

TVET Country Profile

INDONESIA



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Compiled in collaboration with SEAMEO VOTTECH

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TVETipedia Glossary

In case of further clarification and definitions of terms contained herein, please refer to UNESCO-UNEVOC's online TVETipedia Glossary, which provides definitions and background information from various trustworthy sources on terms commonly used in the area of technical and vocational education and training. Find out more at www.unevoc.unesco.org/l/68.

Acknowledgements

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UNEVOC Network in Indonesia

The UNEVOC Centres in Indonesia include [The Centre for Development and Empowerment of Educators and Educational Personnel \(PPPPTK\)](#), and the [University of Education, Indonesia](#).

UNESCO-UNEVOC TVET Country Profiles

To find similar information on other countries, please visit the UNESCO-UNEVOC World TVET Database at www.unevoc.unesco.org/l/589.

Statistics¹

General information

Category	Indicator	Statistics (2019)
Demographic	Total population (million) ²	267.6
	Population growth ²	1.1%
	Median age of population (estimate)	30.2
	Population aged 15-24 years (in thousands) ³	243,102

Socio-economic	GDP growth (annual %) ²	5.1% (2017)
	GDP per capita (current US\$) ²	13,079 (2017)
	Unemployment rate (%) ²	4.4 %
	Youth literacy rate, population 15-24 years, both sexes (%)	99.7%

Participation in education by level and by programme orientation (2018)

Category		Gross enrolment ratio %		Percentage of students who are female (%)	
Primary education (ISCED 1)		103.5%		101.2%	
Secondary education, all programmes	Lower secondary (ISCED 2)	88.9 %	97.5 %	90%	98.1%
	Upper secondary (ISCED 3)		80.2%		82.0%
Tertiary education, all programmes (ISCED 5-8)		36.3%		38.5%	

Category		Percentage of students enrolled in vocational programmes, both sexes (%)		Percentage of students in vocational education who are female (%)	
Secondary education, all programmes	Lower secondary (ISCED 2)	19.3%	-	42.9% (2017)	-
	Upper secondary (ISCED 3)		43.1%		42.9%

Indicator	Both sexes (%)	Percentage of students who are female (%)
Percentage of students in tertiary education enrolled in short cycle education (ISCED 5)	13.0%	57.5%

Education finance

Category	Indicator	Statistics
Expenditure	Government expenditure on education as % of total government expenditure ²	20.0% (2015)
	Expenditure on secondary and post-secondary non-tertiary vocational education as % of total government expenditure (%)	0.5% (2014)

SDG thematic indicators related to TVET and skills⁴

Category	Indicator	Statistics (2015)
Selected SDG thematic indicators	Participation rate in technical-vocational programmes, 15- to 24-year olds (%)	10.5%
	Percentage of youth/adults who have achieved at least a minimum level of proficiency in digital literacy skills (%)	-

Type of institutions⁵

Type of institution	Education level	Ministry responsible	Estimated number of institutions (2018 - 2019)
General Senior Secondary Schools (SMA) Public/private	Upper secondary	Ministry of Education and Culture	13,692 6,815/6,877
Vocational Secondary Schools (SMK) Public/private	Upper secondary	Ministry of Education and Culture	14,064 3,578/10,486
Polytechnics	Tertiary		172
Vocational Centres (BLK)		Ministry of Manpower and Transmigration	279
Private academies	Tertiary		1,034

¹ Unless otherwise indicated, all statistics have been gathered from the UNESCO Institute for Statistics (UIS). <http://uis.unesco.org/>

² World Bank. World Development Indicators. <https://data.worldbank.org>, and International Monetary Fund. World Economic Outlook. <https://www.imf.org/en/Publications/CR/Issues/2018/02/06/Indonesia-2017-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-45614>

