Factbook Education System: Micronesia

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CHAIR OF EDUCATION SYSTEMS

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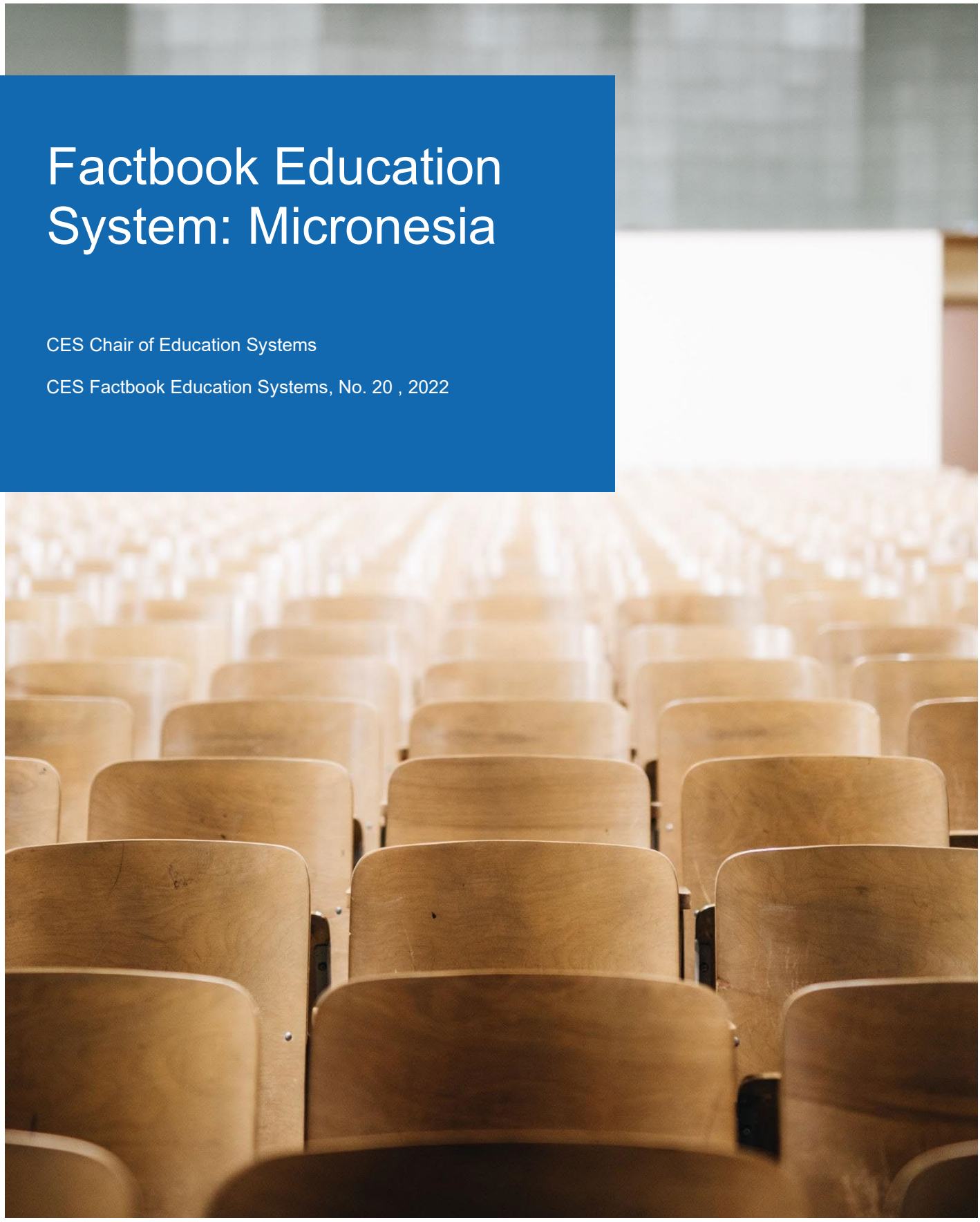

DMTEC

Editing and Acknowledgement

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Contents

List of Abbreviations

AA	Associate of Arts
AAS	Associate of Applied Science
ACA	Advanced Certificate of Achievement
ACCJC	Commission for Community and Junior Colleges
ACE	Achieving College Excellence
ACE	American Council on Education
AS	Associate of Science
BA	Bachelor of Arts
BOR	Board of Regents
BSSP	Basic Social Services Project
CA	Certificate of Achievement
CAC	Curriculum and Assessment Committee
COFA	Compact of Free Association
COMET	College of Micronesia Entrance Test
COM-FSM	College of Micronesia
CTE	Career and Technical Education
CTEC	Career and Technical Education Centre
DOEA	Department of Economic Affairs
EC	Executive Committee
ECE	Early Childhood Education
ESSDP	Education Sector Strategic Development Plan
FACSSO	FSM Association of Chief State School Officers
FMI	Fisheries and Maritime Institute
FSM	States of Micronesia
GCI	Global Competitiveness Index
GDP	Gross Domestic Product

GED	General Education Development
GER	Gross Enrolment Rate
GII	Global Innovation Index
GPA	Cumulative Grade Point Average
GPI	Gender Parity Index
IQBE	Improving the Quality of Basic Education
ISCED	International Standard Classification of Education
IVEC	International Vocational Education Centre
JEMCO	US-FSM Joint Economic Management Committee
KOF	Swiss Economic Institute
MTEC	Micronesia Teacher Education Conference
NDOE	National Department of Education
NER	Net Enrolment Rate
NQF	National Qualifications Framework
NST	National Standardized Test
NSTT	National Standardized Test for Teachers
OECD	Organisation for Economic Co-operation and Development
PATS	The Pohnpei Agriculture & Trades School
PET	Professional Education and Training
PTA	Parent-Teacher-Association
PVDST	National Policy on Vocational Development and Skill Trainings
SDOE	State Department of Education
TYC	Third Year Certificate
UNESCO	United Nations Educational, Scientific and Cultural Organization
UOG	University of Guam
VET	Vocational Education and Training
VPET	Vocational Professional Education and Training

WEF	World Economic Forum
WGI	World Governance Indicators
YLILI	Youth Labour Index for Low Income Countries

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Foreword

The increasing competitiveness of the world economy as well as the high youth unemployment rates after the worldwide economic crises in 2008/9 have put pressure on countries to upgrade the skills of their workforces. Consequently, vocational education and training (VET) has received growing attention in recent years, especially amongst policymakers. For example, the European Commission defined common objectives and an action plan for the development of VET systems in European countries in the Bruges Communiqué on Enhanced European Cooperation in Vocational Education and Training for 2011-2020 (European Commission, 2010). In addition, a growing number of U.S. states and other industrialized, transition, and developing countries (for example Hong Kong, Singapore, Chile, Costa Rica, Benin and Nepal) are interested in either implementing VET systems or making their VET system more labour-market oriented.

The appealing outcome of the VET system is that it improves the transition of young people into the labour market by simultaneously providing work experience, remuneration and formal education degrees at the secondary education level. If the VET system is optimally designed, VET providers are in constant dialogue with the demand-side of the labour market, i.e. the companies. This close relationship guarantees that the learned skills are in demand on the labour market. Besides practical skills, VET systems also foster soft-skills such as emotional intelligence, reliability, accuracy, precision, and responsibility, which are important attributes for success in the labour market. Depending on the design and permeability of the education system, VET may also provide access to tertiary level education (according to the ISCED classification): either general education at the tertiary A level or professional education and training (PET) at the tertiary B level. PET provides occupation-specific qualifications that prepare students for highly technical and managerial positions. VET and PET systems are often referred to together as “vocational and professional education training (VPET)” systems.

Few countries have elaborate and efficient VPET systems. Among these is the Swiss VPET system, which is an example of an education system that successfully matches market supply and demand. The Swiss VPET system efficiently introduces adolescents to the labour market, as shown by Switzerland’s 2007-2017 average youth unemployment rate of 8.1 percent compared to 14.8 percent for the OECD average (OECD, 2017).

Though not many countries have VPET systems that are comparable to Switzerland’s in terms of quality, efficiency and permeability, many have education pathways that involve some kind of practical or school-based vocational education. The purpose of the CES Education System Factbook Series[1] is to provide information about the education systems of countries across the world, with a special focus on vocational and professional education and training.

In the CES Factbook Education Systems: Micronesia, we describe Micronesia’s vocational system and discuss the characteristics that are crucial to the functioning of the system. Essential components comprise the regulatory framework and the governance of the VPET system, the involved actors, and their competencies and duties. The Factbook also provides information regarding the financing of the system and describes the process of curriculum development and the involved actors.

[1] From 2013 to 2019, the Factbooks were produced within the framework of the Education Systems research division at the KOF Swiss Economic Institute. From 2020 they will be produced by the Chair of Education Systems (CES) group.

The Factbook is structured as follows: First, we provide an overview of Micronesia's economy, labour market, and political system. The second part is dedicated to the description of the formal education system. The third section explains Micronesia's vocational education system. The last section offers a perspective on Micronesia's recent education reforms and challenges to be faced in the future.

The Education System Factbooks have to be regarded as work in progress. The authors do not claim completeness of the information which has been collected carefully and in all conscience. Any suggestions for improvement are highly welcome!

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1. Micronesia's Economy and Political System

Table 1. Key Statistics and Information on Micronesia

Category	Outcome
Population	104,700
Area	708.4 km^2
Location	Western Pacific Ocean
Capital City	Palikir, on Pohnpei
Government	Federal non-party republic in free association with the United States with one legislative house
Official Language	English
National Currency	US$

Source: own table based on Britannica Encyclopædia (2022)

One of the main purposes of an education system is to provide the future workforce with the skills needed in the labour market. The particularities of a country's economy and labour market are important factors determining the current and future demand for skills. Therefore, these are briefly described in the first chapter of this Factbook. In addition, this chapter provides an overview of Micronesia's political system with an emphasis on the description of education politics. **Table 1** reports key statistics and information about Micronesia, which are further discussed in this chapter.

1.1 Micronesia's Economy

The Federated States of Micronesia (hereinafter FSM) are a nation that spreads over 600 islands and is divided in 4 administrative units (States) situated in the Western Pacific Ocean, more specifically north of Papua-New Guinea. Before its official constitution, in 1979, the FSM were initially under Spanish rule, until 1899, when the Germans bought the Caroline Islands, an ensemble of Pacific islands that include the FSM (Hezel F. , A Brief Economic History of Micronesia, 1982). The German rule ended in 1914 with the seizure of the region by the Japanese, whereas the former were able to double the output of copra (a product that is obtained from the dried meat of the coconut, and used for producing coconut oil) and the latter developed the sugar production (Hezel F. , A Brief Economic History of Micronesia, 1982). The FSM, with 74.5 percent of its total surface being covered by forests, have been intensively supported by the United States government, especially through the COFA (Compact of Free Association), which was established at the end of the Trusteeship period, that ran from 1947 to 1986, and renewed in 2004 (Encyclopaedia Britannica, 2019).

