

Factbook Education System: Egypt

CES Chair of Education Systems

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List of Abbreviations

CAPMAS	Central Agency for Public Mobilisation and Statistics
ETF	European Training Foundation
ETUF	Egyptian Trade Union Federation
ETQAAN	Egyptian TVET Quality Assurance and Accreditation National Authority
EU	European Union
GII	Global Innovation Index
GDP	Gross Domestic Product
ISCED	International Standard Classification of Education
KOF	Swiss Economic Institute
MoE	Ministry of Education
MoETE	Ministry of Education and Technical Education
MoMM	Minister of Manpower and Migration
NCCM	National Council for Childhood and Motherhood
NAQAAE	National Agency for Quality Assurance and Accreditation of Education
NHRDC	National Human Resource Development Council
NQF	National Qualifications Framework
OECD	Organisation for Economic Co-operation and Development
PAT	Professional Academy for Teachers
PET	Professional Education and Training
PPP	Purchasing Power Parity
TVET	Technical Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	United States Dollar
VET	Vocational Education and Training
VPET	Vocational Professional Education and Training
WEF	World Economic Forum
YLMI	Youth Labour Market Index

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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 policy-makers. 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 US 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 Series¹ 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: Egypt we describe Egypt’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.

The Factbook is structured as follows: First, we provide an overview of Egypt’s economy, labour market, and political system. The second part is dedicated to the description of the formal education system.

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 third section explains Egypt's vocational education system. The last section offers a perspective on Egypt's recent education reforms and challenges to be faced in the future.

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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. Egypt's Economy and Political System

Table 1: Key Statistics and Information on Egypt

Category	Outcome
Population	98,976,000 (2019 est.)
Area	1,010,408 km ²
Location	Northeast Africa, Middle East
Capital City	Cairo
Government	Multiparty republic with two legislative houses
Official Language	Arabic
National Currency	Egyptian Pound (LE)

Source: own table based on Hopwood, et al. (2020)

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 Egypt's political system, with an emphasis on the description of education politics. [Table 1](#) reports key statistics and information about Egypt, which are further discussed in this chapter.

1.1 Egypt's Economy

Egypt lies in the northeastern corner of Africa and borders Libya to the west, Sudan to the south, and Israel to the northeast. Its access to the sea includes the Mediterranean Sea to the north and the Red Sea to the east. Both seas are connected by the Suez Canal, giving Egypt a strategic location for trade routes between Europe, Africa, and Asia (Hopwood et al., 2020). The Nile River, which dominates the topography of Egypt, has a significant impact on Egypt's economy. Apart from being almost the only source of water for the country's agricultural productivity, it is also used for waterway transport and hydroelectric power production, especially with the Aswan High Dam (Hurst et al., 2019).

Egypt's nominal gross domestic product (GDP) was estimated at 303.2 billion USD in 2019, ranking it the third largest economy in Africa after Nigeria and South Africa and the 41st largest worldwide. When comparing Egypt's GDP per capita of \$3,020.0 in 2019 with the world, it places 152nd. This is 73.6% lower than the world's average GDP per capita of \$11,428.6 and 62.7% lower than the average of \$8,104.5 in the Middle East and North Africa. The country with the highest GDP per capita is Qatar, with \$64,781.7, and the country with the lowest is Yemen, with \$968.2. Out of the 21 countries of the Middle East and North Africa, Egypt ranks 19th. The median GDP per capita in this region is in Iraq, with a value of \$5,955.1 (World Bank, 2020). When considering purchasing power parity (PPP), Egypt's GDP in 2019 is estimated at \$12,250.8, which is 30.7% lower than the world's average GDP (PPP) per capita of \$17,673.1, ranking Egypt in the 112th place worldwide and 12th in the Middle East and North Africa (World Bank, 2020).

Based on the GDP per capita growth between 1990 and 2019, the development of the Egyptian economy has not followed a stable path. While the annual growth rate of the GDP per capita of 3.1% in 1990 remained close to the latest growth value of 3.5% in 2019, the Egyptian economy's development tended to fluctuate during this period of 30 years. In 1991, the lowest growth rate was recorded, with a negative

growth of -1.1%. In contrast, the highest growth rate was registered in 2008 at 5.3%. The 30-year average GDP per capita growth amounts to 2.3%, which is higher than the global 30-year average growth of 1.5%. A major economic setback was encountered during the Arab Spring, which caused a drop of 5.7%. Since then, Egypt's economy was able to slowly recover from the political unrest (World Bank, 2020).

Agriculture is an essential part of the Egyptian economy, employing 25% of the workforce and contributing around 12.5% to the GDP. Unlike other comparable developing countries, agriculture in Egypt is predominantly oriented towards commercial rather than subsistence purposes. The major crops cultivated include cotton, corn, rice, wheat, sugarcane, beans, and various vegetables and fruits, such as citrus. Next to field crops, livestock production and fishing are also of economic significance. During the 20th century, manufacturing became an increasingly large sector, accounting for around 25% of the GDP by the 21st century. The main industries in the sector are chemicals, pharmaceuticals, hydrocarbons (such as fuel oil), cement, food, textiles, and metals, with construction also playing an important role. Furthermore, the service sector is the largest in Egypt's economy, employing around half of the working population and adding up to the largest portion of the total GDP. It is mainly represented by retail sales, tourism, banking, real estate, transport, communication, entertainment, and other services (Hopwood et al., 2020).

Table 2: Value Added and Employment by Sector, 2017

Sector	Egypt: Value added ² (%)	EU-28: Value added ³ (%)	Egypt: Employment ⁴ (%)	EU-28: Employment ⁵ (%)
Primary sector	11.7	1.7	25.0	4.4
Agriculture, hunting and forestry, and fishing	11.7	1.7	25.0	4.4
Secondary sector	34.4	24.6	26.6	21.6
Manufacturing, mining and quarrying, and other industrial activities	28.7	19.3	-	15.3
of which: Manufacturing	16.7	16.1	-	13.7
Construction	5.7	5.3	-	6.3
Tertiary sector	53.9	73.7	48.4	74.0
Wholesale and retail trade, repairs; hotels and restaurants; transport; information and communication	24.8	24.1	-	27.8
Financial intermediation; real estate, renting and business activities ⁶	15.2	27.6	-	16.6
Public administration, defence, education, health, and other service activities ⁷	13.9	22.0	-	29.6

Source: own table based on UNSD (2020), Eurostat (2020a; 2020b), and World Bank (2020)

Table 2 compares the share of value added and employment by sector of the most recent data for Egypt in 2017 with the values of the EU-28 countries as a percentage of the total. For both, the economically

² Retrieved from UNSD (2020)

³ Retrieved from Eurostat (2020a)

⁴ Retrieved from World Bank (2020)

⁵ Retrieved from Eurostat (2020b)

⁶ Included are the following subsectors: Professional, scientific, and technical activities; and administrative and support service activities.

⁷ Included are the following classifications: Arts, entertainment, and recreation; other service activities; and activities of household and extraterritorial organisations and bodies.

strongest sector is the tertiary sector, with 53.9% of the total value added for Egypt and 73.7% for EU-28 countries. This is also represented by the high share of employment in that sector. A major difference from the EU-28 countries is the relatively large primary sector in Egypt. While this sector employs exactly one-fourth of the labour force in Egypt, it accounts for less than 5% of the total employment in the EU-28 countries. The impact of the secondary sector is similar for both Egypt and EU-28 countries, although employment in the sector is slightly higher in Egypt, resulting in a notably higher value added in manufacturing, mining, and quarrying, as well as other industrial activities (UNSD, 2020; Eurostat, 2020a; World Bank, 2020).

Figure 1 illustrates the development of employment by sector over the past 30 years from 1991 until 2020. It shows that the employment in the secondary sector has remained relatively constant from 1991 until 2007, accounting for around 21% of the total employment. From then on, the sector slowly grew each year and reached 28% in 2020, indicating a tendency towards further expansion in the coming years. The biggest shift is observed from the primary agricultural sector to the tertiary sector. While both sectors each accounted for about 40% of the total employment at the beginning, in 2020, the primary sector shrunk to 23%. In contrast, the total employment in the tertiary sector increased to almost 49% and is currently the largest economic sector (World Bank, 2020).

Figure 1: Employment by Sector (as % of Total Employment), 1991–2020



Source: own figure based on World Bank (2020)

In terms of competitiveness, Egypt is ranked 93rd out of 141 countries and achieved a score of 54.4 out of 100, according to the WEF’s Global Competitiveness Index in 2019. This is a minor improvement of one rank compared to the previous year’s 94th place. Out of the 15 countries considered in the Middle East and North Africa, Egypt ranks 13th after Algeria and before Iran and Yemen. Egypt performed best in the ‘market size’ category, ranking 23rd out of all countries. In contrast, the country was ranked 135th in the field of macroeconomic stability because of its relatively high inflation rate and high debt levels. Furthermore, it placed 137th in the area of trade openness due to the existing high tariffs (WEF, 2019).

The Global Innovation Index (GII), which measures an economy’s performance in innovation, ranks Egypt 96th of 131 with a score of 24.23 out of 100 in 2020. Compared to the previous year, this is a loss of four ranks. The best performance was registered in the ‘knowledge & technology outputs’ category

due to the great knowledge impact. Although a decrease of the GII rank was registered for Egypt in 2020, it is believed that the country will increase its performance in the coming years, thanks to its relatively advanced level of development (Dutta et al. 2020).