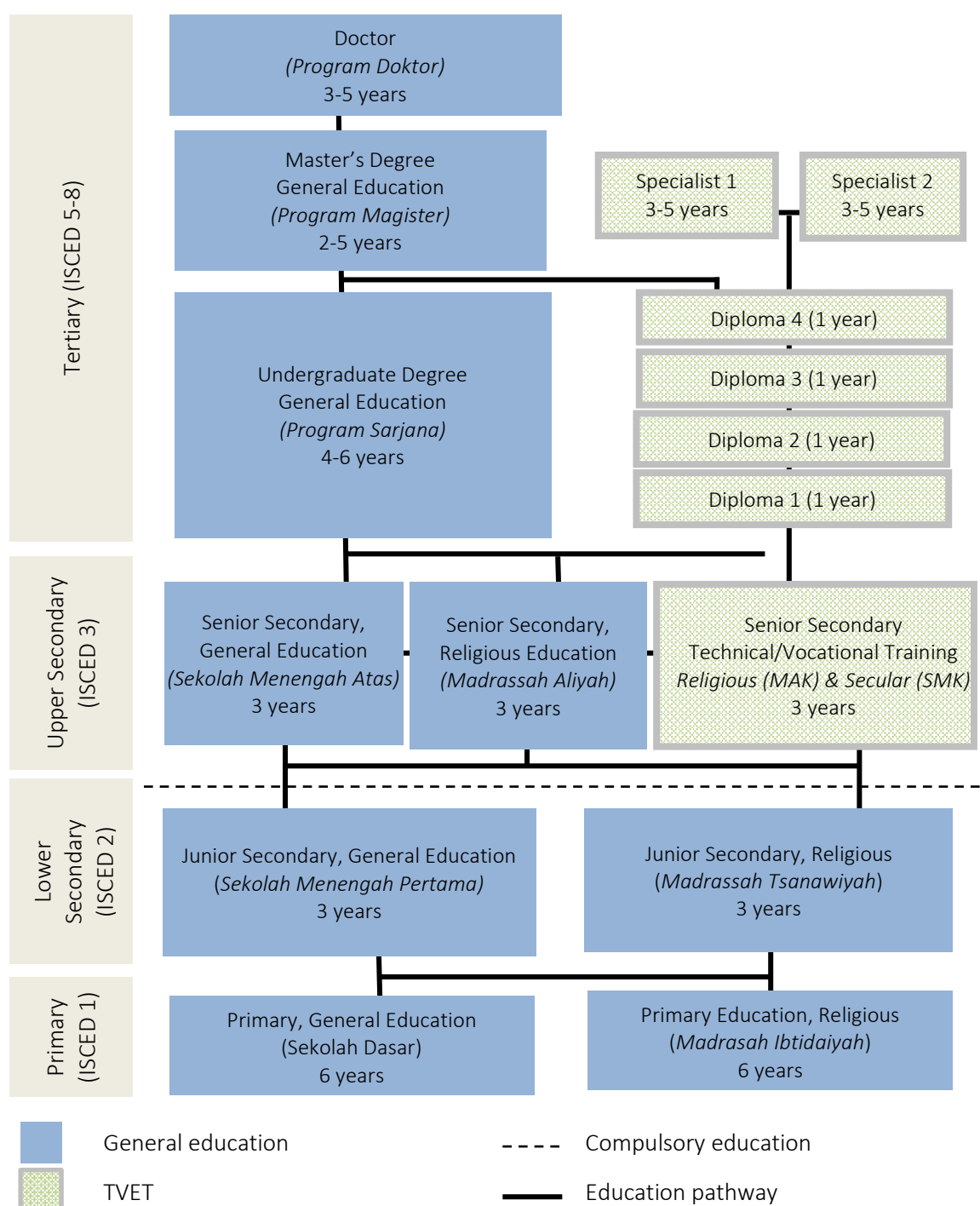
³ UN DESA. World Population Prospects. <https://esa.un.org/unpd/wpp/Download/Standard/Population/>

⁴ Other Sustainable Development Goal 4 thematic indicators at <http://sdg4monitoring.uis.unesco.org/>

⁵ Compiled based on Indonesian Education Statistics in brief 2018-19. <https://t1p.de/lmj1>

1. TVET systems

TVET in the Indonesian education system⁶



⁶ Compiled by UNESCO-UNEVOC International Centre.

Formal TVET system

The formal TVET system in Indonesia is structured as follows:

Formal TVET Education is initiated at the upper secondary level.	
Duration:	3-4 years
Admission requirements:	Junior Secondary Certification (SMP/MT)
Taught in:	Vocational high schools (<i>Sekolah Menengah Kejuruan</i> , SMK) and Islamic vocational schools (MAK)
Public and private vocational high schools (SMKs) and Islamic vocational schools (MAK) offer three-year programmes to students that lead to secondary certificate level qualifications. Apart from enrolling in the programme, TVET students are encouraged to also pursue skills certificate courses from industries while they are still in school to enhance their employability skills. These vocational secondary certificate level qualifications (SMK) entitle the learners to pursue further TVET at the tertiary level to receive diploma certificate one (D1). While the general duration of these programmes is 3 years, some vocational schools extend it by one year. These programmes are called SMK-Plus and the learners graduate with a D1 degree, and can directly access TVET at D2. Graduates of these programmes are also entitled to access the labour market. Vocational secondary schools focus on developing students' expertise in these main sectors or fields: technology and engineering; information and communication technology; health; arts, crafts, and tourism; agro-business technology; and business and management. However, majority of the institutes specialize primarily in technology and industry (86%) or business and management programmes (76%). SMKs offer 144 competences, however, about 60% of the competency proportion is filled only by 10 major competencies namely: computer and network engineering; accounting; office administration; light vehicle engineering; engineering machinery; motor vehicle engineering; multimedia; marketing; and engineering cooler. Upon completion of three years of secondary studies at the SMK, graduates are awarded the national secondary certificate. From here on, they have different options: • Directly join the labour market by filling job vacancies available in industries related to their course of study; • Work independently as entrepreneurs; • Pursue higher education at tertiary institutions.	