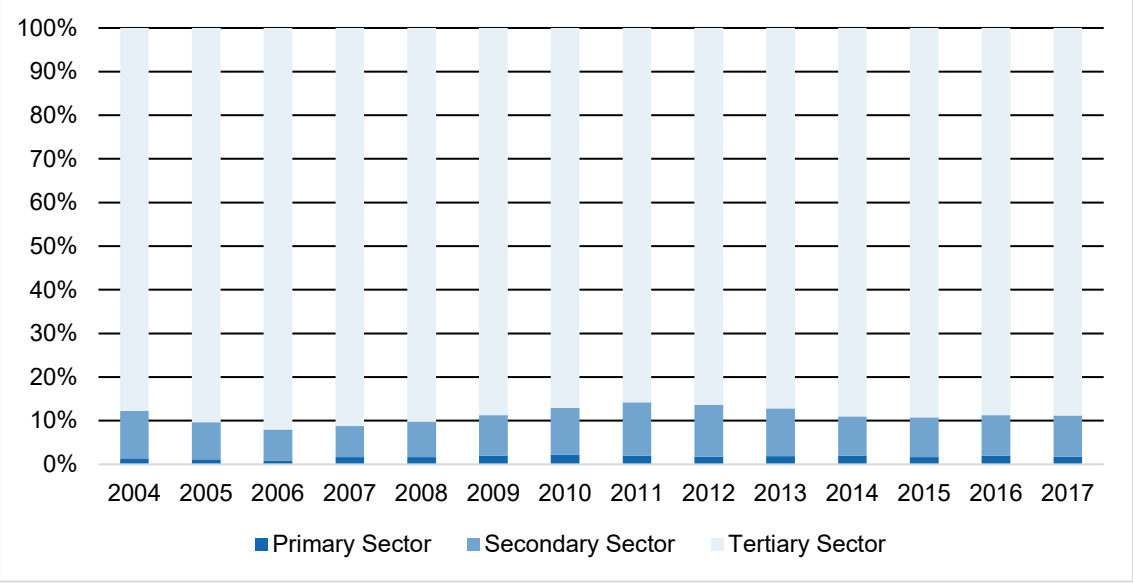
Table 2. Value added and employment by sector, 2015

Sector	FSM: Value added (%)	EU-28: Value added[2] (%)	FSM: Employment (%)	EU-28: Employment (%)
Primary sector	26	1.5	1.69	4.8
Agriculture, hunting and forestry, fishing	26	1.5	1.69	4.8
Secondary sector	6.1	24.4	9.03	21.8
Manufacturing, mining and quarrying and other industrial activities	3.4	19.0	2.5	15.5
of which: Manufacturing	0.4	15.6	0.9	13.9
Construction	2.7	5.4	5.63	6.3
Tertiary sector	60.4	74.0	89.28	73.4
Wholesale and retail trade, repairs; hotels and restaurants; transport; information and communication	19.5	24.0	33.74	27.6
Financial intermediation; real estate, renting & business activities	14.7	27.3	4.77	16.1
Public administration, defense, education, health, and other service activities	26.2	22.7	50.76	29.7

Source: own table based on Eurostat (2015a; 2015b)

Table 2 shows value added as well as employment by sector for the FSM in 2015. In terms of value added, the tertiary sector was by far the largest, followed by the primary sector and finally by the secondary sector. Concerning the primary sector, only 1.69 percent of the FSM employment produces 26 percent of the value added. Furthermore, data for 2017 indicates that 246 people were working in the fishing industry and 29 people were part of the agriculture, hunting and forestry industry (FSM Statistics, 2019b). Comparing this data with the one made available by the World Bank for Vanuatu, we see that the agriculture sector accounts for 61.88 percent of the total employment in that country, while services and industry account for 31.34 percent and 6.77 percent respectively (World Bank, 2019b).

Figure 1. Employment by sector (as % of total employment), 2004-2017



Source: own figure based on FSM Statistics (2019a)

[2] Due to rounding differences, the sum of all sectors falls below 100 percent.

Figure 1 above depicts the subdivision of employment by sector between the years 2004 and 2017. We can clearly say that the FSM labour market has not evolved a lot in the past 15 years. Indeed, the percentages of workers in each of the sectors has remained stable, apart from the increase in secondary sector workers between 2009 and 2011, and its subsequent stabilization and decrease between 2013 and 2017.

FSM's GDP per capita was at US$3,363[3] in 2017, while in 1990 it was at US$2,721. In comparison, neighbouring countries of the FSM had similar numbers in 2017, e.g. Tonga with US$3,944, Vanuatu with US$3'123 or Samoa with US$4'360 (World Bank, 2019b). Thus, the far higher OECD average of US$38,809 in 2016 cannot be used as a valid means of comparison (OECD, 2016). On the matter of GDP per capita growth, between 1990 and 2017 there were many variations in the FSM's annual growth rate. Indeed, while in 1991 there was a growth rate of 4.74 percent and in 1995 the GDP per capita increased by 5.59 percent, in 1997 it decreased by 6.20 percent (World Bank, 2019b). Moreover, between 2012 and 2014 GDP per capita itself decreased, before reaching 2.6 percent growth in 2017 (World Bank, 2019b). In addition, Vanuatu showed a similar variation of the GDP per capita growth with -7.39 percent in 2002 and 2.29 percent growth in 2017 (World Bank, 2019b).

FSM was listed neither in the Global Competitiveness Index (GCI) 2019 nor in the Global Innovation Index (GII) 2020 (WEF, 2019; Dutta, Lanvin, & Wunsch-Vincent, 2020).

1.2 The Labour Market

In the first part of this section, we describe the general situation of FSM's labour market. In the second part, we focus on the youth labour market in particular.

1.2.1 Overview of the FSM Labour Market

The FSM's labour market is highly dependent on government spending (Hezel F., 2002). Indeed, it appears growth was slow in 2011 and 2012 due to the lack of public projects (Country Watch, 2018, p. 69). Moreover, the prospect for stronger growth in the following years was poor due to the absence of public infrastructure projects (Country Watch, 2018, p. 70).

The constitution of the FSM allows government employees to form associations to present their views. Nevertheless, according to the U.S. Department of State's Country Report on Human Rights for the FSM, there are no unions since a great portion of employment is in small family businesses or in the farming and fishing sector. On the matter of forced labour, the FSMs have strong regulations in place. However, the resources to fight such behaviour seem to be limited. Furthermore, the FSM did not establish any law that foresees a minimum age for working, which makes it more difficult to prevent child labour (U.S. Department of State, 2018, p. 11).

The FSM law foresees an 8-hour day and a 5-day working week, as well as compensation for overtime (U.S. Department of State, 2018). The government sets minimum wages, which the tax administration controls. According to the Doing Business index, the minimum wage was at US$352.6/month for a wholesale employee (World Bank, 2019). Hence, the government seems capable of enforcing these standards and providing sufficient resources (World Bank, 2019, p. 12).

[3] In Constant 2011 US$.

Table 3. Labour force participation rate, unemployment rate by age 2015

	Labour force participation rate		Unemployment rate	
Age Group	FSM	OECD average	FSM	OECD average
Total (15-64 years)	84.0	71.3	8.9	7.0
Youth (15-24 years)	40.7	47.1	18.9	14.0
Adults (25-64 years)	43.3	76.9	n/a	6.0

Source: own table based on OECD (2017), World Bank (2019b), and FSM Statistics (2019a)

With a labour force participation rate of 84 percent, the FSMs are well situated, especially considering the fact that 62.07 percent of the population is aged 15-64. An additional relevant indicator for the FSM labour market and overall economy is the amount of net migration, which in 2017 was at -6'000, meaning that more people left than came to the FSM (World Bank, 2019b). This is among other factors possible due to the COFA signed at the end of the Trust Administration period in 1982 with the U.S. (see Chapter 1.1). This COFA, subsequently renegotiated in 2003, enables among other things, FSM citizens to travel, work and study without further requirements in the U.S. (Encyclopaedia Britannica, 2019).

Table 4. Labour force participation rate, unemployment rate by educational attainment 2013 (persons aged 25-64)

	Labour force participation		Unemployment rate	
Education Level	FSM	OECD average	FSM	OECD average
Less than upper secondary education	56.0	63.6	10.2	12.8
Upper secondary level education	66.8	79.9	9.6	7.7
Tertiary education	82.0	87.7	5.9	5.1

Source: own table based on OECD (2015), World Bank (2019b), FSM Statistics (2019a), and FSM Statistics (2019b)

Table 4 shows the unemployment and labour force participation rates, split by education level, for the FSM and the OECD average. The FSM have a lower rate of labour force participation than OECD countries in average for individuals across all education levels. In addition, the rate for individuals with upper secondary education is considerably lower than the OECD average. Unemployment however is lower in the FSM for individuals with less than upper secondary education (2.5 percentage points difference). As is to be expected, labour force participation increases, and unemployment decreases as one moves up the education levels.

1.2.2 The Youth Labour Index for Low Income Countries

Building on KOF Youth Labour Market Index (Renold, Bolli, Egg, & Pusterla, 2014), which primarily relies on high-income country data, Kudrzycki et al. (2020) proposed an **index for low income countries**. This index, which is the first to combine indicators specifically tailored to the realities of low-income countries, provides an assessment of individual countries' progress in addressing the needs of young workers. The YLILI helps to make a complex and multidimensional phenomenon more tractable by generating country-specific rankings that allow for comparisons across countries.

To construct the index, **12 youth-specific labour market indicators** were selected from three broad dimensions that best reflect the situation of the youth in the labour market: transition from education to the labour market, working conditions in the labour market, and educational background. The indicators were obtained from three reputable compilers of international data: the ILO, UNESCO and the Demographic and Health Surveys. The index score is calculated as the arithmetic mean of the three dimensions and is scaled to vary from 0 (dysfunctional youth labour market) to 100 (functioning youth labour market).

Dimensions and indicators of the YLILI

Transition
- Share of youth not in education, employment, or training (NEET rate)
- Relative unemployment ratio
- Youth skills mismatch rate
Working conditions
- Youth working poverty rate
- Youth time-related underemployment rate
- Share of youth in informal employment
- Youth Vulnerable employment rate
- Share of youth in elementary occupations
- Share of youth in agriculture, fishery, or forestry
Education
- Share of youth with no secondary education
- Youth illiteracy rate
- Harmonized test scores
Source: (Kudrzycki, Günther, & Lefoll, 2020)

The transition dimension reflects the **quantity of employment** for youth and encompasses (1) the share of youth not in employment, education or training (NEET), which captures the share of inactive youth, (2) the relative unemployment ratio, which measure the degree to which unemployment affects young people more than adults and (3) the skills mismatch rate, which show whether unemployment disproportionately affects those with high or low education.

The working condition dimension captures the **quality of employment** and contains six indicators. The youth working poverty rate measures the proportion of working youth in poverty. The youth underemployment rate measures the share of employed youths who are willing to increase their workload. The informal employment rate captures the share of young people employed without contracts and/or social security. The vulnerable employment rate measures the share of own account workers and contributing family workers. The share of workers in elementary occupations measures the proportion of young workers in low-skilled basic tasks, which may require great physical effort and can carry a high risk of injury. Finally, the share of workers in agriculture complements the previous indicator, as jobs in agriculture are generally low-paid and labour-intensive.

Finally, the education dimension captures the **skill level of youth** and comprises (1) the proportion of youth with no secondary education, (2) the proportion of illiterate youth, and (3) a measure of schooling quality in the form of harmonized test scores.

1.2.3 The YLILI for FSM

For the YLILI of FSM, there is no complete data available. Only six out of twelve indicators are available. FSM obtained a score of 76.31 for NEET score and 71.76 for working conditions. These scores correspond to the 22nd rank for NEET score (of 58) and the 11th rank for working conditions (of 55) (Kudrzycki et al., 2020, p. 17–18). The results suggest that FSM's working conditions are relatively good. For a comparison, Papua New Guinea scored 44th in this dimension. An assessment of the transition rate is not possible, as only the NEET score is available in this dimension. Overall, the results are not perfectly consistent since the year of data collection varies. Data for FSM was available from 2014 to 2020 (Kudrzycki et al., 2020, p. 37–38). There is no information about education due to missing data.

1.3 FSM's Political System

Understanding the basics of a country's political system and getting to know the political goals with respect to its education system are crucial points for the understanding of the education system in a broader sense. Therefore, in Section 1.3.1 we start by presenting FSM's political system in general. Then, in Section 1.3.2, we focus on the politics and goals of the education system.

1.3.1 Overview of the FSM's Political System

The FSM is a constitutional republic, and, as its name indicates, a federated country that emerged with the union, on May 10th, 1979, of four states: Chuuk, Pohnpei, Kosrae and Yap. In addition to the FSM constitution, each state has its own. According to the Country Watch report on the FSM published in 2018 democracy has functioned well in the four Micronesian states. In addition, there are no political parties in the FSM, and thus all of the 14 seats at the Congress, which elects the President and the Vice-President, are occupied by independents. Of the 14 seats, ten have a tenure of two years while the other four have a four-year tenure. The President and Vice-President have a four years' office tenure, and the former nominates justices at the Supreme Court, which has three seats, for lifetime. However, Congress has to confirm the President's choice, in order to ensure an effective system of checks and balances. In addition, each of the States has its own executive, legislative and judiciary branches whereas the people elect governors as well as legislators (Country Watch, 2018).

The Worldwide Governance Indicators (WGI) are a set of six that evaluate aspects of governance within a country. These indicators are voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. In 2020, the FSM performed well when considering the voice and accountability, the political stability and absence of violence, and the control of corruption indicator ranking in the 85th percentile, 88th percentile, and 80th percentile respectively. Nevertheless, the remaining indicators, especially government effectiveness (49th percentile) and regulatory quality (14th percentile) indicate that there is still work to do.

Table 5. Worldwide Governance Indicators (WGI) for Micronesia, 2010 and 2020

	2010		2020	
Worldwide Governance Indicators (WGI)	Estimate	Percentile Rank	Estimate	Percentile Rank
Voice and Accountability	1.1	81.99	1.1	85.51
Political Stability and Absence of Violence/Terrorism	1.2	91.00	1.1	88.21
Government Effectiveness	-0.8	23.44	-0.1	49.52
Regulatory Quality	-0.9	20.57	-1.0	14.90
Rule of Law	-0.1	52.13	0.1	56.25
Control of Corruption	-0.1	54.29	0.9	80.77

Source: own table based on World Bank (2022a)

Further note that the FSM was neither listed in the Democracy Index 2020 nor in the Corruption Perception Index (The Economist, 2020; Transparency International, 2020).