Egypt's economy has been facing many challenges. The increasing population has put pressure on the limited amount of natural resources, such as the insufficient productive land mass and water. Moreover, the moderate standard of living and the chronic unemployment rates are causing many Egyptians to seek employment abroad. In addition, political uncertainty has negatively affected many sectors of the economy, with the greatest impact on construction, manufacturing, trade, and, especially, tourism (Hopwood, et al., 2020).

1.2 The Labour Market

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

1.2.1 Overview of Egypt's Labour Market

The Egyptian law permits workers to join and form independent unions, strike, and bargain collectively. Union elections must take place every four years. The hierarchy for union formation is strict: At the company level, there are trade union committees; for a profession, or at the industry level, there are general unions; and for subsuming all trade unions, there is a national-level union.

The International Labour Organization (ILO) Committee criticised Egypt's failure to meet the standards of Convection 87. Concretely, the main criticism was the minimum threshold of workers needed to form a union, which was proposed at 150. However, this would have narrowed the freedom of association because 90% of all economic activities would be conducted by enterprises with fewer than 50 employees. Furthermore, the threshold for forming general unions and confederations would give the government-sponsored confederations a de facto monopoly (Country Report on Human Rights Practices for 2019, S. 51).

Shortly after the criticism, the parliament amended the trade union laws. The required number of workers to form a trade union was reduced from 150 to 50. The number of trade union committees required to form a general union was reduced from 15 to 10, and, accordingly, the number of employees necessary to form a general union was reduced from 20,000 to 15,000. The same amendment states that to establish a trade union federation, only seven unions were necessary, and not 10, as was the case before, and the number of workers required was decreased from 200,000 to 150,000. Furthermore, the violation of labour laws on the workers' side can no longer be punished with prison but only with financial penalties (Country Report on Human Rights Practices for 2019, S. 51-52).

Collective bargaining is secured by law; nonetheless, restrictions are significant. While wages and benefits for the entire public sector are set by the government, collective bargaining at the enterprise level in the private sector is not allowed. Instead, negotiations are tripartite between business owners, representatives of workers belonging to a union affiliated with the Egyptian Trade Union Federation (ETUF), and the Ministry of Manpower monitoring and overseeing negotiations and agreements (Country Report on Human Rights Practices for 2019, S. 52).

Strikes are legitimate as long as they are peaceful. They are legitimated not only by the constitution but also by the Unified Labour Law. Nonetheless, there are significant restrictions. For instance, strikes must be approved by a general trade union affiliated with the ETUF (Country Report on Human Rights Practices for 2019, S. 52). Anti-union discrimination is forbidden, and this supports the reinstatement of workers fired because of union activity. However, some workers are not protected by the Labour Laws, such as domestic and agricultural workers and others working in informal economy sectors. Contrary to the law, the Ministry of Manpower did not permit trade unions to adopt bylaws (Country Report on Human

Rights Practices for 2019, S. 52). In reality, the enforcement of the law is not thorough. Striking workers are arrested, dismissals of workers participating in strikes are not reversed, and the requirement for tripartite negotiations are seldom followed. Instead, workers must negotiate directly with the employers, which normally only happens after a strike. Unions continuously face pressure to dissolve, and the Ministry of Manpower often leave unions' applications without a response. As the government controls the ETUF, it is nearly impossible to constitute a union that is independent of the state's interests (Country Report on Human Rights Practices for 2019, S. 51-53).

Regarding child labour, the law sets a minimum age for regular employment (15 years) and seasonal employment (13 years). Moreover, seasonal employment must not interfere with schooling. Children, defined as people younger than 18, are, by decree of the Ministry of Manpower, not allowed to work in 44 specified hazardous fields (Country Report on Human Rights Practices for 2019, S. 54). Child labour laws are not enforced effectively. While state-owned enterprises and private sector establishments are inspected by inadequately trained personnel, non-commercial farms and domestic service providers are seldom inspected. Nonetheless, the authorities implemented educational, social, and poverty reduction programmes. For instance, the National Council for Childhood and Motherhood (NCCM) and the Ministries of Education and Social Solidarity try to provide working children with social security and reduce school dropouts by giving the families in question alternative income sources (Country Report on Human Rights Practices for 2019, S. 54).

The monthly minimum wage for public sector workers and government employees is set by the government and includes bonuses and benefits. Moreover, a maximum wage limit is set for public sector workers. However, there is neither a nationwide minimum wage for the private sector nor a law that secures equal pay for equal work for men and women (Country Report on Human Rights Practices for 2019, S. 56).

Working hours must by law not exceed 48 hours per week for private and public sectors. Overtime and work on national holidays and rest days must be compensated separately. It should be noted that the law does not include employees in the fishery and agricultural sectors, neither does it include domestic workers. Therefore, no regulation in wages, working conditions, or hours applies in these sectors (Country Report on Human Rights Practices for 2019, S. 56).

Table 3 shows the labour force participation rate and the unemployment rate by age in 2019. Egypt has a significantly lower (49.5%) labour force participation rate than the OECD average (72.8%) for persons aged between 15 and 64. Additionally, the unemployment rate is worse in Egypt (10.8%) compared to the OECD average (5.6%). The labour force participation rate of youth aged between 15 to 24 is 29.0%, while the OECD average comes close to 50%. There are no data available to determine labour force participation rate and unemployment rate for adults aged between 25 and 64 in Egypt.

In terms of the unemployment rate, Egypt has higher rates in both age categories. In total, the unemployment rate in Egypt lies at 10.8%, while the OECD average is approximately half as much and lies at 5.6%. A similar pattern can be seen in the unemployment rate of youth. Egypt has a youth unemployment rate of 24.7%, while the OECD average lies at half of Egypt's, namely 11.7%.

Table 3: Labour Force Participation Rate and Unemployment Rate by Age, 2019

Age group	Labour force participation rate (%)		Unemployment rate (%)	
	Egypt	OECD average	Egypt	OECD average
Total (15–64 years)	49.5	72.8	10.8	5.6
Youth (15–24 years)	29.0	48.1	24.7	11.7
Adults (25–64 years)	N/A	78.4	N/A	4.7

Source: own table based on OECD (2020a) and World Bank (2020)

Table 4 depicts the unemployment rate and the labour force participation rate for each level of education for persons aged between 25 and 64. In Egypt, 27.4% of people aged between 25 and 64 with an education level less than upper secondary education participate in the labour force. This is half as much as the OECD average, which lies at 58.8%. However, the unemployment rate at the same level shows the contrary. Egypt has less than half (4.1%) the unemployment rate than the OECD average at 12.8%.

At the upper secondary education level, the numbers for both entities do not show much of a gap. The labour force participation rate for Egypt lies at almost half at 48.3%, while the OECD average is as high as 76.2%. Furthermore, the unemployment rate is similar: Egypt's is 10.4%, while the OECD average is 7.7%.

At the tertiary education level, the labour force participation rate for Egypt is 70.3%. This rate is close to the OECD average of 85.3%. The most surprising number is the unemployment rate at this education level. Egypt's rate of 22.1% is significantly higher than the average rate of 5.1% in the OECD countries. This is due to the mismatch of the curricula and the skills needed in the labour market (World Education, News + Reviews, 2021).

Table 4: Labour Force Participation Rate and Unemployment Rate by Education, 2018

Education level	Labour force participation rate (%)		Unemployment rate (%)	
	Egypt	OECD average	Egypt	OECD average
Less than upper secondary education	27.4	58.8	4.1	12.8
Upper secondary education	48.3	76.2	10.4	7.7
Tertiary education	70.3	85.3	22.1	5.1

Notes: own table based on OECD (2020b), OECD (2020c), and World Bank (2020). In Egypt the labour force participation rate is based on the total labour force, while in the OECD on persons aged 25–64.

1.2.2 The KOF Youth Labour Market Index

The KOF Swiss Economic Institute developed the KOF Youth Labour Market Index (KOF YLMI) to compare the youth labour market situation across countries (Renold et al., 2014). The foundation for this index is the critique that a single indicator, such as the widely used youth unemployment rate, does not suffice to describe the youth labour market situation adequately nor provide enough information for a comprehensive cross-country analysis. To increase the amount of information considered and to foster a multi-dimensional view, the KOF YLMI consider twelve indicators that are grouped into four dimensions (see the information box to the right).

The first dimension is the **Activity State**. It contains three indicators, and captures to what extent the youth are active. Youth refers to all individuals aged 15-24. The indicators are the Unemployment Rate, the Relaxed Unemployment Rate and the NEET rate. The **Working Conditions** dimension consists of five indicators that capture the quality of employment.

Those are the Temporary Worker Rate, the Involuntary Part-time Worker Rate, the Atypical Working

Dimensions and the indicators of the KOF YLMI
Activity State - Unemployment Rate - Relaxed Unemployment Rate - Neither in Employment nor in Education or Training Rate (NEET Rate)
Working Conditions - Temporary Worker Rate - Involuntary Part-time Worker Rate - Atypical Working Hours Rate - In Work at Risk of Poverty Rate - Vulnerable Employment Rate
Education - Formal Education and Training Rate - Skills Mismatch Rate
Transition Smoothness - Relative Unemployment Ratio - Long-term Unemployment Rate
Source: Renold et al. (2014).

