

# Skills Gap and Training Needs Analysis of the Construction Sector and Related Supporting Services in Aqaba MMIS

Aqaba Community and Economic Development Program  
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# SKILLS GAP and TRAINING NEEDS ANALYSIS of the CONSTRUCTION SECTOR and RELATED SUPPORTING SERVICES in AQABA

**The AQABA COMMUNITY and ECONOMIC DEVELOPMENT (ACED)  
PROGRAM**

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## **DISCLAIMER**

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development, AECOM International Development or the ACED Program.

**ACED Program Frequently-Used Acronyms and Abbreviations**  
(Not all of the following will appear in every ACED Program document)

ACDF	Aqaba Community Development Fund
ACED	Aqaba Community and Economic Development program (USAID)
ACT	Aqaba Container Terminal
ADC	Aqaba Development Corporation
ADS	Automated Directive Systems
AEGP	Afghanistan Economic Governance Project
AGDTF	Aqaba Garment Development Task Force
AI	AECOM International
AIDAR	Acquisition Regulation (USAID)
AIIE	Aqaba International Industrial Estate
AMIR	Achievement of Market-Friendly Initiatives and Results project (USAID)
APC	Aqaba Ports Corporation
ASDC	Aqaba Skills Development Center
ASDP	Aqaba Skills Development Program
ASEZ	Aqaba Special Economic Zone
ASEZA	Aqaba Special Economic Zone Authority
ASRI	Aqaba Skills Readiness Index
ASYCUDA	Automated System for Customs Data
ATASP	Aqaba Technical Assistance Support program (USAID)
AUC	Aqaba University College
AVC	Audiovisual Commission of Jordan
AZEM	Aqaba Zone Economic Mobilization project (USAID)
B.A.	Bachelors of Arts
B.S./B.Sc.	Bachelors of Science
BA	Business Association
BAFO	Best and Final Offer
BB&T	Branch Banking and Trust
BDC	Business Development Center
BDS	Business Development Services
CAB	Community Advisory Board
CAD	Computer-aided Design
CBO	Community Based Organization
CCN	Cooperating Country National
CDC	Community Development Councils
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CEO	Chief Executive Officer
CGAP	Certified Government Auditing Professional
CHF	Cooperative Housing Foundation International
CIDA	Canadian International Development Agency
CMT	Cut-Make-Trim
CO	Contracting Officer
COB	Close of Business
COO/CFO	Chief Operating Officer/Chief Financial Officer

COP	Chief of Party
COTS	Caribbean Open Trade Support project
CP	Cost Proposal
CRM	Customer Relationship Management
CSO	Civil Society Organization
CSP	Community Service Program
CSR	Corporate Social Responsibility
CTO	Cognizant Technical Officer
D & G	Democracy and Governance
DCA	Development Credit Authority
DCAA	Defense Contract Audit Agency
DQA	Data Quality Assessments
ECI	Environmental Compliance Index
EG	Economic Growth
EGRA	Early Grade Reading Assessment
EIA	Environmental Impact Assessment
EJADA	Euro-Jordanian Action for the Development of Enterprise Program
EJEP	Euro-Jordanian Export Program
EO	Economic Opportunities Office
EOI	Expression of Interest
EPC	Executive Privatization Commission
ERfKE	Education Reform for a Knowledge Economy (USAID)
ERPS	Enterprise Registration and Permitting System
ETF	European Training Foundation
EU	European Union
FAR	Federal Acquisition Regulation (US Government)
FDI	Foreign Direct Investment
FDR	Fixed Daily Rate
FHR	Fixed Hourly Rate
FTA	Free Trade Agreement
FZC	Free Zones Corporation
GDA	Global Development Alliance
GDP	Gross Domestic Product
GEM	Gender Entrepreneurship Markets
GIS	Geographic Information System
GOJ	Government of Jordan
GPS	Global Positioning System
GSP	Global Supplier Program
HO	Home Office
HR	Human Resources
HRD	Human Resource Development
HRM	Human Resource Management
ICDL	International Computer Driving License
ICT	Information and Communications Technology
IFC	International Finance Corporation
IFS	Integrated Financial System

ILO	International Labor Organization
IMF	International Monetary Fund
INJAZ	Economic Opportunities for Jordanian Youth Program (formerly USAID)
IPR	Intellectual Property Rights
IQC	Indefinite Quantity Contract
IRR	Internal Rate of Return
ISEP	Industrial Skills Enhancement Program
ISP	Internet Service Provider
IT	Information Technology
IZDIHAR	Iraq Private Sector Growth and Employment Generation Project
JD	Jordanian Dinar
JEDCO	Jordan Enterprise Development Corporation
JIB	Jordan Investment Board
JIEC	Jordan Industrial Estates Corporation
JITOA	Jordan Inbound Tour Operators Association
JNA	Jordan National Agenda
JNCW	Jordanian National Commission for Women
JOHUD	Jordan Hashemite Fund for Development
JREDS	The Royal Marine Conservation Society of Jordan
JRF	Jordan River Foundation
JSCED	Jordan Standard Classification of Education
JSSD	Jordanian Society for Sustainable Development
JUMP	Jordanian Upgrading and Modernization Program
JUSBP	Jordan-United States Business Partnership
JUSFTA	Jordan-United States Free Trade Agreement
KOJ	Kingdom of Jordan (the country within its physical boundaries)
LAC	Latin America and the Caribbean
LCDC	Local Community Development Center
LCDD	Local Community Development Directorate
LECP	Local Employee Compensation Plan
LLB	Bachelor of Law
LLM	Master of Laws
LOE	Level of Effort
LTTA	Long Term Technical Assistance
M&E	Monitoring and Evaluation
M.A.	Masters of Arts
M.S./M.Sc.	Masters of Science
MASAQ	The Rule of Law project (USAID)
MBA	Masters of Business Administration
MDA	Master Development Agreement
MENA	Middle East and Northern Africa
MFI	Microfinance Institution
MIS	Management Information System(s)
MNC	Multi-national Corporation
MOF	Ministry of Finance
MOL	Ministry of Labor

MOPIC	Ministry of Planning and International Cooperation
MOTA	Ministry of Tourism and Antiquities
MOU	Memorandum of Understanding
MPA	Masters of Public Administration
MSME	Micro, Small and Medium Enterprise
NAHDAT	NAHDAT Al-Aqaba program (former name of the ACED Program)
NCHRD	National Center for Human Resources Development
NDA	Neighborhood Development Activity
NDC	Neighborhood Development Council
NET	Neighborhood Enhancement Team
NGO	Non-Governmental Organization
NHF	Noor Al-Hussein Foundation
NICRA	Negotiated Indirect Cost Rate Agreement
NTS	National Tourism Strategy
PACE	Participatory Action for Community Enhancement
PAIS	Post Audit Information System
PEP-MENA	International Finance Corporation Middle East Technical Assistance Program/Facility
PITA	Palestine Integrated Trade Arrangement
PMIS	Project Management Information System
PMP	Performance Monitoring Plan
PPP	Public/Private Partnership
PR	Public Relations
PRA	Participatory Rapid Appraisal
PRIZM	Promoting Industrial Zones and Investment Mobilization
PSA	Public Service Announcement
PSD	Private Sector Development
PWG	Planning Working Group
QA	Quality Assurance
Qa	Quarter of the ACED Program year, where "a" is the numbers of the quarter (1-4)
QC	Quality Control
QIZ	Qualifying Industrial Zone
QUDORAT	Near East Foundation Consortium
R&D	Research & Development
RFA	Request for Applications
RFP	Request for Proposal
RFQ	Request for Quotations
RIAL	Re-use for Industry, Agriculture and Landscaping
RSCN	Royal Society for Conservation of Nature
SABEQ	Sustainable Achievement of Business Expansion and Quality (USAID)
SB/SDB	Small Business/Small Disadvantaged Business
SEPAP	Second Emergency Public Administration Program
SEZ	Special Economic Zone
SFU	Satellite Factory Unit
SIYAHA	The Tourism Project (USAID)
SME	Small and Medium Enterprises
SOW	Scope of Work

SPIRA	Streamlining Permits and Inspection Regimes Activities
STTA	Short Term Technical Assistance
SWOT	Strengths, Weaknesses, Opportunities and Threats
TA	Technical Assistance
TATWEER	Business & Export Development Project for Jordanian Enterprises (USAID)
TBD	To Be Determined
TCBS	Trade Capacity Building Support project
TFCB	Trade Facilitation and Capacity Building project
TMG	The Mitchell Group, Inc.
TO	Task Order
TOT	Training of Trainers
TP	Technical Proposal
TRIDE	Trilateral Industrial Development
TSG	The Services Group, Inc.
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development
UNIFEM	United Nations Development Fund for Women
UNRWA	United Nations Relief and Works Agency
USAID	United States Agency for International Development
VP	Vice President
VTC	Vocational Training Corporation
WB	World Bank
WEDAT	Women's Access to Entrepreneurial Development and Training
WEPIA	Water Efficiency and Public Information for Action
WTO	World Trade Organization
WTTP	Workforce Technical Transformation Program
Yb	Year of the ACED Program contract duration, where "b" is the member of the project year (1-5)

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## *Executive Summary*

This report has been prepared at the request of Aqaba Community and Economic Development (ACED) Program, and is intended to provide a better understanding of the actual and perceived training and support needs of the construction sector in Aqaba. It is focused on the current view of the situation of both training providers and construction employers based on the examination of existing/recent studies, interviews, field visits and structured group discussions conducted by the consultant.

This study will prepare the baseline for conducting the study geared towards designing an Aqaba Skills Readiness Index (ASRI) and training plan for the construction sector.

It is important to note that data for this report was gathered from direct and indirect sources, and in the time scale available for the project, it was not possible to fully verify all the information provided.

Most descriptions of the Technical and Vocational Education and Training (TVET) in Aqaba identify three major players in the system.

- Ministry of Education (MOE), which runs the comprehensive secondary vocational stream.
- Vocational Training Corporation (VTC) which runs an apprenticeship training program as a Dual System that combines on-the-job and off-the-job training. Recently the National Company for Employment and Training (owned by the army) started using a VTC training center in Aqaba to conduct training activities in construction and related services.
- Aqaba University College. Part of the Balqa Applied University system (BAU). This college has two programs: a 2-year course to prepare technicians and a degree program lasting 4-years. There is a growing awareness that organizations or individuals derived benefit from training depends on whether the training and development program is based on accurate analysis and is designed to address the right issues.

Several reports have painted a common picture of the TVET system in Aqaba (as well as Jordan generally), such that it is characterized by the following:

- It is fragmented with no overall policy or coordinating mechanisms
- It is traditionally strongly centralized making it difficult for institutions to respond to local labor market needs
- It is largely supply-driven
- It has insufficient labor market relevance
- It has no established information and communication systems between training providers and users
- There are serious deficiencies in the teacher training and employment system
- There is a reluctance among the private sector to transfer financial means to the state budget

It should at the same time be noted that there is a strong commitment in general in Jordan to education and Human Resource Development. Enrollment and graduation rates are among the highest in the region and in some areas they are competitive to European figures.

The reports identified the competencies that employers would like the TVET graduates to have:

- Occupational competencies
- Employable competencies
- Interpersonal competencies

The report writers considered these as key skills, since they form the foundation of education, work, and every day life. They enable graduates to make decisions, carry out tasks efficiently and confidently while working well with others, and are therefore skills which are needed in every situation.

For the identification of skills gap and training needs, the consultant used a framework as a guide to describe the performance of the training providers in order to suggest recommendations for their improvement. The main elements of the framework are the following:

- Relevancy: relationship between training outputs and training objectives to economic and social objectives
- Efficiency: relationship between outputs and inputs
- Effectiveness: relationship between outputs and objectives, to provide feedback as to how well the system is achieving its goals
- Sustainability: the ability to inspire continual learning and motivate continued development

Questionnaires were used as guidelines for the discussion between the consultant and the stakeholders.

The labor force in Aqaba is estimated at approximately 23,000 out of a total population of 89,000 (as per ASEZA figures). Only 2,500 of those are females. The local unemployment rate in Aqaba is estimated at 13.8 %, and is therefore lower than the national average.

The key to making job opportunities accessible to Aqabites lies in providing focused training that delivers qualified job applicants into existing and future job opportunities. Recent studies pointed out the difficulties facing the contractors for recruiting Jordanian workers, including:

- Shortage of qualified local workers
- Preference to join government service
- Construction work is not attractive
- Low wages and salaries
- Shortage of labor force in specific needed jobs
- Long distance between original residence and work location
- Low standard of performance in specific areas
- Labor complaints and low productivity

There is a strong belief that the Jordanian society does not value trades workers, and the low status accorded to technical training inhibits the recruitment and retention of motivated trainees.

These studies further identified the following needs for training providers:

- Management training
- Training of trainers
- Updated technical training
- Relevant industrial experience
- Education

Recommendations are presented to improve the capabilities of training providers to offer demand-driven training programs. Observations were gathered through field visits to construction sites, and provided the following indications:

- Companies are generally family-owned, using low standard technology, lacking modern management methods or skills, and staffed with under-trained or unqualified employees.
- Many companies are more concerned with intermediate survival than long-term benefits.
- Many workers are foreigners, so training is not viewed as a good investment by company owners, as these workers at some point will leave Jordan.

The training needs were identified and various training courses were suggested for the workers, supervisors, technicians, and top management of the construction sector. It should be noted that general training courses required include:

- Computer skills
- English language skills
- Secretarial skills
- Supervisory skills
- Industrial safety skills
- Environment protection skills

The report includes recommendations and suggestions that will be used for the preparation of the Aqaba Skills Readiness Index (ASRI) and training plan for the construction sector.

Recommendations include the following:

1. Establish an Aqaba Skills Development Center (ASDC) which will coordinate zone training efforts within specialized training institutions and assist organizations to perform skill gap analysis in order to develop related training plans, and to add new resources and energy to the efforts already underway in Aqaba in the skills development arena. The ASDC will focus and brand these efforts, bringing them to a new level of public awareness. Accordingly, the ASDC will be a focal point for training and employment through the updating of the ASRI, the skills gap analysis, and skill upgrading.
2. Implement a Graduate Enterprise Program (GEP) targeting fresh University Graduates to transfer them from academia to the world of work.  
  
