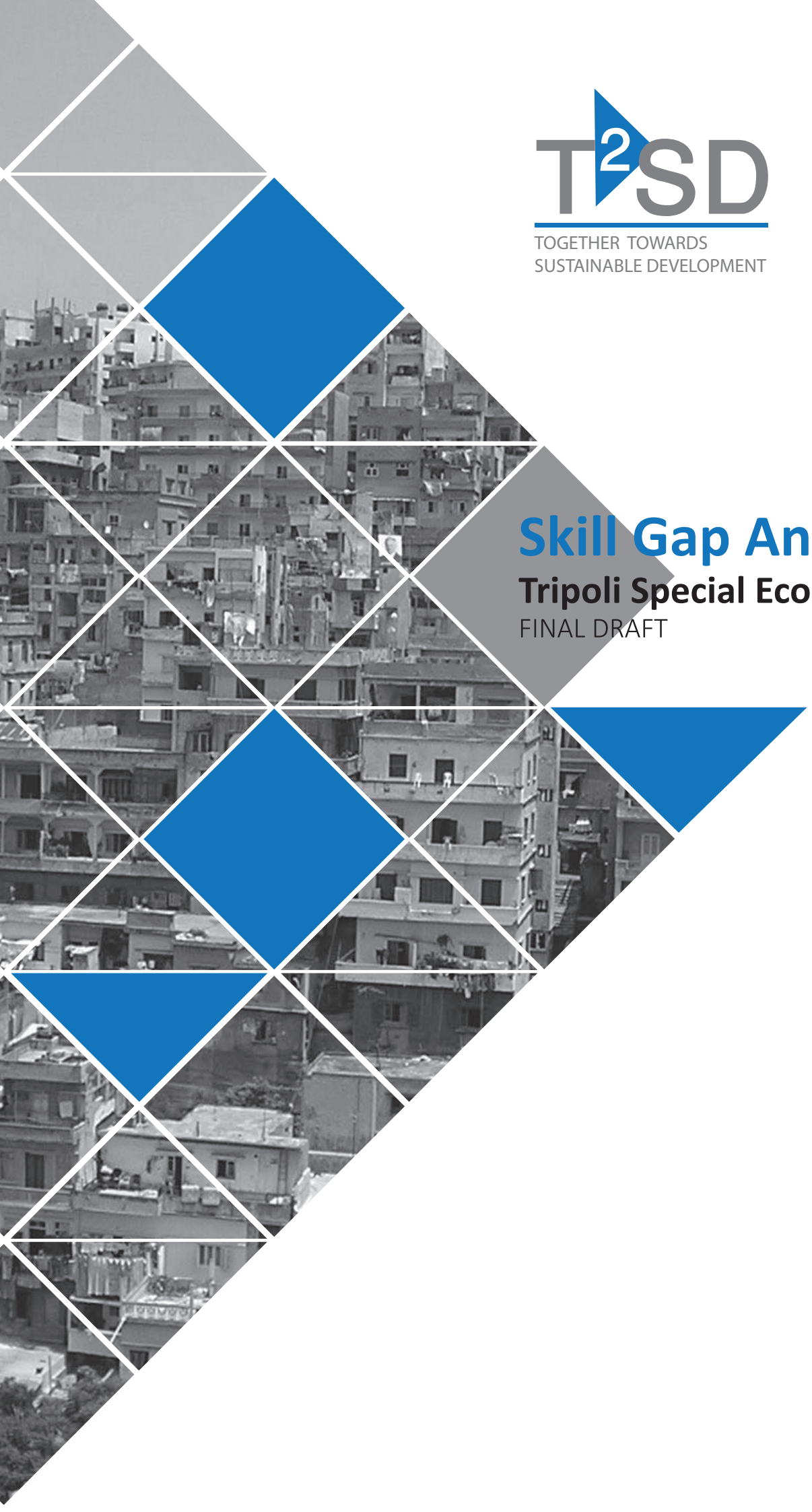

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# Skill Gap Analysis for Tripoli Special Economic Zone

FINAL DRAFT

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Prepared by
**Ilina Srour**

## Contents

## Foreword

On 1 January 2016, the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development officially came into force. Over the next fifteen years, with these new Goals that universally apply to all, countries will mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind. Most importantly, Agenda 2030 seeks to strengthen partnerships amongst governments, businesses, and civil society organizations to support the realization of the SDGs.

Building on the importance on partnership building in the achievement of the SDGs, the United Nations Development Programme (UNDP) in Lebanon established a flagship programme "Together Towards Sustainable Development" to strengthen private sector engagement and participation. In 2017, for the first year of implementation, a priority focus was given to Quality Education (Goal 4), given that this remains an important challenge in Lebanon, particularly in areas that are most impoverished across Lebanon.

The Skills Gap Analysis is therefore the product of engaging the private sector in addressing the challenges to the attainment of SDGs through a holistic and multi-stakeholder approach, while building on opportunities which the establishment of the Tripoli Special Economic Zone adjacent to the Tripoli port presents. The analysis focuses on potential employment opportunities, in the Northern region. It provides an overview of existing programs, and suggests the introduction of educational programs and trainings that involve Vocational Training Education (VTE), the provision of new types of necessary trainings that target and benefit labor demand, and means to implement them.

While assuring quality education and promoting lifelong opportunities to all remain a long-term endeavor, we believe that this is one step towards this objective, and that achieving this goal in Tripoli will be the result of collaboration between local businesses, formal and informal academic entities, and support from national and international entities.

Celine Moyroud

Country Director

# 1 Introduction and background

Tripoli is often described as a diverse city rich in economic, cultural, natural, and human resources, but poor in opportunities. Poverty and vulnerability are widespread with pockets of wealth in some of its neighborhoods that do not exceed 20% of the resident population. Historically, the State and its successive governments have not given Tripoli (and the entire Akkar region) the necessary attention and support for local social and economic development. For years, it has been plagued with political instability and civil strife among different sectarian and political groupings, which has weakened its economy and contributed to increased unemployment and marginalization among its citizens. The onset of the Syrian crisis has only added another layer of challenges through putting further pressure on the local economy, as well as social and physical infrastructure.

*"Tripoli is now one of the safest cities, but we need to bring back the trust to induce investment and create jobs"*

Member of the public sector

*"Labor would have more appetite to work in the zone if there are multinational companies there because they offer more stability, and higher salaries"*

Business owner

However, key informants from the city are optimistic that change is underway. They suggest that political will to improve the socio-economic situation in Tripoli is present and policy decisions have been made in that direction through ensuring the large investments and infrastructures needed in the area. Tripoli has become a development priority for the government as well as by a large section of the private sector that see it as a trade and transit hub in light of the reconstruction of Syria. In fact, the establishment of the Tripoli Special Economic Zone (TSEZ) is perceived within this context as a major project that will contribute to reviving the local economy by providing much needed employment opportunities and benefitting enterprises outside the zone through forward and backward linkages along the value chains present within the zone.

As part of the ongoing studies in preparation for the establishment of the TSEZ, the present research looks at the potential employment opportunities that the zone will provide, and performs a skill gap analysis to evaluate the degree to which the available workforce in Tripoli in particular and the North in general can cater to the TSEZ needs.

The study focuses on the Vocational Training Education (VTE) sector in Tripoli and the North and looks in particular at vocational trainings that need to fill the skill gap and suggests means to implementing them. It highlights perceptions of enterprises and business owners of VTE in the region. It maps out the public and private providers of VTE in the region, highlighting the programs that can potentially benefit labor demand in TSEZ. It also provides insight into the areas of potential cooperation between the VTE sector and TSEZ in terms of providing new types of needed trainings as well as updating existing programs to better cater to the demand in TSEZ.