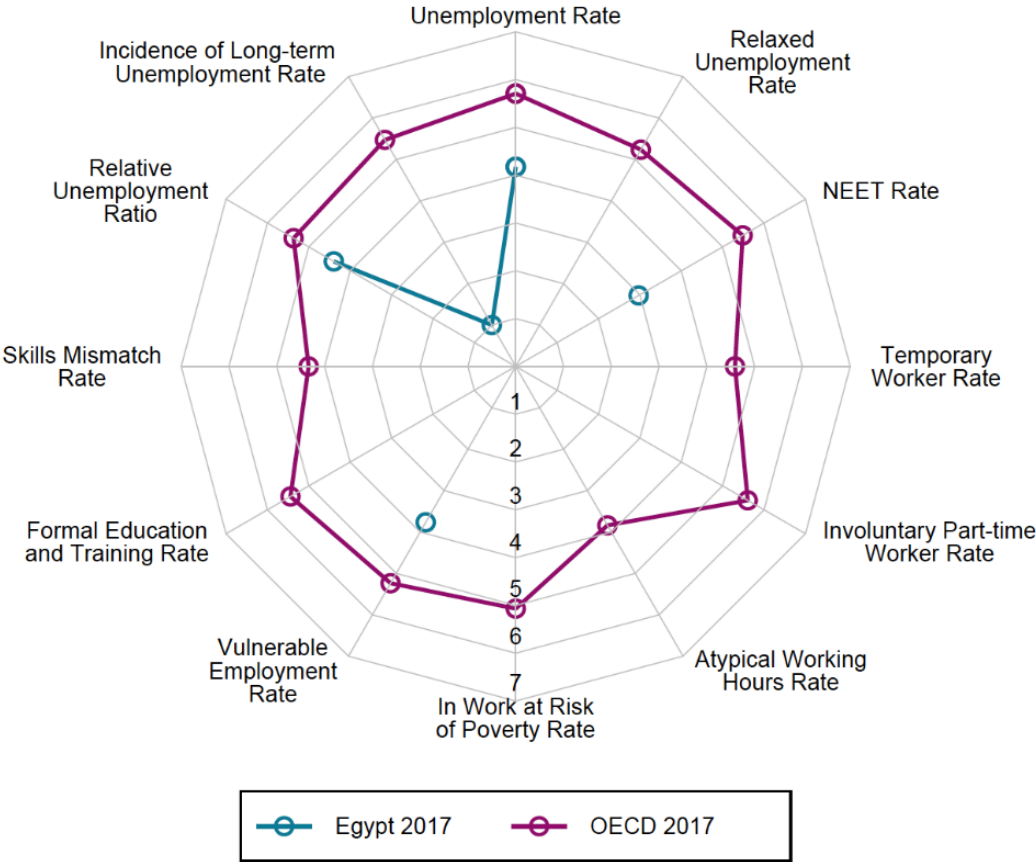
Hours Rate, the In-work At-risk-of-Poverty Rate and the Vulnerable Employment Rate. **Education**, the third dimension, aims to capture the quantity and quality of education and training via two indicators: the Formal Education and Training Rate and the Skills Mismatch Rate. Finally, the **Transition Smoothness** dimension describes the dynamics of the transition process between school and work. The indicators Relative Unemployment Ratio and Long-Term Unemployment Rate compose this dimension.

Before aggregating the indicators into a single index, each indicator value is rescaled into an indicator score that takes values between 1 and 7, where higher scores suggest more desirable outcomes. The data for the indicators are collected from different international institutions and cover up to 178 countries from 1991 onward. Unfortunately, data are not available for all countries in every year, so that one of the major limitations of the KOF YLMI is data availability. When data is lacking, a dimension can occasionally be based on a single indicator or must be omitted entirely when not a single indicator for that category has data available. A lack of indicators can make comparisons across countries or groups of countries problematic and sometimes even impossible.

1.2.3 The KOF YLMI for Egypt

Figure 2 shows the different dimensions of the KOF YLMI for Egypt and the OECD average for 2017 in a spider web. As depicted, there are only five indicators available for Egypt. The whole picture points towards a lower YLMI score for Egypt than for the OECD average. Out of the five indicators available for Egypt, four have a relatively similar difference to the OECD average, namely around one to two points less. For the incidence of the long-term unemployment rate, Egypt scores remarkably worse than the OECD average. In this category, Egypt scores around four and a half points less than the OECD average.

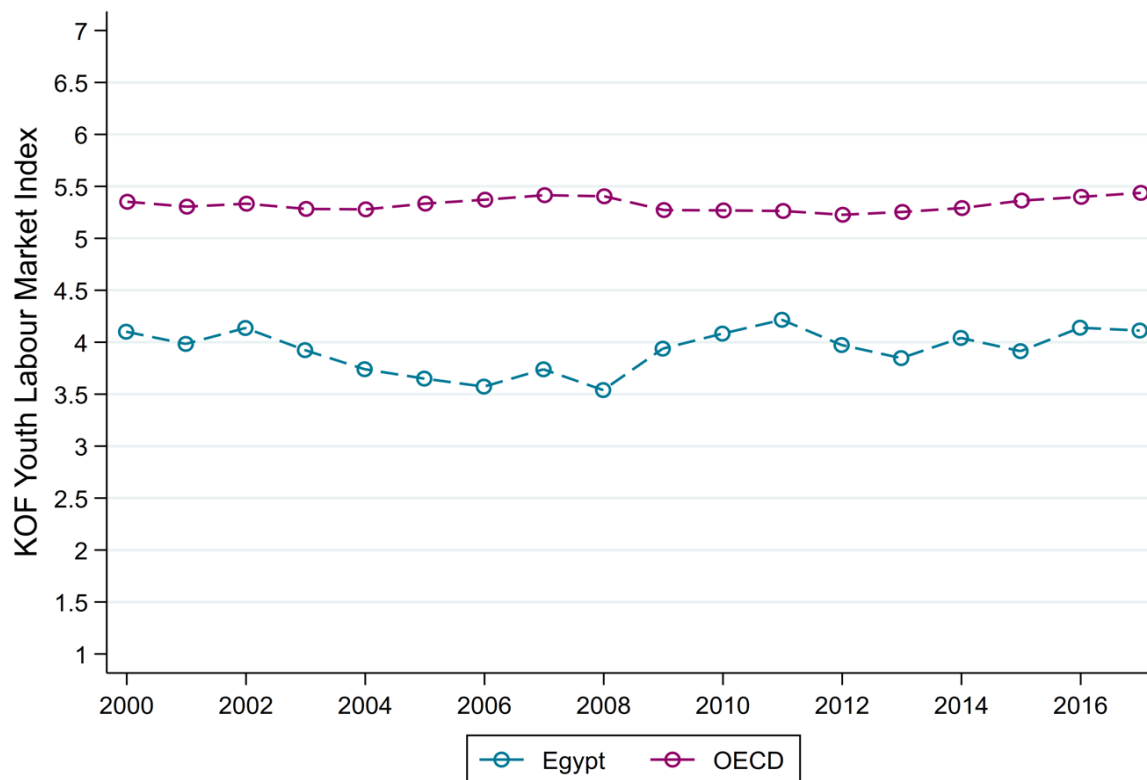
Figure 2: YLMI Scoreboard: Egypt versus the OECD Average, 2017



Source: KOF Swiss Economic Institute, (2021)

Fehler! Ungültiger Eigenverweis auf Textmarke. shows the evolution of the YLMI from 2000–2017. For this time frame, only three indicators are available without a gap: the unemployment rate, the vulnerable employment rate, and the relative unemployment rate. The OECD average is more or less constant over time and lies between 5 and 5.5. Egypt has an overall lower index. Except for the period between 2004 and 2008, the index lies at around 4 points. From 2004–2008, the index shows worsened conditions in the three available indicators. They lie between 3.5 and 3.75.

Figure 3: YLMI: Egypt versus OECD, 2000–2016



Source: KOF Swiss Economic Institute, 2021

1.3 Egypt'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 understanding the education system in a broader sense. Therefore, in Section 1.3.1, we start by presenting Egypt'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 Egyptian Political System

The Arab Republic of Egypt is proclaimed to be a democratic state that has Islam as its state religion and Arabic as its national language. The head of its political system is the president, who, together with the cabinet, forms the executive branch. The presidential term is six years and can be extended. The prime minister, the head of government, is appointed by the president and approved by the House of Representatives, which holds the legislative power. The House of Representatives validates all laws and manages the national budget. Together with the Senate, the House of Representatives forms the bicameral Parliament (Hopwood, et al., Egypt, 2020).

Three levels of subnational administration exist in Egypt: *muḥāfaẓāt* (governorates), *markaz* (districts or counties), and *qariyyah* (villages). At each level, two councils – the elected people's council and the executive council – constitute the political institutions. Although the councils are appointed to represent legislative power, the central government controls them (Hopwood, et al., Egypt, 2020).

Egypt is divided into 27 governorates. The governor is appointed and dismissed by the president. The governor has the highest executive and administrative authority over all government personnel but judges and must implement policies. Governorate councils should have at least half of their members from the working people. The district or town councils have the same administrator principles underlying the governorate councils (Hopwood, et al., Egypt, 2020).

The Economist Intelligence Unit (2020) classifies Egypt as an authoritarian regime. It justifies this claim by pointing at persistent corruption that exists across various industries. The Red Flag Group (2020) states that corruption in Egypt is encountered in the form of bribery, embezzlement, tampering with official documents, and extortion. Furthermore, political forces significantly influence prominent industries, such as the oil and gas sector. This high corruption rate is also verified in the Corruption Perception Index 2019 (Transparency International, 2020), in which Egypt scored 35 out of 100 points, with 0 being 'highly corrupt' and 100 being 'very clean', ranking Egypt 106th out of 180 countries.