Graduates will be given industrial experience as on-the-job training, and placed as permanent employees upon completing the program.
3. Conduct specific training courses as a first priority, for example:

- Training of trainers
- Supervisory training

- Safety officer training
  - Occupational ethics
4. Launch an awareness campaign in Aqaba targeting the community, schools, students, and employers. Focus should be given to career counseling, vocational guidance, and work values in order to make vocational training more attractive.
  5. Establish an advisory committee for Community Development, Vocational Training, and Human Resources Development, representing stakeholders and decision makers.
  6. Strengthen the Education-Industry interface system in order to institutionalize effective links between training providers and the private sector.
  7. Prepare a training strategy for TVET in Aqaba including vision, mission, mandate, consensus, objectives and strategic issues, and ensure the preparation of a comprehensive training plan and an annual action plan for the implementation activities.
  8. Recruit regional / international professional trainers to run advanced technical training courses for specific occupations.
  9. Training programs should focus on:
    - Occupational Competencies
    - Employable Competencies
    - Interpersonal Competencies

# I. Background

## *1.1 Jordan Social and Economic Main Characteristics*

Jordan is a middle-income, developing country of 5.8 million people, 42% of whom are under the age of 15. Only about 4 percent of the land is arable and almost 80% of the population lives in urban areas. Jordan is characterized by weak natural resources, such as inadequate supplies of water and oil, but relatively strong human resources. Jordan extends over an area of 89,000 Km<sup>2</sup>. More than 80% of this area is desert or semi-desert.

Jordan has achieved strides in education and the health care of its population. Illiteracy, which stood at 68% in 1961, is now estimated to be less than 10%, which is one of the lowest rates of the developing countries. Almost all children, both boys and girls, attend school up to grade 10.

The industrial sector contributes 25% of GDP, while the service sector has a dominant share of 75%. The structure of business is dominated by Small and Medium Enterprises (SMEs).

Jordan's enterprises will in the future be subject to increasing pressure from an open market with the EU initiative to build a Euro-Mediterranean Free Trade Zone, bilateral free trade agreements with several Arab states, and Jordan's entry into the WTO in January 2000.

The government is still one of the main employers, and is an example of where the public sector has expanded at the expense of the private sector. Consumption levels are relatively high but largely financed from workers remittances and not from income generated by local manufacturing.

Jordan is traditionally both an importer and exporter of labor, which indicates the existence of a true regional labor market on the one hand, and a certain degree of inefficiency within the national labor market on the other.

Official unemployment figures for Jordan as a whole stand at 14%, though independent estimates are as high as 27%, and one third of the population is estimated to live below the poverty line.

Observers argue that underemployment and miss-employment are far greater problems than unemployment, evidenced by the existence of serious problems in the match between educational/training provision and labor market needs.

Recently, the government has taken initiatives to attract foreign investors by creating industrial zones, so far attracting mainly cheap, labor-intensive, mass-production companies (i.e. the garment industry). Manufactured products with combined Jordanian and Israeli inputs from so called Qualifying Industrial Zones (QIZs), established with assistance from the US, will have privileged access to the US market. The government has also given priority to boost both the tourism and construction sectors and to improve the technological levels across industry.

## 1.2 Aqaba Special Economic Zone Authority (ASEZA)

The Aqaba Special Economic Zone (ASEZ), which covers approximately 375 Km<sup>2</sup>, was established in February 2001 by Law No. 32 as a key component of the government's economic reform strategy in order to maximize its commerce, tourism, construction, services and industrial potential. It offers a low tax, duty free environment with the potential to stimulate economic activity, attract inward investment, promote exports and deliver social, economic and environmental benefits to the people of the region and the country. Some of the key incentives are:

1. Exemption from customs duties and sales tax on all imports to the zone
2. No foreign currency or equity restrictions
3. 5% flat tax on net business income
4. Exemption from taxes on land and property
5. Full repatriation of profits and capital

The ASEZ is administered by the Aqaba Special Economic Zone Authority (ASEZA) to which Law No. 32 assigns the following functions:

- a. To develop and qualify the zone to attract investments and create an advanced investment environment to stimulate industry, trade, tourism and services.
- b. To increase job opportunities for Jordanians, and coordinate and cooperate with investing entities in the zone to train, qualify and enhance the capacity of Jordanian manpower and fulfill the priorities in employment.
- c. To enhance the role of the private sector in participating in the development of the zone, including providing infrastructure services and any public services.
- d. To encourage competition and prevent monopoly in the various economic activities within the zone.
- e. To plan, design and execute projects for the development of the zone in various fields, directly or through other parties.
- f. To protect the environment in the zone.
- g. To encourage registered enterprises to conduct and support research and development.

The functions and responsibilities of ASEZA are not limited to the perimeter of the zone. ASEZA is responsible for developing the region (i.e., the lands of the Aqaba Governorate outside the perimeters of the zone and of the Jordan Valley), economically and socially, and for preparing the necessary plans and programs. In addition, ASEZA assumes in the region the authority of administering the state's property and antique sites and of protecting the environment in Wadi Rum.

## 2. Introduction

### 2.1 *The Aqaba Community and Economic Development Program*

The Aqaba Community and Economic Development (ACED) Program is a five-year program funded by the United States Agency for International Development (USAID), benefiting the people and businesses of the Aqaba Special Economic Zone (ASEZ). The program is based in Aqaba city and is composed of activities under three major areas:

- Component 1: Will work to strengthen the government institutions and will be working directly with Aqaba Special Economic Zone Authority (ASEZA) and Aqaba Development Corporation (ADC).
- Component 2: Will strengthen private sector to become competitive through enhancing the capabilities of Micro, small and medium enterprises (MSMEs), and supporting training.
- Component 3: Will be working closely with the local community to develop its capacities and empower NGOs and Community Based Organizations (CBOs).

MMIS Management Consultants has been tasked by the ACED Program to conduct a skills gap and training needs analysis from existing studies, the outcome of which will be a time-bound employment skills gap assessment disaggregated by the following: numbers of workers available and required, vocational strengths and needs, and existing and planned training programs available, including and assessment of programmatic sustainability under current arrangements, and considering the impact of the current gender imbalance in the workforce. This information will be combined into an Aqaba Skills Readiness Index (ASRI) for priority sectors (a measure of the ability of the current labor force in Aqaba to fill the known immediate to mid-term employment opportunities for both men and women). The index could be determined based on the percentage of trained staff compared with the objective needed to fill the gap. This will be ascertained from the gap analysis studies, but will primarily be determined by technical assistance provided by the ACED Program.

### 2.2 *Scope of Work*

#### **Objectives:**

- Conduct an overview of the existing studies on skills gap and training needs analysis for the construction sector and related supporting services.
- Prepare the baselines for conducting the study designing the ASRI and Training Plan for the construction sector.

## *2.3 Activities required*

The consultant will conduct the following activities in order to achieve the above mentioned objectives:

1. Identify and conduct an overview of existing studies to inform the development of a skills gap and training needs analysis for the construction sector and related supporting services.
2. Interview sector and training institution representatives in the sector as necessary.
3. According to the availability and quality of information, recommend how to further study the construction sector and identify any overlap sectors that could assist in the determination of the ASRI.
4. Present, according to existing studies and new interviews, a clear picture of the Aqaba situation regarding training needs gap and training situation capabilities in order to fill the gaps for the recommended sector, with special emphasis on the supporting services.
5. Present recommendations based on available information to help determine the baseline for conducting the study designing ASRI and Training Plan.
6. Identify other sectors in which skills training could overlap with the construction sector.

## *2.4 Purpose of the Report*

This report has been prepared at the request of the ACED Program and is intended to provide better understanding of the actual and perceived training and support needs of the construction sector in Aqaba. It focuses on the current view of the situation of both training providers and construction employers based on the examination of existing recent studies, interviews, field visits and structured group discussions conducted by the consultant.

It is expected that the results will provide an important baseline of information on contractors and training providers, offering a baseline that can be used by the ACED Program not only to guide its own work, but also to guide future investments directed towards improving the construction sector and its related supporting services.

It will allow construction representatives, investors, project managers, educators, trainers and experts to increase significantly their knowledge of the manpower and education position within the construction sector in Aqaba. The results will show the extent of current training provision in the industry as well as the training response required to meet identified needs. It will also help to identify trends which may require an education and training response, and will take account of the views of the industry about current training efforts. It is important to note that data for this report was gathered from direct and indirect sources. In the time available it was not possible to fully verify the information provided by all sources.

## 2.5 Methodology

This study is an attempt to describe, based on existing reports and studies, the skills gap and the training needs of both training providers and construction sector employers in Aqaba.

The focus was on which training providers have responded more effectively to the training needs of the construction sector. The skills gap and training needs analysis assessment involved:

- Determination of numbers and types of workers currently in the construction sector and related services.
- Identification of the training deficiencies against current offerings by training providers.
- Evaluation of the capabilities and needs of training institutions and the existing links with those parts of the private sector that employ their graduates.

The following steps were undertaken in the preparation of this study:

1. Identification of existing studies and reports on the construction sector.
2. Review of the existing studies to determine relevant content and focus.
3. Development of classification schemes for enterprise training needs and of the needs of training providers to reflect the recurrent themes arising from the studies reviewed.
4. Identification of competencies needed by construction sector employers and planned specifications of training programs for example:
  - Relevancy
  - Efficiency
  - Effectiveness
  - Sustainability
5. Interviews with the various stakeholders, policy makers, and beneficiaries from both supply and demand sides in order to achieve a demand-driven system.
6. The conducting of two structured group discussion meetings. Questionnaires were used to guide the discussions, and representatives of different stakeholders participated in the discussions.
7. The National Center for Human Resources Development (NCHRD) in Amman, the Construction Contractors Association (CCA), and training and employment projects were visited by the consultant in order to obtain the latest available comprehensive information related to the sector.
8. Field visits to selected construction works companies and training workshops of various training providers were conducted to observe and examine the current capabilities.
9. Observations and conclusions were drawn from the above analysis and first-hand data collection efforts.
10. The guide of occupational standards and job classifications prepared by the NCHRD was used for comparison purposes against that used by the CCA.

11. Meetings were held with vocational training graduates, trainees, trainers, employed workers, worksite supervisors and others for gathering information.
12. Recommendations, based on available information, were prepared to help determine the baseline for conducting the study designing the ASRI and training plan.

### 3. Overview of TVET System in Aqaba

#### **Structure of TVET (Technical and Vocational Education and Training):**

Education is compulsory in Jordan through grade 10. Secondary education is not compulsory, but enrollment ratios are high for both basic and secondary education. Pre-vocational education is provided in General Education in grades 1-10 with the study plan having approximately 600 hours of basic skills spread over the 10 years of basic education.

The purpose of the pre-vocational curriculum is to acquaint students with, and interest them in, pursuing vocational studies after basic education, and to impart some basic skills, such as how to make repairs in the house or school.

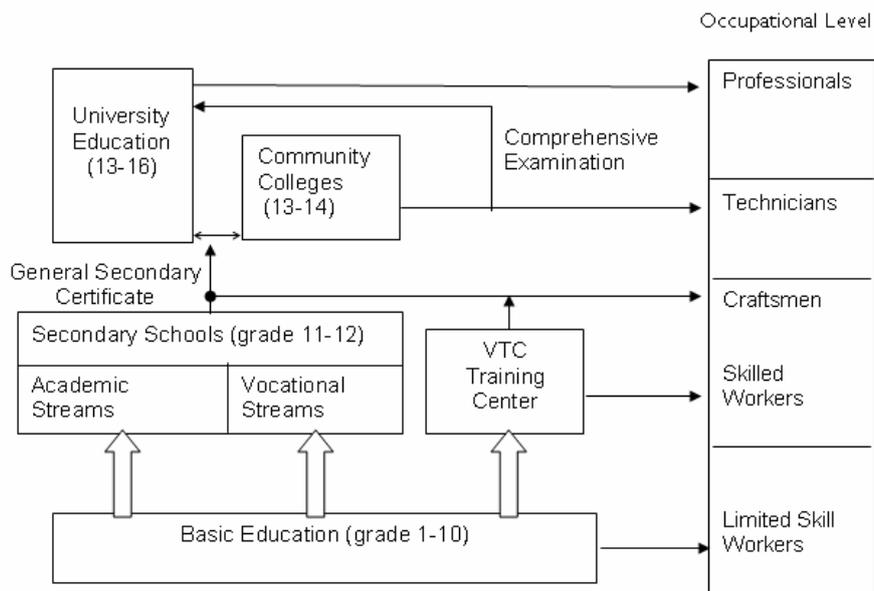
Most descriptions of the TVET system in Jordan and Aqaba identify three major parts of the system:

1. Ministry of Education (MOE) vocational streams as part of comprehensive schools
2. Vocational Training Corporation (VTC)
3. Community colleges as part of Balqa Applied University

The private sector has very few vocational schools and centers, but has engaged in more participation in Technical Education through the community colleges. Most students continue their education beyond grade 10. Based on performance in grades 8-10, students are allocated to academic streams of secondary schools, vocational comprehensive secondary education or Vocational Training Centers in the MOE and VTC.

#### *Structure of the Jordanian TVET System*

The diagram below shows the TVET system structure and its relationship with the occupational level as approved by the Government of Jordan (Board of Education, and Higher Council of TVET and Employment).



### MOE Vocational Education

The objectives of Vocational Education provided by the MOE are twofold:

- Prepare students for employment in the labor market.
- Prepare students for joining higher education; i.e., community colleges and universities.

Two secondary comprehensive vocational schools are located in Aqaba: one for males and the other for females.

#### Aqaba Vocational Secondary School / Males

No	Specializations	2007
		Enrolled Students
1.	Instrumentation Maintenance	63
2.	Electrical Installation	63
3.	Air-Conditioning	54
4.	Carpentry and Decoration	39
5.	Auto Electrician	46
6.	Auto Mechanic	35
7.	General Mechanical Maintenance	37

In addition to the industrial stream, the school offers tourism and hostelling courses to 90 trainees.