1.3.2 Politics and Goals of the Education System

The FSM are highly dependent on the United States, especially their education system. It is not only closely based on the American education system, but also financed by the U.S. (O'Neill & Spennemann, 2008). The dependency is also increased due to the fact that the FSM school system is accredited by the U.S. educational organizations (O'Neill & Spennemann, 2008, p. 209).

Education in the FSM is a split competency. On the one hand, there is the federal government, acting through the National Department of Education (NDOE), which sets guidelines and standards applicable to the whole nation. On the other hand, the four states' Departments of Education (SDOEs) are responsible for operating the public schools.

One can identify a few major challenges for the provision of basic education in the FSM. Among others, there is the issue related with the extremely remote location of many islands, days away from the capital city by boat, with no air travel possibilities, some of which have only a few hundreds of inhabitants. Thus, there is a high cost associated with the necessity of infrastructure, as small as it may be, on a majority of the inhabited islands (especially for primary education). Further, and probably one of the greatest challenges that the insular federation has to face: the high cost of education overall. While the U.S. spent 4.99 percent of its GDP on education in 2014, the FSM spent a relatively large 12.46 percent of their GDP on education in 2015 (UNESCO, 2019a). Moreover, the part allocated to education out of the total government budget in the FSM reached 22.31 percent in 2015 (UNESCO, 2019a). Besides, the per pupil cost in the FSM varies greatly between the states: data available from 2007 shows that while Chuuk allocated an average of US$565 per pupil, Kosrae, Pohnpei, and Yap spent US$2,051, US$1,120, and US$1,899 per pupil respectively back then (NDOE, 2008a). Thus, high education costs are one of the challenges the FSM need to overcome to achieve the same education quality standards across all states.

The rather heavy dependence of the FSM on the United States is also visible in the Micronesian classrooms as material is often focused on the educational needs of the U.S. whereas material that is more culturally, geographically, and nationally relevant is neglected (O'Neill & Spennemann, 2008, p. 209). Therefore, as Chutaro and Heine (2003, p. 17) show, the use of outdated textbooks in Micronesian schools, the inculcation of ‘‘Western values and beliefs’’, and using English as the language of education and culture have resulted in schools becoming ‘‘foreign to the local people’’ (O'Neill & Spennemann, p. 210).

2. Formal System of Education

2.1 Historical context

The FSM's education systems have been heavily influenced by the nations that have administered the islands over the years. Initial efforts towards establishing a public-school system with up to five years of schooling arose during the Japanese mandate around 1915. After World War 2, the U.S. took over and administered the then called Caroline Islands (nowadays the FSM) as a Trust Territory. A Trust Territory is a term for a geographical region or division that is regulated by the United Nations. A sovereign country is then entrusted or charged with financially supporting and governing the affairs of such a geographical region in exchange for natural resources or strategical benefits. Governance of the Trust Territory of the Pacific Islands (made up of the present sovereign island nations of Palau and the FSM as well as the Marshall Islands) fell into the hands of the U.S. after World War 2 (Thomas & Postlethwaite, 1984). The U.S. set in place a compulsory system for Micronesians aged six to 14 (grades one through nine). Apart from teaching native and English languages, history, arts and crafts, the system also proposed vocational/professional training in areas such as medicine, nursing and teaching. The system would be known as the island-system, as focus was still primarily put on vernacular education (Peacock, 1985).

Primary school (1-6) was based on a core curriculum, which included social studies and aimed to gradually introduce Micronesians to the outside world. Intermediate school (7-9) consisted of two tracks. A vocational training one, for the majority, and a second one, teaching general education, which was available to a minority of gifted students who would eventually go on to secondary school. Secondary school (10-11 and eventually 12) then pooled students from several island states and educated them in advanced topics, closely following a U.S. curriculum. Due to the remoteness of the island states, tertiary education was available to few Micronesians. Some did, however, attend tertiary institutions in the Philippines or Hawaii. This would often require the student to attend a high school at said destination first to strengthen the local language (ibid.).

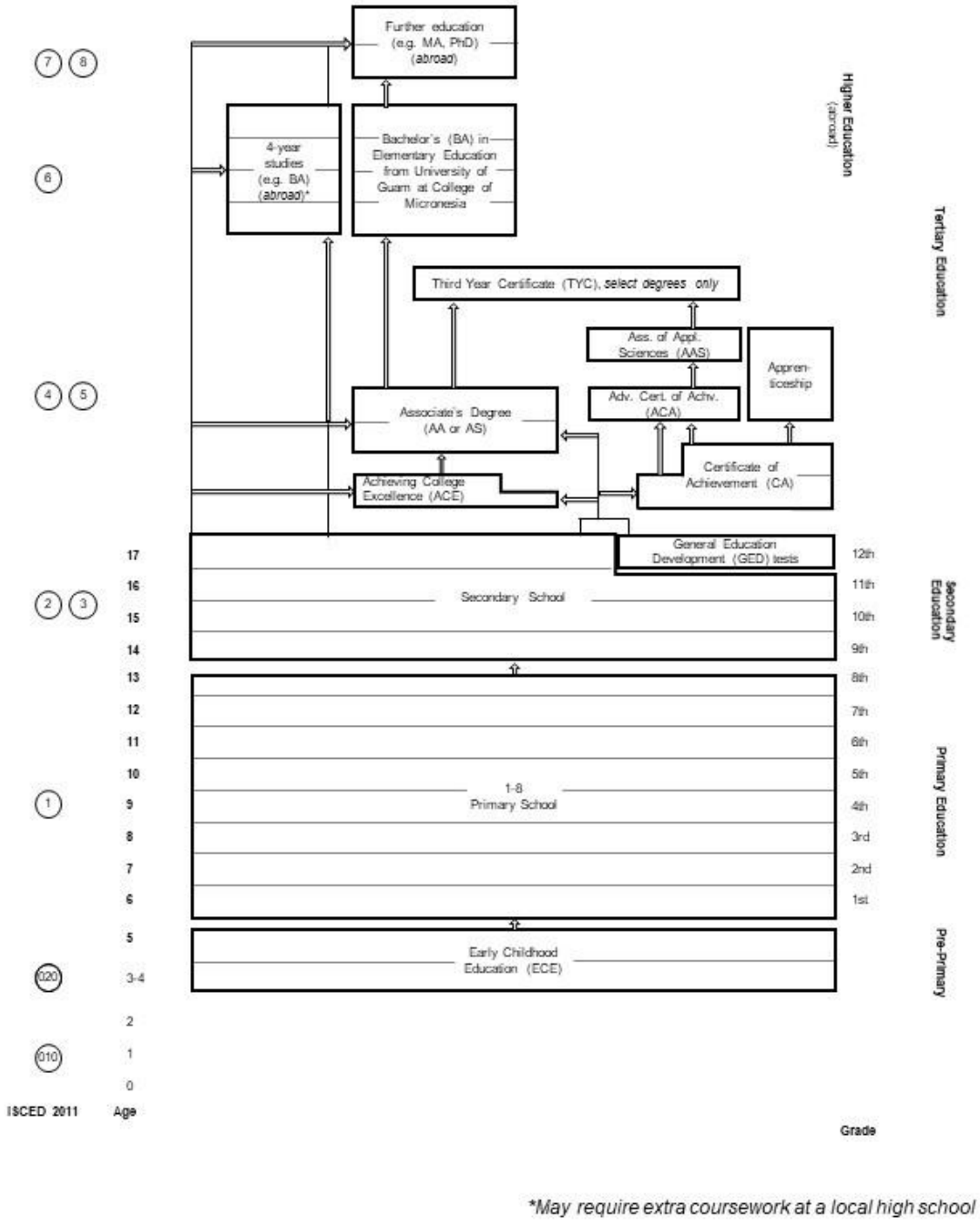
The administration of education however remained lacklustre and disorganized due to limited funding. Islanders were also unsatisfied with the little amount of English taught at schools, as they believed this was the key to well-paying government jobs. The Kennedy administration therefore introduced a shift, which aimed at Micronesians "finally becoming American citizens." They aimed to achieve this shift with help of an influx of monetary aid and teachers trained in the U.S. (ibid.).

As funding increased, so did the emergence of high schools with U.S. teachers. The number of Micronesians attending foreign colleges consequently skyrocketed to 2500 pupils around 1980. For comparison, in 1950/51 18 students went abroad, in 1960/61 132 students and in 1970/71 664 students. The new system therefore initiated an education expansion, which severely neglected vocational training. A Micronesian committee formed from members of the Congress of Micronesia therefore decided to approach the dwindling number of skilled labourers by limiting enrolment for secondary education. Other voices called for scholarships and education to be strictly tied to Micronesian needs. Although these changes led to the cut of several ties with the US system, education in present days still remains largely influenced by the U.S. (ibid.).

2.2 Formal System of Education

Education in the FSM is under the governance of the NDOE. It is responsible for policy making, ensuring funding, teaching certifications, school accreditation and administering assessments of schools. The four states (Chuuk, Pohnpei, Yap and Kosrae), however, each set their own curriculum in a federalist manner. This is largely due to the vast cultural differences of the states, who each have their own languages, traditions and societal needs (UNICEF, 2013; UNICEF, 2017b). The education system of the FSM contains four levels: Pre-primary, primary, secondary and post-secondary education (NDOE, 2022a). **Figure 2** illustrates the Micronesian education system with its various pathways can be found in.

Figure 2: ISCED mapping for the educational system of the FSM



Source: own figure based on NDOE (2020)

Compulsory education in the FSM consists only of the primary level - grades one through eight. Schools in the FSM, however, do not all adhere to these levels and serve varying numbers of grades, which can be attributed to the inter-state differences (NDOE, 2022a). Most schools offer Kindergarten (K) through eighth grade (K-8), K-10 and K-12, with further institutions catering first to eight (1-8) and ninth to twelfth (9-12) grade, while still others serve only Early Childhood Education (ECE). The system therefore still closely resembles structures that were set during the U.S. administration, with the difference of grades nine through twelve (U.S.: *high school*) being optional in the FSM (EMIS Task Force, 2018).

In 2008, there were 228 elementary schools (including primary and early childhood education institutions), 22 secondary schools and two schools categorized as "other". Schools are distributed among the four main island groups (states): Chuuk (156 schools), Yap (63), Pohnpei (34) and Kosrae (10) (NDOE, 2008a). Of these, 164 are government-operated, 19 are operated by faith-based institutions[4] (partly funded by the government), and two are private. Enrolment and graduation of either primary or secondary education across the four states is inconsistent, with Kosrae showing considerably higher levels of both enrolment and graduation at any educational level than the other states. Interestingly, the rate of enrolment and graduation is almost inversely proportional to the number of students by state, with fewer students correlating with higher rates of graduation (EMIS Task Force, 2018).

Enrolment

Table 6 shows the Gross Enrolment Rate (GER)[5] and Net Enrolment Rate (NER)[6] by education level for 2019. The NER quantifies the total number of students in the theoretical age group for a given education level enrolled at that level expressed as a percentage of the total population of that age group. The GER quantifies the number of students enrolled at a given education level—irrespective of their age—as a percentage of the official school-age population corresponding to the same level of education. For example, for the primary education level, the NER indicates how many students of the typical primary school age are actually enrolled in primary school, while the GER sets the actual number of students in primary education—irrespective of their age—in relation to those who are in the official age to attend primary education.[7] For FSM, only limited data for the NER is available.

Attainment

There were no data points available regarding the share of population older than 25 years with primary education, secondary education, and tertiary education for FSM (World Bank, 2022a). However, government figures provided the following results: They show that 32.2 percent of female and 32.1 percent of male Micronesians over the age of 21 report the secondary level of education as their highest education level. It is important to note that these percentages include data on Micronesians who would have gone to school during a time where education was not valued as much as it is today (NDOE, 2014a). This is demonstrated by comparing the educational attainment of the FSM population 25 years and older for the years 1980, 1994 and 2000 (cf. **Table 7**). It is clearly visible that the share of Micronesians who report secondary or tertiary as their highest level of schooling attained has grown over the years. Contrastingly, the share of Micronesians who have not received any schooling has decreased (DECEM, 2004; DOEA, 2002).

[4] Main providers: Roman Catholic Church, Seventh Day Adventist Church, Calvary Baptist Church and Protestant (NDOE, 2022a).

[5] The UNESCO Institute for Statistics (UIS) defines the gross enrolment rate as the "number of students enrolled in a given level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education."

[6] The UIS defines the net enrolment rate as the "Total number of students in the theoretical age group for a given level of education enrolled in that level, expressed as a percentage of the total population in that age group."

[7] A gross enrolment rate of 100 corresponds to a situation where each child in a given country is enrolled in the corresponding education level. A value above 100 could occur due to students who are older than the typical enrolment age for primary education (e.g. have to repeat grade, adult learners). A value below 100 implies that not everyone who is in the typical age for primary education is actually enrolled.