1.3.2 Politics and Goals of the Education System

Egypt's system of government is centralised. The president appoints the governor of the administrative regions. Similarly, in education, the policies are made at the national level, while the implementation thereof is guaranteed by local educational directorates in the different governorates. Responsible for education at the national level is the Ministry of Education (MoE) on the one hand and the Ministry of Higher Education on the other hand. The former is administered by the High Council of Pre-University Education. It is responsible for preschool, elementary, and secondary education. In addition, national examinations, curricula, teaching materials, the provision and development of textbooks, and other similar matters are under the administration of the MoE (World Education, News + Reviews, 2021).

The Ministry of Higher Education oversees higher education at public and private higher education facilities. The supervisory organ is the Supreme Council of Public Universities, the Supreme Council of Higher Institutes, and the Supreme Council of Private Universities. These bodies are responsible for quality control, the approval of new higher education institutes and programmes, and the coordination of policies between institutions. The chair of the bodies is the Minister of Higher Education. As an autonomous body, the National Authority for Quality Assurance and Accreditation in Education (NAQAAE) accredits academic institutions and programmes and is under the prime minister (World Education, News + Reviews, 2021).

There is also the special case of religious education for which the Ministry of Religious Affairs is responsible. The so-called Al-Azhar Universities and affiliated schools and colleges are administered by the Al-Azhar Supreme Council. It has autonomy and substantial influence by running not only post-secondary Islamic research institutions but also thousands of elementary and secondary schools (World Education, News + Reviews, 2021).

Egypt's education system mainly faces funding and quality challenges. As enrolment rates have risen, increased funding and more requirements are needed. Although the pupil-to-teacher ratio has accordingly risen, teachers' salaries have decreased. Moreover, while the literacy rate rose from 85% in 2005 to 94% in 2017, around 30% of school-aged children still lack basic reading and writing skills. The higher education system is also inefficient and underfunded. From 2013–2015, around 21 students were killed, and more faced expulsion or were even arrested. In this climate of repression and upheaval, the academic freedom of expression and the autonomy of the institutions are severely restricted (World Education, News + Reviews, 2021).

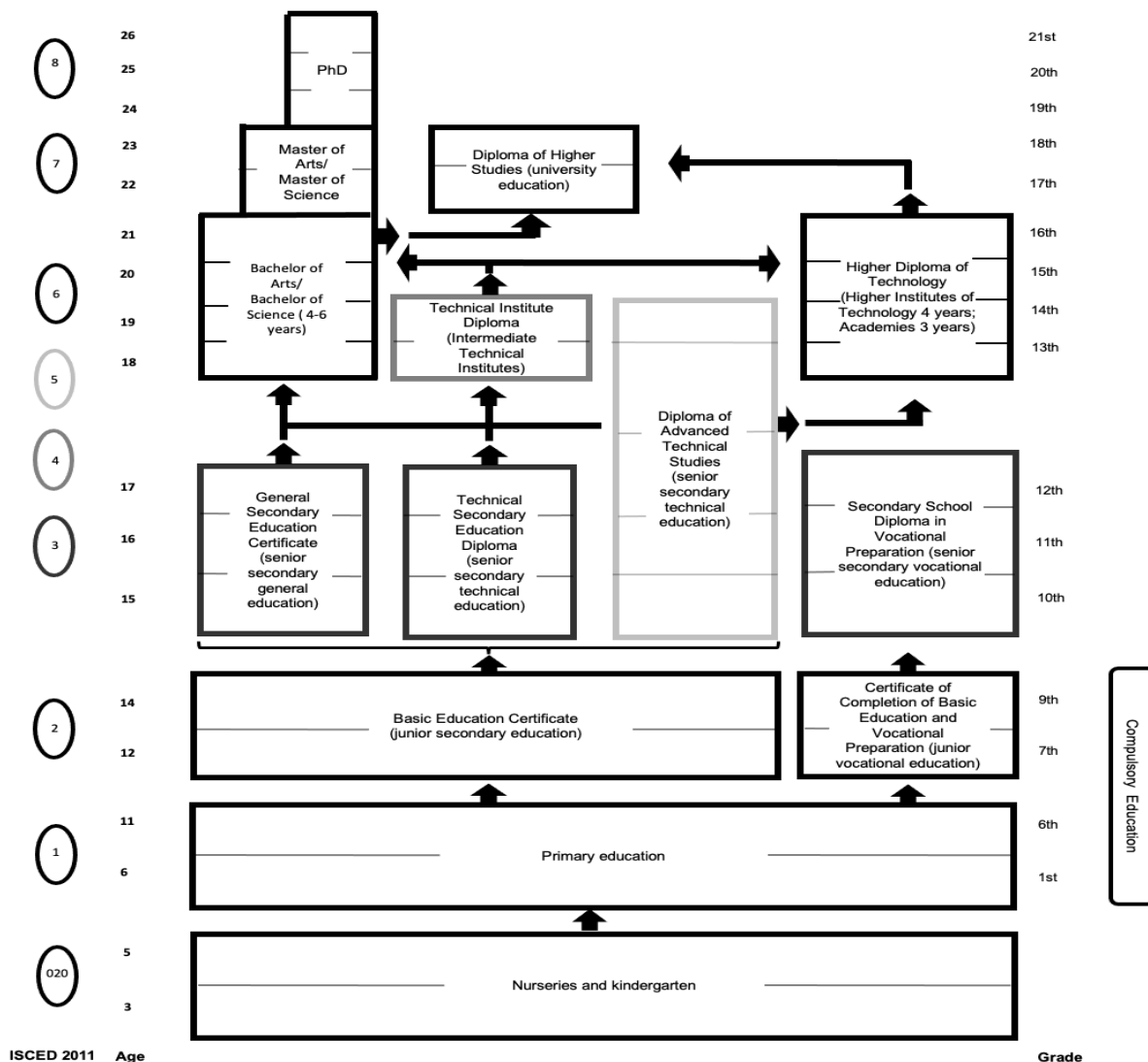
The biggest structural problem the higher education system faces is outdated curricula. The graduates have no future, as they lack the necessary skills to find suitable employment. Graduates usually enter the labour market by accepting low paid jobs in the informal sector. To highlight the worthlessness of a master's or doctoral degree in the labour market, some students publicly burned their diplomas in 2015. The danger of destabilisation of the political sphere posed by a failing education led to efforts to improve the educational system. Hence, President El-Sisi increased public education spending by 8% in the 2018/19 fiscal year (World Education, News + Reviews, 2021).

2. Formal System of Education

2.1 Formal System of Education

The Egyptian education system is divided into three levels: primary, secondary, and tertiary. As Figure 4 depicts, the primary level and junior secondary education are compulsory. After nine years of basic education, the student can choose between three upper secondary education paths. This is followed by two different higher education paths – university or higher institute of technology.

Figure 4: The Egyptian Education System



Source: own figure based on European Union (2017), ETF (2020c), and Central Agency for Public Mobilization & Statistics (2019)

Table 5 shows the net enrolment rate (NER) and the gross enrolment rate (GER) by education level for 2019 (Tertiary education 2018). 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 – expressed 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.⁸

Table 5: Net Enrolment Rate and Gross Enrolment Rate

Education level	ISCED 2011	Net enrolment rate	Gross enrolment rate
Early childhood education development programmes	010	N/A	N/A
Pre-primary education	020	26	29.3
Primary education	1	96.9	106.41
Secondary education	2–3	84.6	89.48
<i>Lower secondary education</i>	2	97.61	100.96
<i>Upper secondary education</i>	3	76.59	77.58
<i>Percentage enrolled in vocational secondary education</i>	2–3	N/A	47.35
Compulsory education age group	1–3	N/A	N/A
Post-secondary non-tertiary education	4	N/A	N/A
Tertiary education	5–8	N/A	38.9*
<i>Short-cycle tertiary education</i>	5	N/A	N/A
<i>Bachelor or equivalent level</i>	6	N/A	N/A
<i>Master or equivalent level</i>	7	N/A	N/A
<i>Doctoral or equivalent level</i>	8	N/A	N/A

Source: own table based on UNESCO (2020); data is from 2019 survey, * value from 2018

2.2 Pre-Primary Education

In Egypt, pre-primary education lasts two years and is aimed at children from four to five years old. The goal of this stage is the comprehensive development of the child's abilities to prepare them for primary school.

The provision of early childhood education is monitored by a committee at the governorate level called the Nurseries Affairs Committee. This committee is supervised by the NCCM. Further bodies involved in pre-primary education are the MoE, the Ministry of Insurance and Social Affairs, and the Ministry of Health (UNESCO-IBE, 2012, S. 12).

Kindergarten classes usually take place in formal classroom settings within a group of around 25 children. Most of the nurseries are run by NGOs (55%) and private facilities (42%), with a small number of kindergartens associated with local governments (3%) (UNESCO-IBE, 2012, S. 12).

⁸ A gross enrollment 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. repeat grades, adult learners). A value below 100 implies that not everyone in the typical age group for primary education is actually enrolled.

2.3 Primary and Lower Secondary Education

In Egypt, compulsory basic education starts with primary school at age six. It lasts nine years and is divided into two cycles. The first cycle, primary education, lasts six years. The second cycle is a preparatory cycle and lasts three years (UNESCO-IBE, 2012, S. 16). After passing the centrally set examination at the end of these three years, students achieve the Basic Education Completion Certificate (*shahâdat itmâm al-dirâsa bi-marhalat al-ta`lîm al-asâsî*) (Nuffic, 2018, S. 7).