## 1.1 The Tripoli Special Economic Zone: Vision and Expectations

On the 5th of September, 2008, the law number 18 for establishing the TSEZ was issued. In 2011, an initial masterplan for the zone was developed and it suggested several scenarios for the zone's location, articulated the various clusters that would be present in the zone, and presented the feasibility study for the project. Since then, the zone has remained under the planning stage with several further studies have been conducted. The Port site has been chosen as the location for TSEZ with 40 hectares of leasable space. It is expected to house 22 companies during the first five years, and reach full capacity of 70 companies by year 18 of operation.

There is a consensus among key stakeholders in Tripoli that TSEZ is going to have a positive economic impact and a large multiplier effect that will not only affect Tripoli, but the entire country. Some key informants suggest that TSEZ should be viewed as a regional force that will attract investment from the entire MENA region, including multinational companies.

As to who is likely to settle in the TSEZ, key informants agree that companies that export more than 50% of their output should be the target industries in TSEZ.

The in-depth interviews conducted for this study confirmed the 2010 master plan observation that very few existing enterprises would be willing to relocate their current operation to the TSEZ, at least during its first years of operation. Interviewed industrialists said that it is very difficult and costly for an established enterprise to move operations, but the incentives from energy cost saving to the proposed alternatives to NSSF would encourage Lebanese producers to expand and open new facilities in the zone. In this respect however, some industrialists voiced that expansion need not translate into more jobs; on the contrary, expansion through automation and mechanization using more up-to-date technologies may in fact have a labor-saving effect and create less jobs than one would expect.

In terms of employment generation, key informants expect the zone to impact no less than 5,000 jobs and they suggest that labor supply is overall available. They believe that the TSEZ might attract Lebanese who are working abroad, especially in the GCC countries, to come back and work in the zone, but they emphasize that the main target for employment should remain the currently unemployed youth who are living in the North.

Nevertheless, stakeholders and experts voice a number of concerns; they highlight the fact that the city as a whole needs to be ready to receive the TSEZ and to be able to benefit from its backward and forward linkages. The state of infrastructure should be improved to provide adequate network of transportation that links sea, land, and air transport. In addition, time is of the essence according to key informants where the willingness of foreign investors is linked to the speed at which the TSEZ can become operational.

## 2 Socio-economic indicators for Tripoli and the North: a dire need for jobs

The job opportunities that TSEZ would bring about would come to raise some households out of poverty or improve their volatile and vulnerable economic situation. The following section presents some background information on the state of unemployment and poverty in the North region.

### Poverty and deprivation

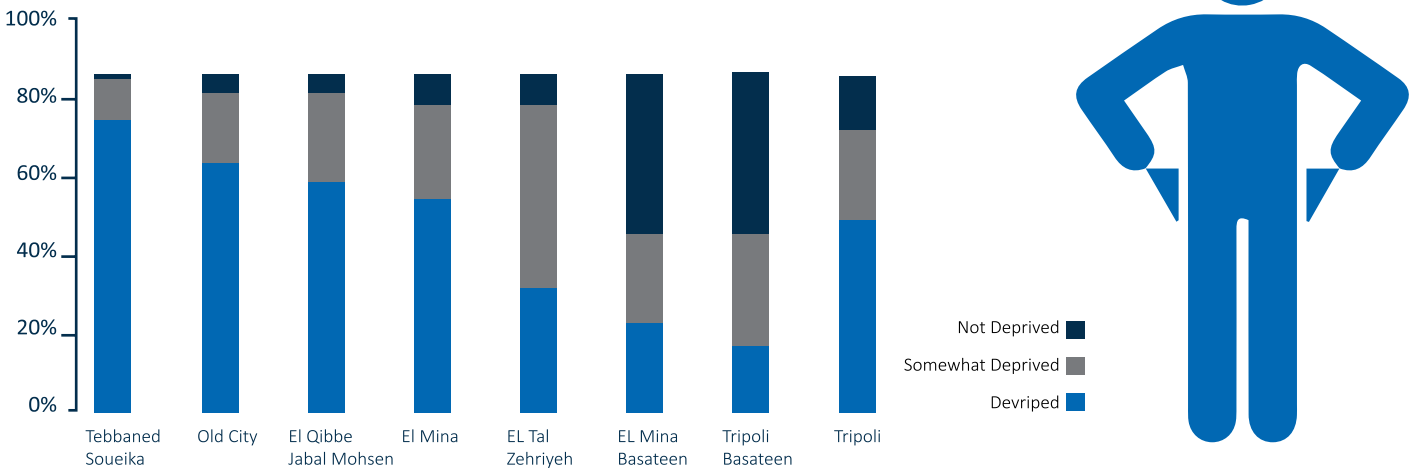
The North is home to 18.3% of the Lebanese population, and is reported to have highest poverty rates in the county, where 31% of the poor are located in the North governorate. The city of Tripoli is no exception, for according to the Urban Poverty Index (UPI) issued by the ESCWA in 2012, 57% of households in Tripoli are deprived of their basic needs and 26% are severely deprived. Economic deprivation scored the highest amongst the different categories of deprivation (77% of households), while education presented a lesser deprivation figure (25% of households). The figure below shows the distribution of households by deprivation level across the different neighborhoods of Tripoli. Tebbaneh / Soueika, the old city area, and Jabal Mohsen/ Qibbe have the highest levels of deprivation, while Basateen Mina and Tripoli have the highest share of well-off households. These results are not surprising as the former neighborhoods are historically the most underprivileged areas in Tripoli, and have been a center for political unrest and armed clashes between them, which first began during the 1980's and were intermittently spurred and put out until recently in 2015, where clashes between Sunni and Alawites in Syria were transferred to the city of Tripoli and reignited the historical conflicts in Jabal Mohsen and Tebbaneh areas, leaving 200 dead and more than 2,000 injured. This situation has not helped the youth in these areas to progress into higher levels of education, better skills, or long term employment. They have low levels of education and face difficulty finding and retaining jobs.

*The North is home to 18.3% of the Lebanese population*

*57% of households in Tripoli are deprived of their basic needs*

*26% of households in Tripoli arare severely deprived*

*Figure 1: Levels of deprivation according to Urban Poverty Index in Tripoli's neighborhoods*

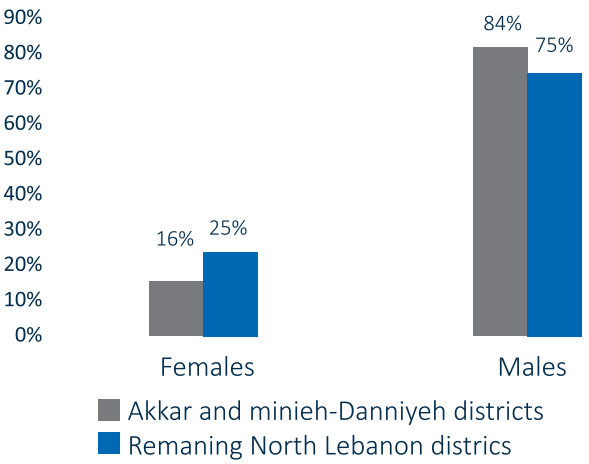



*Source:ESCWA 2014*

## 2.1 Unemployment

Economic activity, i.e. active labor force, in the North governorate reaches 43.4% in Akkar and Minieh-Danniyeh district and 48.3% in the remaining northern districts (including the city of Tripoli). This is very similar to the national average levels of economic activity of 47.6% (CAS, 2009). According to OCHA figures, 11% of national employment is located in the north. CAS figures show that it is predominantly male as depicted in the figure below. Figures from OCHA also show that more than 30% of the active labor force works in the services sector, 23% in trade, 14% in industry and 13% in agriculture.

*Figure 2: Distribution of employed in the Northern districts by gender*




*Source: CAS 2009*

As for unemployment, 21.8% of the unemployed in Lebanon are located in the Northern governorate. The unemployment rate in Tripoli reaches 35% (OCHA), which the municipality confirms and adds that youth unemployment, accompanied by high school dropout rates are quite worrying. Interviewed stakeholders argue that the past political turmoil and the state of poverty in which a lot of youth have been living has discouraged them from even wanting to earn an education.