Table 6. Net enrolment rate (NER) and gross enrolment rate (GER) 2019

Education level	ISCED 2011	Net Enrolment Rate	Gross Enrolment Rate
Pre-primary education	020	n.a.	28.9
Primary education	1	89.7	96.8
Secondary education	2–3	n.a.	n.a.
Lower secondary education	2	n.a.	83.3
Upper secondary education	3	n.a.	n.a.
Percentage enrolled in vocational secondary education	2–3	n.a.	n.a.
Compulsory education age group	1–3	n.a.	n.a.
Post-secondary non-tertiary education	4	n.a.	n.a.
Tertiary education (2000)	5–8	n.a.	14.1
Short-cycle tertiary education	5	n.a.	n.a.
Bachelor or equivalent level	6	n.a.	n.a.
Master or equivalent level	7	n.a.	n.a.
Doctoral or equivalent level	8	n.a.	n.a.

Source: own table based on World Bank (2019a) and UNESCO (2019b)

Continuity of figures from 2000 to 2014 appears to exist, save two irregularities: First, the share of Micronesians having completed tertiary level education seems to have drastically dropped from 2000 to 2014. The differing cohorts surveyed could explain this phenomenon. Figures from 2014, in contrast to those from 2000, also include data for Micronesians aged 21-24. Having the cut-off at 25 instead of 21 naturally produces larger figures for tertiary attainment, as those aged in-between might still be at – or intend to attend – a tertiary institution.[8] Second, the share of "no schooling completed" seems to have grown from 2000 to 2014. Furthermore, the bulk of migrants is male, whereas the reported share of female Micronesians with no former education grew similarly. An explanation is the following: Many Micronesians were reported to leave the FSM in hopes of better job prospects and higher salaries, which would then diminish the share of tertiary completion. The growing share of people who have not completed any schooling is therefore believed to be due to an interaction of uneducated immigration and well-educated emigration between the years of 2000 and 2014 – a phenomenon commonly referred to as "Brain Drain" (IOM, 2016; NDOE, 2014a; DECEM, 2004; DOEA, 2002; IOM, 2016; Hezel, 1990). A further explanation of the growing share of non-educated people is the improved life expectancy. United Nations data for the FSM reports an increase in life expectancy from 63.9 years (both sexes, 1990-1995) to 66.9 years (both sexes, 2010-2015) (United Nations, 2018). The ageing population, who did not receive educational training, is therefore capable of reporting at more consensuses. Additionally, the FSM's population has been growing steadily over the last few years (IOM, 2016).

In 2000, 18.4 percent of the population (aged 25 and over) had attended at least some college classes. 10.1 percent obtained either an AS or AA degree (cf. Chapter 2.6), while 3.6 percent received a Bachelor's degree. One percent meanwhile completed either a Master's or a PhD programme (DOEA, 2002).[9]

[8] This is at least somewhat confirmed by figures in the 2000 FSM Census of Population and Housing. Age-specific share of enrolment for the ages 21, 22, 23 and 24 are available at 14.3, 9.5, 6.7 and 5.8 percent respectively (DOEA, 2002).

[9] Reported numbers are cummulative. E.g. the 1 percent Master's degree or PhD holders also appear in the 10.1 percent that have attended some college.

Table 7. Share of population by educational attainment (both sexes, age 25+), 1980, 1994, 2000

Education level	Share of population (%)		
	1980	**1994**	**2000**
No-schooling	24.8	14.6	12.3
Pre-Primary	0	8.1	1.0
Primary education	49.9	30.3	36
Secondary education	17.3	28.7	32.3
Tertiary education	8.0	18.2	18.4

Sources: own table based on Department of Education (2014a) and DOEA (2002)

Gender Parity

Gender parity in enrolment has largely been achieved for both ECE and primary education. At the secondary level however, the Gender Parity Index (GPI) reveals that girls outnumber boys by up to 10 pp (in 2000, 2010, and 2019) (UNICEF, 2013; FSM Office of Statistics, Budget and Economic Management, 2010). The official JEMCO report however indicates parity of boys and girls at both primary and secondary level for the year 2012 (NDOE, 2012). The FSM Census of Population and Housing for the year 2000, published by the Department of Economic Affairs (DOEA), reports parity at ECE, boys outnumbering girls at primary level (7%) and girls outnumbering boys at secondary level (4%) (DOEA, 2002).

Table 8 displays the indices for gender parity by level of education (World Bank, 2022a). The GPI is determined by dividing the number of enrolled females by the number of enrolled males. A GPI between 0.97 and 1.03 indicates parity between the genders. A GPI below 0.97 indicates inequality in favour of men. A GPI above 1.03 indicates an inequality in favour of women. The numbers indicate parity between the genders. Gender parity in enrolment has largely been achieved for both ECE and primary education. At the secondary level however, the GPI reveals that girls outnumber boys by up to 10 percentage points (in 2000, 2010, and 2019) (UNICEF, 2013; FSM Office of Statistics, Budget and Economic Management, 2010). The official JEMCO report however indicates parity of boys and girls at both primary and secondary level for the year 2012 (NDOE, 2012). The FSM Census of Population and Housing for the year 2000, published by the DOEA meanwhile, reports parity at ECE, boys outnumbering girls at primary level (7%) and girls outnumbering boys at secondary level (4%) (DOEA, 2002).

Table 8. Gender Parity Index (GPI) for FSM and the Pacific Island small states, 2019

Education level	ISCED 201199	GPI FSM	GPI Pacific Island small states[10]
Pre-primary	010	0.99	1.01
Primary education	1	0.96	0.98
Secondary education	2–3	1.08 (2005)	1.06 (2013)
Lower secondary education	2	1.12	1.03
Upper secondary education	3	1.07 (2005)	1.15 (2013)
Post-secondary non-tertiary education	4	n.a.	n.a.
Tertiary education	5–8	n.a.	1.12 (2009)

Source: own table based on World Bank (2022a)

[10] Pacific island small states: Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Palau, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu (World Bank, 2022a)

2.3 Pre-Primary Education

Multiple institutions offer pre-primary education in the form of ECE across all four states of the FSM. Children around the age of three up to five are eligible to attend this voluntary schooling, preceding primary education. ECE, in contrast to primary and secondary education, is not free and tuition fees may apply. Many families therefore chose to educate their children at home (NDOE, 2016a; EMIS Task Force, 2018).

Contributing to this is the low urbanization of the FSM. Poorer families especially often live in remote and rural areas. Transportation[11] to these institutions, which to some are only accessible by boat, is therefore limited and not equitable (UNICEF, 2013).

Due to constrained resources, there used to be no domestic legislation on ECE. As a result, there were no policies governing the curriculum of this education level. The few institutions that offered ECE were thus funded either by the U.S. via federal grants, or by faith-based organisations. In recent years only, has the government decided to gradually bring ECE under the umbrella of the NDOE. Although a considerable share of government expenditure (8.5% in 2014)[12], (World Bank, 2014) is allocated to ECE annually, compliance of all four states with this change of policy, as of 2016, has still been unsatisfactory (NDOE, 2015).

The newly instated framework curriculum for ECE in the FSM aims at helping not only the child, but also the entire family. Attending ECE tends to improve educational outcomes and additionally can provide families, especially poor ones, with access to better nutrition. Core competencies taught at this level are social skills, language and math (UNICEF, 2013).

2.4 Primary Education

Grades one through eight, usually encompassing students aged six to 13 (in some cases 14) belong to primary level Education. Paragraph 104 of the Trust Territory Educational System, set in place by the U.S. administration in 1947, dictates that these are the only compulsory years of schooling for any Micronesian child (NDOE, 2014b; Peacock, 1985). This is in stark contrast to Education Acts of other island nations in the Pacific region (PICs), which all mandate at minimum two additional years of compulsory schooling (UNICEF, 2013).

In 2014/2015, 88 % of children aged six to 13 years were enrolled in primary school. This figure suggests a high NER. However, the implied connection has to be viewed with caution, as the enrolment rate of 88% does not correspond exactly with the compulsory primary school age of six to 14 years old. Thus, the NER may differ from the stated 88% (UNICEF, 2017a).

The JEMCO publishes yearly reports, which reveal rates of graduation from eighth grade as well as transition to secondary education. The latest figure, from 2017 shows that 81 percent of all students enrolled at public primary schools in the FSM graduated successfully. This is in contrast to a 96 percent[13] rate of graduation at private and faith-based institutions for the same school year, which around 6.5 percent[14] (figure from 2011-12) of all Micronesian primary education students attended (NDOE, 2012; NDOE, 2018). Analysis of graduation rates from 2005 to 2017 shows that there are great differences among the four states. Students from Chuuk have been graduating at considerably lower rates than those from either Pohnpei, Yap or Kosrae. There is similar volatility across reported years, with the national average of eight-grade graduation jumping between 70 percent in 2005 and 96 percent in 2009. Likewise, the rate of transition to secondary education seems unsteady. In some years (2006, 2012 and

[11] Federally funded until the year 2018, when it was cut from the budget (UNICEF, 2017b).
[12] Kosrae: 4% to ECE, Chuuk: 0% to ECE (although it is possible that the allocation was included under another category but not reported separately), Pohnpei: 14% to ECE, Yap: 16%
[13] Data availability limited to the states of Chuuk and Kosrae.
[14] Data availability limited to the states of Chuuk, Pohnpei and Kosrae.

2016), all students advance to secondary education (100% transition), while other years such as 2013 report a mere 73 percent transition (NDOE, 2012a - NDOE, 2018).

According to government figures and as of 2014, 29.9 percent of females and 28.7 percent of male Micronesians over the age of 21 did not advance past primary level education. These percentages however exclude the share of Micronesians who did not complete or attend primary education at all (27.8%/26.7%, F/M). Furthermore, these numbers include data on Micronesians who would have gone to school during a time where education was not valued as much as it is today (NDOE, 2014a).

2.5 Secondary Education

Upon completion of primary school, students from selected primary schools in the FSM sit the National Standardized Test (NST) administered by the NDOE.[15] Students wishing to advance to public secondary education will have to take a state administered high school entrance exam (SPC, 2006).[16,17] The same holds true for private secondary schools, where students have to pass an entrance exam as well (Micronesian Seminar, 2001). In 2015, 98 percent of graduates passed their respective public state-exam and continued their studies at the secondary level. Figures from 2017 meanwhile report a transition rate of 90 percent from primary to secondary education. This non-transition share of 10 percent indicates that many Micronesian children either have to repeat a grade (unsuccessful graduation) or do not advance to secondary education altogether (successful graduation) (NDOE, 2016b; NDOE, 2015; NDOE, 2018).

The secondary level of Micronesian education consists of grades nine through twelve and is optional. Students are usually within the age bracket of 13 or 14 to 17 years. A considerable share of students in secondary education is considered to be over-age, which can be attributed to grade-repetition (NDOE, 2015; EMIS Task Force, 2018).

Primary and secondary education in the FSM is free to all students if they attend a government-operated school. Non-governmental institutions will usually charge tuition fees. The curriculum is heavily influenced by U.S. involvement, and includes science, mathematics, language arts, social studies and physical education (Micronesia Education, 2018).

In contrast to the eight grades, the national average graduation rate remained quite steady at around 90 percent, save for the most recent numbers from the 2016-17 JEMCO report. The report reveals that around 76 percent of all Micronesians who attended secondary schools graduated successfully, which is a considerable dip when compared to earlier years. Once again, figures are highly inconsistent across the four states, with Yap (96%) and Pohnpei (93%) reporting higher rates of graduation than both Kosrae (88%) and Chuuk (74%) (NDOE, 2018). In the school year 2011-12, 19.4 percent[18] of all secondary education level Micronesians were enrolled at private or faith-based institutions. These had graduation rates of 90 percent[19], which is lower than the 94 percent graduation rate for public schools in the same year. However, since it is stated that private schools in the FSM usually boast much higher graduation rates than public ones, the data has to be viewed with caution (Micronesian Seminar, 2001; Geerlings, 2009).

[15] Further nation-wide NSTs are administered after 6th and 10th grade (NDOE, 2012).
[16] The NST will test the students' proficiency in math as well as English reading and writing (Micronesian Seminar, 2001).
[17] In earlier years (before 1995), some states had a policy of open admission to high school without standardised testing (Micronesian Seminar, 2001).
[18] Data availability limited to the states of Chuuk and Pohnpei.
[19] Data availability limited to the states of Chuuk and Pohnpei. Kosrae did not report any students enrolled at secondary level for the given period.