Vocational Education is continued at the tertiary level.	
Duration:	1-5 years (Diploma and Specialist)
Admission requirements:	Senior secondary school education
Taught in:	Polytechnics, community colleges, academies, advanced schools, institutes, universities

In accordance with the Higher Education Act, vocational programmes are offered by a variety of tertiary institutions like: community colleges, academies, advanced schools, institutes and universities.

SMK graduates can pursue higher studies at Polytechnics (Politeknik) by enrolling in three-year Diploma Certificates (DI-DIV) and still continue on the professional track to specialist I and II (Sp.1 and Sp.2)⁹. They are regulated by the Ministry of Research, Technology and Higher Education (MoRTHE).

According to BPS 2015 and the Indonesian Coordinating Ministry for Economic Affairs' report 2017 titled "Policy of vocation development in Indonesia 2017-2025",^{10,11} currently Indonesia has 13,337 vocational secondary schools, out of which 3,434 are public and 9,903 are private vocational high schools. Additionally, there are 172 polytechnics, 279 BLKs, and 1,034 private academies.

Non-formal and informal TVET systems

In Indonesia, non-formal education is provided to develop the potential of learners by imparting academic knowledge along with functional skills for their professional and personal development.

The Directorate General of Early Childhood Education and Community Education is operating under the Ministry of Education and Culture (MoEC) and offers non-formal TVET programmes. They are provided as equivalent education to those who could not have access to formal education and are organized as Education Outside Schools (*Pendidikan Luar Sekolah*, PLS) under several programmes. Some examples include:

Programme:	Community Learning Centre (PKBM) – Equivalency programme
Ministry/organization responsible:	Ministry of Education and Culture
Target audience:	People who did not have access to regular education, specifically in urban areas
Admission requirements:	Not specified
Qualifications received:	One of the PKBM programmes is the 'Equivalency programme' that offers courses in packages (Pakets) to study groups (Kejar) and equals the formal education streams. For example, Paket A is equal to elementary school (Sekolah Dasar - SD); Paket B is equivalent to junior secondary school (Sekolah Menengah Pertama - SMP); and Paket C is similar to senior secondary school (Sekolah Menengah Atas/Kejuruan - SMA/SMK). Study groups primarily target people living in remote areas; however, they are also conducted in urban areas to prepare workers and trainees to enter the job market with specific upgraded skills.

Programme:	Vocational Learning Centres (BLK) – Type A, B, C; Community-based training; Mobile training units
Ministry/organization responsible:	Ministry of Manpower and Transmigration – National Training for Work system
Target audience:	Poor individuals and school dropouts (vocational education); (in)formal workers (job placement services)
Admission requirements:	Not specified
Qualifications received:	BLK certificate Qualifications and training provided by BLKs are of three types: <u>BLK Type A</u> : it is offered by larger training providers in urban centres that provide industrial training and service skills, along with smaller players that provide training in different technologies and skills for self-employment; <u>BLK Type B</u> : this involves smaller urban centres that offer informal education comprising self-learning, family and community education; and <u>BLK Type C</u> : it is offered by the training providers from rural areas. BLK programmes cover a wide range of areas, including Hotel/Tourism, Telematics/IT, Agriculture, Institution (Train PNS), Construction, Apprenticeship, Electricity, Mechanical Technology, and Commerce. Agriculture and hotel/tourism are the most promising programmes for employability. Graduates receive a BLK certificate upon successful completion of their BLK course. BLKs are a part of the National Training for Work System, which is regulated by the Ministry of Manpower and Transmigration (MoMT) under the Law No. 13 of 20035 on ‘Manpower Act and Government Regulation on National Training for Work system’ (System Pelatihan Kerja Nasional).

2. TVET strategy and key policy documents

The Vocational High School Education is regulated by the Ministry of Education and Culture (MoEC) under the Directorate Technical and Vocational Education (DTVE). It is responsible for designing and developing the vocational curriculum in consultation with the Ministry of Manpower and Transmigration (MoMT) and Ministry of Industries (MOI).

Indonesia places a special focus on the development of Public-Private-Partnerships (PPP) on the national, regional and international level to enhance the quality of TVET. PPPs between TVET (SMK) and world of business and industries can take several forms, such as student internship placement, institutional refurbishment support, ‘train-the-trainer’ programmes, and curriculum design development to ensure delivery of demand-driven TVET programmes.

Specifically, development of demand-driven programmes is based on the concept of 'link and match'. This concept highlights the need to make SMK programmes relevant by aligning them with labour market needs. One of the implementation strategies of link and match is the adoption of a dual education system (*Pendidikan Sistem Ganda*, PSG) that systematically integrates and synchronizes educational programmes in schools and skills acquisition programmes gained through direct work in the workplace. A common example of PSG in Indonesia is the internship or industrial work practice programme (*Prakerin*), which involves activities such as synchronisation and curriculum validation, guest teachers from industries and competency tests. There are no formalised public-private-partnerships in Indonesia at the moment, however, as a part of the link and match, each vocational institution is encouraged to initiate cooperation with industries based on its location and needs.

The following key documents help guide the development of TVET in Indonesia.