> *"Youth in Tripoli are isolated, frustrated and demotivated. They are thirsty for new initiatives and investments"*
>
> Local economic expert

According to key informants, the probability of finding a job post-graduation is very much dependent on the sector of activity. Informants suggest that graduates with engineering and construction related degrees can find work easily. In addition, some specialized – "niche" - majors such as biomedicine are also in demand. However, people with more "generic" degrees such as business are finding more difficulty in finding jobs. An institute director said that many of their students who don't find work in their major come back to seek teaching jobs within the domain. In addition, informants agree and admit that clientelism and wasta do play a major role in finding jobs.

> *"Job seekers here have degrees, but they do not have skills"*
>
> Business owner

Key informants shed light on the shortage of skilled labor in Tripoli and the North, especially for practical technical skills. Interviewed industrialists confirm that they hire their technical skilled labor from outside Tripoli because Tripoli locals lack the required skills. Experts attribute this shortage to several reasons:

1. The educated youth of Tripoli leave as soon as they get the opportunity to do so. They either travel abroad or leave to Beirut.
2. Educational institutions, whether vocational or academic, are more theoretical than applied and do not include quality on-the-job types of trainings that provide their students with a level of experience they need to perform better, in their jobs.
3. Vocational education curricula are outdated and do not communicate with industries to accommodate their specific needs in terms of up-to-date technological and technical skills.
4. The majority of businesses in Tripoli and the North (and Lebanon for that matter) are family

businesses, so bridging between the private sector and technical schools is more difficult. These businesses do not accept apprentices to come, learn the know-how, and then leave. Even larger enterprises are not keen to invest in internships and training programs because they say that skilled labor who get internships are not usually interested in committing to the company, but are rather looking for better opportunities abroad.

> *"The Lebanese skills, when we find them, we train them and they leave, they want higher income"*
>
> Business owner

In addition to technical skills, interviewed employers and experts agree that youth seeking jobs, both skilled and unskilled, generally lack soft and life skills that allow them to find the jobs they are seeking and remain in them. For instance, willingness to adhere to work schedules, commitment to workplace rules and regulations, willingness to learn new tasks and progress within the workplace, ability to talk to peers and superiors in a respectful and professional manner, and other similar skills need to be acquired in order to increase the employability of youth, especially semi-skilled and unskilled labor. Such skills are going to be essential for any type of employment within the TSEZ.

### *The Syrian Crisis*

*The events of the Syrian crisis since its onset have had an especially strong impact on the North in terms of refugee concentration and the various social, economic and security-related spillover effects. According to UNHCR figures, there are around 256,000 registered Syrian refugees in the North and Akkar region. The region also hosts more than 88,000 Palestinian refugees in Nahr El Bared and Beddawi camps, including almost 10,000 Palestinian refugees from Syria .*

*In terms of employment, the presence of Syrians has certainly had an impact on the labor market dynamics in Tripoli and the North; however, key informants suggest that the size of the negative impact and job competition is exaggerated. There is some competition over unskilled types of jobs between Lebanese and Syrians such as construction work, restaurant daily jobs, driving, and car mechanic jobs, where Syrians agree to work with lower wages and are known to be generally more disciplined and reliable. Although some enterprises also employ highly skilled Syrian labor who have experience in the industrial sector, especially technical machinery engineers, the majority of key informants suggest that skilled Syrian labor has moved to Europe where they get higher wages and more benefits. Therefore, competition over skilled jobs between Lebanese and Syrians is rather low*

*"Syrians are not taking over the jobs of the Lebanese because the Lebanese don't work those jobs in the first place."*

Socio-economic researcher

# 3 The VTE sector in Tripoli and the North

## 3.1 Perceptions of the sector

Although enterprises raise concerns over the lack of technical skills, vocational education is not perceived as an attractive option for Lebanese youth in general. The Lebanese society praises education and academic achievement, but it does not recognize technical and vocational education as reputable, rather as a last resort option. This stigma around the sector and misconceptions about its importance have led to a real lack of quality technical skills among the Lebanese labor force. In addition, students are discouraged to enter into vocational education because of the weak linkages with the labor market. Although technical skills are highly demanded by the private sector, the demand for specific skills is not matched by the supply of more generic types of vocational training programs. A recent labor market study conducted by the world bank shows that the most difficult jobs to fill are those of skilled technicians, where it takes 7 to 8 weeks to find a suitable candidate. In fact, a study published by the ETF and MEHE highlights that despite this increasing awareness around the importance of cooperation between the business sector and education, little progress has been achieved towards developing a clear policy framework leading to concrete involvement of business representatives in the governance of VTE and higher education systems.

Nonetheless, the number of vocational students has been increasing. Around 30% of students in upper secondary education participated in vocational education in 2013[1], which can be due to the fact that they can move from VTE to higher education, which most youth aspire to do.

Overall, stakeholders and experts in Tripoli are skeptical about the quality of education provided at public and private vocational training institutions. They concur that the VTE sector does not provide the hands-on training and practice needed for students to gain real vocational experience. Some also suggest that the teachers at these institutions also need professional training on new methods of teaching that are more participatory and more technologically updated. They say that teachers are generally not committed to their teaching jobs because of the overall negative perception of vocational students and vocational education.

In addition, stakeholders and experts highlight the fact that technical – and even academic – curricula are outdated and so graduates from these programs need to undergo extensive on-the-job training to be able to operate the machinery and perform the needed maintenance to the equipment.

> *"The Quality of Lebanese students is really good, but there is lack of practical experience and need for changing people's mentality"*
>
> VTE center director

Furthermore, some experts found that the entire process from choosing a major or program to joining the labor market is not well organized. There is not enough orientation on what to expect from the programs that young students are joining in terms of outcomes and prospects. There are no job offices to guide students on how to look for work or utilize their skills in the best way.

In relation to the TSEZ, stakeholders are afraid that relying only on the existing VTE programs and their graduates will discourage the multinational firms who will have to hire at least

> *"There is a need to invest in the quality of education in Tripoli and the North and this needs reform initiatives from the public sector"*
>
> Economic expert

1 European training foundation (ETF) country strategy 2017- 2022

50% of their employees locally. They suggest that serious efforts need to be made in terms of providing trainings and giving accredited certificates in time for the opening of the zone. They mention that TSEZ could attract the graduates who look for work abroad in the GCC counties.

However, and despite the challenges that the VTE sector in Tripoli and the North faces, there are many institutions that have a high capacity to conduct quality trainings and many administrations that are willing to change and update their curricula and methods. The following sections will shed light on the size of the VTE sector in the North as well as the main programs that are being offered.

## 3.2 Who is providing VTE in Tripoli and the North? What are they offering?

The size of the VTE sector in the North is quite large. There are around 34 public technical schools and more than 70 private technical schools. In addition, there are 16 universities, some of which have specialized technical programs. There is also a vibrant and active NGO sector that provides various types of trainings. This sector looks in more detail into each of these vocational education providers.

> *"As a member of the private sector, I say that technical school curricula do not match the needs of the private sector"*
>
> Enterprise owner

Probably one of the biggest issues with the VTE sector in the North is the lack of international accreditation systems for the programs. Only the University of Balamand has an accreditation by the Certification and Quality Assurance Institute. The public VTE centers are recognized by the Lebanese government, but some of the private VTE are not even locally recognized. This poses a challenge for attracting international firms who would look for graduates of internationally accredited programs to fill their positions.