Dual enrolment and early admission

Especially gifted students, who have attained a Cumulative Grade Point Average (GPA) of at least 3.50 (out of a possible 4.0) in secondary education may – contingent on the recommendation of the high school and the director of the collegiate program sign up for certain college level classes while the student still attends twelfth grade. This setup is referred to as *Dual Enrolment*. Any credits or certifications achieved while taking these classes will count towards an eventual future college education. Dual Enrolment in itself does neither function as nor guarantee an admission to college, as the student did not sit the College Entrance Exam. In contrast, the *Early Admission* is somewhat of an extended version of Dual Enrolment. Especially gifted students (eligible for Dual Enrolment) may sit the College Entrance Exam before their secondary level graduation. If they pass, they are accepted into college early and may thus take certain collegiate courses ahead of attending tertiary education. (COM-FSM, 2014f).

An estimate for students enrolled in either Dual Enrolment or Early Admission courses is available for the spring of 2019. Out of the entire student body enrolled at a local college (1645 students), only three (0.18%) stated that they were enrolled in such a program. This figure has been as high as 17 (0.6% of the student body) in 2009 and as low as 0 students in 2011 (COM-FSM, 2015b; COM-FSM, 2014g). Over the course of the last 15 years (2004-2019), a yearly average of 0.2 percent out of the entire student body at College of Micronesia (COM-FSM) were enrolled in such an undeclared or undecided fashion (COM-FSM, 2014g; COM-FSM, 2015b).

Several private or church-sponsored secondary level institutions will specifically prepare students for college or university through select coursework and by having English as the classroom language. Often, graduates of these schools will then go on to study abroad at a U.S. college (NDOE, 2022a). These institutions will usually charge tuition and further fees, which the government at times subsidizes, but are still rarely affordable for Micronesian families. In order to uphold their high reputations and performance, these schools will administer their own entrance exams (Micronesian Seminar, 2001; Geerlings, 2009).

Students who did not attend secondary schooling and are over the age of 16 may still qualify for tertiary level schooling if they pass the General Education Development (GED) tests. These are governed and administered by the U.S. institution American Council on Education (ACE) and serve as a certificate of equivalence with regard to secondary education. Test takers must demonstrate sufficient competency in mathematics, writing, reading, science and social studies (NDOE, 2019b; American Council on Education, 2019). The JEMCO report from 2014-15 shows that 0.2 percent of all students enrolled (K-12) attended the GED programme (NDOE, 2016b).

2.6 Tertiary Education

Domestic education beyond the secondary level is limited to the possibility of attending Micronesia's only tertiary level institution, the COM-FSM (NDOE, 2022a). It is an institution comparable to a Community College in the U.S., as it largely offers one or two-year programmes. Originally founded in 1963 as an institution with the purpose of training teachers only, it transformed into the Community College of Micronesia when it offered further academic, vocational and technical courses to all people (DECEM, 2004).

Nowadays, renamed to COM-FSM, the college of Micronesia is split into six campuses. These offer differing courses and programmes, some tailor-made to the needs of the campus's location. There is a campus in every state (Chuuk, Pohnpei, Kosrae and the National campus in Yap) as well as *the Fisheries and Maritime Institute* (FSM-FMI) on Yap Island and a *Career and Technical Education Center* (CTEC) on Pohnpei island, which offers courses discussed in chapter 3 (COM-FSM, 2014e).

Transition into Tertiary Education

The rate of transition into tertiary education is very volatile and again, highly diverse across the four states. In 2012, 52.4 percent of Chukese test takers were *not* admitted to college. This number rose to 71.5 percent in 2013. Another interstate divergence happened in Kosrae, which reported 6.8 percent non-admittance in 2012, but 32.4 percent in 2013 (IOM, 2016).

Transition figures indicate a growing importance and value of attaining a tertiary level education. The difference in quality of secondary schools across states is however striking. High school students from the state of Chuuk have almost consistently been passing admission at around half the rate of the other states. Furthermore, it is visible that yearly admission rates for COM-FSM are highly variable. In 2008, as many as 79 percent of all test-takers were admitted, while just five years later, in 2013, barely half of all test-takers passed the exam (IOM, 2016).

The number of the entire student body over the year provides evidence that is contrary to the notion of growing importance of a tertiary education. While the rate of transition from secondary to tertiary education seems to have risen over the last years, the absolute number of students enrolled per semester has been dwindling. According to official enrolment trends from the COM-FSM website, the number of students enrolled at this institution has almost halved between 2011 and 2019 (COM-FSM, 2014g; COM-FSM, 2015b). According to a report on migration in and out of the FSM (2016), the declining number of tertiary enrolments is again, attributed to the many students leaving the FSM in search for a higher quality education abroad. The report does however remark that the Micronesian quality of schooling is low, necessitating the emigrating students to take remedial classes (IOM, 2016).

Placement

Upon successful graduation from secondary level education (or equivalent), students may pursue a tertiary education. To that end, they may sit a standardized placement test (College of Micronesia-FSM Entrance Test, COMET), which assesses college-readiness via their reading, writing and mathematical skills (COM-FSM, 2014a).[20] The COMET can be taken by any student who has completed their secondary education with a minimum GPA of 2.0, or has attained their GED (COM-FSM, 2014f). Depending on the scores achieved in the COMET, students are placed into one of three programmes. Low scoring students are encouraged to pursue a **certificate** of achievement (CA) programme (31% of all test takers, (NDOE, 2018)). Students with the highest scores are invited to pursue a **degree** programme (AA/AS) in one of the various fields of study (33% of all test takers). Students that did not quite meet the criteria for a degree programme are temporarily placed in the Achieving College Excellence programme (ACE) which is a one or two semester series of remedial courses aiming at preparing students for a potential degree programme (12% of all test takers, 2017). Of all test takers, 24 percent either choose not to attend or score too poorly to be admitted to college, resulting in a transition or admission rate of 76 percent from secondary to tertiary education in 2017 (NDOE, 2018).

CA programmes are intended to develop and foster occupational skills of students and are designed to address the needs of society in the FSM. Programmes are bound to either one- or two-year studies and are offered in fields such as Public Health, Agriculture and Food Technology, Bookkeeping, Masonry, Plumbing, Mechanics, Carpentry, Construction Electricity, Nursing, Refrigeration and Air Conditioning, and Secretarial Science (COM-FSM, 2014b; COM-FSM, 2018a). The certificate programme serves to provide future labourers with classroom training. Graduates will then receive on the job training through the appropriate apprenticeship. Over the course of the last 15 years (2004-2019), a yearly average of 28.4 percent out of the entire student body at COM-FSM were enrolled in a CA programme, constituting the second most popular choice (COM-FSM, 2014g; COM-FSM, 2015b).

[20] Sitting the COMET is not mandatory for high school seniors, although almost all will actually take it (Micronesian Seminar, 2001).

Gifted graduates of select programmes may continue their studies after the CA in their respective fields by pursuing an Advanced Certificate of Achievement (ACA). Programme fields include Electronics Technology, Telecommunication, and Electrical Maintenance. Students who have successfully completed an Advanced Certificate in select fields may even further deepen their knowledge and skill by pursuing an Associate of Applied Science degree (AAS). These are offered in Building Technology, Electronics Technology and Telecommunication (COM-FSM, 2014d). Over the course of the last 15 years (2004-2019), a yearly average of 4.3 percent out of the entire student body at COM-FSM were enrolled in an AAS programme. The ACA program however, seems to have only been in operation during the spring semester of 2016. Two students, constituting just 0.1 percent of that semester's student body opted for this programme (COM-FSM, 2014g; COM-FSM, 2015b). The ACA programmes mentioned above, as of the most recent available Application for Admission into COM-FSM, are however still offered (COM-FSM, 2018a).

In principle, the highest attainable **degree** at COM-FSM is an Associate's degree, however, for selected programmes, there is the possibility of the third year certificate programme, which follows after the completion of the Associate's degree (see paragraph below). The college offers Associate Degrees of Arts (AA) and of Sciences (AS) for various majors. These degrees will usually take two years to earn. Well-performing students, upon completion of their Associate degree, may be admitted pursuing a second degree (COM-FSM, 2014c). The most popular fields of the programme in terms of numbers are Teaching and Liberal Arts, together constituting around one fourth of all enrolments (COM-FSM, 2015b). Further AA degrees offered at COM-FSM are Health Care and Micronesian Studies. Popular AS degree programmes are Business Administration, Computer Information Systems, Marine Science and Agricultural Management (NDOE, 2017). Between 2004 and 2019, a yearly average of 62.1 percent out of the entire student body at COM-FSM were enrolled either in an AA or AS programme, constituting by far, the majority (COM-FSM, 2014g; COM-FSM, 2015b).

As mentioned above, well-performing graduates of applicable Associate degree and Associate of Applied Science degree programmes may enter a Third Year Certificate programme (TYC), further deepening their knowledge and skill in the respective field. As such, the top graduates of an AA in education may qualify for the *Teacher Preparation-Elementary* third year certificate, AS graduates of Business Administration could qualify for the *Accounting* or *General Business* programme, while AS graduates in Public Health may enter the third year programme of the same name (COM-FSM, 2014c; NDOE, 2017). Between 2004 and 2019, a yearly average of 3.9 percent out of the entire student body at COM-FSM were enrolled in a TYC programme (COM-FSM, 2014g; COM-FSM, 2015b).

A single Bachelor of Arts (BA) programme was initially offered in *Elementary Education*. However, the programme failed to receive accreditation from the Western Association of Schools and Colleges and is now offered as a joint-programme. Students will attend classes at COM-FSM but earn their BA from the University of Guam (UOG) instead. Students that either have completed an AA or AS are eligible to apply for this joint-degree BA programme (UOG, 2019; COM-FSM, 2014c). A BA in Elementary Education will ameliorate job prospects, however it is not required for becoming a teacher at primary school. Between 2007 and 2019, a yearly average of 1.1 percent out of the entire student body at COM-FSM were enrolled in this BA programme (COM-FSM, 2014g; COM-FSM, 2015b).

Government figures from 2014 show that 9.2 percent of females and 12.6 percent of male Micronesians over the age of 21 have completed a tertiary education or have gone on to pursue vocational training (NDOE, 2014a).

Higher Education

Students wishing to pursue Bachelor or even Master Programmes at Graduate Schools are encouraged to travel abroad to study at one of COM-FSM's partner institutions. To that end, the government of the FSM has set up a fund that enables top qualified students to receive scholarships and financial aid, in the hopes that they will return to their homeland upon graduation (NDOE, 2019a). Micronesia, because of the ongoing globalization and the meagre job-opportunities, has been suffering from a “Brain Drain”. Intellectually gifted students are likely to seek higher quality education or higher-paid work abroad. This would result in a considerable loss of assets for the FSM, which the government is trying to prevent.

Popular destinations apart from the UOG (where Micronesians make up nearly 10 percent of the student body (figure for the school year 2018))[21] are Colleges and Universities in the U.S.[22], Australia or New Zealand, which each offer their own scholarships to Micronesian students in a bid to foster education of pacific youths (UNICEF, 2017b; UOG, 2018).

2.7 Continuing Education (Adult Education)

The College of Micronesia offers continuing education for adult learners as well (FSM Office of Statistics, Budget and Economic Management, 2010). Through grants from the U.S. government, the FSM were able to establish the FSM Adult Education Program (FSM/AEP) in 1993. The aim was to provide comprehensive adult education to foster occupational skills (NDOE, 1997). Programs such as the Workforce Investment Act, T3, Upward Bound and national congressional programs have been offering some kind of adult education upgrading programs for youths and adults (NDOE, 2015).

2.8 Teacher Education

According to a report by the EMIS Task Force (2018), a major problem within the educational system of the FSM, and all PICs, is the shortage and inadequate training of teachers.

The Teacher Accreditation Policy ratified in 2016 dictates that no person should work as a teacher in *primary* or *secondary* school without having obtained the National Teacher Certificate issued by the NDOE. A school that is employing an uncertified teacher will face loss of accreditation. This certificate will require any teacher to attain at minimum an AA, AS or an AAS degree. New personnel will only be hired accordingly, while acting, inadequately certified teachers will be “upgraded” through training (NDOE, 2015).[23] Attaining the certificate for teaching Career and Technical Education (CTE) courses, offers three possibilities: Having attained an AA, an AS or an AAS degree *or* having received a one-year college certificate from an accredited institution for higher education plus four years of relevant work experience *or* having received a journeyman certificate plus two years of relevant work experience[24]. Furthermore, the respective SDOEs shall be responsible for setting the requirements for obtaining a certificate for specialized teaching positions such as ECE teachers, teacher aides or cultural teachers (NDOE, 2016c).