#### MOE study plan for vocational education (hours per week)

Courses	First Year	Second Year
General Studies	11	11
Basic Science	3	3
Technical Drawing	3	3

Industrial Sciences	3	3
Safety and Work Organization	2	-
<b>Total Theory</b>	<b>22</b>	<b>20</b>
Practical Workshops	14	14
Additional Science (Optional)	6	6
<b>Total</b>	<b>42</b>	<b>40</b>

### *Vocational Training Corporation (VTC)*

The VTC is a semi-autonomous agency with training centers for males and females in Aqaba. It provides workforce training, both pre-service and up-grading. The training programs can be of three levels:

- Semi-skilled
- Skilled workers
- Craftsman

The training system is very close to the “Dual system” where it can be implemented on-the-job and off-the job.

#### Vocational Training Center / Males:

This center was established a long time ago, but in 2008 started to offer occupational training in construction and other related occupations in coordination with the NETC. These occupations are:

Electrical installations, controls, air-conditioning, central heating, plumbing, tiling, upholstering, carpentry, metal forming, stone building, brick building, stone cutting, and stone cleaning.

The total number of trainees in the two sites (primary VTC campus and Al Rabia) is 781.

#### VTC Study Plans:

The following study plan has been adopted by the VTC training centers:

	<b>Subject</b>	<b>Hrs / wk</b>
	General studies	7
	Vocational theory	4
	Practical training	8
	On-the job training	24
	<b>Total</b>	<b>43</b>

Source: VTC for skilled workers program

### *Aqaba University College*

In 1996 the Government established Al-Balqa Applied University (BAU) for the purpose of coordinating all community colleges in the country. The Aqaba University College was established in 2001/2002.

The objectives of community colleges are two fold:

- a) To serve as terminal education in practical fields, preparing students for entry to the labor market.
- b) To prepare students for entry to University degree level studies for a minority of the students.

Community colleges offer two-year programs. Students must pass a comprehensive examination to obtain their diploma after two years. As established by the Higher Education Council, 20% of those who obtain a diploma can continue to degree programs; i.e., those generally with high marks on the common examination.

In the Aqaba University College, there are two main programs of two- and four-year duration.

Department / courses and students (2008):

<b>Diploma Courses / two years</b>	<b>St. No.</b>	<b>University Courses</b>	<b>St. No.</b>
Hotel Management	74	Hotel Management	43
Tourism Management	23	Banking and Financial Sciences	24
Nursing	7	Information Technology	63
Banking and Finance	38		
IT	12		
Information Systems	49		
<b>Total</b>	<b>203</b>		<b>130</b>

Challenges in Technical Education for Aqaba University College:

Challenges exist in the delivery of all aspects of publicly-funded higher education worldwide as countries endeavor to ensure that their higher education systems remain relevant and contribute to national economic development through the creation of an effective workforce.

Some of the challenges that were identified during the preparation of this report with specific relevance to technical education include:

- The challenge to implement a system for technical education that is accessible, affordable, accountable, relevant and responsive.
- The challenge to identify an optional governance model.
- The challenges of changing societal views regarding the value of technical vs. academic education.
- The challenges in engaging industry as a significant player in technical education.
- The challenge to keep pace with technological advancements and use technology appropriately in technical education.

*Private Vocational Training Providers*

The Ministry of Education controls registration and accreditation of institutions, and accredits the certificates of graduates. It does not require that national curricula be

taught, but does review and approve the proposed training program. It does not specify entry requirements for the training, but will not issue certificates if the prior qualifications of a trainee do not match the level of the course. It does not place any restrictions on tuition fee levels or other charges, rates of increase, or how increases will be allocated.

The courses tended to be concentrated on just three categories of training:

- IT computing
- Vocational training
- Handicrafts

The above mentioned institutions owned mainly by individuals and small companies traditionally have been called "Cultural Centers." Aqaba has very few Cultural Centers owned by the private sector. In Aqaba the Government established vocational schools, Training Centers, and Community Colleges in addition to facilities given to NGOs and international agencies to support the TVET system.

### *National Employment and Training Company*

The consultant visited the National Employment and Training Company (NETC), and met the Deputy Director General for Training and the Assistant Director General for Training. This company was established in July 2007 with the mandate of training and employment in the construction sector. It is a non-profit company. The following information was presented to the consultant.

#### Partners

- Armed forces
- Ministry of Labor
- Private sector

#### Target Group

Youth of 18-30 years old, having completed secondary education level and above

#### Trainees Incentives

- Monthly Salary of JD 191
- Social Security
- Health Insurance
- Boarding Facilities
- Transportation
- Meals and clothing
- Certified / accredited vocational certificate

#### Training Phases

- Military training for 6 weeks
- Basic training in VTC and private sector training centers

#### On-the-Job Training

- Workers                    2-5 months
- Limited skills            6 months

- Skilled 6 months
- Craftsmen 6 months

#### Occupations

1. Architectural: tiler, upholsterer, painter, decorator, furniture maker
2. Construction: builder, carpenter, building blacksmith worker, brick builder, stone builder, stone cutter, assistant surveyor
3. Electrical: electrical installer, control electricians, lift maintenance technicians, electric motor winding electrician, appliances maintenance technician, electrical power electrician
4. Mechanical: central heating mechanic, plumber, refrigeration and air conditioning mechanic, sheet metal rolling mechanic, pump repair maintenance mechanic, turner, medical gas technician
5. Engineering Machines:  
diesel engines mechanic, diesel engine foreman, excavator driver, grader driver, forklift driver, crane driver, roller driver, finisher driver, flatter driver, hammer-drill driver.

#### Comments

- The company was established in the spring of 2008 as an important initiative by His Majesty King Abdullah 2<sup>nd</sup> Ben Al Hussein to assume the responsibility of training and employment in the construction sector, with an initial aim of training 30,000 Jordanians.
- It started its activity all over the country and accepted trainees on pilot training programs, but its progress was constrained by prevailing “establishment” conditions; i.e., bureaucracy.
- It was not possible for the company to conduct surveys or studies to identify the sector requirements. It was therefore reliant on previous studies conducted by other Jordanian and international bodies.
- Building of the curricula, learning materials, tests and examinations, and management regulation are still in process.
- The graduates might not receive employment guarantee. This issue is under discussion with the employers.

## 4. Aqaba Labor Force and the Construction Sector

The labor force in Aqaba is estimated at approximately 25,370 out of a total population of 100,000 as per Department of Statistics 2005 figures (a very similar figure to the one derived from the census carried out in December 2007 that determined the population as being 98,750), giving a labor participation rate of 26%. Only 2,500 of those 25,370 employed persons are females. The local unemployment rate in Aqaba is estimated at 13.8%, lower than the national average of 14.4%. On the demand side, the number of additional jobs to be filled over the next 5-7 years in Aqaba is likely to be in the order of 20,000. Many of those jobs will arise in tourism, services, transport, and construction, and will require a broad array of skill levels. They will be suitable for both men and women. The key to making these opportunities accessible to Aqabites lies in providing focused training that delivers qualified job applicants into existing and future job opportunities. However, even if only a relatively small proportion of the job applicants require training, the training capacity in Aqaba will have to be at least quadrupled within the next 5 years.

### 4.1 Population and Employment

Jordan has 5.8 million inhabitants of which some 100,000 are living in Aqaba per ASEZA.

- Aqaba population growth rate is 3.19%. The net increase in immigration to Aqaba is estimated at 16.7% of the population. Population growth is expected to increase by 5.0% annually through 2010.
- Aqaba's Gross Regional Product (GRP) was estimated at JD 408 million in 2005, and is projected to reach JD 814 million by the end of 2010.

#### **Labor force in Aqaba Governorate:**

According to the Labor Directorate Statistics (2006), in the Aqaba Governorate there are 31,138 workers of which 13,132 are foreigners.

#### **Employment Distribution according to work sectors:**

		Jordanians	Foreigners	Total
1	Industry and production	2900	150	3050
2	Transportation	4105	700	4805
3	Agriculture	1015	1726	2726
4	Construction	3000	7000	10000
5	Tourism	1100	900	2000
6	Education	450	12	462
7	Others	5436	2644	8080
Total		18006	13132	31138

#### **Buildings Construction in Aqaba (as given by ASEZA/ Public Works Directorate)**

The following figures are indications of licensed areas built in Aqaba during the last three years. This is only one sub-sector of construction works.

<u>Year</u>	<u>Licensed areas /m<sup>2</sup></u>
2007	609,362
2006	551,328
2005	481,112

The figures indicate that this sub-sector has increased 25% in two years.

Distribution of licensed areas: (2007)

- Housing	40.2%
- Commercial	12.0%
- Storage	18.5%
- Workshops	1.3%
- Hotels	NA
- Industrial	11.0%
- Tourism	4.9%
- Public buildings & services	11.8%
- Commercial Tourism	0.2%

720 licenses were given in 2007, and fees paid were JD 2,318,964.

- According to NCHRD statistics, historical labor force figures for the construction sector and its related services in all of Jordan are as follows:

Year	No. of Workers
2002	58,459
2003	60,294
2004	70,575
2005	63,238
2006	65,211

## 4.2 *Classification of Construction Sector Occupations*

The Jordan Construction Contractors Association (JCCA) classifies the construction sector into the following sub-sectors and occupations:

1. Buildings:
  - Building structure
  - Manufactured concrete mixture
  - Metal structure
  - Pre-fabrication
  - Maintenance
  - Furniture and decoration
2. Roads:
  - Roads construction
  - Asphalt

- Bridges / tunnels
  - Tunnel walls
  - Excavations / digging, and mining
3. Water and Sewage:
- Water and sewage
  - Purification stations
  - Water treatment
  - Drinking water treatment stations
4. Electro-Mechanical:
- Electro-mechanical
  - Maintenance
  - Mechanical
  - Electricity
  - Electronics and communication
  - Industrial projects
5. Others:
- Telecommunication nets
  - Water wells digging
  - General works
  - Industrial construction assembly

### 4.3 *Classification of construction sector/ MOL and NCHRD*

According to Jordan Occupational Standards and Job Classification (JOSJC) listings, the construction sector is composed of three sub-sectors:

- 1- Building Construction
  - 1-1 Building structure: composed of 48 jobs spread over five levels from limited skills workers to professionals
  - 1-2 Building finishing: 13 jobs
- 2- Transportation Roads Construction
  - 2.1 Roads and airports construction: composed of 15 jobs
  - 2.2 Railways construction: composed of 6 jobs
- 3- Dams and Water Networks Construction
  - 3-1 Water networks and sewage system: composed of 10 jobs
  - 3-2 Dams and irrigation network: composed of 6 jobs

This means that the construction sector has 97 different jobs classified into five levels. The other 40 jobs are considered as supporting the construction sector, and include plumbing, central heating, air conditioning, electrical installations, safety and fire fighting, lifts, and others.

#### Construction Sector in Jordan:

- Accounts for 15% of GDP
- Growth rate (2006-2007) of 18%
- 50 construction development and real estate companies
- Projects value committed over the years 2005-2010 is JD 36 Billion in addition to annual housing projects worth 1.5 Billion

**Contract Values 2007 (MJD)\*:**

- Building	1325
- Roads	130
- Electro-Mechanical	314
- Water / Sewage	98
- Others	7
<b>Total</b>	<b>1874</b>

**The value of projects during 2007 (Million JD):**

- Local companies	725	45%
- Arab companies	706	44%
- Foreign companies	171	11%

Construction occupations employing the highest ratio of foreign workers (out of companies which responded to the VTC study):+

Occupation	Total No.	Jordanian	Foreigner	Ratios
Concrete Mixing	153	32	121	79.1%
Insulation Works	21	2	19	90.5
Tiler	488	50	438	89.8
Stone cleaner	502	53	449	89.4
Building worker	312	50	262	83.9
Granite cutter operator	18	1	17	94.4
Tiles press operator	22	2	20	90.9

+ A study conducted by VTC in 2006 for the construction sector in Jordan.

- Contractors registered and classified ( Grades I-6)

Amman	756
Mafraq	14
Irbid	117
Zarka	82
Karak	95
Ajloun	14
Tafila	32
Balqa	41
Aqaba	38
Jarash	16
Maan	23
Madaba	24

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**Grand total 1,252**

73 companies out of the above number are Arab and Foreign companies.

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\* As given by JCCA.

## 5. Observations of Field visit to Aqaba Institutions

The consultant conducted field visits to Aqaba institutions, contractors, stakeholders and other policy makers during the period 3 May – 8 May 2008. The following are observations, comments and findings:

*A meeting was held with the ACED Program team and the following issues were discussed*

- The consultant's meetings for the following week in Amman are set with JCCA, NETC, and NCHRD in order to ascertain the data, statistics, and other information they hold.
- The assignments, activities, meetings, and interviews to be conducted in Aqaba the following week.
- The related services of the construction sector such as aluminum fabrication, glass works, electrical installations, plumbing, air conditioning, and others.
- The suggestion by the team leader to include the preparation of a training plan. The consultant commented that this work could be done at a later stage, since the scope of work did not include it in this study. However, the consultant offered to present a training plan covering selected activities.
- The Chief of Party was briefed about the assignment and the activities which were carried out to date.

### *Meeting with VTC in Aqaba*

- The VTC and NETC are working together, though no agreement for cooperation has been signed.
- NETC appointed a principal responsible for logistics and services, leaving the VTC principal as the responsible party for training activities.
- NETC has training programs in construction, electro-mechanics, plumbing, and air-conditioning, and there are currently 295 trainees using the center premises.
- Hostelling, blacksmith, welding, and computer training are VTC training programs.
  - 9 trainers are working for the NETC. 2 of them were appointed by the company, while 7 were originally VTC staff.
  - Trainers needs include:
    - Training methodology
    - Computer skills
    - English language
    - Interpersonal skills
    - On-the-job attachment (secondment)
    - Technical skills

- Physical facilities: The center is still using the same equipment, as no additional facilities were provided.
- The following training environment was noted:
  - Trainees of NETC are given high salaries and incentives.
  - VTC trainers and trainees are not.
- The trainer to trainee ratio ranges from 1:40 – 1:28. These high ratios have had a negative impact on the effectiveness of the training.
- Links with the private sector are not efficient and not yet institutionalized.

