3 (25%) strongly agreed, and the mean score was 4.25 for the question about the theories and application from each NSSA competency unit indicated for the employees' daily route. All of the respondents strongly agreed that the company will benefit more because of the skilled workers. The average mean score was 4.03, and the overall conclusion was that the above NSSA competency units were useful in the real world.

4.3.13 Cooperation with Employer for NSSA Development

Table- 4.13 Cooperation with Employer for NSSA Development

Sr.	Questions	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean Score
		No.	%	No.	%	No.	%	No.	%	No.	%	
1	Do you believe that we should interview employers as the NSSA develops?	-	-	-	-	-	-	-	-	12	100	5
2	Do you believe that employers should be involved in the NSSA's development?	-	-	-	-	-	-	9	75	3	25	4.25
3	Do you believe that the employer should assist financially to the worker when they take the NSSA skills assessment?	-	-	-	-	-	-	6	50	6	50	4.5
4	Do you believe that the employers should educate workers on "workplace safety producers" in the actual workplace?	-	-	-	-	-	-	3	25	9	75	4.75
Overall mean												4.63

Source: Survey data - 2022

In the table above (4.13), all respondents strongly agreed that while developing NSSA, they should interview employers. As a result, the mean score is 5 (100%) strongly agreed, 3 (25%) strongly agreed, 9 (75%) agree, and the mean score is 4.25 for the question that employers should be involved in the NSSA's development. 6 (50%) agreed, 6 (50%) strongly agreed, and the mean score was 4.5 for the question that the

employer should provide financial assistance to the worker when they take the NSSA skills assessment. Employers should educate workers on "workplace safety producers" in the actual workplace, according to 3 (25%) agree of respondents, 9 (75%) strongly agreed, and the mean score was 4.75. The mean score was 4.63 on average. Considering the results, employers should cooperate on the development of NSSA.

4.3.14 Assurance of NSSA Quality Development

Table (4.14) shows that all Assessment Center Managers strongly agree that NOCS should be in line with ASEAN Competency Standards 12 (100%) and showed the level of NSSA more needed and 2 (12%) was agreed, 10 (83%) were strongly agreed about the level of NSSA needed more to extend. The average mean score was also 4.91. As a result, the overall conclusion was that the quality of NSSA was strongly-perfect.

Table- 4.14 Assurance of NSSA Quality Development

Sr.	Questions	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean Score
		No.	%	No.	%	No.	%	No.	%	No.	%	
1	Do you believe NOCS need to follow the ASEAN Competency standards?	-	-	-	-	-	-	-	-	12	100	5
2	Do you believe that the NSSA level needs to be increased? (e.g., Level 1 to 2,3,4)	-	-	-	-	-	-	2	12	10	83	4.83
3	Do you face any difficulties in getting or hiring skilled workers?	-	-	-	-	-	-	1	8	11	92	4.91
Overall mean												4.91

Source: Survey data - 2022

The analysis of survey results of NSSA acknowledgement of Assessment center Managers that the most unit of "National Occupational Competency Standard" cover

in real workplace. Technical, Basic, and Industry of NSSA Level (1) are also critical for curriculum development. The rules and procedures for all units of NSSA competency standard modulate for workers, especially when they are assigned in detail at the workplace, and determine workers' ability for their pay scale. The NSSA competency standard's Housekeeping Procedure unit lines up the workers to store and work the equipment systematically at the workplace, while the NSSA competency standard's Workplace Communication unit lines up the workers to communicate systematically at the workplace. Use the Hand Tool unit of the NSSA competency standard modulate for the worker to deal with the instruments systematically and minimize waste at the workplace. Apply the NSSA competency standard Workplace Safety and Health unit to their safety and environmentally safe work.

Respondents stated that companies will benefit by having skilled workers. As a result, employers must respond during the development of NSSA competency standards, participate in the development process, and support the employee's budget when the employee takes the NSSA skills assessment.

CHAPTER V

CONCLUSION

5.1 Findings

Vocational training and skill development are critical to raising the overall competence level of Myanmar's workforce. To improve job opportunities for Myanmar workers and to facilitate employee mobility in the ASEAN labor market, Myanmar must establish its own National skills recognition and Qualification Framework in order to link the ASEAN Regional skill recognition context. Myanmar has already established the “National Skills Standards Authority” (NSSA) and has actively carried out the tasks required to recognize labor skills, such as developing the competency framework and issuing the national recognition certificate with ASEAN standardization.