Name of document	Indonesian National Education System Law No. 20
Date entered into force	2003
Website link	http://t1p.de/a5k0
Key points and objectives	
The Law states that all levels of education, including the structure attached to each of them, are under the purview of the Ministry of Education and Culture (MoEC).	

Name of document	Manpower Act No. 13
Date entered into force	2003
Website link	http://t1p.de/g7oe
Key points and objectives	
The Act regulates the national vocational training system, ensuring that the preparation for work is in accordance with demands from the labour market.	

Name of document	Decree No 38
Date entered into force	2013
Website link	http://t1p.de/nabz
Key points and objectives	
This Decree called for the establishment of accreditation bodies to ensure accreditation standards of TVET providers. These accreditation bodies include:	
• National Accreditation Board of School/Religious School (<i>Badan Akreditasi Nasional Sekolah/Madrasah</i>, BAN-SM) for all institutions at the secondary level including TVET (SMK) • Accreditation Authority for training providers (<i>Lembaga Akreditasi- Lembaga Pelatihan Kerja</i>, LA-LPK), vocational training centres or BLK (<i>Balai Latihan Kerja</i>) under MoMT; • National Accreditation Body (<i>Badan Akreditasi Nasional-Perguruan Tinggi</i>, BAN-PT) for Higher Education responsible for polytechnic accreditation.	

Name of document	National Industry Development Plan 2015-2035
Date entered into force	2015
Website link	http://t1p.de/9452
Key points and objectives	
The National Industry Development Plan focuses on the development of human resources by facilitating competency testing centres (<i>Tempat Uji Kompetensi/TUK</i>), human resources certification centres, and Indonesian National Work Competency Standards (<i>Standar Kompetensi Kerja Nasional Indonesia/SKKNI</i>) in the field of education. This is also aimed at developing a people-based economy, and enabling small and medium industries (SMI) to be a main source of employment, productivity and economic growth between 2025-2035.	

Name of document	Presidential Instruction Number 9
Date entered into force	2016
Website link	http://t1p.de/wi19
Key points and objectives	
The Presidential Instruction on ‘Revitalizing SMK in the framework of Improving the Quality and Competitiveness of Indonesian Human Resources’ aims at improving vocational education and enabling learners to be more competitive in the global labour markets. In ensuring that vocational education is responsive to the labour market needs, the MoEC is now directing secondary vocational schools to focus on six priority areas, namely tourism, maritime programmes, food security, creative industries, energy, and construction. The instruction’s main points include: • Revitalization of vocational schools that ○ Support the development of national priorities such as food security, energy security, business and tourism development, maritime development, especially in underdeveloped areas and border areas; ○ Accelerate the development of Papua and West Papua; • Development of SMK model that is driven by cooperation with business/industry; • Development of skills based on the projected needs of the workforce; • Completion of curriculum in preparing competency of vocational education skills based on SKKNI (Indonesian National Work Competency Standard), KKN (Indonesian National Qualifications Framework) and other relevant standards; • Improvement of the quality of learning and assessment of learning outcomes, with the application of competency certification for learners; • Improvement of quality assessment of education through accreditation; • Improvement of the quality of the implementation of entrepreneurship and work skills of SMK through ‘Teaching Factory’ (industry-like school environment for students’ work-based learning); • Improvement of the quality of facilities and infrastructure of learning in the classroom and workshop in SMK; and • Fulfilment of availability, quality, competence and professionalism of vocational education personnel through Teacher Certification, pre - and in-service programmes for TVET teachers, and apprenticeship programmes.	

3. Governance and financing

Governance

In Indonesia, a range of Ministries are responsible for TVET. However, the most prominent ones include the Ministry of Education and Culture (MoEC), the Ministry of Research Technology and Higher Education (MoRTHE) and the Ministry of Manpower and Transmigration (MoMT).

The **Ministry of Education and Culture** is responsible for planning and implementing educational services at primary and secondary levels. It carries out its functions through the Directorate of Technical and Vocational Education (DTVE) along with the help of central sub-units. Central sub-units include the General Secretariat, the National Institute for Educational Research and Development, the General Inspectorate, the General Directorate of Basic and Secondary Education, the General Directorate of Higher Education, the General Directorate of Non-formal and Informal Education, and the General Directorate for Quality Improvement of Teachers and Education Personnel.

The **Ministry of Research Technology and Higher Education** is responsible for vocational education at the tertiary level, i.e. polytechnics.

The **Ministry of Manpower and Transmigration** is responsible for national training centres (BLK) that prepare citizens, especially school leavers, for the world of work.

While educational planning is done at the central level, its implementation falls under the jurisdiction of local governments. This is in accordance with the decentralization strategy of the Indonesian Government. At the lower level, provincial offices were established in each of the 34 provinces (as of June 2009) and district offices in 508 districts and municipalities. These offices manage, adapt and implement ministerial policies at the local level. The following authorities are responsible for accreditation and competence certifications:

- National Professional Certification Board (BNSP) for issuing competence certificates;
- National Accreditation Board for School/Madrasah (BAN-SM) under the MoEC for accreditation in vocational high schools;
- National Accreditation Board for Higher Education (BAN-PT) under the MoRTHE for polytechnics, colleges and university accreditations; and
- Accreditation Board for Training Centres (LA-LSPK) under the MoMT for BLKs.