### **Other Training programs run by NETC:**

- The TC in Al-Rabia has 486 trainees in 15 occupations. Some programs include 2 trades, while others have 4.
- The training plan ranges from 324 - 432 training hours per program.
- 17 trainers were recruited by NETC from the labor market. All of them lacked skills in instructional techniques and adult learning.
- The total number of occupations covering the construction sector is 15. In general they are traditional trades with basic skills.
- There are too many occupations (using advanced technology) not covered by VTC or NETC training programs.
- The national employment and training company is using a residency area in Al-Rabia to accommodate trainees (with full board facilities), and using a pre-fabricated hanger for practical training.
- Some trainees joined the program as a way to gain permanent employment, while others did so simply to secure a monthly salary and other incentives. This issue can be followed up at a later stage.
- Only training for construction-related occupations is conducted in the VTC center; i.e., electrical installations, air-conditioning, carpentry, plumbing, and mechanical maintenance.
- Only NETC, which recently started operating, is conducting training in 15 construction occupations. The staff is enthusiastic and motivated, but working under stress all the time. It was noted that positive discipline, supervision, and exposure to real work conditions prevailed.
- The NETC recently established a huge training center in Shuwaer region that cost 8 million JDs. Other similar centers will be established in northern and central Jordan.
- The company also contracted a French company to prepare the curricula and learning materials. A training of trainers course will be conducted to improve the trainers' competencies.

## *Aqaba University College .*

Dr. Modfi Omyan, the Dean of Aqaba University College (AUC), was interviewed, and the following observations were noted:

- AUC still offers 2 programs. One is a 2-year community college program for 800 students, and the other is a university program of 4 years duration, currently catering to 250 students.
- AUC has the flexibility to introduce new courses and/or freeze others according to the current or projected level of employability in the sector.
- No direct courses for the construction sector exist (civil, architectural, or mechanical engineering) in the college. The Dean mentioned that he is still awaiting the response of NETC prior to introducing these courses.
- No efficient feedback was forthcoming regarding the exact labor opportunities available in the market.
- Coordination between training providers in Aqaba is still weak and not institutionalized.
- AUC conducted various training programs for the benefit of the community, but unfortunately attracted insufficient numbers, even though the courses were free of charge and completely sponsored by donations.
- The Follow-up Graduates division, recently established, in AUC is doing well and has been able to find jobs for graduates.
- The Dean, when asked by the consultant about HRD in the region, mentioned that he is not sufficiently represented in Aqaba committees for training and employment functions.
- The advisory committee of HRD, which was established by ASEZA and supported by the EJADA project, is no longer active.

### **AUC Staff Training Needs:**

- Research methodologies
- Instructional techniques
- ICT courses (advanced)
- English language
- Managerial skills
- Technical training
- Industrial safety
- Project management

## *Jordan Construction Contractors.*

### **JCCA (Aqaba Branch):**

Two engineers were interviewed: Mr. Mohammed Tarawneh (the Director) and Mr. Mohammed Yaser (a contractor).

The following observations were noted:

- There are huge construction works under implementation in Aqaba, promising opportunities for the future.
- The branch has no database for construction in Aqaba, but it is estimated that 10,000 workers are employed, of which 70% are foreigners.
- The construction workers available lack the real skills needed to fulfill the demand of large-scale enterprises.
- The importance of conducting training courses in the following areas was stressed:
  - Technical skills: safety at work, heavy machining equipment, tower crane operators, steel structure welding, etc.
  - Employable skills: languages, computing, project management, supervisory skills, cost-effectiveness, etc.
  - Interpersonal skills: communication, flexibility, working in teams, self learning, work ethics, problem-solving, decision-making, etc.

### *Labor Directorate / Aqaba Governorate*

Eng. Hassan Darweesh (the Director of Labor) was interviewed.

The following observations were noted:

- The construction sector is considered the largest in Aqaba, employing 7000 foreign workers.
- The 4 employees who work in the office are overloaded with activities and functions, and regularly have to work an additional 2 hours each day.
- The number of workers in Aqaba now exceeds 31,000. Figures for employment in Aqaba could be different according to the agency issuing the statistics.
- Employers should annually provide a list of employed workers to the labor office.
- Some companies are given permission to work, but do not start the business, and in a few cases, permission to recruit employees is not utilized.
- Permission is given to foreign workers through ASEZA procedures.
- The Directorate conducted some training programs financed by donors.

### *Ministry of Education Vocational Comprehensive School*

Dr. Isam Sharaia, (Principal of the new school) was interviewed, and the following observations were noted:

- 2 vocational curricula are offered: industrial and hostelling.
- 7 industrial specializations offer vocational industrial training.

- Maintenance of measurement equipment 63 trainees

- |                                |             |
|--------------------------------|-------------|
| – Electrical installation      | 63 trainees |
| – Air-conditioning             | 54 trainees |
| – Carpentry and decoration     | 39 trainees |
| – Auto electrician             | 46 trainees |
| – Auto mechanic                | 35 trainees |
| – General mechanic maintenance | 37 trainees |
- A total of 420 trainees are enrolled in the school. The drop-out rate is between 7 and 10%, and the final pass rate in the general exam is 30%.
  - The school employs 40 trainers, of which 15 are for the practical training. Most of them are community college graduates. In addition, there are 8 administrators working in the school.
  - Graduate employability is very high, and the Follow-up Graduates program is working well.
  - Curricula and syllabi have not been up-dated for five years.
  - Study plan (weekly learning hours):
    - Practical training is 14 hours
    - Mathematics is 3 hours
    - Physics is 3 hours
    - Safety and workshop laws is 2 hours for one semester
    - Technical drawing is 3 hours
    - Industrial sciences is 3 hours
    - Arabic language, English language, and national culture are 3 hours each
  - Occupations mostly requested by the trainees:
    - Electricity
    - Air-conditioning
    - Maintenance

#### Training needs:

- Occupational skills
- Employable skills
- Interpersonal skills

Construction occupations are not covered in the school, but related services/occupations are.

#### *ASEZA office for visa and residency*

Zaid Najda (Head of Division, Visa and Residency Permissions) was interviewed, and the following observations were noted:

- There are no restricted occupations, and all foreigners can get work permits according to procedures.
- 7000 foreign workers are employed in the construction sector, most of them being Egyptian.

- Foreign workers pay JD 40 for a permission period of 3 months, and JD 15 for an employment card.

### *MOL/ Employment Directorate*

Mrs. Mona Zraiki (the Director) was interviewed, and the following observations were noted:

- ASEZA became responsible for offering work permits to foreign workers beginning in 2003, while the MOL office issues permits to Aqabites everywhere in the Aqaba region apart from the city.
- The Employment Directorate serves job seekers: receiving and registering them according to certain forms, including:
  - Personal data and job required
  - Qualifications and previous experience
  - Certifications and languages spoken
  - Training courses attended
  - Other information
- The Directorate receives requests that indicate the job opportunities available with employers and transfers information regarding job seekers to those employers as per their recruitment procedures.
- The Directorate sends information related to job opportunities to the MOL in order for the MOL to post them on their website.
- Job seekers for construction jobs are few, and the demand is far larger than the supply.
- The recently established National Employment and Training Company is preventing recruitment of construction job seekers unless they secured its permission. Employment priority is given to its graduates.
- The MOL Employment Directorate has only 4 employees who are not able to fulfill the requirements of the office and therefore need considerable support.

#### **Example for the current situation as faced by the Employment Directorate:**

- Over a 3-month period from 3<sup>rd</sup> January to 31<sup>st</sup> March 2008:
  - 507 job seekers were registered
  - employers asked for 475 workers to be employed
  - 276 job seekers were referred to employers, 66 of them were offered jobs
- During April 2008:
  - 95 job seekers were registered (of which 25 were female)
  - employers asked for 220 workers to be employed
  - 83 job seekers were referred to employers (of which 12 were female)

Support is needed to strengthen this directorate:

- More staff are needed
- Exposing of staff to regional and international expertise is required
- The introduction of pre-employment courses for all job seekers is important as this will speed up and make more efficient the whole process

### *Petra Company (Air Conditioning)*

The consultant interviewed two people working in the company: Mr. Mohammed Abou Al-Haija (Maintenance and Installation Foreman), and Mr. Sami (Marketing Officer).

The following observations were noted:

- 8 technicians work for maintenance and installations.
- Between 1999 and 2008, enormous numbers of workers were recruited, and turnover was very high.
- Graduates from training providers' institutions were lacking in technical skills, and English language terminology, and displayed a negative attitude toward the industrial work.
- The estimated number of Certified Technicians working in Aqaba is around 10, but another 300 are working as non-certified roaming workers.
- Exchange of technical information between employers and training providers is non-existent.
- Petra technicians are well qualified as this company is considered the best manufacturer in Jordan.

### *Industrial Region for trades (Hirafyeen)*

The consultant visited the region, some shop owners were met, and the following observations were noted:

- 400 shops operate in the region, with the majority having been built and equipped through the Industrial Development Bank.
- 35 shops are specialized in aluminum works of which 2 are considered to be large.
- Negative feedback was received relating to the performance of training providers' trainees.
- Under-age workers are employed. They usually have no previous experience, low qualifications, and move from place to place.
- There is insufficient supervision or follow-up by the formal institutions that should be supporting the region's functions.

It is recommended to provide a training facility within the Hirafyeen area that would:

- Conduct short term training courses.

- Conduct awareness sessions on technology and SMEs requirements.
- Offer business attitude coaching to workers.
- Take care of under-age workers by offering self-learning opportunities and occupational ethics.
- Conduct industrial safety courses.
- Conduct career counseling and vocational guidance courses.

### *SAUDI OGER Company*

One of the biggest construction companies in Aqaba, Saudi Oger, has large-scale projects exceeding one billion JD. The company currently employs 1200 people of different occupations and levels, but augments its project implementation teams by utilizing outsourcing expertise (provided by 7 companies). Mr. Ghassan Ghanem (Project Construction Manager for Saraya Aqaba) mentioned that:

- All of its unskilled workers are foreigners
- Half of its technicians are Jordanians
- All of its engineers are Jordanians

The company has boarding facilities and offers various incentives to its workers. Mr. Ghanem supported the suggestion of establishing an advanced training center for construction occupations to develop state-of-the-art competencies.

## 6. Skills Gap and Training Needs Analysis

There is a growing awareness that organization's and individual's benefit from training depends on whether the training and development program is based on accurate analysis and is designed to address the right issues. Planning is the keystone of effective and efficient management. It is particularly crucial in training and development, because without careful and complete planning, resources are certain to be wasted.

Training and development programs must be based upon enterprise or institution goals, objectives and plans if they are to be effective. They must be geared to enterprise and manpower planning in terms of projected expansion, reduction, or diversification of operations as they relate to production and services.

The impact of changes in science and technology on training and development programs should be clearly evident.

The composition of the workforce is very important for the identification of training needs. Age, sex, educational levels, and the training, experience and numbers of operatives, supervisors and managers, in part, determine the types and levels of training required.

The types of training programs also depend in part upon the availability of sufficient numbers of training personnel with the required managerial, professional and technical skills, and knowledge and experience required to plan, design and operate the needed training system. The availability of adequate space, equipment, and other facilities for conducting training programs is paramount. Costs are another factor that must be considered in developing plans for training. Executives typically ask about the economics of establishing or continuing a training program: What will it cost? How could the cost be reduced?

### *Current and Desired Situation*

The consultant tried to identify the "Gap" between the current situation and the desired situation in order to identify needs, purposes and objectives related to filling this Gap.

- Current Situation

The current status of skills, knowledge, and abilities of training providers and general construction-sector capabilities was examined.

- Desired Situation

Conditions for organizational and employee success were identified. Focus was put on the necessary job tasks as well as the skills, knowledge and abilities needed to accomplish these successfully.

- Performance problems and / or opportunities

Investigations and analyses were done to identify the performance problems through asking:

- Are members of the workforce doing their job effectively?
- Do they know how to do their jobs?

- Possible solutions and growth opportunities
  - Training may be the solution, if there is a knowledge problem.
  - Organization or human development activities may provide solutions when the problem is not based on a lack of knowledge, but is primarily associated with systematic change. These solutions included suggestions on strategic planning, effective team building, performance management, and others.

## Levels of Skills Gap and Training Needs

The focus of the activities conducted by the consultant was to identify the levels of training needs, though in some cases it was not easy to separate them from each other.

The following levels were taken into consideration:

Level	Elements
Organizational	Planning, setting and meeting objectives, departments and project teams, and strategies
Occupational	Specific occupations / jobs, standards, competent performance, improvement teams, and relationships
Individual	Flexibility, professional, productivity, self development, creativity, skillful, cooperation, and communication

The aim was:

- Implementing: doing things well.
- Improving: doing things better.
- Innovating: doing new and better things.

### *Skills Gap and Training Needs Analysis of Training Providers*

Several reports (e.g., European Training Foundation and NCHRD) pointed out that the TVET system in Aqaba as part of the whole system in Jordan is characterized as:

1. Being fragmented (with no overall policy or coordinating mechanisms).
2. Having a strong centralized tradition making it difficult for institutions to respond to local labor market needs.
3. Largely supply-driven.
4. Having little labor market relevance.
5. Only partially possessing a labor market information system.
6. Having no established information and communication systems between training providers and users.
7. Having serious deficiencies in the teacher training and employment system.

8. Suffering from reluctance among the private sector to transfer financial means to the state budget.
9. Not having a tripartite system composed of providers, employers and social partners.

The above statements might provide too negative a focus on the quality of the system. These statements do however provide good input for improvement initiatives. It should at the same time be noted that there is a strong prima fascia commitment in general within Jordan to education and human resources development.

Enrollment and graduation rates are among the highest in the region. Analysis often shows that the different actors of the TVET system are blaming each other:

- Training providers argue that employers are unable to inform them about their particular needs.
- Employers complain that recent school graduates need up to one year to integrate in their work place and argue that, besides low technical skills, graduates show weaknesses in work attitude, behavior and social skills.
- Many employers argue that they find it difficult to recruit skilled labor on the labor market, and that half of the skilled workers employed in industry have had to be trained on the job.