### 3.2.1 The public sector

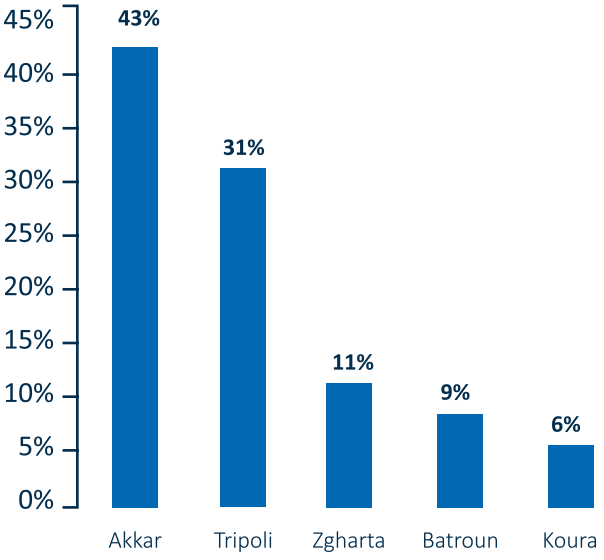
Looking firstly at the public sector, the following table shows all the public providers of vocational education in the North. These schools and institutes provide school and university level vocational degrees (BP/ BT / TS / LT). There are also other public schools that provide only school level vocational education, but they are not included in this study.

*Table 1: Public providers of vocational education in Tripoli and the North*

| Public Vocational Education Institutions | |
|---|---|
| Ain Thahab Technical Institute | Jabal Mohsen Technical Institute |
| Akroum Technical Institute | Kobayyat Technical Institute |
| Al- Beddawi Technical Institute | Mar Antonios Public Technical Institute |
| Al- Kalamoon Technical Institute | Mar Youhanna Technical Institute |
| Al-Amayer- Wadi Khaled Technical Institute | Meshmesh Technical School |
| Al-Dousa Technical Institute | Rafik Hariri Technical Institute |
| Al-Safira Technical School | Rene Mouawad Technical Institute |
| Bakhoun Technical Institute | Chadra Technical School |
| Batroun Technical Public Development Institute | Sheikh Khalil Hussein Institute |
| Bazal Technical Institute | Technical Hospitality Institute-Tripoli |
| Bebnin Technical Institute | Technical Industrial Institute-Tripoli |
| Brakayil Technical Institute | Tekrit Technical Institute |
| Chekka Technical Institute | Tripoli Public Technical Institute-El Kobbeh |
| Deir Amar Technical Institute | Tripoli Technical School- Abi Samra |
| Douma Technical Institute | Wadi Khaled Technical Institute |
| Halba Technical Institute | Zghorta Technical Institute |
| High Orthodox Technical Institute | |
| International Institute of Science | |

Source: Directorate of Vocational Education (DVET)

The majority of these VTE institutes are located in Akkar and Tripoli. However, as will be shown later, almost all the institutes in Akkar in fact offer the same programs and the standard for quality are relatively low.




Source: Author's redistribution based DVET data

The following table shows the main programs offered by the public VTE institutes. A noticeable number of IT –related programs are offered in the area (mainly in Akkar) that in theory can satisfy any potential TSEZ demand in this domain; however, issues of quality and adaptability need to be further explored. There are only 3 mechanics related programs and 4 electricity related, and so the insufficiency of this type of technical training is evident. There is only one program related to agro-food, although this sector has been identified as one very promising sector in Lebanon and currently forms 25% of national exports. There is also only one management program which reflects the need for intensive training in the field of middle management tailored to specific types of industrial or trade enterprises.

*Table 2: Programs offered by public VTE institutes*

| NAME OF PROGRAM | NUMBER OF PROGRAMS OFFERED |
|---|---|
| Air conditioning | 1 |
| Business | 1 |
| Civil Engineering and Construction Technology | 2 |
| Construction | 1 |
| Data processing | 1 |
| Economics | 1 |
| Electrical work | 2 |
| Electro mechanical | 1 |
| Electronics | 1 |
| Energetic | 1 |
| Industrial chemistry, pharmaceuticals and agro-food | 1 |
| Information Technology | 35 |
| Innovation | 1 |
| Law and Real Estate | 1 |
| Management | 1 |
| Math's and statistics | 1 |
| Mechanical engineering | 1 |
| Mechanics | 2 |
| Petrochemical | 1 |
| Telecom | 1 |
| Total | 57 |

### 3.2.2 The private sector

As for the private institutes, their quality is less homogenous than the public sector, and their degrees are not always recognized. They can be divided into several categories: (1) private vocational training institutes, (2) NGOs providing trainings, and (3) technical programs within universities. The present study looked at a sample of 12 private institutes that offer programs with higher technical or academic degrees, and conducted in-depth interviews with several universities in the area. As the table below shows, private providers offer a larger number as well as diversity of programs. Many of the programs however are not related to the activities in the TSEZ (such as beauty and cosmetics, education, or hotel management).

*Table 3: Programs offered by a sample of private VTE institutes*

| NAME OF PROGRAM | NUMBER OF PROGRAMS OFFERED |
|---|---|
| Accounting / Computing Services | 9 |
| Advertising and graphic arts | 1 |
| Advertising and marketing | 1 |
| Architecture / Architectural drawing | 3 |
| Area engineering | 1 |
| Banking | 1 |
| Beauty and cosmetics | 2 |
| Business Computing | 1 |
| Businesses / marketing/ management / computing | 4 |
| Civil Engineering and Construction Technology | 1 |
| Code of construction. Norms and specifications of buildings | 1 |
| Computer Informatics | 2 |
| Computing | 1 |
| Dental assistance | 1 |
| Education | 4 |
| Educational Sciences | 1 |
| Electrical work | 4 |
| Electronics | 3 |
| Expertise and Accounts Revision | 1 |
| Fashion design / jewelry and engraving | 2 |
| Food safety | 1 |
| Graphic Design / interior design | 5 |
| Hair dressing | 1 |
| Hospitality | 1 |
| Hotel management | 1 |
| Industrial Electronics | 1 |
| Industrial maintenance | 1 |
| Information Technology | 3 |
| Interior design | 1 |
| Internal and external installations | 1 |
| IT- software | 1 |
| IT- systems and networks | 1 |
| Kindergarten Education | 2 |
| Maintenance of Medical Equipment | 1 |
| Management | 1 |
| Mechanics | 1 |
| Media | 1 |
| Medical imaging | 1 |

| | |
|---|---|
| Medical Lab | 1 |
| Medical supervisor | 1 |
| Nursing | 5 |
| Renewable energy | 1 |
| Topography and Decoration | 2 |
| Traffic | 1 |
| Grand Total | 80 |

Universities in the north are many and offer a wide range of majors, including some technical programs. There are more than 10 universities in the region, and they generally all offer degrees in business administration and computer and engineering. Graduates of CNAM and the Technology School of Balamand University are probably the two most important sources of potential labor supply to the TSEZ.

CNAM (Conservatoire National des Arts et des Metiers Liban), is a para-public technical university that operates under the Lebanese University in affiliation with CNAM-France.

**Al-Manar University of Tripoli (MUT): Degrees in Marine Engineering, transport and technology.**

MUT, founded in 1990, is a private accredited university located in Tripoli city. The university acknowledges the importance of maritime activities in Tripoli and the region, so it offers two programs in the maritime industry, jointly with the Arab Academy of Science & Technology & Maritime Transport in Egypt.

The Marine Engineering and Technology program offers a bachelor of technology in Marine Engineering Technology and a bachelor in technology, 3rd, Marine Engineer.

The Marine Transport & Technology programs offers a bachelor of technology in Marine Navigation.

These majors could potentially be relevant to the TSEZ that is expected to have a majority of firms exporting by sea and requiring vessel maintenance, navigation, etc.

They offer majors that would be potentially demanded at the TSEZ and have even considered the possibility of being housed at the TSEZ. They currently have 300 students in Tripoli, and offer different degrees from "License Generale" to Masters in some majors. The director of CNAM mentioned that students are discouraged by the intensity and number of trainings and internships they have to undergo while they are at CNAM. This again comes to reflect the overall negative perception around practical versus theoretical formation.

Balamand University have a technology school under the name "Issam Fares Faculty of Technology" or IFFT that is located in Akkar which offers courses in mechatronics, telecom, civil engineering and construction technology, agricultural engineering, aircraft maintenance, and business management and administration. The graduates of these programs earn a Bachelor of Technology degree with which they can later join the academic Masters programs at the university. The faculty director explained that most students are interested in getting the Master's degree as this is the societal norm and expectation. In general, he says, a degree in technology is not well received in society as an engineering degree is, and so students opt for that through the Master's program. In fact, only the agricultural engineering is not offered at the Master's level and this is why this program is not receiving as many students as other programs.