All the 160 respondents of certificate holders are positively participated in the survey regarding NSSA skill assessment. The survey shows that, the NSSA certificates holder acquiring new jobs on the 50% of full time job and 32% of self-employed. As opposed to that, the real indication is that there are 68% of the employer have a positive view on the certificate. Moreover, the survey comments that, 36% of the certificate holders didn't get recognition to increase their salary and the remaining part of 60% percentages of certificates holders are merely increase their salary and paid between 10001 Ks and 15000Ks. Information from the study indicates that there are 93% of certificates holders want to apply for the job throughout ASEAN and most of the NSSA certificate holders are high school level.

The survey results show that the primary source of NSSA information is from colleagues in general, and it is concluded that NSSA should raise public awareness through social media. And their motivation for taking the NOCS-based NSSA assessment is to increase their salary. As a result, the majority of workers intend to increase their earnings and social status. The NSSA Test evaluation analysis is getting positive results. The majority of respondents are satisfied with the evaluation procedure and exam in the assessment center, the assessors are doing a particularly good job, the facilities for practical tests at the assessment center, and they prefer the candidate's

Manual books on the day of Refresher training. Concerning challenges for candidates regarding Skills Assessment, the responses indicate that the majority of candidates have no difficulty to contact the assessment center. And certificate holders are responding that the NSSA test meets the job specifications and market requirements, and that the NSSA test gives them more confidence after passing. The survey show that the majority of the respondents have a new job, some have been promoted after receiving their certificate and a few of the respondent's received salary increases.

According to the results of the assessment center managers' survey, the respondents were pleased with the development of NSSA because the majority of their responses indicated a strongly agree and that the NSSA competency would cover the skills that might be required in the workplace and be essential to the process of certifying workers' skillfulness. When NSSA competency evaluates the workers' practical skills, they cover technical competency, which is strongly agreed. All of the NSSA's competency units, including the ones on housekeeping procedures, workplace communication, using hand tools, and workplace safety and health, are also necessary in actual workplaces.

However, some people believe that the rules and procedures of all NSSA competency units reinforce workers' abilities. A full percentage of respondents believe that it is useful to calculate workers' ability for pay scale. 100% of respondents believed that employers should answer interview questions in order to progress NSSA competency unit. The level of NSSA also required further development and alignment with ASEAN standards. Respondents believed that the employer should support the employee's budget when the employee used the NSSA skills assessment.

And Assessment Center Managers commented that competency of NSSA should be in line with ASEAN and compatible with those in ASEAN countries, as this will facilitate the "free flow of skilled labor" within the ASEAN region and increase the employability of Myanmar workers in other overseas countries. NSSA levels must be developed further because they will improve workers' existing competencies, motivate workers to achieve better benefits from their competencies, create opportunities for workers and employers, ensure quality compliance and quality assurance in the business, and satisfy customers. They also looked for and hired skilled

workers through media advertisements, employment agencies, and business community.

On the other hand, they face some challenges, such as some workers leaving after improving their skills, making it difficult to find skilled workers. As a result, they comment on the need to develop Myanmar's Vocational Training and Institution System, as well as job promotion and raising awareness about the significance of the certificate. The field survey reveals that stakeholder commitment to collaborating with the NSSA for workforce development is low. As a result, it is advised that all stakeholders increase awareness in order to improve the living standard of the certificate holder.

The certification of competencies in an occupation allows job seekers to receive entry-level training for securing employment and progressing up the career ladder while in employment by acquiring additional competencies on their own. It also allows primary school dropouts and other unemployed youths to enter an occupation that may provide employment. Skilled workers who have such documents from accredited sources or skill recognition may be hired with wages accordance with their levels of skills and have a good chance of progressing and retaining employment.

The NSSA Occupational Competency Standards are referenced to international standards and the ASEAN Qualification Framework, and it is expected that the NSSA certificates will be recognized both within the country and “ASEAN Economic Community”. With increased investment in Myanmar by both domestic and foreign investors, there will be a greater demand for skilled workers. Among other things, this can be accomplished through Occupational Competency Based Training and Certification of job seekers, as well as by certifying the competencies of existing.

5.2 Suggestions

By reviewing and leveraging existing resources, the government is responsible for more focused and comprehensive management of vocational training. On the one hand, there is a high demand for skilled labor in Myanmar, but there are not enough

trained workers to meet the market's needs. In fact, youth and young adults want to learn new skills that will lead to greater career chances.