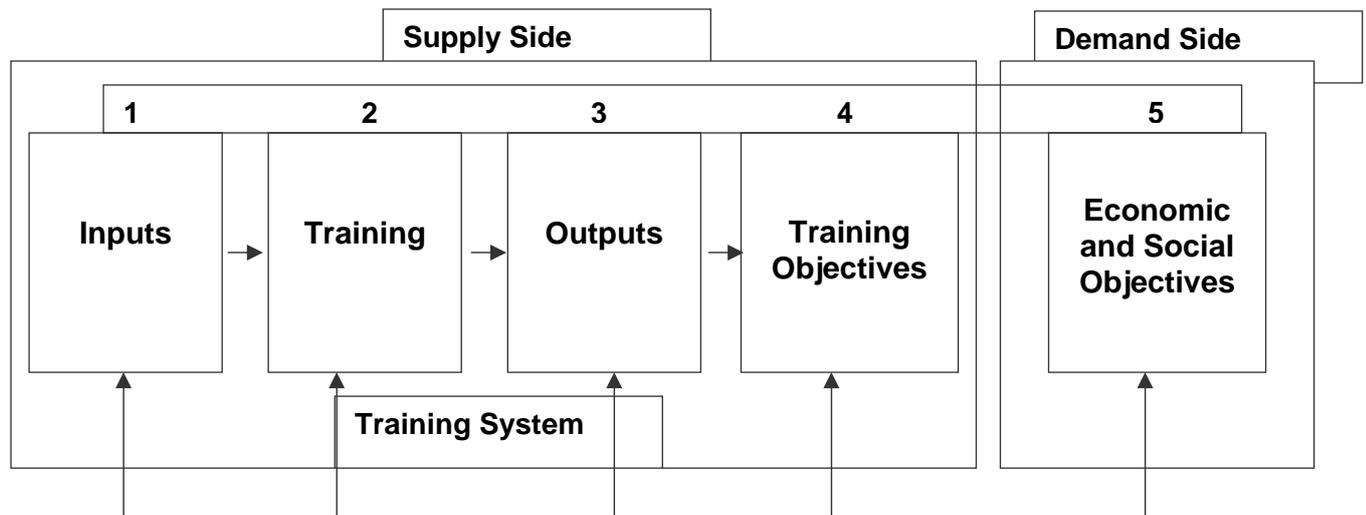
Companies have many frustrations in relation to the training system:

1. Graduates though trained, too quickly leave their jobs.
2. Low level of theoretical knowledge of students.
3. Lack of motivation from students.
4. Lack of financial assistance for training.
5. TVET is generally perceived as a low-status occupational route in Jordan.

### *Analytical Framework*

This report is not aimed at evaluating each of the training organizations (due to the high numbers of both public and private sector providers), nor is it aimed at evaluating each training course offered (as there are approximately 90). The intention is to gain a broad understanding of the overall performance of training organizations and to gauge the extent to which they are performing and meeting the employers' needs. Further studies and surveys could be conducted to provide detailed analysis and performance data.

The framework used as a guide by the consultant is shown below:



- A. Relevance: relates to the relationship between training outputs and training objectives to economic and social objectives for the system (3/5) or the relationship between training objectives and economic and social objectives (4/5).
- B. Efficiency: is the relationship between outputs and inputs (3/1). It indicates how efficiently the process of training is implemented and managed.
- C. Effectiveness: relates to the relationship between outputs and objectives, and indicates how effectively the system is achieving its goals (3/4).

Other criteria that could be used to assess training initiatives include:

Impact:

- The success in enhancing self-assessment of strengths and weaknesses.
- The ability to improve knowledge.
- The ability to affect the behavior / performance of trainees.
- The potency of training material for use as future reference by trainees.

Sustainability

- The ability to inspire continued learning.
- The ability to motivate continued development.
- The ability to stimulate other services offered by training providers.

The consultant prepared questionnaires (Annexes 3 and 4) which were used as a guide during visits to training institutions and site visits to the employers.

## *Analysis Findings*

### A. Relevance

1. VTC Training Centers in Aqaba have clear linkages with employers and the labor market. The most salient manifestation of training-industry linkages comes from the practice of “dual system” in which trainees are exposed to workplace experience in addition to center-based skills training.
2. BAU / Aqaba University College established advisory councils with major employer participation.
3. Training providers have introduced employability skills; e.g., IT skills and English language.
4. Aqaba training providers have not yet been very successful in securing employer involvement upstream in the training process, in spite of the formation over the years of numerous sector-specific committees and curriculum groups, most of which at least initially benefited from employer participation. Unfortunately, it has proved difficult to sustain employer interest.
5. TVET has not served target groups other than the youth or those just finishing the school system.
6. The use of multi-skilling makes sense in terms of emerging market demands, but what has been focused on to date is the acquisition of specialized skills which can not work in competitive, dynamic economies where the workers often change jobs several times in their working career.
7. Jordanian society traditionally has socially undervalued vocational skills, but the very fact the vocational streams are provided within formal secondary education has helped to make vocational streams more acceptable to youth and parents.

It is likely that the majority of trainees in the system come from lower socio-economic groups. One of the reasons for this disparity is that job-related training is seen as attractive for students who are expected to find a job at an early age in order to augment family income.

### B. Effectiveness

1. Effectiveness can be demonstrated through quality of training and management effectiveness.

One outstanding feature of the Jordanian system of TVET is the existence of national exit examinations. The General Secondary Certificate and the comprehensive exam of the community colleges are considered terminal examinations. The national examinations provide a basis for evaluating how well the training is achieving its objectives.

2. Training staff still lack relevant industrial experience, and a large percentage lack high academic and technical qualifications. Also, the majority have not attended training methodology courses. This means that up-grading training in classroom skills is required.

3. The low-level competencies at student intake contribute to learning problems of trainees and even to producing dropouts among those who cannot cope with the modest theory requirements in the curriculum. Even community college administrators complain that many students have weak academic preparation and are unable to handle the content of some teaching programs. This situation requires the equipping of trainers and management with the required competences that would enable them to deal with these problems.
4. Work attachment, as utilized in the “dual system” which most Aqaba training centers are using, needs more supervision. Most enterprises are small, and perhaps only one quarter of them have the available facilities, equipment, and trained staff to be able to provide effective apprenticeships.
5. The creation of the TVET council promises to address the main weaknesses in the governance, management, and coordination of the TVET system. It is difficult to overemphasize the importance of the council and its potential to counter fragmentation in the system, set overall national priorities, and root out duplications of effort that have crept into the system among major TVET providers. **Aqaba training providers still do not feel the impact of this council.**
6. Excessive centralization of authority, lack of delegation to training institutions, and intermediate layers of the management structure are still considered weaknesses in the TVET system.

Training providers receive and have to deal with (a) students accepted by top management, (b) trainers recruited through civil service, and (c) curricula not designed by them!

**This situation suggests that special training should be given to enhance the technical, pedagogical and managerial skills of trainers in addition to changes to the rules and regulations.**

#### C. Efficiency

1. Several positive features exist in terms of efficient use of resources. There has been strong public interest in financing for TVET over the past several decades in Jordan. Efforts have been made to reduce the length of unnecessarily long training programs. The recent establishment of the employers “Training Fund,” financed by a one percent company prefix tax, may prove to be the most interesting innovation of all.
2. It should be noted that the TVET system lacks cost-consciousness. The prevailing incentives lead training managers to spend allocated budgets fully and to seek more financing. There is not a culture or attitude that is conducive to the systematic search for external funds in an effort to become more self-reliant.
3. Most training facilities are used only until the early afternoon, standing idle thereafter for much of the day and into the evening. This is a tremendous investment that could be put to other purposes such as evening adult training.
4. One of the best indicators of internal efficiency is completion rates. According to this Jordan has had low productivity (output/input ratios) and high wastage in its TVET system. Completion rates are extraordinarily low. The cost per graduate is extremely high due to the high rate of student dropouts.

Training on vocational guidance and career counseling is very weak and fails to retain the trainees till they successfully complete their training programs. Trainers' technical competency is vital for convincing trainees that they are acquiring the work skills necessary for successful employment.

### *Overall Conclusions about TVET*

Despite some strengths in the TVET system:

- TVET production tends to be supply-driven because of insufficient upstream employer involvement.
- TVET outputs are sometimes not valued highly by employers because of the low quality of skills of its graduates.
- The TVET system is not very productive, as indicated by high attrition and low completion rates.

In the final analysis, low quality and under-performance of the TVET system may be the result of inadequate incentives. Teachers and trainers are paid the same regardless of how many students or trainees they teach or the competencies they acquire.

#### **Problems with inputs**

- Low quality intake levels experienced by all training providers
- Under-qualified trainers, especially lacking relevant industrial experience
- Problems with the attachment as on-the-job training
- Equipment and curricula not sufficient or up-to-date

#### **Other negative observations**

- Lack of employer-defined training standards and content
- Lack of accountability for results by institutions and trainers
- Funds are transferred to public institutions regardless of performance
- Examinations done by the providers themselves

**These conclusions give clear indications for training needs to be met through the levels of training and management of the TVET institutions.** Of course introduced improvements in legislation will help to create appropriate conditions for success; however, legislation changes must be accompanied by proactive resource-supported, competent leadership of all levels within the TVET system.

#### **A. Management Training courses needed by Aqaba Training Providers**

Potential courses to address a number of TVET management skills development needs were identified through the different activities carried out by the consultant.

I. To meet the management training needs:

- I.1 Leadership skills for higher level management
- I.2 Working successfully as a supervisor, including staff evaluation practices
- I.3 Long and short term planning
- I.4 Report writing
- I.5 Teamwork as a continuous improvement strategy

- 1.6 Total quality management
- 1.7 Financial management
- 1.8 Public relations practices for mid-senior level managers
- 1.9 Managing meetings
- 1.10 Managing under stress and managing crises
- 1.11 Management of the training process
- 1.12 Institutional management

2. To meet the professional development needs of individuals:

- 2.1 Computer skills
- 2.2 English language
- 2.3 Interpersonal skills development
- 2.4 Time management
- 2.5 Working successfully as an employee

### **B. Training of Trainers / Teaching Staff**

The following courses are suggested to address the pedagogical needs of the trainers:

- 1. Identifying learning needs
- 2. Developing learning plans
- 3. Teaching methodologies
- 4. Educational psychology
- 5. Managing a flexible learning environment
- 6. Preparing teaching plans
- 7. Teaching practice
- 8. Work instructions
- 9. Developing learning materials
- 10. Preparing audio-visual aids
- 11. Competency assessments
- 12. Program design and evaluation
- 13. Industry-community relations
- 14. Assessment systems
- 15. Project design
- 16. Teamwork
- 17. Teaching theory

### **C. Technical Training**

The following training courses are suggested to improve the outdated technical levels in the current training providers:

- 1. Occupational skills (advanced) related to trainer specialization
- 2. Computer skills
- 3. Workshop lay-out
- 4. Equipment maintenance
- 5. Training materials estimation
- 6. Occupational safety
- 7. Managing production work
- 8. Writing equipment specifications

## 7. Employers Training Needs Analysis

### Observations gathered through the study:

- The majority of Jordanian companies (as well as those in Aqaba) are labor intensive, family-owned, use low-standard technology, lack modern management methods and skills, have under-trained or unqualified employees, and offer low salaries. In these businesses, decision-making tends to be concentrated around one person who is more concerned with and focused on technical rather than management skills. Investment in management tends to support a growth in company performance.
- Many companies are more concerned with intermediate survival than long-term benefits. Also, as there is a perceived risk of losing trained staff to other (usually larger) companies offering better salaries; therefore, investment in training tends to be limited.
- Many workers are foreigners, so training is not viewed as a good investment as it is perceived that these workers will, at some point, leave Jordan. This is of particular relevance to the construction sector.
- The over-supply of labor in many occupations tends not to support the development of a positive attitude towards training.
- There are few institutional supports and incentives to work with contractors, and companies are not well-organized.

From these few comments it seems that there is a requirement for the capacity building of companies and their management cadres in order to meet the challenges facing them.

### *The Key Skills / Competencies Employers Target for TVET Graduates to Gain Employment*

Employers stressed the importance of “key skills” since they form the foundation of education, work and everyday living. They enable graduates to make decisions, carry out tasks efficiently and confidently, and to work well with others. These are skills needed in almost every situation. The employers expect TVET graduates to have these skills in order to satisfy their needs.

Employers are not satisfied with graduates who are mastering only the occupational skills, as these skills do not provide the overall results they are expecting. Thorough discussions were conducted, and stakeholders were in agreement with the consultant on the key skills that the TVET institutions should focus on in order to produce competent graduates.

The following are the key skills:

#### **I. Occupational skills (job-related technical skills)**

- Using equipment safely and effectively
- Selecting and using materials and tools
- Reducing waste on costs

Observing quality control instructions  
Increasing productivity  
Understanding drawings, sketches, and other written orders

## **2. Employable skills**

Language skills (oral and written)  
IT and computer literacy skills  
Communication skills  
Influencing and persuading others  
Life learning skills  
Continuous improvement skills  
Reading / using catalogues and guides

## **3. Inter-personal and empowerment skills**

Teamwork skills  
Flexibility  
Adaptability  
Creativity and innovation  
Critical thinking and judgment  
Problem-solving and decision-making  
Managing change  
Making contributions at work  
Self-innovation

These skills were mentioned by employers as those being valued to assess the performance of graduates when they seek to secure employment.

## *Difficulties Facing the Contractors in Recruiting Jordanian Workers*

Contractors seeking Jordanian employees expressed the following difficulties:

- Shortage of qualified local workers in general
- Preference by potential employees to join governmental service
- Construction work is not viewed as being attractive
- Employees are asking for high wages and salaries
- Shame culture to work in construction
- Shortage of labor force in specific needed jobs
- Labor complaints and low productivity
- Long working hours
- Long distance between original residence and work location
- Focus toward education
- Low standard of performance in specific areas

These difficulties led the contractors to seek foreign workers who are willing to work longer hours, receive less compensation, and are more adaptable to different work environments; therefore, more productive overall.