On top of having achieved the minimum qualifications, an aspiring teacher will have to sit the newly created National Standardized Test for Teachers (NSTT). The outcome of the test will then determine the type of certificate the teacher is going to receive. The highest accreditation, the *Advanced National Teacher Certificate (Level 2)*, is only available to candidates who hold at minimum a BA and possess specialized knowledge in the relevant fields. The source does not explain for which teaching level the certificate qualifies. According to the NDOE (2020), up to 2020 469 basic national teacher certificates, 43 advanced national teacher certificate (level 1) and only one advanced national teacher certificate (level 2) have been issued. Most of the certificates are issued to teachers in Pohnpei or Kosrea, whereas

[21] Micronesian enrolment at the University of Guam has gone up from 91 students in 2008 to 189 students in 2013 (IOM, 2016).
[22] Chiefly the San Diego State University and the University of Hawaii, (PRIDE Project, 2007; Peacock, 1985).
[23] Training shall occur in the form of attending the proper classes at COM-FSM (NDOE, 2015).
[24] Journeyman Certificate describes a qualification certifying that the holder has completed the requirement for time in trade and industry (usually minimum of 8,000 hours) and the required time in the classroom (usually minimum of 700 hours)

Pohnpei has the most certified teachers in general (31). The Level 2 certificate, however, was issued in Kosrae.

A teacher will therefore be either a) **not qualified and not certified** (not in possession of the minimum qualifications), b) **qualified but not certified** (in possession of the minimum qualifications) or c) **qualified and certified** (in possession of the minimum requirements, plus certified through having passed the NSTT) (NDOE, 2016c). Qualified includes teachers who are considered qualified to teach in the FSM, which means they possess at least an AA. Certified includes those teachers who have passed one of the following certifications: (1) Temporary National Teacher Certificate, (2) Basic National Teacher Certificate, (3) Intermediate National Teacher Certificate, (4) Advanced National Teacher Certificate (Level 1), (5) Advanced National Teacher Certificate (Level 2), (6) Special National Teacher Certificate.

At ECE level, across all states, only 28 percent (c) of teachers have acquired the appropriate certificate, while 7 percent (a) do not dispose of the necessary minimum qualifications. At the primary level, 11 percent (a) of teachers do not dispose of the necessary minimum requirements, while only 37 (c) have attained a teaching certificate. Qualification of teachers at the secondary level is similarly low. While 93 percent (b) fulfil the minimum requirements, only 32 percent (c) dispose of a certificate for teaching (PRIDE Project, 2007). Numbers from the JEMCO report for the 2015-16 school year indicate the highest qualifications attained by staff of primary and secondary schools as follows: 9 percent of all staff held no degree, 71 percent attained an AA or AS degree, 17 percent a BA or BS, 2 percent a MA or MS and zero teachers (0%) held a PhD (NDOE, 2017).

3. The System of Vocational and Professional Education and Training

This section of the Factbook describes the VET system at the upper secondary level and the PET at the tertiary level in more detail. Thereby, the term vocational and professional education and training (VPET) refers to both, the VET and the PET system. In general, the NDOE is the main department responsible for VPET in FSM. However, additionally there are four SDOEs existing. The NDOE is responsible for the development of standards, while the SDOEs oversee curriculum and instruction (NDOE, 2021).

3.1 Vocational Education and Training (VET; Upper Secondary Education Level)

Technical and vocational education and training programmes in FSM are called CTE (UNECOV UNESCO, 2021; Federated States of Micronesia, 2020).

For decades, vocational education has been treated as an elective course in secondary schools. In the past, vocational training was offered in fields such as carpentry, electricity, general mechanics, and welding for male students as well as home economics, seamstress, and weaving for girls (NDOE, 2011; UNICEF, 2011). Elective vocational education programmes were available in 29 high schools. However, due to a lack of financial and human resources (teachers) as well as insufficient equipment most of the schools have abolished the programmes. The remaining programmes differ regarding their length and are mostly theory-based (UNECOV UNESCO, 2021; Federated States of Micronesia, 2020). According to a report of the FSM, vocational subjects consist of two periods of 45 minutes per week, one theoretical and one practical period. However, the programme structure differs between the states (Federated States of Micronesia, 2020). The strategic development plan 2004-2023 (2003) underlines, that there is a lack of vocational training courses. For instance, there is no training for the agriculture sector and while the training for tourism is available, however, the quality and skill specific training is missing. The World Bank confirms: "… there are limited technical and vocational education training programs aimed at students at the secondary level (World Bank, 2016, p. 61). The plan states that access to VET training is limited and further declining. Regarding the different states, they all suffer from similar problems implementing the vocational education curricula including the insufficient facilities and materials, the lack of alignment between the labour market and vocational education development, and the missing tracer studies to assess the effectiveness of the vocational courses (Federated States of Micronesia, 2003).

The Pohnpei Agriculture & Trades School (PATS) was the only private vocational school in the FSM. However, it was closed in 2005. Before its closure, PATS provided vocational training to skilled young people who, immediately after, were integrated into the labour market throughout FSM (NDOE, 2011). The offered programmes included construction and building trades, mechanics, agricultural science, and aquaculture, whereas the yearly enrolment amounted to eight students (NDOE, 2021; UAF, Coastal Resources Center, HILO, 2004). The PATS sister vocational school, the OLMS village girls school, offered lessons in sewing, cooking, home gardening, and basic skill training in math and English language to girls who had dropped out of regular school (NDOE, 2011). According to the Department of Education the PATS has an extremely high reputation (NDOE, 2021). Community-driven efforts to reopen a vocational school where PATS once stood have been unsuccessful so far (Micronesia Forum, 2007). Likewise, a new Christian vocational school under the name of International Vocational Education

Center (IVEC) was supposed to open in 2010 (Pacific Islands Report, 2010). However, no sources were found confirming the effective opening of the school.

The VPET system places little value on the productive sectors. The use of U.S. textbooks further highlights the latter, as they do not highlight or point out specific national problems such as subsistence and/or small-scale farming and fishing, marine or fisheries areas, or the advantages or disadvantages of tourism in FSM (NDOE, 1997).

UNEVOC, UNESCO (2021) mentions that the vocational training system has not been successful in accomplishing its goal of providing FSM with a "(…) competent middle-level workforce to meet the demand for vocational skills from employers or to encourage an individual's self-employment through starting-up their own business". It is hoped that, the National Qualifications Framework (NQF), which was published in 2019 but has not yet been promulgated for use, will serve as an incentive to establish new programmes where qualifications can be obtained after two to three years of study. Additionally, the NQF should provide employers with more confidence in the skills of graduates (Federated States of Micronesia, 2020).

The Education Sector Strategic Development Plan (ESSDP) 2020-2024, as already does the strategic development plan 2004-2023, mentions the missing coordination between vocational programs and employers and industries. Furthermore, the ESSDP explains that a dual VPET system is being developed. The system is based on a combination of education and training in a formal school setting and work experience and formal apprenticeships carried out in private sector companies, which requires collaboration between government and industry(Federated States of Micronesia, 2020). A reason for the current lack of dual VPET programmes in the pacific region may be the higher unemployment rates among adult population, which in turn reduces the incentive for the industry to invest any resources in said programmes as there is enough inexpensive adult labour available. However, to change this, a high level of engagement and coordination between the public education programmes and commercial and industrial sector is required. A first step in this direction has already been taken as the Chambers of Commerce in FSM has signalled their strong interest and support to collaborate with NDOE in developing a dual VPET education programme (Federated States of Micronesia, 2020).

The National Policy on Vocational Development and Skill Trainings (PVDST) was adopted in 2010 to ensure access to vocational education programmes and to address societal needs through the creation of CTE standards. The standards foresaw the development of a dedicated "Career Exploration" programme which should bring students from grades five to eight closer to the different occupational paths available to them by offering basic instructional courses. Additionally, CTE-programmes are intended to be implemented for grades nine to twelve. However, students transitioning to public secondary education have to possess at least a 2.0 GPA in their primary schools' transcript to be eligible to enlist in the CTE programmes. According to the PVDST, students on the vocational track should choose one out of several available specializations. These include: Automotive technology, building construction, business accounting, electronics, family & consumer science, farming systems & products, small-scale fishing, science technology, engineering and mathematics as well as tourism. Graduates of the vocational track earn a CTE special certificate if they satisfactorily meet their respective career and vocational field of study. Subsequently, they will have the opportunity to deepen their knowledge at a tertiary level institution (NDOE, 2010).

However, not all specializations are available at every institution. Due to shortages in funding, enrollment, and teachers, courses may be abandoned temporarily. Further impeding the success of vocational efforts are the insufficient facilities, the lack of tools and the generally low quality of teaching at secondary institutions. These institutional shortcomings and the overall low interest of students lead to many secondary schools abandoning their vocational programs (Chuuk State Economic Development Commission, 2016).

3.2 Professional Education and Training (PET; Post-Secondary Level)

Originally, the COM-FSM was established to train teachers. Nowadays, the mission of the highest educational institution in FSM is to provide academic and CTE programs (COM-FSM, 2021b, p. 8). However, post-secondary systems are critically affected by the insufficient quality of the secondary education system and have problems with the quality of their educational outcomes (Federated States of Micronesia, 2003, p. 460). The COM-FSM currently offers 31 study programmes, including vocational and non-vocational programmes, whereas the certificate programmes are offered mainly at the state campuses and the degree programmes at the national campus in Palikir, Pohnpei (COM-FSM, 2021b). The four state campuses are responsible for the establishment of programmes that address the need of the respective state, including among others teacher education, certificate programmes and vocational education (COM-FSM, 2021a). The State campuses offer different programmes in career and technical Education (CTE).

According to the Chuuk Development Plan (2016), Chuuk discontinued the CTE programmes due to low enrolment. Once the interest in attending rises, the CTE programmes may be opened up again . Access to tertiary vocational programmes was and is exclusive. To enrol in PET programmes, secondary education graduates must pass the COMET that is conducted annually (UNECOV UNESCO, 2021).

As mentioned, COM-FSM offers several post-secondary vocational programmes. Enrolled students will start out by pursuing a CA. Successful graduates may then go on to an AAS degree, if available in their respective field. In the following, the certificate and degree programmes are briefly described and then the specific, offered programmes are presented.

The **AAS degrees** are two or more years technical occupational professional degrees. To graduate, the students have to successfully complete at least 60 semester credits. These credits aim to provide the students with the skills and competencies needed for the subsequent employment. Note that it is clearly specified that this degree does not entitle students to transfer directly into a baccalaureate program (COM-FSM, 2020, p. 69). Within the framework of the degree programmes there are two possible exit points. These include the award of a certificate or advanced certificate. Associate of applied Science degrees are offered in the following fields (COM-FSM, 2020, p. 69ff.):

- Telecommunication Technology:
  - The programme offers two exit points: (1) CA in Electronic Engineering Technology and (2) the AAS in Telecommunication Technology
- Electronic Technology:
  - The programme offers two exit points: (1) CA in Electronic Engineering Technology and (2) the AAS in Electronic Technology
- Building Technology (pre-requisite is a certificate in any of the trade certificate programmes):
  - One exit point: AAS in Building Technology – Major in Electrical. However, next to the programme, the CA in construction electricity is mentioned. The descriptions do not explain whether the certificate is part of the AAS or not.
- Building Technology, Major – Construction Electricity (pre-requisite is the certificate in construction electricity, however in contrast, it is stated that one exist option on certificate level exists)
  - The programme offers two exit points: (1) CA in Building Technology and (2) the AAS in Building Technology

Certificate programmes aim to provide entry-level skills, whereby the programme period is less than that required for an associate degree programme The certificate programmes require about 35 successfully completed credits, depending on the programme (COM-FSM, 2020, p. 69ff.).In addition to the listed certificate programmes as part of the AAS, the following certificate programmes are offered on their own:

- CA in Carpentry
- CA in Cabinet Making/Furniture Making
- CA in Refrigeration and Air Conditioning
- CA in Career Education

Besides the certificate and degree programmes, the General Catalog 2019-2020 mentions apprenticeship programmes as new part of the national PET system. They are administered by the college. Funding is provided by the COM-FSM and individual employers and organizations. Additionally, the programmes are approved and registered with the United States Department of Labour, Bureau of Apprenticeship Training. The programmes combine the learning of a craft or trade through on-the-job experiences under the guidance of a skilled worker and technical classroom instruction at the COM-FSM. The duration of these programmes varies depending on the occupation. To receive the certificate of completion of apprenticeship the training completed has to be a minimum of 144 hours per year of classroom instruction plus designated hours of practical on-the-job training (COM-FSM, 2020).

As a standalone campus of the COM-FSM, the Fisheries and Maritime Institute (FMI) located on Yap Island, offers vocational career training in specific fields and awards Certificates of Completion/Competence and Certificates of Safety. The FMI has existed since 1999, however, the demand for the three courses is extremely low. In 2009, only 37 students were enrolled (NDOE, 2021). As such the FMI offers only a few programmes.