### 3.2.3 Non-governmental organizations

Besides the official public and private vocational and academic institutes and universities, the non-profit NGO sector has been providing training

courses in various areas such as vocational and employability skills. National and international organizations have increased funding for training courses since in the onset of the Syrian crisis as part of efforts to improve job opportunities and employability of both Lebanese residents and Syrian refugees who have been increasingly competing over employment, especially in low skill and semi skill types of jobs. The trainings provided by these NGOs are usually shorter and not always provide recognized certificates. In fact, the quality of these trainings is very much dependent on the provider. In addition, stakeholders highlighted that the beneficiaries of these trainings are often affiliated with political or confessional linkages.

Two of the largest providers of such trainings in the North are the Safadi Foundation and the Makhzoumi foundation. They usually work in synergy with the private sector and provide trainings that respond to its demand. In addition, the Ministry of Social Affairs (MoSA) sometimes contracts NGOs for short vocational training programs that are usually on soft subjects such as language or computer.

**Makhzoumi Foundation**

Makhzoumi Foundation is an NGO that provides trainings according to an assessment of market demand. They provide educational, technical and vocational trainings in order to help link their trainees to the private sector. They offer a wide variety of courses ranging from Digital Literacy and IT Skills, Language, Beauty Academy, Business and Enterprise skills, Soft skills, Diploma courses and Electronics. Upon graduation, the trainees receive a kit designed to the specific profession and they are ready to start working immediately.

They currently have three active projects in Tripoli:

- "Improved protective environment for refugee populations in Lebanon" lead by DRC
- "Promoting inclusive local economic empowerment and development to enhance resilience and social stability" – implemented with MADAD
- "Literacy with Crafts for Youth in Lebanon" – implemented with AVSI

During an interview with them, Makhzoumi Foundation expressed that they are open to cooperation with TSEZ in terms of providing trainings outside or inside the zone.

# 4 TSEZ employment opportunities: Between suggested structure and expected vision

Article 33 of the TSEZ law (No. 18 of 2008) requires Lebanese labor to constitute at least 50% of labor in each enterprise.

*"Lebanese workers and employees shall account for no less than 50% of the total workers engaged by the enterprises [in TSEZ]"*

The zone is expected to attract medium sized companies with 20 employees or more. The hope is to attract local as well as multinational or regional enterprises and to look at companies that have expansion plans. The master plan study suggests that TSEZ would hire around 740 workers within its first 5 years of operation. Considering the worst case scenario that exactly 50% of employment is Lebanese, TSEZ would thus create at least 370 direct jobs for Lebanese citizens. Syrian and Palestinian workers are likely to constitute a large part of the foreign labor, and this would have a positive impact on the local economy since these workers are more likely to spend their disposable income in Lebanon.

According to the master plan as well as interviewed key experts, the zone is going to require a wide range of jobs ranging from top – level managerial positions, middle level management, technical skills like engineers and production control, machine operators, non-technical semi-skilled labor, and unskilled laborers.

## 4.1 Main Sectors and Clusters Envisaged for TSEZ

Interviewed stakeholders and experts generally thought that low polluting (categories 2, 3, 4, and 5 as per the Ministry of Environment's classification) and labor intensive activities should be encouraged in TSEZ. They also emphasized the idea of clustering within the TSEZ. Achieving cluster effects through adequate planning and infrastructure would lead to further cost reductions and efficient production.

The updated feasibility and value chain study for the TSEZ identifies the Port Site as the selected location for the establishment of the zone. The plan is to divide the area in four clusters.

The first cluster includes light and medium industries, which are competitive and have a growth potential. The preselected manufacturing sub-sectors are listed as follows:

1. Food production (ISIC REV 3.1 code 15): including soft drinks, fruit juices, canned fruits and vegetables, jams and jellies, prepared fruits and nuts, spices, confectionary, bread and pastry products, snack foods, frozen foods.

2. Interviewed stakeholders also suggested that agro-food should be present in TSEZ, highlighting linkages that can be created between the potential food processors and agricultural input providers in Akkar. However, they warned that the nearby existing waste disposal site should be dealt with first since it would be extremely discouraging for agro-food producers to establish their companies in the vicinity of waste dumpsite.

3. Chemical industries (ISIC REV 3.1 code 24): including paint, resins, dyes, shampoo, soap, lotions, creams and toilet preparations, make-up, perfumes, household cleansing products, industrial chemicals.

4. Furniture and wood industry (ISIC REV 3.1 codes 20 and 36): including traditional wood-carved furniture, modern partially assembled flat-pack furniture made of particle board, mattresses, upholstered furniture, and showrooms.

5. Metal products (ISIC REV 3.1 code 28): including Construction materials, concrete-reinforced bars, window frames, window grates, fences, gates, playground equipment, hand tools, metal sanitary ware for home.

6. Electrical products (ISIC REV 3.1 31): including Electrical motors and parts, AC generators, electrical transformers, electrical switches, semiconductor design and testing, generator controllers, electrical panel boards.

7. Mining products(ISIC REV 3.1 10 to 14): including productions related to oil and natural gas extractions as well as stone, sand and clay. Key informants highlighted the idea that Lebanon will soon be benefiting from its natural gas resources; therefore, industrialists

using this oil and gas, and the TSEZ can be ready to host industries that use these inputs. In addition maintenance of oil and gas offshore platforms is suggested to be part of the TSEZ activities.

8. Rubber and plastic (ISIC REV 3.1 code 25): including rubber and plastic containers, household goods, rubber and plastics for use in electronics and machinery, plastic film, sheets, and pipes plastic furniture.

Publishing, printing and advertising (ISIC Rev.3.1 code 22): including publishing and printing of books, brochures, journals, and periodicals, as well as related activities such as binding, engraving, and graphic activities.

The second cluster will be assigned for logistic-related activities that service the manufacturing sector such as open storage, private warehouses, shared warehouses, refrigerated warehouses, logistics operations, and product distribution.

The third cluster will include construction materials such as plaster, cut and worked stone, ceramic tiles, glass fixtures and windows, cement, articles of cast concrete, prefabricated buildings.

**Car assembly plants in Morocco**

The interest of car manufacturers in expanding into emerging markets has been growing in the past couple of years. Peugeot plans to invest around $632 million to build a new assembly plant in Morocco, to be operational in 2019. The plant will be located inside the Atlantic Free Zone (AFZ) in the Kenitra Province and will serve the Middle Eastern and African markets. This deal will help reflect an attractive investment climate for the country while boosting its car manufacturing industry.

Renault - that already has two car factories in Morocco, a car production facility for exports in Tangier and an assembly plant in Casablanca – planned a $1.04 billion investment for the establishment of an industry ecosystem in the country. This project is expected to generate 50,000 new jobs.

Along the same lines, Lebanese industrialists are encouraging similar ventures to be considered for the TSEZ.

The assumption here is that the zone will play an important role in the reconstruction of Syria. Indeed key stakeholders also believed that the zone can play a vital role in the post-war reconstruction phase in Syria and encouraged the zone to be launched as quickly as possible for this same reason.

The last cluster will include a range of miscellaneous sectors such as IT or media (including Custom software, website development, intranet development, ICT support services, telecommunication network design, systems, and services, wireless financial services, e-government applications) , or any demand that came up and wasn't accounted for in the study. In fact, key informants focused in their discussions quite a bit on the IT sector as a potential cluster in TSEZ as they say it is a growing sector and can be linked with other sectors operating in TSEZ.

In addition, key informants put forward several ideas for industries that were not mentioned in the feasibility study. For instance, some suggested that there can be a handicraft related sector that promotes modernizing crafts traditional to the North and Lebanon with the purpose of exporting them.