## *Jobs that Need Up-grading Training Programs*

Contractors noted that the following areas of construction need high quality, up-dated skills training to support modern-day needs:

### Building Occupations:

- General builder
- Stone builder
- Brick builder
- Upholsterer
- Tiler
- Form work carpenter
- Reinforced steel worker
- Painter
- Form work laborer
- Stone cutter
- Tile grinding surveyor
- Quantity surveyor
- Pre-fabrication assembler

### Plumbing and Air-Conditioning:

- Plumber
- Pipe installation worker
- Refrigeration and air-conditioning technician
- Central heating worker

### Electrical Occupations:

- Electrical installation worker
- Safety equipment worker
- Lift technician

## *Problems Facing Contractors*

General areas of construction contractors' difficulties include:

1. Technical:
  - Low performance
  - Equipment maintenance
  - Low educational levels
  - Operating / driving equipment and machines
2. Administrative:
  - Project management
  - Low administrative performance
3. Financial:
  - Loans / Debts
  - Competition is very high

- Unfair prices
- Shortage of materials

### *Assistance and Services Requested by the Contractors*

Contractors requested assistance in the following areas:

- Graduate recruitment
- Up-grading training courses
- On-the-job training
- Safety and occupational health
- Training of trainers
- Supervisory training
- Identification of training needs and analysis
- Technical consultancy
- Production works

### *Suggestions Made by Contractors*

The contractors suggested possible contributing factors to improve conditions in the construction sector:

- Establishment of qualified and competent training programs
- Enhancing links between training providers and contractors
- Conducting cooperative, contractual training programs
- Conducting intensive training programs
- Focusing on occupational ethics
- Supporting incentive and motivation systems
- Introducing new training programs (demand-driven)
- Developing and modifying legislation
- Supporting partnership and twinning programs

### *Training Needs of Construction Sector Enterprises*

#### **Employers' attitudes towards TVET / Key Observations:**

- The companies interviewed were generally supportive of the national direction in economic development policy and were confident of their potential to compete in global markets.
- There is general satisfaction with primary and secondary education systems and pride in the quality of Jordanian universities, but ambivalence towards the TVET system.
- Companies are not fully aware of the various providers' products and services (VTC, MOE, and CC).
- The companies generally believe that it is the role of the TVET system to provide trainees with the theoretical knowledge and core skills required as a

basis for on-the-job training in skills specifically related to the needs of their work places.

- There is a strong belief that Jordanian society does not value trades workers, and the low status accorded to technical training inhibits the recruitment and retention of motivated trainees.
- Companies that train apprentices are frustrated by lack of motivation among trainees, attrition of apprentices, low levels of theoretical knowledge, and lack of financial assistance for training.
- Companies have difficulty in recruiting the skilled workers required to meet their current needs.
- Most companies do not have highly developed structures or systems for human resources planning, recruitment, development or management.

Training needs have been organized and collated into two main sections:

**a) Generic training needs**

- a.1) Dealing with globalization
- a.2) Dealing with general management issues

a.1) Generic training needs related to globalization

- International standards: specifications, performance indicators, and employment
- International quality
- Import-export processes
- Financial and banking mechanisms
- Copyrights and patents
- International law (labor and environment)
- Languages

This list of seven training areas could serve, however, as the basis for more focused research to determine the specific priorities and the topics within priorities identified that should receive additional attention for training efforts addressed specifically to globalization.

a.2) Generic training needs related to general management

- Business creation and product diversification
- Business management and decision-making processes, including policies and practices
- Finance, accounting, purchasing and inventory control
- Marketing and sales
- Customer service
- Human resources development and personal management
- Interpersonal skills
- Continuous quality improvement

## **b) Technical training needs**

- b.1) Dealing with general technical needs
- b.2) Dealing with specific training needs

### **b.1) General technical training needs**

- Reading drawings, catalogues, and manuals
- Using machines tools and equipment
- Safety at work
- Electro-mechanical appliances
- Specific tasks related to various occupations
- Specifications and standards
- Waste control

### **b.2) Specific training needs:**

- Technical Training
- Welding (TIG, MIG, MAG)
- Underwater welding
- Heat treatment of metal
- Advanced and basic safety
- ICDL computer skills
- Working in enclosed spaces
- Handling of materials
- Environmental measurement equipment
- Mechanical lifting
- Carpentry
- Concrete reinforcing steel basics
- Block building
- Plumbing
- Air-conditioning works
- Gypsum works
- Tile setting and painting
- Fire fighting and prevention
- Pollution prevention
- Winch and crane operation

## **c) Management and supervisory needs:**

- Administrative skills development
- Managing and scheduling production
- Communication skills
- Report writing
- Working in groups
- Problem-solving and decision-making
- Agreement forming
- Starting and improving business
- Training techniques
- Quality control

- English language
- Supervision techniques
- Human resources management
- Strategic planning
- Business planning

**Training programs that can be conducted by Aqaba training providers to be attended by construction sector employees:**

The following technical training courses can be offered by the training providers to the employed workers:

- House wiring electrician
- Auto electrician
- Light- and heavy-duty vehicles mechanic
- Plumbing
- Air-conditioning mechanic
- Metal profiler
- Steel structure fabricator
- Plate metal fabricator
- Building carpenter
- Woodwork painter
- Arc welder
- Computer operator
- Computer repairer
- Stone and brick builder
- Wall painter
- Gypsum worker
- Tile setter

*Aqaba Skills Development Center*

The establishment of an Aqaba Skills Development Center (ASDC) is an initiative that can improve the relevancy, efficiency, effectiveness, sustainability and accountability of TVET programs and strengthen the Education-Industry interface between training providers and the private sector. ASDC would coordinate zone training efforts within specialized courses and provide focus for the efforts already underway in Aqaba in the skills development arena.

The ASDC would brand these efforts, bringing them to a new level of public awareness. It would be a focal point for training and employment through the updating of the Aqaba Skills Readiness Index (ASRI), the skills gap analysis and continual skill upgrading. It could also enhance industry linkages with TVET.

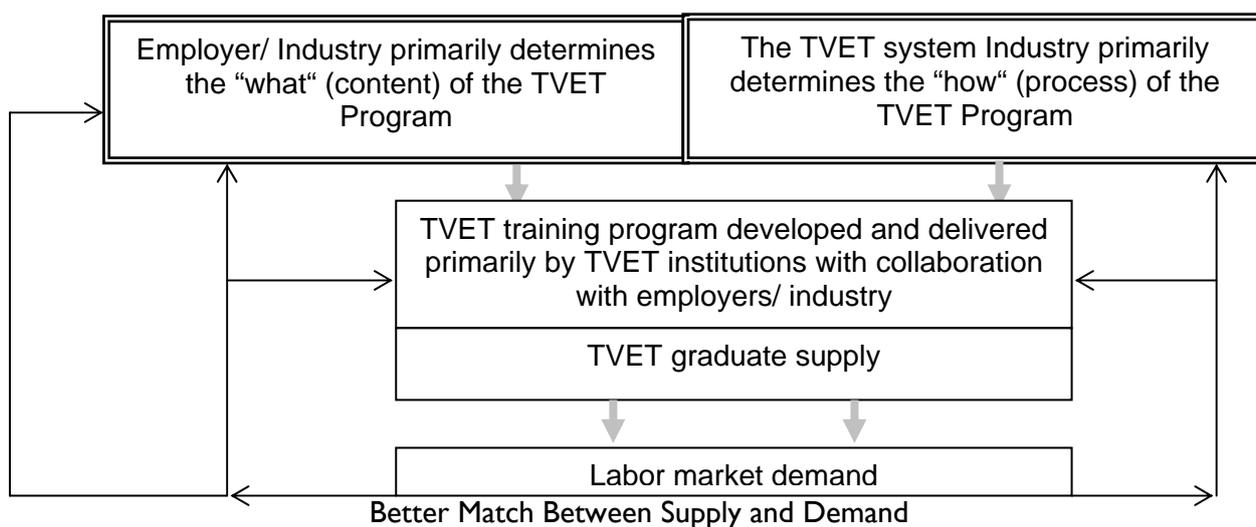
The range of possible linkages between employers / industry and the TVET system is broad and can include activities from commercial partnership to informal meetings. A sample list is provided below.

Potential Areas for Linkage Activities between Employers and TVET Institutions	
1.	Employer Training Needs Analysis (sector and individual employer)
2.	Employer human resources planning and policy development
3.	Occupational skills profiling

4.	Curriculum development / competency-based certifications
5.	Instruction provision
6.	Identification of content experts from employers
7.	Training program monitoring and evaluation
8.	Trainers development
9.	Industrial placements for trainees and trainers
10.	Equipment / facility sharing (trainees and employers)
11.	Short course, workshop and seminar development
12.	On-the-job training
13.	Graduate tracer studies
14.	Electronic labor exchange
15.	Labor market information system

Through effective linkages between employers / industry and the TVET system on program development, there could be a real assurance that the learning outcomes achieved by graduates will be more directly related to the work requirements.

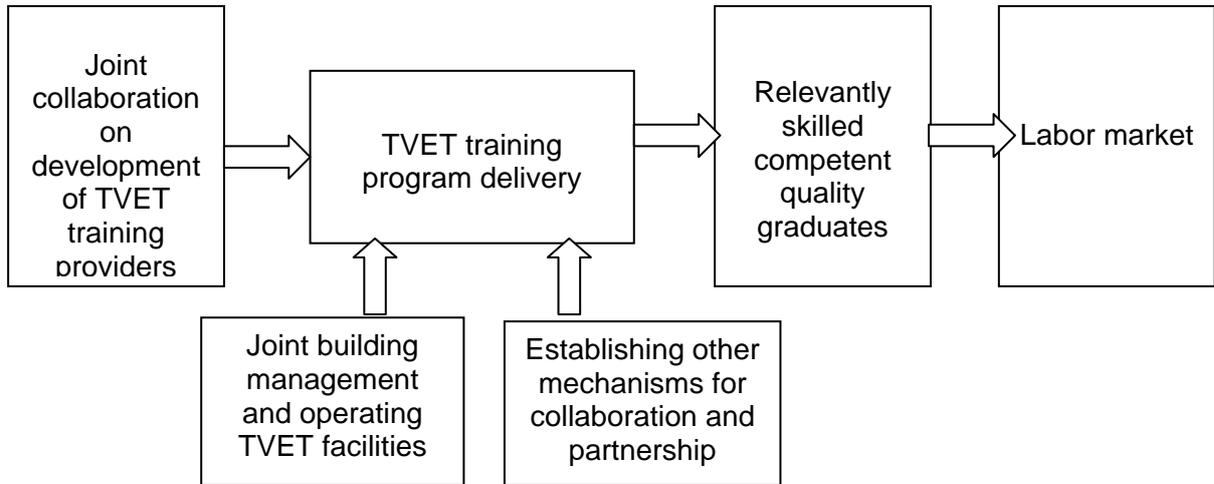
The diagram below shows how a better match between supply and demand could be achieved through an effective collaboration model:



The interfere boundary between the “what” (content) of training programs and the “how” (process) of training should be open for contributions by employers, industry, and TVET providers. The assignment of a primary leadership role for all participants is essential for the effective development of TVET programs.

In addition, a collaborative linkage model (shown following) should provide feedback from the labor market on the results of TVET training programs so that improvements can be made both to content and training delivery processes.

**Relationship of Proposed Collaborative Activities**



Supportive Collaborative Mechanisms

## 8. Training Plans for Specific Activities

Specific training courses to be conducted as a priority include the following:

### 8.1 *Company Safety Officer*

The labor law in Jordan requires the appointment of safety officers in companies employing 50 or more workers to assist the company in creating safe working conditions. This course is very important for medium and large construction companies. Part-time safety officers could be appointed for smaller companies.

#### **Attendees should have:**

- At least three years experience in industry in supervisory or management capacity, preferably in the construction industry
- An analytical mind
- The ability to communicate effectively at all levels
- A tactful disposition
- Enthusiasm and dedication

#### **Recommended means for implementing the course:**

- Systematic course program
- Training plans
- Planned experience
- Competent trainers
- Training records
- On-the-job and off-the-job facilities

#### **Objective**

The objective of this course is to give the safety officer a broad base of knowledge on which to build his professionalism, as well as covering the specific safety aspects necessary for his job.

#### **Duration**

This course can be conducted on a full-time or part-time basis, depending on the company's choice. Total training time is estimated to be 150 hours.

#### **Course contents:**

- The construction industry
- Labor law and safety
- Duties of the safety officer
- Elements of management
- Principles of accident prevention
- Training in accident prevention
- Accident analysis
- Accident investigation
- Site inspection

- Human behavior
- Machinery and plant
- Transport
- Site tidiness
- Electrical installation
- Excavation
- Access and place of work
- Cranes and other lifting machines
- Work environment
- Communication

Details of a scope of work addressing the above mentioned topics should be prepared.

## 8.2 *General Safety in Workshops*

This series of courses should be given to all semi-skilled and skilled workers who will be employed in any occupation. The courses may focus on the following:

- Work hazards
- Causes of accidents
- Accident prevention
- Personal protective equipment:
  - Goggles
  - Gloves
  - Safety boots
  - Aprons
  - Helmets
- Handling materials
- Using tools safely
- The work environment: dust, gases, vapors, vibration, noise, and chemicals
- Fall accidents, slippery surfaces, and using ladders
- Machine guards and fences

## 8.3 *Supervisory Management*

This course will provide both established and trainee supervisors with the opportunity to consider the management aspects of their work and will assist them in planning and controlling resources in terms of men, materials, machines, and money, with particular direction on the means of effective use of manpower.

### **Course duration**

An estimated total of 50 hours of training on a full- or part-time basis during or outside of working hours.

### **Course content:**

- Supervisor's role and responsibilities
- Organization structure
- Authority, responsibility and delegation

- Communication and reports
- Safety and accident prevention
- Human relations
- Individuals and their needs
- Work study
- Training techniques and aids
- Problem-solving
- Job instruction
- Waste control
- Teamwork

Details of a scope of work addressing the above mentioned subjects should be prepared.

#### 8.4 *Training of Trainers (TOT)*

This course targets trainers employed by both training providers and employers and can also be given as pre-service training to potential trainers. The focus will be on instructional techniques and training methodology.

##### **Objectives**

Provide knowledge, skills, and attitudes to participants in order to enable them to efficiently and effectively offer both classroom and workshop training.

##### **Duration**

Four weeks including on-the-job training either in a training center or work location for a total of 120 training hours.