Setting the proper framework conditions and strengthening Myanmar's labor market system can thus significantly contribute to the productivity growth process. Indeed, the previous government initiated an important objective to reform and update the country's labor-related legislation, including the amendment of outdated labor laws and the effective implementation of new laws, rules, and regulations. These aim to achieve various goals such as improving social protection for workers, allowing them to form associations, increasing workers incomes, promoting employment and skill development, and encouraging dialogue between employer and worker representatives. Despite a number of achievements in a short period of time, Myanmar's labor systems continue to face significant challenges.

One of the most difficult issues for policymakers is to guide the nation toward inclusive economic growth that benefits the entire population by increasing job possibilities and improving the working environment. This will necessitate the government developing and implementing policies that encourage rapid economic growth. One important area and development priority in this regard is the strengthening of Myanmar's labor system.

The Myanmar government is already reforming the country's education system in order to improve possibilities for skill development, but the benefits of these reforms will not be seen for a few years. More immediate job creation necessitates short- to medium-term expansion of the private sector, particularly in labor-intensive industries. These include the survey's target industries, which are metal and engineering sector. If businesses in these and other sectors want to meet the imperative of creating decent and productive jobs, they need an enabling environment that includes labor legislation as well as labor market dynamics and conditions.

Considering the above mentioned legal reform efforts, the overall legislative and regulatory framework might benefit from additional change to ensure a competitive investment environment, more employment opportunities, and improved working conditions. However, it should be even more important to implement the existing and

modernized set of laws, rules, and regulations, as well as to raise public awareness and create a culture of dialogue and collaboration among the various stakeholders.

As a result, generalizing the survey findings has limitations because the situation may differ in other sectors and regions. As a result, additional research is required to investigate labor market conditions and job opportunities in other industries and parts of Myanmar, to cross-check the survey findings with those from other enterprise surveys, and to study Myanmar labor market issues and job opportunities from the perspective of workers in deeper levels.

The latter will provide a good awareness of labor supply, including skill profiles and potential labor shortages in particular areas and professions. It can use “Labor force surveys” LFS data that has been made publicly available and collected over time through regular surveys. Future research should also aim to contribute to a deeper understanding of Myanmar's large informal sector's labor situation and interactions with the formal sector. The following recommendations are based on survey results analyses and point to some areas where further reform appears to be desirable and where public policy can play a role in stimulating and achieving improvements. In doing so, it may provide policymakers with some direction and suggestions.

Myanmar's labor productivity is low, and the survey respondents indicated that insufficient skilled labor is a major barrier to their success and job opportunity. At the same time, firms themselves invest little in human resource development, not least because of the previously mentioned high employee turnover rates. This is where government policy can help. Aside from upgrading the public education system, which will take time to bear fruit, policymakers can provide more targeted support for skill upgrading, which will have a positive impact in the short to medium term. Policies may seek to expand government-provided training while also assisting existing private training institutes or private sector initiatives.

The goal would be to expand and strengthen “Technical and Vocational Education and Training” (TVET) provision, including the establishment of new, modern institutes, possibly with a focus on the skill needs of priority sectors for the country. TVET institutes of this type can be publicly or privately owned, or they can be operated through public-private partnerships. Furthermore, in order to ensure that firms

to increase their demand for skill development programs and training, the government should consider implementing policies that incentivize businesses to send workers or staff to training sessions or even incur expenditures for formal, external staff training. This could include grants, subsidies, or tax exemptions. It might be difficult for young people to find work. They must determine what occupations are open to them, their interests, and what skills they already have or need to develop. There are several resources available to help youth in identifying their interests and skills, getting work experience, and understanding about job opportunities.

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Survey Questionnaire

Accredited Skills Workers of National Skills Standard Authority

Dear NSSA Candidate.....,

My name is Kyaw Zin, I am a student in Master of Development Studies Programme. I am currently writing my master Thesis in the fields of, *“The Role of National Skills Standards Authority for the Development of National Occupational Competency Standard in Engineering Sector (Case Study in Yangon Region)”* I would be grateful if you could kindly complete this questionnaire.

It is a part of an evaluation study of training in *“The Role of National Skills Standards Authority for the Development of National Occupational Competency Standard in Engineering Sector (Case Study in Yangon Region)”* Your honest opinion might help me to implement this thesis.

Please note that all your answers are completely confidential.

Thank you for your cooperation.

Best Regards,

Kyaw Zin

EMDevS – 14

17th Batch

Part (A)

Demographic information of respondent

Name

Trade / Course

Division/State/City

1. Age group

- Under 20 years Between 20-30 years Between 30-40 years
 Between 40-50 years Above 50 years

2. Gender

- Male Female LGBT

3. Marital status

- Single Married Divorced
 Widowed

4. Level of education

- No formal school Primary school Middle school
 High school Under-graduate Graduated
 Other, Please specify

5. Any other qualification?

- Government issued Diploma Skills Training
 Certificate Others....