Some experts also suggested vehicle and heavy equipment assembly plants that multinational companies would set up, such as Renault has done in Morocco (see sidebar box). In this respect, some also suggested joint ventures with Chinese companies for example. In fact, such ventures are an opportunity for technology transfer from international leaders of innovation to Lebanese workforce whose skills and knowledge can be upgraded through this process.

## 4.2 A skill gap analysis for TSEZ

Based on the determined clusters and industries that are planned to occupy the TSEZ, and the information obtained from interviewed stakeholders, this section develops a list of skills that are required for the workforce that will be working in each of the sectors. The skills are divided into general types of skills that are needed across all sectors, as well as employability skills that are also cross cutting. Furthermore, the section details the sector-specific skills and positions that will be demanded.

## 4.3 General skills

There is a range of skills that each industry needs in order to operate. These skills are managerial, clerical, finance and accounting related, administrative and transportation related. The table below summarizes these skills and identifies the training priorities within the skill set requirements.

*Table 4: Skill gap analysis for general skills required across all sectors of activity within TSEZ*

| SKILL CATEGORY | SPECIFIC SKILL | SKILL GAP | ADDRESSING THE SKILL GAP |
|---|---|---|---|
| MANAGEMENT | • Time management<br>• Inventory and stock management<br>• Conflict management<br>• HR management<br>• Client management | There are only a couple of management programs in the VTE sector. Specialized middle management programs are not present | The training priorities are:<br>1. Middle management specialized program<br>2. Inventory and operation management |
| BUSINESS DEVELOPMENT | • Strategic planning<br>• PR and networking<br>• Market research | There are no specialized courses or programs in this domain | The training priorities are:<br>1. Strategic planning<br>2. Market research |
| FINANCE AND ACCOUNTING | • Record keeping<br>• Operating accounting software<br>• Financial analysis and forecasting<br>• Feasibility studies<br>• Trade transactions and invoicing | Accounting programs exist and finance exists within the academic university programs<br><br>There are no specialized practical courses in finance and up-to-date software | The training priorities are:<br>1. Crash courses on specific finance issues<br>2. Accounting software trainings |
| ADMINISTRATION | • Secretarial skills<br>• Operating administrative software<br>• Organizational skills<br>• Communication skills<br>• Problem-solving skills<br>• Written expression (in Arabic and foreign language) | There are no administration programs separate from the management programs in the VTE sector in the north | The training priorities are:<br>1. Specialized fast trainings on administrative management issues<br>2. Incorporation of administrative skills into soft skills programs |

In addition, the majority of key informants highlighted the fact job seekers are not ready for the work-place because they lack employability skills. These skills would allow them to get a job and retain it. The following are examples of the skills that informants mentioned throughout the interviews.

1. Desire to learn new tasks and perform them well
2. Timeliness and abiding by company rules
3. Professional conduct at the work place and management of emotions
4. Team spirit, initiative, and a culture of cooperation
5. Handling office tools
6. Adequate dress code

## 4.4 Sector-specific skills

The table on the next pages details the sector-specific types of skills that will be needed in the zone. It also shows the size of employment within each sector in the North region as well as the average size of the enterprises. The numbers in these first two columns are based on the industrial census published by the Ministry of Industry in 2010 using data from 2007.

The information in this table will be used in the second task of this study, which is to cross –reference these required skills with actual training programs given in Tripoli and the North in order to evaluate which skills are present and which are not.

*Table 5: Skills required within each sector suggested for TSEZ*

| SECTOR | SIZE OF EMPLOYMENT | AVERAGE EMPLOYMENT | MAJOR SECTOR –SPECIFIC SKILLS REQUIRED | SKILL GAP | ADDRESSING THE SKILL GAP |
|---|---|---|---|---|---|
| Agro-food production | 2,480 | 24 | • Planning, monitoring and controlling production<br>• Quality control<br>• Implementing HACCP and HACCP software<br>• Air conditioning and industrial refrigeration<br>• Industrial maintenance<br>• Management of innovation<br>• Product life cycle analysis and management | The skill gap in large. There is only one technical major addressing this sector and one VTE course on food safety in the entire North region. There is also one course on air conditioning that can be adapted to agro-food machinery<br><br>The majority of agro-food producers rely on in-house training or are not exporting, so they do not focus on adhering to international food safety standards | Training priorities in this sector are:<br><br>1. Compliance with food safety standards, including HACCP<br><br>2. Management of agro-food production units<br><br>3. Product life cycle analysis and management |
| Chemical industry | 606 | 34 | • Production process operating<br>• Mechanical maintenance and inspection of chemical plant equipment<br>• Laboratory technician<br>• Applied knowledge of Heat transfer, Hydraulics, distillation, and Mass and energy balances<br>• Safety awareness such as hazardous substances, dangerous goods, manual handling. | Theoretical programs in chemistry exist in the major universities in the North, which usually also involve some laboratory work. There is one VTE center that provides a program on industrial chemistry and pharmaceuticals, and one in petro-chemistry, but these will not be enough to cater to the zone<br><br>There are no specialized courses on handling and treating hazardous materials although they are part of the academic chemistry programs | The priority for this sector is to:<br><br>1. Expand existing program on industrial chemistry and petro-chemistry<br><br>2. Organize short terms specialized courses that can be performed by NGOs<br><br>In addition, a review and update of existing curricula should take place |
| Furniture and wood | 1,700 | 10 | • Product design / AUTOCAD<br>• Carpentry<br>• Upholstery<br>• Assembling<br>• Hand carving<br>• Line/ floor supervisor<br>• Furniture machine operator | Neither the public not the private sector offer permanent programs related to wood and furniture. Some NGOs provide such trainings, but they are short term and benefit a small number of students<br><br>But, there are several programs on interior and graphic design, architectural drawing, which can accommodate a specialization in wood work. | Priorities in training are:<br><br>1. Industrial carpentry and upholstery and hard carving.<br><br>2. Management of furniture production units<br><br>3. Furniture machine operation and maintenance |

| | | | | | |
|---|---|---|---|---|---|
| Metal products | 702 | 11 | • Industrial and mechanical engineering<br>• Cutting and fabricating<br>• Assembling and welding<br>• Tool-setting and machine repair<br>• Crane and tower operation | Mechanical and industrial engineering are offered at universities and there are a few mechanics VTE majors. There is also a program on industrial maintenance. | Training priorities can be restricted to :<br>1. Short courses on metal and steel assembling and welding<br>2. Crane and tower operations<br>3. Management of metal production facilities<br>7. In addition, a review and update of existing curricula should take place |
| Electrical products | 77 | 13 | • Electrical engineering<br>• Product design and module definition<br>• IT skills<br>• Assembly and quality testing<br>• Technical support | Electrical engineering is offered as an academic program. The VTE sector offers a total of 9 programs in electro-mechanics, electronics, and electrical works. | Training priorities in this sector are:<br>1. Training on liking IT and electrical skills<br>2. Product design and innovation |
| Rubber and plastic products | 90 | 10 | • Environmental and safety compliance<br>• Plastics processes, chemical processes, chemical interaction, chemical handling, polymer processing.<br>• Electrical work<br>• Blow molding, dye setting, extrusion, injection molding, printing, thermoforming.<br>• Safety awareness such as hazardous substances, dangerous goods, manual handling. | The VTE sector does not offer specialized programs for the rubber and plastic products, with the exception of those in the field of chemistry mentioned above. | Training priorities in this sector are:<br>1. Management and operation of plastics and rubber production units<br>2. Linking electrical work to plastics and rubber work<br>3. Linking chemical work to plastics and rubber production<br>4. Short term courses on molding, thermoforming , etc. |