Specifically, the distribution of educational affairs as stated in [Act Number 23 of 2014](#) is as follows.

Responsibilities of each level of the Government for educational affairs			
	Central Government	Provincial Government	District/City level Government
Education Management	Determination of national education standards; Higher education management	Secondary education; special education	Basic education; early childhood education and non-formal education
Curriculum	Determination of national curriculum of secondary education, education basic, early childhood education, and non-formal education	Determination of local and secondary education curriculum local content of special education	Determination of local content curriculum of basic education, education early childhood, and non-formal education
Accreditation	Accreditation of universities, secondary education, basic education, early childhood education, and non-formal education	Not applicable	Not applicable
Educators and Education Personnel	Control of educator formation, transfer of educators, and career development of educators; displacement of educators and cross-regional education personnel province	Displacement of educators and cross-regional education personnel regencies/municipalities within one province	Displacement of educators and education personnel in the regions' district/city
Education Licensing	Issuance of private university permits organized by society, and issuance of permits to organize foreign education unit	Issuance of secondary education permits held by society; issuance of special education permits held by community	Issuance of basic education permits held by society; issuance of early childhood education permits and non-formal education organized by the community
Language and Literature	Guidance on Indonesian language and literature	Development of language and literature spoken across regions regencies/municipalities within one province.	Development of language and literature spoken in the region district/city

Financing

Stipulated by the Law on National Education No. 20 of 2003 (see Chapter 2), like other educational services, TVET financing is a joint responsibility between the government through the MoEC which provides 20% of national budget to finance education services, and other education stakeholders, such as local governments (20% regional budget contribution) and

communities. Private TVET institutions (SMK) are independently financed; funding depends on the type of ownership (individual, faith-based, non-governmental organization (NGO), and partnership) and requires operational authorization from the ministry. Private schools may charge fees from students to run the institution.

4. TVET teachers and trainers

Composition of Personnel

TVET personnel under SMKs can be grouped into teaching and non-teaching staff. Based on SMK Statistics 2017/2018, a total of 4,904,031 students (2,110,751 from public and 2,793,280 from private SMKs) were enrolled in 13,710 SMKs comprising 3,519 public and 10,191 private schools respectively. The total number of teachers was 292,212 including 141,813 teachers from public (student-teacher ratio of 15:1) and 150,399 teachers from private (student-teacher ratio of 14:1) SMKs respectively. The non-teaching staff totalled to 53,020 (29,128 from public and 23,892 staff from private SMKs).

It is challenging to gather exclusive data on TVET personnel at post-secondary level. This is because TVET programmes offered by universities cannot be separated from the academic programmes. For this reason, the university statistics are presented separately from other types of higher education offered at polytechnics, community colleges, and academies.

The number of post-secondary TVET institutions, such as polytechnics and community colleges is only 205 with a total number of 248,872 students, and 13,368 instructors/lecturers. The student-lecturer ratio is 18.6:1.

Salaries of Teachers/Trainers/Instructors

Indonesia uses a basic salary strategy for all civil servants who are at level one of professionally certified and government-appointed workers without taking up any extra responsibility besides their professions. Based on this, the basic entry level salary for TVET teachers entering Group 3 with Bachelor's degree is IDR 2,456,700 (US\$ 169) and Master's degree is IDR 2,560,600 (US\$ 176) respectively. Teachers also receive additional benefits, such as family allowance, food allowance and teaching allowance. Apart from this, those holding structural positions receive an additional responsibility allowance, and those with teaching certification receive an additional salary that equals as much as their basic salaries. A teacher holding a bachelor's degree and teaching certification in Central Java for instance, has an entry level salary of IDR 7,117,565 (US\$ 490) excluding family and food allowances.

Qualification of TVET Teachers/Instructors/Trainers

As per law, the minimum educational qualification for teachers at secondary vocational schools (SMK) is either Diploma IV (DIV) or Undergraduate Degree (S1). In other words, to become a qualified TVET teacher, one has to complete a four year university degree or four years of higher education or Diploma IV from Polytechnics obtaining a teacher certificate, as well as demonstrate professional, pedagogical, personal, and social competencies. Furthermore, prospective teachers need to complete a teaching practicum at a selected school and pass an annual teacher competency-based test.