6. Please describe your previous job.

- Construction Renovation Industrial
 General workers Service Others

7. Please describe your current job.

- Construction Renovation Industrial
 General workers Service Others

8. How long have you been in your current job?

- 1 year Between 2 and 3 years Between 3 and 4 years

- Between 4 and 5 years Above 5 years

9. How much money did you make every day before getting your NSSA certificate?

- Within 5000 Ks 5001 Ks ~10000 Ks
 10001 Ks ~15000 Ks Above 15000 Ks

10. Why are you interested in NSSA training programs?

- Easy to get job Applicable to work
 Other, please specify

11. Your source of information for the NSSA Certificate Exam?

- Media Employer Collage
 Internet Others

12. What is your reason for taking the (National Skills Standards Authority NSSA Certificate) Exam?

- In accordance with skills evaluation standards Promotion
 Increasing salary Work on aboard Others...

13. What types of NSSA training courses have you taken?

- Electrician Pneumatic Air-con Installer
 Automobile mechanic Other, please specify

14. What are your plans after completing the NSSA training?

- Self-employed Full time Part time
 Oversea Others, Please specify.....

15. How much money did you make every day after getting your NSSA certificate?

- Within 5000 Ks 5001 Ks ~10000 Ks
 10001 Ks ~15000 Ks Above 15000 Ks

Part (B)

Assessment Process of NSSA

16. Have you taken any vocationally courses before the assessment?

- Yes No
 If “Yes” please specify....

17. Do you satisfy the Assessment Center's courses? (Refresher & Familiarization)

Yes No

If "No" please specify....

18. Do you like Candidate Manual Books on the day of refreshments?

Yes No

If "No" please specify.....

19. Do you prefer the assessment center's facilities? (For Practical Test)

Yes No

If "No" please specify.....

20. Do you use the Assessment Center's equipment and materials?

Yes No

If "No" please specify.....

21. Do you think that is enough time for the Practical Test?

Yes No

If "No" please specify.....

22. Do you think the assessment facility's evaluation process and exam to be effective?

Yes No

If "No" please specify.....

23. Do you agree with the assessment's overall conduct of all assessors?

Yes No

If "No" please specify.....

24. Do you agree with your practical test result feedback?

Yes No

If "No" please specify.....

25. Do you have any feedback?

.....
.....

Part (C)

I. Advantages of NSSA Certificate

26. The validity of the certificate

- Perfect Good Bad

27. Signatures of the Institutions and Assessor

- Perfect Good Bad

28. Certificate Format

- Perfect Good Bad

29. Design of Text

- Perfect Good Bad

30. Technical Language

- Perfect Good Bad

31. Overall organizational Seals

- Perfect Good Bad

32. Does the NSSA conduct job-specific testing?

- Yes No

33. Do you feel more confident after receiving your certificate?

- Yes No

34. How long do you think you should wait to get your certificates after you know your exam results?

- Within 2 weeks Within 3 weeks
 Within 1 month Others

35. How long do you prefer the Renewal NSSA Certificate process should take to? If you consider it necessary;

- 1 year period 2 years period
 3 years period Others

II. Employer Participation for NSSA training

36. Is the NSSA certificate accepted by other businesses or employers (Domestic labor market)?

- Yes No

37. Are you supported by your employers in getting this NOCS-based NSSA certificate?

- Yes No

If “Yes” please specify.....

38. Do employers consider NSSA qualifications as a requirement?

- Yes No

If “No” please specify.....

III. Challenges of NSSA training candidates

39. Do Employer corporate in NSSA training process?

- Allow to take leave for test Salary Deduction upon leave
 Holding certificate for turn over Others
 Having no issue for test

40. Do you have any issues with the assessment center?

- It is difficult to arrive on time at the assessment location
 It is difficult to get leave for the application form
 The assessment day information was received from the center very late.
 Out of information about assessment center
 Others...
 Having no issue

IV. Acknowledgement to based NSSA certificate

41. Do you think the certificate is valid to apply for jobs throughout the whole ASEAN region?

- Yes No

Why?.....
.....
.....