| | | | | | |
|---|---|---|---|---|---|
| Publishing and printing | 120 | 10 | • Graphic design<br>• Digital production<br>• Team assembly<br>• Bindery workers<br>• Prepress technicians<br>• Printing machine operators<br>• Cutting and slicing machine setters and operators | The private VTE sector offers programs in advertising, graphic arts, graphic design and media. These programs cover only part of this sector's requirements. The printing technical aspect is not covered by any program in the North. | Training priorities are:<br>1. Printing machine maintenance and operation<br>2. Management of printing press establishment<br>3. Linking existing programs to publishing and printing sector<br>8. In addition, a review and update of existing curricula should take place |
| Construction materials | 2,114 | 26 | • Engineers / supervisors<br>• Mechanics<br>• Electricians<br>• Work safety and application of adequate procedures<br>• Molding, shaping, pressing, cutting of ceramics, glass, cement, lime<br>• Machine setters and operators | Civil engineering is offered at the major universities. There are 2 VTE programs on construction technology and codes of construction. And there are general construction related VTE programs. | Training priorities in this sector are:<br>1. Management of printing press establishment<br>2. Short training courses on up-to-date standards of production for the various construction materials<br>9. In addition, a review and update of existing curricula should take place |
| Support to oil and gas extraction industry | | | • Maintenance engineer<br>• Electric technicians and assistants<br>• Dynamic positioning officer<br>• Hydraulic mechanics<br>• Welders<br>• Safety experts | There are not any specialized training centers or programs for maintenance of offshore oil and gas drilling platforms. There are some related majors, but they do not have any practical training component | Training priorities in this sector are:<br>1. Safety trainings on several levels<br>2. Mechanics related to oil and gas platforms<br>3. Electrical work and electronics related to oil and gas platforms |

### 4.5 VTE and TSEZ: Cooperation and co-ordination

Although interviewed members of the VTE provision sector expressed some skepticism regarding the implementation of the TSEZ due to concerns around the political willingness of creating such a large project in Tripoli, most of the interviewees expressed their willingness and enthusiasm to support the needs of TSEZ and suggested several modes of cooperation between them and the TSEZ.

- CNAM expressed that their willingness to provide trainings on specific skills required for the zones through specific courses, and support existing majors with customized seminars for specific requirements of the zone or companies within the zone.
- Makhzoumi foundation area also emphasized their willingness to provide trainings in and outside the zone on skills and topics to be fine-tuned with the TSEZ board based on their needs and expectations for types of employment within the zone. They are also willing to support start-ups to open in the zone through their micro-financing programs.
- Interviewed members of the public sector mentioned that they do have the capacity to accommodate new students and new programs, but that in order to make potential changes to existing curricula or add new majors, TSEZ should coordinate with the directorate of vocational training (DVET).
- Al Azm University expressed its readiness to cooperate with TSEZ on all levels. They highlighted that they have new and modern infrastructure since they are a relatively new university, and they can accordingly place at the disposal of the zone to conduct trainings.
- The Lebanese University are willing to incorporate new programs that reflect the demand of the zone. They can also offer short seminars on specific topics.
- Balamand University highlighted the high cost of labs and equipment needed for technical and vocational trainings, and thus offered its labs to TSEZ to conduct its trainings in so that they do not go into large investments that already exist in the region.

## 5 Suggested Courses and programs

Based on the skill gap analysis performed and consultations with the various stakeholders and vocational education providers, the following section provides a plan for the implementation of trainings and suggestions on how they could be done.

Firstly, the study suggests that the TSEZ establishes a technical committee that follows up on vocational training activities that would later feed into the job creation opportunities in the zone. The committee would be part of the program design, selection of trainers, oversee implementation and assure quality of the trainings and programs.

As for the trainings, they can be divided into 3 categories: short trainings, updates to existing programs, and introduction of new programs. In addition, on-the-job-trainings and internships are recommended for most trainings.

### 5.1 Short trainings

This type of training consists of concise specialized interventions with graduates from existing programs, job seekers, or currently employed workers who want to improve their skills and work prospects. The NGO sector has experience in organizing these type of trainings, so the TSEZ can capitalize on this experience and cooperate with them for the implementation. In addition, some trainings that require equipment and space for practical work could be housed in CNAM who did express readiness to cooperate with TSEZ in this type of trainings.

Furthermore, private sector partnerships are important in order to create linkages for later internships and on-the-job trainings. Certificates approved from the MEHE should also be given through proper coordination between TSEZ committee, potential donors, the implementing agencies and the ministry. The table below details these trainings and the suggested implementation and management modules.

*Table 6: Short vocational trainings plan*

| Training | Suggested implementation module | Suggested management module |
|---|---|---|
| Inventory and operation management | Short term course followed by internship program | NGO's with private sector partnerships / Trainers and curriculum approved by TSEZ committee |
| Specialized finance topics | Short term course followed by internship program | NGO's with private sector partnerships / Trainers and curriculum approved by TSEZ committee |
| Accounting software | Seminars for graduates of accounting vocational programs, job seekers, or employees | NGO's with private sector partnerships / Trainers and curriculum approved by TSEZ committee |
| Administrative management | Short term course followed by internship program | NGO's with private sector partnerships / Trainers and curriculum approved by TSEZ committee |
| Soft/employability skills | Seminars for graduates from the VTE sector , job seekers, or employees | NGO's / Trainers and curriculum approved by TSEZ committee |
| Chemical industry practical applications | Seminars for graduates of traditional chemistry programs , job seekers, or employees | CNAM in coordination with TSEZ committee |
| Support to metal industry: Metal and steel assembling and welding | Practical hands on training in equipped vocational centers | CNAM in coordination with TSEZ committee |
| Support to plastic and rubber industry: molding, thermoforming, and other practical applications | Practical hands on training in equipped vocational centers | CNAM in coordination with TSEZ committee |
| Safety in oil and gas platforms | Practical hands on training for workers in maintenance of offshore platforms | NGO's / Trainers and curriculum approved by TSEZ committee |

## 5.2 Updates to existing programs

In order to avoid doubling efforts, but rather build on existing programs, this second type of trainings suggests amending and adding elements to existing programs. This would valorize the current programs and raise the standard of vocational training in the area. The success of this type of trainings would require a thorough revision of the given programs and the creation of adequate mechanisms for adjusting the existing programs efficiently and effectively, i.e. with minimal bureaucratic procedures and re-adjustment of faculty and staff.

*Table 7: Plan for updates to existing training programs*

| Training | Description | Suggested implementation module | Suggested management module |
|---|---|---|---|
| **Soft skills** | Incorporation into existing management and business programs | Coordinate with providers of these programs to update curricula | TSEZ committee partnership with VTE and universities |
| **Management of agro-food production units** | Incorporation into existing agro-food programs | Coordinate with Balamand and CNAM who provide these programs | TSEZ partnership with universities |
| **Agro-food product life cycle** | Incorporation into existing agro-food programs | Coordinate with Balamand and CNAM who provide these programs | TSEZ partnership with universities |
| **IT skills in electrical work** | Incorporate in existing electrical studies programs | Coordinate with providers of these programs to update curricula | TSEZ committee partnership with VTE and universities |
| **Electrical product design and innovation** | Incorporate in existing electrical studies programs | Coordinate with providers of these programs to update curricula | TSEZ committee partnership with VTE and universities |
| **Electrical work related to rubber and plastic industry** | Incorporate in existing electrical studies programs | Coordinate with providers of these programs to update curricula | TSEZ committee partnership with VTE and universities |
| **Printing press link with graphic design** | Improve the linkage between graphic design and printing industry | Coordinate with providers of these programs to update curricula | TSEZ committee partnership with VTE and universities |

## 5.3 New programs

This last set of trainings constitutes the development and introduction of new programs that are not currently offered within the technical education sector in the North. The following table details these suggested new programs and which existing institutions can potentially house them.