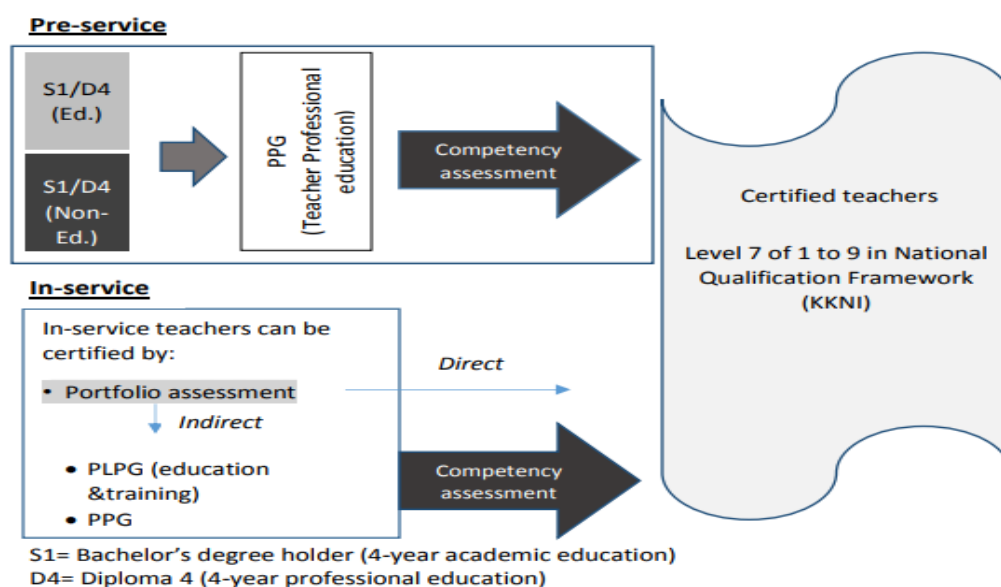
For teaching at polytechnic level, the minimum qualification is Master's degree in relevant disciplines. This applies for polytechnics under the Ministry of Research, Technology and Higher

Education (MoRTHE), as well as those under the Ministry of Health (MoH). Those who meet the minimum qualifications accompanied with relevant industrial experience generally have more advantages in terms of securing a job and progressing in their professions.

Thus, teacher certification is one strategy intended to ensure quality of teachers with competencies that lead to improved quality of TVET education in Indonesia. Teacher certification is an in-service programme for teachers expected to produce better quality of education and it is conducted through the direct provision of the certificate, portfolio assessment, education and training of the teacher (PLPG), and teacher professional education (PPG).

Teachers' Professional Development

Indonesia offers pre-service and in-service programmes for teachers' professional development and progression; the MoEC endorses it by offering scholarships via the Institute for Educational Quality Assurance. At the same time, the MoRTHE regards research projects as important tools for teacher development.



According to Paryono (2015), Indonesia has undertaken the following policies regarding teacher development:

- Teacher certification programme for in-service teachers, including vocational teachers;
- Teacher Certification Consortium;
- National Standard of Education;
- Qualification and Teacher Competence Standards (legal instruments) used as the basis for the implementation of teacher certification;
- Academic Qualification Requirements that require a teacher to

- Have academic qualification of DIV or Bachelor for secondary TVET or Magister or Doctor for higher education lecturers obtained from accredited higher institutions in education or relevant subjects, and
- Fulfil the requirement of sufficient teaching experience.

Educational Institutions for Teaching Personnel (LPTK) prepare teachers for their work at SMKs. The LPTKs include universities offering vocational and technical teacher education formerly at Institute of Teacher Training and Education (IKIP), as well as at Faculty of Teaching and Educational Sciences (FKIP) under private STKIPs (Colleges of Teaching and Educational Sciences; Vocational Education Development Centres; *Pusat Pengembangan dan Pemberdayaan Pendidikan Tenaga Kependidikan*, P4TK/ Center for Development and Empowerment of Teachers and Education Personnel).

While efforts towards teachers' professional development are ongoing, some of the developments made thus far for improving teacher quality and professionalism include:

- Establishment of the Centre for Teacher Activity or Pusat Kegiatan Guru (PKG);
- Formation of Teachers' Working Group or Kelompok Kerja Guru (KKG); and
- Formation of Forums for Teacher-Subject Consultation (*Musyawarah Guru Mata Pelajaran*, MGMP) that allow teachers to share their experiences in solving the problems they face in teaching activities.

5. Qualification system and quality assurance

National Qualifications Framework (NQF)

The National Qualifications Framework of Indonesia is called the Indonesian National Qualifications Framework (INQF; *Kerangka Kualifikasi Nasional Indonesia*, KKNi).

KKNi is a stand-alone system and a bridge between the education and training sectors to establish qualified and certified human resources through formal, non-formal, informal, job training or work experience schemes. KKNi provides new vocational qualifications known as Work Competency Certificate (*Sertifikat Kompetensi Kerja*, SKK), which provides new pathways for Indonesian citizens to access formal education and skill training. SKK in KKNi is directed at creating a demand-driven system with relevant training outcomes. It ensures that competencies are systematically identified and packaged into vocational qualifications that in turn align with the needs of Indonesian enterprises and national economy as a whole. KKNi increases the relevance and flexibility of vocational education and training programmes by better aligning them to the needs of the labour market. INQF is implemented as a tool for TVET quality assurance.