##### **Course content:**

- The role of the trainer
- Why and how people learn
- Determination of training needs
- Preparations for training: lesson plan, visual aids, training materials, etc.
- Training techniques using chalkboard, overhead projector, lecturing, group discussion, practical demonstration, and computers
- Managing classroom and workshop
- Training delivery
- Training evaluation and assess training progress
- Effective communication
- Industrial safety
- Report writing

Details of a scope of work addressing the above mentioned subjects should be prepared.

#### 8.5 *Work Ethics*

This course should be given to job seekers and newly appointed workers in order to assure they understand their rights and commitments. Workers in the Hirafyeen region should be the first priority to attend this course.

**Duration**

Two weeks of 25 training hours on full- or part-time basis.

**Course Content:**

- The role of worker including duties, tasks, and skills
- Workshop organization
- Labor law
- Social security law
- Productivity and waste control
- Teamwork
- Discipline
- Work Hazards and accident prevention
- Work specification and quality
- Work relations
- Self learning, flexibility, adaptability and collaboration
- Communication
- Workshop tidiness and working conditions

Details of a scope of work addressing the above mentioned subjects should be prepared.

It is recommended that the above Terms of Reference (scope of work) be prepared in order to define and secure delivery of these courses as first priorities for the ACED Program.

## 9. Recommendations

### 9.1 Recommendations for Up-grading TVET Management and Training Staff

- It was obvious from talks and responses to questionnaires that there is a problem with communication in English, but it should be noted that the development of communication (internet, technical references, manuals, new technology, etc) is proceeding at such a fast pace that the command of other languages in this context is becoming more important.
- Stakeholders, enterprises, managers of training institutes, and to a certain extent the trainers themselves, agree that the present technical and educational background of trainers is not sufficient. They are all asking for up-grading, with particular emphasis on courses in new technology.
- Analysis of trainers' qualifications shows that trainers in general do not meet the demands of modern or updated competencies. More interactive teaching methods seem to be rare and are not supported by existing learning resources and equipment. Creation of learning organizations and a learning environment are in high demand in the TVET sector.
- The industrial experience of trainers is in general weak or not existent, with most trainers being employed directly after graduation therefore lacking exposure to any kind of industrial environment. This lack of industrial experience makes it very difficult to introduce and socialize trainees into the real world of work. **It is highly recommended that teaching staff members should have relevant industrial experience through planned programs in order to expose them to the real life of work and business**
- New technology, materials and production methods are not being introduced in the training institutions as fast as they ought to be. One method of accomplishing this introduction might be building of industrial attachment into trainers' employment conditions. For instance, trainers could have industrial attachment during summer holidays.
- The majority of VTC and MOE trainers do not have higher education qualifications (75% VTC, 50% MOE). This can not be regarded as appropriate, as they should, in general, have a higher level of education than the level they are teaching. ASEZA is advised to ask the concerned ministries and institutions to implement up-grading program to be attended by the relevant Aqaba training staff members as a basic requirement of retaining their trainer positions.
- The key requirement for the TVET system is to orient it to the employer and labor market demand. It is recommended that key points of intervention for employers should be targeted, including training needs analysis, establishment of performance standards, and allowing employers more control over directing the system. One way to get employers involved is by adopting employer certification of graduates. **The management of TVET institutions should be prepared to interact with the private sector in order to manage and run such a certification system effectively and efficiently.**

This report is not intended to evaluate all components of the TVET system, but to identify training needs and skills gaps that should be met in order to strengthen the performance of the system. Training courses were suggested to up-grade the competencies of both trainers and management staff.

## *9.2 Suggestions to Improve the Efficiency and Relevancy of Training*

General suggestions resulting from this overall analysis include:

- Match training content to training needs through better needs assessment and analysis.
- Deliver training away from the work environment, but close enough to the work place so as to reduce travel time.
- Use companies' sites for training, particularly if specific equipment is required.
- Spread training over a longer period to avoid over-commitment of time during high-demand periods.
- Adjust the timing of training to acknowledge business production cycles.
- Group training participants by background and experience.
- Use interactive training styles, workshops, group discussion, case studies, and practical problem-solving approaches.
- Utilize trainers who have real-life recent practical experience of the training content, or arrange for trainers to receive training from industry to ensure they have up-to-date, relevant skills.
- Use training subsidies to offset high costs.
- Recognize the importance of certification.
- Provide a "recognition" approach to training in the sector by developing "centers of excellence" for providing sector-specific training.
- Strengthen partnerships with training providers through an education/industry interface.
- Implement a Graduate Enterprise Program (GEP) to facilitate companies' employment of TVET graduates.

## *9.3 General Recommendations for Manpower Training in the Construction Sector and Related Services*

In order to further strengthen the human resource base and improve standards of performance and professionalism in the Aqaba construction sector, a manpower strategy should be put in place which:

- Positions the industry as a highly attractive career choice through the excellence of its induction and pre-career training, the provision and support of internationally recognized qualifications, clear career progression paths and

opportunities within and across the different functional areas, and the promotion of good working practices.

- Ensures the delivery of training programs for existing employees at times and places convenient to the needs of businesses and employees, and develops and trains managers and supervisors with the capability to respond to modern industry trends, providing supervisory skills development for heads of department in the sector.
- Establishes a regional construction training committee to coordinate the education and training of manpower in the construction industry.
- Provides a focus for leading and influencing the education and training policies and practices of the government and private sector to enhance capabilities at all levels through quality assurance, facilitation, and support for training and development.
- Conducts an audit of critical construction skills and job profiles, projects skills requirements for pre-entry and existing employees under these profiles, evaluates the capabilities of vocational training in the construction sector and its relevance to the needs of the sector, and completes a training needs assessment for staff in training providers and construction employees.
- Develops a training strategy by categories of jobs, to include delivery of training, accreditation and specifications for training courses for trainers, and refresher courses for construction teaching staff in education and training institutions.
- Provides for competitive remuneration and employee benefits packages in addition to competitive conditions of employment.
- Supports multi-skilling where the employees can carry out more than one job activity in different areas of the same establishment.

Foreign workers in the construction sector in Aqaba are a high percentage of the total employed number. This means there is an opportunity for a substantial number of Jordanians to be employed. To this end, employers are invited to support the recently-launched Government initiative for training and employment by improving wages and working conditions in order to attract more Jordanians to the sector.

#### *9.4 Specific Suggestions for the ACED Program to Consider in Light of the Findings of this Study*

- Establish, in coordination both with training providers and the private sector, an Aqaba Skills Development Center (ASDC). This center will coordinate zone training efforts within specialized training institutions to perform skills gap analyses with related plans and the addition of new resources and a greater focus on the efforts underway in Aqaba. The ASDC will also brand these efforts, bringing them to a new level of public awareness. Accordingly, the ASDC will be a focal point for training and employment through the updating of the ASRI, the skills gap analysis and skills upgrading. The Consultant was aware that there are many initiatives being taken within ASEZA, such as the potential development of a community training center to be managed by Business Development Services (TATWEER). This may affect the Development of the ASDC.

- Implement a Graduate Enterprise Program (GEP) targeting fresh University graduates, offering them well-planned training programs designed to successfully transfer them from academia to the world of work. These graduates could play a key part in activities designed to accomplish the construction sector strategy in Aqaba.
- Establish a Training of Trainers (TOT) unit within Aqaba University College in order to run courses needed by training providers and construction enterprises.
- Select and study a few pilot enterprises in order to determine their specific and detailed needs.
- Determine through research on “best practices” and with the pilot enterprises the most appropriate and effective ways to meet the training requirements.
- Assess and select the most appropriate training provider(s) to provide the training required by the selected enterprises.
- Ensure the training providers and selected enterprises collaboratively design and deliver the required training.
- Monitor, evaluate and adjust the project methodology as required to focus on the achievement of effective results.
- Design a plan to distribute the lessons learned from the selected pilots to the enterprises in the rest of the economic sub-sector as well as other economic sectors.

### *9.5 Aqaba Skills Readiness Index*

Through coordination between all stakeholders in Aqaba (MOE, VTC, ASEZA, ADC, NGOs, and the ACED Program), there is a real opportunity for the setting up of a new model for the training system in Aqaba in complete partnership with the private sector. International agencies and donors are expected to provide their support to this system. A center of excellence could be the starting point for the implementation.

- A comprehensive and detailed proposal should be submitted to ASEZA to consider the establishment of an Aqaba Skills Development Center.
- A database is required for both supply and demand sides to be used for the improvement in capabilities of human resources.
- An advisory committee is recommended to be established, managed and supported by ASEZA and other stakeholders.
- A training and employment strategy should be prepared which would include:
  - Vision
  - Mission
  - Mandate
  - Objectives
  - SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats)
  - Action plan

- Occupational standards and job classifications approved by MOL can be used as a basis for preparing codes and job descriptions.
- Continual assessment of the progress towards sustainable development is needed, and should include:
  - Equity and disparity within the current populations present and future generations, dealing within such concerns as resources use, over consumption, poverty, human rights, and access to services.
  - Consider the ecological conditions upon which life depends.
  - Consider economic development and other, non-market activities that contribute to human / social well-being.
- The development of the Aqaba Skills Readiness Index should take into consideration the following:
  - Governance and institutional set up
  - Decentralization of public training systems
  - Accountability
  - Financing
  - Quality of training
  - Promotion participation of private sector
  - Conclusions and recommendations

### **The Aqaba Skills Readiness Index and TVET Indicators:**

The Aqaba Skills Readiness Index (ASRI) for the construction and supporting services sector will assist in measuring the preparedness of the Aqaba community to exploit the opportunities offered by the growing construction sector. It will also establish a framework which will map the enabling factors of such capacity. Training opportunities should be created by both the training providers and the stakeholders in order to satisfy the current and expected needs of the labor market.

European Training Foundation assisted the Jordanian institutions to establish the Observatory Function Project in Jordan, it was decided to develop a set of common indicators on TVET taking into account all its components.

A handbook for the TVET indicators was prepared in full coordination between NCHRD, MOT, MOL, AVTC and BAU.

#### **What is an indicator?**

An indicator is synthetic and consists of pertinent information considering the objective that it is supposed to measure.

Indicators are also tools that make it possible both to comprehend the current state of the education system, and report on the current state to interested stakeholders.

A system of indicators must function like an instrument panel, facilitating the identification of problems and measuring their substance. Detailed diagnosis and the search for solutions will take place through complementary analyses and research. In short, indicators play a fundamental role in directing and evaluating an

education/training system, but they do not in themselves contain the answers to the questions they raise.

### **Strategic Goals of the Aqaba Skills Readiness Index:**

The following goals are recommended:

- Enhancing the relevance between outputs of the training system and the requirements of social and economic development.
- Continuing the development of the infrastructure of general and vocational education.
- Developing the qualitative aspects and dimensions of general and vocational education.
- Improving the efficiency and effectiveness of the education system, with special emphasis on the economics of education, including its inputs, operations and outputs.
- Promoting the democracy of education, and fostering its role in social mobility.
- Provide opportunities for individuals to join education and to continue their education up to the maximum permitted by their interests, aptitudes and traits.

### **List of Quantitative TVET Indicators:**

*A: Context indicators:*

- Educational attainment for population (15 years +) by age and sex.
- Labor force participation rate by educational level and sex. Unemployment rate by age, sex and educational level.
- Gross domestic product per capita.

*B: Equipping Aqabites for the world of work (participation)*

- Participation rates in TVET as a percentage of all participants of education / training.
- Participation rates in TVET by agency as a percentage of all participants of education / training.

*C: Achieving equitable outcomes (outputs and outcomes):*

Access for equity groups:

- Gross enrolment rate in TVET by sex.
- Net enrolment rate in TVET by sex.
- Gross enrolment rate in TVET by ASEZ and Governorate persons and by sex.
- Net enrolment rate in TVET by ASEZ and Governorate persons and by sex.

Performance / outcomes indicators:

- Completion rates in TVET by program and by sex.
- Dropout rates in TVET by sex and program.
- Percentage of graduates in TVET by sex and program.

*D: Rationalization investment in training (resources):*

- Percentage of current public educational expenditure in TVET to gross domestic product.
- Public educational expenditure in TVET to the total public expenditure.
- Public expenditure per student by type of education and training.
- Relative proportions of public and private investment in educational institutions.
- Funds of TVET by sources and types of education.

*E: Maximizing the value of public TVET expenditure (outputs):*

- Cost per contact hour.
- Graduate cost per program.
- Teaching load per teacher.
- Teachers' qualifications:
  - By sex and educational level.
  - By sex and years of experience.
- Cost of in-service training for teaching staff training by institution.

**List of qualitative TVET indicators:**

- Participation in continuing education and training by age group and sex.
- Participation in continuing TVET by educational attainment.
- Participation in continuing education and training by labor force status.
- Average duration of training undertaken by age group.
- Training time by educational attainments.
- Training time by labor force status of the entrance.
- Participation in job-related continuing education and training by labor force status.
- Participation rates in continuing education and training by economic activity and size of enterprise
- Participation education and training by major groups of occupation and sex.
- Average duration of training undertaken by employed adults aged 25-54 in continuing education and training.
- Participation by place where training courses were taken.
- Internal efficiency coefficient.
- Ratio of administrative and support services to the total number of the TVET institution employees.
- Student ratio to school computer.
- Participation in adult education / training by age and sex.
- Participation in TVET for youth in age group 15-24 years by sex, socioeconomic situation and type of TVET engagement.
- Percentage of those who were not in the labor force by training and labor force status after training.
- Transition from school to further study and/or work.
- Percentage of unemployed graduates six months after training.
- Earning by educational attainments and skill levels.