*Table 8: New programs plan*

| Training | Suggested implementation module | Suggested management module |
|---|---|---|
| **Middle management** | TSEZ committee cooperates with local university or VTE center to develop curriculum and house the training<br><br>Suggested institution: Al-Azm university or CNAM | Hosting university or VTE center manages the course with quality control from TSEZ committee<br><br>On-the-job training |
| **Business development** | TSEZ committee cooperates with local university or VTE center to develop curriculum and house the training<br><br>Suggested institution: Al-Azm university or CNAM | Hosting university or VTE center manages the course with quality control from TSEZ committee |
| **Food Safety and compliance with international standards** | TSEZ committee cooperates with local university or VTE center to develop curriculum and house the training.<br><br>Suggested institution: Balamand or CNAM | Hosting university or VTE center manages the course with quality control from TSEZ committee<br><br>Internships at agro-food producers arranged by joint committee |

| | | |
|---|---|---|
| **Industrial plant management** | TSEZ committee cooperates with local university or VTE center to develop curriculum .and house the training<br><br>Suggested institution: Al Manar university or CNAM | Hosting university or VTE center manages the course with quality control from TSEZ committee<br><br>Internships at local firms arranged by joint committee |
| **Industrial carpentry** | TSEZ committee cooperates with local university or VTE center to develop curriculum .and house the training<br><br>Suggested institution: Al Manar university | Hosting university or VTE center manages the course with quality control from TSEZ committee<br><br>Adequate equipment should be provided in this case<br><br>Internships at furniture producers in Tripoli area arranged by joint committee |
| **Furniture machine operation and maintenance** | TSEZ committee cooperates with local university or VTE center to develop curriculum .and house the training<br><br>Suggested institution: Al Manar university | Hosting university or VTE center manages the course with quality control from TSEZ committee<br><br>Internships at furniture producers in Tripoli area arranged by joint committee |
| **Crane and tower operations** | TSEZ committee cooperates with local university or VTE center to develop curriculum .and house the training<br><br>Suggested institution: St. Bastille technical center, Balamand, CNAM or IPNET | Hosting university or VTE center manages the course with quality control from TSEZ committee<br><br>Adequate equipment should be provided in this case |
| **Printing press machine operation and maintenance** | TSEZ committee cooperates with local university or VTE center to develop curriculum .and house the training<br><br>Suggested institution: Al Manar university, Balamand | Hosting university or VTE center manages the course with quality control from TSEZ committee<br><br>Adequate equipment should be provided in this case |
| **Maintenance of offshore oil and gas platforms** | TSEZ committee cooperates with local university or VTE center to develop curriculum .and house the training<br><br>Suggested institution: Balamand | Hosting university or VTE center manages the course with quality control from TSEZ committee<br><br>Adequate equipment should be provided in this case |

# 6 Costing of trainings

There are many factors that enter into costing a specific training course. The main cost elements include:

- Personnel costs: instructors, administrators, supporting staff
- Non-personnel costs: instructional material, supplies, utilities, maintenance and repairs, logistics, rent
- Capital costs: cost of building, equipment, furniture, land

The costs estimated here exclude capital costs, as the TSEZ so far does not have plans for establishing its own vocational training center, so all trainings are envisaged to take place in existing institutions with a certain rent expense. As for the other costs, personnel usually comprises 50% of the cost and the non-personnel the remaining 50%.

The table below shows the cost estimates for the different suggested types of courses.

The short training costs differ between (1) soft skills, (2) skills not requiring workshop practice, and (3) those requiring workshop practical work. The cost estimates were obtained from interviews with training providers for a one week seminar structure course, assuming that the training is taking place in an NGO premises with available workshop space. The first and second types differ in the cost of instructors, where the admin and finance courses have a higher cost for tutors. The third type is most costly because it also includes cost of equipment and workshop space. The suggested number of trainings soft skills is high for since this is a training that almost everyone should be taking.

The new programs are also divided into those requiring workshop or lab work and those that do not. The cost per student was based on the average cost of credit at the technical universities. The programs are assumed to be one year programs. There is also a preparatory cost that is not part of the price per student presented in the table, which includes the cost of preparing the curricula for these new programs, and it is incurred only once. This, according to information obtained from interviewed experts, ranges between $8,000 and $10,000 per course.

As for the on-the-job trainings, which are suggested to happen after some of the training programs. The cost of these trainings includes payment to the trainee and to the enterprise that is hosting them. The cost is also based on information obtained from on-the-job training providers.

It is important to note here that all these costs act as benchmarks and may vary depending on the types of agreements and the forms of cooperation reached between the zone and the training providers.

*Table 9: Cost estimates for the various types of trainings*

| Type of training | Estimated unit cost (USD / student) | Estimated cohort size | Total | Number of trainings / year | Total per year |
|---|---|---|---|---|---|
| Short training soft skills | 70 | 20 | $1,400 | 20 | $28,000 |
| Short training admin / finance | 125 | 15 | $1,875 | 10 | $18,750 |
| Short training with workshop practice | 175 | 15 | $2,625 | 10 | $26,250 |
| New program without workshop/ lab work | 570 | 20 | $11,400 | 1 | $11,400 |
| New program with workshop/ lab work | 840 | 20 | $16,800 | 1 | $16,800 |
| on-the-job training | 600 | 15 | $9,000 | 10 | $90,000 |

Regarding the additions to existing training programs, the costing is very dependent on the way through which they will be performed. For example, trainers could be the existing staff of the institution, or or they could also be new trainers hired to teach the new material. Like the new programs, this type of training will also require a preparatory phase where the curricula are adequately updated and the new material is incorporated.

## Annex 1: Methodology

The study is composed of three steps with varying methodological approaches. This section sheds light on the details of tasks within each step and the methodology used to achieve its objectives.

### Qualitative analysis of Labor requirements and local skills

The analysis of labor requirements of the zone as well as the locally available skills that can be occupied by locals, triangulated primary data and secondary data. Primary data was collected from key informants through 9 interviews that were conducted between May 2nd and May 17th, 2017. Interview guidelines were developed in order to obtain more accurate and comparable results, and detailed notes were taken in order to keep record of the minutes of meeting.

As for the secondary data, it was collected from a desk review of existing documents of the earlier masterplan study as well as other available statistics on the industrial sector and sub-sectors in Lebanon.

### Mapping of vocational training institutions and programs

The mapping of vocational as well as academic programs that provide training on the identified relevant skills and professions was done through a qualitative census of all major providers of such services in Tripoli from NGOs to universities and vocational training institutes. The research consultant compiled a list of these institutions through a desk review and contacts with key informants in Tripoli.

Semi- structured interviews were conducted with each one and they will be asked to provide information on their programs, capacity, cost of service provision, growth potential and other relevant information. A total of 10 interviews were performed. Here also, interview guidelines have been developed.

### Skills gap analysis and costing of needed trainings

Given the information collected and analysis done in the previous two tasks in terms of the demand and supply of skills, the nature and size of the skills gap was evaluated. The analysis highlighted the skills that are needed, but but it is not available, nor is it sufficient to be provided locally from Tripoli and its surrounding areas.

The training needs were assessed within each type of skills, and the potential candidates for providing these trainings were identified. A management and implementation plan were developed as a result.

A cost of the training provision was also estimated based on data collected from the previously interviewed providers of these services, and a financial plan for performing them will be proposed.

## About Together Towards Sustainable Development (T2SD)

Together Towards Sustainable Development (T2SD) is an innovative strategic policy initiative of the United Nations Development Programme (UNDP) Lebanon that responds to the call for action that SDGs vehicle. It brings together businesses committed to align their efforts with the Goals, which present an opportunity for business-led solutions and technologies to be developed and implemented to address the country's major sustainable development challenges.

T2SD will work together with the government and address gaps to respond to the needs of society, and establish partnerships with the private sector, as the latter's role is vital. T2SD will promote economic and social development, inclusiveness, environmental sustainability, education, entrepreneurship, and transparency, among other objectives. Businesses will help ensuring that markets, commerce, technology, and finance advance in ways that lead to a healthy environment. This initiative will be implemented through the companies' Corporate Social Responsibility (CSR) frameworks. The improved business environment will ensure growth by establishing greater market confidence for investors.

T2SD is governed  by 10 members who represent different industries:

Abou Jaoude and Associates Law Firm

Fransabank

BB Energy

IPT Energy Center

Malia Group

Mersaco

Open Minds NGO

Touch

World Environment Group

The United Nations Development Programme (UNDP)