If pupils fail to pass the examination at the lower secondary education level or have failed twice at the end of the first or second preparatory year, they can nonetheless continue their education in a vocational programme in a vocational school (UNESCO-IBE, 2012, S. 16). The diploma awarded at the end of this three-year track is called Certificate of Completion of Basic Education and Vocational Preparation (*shahâdat itmâm marhalat al-ta`lîm al-asâsî, i`dâd mihanî*) (Nuffic, 2018, S. 7).

The goal of compulsory education is to acquaint the pupils with the necessary tools to become productive citizens. For that reason, the focus lies on science, foreign languages, health, nutrition, and the environment (UNESCO-IBE, 2012, S. 14).

2.4 Upper Secondary Education

The three-year programme in vocational secondary school can be accessed with a Certificate of Completion of Basic Education and Vocational Preparation. However, the therein acquired Secondary School Diploma in Vocational Preparation (*diblôm al-madâris al-thânawiyya l-fanniyya, i`dâd mihanî*) does not grant any further access to formal education institutes (Nuffic, 2018, S. 7).

General secondary education lasts three years. After one year of a common curriculum, pupils choose between a general (academic) or a technical track, where the latter is taken by around 70% of all students. This is among others because the general track sets higher standards in connection to the needed test result from the previous phase (Nuffic, 2018, S. 7).

Secondary school curricula are uniform in all general secondary schools. While great emphasis is laid on memorising information, little to no project work, discussion, or group work occur (Nuffic, 2018, S. 7). Examinations in the first year of upper secondary general education occur at the end of every semester and are replaced with practical tests in some lectures. The General Secondary Education Certificate (*shahâdat itmâm al-dirâsa al-thânawiyya al-`amma*) examination occurs in the second and third year of upper secondary education at the end of the school year (Nuffic, 2018, S. 7). Together, these examinations make up the final result that determines whether or not access to higher education institutes is granted (UNESCO-IBE, 2012, S. 18).

In the Al-Azhar secondary school system, the focus lies on three subjects: religious education, education in the Arabic language, and general education. The Al-Azhar Secondary School Certificate (*al-shahâda l-thânawiyya l-azhariyya*) is granted to students upon completion of the subjects (Nuffic, 2018, S. 7).

Secondary vocational education is available in two different programmes. For middle-level technicians, there is a three-year programme. Successful students earn a Secondary School Technical Diploma. For high-level technicians, a five-year programme is available. Students who pass the centrally set examination receive the Diploma of Advanced Technical Studies (UNESCO-IBE, 2012, S. 18).

Generally, after 12 years of formal education, students take an exam called *Emtehan Thanaweyya al Amman* (National High School Examination). After passing the exam, students can enter higher education or continue in technical and vocational education (European Union, 2017, S. 10).

2.5 Post-secondary and Higher Education

Different institutions offer higher education: universities, higher specialised institutes, technical colleges, middle institutes, upper middle institutes, and academies (European Union, 2017, S. 1). Eligible for higher education is everyone with a General Secondary Education Certificate or equivalent thereof (European Union, 2017, S. 9).

The academic year has two semesters of 15 weeks each and starts in September and ends in July. Almost 100% of general secondary education certificate holders continue at a higher education institute (European Union, 2017, S. 10,12).

The MoE and Scientific Research have the overall responsibility for implementing and developing education policies. Higher education programmes are regulated by four executive bodies: the Supreme Council of Public Universities, the Supreme Council of Private Universities, the Supreme Council of Technical Higher Institutes, and the Supreme Council of Al-Azhar. Additionally, the NAQAAE is responsible for accrediting higher education institutions (European Union, 2017, S. 5-6).

Universities have a high level of decentralisation in terms of regulation, community service, and financing and fundraising (European Union, 2017, S. 6). For example, they can create new faculties according to the needs of the community they are embedded in. Nonetheless, the concluding agreement must be given by the councils to make sure that years of study, numbers of hours, and the courses taught are in line with the overall standards (European Union, 2017, S. 6/7).

The budget for higher education facilities is given by the Ministry of Finance according to the request of the universities. Besides the official budget, universities can raise funds in other sectors. In 2014/15, expenditure on public university education was as high as 26.4 billion Egyptian Pounds, which is 3.34% of state public expenditure and 28% of all public expenditure on education. As the Egyptian constitutions guarantee every citizen higher education, the tuition fees are held very low to make it available to all. The state-funded budget makes up 10% of the total budget, while the self-provided budget makes up 15% (European Union, 2017, S. 7-8).

The financing of private higher education institutions happens without government involvement. Accordingly, the fees at private higher education institutions are higher. In 2016, 24 such institutions ran in Egypt (European Union, 2017, S. 8).

The duration of an education path at the university ranges between four, five, and six years, depending on the chosen subject. Bachelor courses are standardised and have a duration of four years for most faculties and studies. Engineering studies last five years, and it takes six years to complete medical studies. Bachelor's degree holders may continue their studies at the postgraduate level. First, there is the master cycle, which takes two years, followed by the doctoral cycle, which takes at least two years, but may vary (European Union, 2017, S. 10).

Students can choose a university but depend on the university coordination office of the Ministry of Higher Education. The office decides on the placement depending on grades, choice of study, number of graduates applying, and geographical distribution. For special disciplines, such as tourism or applied and fine arts, further examinations are taken (European Union, 2017, S. 12).

Short cycle higher education,⁹ as opposed to university bachelor's degrees, usually takes only two to three years and is categorised as technical middle education. It is taught at middle institutes and usually

⁹ There are different categorisations in different papers. While the European Union (2017) subsumes the technical middle institutes under higher education (ISCED 6), the ETF (2020) categorises the advanced technical secondary five-year programme as ISCED level 5, the two-year post-secondary non-tertiary middle institutes/technical colleges/technological universities as ISCED level 4, and the private higher institutions as ISCED level 5 (7–8).

offered in tourism, agriculture, business, or industrial technical education (European Union, 2017, S. 14). There are two kinds of second cycle programmes at higher education institutes. There are academic master's degrees (Master of Arts or Master of Science) and professional master's degrees (Master of Business Administration or Master of Engineering). While the graduates of the former programme can continue their studies with a PhD programme, the graduates of the latter are not eligible to enrol on PhD programmes. Master's programmes are offered by research institutes or faculties within universities. Their duration varies from two to five years, and studies are completed with a master's thesis (European Union, 2017, S. 14). The admission criterion is the prior obtainment of a bachelor's degree (Bachelor of Arts or Bachelor of Science) that must be completed with the minimum grade of 'good'. In some cases, there are admission exams to be passed or other special requirements, such as working experiences (European Union, 2017, S. 14).

Third cycle programmes, PhDs, are offered by universities. They usually last between two and five years but can at times last longer. The admission criterion is a master's degree. A PhD is finished with a PhD thesis in all but medical studies, for which an exam must be taken (European Union, 2017, S. 16).

2.6 Continuing Education (Adult Education)

Although there is no clear lifelong learning strategy, two forms of lifelong learning initiatives exist: open education and distance learning.

Open education requires students to have obtained their General Secondary Certificate or an equivalent certificate at least five years prior to the application. Thus, it is aimed at people who could not directly continue their education after secondary school.

The second type – distance learning – occurs at university centres that offer training programmes to the community. Distance learning programmes are intended to address market needs or industrial needs in the local vicinity. The Supreme Council of Universities provides the framework for this type, while the universities regulate these centres (European Union, 2017, S. 3).

2.7 Teacher Education

Kindergarten teachers must hold at least a bachelor's degree specialising in early childhood development and education (UNESCO-IBE, 2012, S. 13). This can be studied at the faculties of education with special pre-service training programmes for kindergarten teachers and in-service packages. The duration of the studies is four years. The in-service training is organised by the Central Directorate for In-service Training (UNESCO-IBE, 2012, S. 22).

According to a 1989 policy mandate, primary education teachers must hold a university degree that specialises in education, which has a duration of four years. The primary education teacher preparation is under the responsibility of higher institutes and university faculties (UNESCO-IBE, 2012, S. 21).

Teachers for the second cycle of basic education and general secondary education are also trained at the faculties of education. In addition, teachers for technical education are trained in special faculties for which the same enrolment requirement holds as for other teachers, namely holding a General Secondary Education Certificate or equivalent (UNESCO-IBE, 2012, S. 21).

Vacant teaching positions in higher education institutions can be filled either through the nomination of faculty members or public advertisement. The faculty can offer students with extraordinary achievements the post of teaching assistant. If there are no suitable candidates within the institution, the universities will publish vacant positions (European Union, 2017, S. 17).

3. The System of Vocational and Professional Education and Training

Fehler! Ungültiger Eigenverweis auf Textmarke. depicts the TVET system from the preparational stage to the higher institutions with the duration, ISCED level, and the National Qualification Framework (NQF). In the following section, the TVET system of the upper secondary education level will be discussed, followed by the post-secondary education level. For the overall VET, it should be noted that only 2% accounts for a dual system of work-based learning even though it would be an important priority (ETF, 2020a).

Table 6: The TVET Paths According to Duration, ISCED Level, and NQF Level

TVET path	Duration in years	ISCED level*	NQF levels
Vocational preparation	2	2	2
Vocational secondary	3	3	3
Technical secondary	3	3	3
Intermediate technical institutes	2	4	4
Advanced technical secondary	5	5	5
Private higher institutions	4	5	6
Technical (Professional) Master	2	7	7

Source: own table based on ETF (2020c)* and European Union (2017)

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

There are three pathways students can take in VET at the upper secondary education level. They can either enrol for a three-year diploma in vocational education, a three-year diploma in technical education, or a five-year advanced technical diploma. While the three-year programmes lead to an ISCED level three qualification, the five-year diploma leads to an ISCED level five qualification (ETF, 2020c, S. 8).