- Maritime Studies - Nautical master of ships
    - two-year course
- Maritime Studies - Marine vessel engineer
    - two-year course
- Maritime Studies - Navigation
    - two-year course
- Fishing Technologies and Maritime Studies, Master of ships
    - One-year course
- Fishing Technologies and Maritime Studies, Chief engineer
    - One-year course

3.3 Regulatory and Institutional Framework of the VPET System

3.3.1 Central Elements of VPET Legislation

Micronesia's legislation regarding the country's VPET system sets the guidelines within which the institutions offering VPET must operate. This includes:

- Access and accessibility to and within the education system
- Structure of the offered qualifications
- Responsibilities of the involved institutions
- Financing
- General aims and objectives of the VPET system

Relevant legislation for VPET in Micronesia includes the following:

- The FSM Constitution, ratified in 1978, provided the legal foundations of the Education System
- Title 40 of the Code of the FSM further regulates and specifies the National Education System
- The COM-FSM Act of 1992 regulates higher education which includes PET
- The NQF further aimed to harmonize the educational offer
- FSM Association of Chief State School Officers (FACSSO) Resolutions further include further adjustments to the Education System

3.3.2 Key Actors

a) Vocational Education and Training

Government

The responsibility for formal VET lays in the hands of the NDOE (NDOE). The NDOE was created by Public Law (PL) 7-97 in 1992 by the FSMs Congress. The resolution further prescribed that the Department consists of the following four divisions (NDOE, 2022a):

- Curriculum, Standards, Testing, and Evaluation
- Vocational Manpower Development and Training
- Postsecondary and Scholarship
- Federal Community and Foreign Assistance

The NDOE sets national standards for school accreditation for VET, standards for VET teacher certification, and, on a national scale, oversees the VET school system through the Division of Formal and Non-Formal Education. At the regional level, SDOEs are responsible for providing VET to state- and non-state educational institutions, including administration, curriculum development, scholarship schemes, and monitoring of the educational institutions in their jurisdiction (UNESCO, 2021).

Another important and involved government actor is the Division of Quality and Effectiveness that assesses standards, oversees monitoring programs, functions, and offices in the Department including Teacher Certification, Assessment and Research, School Accreditation, Bridging Gao, and Information Technology and Data Management (NDOE, 2022c).

The FACSSO, the association of chief state school officers, regularly convene meetings with the president of the COM-FSM and the Department of Education to increase cooperation between the States and the National Government thereby enhancing the quality of VET programs (NDOE, 2022e).

Representation and advisory bodies

In FSM Parent-Teacher-Association (PTA) must be established for each school that is representative of the regional community. Furthermore, the PTA has a role in the organization of the VET school program. However, the degree of their involvement is variable regionally. The ESSDP aims to increase parental engagement and wants to further expand the role of PTAs (Federated States of Micronesia, 2020, p. 30).

The private sector is not yet directly involved in the realm of VET in FSM. However, the ESSDP specifically highlights the importance of establishing a joint working committee of members of the COM-FSM, Chamber of Commerce, VET specialists and NDOE/SDOE specialists to oversee the VET programs (Federated States of Micronesia, 2020, p. 36). The Chamber of Commerce as such is the collective representation body of the FSM business community advocating and supporting the interest of the private sector (Chamber of Commerce Worldwide, 2022).

Education and training providers

Elective vocational education programs were previously made available in all public 28 high schools across FSM at secondary level and they offered mostly practical applications of skills in areas like basic carpentry, mechanics, agriculture, home arts/economics and in some traditional life skills like weaving, carving and canoe-building. However, due to lack of resources, only few public schools still provide VET (Federated States of Micronesia, 2020, p. 12).

Non-government, i.e. private schools, are an essential part of the country's VET system. Notably, at the secondary education level, the IVEC (former: PATS) enjoys a very high reputation and specifically offers VET programs in the construction and building trades, mechanics, agricultural science and aquaculture aimed at secondary-aged students (NDOE, 2021).

b) Professional Education and Training

Government

Tertiary Education is the responsibility of the Congress of FMS in cooperation with the National Department of Education for specialized educational recommendations (UNESCO, 2021).

Representation and advisory bodies

The private sector is not yet directly involved in the realm of VET in FSM as noted before. However, on matters concerning all COM-FSM internal constituents, the Executive Committee (EC) assumes an advisory role to the President of the COM-FSM and are involved in the curriculum development process. The Board of Regents of the COM-FSM is also noteworthy, as it is responsible for overseeing the mission, leadership, and operations of the college and is also involved in curricular matters (COM-FSM, 2020).

Another key actor is the Accrediting Commission for Community and Junior Colleges (ACCJC), an American accrediting organization that accredits private and public universities in the Pacific Ocean, that is involved in the establishment of PET programs (ACCJC, 2022).

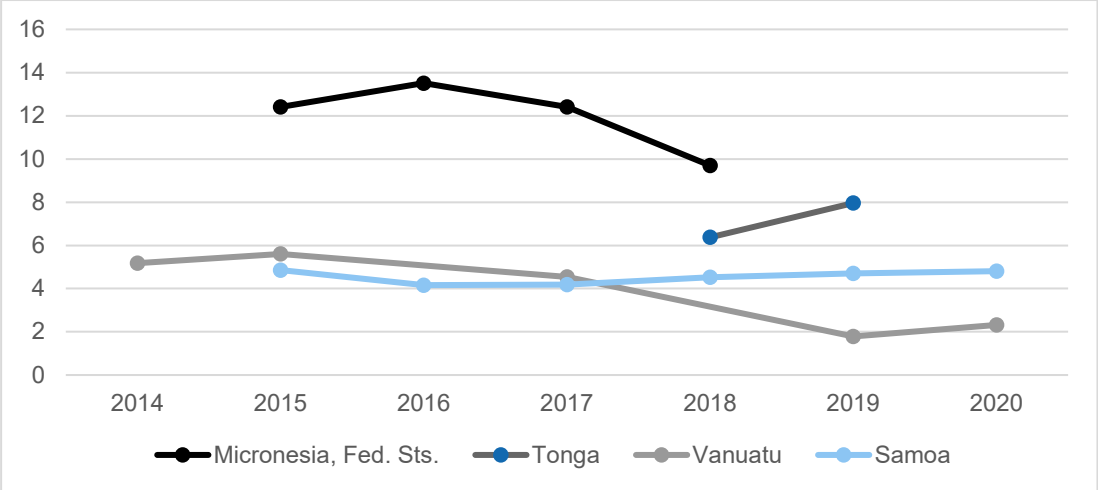
Education and training providers

The COM-FSM CTEC is the major VPET provider in the country and enrolls over 550 students each semester (COM-FSM, 2022). The COM-FSM offers associate degree and certificate-level programs in a range of subjects, as well as short training programs (NDOE, 2021). With respect to the curriculum design of PET the COM-FSM assumes responsibility through the Curriculum and Assessment Committee (CAC). In particular, the CAC is in charge of the course development, including PET (COM-FSM, 2015a, p. 24). Furthermore, it operates the FMI in Yap State. The FMI provides two-year, certificate level vocational courses in navigation, marine engineering and fishing technology. (NDOE, 2021).

3.4 Educational Finance of the VPET System

As of 2018, Honduras spent 9.7 % of its total GDP on Education. In comparison, Tonga spent 8 % (2019), Vanuatu 2.3 % (2020) and Samoa 4.8 % (2020), respectively (World Bank, 2022a). Government expenditure on education of Micronesia is on the high end of widely accepted targets for education spending defined by the UNESCO Global Education, that sets education spending targets between 4 and 6 % of GDP for all countries by 2030.

Figure 3. Government expenditure on education, total (% of GDP)



Source: own figure based on World Bank (2022a).

3.4.1 Educational finance of the VET system

The main funding for VET is provided by the Government of FSM or indirectly by the U.S. government under the provisions of the COFA (NDOE, 2021). The COFA, however, is expiring in 2023. Although it is unlikely that no further agreement will be reached, the small probability of such an occurrence represents an existing possibility of a catastrophic result for the national education system. Furthermore, the World Bank has announced, to boost access to quality vocational and skills training. In particular, the project *Skills and Employability Enhancement Project* comprises financial support worth US$17,7 million and will directly address the lack of access to VET (World Bank, 2022b). Private VET providers are financed by non-state actors such as private entities (UNESCO, 2020).

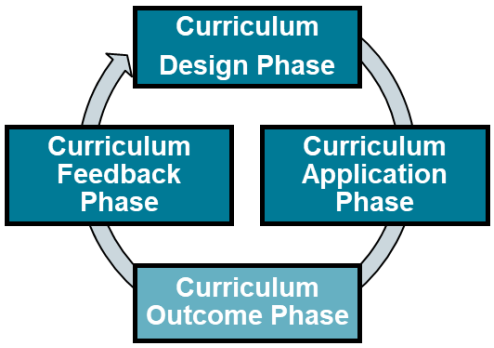
3.4.2 Educational finance of the PET system

The COM-FSM CTEC is mainly funded by the national government. As of 2020, 64 % of the total operating revenues of the COM-FSM is attributable to federal grants and contracts of the U.S., whereas the national government only provides 20 % of total revenue. Sales and services of auxiliary enterprise contribute 9 % and student tuition another 5 %, respectively (COM-FSM, 2021, p. 7). Notably, as of 2022, approximately 90 % of PET students receive financial assistance from the U.S. Federal Student Aid programs (COM-FSM, 2021, p. 10).

3.5 Curriculum Development

The curriculum is a central element for the functioning of a VPET system because it defines the framework and the (quality) standards for the education system. The development of a curriculum can be decomposed into a three-step process with a curriculum design, a curriculum application and a curriculum feedback phase. This theoretical concept is called the curriculum value chain and is depicted in **Figure 4** (for more details, see Renold et al. 2015; Rageth & Renold, 2019).

Figure 4 . Curriculum Value Chain



Source: Renold et al. (2015) and Rageth & Renold (2019).

In the curriculum design phase, the relevant actors decide upon VET curriculum content and qualification standards. Therefore, the discussion in Section 3.5.1 focuses on the degree and the amount of stakeholder participation concerning curriculum design in Micronesia. The curriculum application phase revolves around the implementation of the curriculum. Because learning environments differ substantially across countries, especially with respect to the prevalence of workplace learning, Section 3.5.2 focuses on those learning environments. Specifically, it addresses where learning takes place and whether the curriculum dictates both school and workplace learning or only one of the two. Finally, curriculum outcomes can be collected and analysed in the curriculum feedback phase. Section 3.5.3 focuses on the curriculum feedback phase. This evaluation process is important because it may render a more refined curriculum design than was possible in the first place.

3.5.1 Curriculum Design Phase

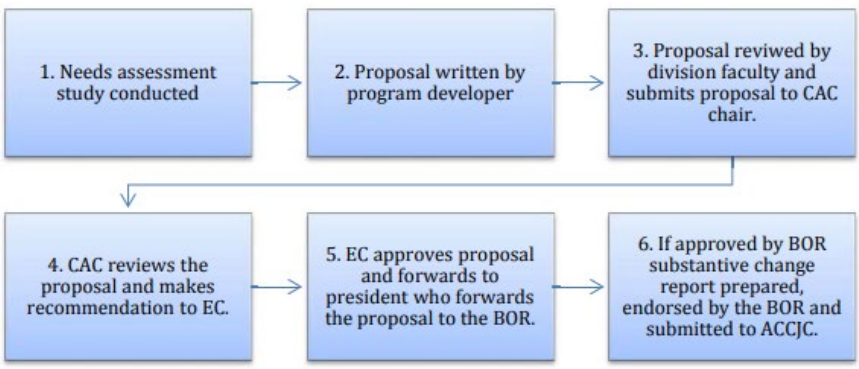
The design phase is crucial for the whole curriculum process. To ensure that the skills taught in the VPET programmes correspond to the needs of the labour market, experts from companies should be involved in defining the qualification standards and learning content of the curricula.

Curriculum design VET programmes in Micronesia are highly centralized and non-government actors are not yet effectively involved in the process. The Division of Formal and Non-Formal Education of the NDOE sets standards, oversees the development of curriculum standards, and oversees the core programs of CTE. The latter is responsible for developing, implementing, and coordinating CTE standards; benchmarks; and guidelines in formal VET (NDOE, 2022b). The National Curriculum Standards and Benchmarks is the most important curriculum document for primary and secondary education which stipulates the main guidelines and benchmarks within the framework of the national curricular policy. The document establishes the characteristics, standards, and scope of the curriculum for the different levels of the formal education system, including CTE. The document was developed by the Standards Development Working Group in 2006. The group consisted of representatives from the FSM Department of Health, Education and Social Services, each of the four SDOEs, and Pacific Resources for Education and Learning. The Basic Social Services Project (BSSP) revised and edited the standards and benchmarks prior to publication. These materials were reviewed at state level and adopted by the FACSSO in March 2008 (NDOE, 2008).