42. How would you describe your view of the NSSA exam in terms of employment opportunities?

More opportunities

Less opportunities

No change at all

43. Would you advise others to take the NSSA exams?

Yes

No

Key Informant Interview questionnaire

Survey for Assessment Center Managers of National Skills Standard Authority

Dear NSSA Assessment Center Managers

My name is Kyaw Zin, I am a student in Master of Development Studies Programme. I am currently writing my master Thesis in the fields of, “*The Role of National Skills Standards Authority for the Development of National Occupational Competency Standard in Engineering Sector (Case Study in Yangon Region)*” I would be grateful if you could kindly complete this questionnaire.

It is a part of an evaluation study of training in “*The Role of National Skills Standards Authority for the Development of National Occupational Competency Standard in Engineering Sector (Case Study in Yangon Region)*” Your honest opinion might help me to implement this thesis.

Please note that all your answers are completely confidential.

Thank you for your cooperation.

Best Regards,

Kyaw Zin

EMDevS – 14 (17th Batch)

Tel: 09-973779448

kyawzin.project@gmail.com

kyawzin.project@gng.com.mm

Name

Occupation

Assessment Center Name

Division/State/City

I. Recognition of the Assessment Center Manager (NSSA)

1. Do you believe that the National Skill Standard Association (NSSA) covers all of the skills that might be required in the workplace?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

2. Do you believe that NSSA is relevant and useful for the certification of workers' skill?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

3. Do you believe that the NSSA Technical, Basic, and Industry Standards are essential for the implementation of a curriculum?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

4. Do you believe the NSSA technical competency will be covered when we evaluate the workers' practical skills?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

5. Do you believe that the NSSA's four levels are adequate for an actual workplace?

- Strongly disagree A little Fair Agree
 Completely agree

II. NSSA Standards in Industry

6. Do the Basic Competency Element of NSSA help workers in industry?

(For example: Team work,)

- Strongly disagree Disagree Neutral
 Agree Strongly agree

7. Do the Technical Competency Element of NSSA help workers in industry?

(For example: Roughing in and preparatory activities,)

- Strongly disagree Disagree Neutral
 Agree Strongly agree

8. Do the Industrial Competency Element of NSSA help workers in industry?

(For example: Use Hand Tools,)

- Strongly disagree Disagree Neutral
 Agree Strongly agree

III. Necessary Units of NSSA for the workplace

9. Do you believe the NSSA Housekeeping Procedure unit requires workers to store and use equipment at the workplace in a systematic manner?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

10. Do you think the NSSA competency standard “Workplace Communication Unit” requires workers to communicate at work in a systematic manner?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

11. Do you believe that the NSSA competency standard “Use the Hand Tool” unit requires workers to deal with tools and waste at work in a systematic manner?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

12. Do you believe the NSSA competency standard “Apply Workplace Safety and Health” unit is necessary for workers' safety and environmentally safe work?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

VI. The use of NSSA competency units in Real Workplaces

13. Do you believe that NSSA competency units and procedures are appropriate for all units, especially when they are assigned in detail at the workplace?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

14. Do you believe that all NSSA competency standard unit's policies and procedures help to improve workers' abilities?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

15. Do you believe that when we determine a worker's capacity for their pay scale, the rules and processes of all NSSA competency standard are modulated?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

16. Are the theories and applications from every NSSA competency standard unit indicated for the employee's daily route?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

17. Do you believe that having skilled workers is helping your business more?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

V. Cooperation with Employer for NSSA Development

18. Do you believe that we should interview employers as the NSSA develops?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

19. Do you believe that employers should be involved in the NSSA's development?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

20. Do you believe that the employer should provide financial assistance to the worker when they take the NSSA skills assessment?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

21. Do you believe that employers should educate workers on "workplace safety procedures" in the actual workplace?

- Strongly disagree Disagree Neutral
 Agree Strongly agree

VI. Assurance of NSSA quality development

22. Do you believe NOCS need to follow the ASEAN Competency standards?

- Strongly disagree Disagree Neutral
- Agree Strongly agree

23. Do you believe that the NSSA level needs to be increased? (e.g.: Level 1 to 2,3,4)

- Strongly disagree Disagree Neutral
- Agree Strongly agree

Why?.....
.....

24. Do you face any difficulties in getting or hiring skilled workers?

- Strongly disagree Disagree Neutral
- Agree Strongly agree

Why?
.....

25. How and where do you look for skilled workers?

.....
.....

26. In order to find or improve skilled labor,

(a) Kindly offer your suggestions:

.....
.....

(b) Any difficulties at the moment:

.....
.....

27. How do you determine the priority of the type of job you choose?

.....
.....

28. As an employer or employee, are you interested in the programmed for skill evaluation and certification? How should we proceed?

.....
.....
.....