The first pathway begins after primary education. When pupils do not successfully end primary education or could not pass the first year of lower secondary education, they might enrol in a three-year programme at a vocational school. Pupils in this track end the compulsory education with the Certificate of Completion of Basic Education and Vocational Preparation (*shahâdat itmâm marhalat al-ta`lîm al-asâsî, i`dâd mihanî*) (Nuffic, 2018, S. 7). With this certificate, pupils are granted access to a vocational secondary school. The therein granted diploma is called Secondary School Diploma in Vocational Preparation (*diblôm al-madâris al-thânawiyya l-fanniyya, i`dâd mihanî*). It does not give access to any further education and is, thereby, a final programme of study (Nuffic, 2018, S. 7). Furthermore, the quality of the responsible vocational preparation schools is low due to unavailable or poor facilities. The tools and workshops are of low quality or non-existent, and the attendance level is low. While vocational subjects

make up 34%, the rest of the curriculum is filled with general subjects (UNESCO-IBE, 2012, S. 16). In the 2018/19 academic year, 28,227 pupils received a Secondary School Diploma in Vocational Preparation from 282 different institutions with 3,182 teachers and 1,337 trainers. They specialised in the following sectors: nursing (42.5%), vocational training (22.1%), technical technician (14.4%), mail (5.9%), electricity and mechanics (3.6%), and educational training (2.9%) (CAPMAS, 2020a).

The second and third pathways are for pupils who have successfully ended compulsory education with the Basic Education Certificate (*shahâdat itmâm al-dirâsa bi-marhalat al-ta`lîm al-asâsi*) but whose marks are not good enough for the general secondary education track (Nuffic, 2018, S. 7). They either attend a three-year or a five-year secondary vocational programme in the areas of industry (*sinâ`a*), agriculture (*zirâ`a*), or commerce (*tidjâra*) (Nuffic, 2018, S. 8). Pupils who end the three-year track receive the Secondary School Technical Diploma in Commerce/Industry/Agriculture (*diblôm al-madâris al-thânawiyya l-fanniyya al-tidjâriyya/al-sinâ`iyya/al-zirâ`iyya*). Depending on their marks, they are eligible to further their studies in a post-secondary programme either at an intermediate (technical) institute (*ma`had fannî or ma`had mutawassit*), a higher education institute, or the university. However, this is only possible if their marks are 70% or higher (Nuffic, 2018, S. 8). The five-year programme ends with the Diploma of Advanced Technical Studies in Commerce/Industry/Agriculture (*diblôm al-madâris al-fanniyya al-mutaqaddima al-tidjâriyya/al-sinâ`iyya/al-zirâ`iyya*). The exam is centrally set by the MoE. With a final grade of 75% of all points, the students can apply to a higher institute or some university programmes in their specialisations (Nuffic, 2018, S. 8).

The around 1,600 technical and vocational schools with either three-year or five-year tracks are administered by the MoE (OECD, 2015, S. 40). According to official guidelines, the ratio of taught subjects should be as follows: core subjects (50%), specialised subjects (40%), and electives (10%) (UNESCO-IBE, 2012, S. 10). However, there are no data available about which subject was implemented. In the 2019/20 academic year, 549,752 pupils graduated in technical education at the upper secondary education level. Out of them, 49.1% graduated from an industrial programme, 36.9% from a commercial programme, 10.3% from an agricultural programme, and 3.6% from a hotel programme (CAPMAS, 2020c).

In the secondary industrial schools in 2019/20, 4.8% of all students enrolled took the five-year track, and 95.2% took the three-year track. Of them, 20.0% took mechanical subjects, 19.5% took electrical subjects, 17.8% took histology subjects, and 10.5% took architecture subjects. In the same year, there were 92,592 teachers and 943,946 pupils in 1,235 industrial secondary education institutions (CAPMAS, 2020c).

In the commercial secondary schools, 3.1% of enrolled students in 2019/20 took the five-year track, and 96.9% took the three-year track. Of the total enrolled students, 51.0% specialised in public commercial division subjects, 19.1% specialised in management and secretarial subjects, 13.0% specialised in marketing and money market subjects, and 11.9% specialised in legal affairs. In 2019/20, there were 38,221 teachers and 799,487 students in 863 schools (CAPMAS, 2020c).

In the commercial hotel secondary education, 28.3% of all enrolled students took the five-year track, while 71.7% were enrolled in the three-year track. Of them, 43.6% specialised in general hotel division; 23.9% in kitchen; 20.8% in restaurant; 6.9% in touristic services and guidance; and 4.6% in internal supervision. In total, there were 2,940 teachers, 70,357 students, and 123 schools in 2019/20 (CAPMAS, 2020c).

The agricultural secondary education path was chosen by 240,615 students in 2019/20. Only 0.6% took the five-year track, while 99.4% were enrolled in the three-year track. Of them, 34% specialised in public division; 21.2% in preparation of field teachers and laboratory plants; 13.1% in food processing; 12.4% in animal production; 11.6% in crops; and 7.7% in agricultural mechanisation and land reclamation. There were 12,944 teachers in 251 schools (CAPMAS, 2020c).

After secondary education, 95% of graduates of secondary TVET education enter the workforce, while the top 5% of the attendants of the technical schools continue further studies in higher education institutions or university training (OECD, 2015, S. 40).

According to the value the public gives the different educational paths, general secondary education is the first choice, technical education is second, and the third is vocational education. These choices may be connected to the low qualification needed to join vocational schools. Only students with high marks can enter general or technical education, which allows for further studies at higher education institutes (OECD, 2015, S. 40).

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

Three different institutions offer professional education and training at the post-secondary and higher education levels: intermediate (technical) institutes (*ma`had mutawassit or ma`had fannī*), higher institutes (*ma`had āli*), and universities (*jāmi`a*) (Nuffic, 2018, S. 9-10).

The pathways to post-secondary PET are limited. Most students enrol after successfully ending a general secondary school, a technical secondary school, or a foreign secondary education. Graduates of general secondary schools can access all the different sectors of study but are prone to further their studies at the university if their marks are high enough (Àlvarez-Galván, 2015, S. 27). However, technical secondary graduates are bound to the area of their specialisation and cannot access other sectors of study.

Admission to higher education is given to students holding a General Secondary Education Certificate, a Secondary School Technical Diploma with a score of 75% or higher, or a Diploma of Advanced Technical Studies. Each faculty of the higher education system can set the minimum final grade required to be eligible for a certain specialisation. The highest marks are necessary for admission to faculties of medicine, engineering, and natural science. For agriculture, commerce, arts, and law, the lowest scores suffice (Nuffic, 2018, S. 9).

The intermediate (technical) institute (*ma`had mutawassit or ma`had fannī*) is a post-secondary non-tertiary education institution and counts as higher professional education (ISCED 4). It offers two-year programmes in specific areas. To be eligible, students must have either a General Secondary Education Certificate or a mark of at least 70% in the Secondary School Technical Diploma. The diploma awarded upon completion is called the Technical Institute Diploma (*diblôm al-ma`âhid al-fanniyya*). If the score is over 75%, the student can apply to a higher institute or continue a university programme in a similar specialisation (Nuffic, 2018, S. 9).

There are six categories under which the intermediate technical institutes are subsumed: industrial institutions (24),¹⁰ commercial institutions (25), social service institutions (6), technical tourism and hotel institutions (8), technical health institutions (12), and technical nursing institutes (19) (CAPMAS, 2021).

In the 2018/19 academic year, 47,632 students graduated from an intermediate technical institute, representing 8.4% of all graduates of post-secondary education. Of these, 34.4% finished from a technical health institution, 31.9% finished from an industrial institution, 21.7% finished from a commercial institution, 7.3% finished from a technical nursing institution, 2.3% finished from a social service institution, and 2.3% finished from technical tourism and hotels institutions (CAPMAS, 2019).

Higher institutes of technology offer four-year programmes and end with a Higher Diploma of Technology. This is considered by most universities as equivalent to a bachelor's degree. There are four higher

¹⁰ The number in parentheses signifies the total count of schools in the category.

institutes that offer three-year programmes. These are called academies. Graduates from an academy earn as well as those with a Higher Diploma of Technology (Nuffic, 2018, S. 12).

The admission criteria are the same as for higher education in general, but the minimum score to be eligible for a higher institute is lower at 65%. Most of the higher institutes are private and fall under the supervision of the Ministry of Higher Education and the jurisdiction of the Council for Private Higher Institutes (Nuffic, 2018, S. 10). Graduates of higher institutes can continue their studies for two further years in a master's programme at a university (Nuffic, 2018, S. 12).

In the 2018/19 academic year, 6,558 students, or 1.1% of all post-secondary graduates, graduated from academies in the following categories: Arab Academy for Science, Technology and Maritime Transport (69.9%), Security Academy (Police College) (20.8%), Sadat Academy for Administrative Science (5.8%), and Academy of Arts (3.3%) (CAPMAS, 2019).

In the 2018/19 academic year, 84,537 pupils, or 14.9% of all graduates of post-secondary education, were from a higher institute of technology. These are subsumed under these categories¹¹: commerce (33.4%), computer (25.1%), engineering (22.2%), social service (9.6%), tourism and hotel (4.4%), agriculture (2%), information (1.3%), language/language and translation (0.8%), applied art (0.7%), and literary studies (0.6%) (CAPMAS, 2019).