National Qualification Framework of Indonesia (INQF / KKNi)		
Level	Formal Education (General/Vocational)	Non-formal and informal training
2	Middle school / vocational middle school	Operator
3	- / DI	
4	- / D II	
5	- / D III	Technician

6	S1 / D IV	
7	- / Profession; Recognition of prior learning	Recognition of current competencies
8	S2 / S2 (T)	Professional
9	S3 / S3 T, Specialist	

At the ASEAN level, the KKNi provides a basis, through improved labour mobility, for better regional integration of economies consistent with Indonesia's commitments to the ASEAN Economic Blueprint. It is expected to provide a mechanism for improving the ability of workers from Indonesia to find jobs in other ASEAN countries which match their training and experience, and to improve the capacity of ASEAN employers to appreciate and benchmark the skills and abilities of Indonesian workers. KKNi also performs the function as a reference tool for both the higher education and the vocational training systems. It provides a measure of the approximate equivalence between various vocational and higher education qualifications for a fair determination of credit transfer between programmes or courses for those individuals following a chosen career path that requires them to bridge both sectors. Upon completion of senior secondary level, a certificate is awarded that entitles the trainees to continue with tertiary education. Upon its completion, the trainees acquire a higher education institution certificate, e.g. a diploma level qualification when graduating from an academy or polytechnic, a sarjana/baccalaureate (level S1) qualification that is awarded after 4-years of full-time studies at a recognized university, institute or advanced school, or a Magister (S2) which is awarded after a period of two year of further studies at the university level. Students in public non-formal vocational training institutions (BLKs) receive certificates upon completion. They may also take a company trainee exam and/or a professional association exam to receive a certificate from the company or association in question.

Quality assurance

Quality assurance of education services including TVET is crucial for providing more confidence to consumers of the educational output produced by TVET providers. In Indonesia, quality assurance of TVET is under the responsibility of the Ministry of Education and Culture and Ministry of Manpower and Transmigration, which is implemented through various accreditation bodies and authorities. These include:

- National Accreditation Board for school (BAN-SM) for Vocational High schools (SMK), together with Competency Standardization (STANCOM) institution;
- Accreditation of training providers (LA-LPK) and Non-formal – National Accreditation Board for Non-formal Education (*Badan Akreditasi Nasional – Pendidikan*, BAN-PNF) institutions for training centers; and
- National Accreditation Board for Higher Education (BAN-PT) with all certification of profession competency under National Professional Certification Board (BNSP).

The function of these institutions is to provide competency tests and certifications of recognition for certain trades and professions, however, coaching, supervision and licensing of professional certification agencies is conducted by BNSP.

Accreditation of vocational schools and quality assurance is undertaken by LA-LPK (non-formal accreditation authority) - an independent institution overseeing that training institutions

comply with the eight quality standards established by the MoMT. Also, accreditation is awarded to the LPK conducting education/training for graduates to get a Work Competency Certificate according to the level of qualification (KKNI) or SKKNI cluster. The LPK conducting education/training based on other standards (such as international standards, special standards and local standards) may also be accredited.

Standard	Purpose/Objective
1: Work Competence	Training is based upon national qualifications or units of competency clusters endorsed according to national guidelines set by MoM or upon other standards/ training outcomes that are clearly identified
2: Curriculum	The provider uses structured written curriculum based upon outcomes or SKKNI
3: Training Materials	The provider uses training materials and training processes appropriate for its scope of services
4: Management System	The provider has a management system that supports its current and intended scope of operations the provider
5: Staff Qualifications	The provider has staff appropriately qualified for their jobs
6: Facilities and Equipment	The provider has access to equipment and facilities to support its scope of operations
7: Financial Administration	The provider is financially viable
8: Assessment	The provider conducts high quality skills assessment that enables candidates to demonstrate their competency to a LSP or achieving of training outcomes to

Curriculum

During the development of National TVET curriculum, the Government through the MoEC always invites industry representatives to contribute to design and develop the curriculum after which it is passed to the provincial levels for implementation.

6. Current reforms and policy discussion

Current trends and practices with regard to TVET in Indonesia can be outlined as follows:

Revitalizing TVET (SMK)

The current Indonesian workforce need to possess the skills required to compete in the 21st century. In this view the Government of Indonesia has embarked upon revitalizing the TVET system to increase the employability and competitiveness of Indonesian labour force at national, regional and the global scene. The strategy was established to produce quality human resources with relevant skills, competences and excellent character to increase their global competitiveness. The workforce should be able to respond to rapid technological advancements, changes in business processes, as well as to changes in work structures in workplaces, which demand soft and transferrable skills. These skills include:

- Skills related to thinking (e.g. creativity and innovation, critical thinking, problem solving, decision making, learning to learn/metacognitive);
- Work-related skills (e.g. communication and cooperation);

- Skills that can be used as instruments of action (collection of information/data, use of information technology and media devices); and
- Skills related to the ability to function well within personal and community life (integrity, discipline, responsibility, adaptability, leadership, nationalism and other insights).
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Shifting the vocational education paradigm

Lately, there has been a shift from a supply-based to a demand-based TVET system that is responsive to the needs of the labour market. The government is encouraging TVET providers to equip students with skills tailored to the 21st century, to enable them to become more employable after graduation.