With respect to the curriculum design of PET the COM-FSM assumes responsibility through the CAC. In particular, the CAC is in charge of the course development, including PET. The Curriculum and Assessment Handbook (COM-FSM, 2015a) contains specific information concerning the curriculum development of degree programs that is illustrated in **Figure 5** The procedure for submitting a request for a degree program is as follows (COM-FSM, 2015a, p. 24):

2. The faculty members complete the application for program implementation, which includes a needs assessment study and a new program implementation plan. A proposal is developed if the results confirm the need for developing the degree program.
3. The program developer establishes the proposal that includes rationale, instructional program learning outcomes, implementation procedure, complete suggested schedule, description of new courses, staffing needs and budget.
4. The division faculty reviews the proposal and submits it to the committee chair.
5. Together with the committee chair, the CAC reviews the proposal and makes a recommendation to the EC for action.
6. Given the EC approves the proposal, it is forwarded to the president for recommendation to the Board of Regents (BOR).
7. Given the approval of the BOR, the program developer prepares a substantive change request which is endorsed by the BOR and submitted to the ACCJC

Figure 5. The Pathway for Gaining Approval for a Degree Program



Source: COM-FSM (2015a, p. 24)

3.5.2 Curriculum Application Phase

The way in which a curriculum is implemented, especially with respect to learning environments, is important to achieve the intended learning outcome.

As described in Section 3.1, VET programs consist of two periods of 45 minutes per week, one theoretical and one practical period and are only school based. Thus, VET programs at the upper secondary level are implemented at one learning location – the high school providing VET. At the secondary education level, the implementation of curricula is carried out in cooperation between the stakeholders mentioned in the Curriculum Design Phase Section. However, there is very limited information on the status quo of the application of VET programs in general. As noted in Section 3.1, only very few high schools still provide VET.

In contrast, PET programs, such as the AAS and certificate programmes, are more standardized and regulated, as described in section 3.2. Curricula, evaluations and entry and graduation requirements are standardized.

In general, it is the responsibility of the NDOE to provide educational centres with physical (books and other training material) and human resources (teachers, trainers, and assistants). However, there is a lack of adequate learning and teaching materials (textbooks, reading materials, worksheets and equipment) in classrooms. This is compounded by the extreme shortage of commercially available learning materials in vernacular languages. The issue is significantly restricted by the fact that some teachers in FSM still teach in schools without a reliable electricity source, let alone internet access. Major infrastructure programmes need to precede the effective integration of online and other electronic learning materials.

3.5.3 Curriculum Feedback Phase

The curriculum feedback phase deals with the questions of whether and how educational outcomes are analysed. Based on this, the curriculum could be reworked and improved.

In FSM, the major mechanism to provide feedback on the curricula is the annual NMCT that is used across the nation to assess the levels of student learning. This is a standards-based assessment tool that is used to measure students' ability to meet the standards and benchmarks in Language Arts (literacy) and Numeracy (mathematics). The test is administered at grades 6, 8 and 10 for literacy, and grades 4, 6, 8 and 10 for numeracy. Initial baseline data was set in the school year of 2014–2015 with a 2% target increase in the standard to be achieved in each of the following years (Federated States of Micronesia, 2020, p. 21).

The assessment data is collected across all four states, and collated within the NDOE, should be used to influence and improve policy and practice. At the moment, however, there is limited research capacity to analyse this national data and to propose alternative learning approaches that might improve the learning outcomes. Thus, one of the outlined targets of the ESSDP is to provide for better research capabilities within the national and state departments, and to promote the use by teachers of diagnostic assessment that can provide feedback to students about how to improve their learning. FSM is beginning to address this issue by providing classroom assessment training for teachers under the Improving the Quality of Basic Education (IQBE) project (Federated States of Micronesia, 2020, p. 22).

In general, the responsibility of the assessment of the VPET system is within the Division of Quality and Effectiveness. They provide technical assistance to teachers and assessment specialists in the State Departments of Education regarding policy and procedures for administration of state, national, and regional assessments systems. It further analyses and reports on test results by state and nation and coordinates the implementation of NMCTs. Moreover, they conduct the research to evaluate the effectiveness of various aspects of the national education system (NDOE, 2022c).

3.6 Supplying Personnel for the VPET System (Teacher Education)

The FSM Teacher Certification Program, that is under the supervision of the Secretary of Quality and Effectiveness of the Department of Education, provides the minimum required standards for teaching for all teachers in all classrooms, and also ensures that individual teacher goes through the process of proper certification level based on applicable performance competencies and educational backgrounds (NDOE, 2022d).

The teacher certification regulations prescribe that no person is permitted to assume the role of teacher in any secondary school, including VET, within the FSM, without first having obtained a National Teacher Certificate from the FSM National Department of Education. The minimum education qualification required for CTE teachers, hence teachers involved in VET, in any FSM school shall either have obtained an AA Degree, an AS Degree, an AAS Degree, or a one-year college certificate of CTE from an accredited Institution of Higher Education, and for years of relevant work experience (NDOE, 2022d).

Furthermore, teachers are required to pass the NSTT. The latter are used to determine the qualification of the candidates. In total, there are six types of national teacher certificates that are obtained given the fulfillment of outlined minimum education qualification requirements. The Basic National Teacher Certificate is issued to teachers who both have passed the NSTT and dispose of the necessary education qualifications. The basic certificate is to be renewed after four years upon the respective state director's recommendation (NDOE, 2022d).

Although minimum qualifications for teachers are clearly defined, note that in secondary schools that have a CTE program, there are few specialist CTE teachers so that many unqualified teachers are expected to take responsibility for teaching at least one VET subject per week covering both theory and practice. As of 2020, 1,577 of 1,748 teachers (90%) possess the associate degree minimum qualifications to teach, whereas only 614 (35%) also hold the NSTT and are certified to teach. The remaining 65% remain employed because the demand for teachers exceeds the supply of those who have the required certificates; most of these have not yet taken the test since it was only introduced in 2019 and it has been rolled out in phases across the states (Federated States of Micronesia, 2020, p. 22)

In-service training (professional development) for teachers does exist but is inadequate and insufficient and is to be expanded as outlined in the ESSDP in order to raise the quality of teaching. At the moment, there is in-service training offered at the annual Micronesia Teacher Education Conference (MTEC). It is expected that improved and continuing in-service training will occur through a National Professional Learning Framework being developed for implementation under the Improving the IQBE project of the ESSDP (Federated States of Micronesia, 2020, p. 24).

4. Major Reforms in the Past and Challenges for the Future

4.1 Major Reforms

This section focuses on the major reforms of the professional and higher education subsystems which have undergone significant changes in recent decades.

With respect to the organization and governance of the education system, the PL 7-97 passed by the Congress in 1992, is most noteworthy. The latter called for the establishment of a full-fledged Department of Education, constating of four divisions: Curriculum, Standards, Testing, and Evaluation; Vocational Education Manpower Development and Training; Postsecondary and Scholarship; and Federal Community and Foreign Assistance (NDOE, 2021).

Recently, the Teacher Certification Policy of 2016 greatly affected the education system of teachers by prescribing minimum standards and requirements that are to be fulfilled by prospective teachers. The purpose of the policy was to establish the professional standard for teacher certification in the FSM. Consistent with applicable law, it should serve as the basis for decision on issues pertaining to licensure and employment. Moreover, it should apply to all teachers licensed by or individuals seeking licensure from the FSM National Government (NDOE, 2022f).

Specifically, the VPET system of the FSM was affected by the PVDST that was officially adopted in 2010. The policy aimed to provide and ensure access to vocational education programs and other skill development and training for high school level students and youths. In particular, the policy sets forth the establishment of vocational development and skill training as a separate learning track for the public schools in the nation. The policy further comprises the career pathways offered in VET and the general framework of the curriculum of VET programs (NDOE, 2022f).

4.2 Major Challenges

Honduras' VPET system is key to the country's development. To conclude this factbook, the most important challenges affecting the VPET system are summarised.

The diversity of cultures that comprises multiple languages, the distances between the four states, and the political structure of the semi-autonomous states pose constant challenges for systemwide educational initiatives (Federated States of Micronesia, 2020, p. 4).

As part of the ESSDP 2020-2024 key education goals are formulated to cope with present-day challenges of the education system, including VPET.

In general, student learning outcomes are to be improved in education, particularly in literacy and numerary, at all levels with increased numbers of students attending school and experiencing quality educational opportunities. This goal comprises the improvement and expansion of the national curriculum standards So far, the national common curriculum framework at the federal level lacks compliance and cross state collaboration resulting in variations in interpretations and implementation of the curriculum standards (Federated States of Micronesia, 2020, p. 37). Moreover, new learning materials are to be developed and distributed. At present, there is insufficient learning materials for students in classrooms. P.40 The equity of access to education also must be improved as the graduation rate of secondary level is still only approximately 56 % meaning that more than 40 % of students who begin at grade 9 drop-out from school before grade 12 (Federated States of Micronesia, 2020, p. 42).

Most importantly, with respect to the VPET system, the relevance of the education system concerning the life and aspirations of the people of the FSM is to be ensured. In particular, the employability of school leavers must increase as a result of education and training that responds to the national economic, social, and cultural needs. As of 2020, very few students graduate high school with the technical and/or vocational skills necessary to secure employment. The TVET curriculum is not adequate to prepare students to meet the needs of the labour market. At the moment, there is no data in FSM that investigates the relevance of vocational programs to the national economic, cultural and social development needs across the country. Anecdotal data suggests that part of the reason for higher drop-out rates and lower average years of schooling is the lack of relevance of VET programmes for local industries and the job market. The VET sector needs further links between training programs and potential funding support for new and enhanced programs so that relevant facilities can be established, and potential programs implemented (Federated States of Micronesia, 2020, p. 65).

A dual system for VET is proposed in the ESSDP 2020-2024, that combines education and training in a formal school-based setting with practical work experience and formal apprenticeship undertaken in private companies. More specifically, students shall gain practical experience and skills for a specified number of days in each week, thus similar to the dual VET system in Switzerland. The formulation, concretisation, and implementation of the dual VET system will be one of the key challenges of the entire national educational system in the upcoming years. Furthermore, to ensure the quality of the new dual VET system, engagement and coordination between the public education programs and commercial and industrial sectors are to be improved (Federated States of Micronesia, 2020, p. 66).

As of 2020, education facilities are often marked by very poor infrastructure (including access to reliable electricity and internet service), inadequate purpose-specific facilities (such as science laboratories, vocational training workshops, etc.) and are often insufficiently safe and inclusive for access by all students across all ability levels (Federated States of Micronesia, 2020, p. 44). Hence, facilities providing VET need to be equipped more adequately to ensure high quality learning outcomes helping students to obtain relevant skills and obtain employment faster (Federated States of Micronesia, 2020, p. 67).

Furthermore, the quality of teachers and teaching at all levels of VET is to be improved. Although minimum qualifications for teachers are clearly defined, note that secondary schools that have a CTE program, there are few specialist CTE teachers so that many unqualified teachers are expected to take responsibility for teaching at least one VET subject per week covering both theory and practice. The challenge comprises the provision of training and certification to teachers and school leaders and thereby responds to the present-day shortage of qualified teachers in VET (Federated States of Micronesia, 2020, p. 48).

The Micronesian education system also faces upcoming challenges with respect to the financing due to impending changes to the COFA agreement with the U.S. occurring in 2023 which may reduce funding to FSM (Federated States of Micronesia, 2020, p. 4). In particular, the implementation of the prospective dual VET system poses new financial challenges as training and even budgetary support may be needed to be provided to companies and workplaces. Moreover, as it is common for trainees to be paid a certain percentage of the minimum wage for the job they are learning, further funds are necessary (Federated States of Micronesia, 2020, p. 66).

Appendix I: Overview of the VPET system

VET pathway enrolment share out of all upper secondary (%)	**NA**
Number of Curricula/Qualifications	NA
Ø Share of time spent in workplace (vs. classroom)	45 min / week
Work contract (Yes/No)	No
Ø Share of vocation-specific content (vs. general) in classroom education	45 min / week
Classroom/workplace sequencing (Alternating, Sequentially)	Alternating
Frequency of workplace learning (Annually, Semi-annually, quarterly, monthly, weekly)	VET system does not include workplace learning
Programme Duration	3 years
Involved Actors	National Department of Education (NDOE); State Departments of Education (SDOEs); The Association of Chief State School Officers (FACSSO); Parent-Teacher-Association (PTA); Chamber of Commerce; International Vocational Education Centre (IVEC); Congress of FMS; the Fisheries and Maritime Institute (FMI); College of Micronesia-FSM (COM-FSM);
Reform Years (most recent)	1992, 2010, 2016
Reforms Summary	PL 7-97: Establishment of Department of Education PVDST: Establishment of vocational development and skill trainings as a separate learning track Teacher Certification Policy: Prescription of minimum standards and requirements for teachers

Source: own table based on NDOE (2022f), NDOE (2021), COM-FSM (2015a, p. 24), and Federated States of Micronesia (2020)

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