Universities provide not only academic but also higher professional education. The diploma Bachelor of Arts (*bakâlôriyûs âdâb*) is granted to graduates of language and literature studies. A Bachelor of Science (*bakâlôriyûs 'ulûm*) is the diploma for exact sciences, agricultural, and engineering specialisations. Moreover, in arts, law, and some teaching faculties, there is the licence (*lîsâns*) degree. While most programmes have a duration of four years, dentistry, pharmacy, veterinary medicine, engineering, and fine arts take five years. With either one of the three degrees, the graduate can enter the labour market or continue further studies (Nuffic, 2018, S. 10).

After the bachelor's degree, graduates can either further their studies with a 1–2-year programme in specialised coursework or with a master's degree (*mâjîstêr*). The former ends with a Diploma of Higher Studies (*dîblôm al-dirâsât al-'ulyâ*). The admission requirement is not particularly selective, as only a bachelor's or a licence degree in any specialisation is needed. The two-year programme is equivalent to a master's degree (Nuffic, 2018, S. 11).

To further one's studies with a master's degree, a bachelor's or licence degree in the same specialisation is needed. The score must not be below 'good'. Parallel to the differentiation pertaining to the bachelor's degree, there are Master of Arts and Master of Science (*âdâb* and *'ulûm*). The minimum duration is two years. The content depends on the faculty and can be a mixture of coursework and a thesis or only a thesis (Nuffic, 2018, S. 11). The doctorate degree (*dukturâh*) programme follows the master's degree. It consists of a three-year research and a five-year timeframe for completion (Nuffic, 2018, S. 11-12).

In the 2018/19 academic year, 406,369 pupils, or 71.4% of all graduates of post-secondary and higher education, were enrolled in a public university and 4.2% (23,770) in a private university. Of all the graduates of public universities, 22.2% were enrolled in a practical course and 77.8% in a theoretical specialisation. The practical enrolment shares of graduates in private universities lied at 28.3%, while 71.7% received their diploma in a theoretical specialisation (CAPMAS, 2019).

From all graduates of private and public universities in 2018/19, the biggest bulge of 66.4% graduated from the following five faculties: faculties of commerce (22.0%), faculties of education (13.7%), faculties of arts (12.9%), faculties of law (11.9%), and engineering/engineering and technology colleges (5.9%).

¹¹ In the parentheses is the percentage of all graduates of a higher institution that graduated from that branch.

3.3 Regulatory and Institutional Framework of the VPET System

The institutional framework is characterised by centralised VET governance. However, the overlapping responsibilities of public agents, the lack of cooperation between the ministries, and the absence of a consistent VET vision produce fragmentation and gaps in the governance (ETF, 2017, S. 3).

Stakeholders at local levels are decentralised and can initiate their ideas. Moreover, education networks, local training providers, and authorities have significant responsibility, as they are the owner of schools. Hence, decentralised authorities can develop multi-level, multi-actor governance in VET (ETF, 2017, S. 3-4).

Overall, over 20 ministries and institutions in TVET with different interests and a competition for leadership have led to a system of institutional power games. This hinders the key ministries (the Ministry of Education and Technical Education [MoETE], the Ministry of Industry, the Ministry of Trade and Small and Medium-Sized Enterprises, and the Ministry of Manpower and Migration [MoMM]) from ending the paralysation of TVET reforms and setting up a regulatory and institutional framework that fits the needs of the stakeholders (ETF, 2020a, S. 9).

3.3.1 Central Elements of VPET Legislation

The VET regulatory framework consists of presidential, ministerial, and prime ministerial decrees and many laws. Overall, the governance structure is characterised by a high degree of fragmentation and low coordination among the key stakeholders. It should be noted that no law exists in Egypt that regulates the cooperation between businesses and the education system. The relation between both entities relies solely on bilateral cooperation (ETF, 2020b, S. 9-10).

The most important law regulating the VET is the Labour Law No 12 of 2003. It contains laws pertaining to vocational training, apprenticeships, and occupational licencing. In 2016, a new labour law was drafted. Its task is, among others, to set up institutions to ensure the sustainability of TVET. However, by 2020, it had not yet been adopted (ETF, 2020c, S. 8). The most important parts of the VPET legislation are listed below (ETF, 2020b, S. 9):

- In 2004, Presidential Decree 290 established the Educational Development Fund.
- In 2006, Law 82 established the NAQAAE. In the same year, the Ministerial Decree 2655 reorganised the system of technical institutes under eight technical colleges and established their board of trustees.
- In 2007, Law 155 introduced the Teachers' Cadre. The Ministerial Decree No. 62 was issued to regulate procedures and controls of the dual education and training system.
- In 2014, in the wake of the Egypt Vision 2030, the government issued Ministerial Decree 283 to ensure the transition of VET students from school to work. In the same year, the Egyptian Constitutions introduced VET and made the expansion in VET and the compliance of the setting thereof with international quality standards a goal. Furthermore, the Prime Ministerial Decrees 705, 706, and 707 introduced a system of cascading councils at regional and central levels.
- In 2019, Law 72 established the Technological Universities and the Supreme Council for Technological Education.

3.3.2 Key Actors

There are three levels in the Egyptian VET system. At the central level, several ministries are responsible for administering the VET system. The intermediate level connects the central level with the VET providers and comprises directorates at the governorate or regional level. At the level of VET providers are the technical secondary schools, vocational centres, technical colleges, and Integrated Technical Education Clusters (ETF, 2020b, S. 10-11).

Among the key stakeholders, there is a high degree of fragmentation and low coordination (ETF, 2020b, S. 10). From 2015–2020, several modifications in the VET governance changed the institutional framework. Currently, four councils are planned at the policy level that aim to eliminate the fragmentation and build cohesion in the VET system: The National Human Resource Development Council (NHRDC)¹² (chaired by the prime minister), two executive councils (the Executive TVET Council [chaired by MoETE] and the Executive Workforce Skills Development Council [chaired by MoMM]), and the Regional Human Resource Councils at governorates' level. These councils would constitute the highest formal authority and the only platforms where the most relevant VET stakeholders were represented. Even though they were established by decree in 2014, in 2020, the MoETE is still in the phase of coordination with the Prime Minister's office and the Ministry of Planning and Economic Development (ETF, 2020b, S. 10).

The NHRDC constitutes the chief in the top-down system of cascading councils. This council oversees operational strategies and national policies for the entire education and training system. Furthermore, the Skill Development Council and the TVET Council must implement the policies by developing systems, procedures, and quality standards, as well as analysing the labour market to develop partnerships with business and social partners (ETF, 2017, S. 2).

Further actors are national policy advice-oriented councils. They have no decision-making role but responsibilities and liabilities. For example, the Industrial Training Council and Construction Skills Development Council coordinate existing training projects to make them more effective, while the Education Development Fund supports development in education (ETF, 2017, S. 2-3).

The NAQAAE was established in 2006 and is responsible for the quality assurance of VET providers. It is the only body responsible for accreditation. Nonetheless, many elements for assurance are lacking. For instance, there is no clear governance model, no national process for developing learning outcomes-based qualification, no appropriate assessments for outcome-based learning, and no model for the national qualification framework (ETF, 2020c, S. 8-9).

The Teachers' Cadre and the Professional Academy for Teachers (PAT) are taking up the task to enhance teachers' professionalism and provide a framework for teachers' education. The PAT accreditation is used for licencing teachers and recruiting new ones (ETF, 2020c, S. 11).

The Technical and Vocational Education Teachers Academy is an institution that will be established in the MoETE. In 2020, the ministry finalised the framework and guidelines for establishing the academy. Its task will be to train technical education trainers, teachers, instructors, master trainers, assessors, and verifiers (ETF, 2020c, S. 11).

3.4 Educational Finance of the VPET System

When it comes to financing the VPET system, four mechanisms can be identified. The most important is public financing. Institutions can further generate funds through core activities, enterprise financing, and international donors (ETF, 2020c, S. 6).

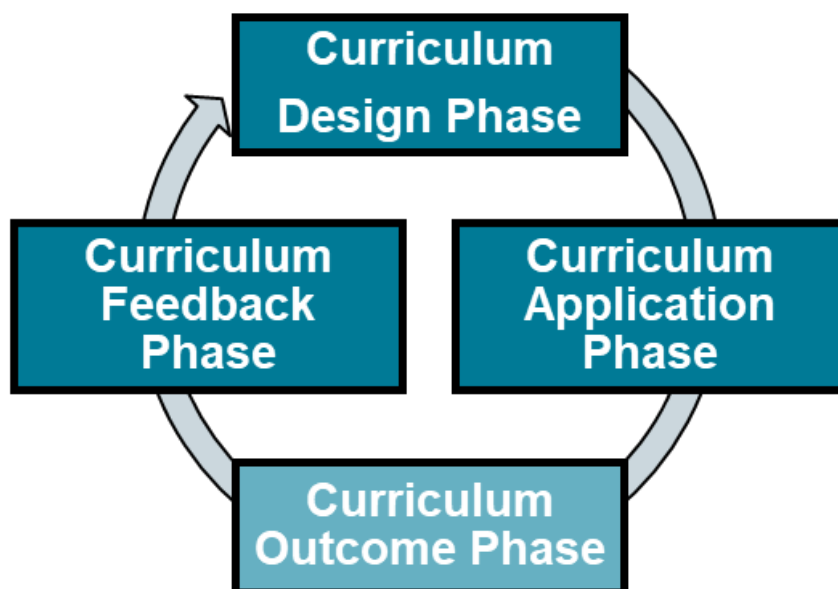
Public financing is organised by the Ministry of Finance, making the institution the main source of VET financing. The biggest share (30%) of the education budget in 2017 was used by university education. From the budget for pre-university education, about 15% was used for technical and vocational education and 10% for general secondary education. Most of the financing was used for salaries. Training, teaching, and learning materials cannot be adequately financed (ETF, 2017, S. 2).