Increasing more practical skills than theoretical knowledge

Due to skills gap and mismatches in competences provided by TVET institutions and those required by industries, the Indonesian government (through the MoEC) is prioritizing skills over knowledge as a new education goal. This entails the application of demand driven curriculum, involvement of industrial partners in conducting of TVET activities such as curriculum synchronisation, certification and assessment of students.

Prioritising skills development in economically vibrant occupations

The government has identified key sectors and occupations to boost the economy, reduce imports and increase exports. These include real estate, e-commerce, food security and cash crops (for boosting exports), and engineering and manufacturing (lean manufacturing, ship building, infrastructure, textiles, fashion, and industry). In addition, other strategic sectors include food and beverages, steel, mining, transportation services, ICT, cyber security, accounts and finance, marketing and sales, procurement and supply chain, and health and life sciences. Also, the digital sector is witnessing rapid growth. All of these fields call for the development of new skills through programmes offered at TVET (SMK) in the country. Another point of consideration is that employers prefer to hire qualified candidates with managerial, marketing, and soft skills and expertise.

Shifting the enrolment share of general education to vocational education

Few years back, the share of enrolment of students in general education had been larger than that of vocational education (70:30). However, due to the demand for more human resources with relevant skills and competences, the government is shifting the share of enrolment in general high school (SMA) to vocational high school (SMK) from 70:30 to 30:70 respectively, and hopes to achieve the target by 2020. In support of this, more vocational high schools (SMK) are being established. According to BPS, in 2015, Indonesia had more SMKs (13,337) than SMAs (12,513).

Other key efforts include:

- Strengthening digital literacy by utilizing the potential of digital and e-learning technologies in learning and teaching processes to enable TVET providers and learners to cope with the globalisation trend. The Ministry of Education and Culture (MoEC) is working towards integration of ICT infrastructure in all TVET institutions to ease and foster the teaching and learning process;

- Improving the TVET quality through Public-Private-Partnership by fostering cooperation between TVET institutions and industrial partners. As a priority strategy of the government, the MoEC is encouraging each vocational high school to collaborate with industries, and increasing quality assurance of TVET service providers;
- Improving teachers' quality through training and certification to get competent subject teachers by 2020 as stipulated in the revitalization strategy of Indonesia TVET system;
- Promoting entrepreneurial skills to prepare potential entrepreneurs and innovators through local-based creative industries. This is intended to create more jobs in the labour market, as well as increase the economic base through increased production that will spur up more economic growth and development.

The ongoing TVET reforms and projects in Indonesia are in line with the current trends and practices.

Challenges

According to MoEC and MoRTHE, Indonesia is facing the following challenges to the TVET system:

Quality of TVET education needs to be improved	The quality of TVET graduates is still low and does not meet the industry demands and competences. This problem is exacerbated by skills mismatch. As a result, the unemployment rate of SMK graduates continues to remain high in comparison with other education levels. A well-established quality apprenticeship model with industries (which is currently missing), can help address this problem. The establishment of a dual VET System, like in Germany, could be a good solution in bridging the skill mismatch between vocational schools and industry.
Quality of TVET teachers needs to be improved	The quality of TVET teachers has been one of the major challenges affecting the quality of TVET graduates. Many TVET teachers do not meet required qualifications as indicated in the Teacher Law of 2005 (Chapter 2) and the following one (No. 74 of 2008) addressing teachers and lecturers. Several lack industry experience and certification that makes them incompetent in their fields of teaching.
Infrastructure and equipment are not up to newest standards	Infrastructural facilities including training equipment are inadequate, obsolete, and often not in line with the new and changing requirements of TVET institutions. Due to the high costs involved in buying such equipment, SMKs are unable to simulate real work environments in classrooms, which in turn affects teaching quality and outcomes. To overcome this, SMKs forge institutional partnerships with industries to improvise the advanced equipment; however, sometimes such cooperation is not successful due to administrative and financial constraints.

Increase recognition of standards and activities from TVET

Matching standards and certification towards mutual recognition of TVET graduates, as well as industry certifications and occupational standards are key to improving the quality of TVET institutions. Still, many industries have not fully accepted this because of the perceived high costs associated with certification and the anticipated disruption in business operations due to integration of school activities. With the central and local governments allocating only a small budget for subsidies for quality assurance, incentives for motivating industries to engage in quality assurance for TVET are low.

Enhance cooperation between responsible institutions for TVET provision

Based on Presidential Instruction No. 9/2016 (Chapter 2), a system of coordination and shared-responsibilities between Ministries in Indonesia still needs to be well-established (i.e. Ministry of Manpower and Transmigration, Ministry of Economy, Ministry of Education and Culture, Ministry of Trade, Ministry of Research, Technology and Higher Education, etc). Increasing cooperation would streamline the efforts of making TVET in Indonesia attractive and competitive.

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