¹² This replaces the Supreme Council for Human Resources Development.

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 comprising a curriculum design, a curriculum application, and a curriculum feedback phase. This theoretical concept is called the curriculum value chain and is depicted in **Fehler! Verweisquelle konnte nicht gefunden werden.** (for more details, see Renold et al. 2015; Rageth & Renold, 2019).

Figure 5: Curriculum Value Chain



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

In the curriculum design phase, the relevant actors decide on the VET curriculum's 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 Egypt. 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 initially possible.

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.

In Egypt, the MoETE is responsible for the curriculum's development and its content. Its duties include editing and printing books, assessments and examinations, and enforcing the regulations and laws pertaining to the VET providers. In addition, it helps pre-university education institutions comply with the quality standards set forth by the NAQAAE (ETF, 2020c, S. 8).

As the NAQAAE is the sole body responsible for the accreditation of educational institutes, its purpose is to ensure quality and implement quality assurance measures. It finances itself through the accreditation fees educational institutes must pay, as the accreditation of VET providers is mandatory by law (ETF, 2020c, S. 8). Moreover, the NAQAAE has the lead in developing and implementing the national qualification framework (NQF). Till now, this instrument has no legal status and is just in a preliminary stage. With it, other elements, such as a clear governance model, a national process for developing learning outcomes-based qualifications, a referencing qualification to the NQF, an appropriate assessment for outcome-based learning, and a financial model for the work connected to the NQF, are yet to be developed (ETF, 2020c, S. 9).

Through the MoETE's coordination with various international donor organisations, a unified methodology for competency-based curriculum design could be realised. In the second half of 2019, the methodology was initiated in 13 industrial programmes, nine agricultural programmes, six tourism programmes, five commercial programmes, and 105 technical schools. In this new model, the MoETE is in close contact with the Ministry of Industry to enhance employers' participation in the definition of occupational standards, qualifications, and curricula (ETF, 2020c, S. 9).

3.5.2 Curriculum Application Phase

How a curriculum is implemented, especially with respect to learning environments, is important to achieve the intended learning outcome.

In the aforementioned three-level administration unit, the Skill Development Council and the TVET Council are responsible for the curriculum application phase. It is their responsibility to develop systems, procedures, and quality standards to implement educational policies (ETF, 2017, S. 2).

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.

The NAQAAE quality assurance framework has nine criteria for evaluating the TVET system: leadership and governance, human and financial resources, vision and mission, civil society participation, quality improvement and accountability, curriculum, learners, teachers, and educational environment. Through performance standards and indicators for each area, the NAQAAE should be able to reflect the problems of VET institutions it controls. Although the NAQAAE has existed since 2006, it has so far only accredited 86 VET institutions. Six more institutions applied in 2020. Together, these 92 reviewed technical schools only make up 3.1% of all VET institutions (ETF, 2020c, S. 10).

The Central Agency for Public Mobilisation and Statistic (CAPMAS), the Information and Decision Support Centre, and the Ministry of Planning are responsible for gathering data, with which standards can be formulated. However, while extensive sector-based analysis through different projects, skill identification by curriculum committees, and the Egyptian Education, Training, and Employment Observatory's information system on labour market skills demand and supply have been undergoing, no link between data collection and TVET policy-making can be identified (ETF, 2020c, S. 9).

In 2018, the Egyptian government initiated a process to establish another Egyptian TVET Quality Assurance and Accreditation National Authority (ETQAAN) (ETF, 2020c, S. 10). In September 2020, the draft law to establish the ETQAAN was approved by the Cabinet of Ministers (ETF, 2020a, S. 9).

3.6 Supplying Personnel for the VPET System (Teacher Education)

Overall, teachers in Egypt are underqualified, inexperienced, and underpaid (UNESCO-UNEVOC, 2012, S. 8). Although the ministries have developed policies that should tackle the problem, they are not adequately implemented due to the lack of a monitoring strategy (UNESCO-UNEVOC, 2012, S. 8/9). For example, the National Strategy for Education Reform lacks any monitoring procedure in teacher recruitment. That is surprising, especially since the reform states teacher training as one of its main focuses. Until 2012, no formal induction programmes or accreditation processes had been implemented. Furthermore, data are needed to evaluate teacher education and the adequate recruitment and retention strategy, but such data are not available (UNESCO-UNEVOC, 2012, S. 9).

There is a triple interconnected challenge for the quality of VET teachers and trainers. Besides the weak pre-service training, there is only limited in-service professional development. Furthermore, the workplace experience is limited (ETF, 2020c, S. 8).

Teacher training in the industrial sectors occurs at industrial education colleges that offer four-year programmes. The PAT and the Teachers' Cadre try to provide a framework for professional and career development. These regulations and criteria are used to promote and recruit teachers. As of 2016, the PAT had trained 27,000 TVET teachers. All teacher training providers must be endorsed by the PAT. However, in recent times, the standards have been lowered (ETF, 2020c, S. 10).

Besides civil servants as teachers and trainers, some VET providers hire teachers and trainers as freelancers for a certain number of lectures. The pay and working standards differ accordingly (ETF, 2020c, S. 10).

In the 2018/19 academic year, the total number of VET teachers amounted to 1,635,576. Of them, technical secondary education had the biggest share of 91% of all teachers. Six per cent (9,382) worked in a higher education institute, two per cent (2,883) in formal education and training centres, one per cent (1,353) in technical colleges, and 133 in private middle technical institutes (ETF, 2020b, S. 12).

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

4.1 Major Reforms

The National Strategic Plan for Education, launched in 2007/08 and continued until 2011/12, had the following goals: to improve the assessment and examination system of technical secondary education, to integrate specialisations, to integrate vocational secondary schools into technical secondary schools, and finally, to provide new models for the future development of technical secondary education (UNESCO-UNEVOC, 2012, S. 5).

The Technical Education strategy was implemented from 2011/12 to 2016/17. The MoE developed the strategy to establish a high-quality technical education system through improving school infrastructure, raising the standards of teaching and quality assurance, increasing enrolment in technical education by raising awareness, using information technology to efficiently use labour market information, setting up cooperation mechanisms, developing continuous education, learning and training, and attracting external sources to finance technical education (UNESCO-UNEVOC, 2012, S. 5-6).

In 2013, Egypt adopted the Education Strategic Plan for 2014–2030. The plan contains the following changes pertaining to the technical education system:

- The Technical Education Development Programme aims to deepen the Egypt–European Union partnership pertaining to the Vocational Education and Training Reform Programme (TVET II). It develops a technical education that has the same high standards as international models, thereby stressing the cooperation among the involved actors. Ministries and stakeholders of technical and vocational education shall be connected to enhance the quality and efficiency of the education system. Furthermore, the Ministry for Technical Education was created (OECD, 2015, S. 5).
- The Technology Development Programme aims to make the interactive classroom methodology further available (OECD, 2015, S. 5). It is already applied in nine governorates and is intended to be expanded to the others in the next three years (2015).
- In 2018, the government approved the Law for the Establishment of New Technological Universities. Initially, eight universities are planned, which are publicly owned and will offer two- and four-year programmes in sectors such as agriculture, industry, technology, and commerce. They will be available for students with a diploma from general secondary schools or technical schools (ETF, 2020a, S. 9).
- In 2019, the MoETE initiated the implementation of a further reform strategy, Technical Education 2.0 (TE2.0). It relies on five pillars: increasing the relevance and attractiveness of VET, ensuring quality, training teachers, reviewing the governance model, and establishing a new model of public–private partnership (ETF, 2020a, S. 9).

4.2 Major Challenges

Post-secondary VPET institutions face many problems. For instance, adequately trained instructors, training courses, and equipment are lacking. On the one hand, this can be traced back to insufficient funding and low wages for teaching personnel. Graduates of technical secondary school teaching subjects mostly lack experience in the field of work. On the other hand, instructors with acquired skills in the field often lack the formal pedagogical training or preparation work as certified trainers (Àlvarez-Galvà, 2015, S. 28).

In higher education VPET subsectors, there were many complaints from students in a 2010 survey, such as the insufficient choice of fields of study for their career preferences and inadequate preparation for employment, as the curriculum is irrelevant. Furthermore, the lack of practical skills occurs due to the focus on memorising theoretical content, the lack of facilities and equipment, and passive pedagogies (Àlvarez-Galvà, 2015, S. 28).

With these problems, there are different challenges for the VPET in Egypt. The quality of the system is perceived as low, with inadequate institutional coordination and failing quality assurance. This, in turn, leads to reducing visibility and use of the VPET system. Furthermore, there is a lack of adequate employer engagement across the whole sector. Despite coordination with local employers to design the curricula to match labour market needs, this is not systematically applied. Workspace learning – a critical part of a robust VET system – is relatively absent in many VPET programmes. Moreover, students entering the VPET system have weak basic skills in numeracy and literacy. With the development of the market to a more technical-centred labour market, this issue is becoming more problematic over time (Àlvarez-Galvà, 2015, S. 33-34).

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