## 9.6 General Conclusions

- The institutional coordination between training providers is weak and not to the level required. ASEZA has to lead the establishment of efficient coordination.
- There are no direct programs / courses on construction occupations offered by the training providers. Training is given only on related technical services such as plumbing, air-conditioning, electrical installations, carpentry, mechanical maintenance, IT, banking and finance, etc.
- Contractors complain of a shortage of Jordanian workers. The majority of their work-force is foreign (90%) at the semi-skilled level.
- Recruitment of professionals and technicians who can use high-tech equipment is very difficult, and the number of Jordanians who can fill such positions is very low.
- Labor force governance is spread over more than one Jordanian administration, causing confusion between ASEZA, the MOL and the NETC.
- Statistics and figures for employment need to be constantly collected and verified.
- Training of trainers, instructors and supervisors is badly needed for both training providers and employers.
- State-of-the-art technical training is also sorely needed. Although traditional techniques are still used, exposure to international expertise will improve the competencies of the Jordanian workforce.
- The Hirafyeen region needs more support in order to achieve better quality, productivity, and waste control, and to improve the environment. Workers below 16 years of age are suffering educational, psychological, and social problems.
- Career counseling and vocational guidance are not given support. Trainees are not advised how to choose their future career according to their capabilities, aptitudes, and interests.
- Industrial safety, accident prevention, and the work environment should be given greater care and follow-up. Also, work ethics should receive focus.
- An awareness campaign should be launched in order to positively introduce occupational work, vocational training, and job opportunities to the public. Jordanians have to know more about competitiveness, globalization, privatization and other economic issues, and the impact these will have on their lives.
- The advisory committee for HRD has to be reformed and activated, and ASEZA is requested to lead this activity in order to encourage all stakeholders to contribute. EJADA assisted ASEZA and other Jordanian regions to establish those committees and prepared guidelines for their operations.
- **The Aqaba Skills Development Center (ASDC) should be established as a focal point for training and employment through the up-dating of the ASRI, the skills gap analysis, and skill upgrading.** Partnership and

ownership between all stakeholders to support the establishment of this center is very important. The training fund, which was established by the government few years ago, may be of great help in achieving the desired goals. ASEZA might introduce a similar fund for the Aqaba region for the purpose of supporting training.

- The database for TVET, HRD and employment should be kept up-dated, verified and accessible to all stakeholders and policy makers.
- The education-industry interface between the supply and demand sides has to be strengthened. Effective and efficient links between them will open up better opportunities to share capabilities and facilities to be used to plan and run relevant and demand-driven training programs.
- A training function within the organizations should be introduced and supported. ASEZA could establish or enhance this activity through direct follow-up and supervision.

## 9.7 Future Studies

Because investment in the Aqaba Special Economic zone has been faster than expected, ASEZA and its partners are facing a major challenge in providing services, developing an appropriate investment climate, and enhancing the role of private sector partners to fulfill the zone's current and future needs. The construction sector promises to provide the needed infrastructure for the supply of goods/services, and substantial job opportunities that will attract national and international employment. Finally, no study would be complete without recommending further studies. The following additional studies are recommended:

- Each training provider should conduct a detailed space, equipment and staff utilization study of its institutions to determine current student capacity and efficiency of operations in order to maximize use of overall resources.
- Beneficiary assessments of the various programs by major providers should be undertaken. In particular, the profile of beneficiaries of MOE, VTC, and BAU should be analyzed to determine whether and the extent to which they could share in the direct costs for improved TVET support.
- The establishment of ASDC aims at coordination of the efforts of various training providers, and building real partnership with stakeholders. A comprehensive study is needed to define vision, mission, mandate, objectives, tools, mechanisms and other requirements needed to ensure a successful Center.
- Construction companies in Aqaba are employing a high percentage of foreign workers as this sector is not attractive to Jordanian workers. A study is needed to identify tools and incentives that could attract more Jordanians to the sector.
- The Hirafyeen region needs intensive efforts including legislation, training, and business development, to increase productivity and improve its work environment and safety measures. A study is needed to define such improvements.

- Introducing a Graduate Enterprise Program in Aqaba for the construction sector will help to provide this sector with highly competent technicians and professionals. It could give university and community college graduates real experience needed by the employers, and could help to transfer them from academia to the work world. Graduates would be placed within enterprises to gain the competencies of work under the supervision of both training providers and employers. A study is needed to identify the feasibility of this program and requirements for its implementation.
- Four years ago, EJADA and ASEZA established the Aqaba Human Resources Development Advisory Committee representing training providers, the private sector, and policy makers. EJADA prepared a working paper for appropriate implementation of this committee. It has been noted that the committee is not functioning since EJADA ceased its work in Jordan. A study is needed to assess the achievements of this committee, suggest mechanisms to enhance its role, and ascertain the requirements for its success.

# Annex I: Terms of Reference for the Assignment

## Scope of Work / Task Order

For conducting an overview of the existing studies on skills gap and training needs analysis for Construction and Supporting services in Aqaba

<b>SW # / TO#</b>	SOW- 005-2008
<b>RFP #</b>	RFP 002-2008
<b>Potential candidate(s):</b>	All consultants
<b>Position:</b>	
<b>Local / International:</b>	Local
<b>Maximum Level of Effort:</b>	
Contract Name:	Local Senior-Level Specialist in Human Resources Development and Training (Construction)
<b>Contract Number:</b>	
<b>Period of Performance:</b>	February - March 2008
<b>Maximum Level of Effort:</b>	20 days

## I. Aqaba Community and Economic Development Program Background

ACED is a five-year program funded by the United States Agency for International Development, benefiting the people and businesses of the Aqaba Special Economic Zone (ASEZ). The program is based in Aqaba city.

ACED is comprised of activities under three major areas:

- Component 1 will work to strengthen the government institutions and will be working directly with Aqaba Special Economic Zone Authority (ASEZA) and Aqaba Development Corporation (ADC);
- Component 2 will strengthen private sector to become more competitive, through enhancing the capabilities of Micro, Small and Medium Enterprises (MSMEs), and supporting training; and
- Component 3 will be working closely with the local community to develop its capacities and empower NGOs and Community-Based Organizations (CBOs).

## 2. Background:

The labor force in Aqaba is estimated at approximately 23,000 out of a total population of 89,000 as per ASEZA figures, giving a labor participation rate of 26%. Only 2,500 of those 23,000 employed persons are female. The local unemployment rate in Aqaba is estimated at 13.8%, lower than the national average of 14.4%. On the supply side the number of jobs that will be required over the next 5-7 years in Aqaba is likely to be in

the order of 20,000. Many of these jobs will arise in tourism and services, transport, and construction and will require a broad array of skill levels. They will be suitable for both men and women. The key to making these opportunities accessible to Aqabites lies in providing focused training that delivers qualified job applicants into existing and future job opportunities. However, even if only a relatively small proportion of the job applicants require training, the training capacity in Aqaba will have to be at least quadrupled within the next 5 years.

ACED will conduct an analysis, the outcome of which will be a time-bound employment skills gap assessment disaggregated by the following: numbers of workers available and required; vocational strengths and needs; and existing and planned training programs available, including an assessment of programmatic sustainability under current arrangements, considering the impact of the current gender imbalance in the workforce. This information will be combined into an *Aqaba Skills Readiness Index* for priority sectors – a measure of the ability of the current labor force in Aqaba to fill the known immediate- to mid-term employment opportunities for both men and women. The index could be determined based on the percentage of trained staff compared with the objective needed to fill the gap this will be determined by the gap analysis studies, but will be determined by technical assistance provided by ACED

### **3. Objective:**

Conduct an overview of the existing studies on skills gap and training needs analysis for the two priority sectors: tourism and related supporting services and construction.

Prepare the baselines for conducting the study designing Aqaba Skills Readiness Index and Training Plan for two priority sectors to be recommended.

### **4. Activities required from the Consultant:**

1. Identify and conduct an overview of existing studies on skills gap and training needs analysis for the construction and related supporting services sector.
2. Interview of sector and training institutions representatives in the sector if necessary.
3. According to the availability and quality of information recommend how to further study the construction sector and any overlap sectors to assist in the Aqaba Skills Index.
4. Present according to existing studies and new interviews a clear picture on the Aqaba situation regarding training needs gap and training institution capabilities to fill the gap for the recommended sector and especially the supporting services.
5. Present recommendations and needed available information to help determine the baselines for conducting the study designing Aqaba Skills Readiness Index and Training Plan
6. Identify other sectors that could be overlap with the construction sector

## 5. Requirements:

1 local expert in vocational skills analysis and training in developmental regions one specialized in Constructions and supporting services

Local Senior-Level Specialist in Human Resources Development and Training (Construction)

### Qualifications:

- A university degree in a relevant field
- Jordanian Nationality
- 10 years experience in training needs analysis and human resources development in Construction (any additional sectors will be a plus)
- Established professional track record
- Superior communication skills and the ability to present policy to various private and public sector groups
- Proficiency in English and Arabic

### Duration:

**20 days** – to be completed by end of March 2007

### Coordination:

The consultant will coordinate with a second consultant working on the gap analysis of the tourism sector as well as work closely with the Component 2 team members as well as any designated person at the time of signing the contract.

## 6. INSTRUCTIONS TO OFFERORS

### 6.1. General

The technical proposals should include :  
CV of Qualified consultants to complete the work  
No more than two pages of recommendations regarding proposed implementation of the scope of work

Offerors are encouraged to submit best offer proposals.

The Aqaba Community and Economic Development Program reserves the right to conduct negotiations once a successful proposal is identified, or to make an award without conducting negotiations based solely on the written proposals if it decides it is in its best interest to do so.

The Aqaba Community and Economic Development Program reserve the right not to make any award. These Instructions to Offerors will not form part of the offer or of the Contract. They are intended solely to aid Offerors in the preparation of their proposals.

## 6.2. RFP Delivery Schedule

RFP Released .....	January 29, 2008
Proposals Due .....	February 10, 2008
Evaluation .....	February 14, 2008
Final Award Contingent upon USAID approval .....	February 26, 2008

\*SHOULD ANY CHANGES IN THIS SCHEDULE OCCUR, ALL OFFERORS WILL BE NOTIFIED.

## 6.3. Submission Requirements

- 6.3.1 Language: The proposal and all associated correspondence must be in English. Any award document resulting from this request will be in English.
- 6.3.2 Currency: The cost proposal shall be presented in Jordanian Dinars.
- 6.3.3 Method:
- Electronic: Two separate email submissions: one for Technical; one for Cost showing the daily rate
- Hard Copy: Two separate envelopes: one for Technical, one for Cost showing the daily rate
- Number: In addition to electronic submission, one original and two copies of both technical and cost proposals in hard copy
- 6.3.4 Marking:
- Technical: [Firm Name] Technical Response to RFP No. RFP 002-2008(SOW-005-2008) Cost: [Firm Name] Cost Response to RFP No. RFP 002-2008(SOW-005-2008)
- 6.3.5 Authorized Signer: Offers must be signed by a person duly authorized to submit an Offer on behalf of the Offeror and bind the Offeror to the Offer. An offer submitted by a corporation must bear the seal of the corporation.
- 6.3.6 Acceptance Period: The Offeror must state in its Proposal the validity period of its offer. The minimum offer acceptance period for this procurement is 120 days after the last date for receipt of proposals. Offers with a shorter acceptance period will be rejected.
- 6.3.7 Authorized Negotiator(s). Provide name, title, email, and telephone number of the person or persons in the firm who are authorized to negotiate and execute a contract, if awarded.

## 6.4. Eligibility

The Offerers must demonstrate that they:

- Have a satisfactory performance record;
- Have a satisfactory record of integrity and business ethics;
- Have the necessary organization, experience, accounting and operational controls, and technical skills, or the ability to obtain them; under this category the Offeror

- must provide a description of its legal status, including details such as date and place of incorporation, relationship to parent companies or subsidiaries, etc;
- Have the necessary technical capacity, equipment and facilities, or the ability to obtain them; and
- Are otherwise qualified and eligible to receive an award under applicable laws and regulations.

## 7. EVALUATION

The Aqaba Community and Economic Development Program intend to award a contract resulting from this solicitation. The evaluation criteria will be used as a guide in determining which proposals will present the best value to the Aqaba Community and Economic Development Program and USAID. All Offerors will be notified in writing of the results of the evaluation within fifteen working days after the close of the bid.

The Aqaba Community and Economic Development Program will evaluate each technical proposal quantitatively based upon the technical evaluation factors set forth below:

Specialist Credentials	40%	(20 total points)
Past Experience	60%	(30 total points)
<b>Total</b>	<b>100%</b>	

A technical proposal can be categorized as unacceptable when it has many deficiencies or gross omissions or both and thereby: (1) demonstrates a failure to understand much of the scope of work necessary to perform the required tasks; (2) fails to provide a reasonable, logical approach to fulfilling much of the requirements; or (3) fails to meet the personnel requirements. A finding of unacceptable in one technical evaluation factor may result in the entire technical proposal being found to be unacceptable.

Award may be made based on initial proposal submission without discussions or negotiations. Therefore, the Offeror's initial proposal should contain the Offeror's best terms from a cost/price and technical standpoint. The Aqaba Community and Economic Development Program reserve the right to conduct negotiations if it later determines them to be necessary.

## 8. TERMS AND CONDITIONS

The following terms and conditions are not negotiable and shall be complied with by all Offerors.

8.1 This is a Request for Proposal only, and in no way obligates AECOM International Development or the Aqaba Community and Economic Development Program to award a contract. This solicitation is subject to the Terms of Contract attached hereto. The resultant award will be governed by these Terms of Contract.

8.2 "Supplier" means the firm supplying the services under this RFP.

- 8.3 “Agent” means the AECOM International Development, on behalf of the Aqaba Community and Economic Development Program, under this RFP.
- 8.4 This RFP is being placed on behalf of the Aqaba Community and Economic Development Program, an official project of the Government of the United States, and as such, it is free and exempt from any consular or legalization fees, inspection or validation charges, and any taxes, tariffs, duties or other levies imposed by laws in effect in Jordan. No such fees, charges, tariffs, duties or levies will be paid under any award(s) as a result of this RFP.
- 8.5 The Supplier must be a citizen or legal resident of, or a legal business organized under the laws of, the United States or Jordan. The Offeror should submit its certified registration form or copy of Jordanian ID.
- 8.6 The Agent may, by written notice of default sent to the Supplier by registered mail, terminate in whole or part of this RFP, if the Supplier fails to perform any of the other provisions of this RFP, or so fails to make progress as to endanger performance of this RFP in accordance with its terms, and in either of these two circumstances, does not cure such failure within a period of ten (10) days (or such longer period as the Agent may authorize in writing) after receipt of notice from the Agent specifying such failure.
- 8.7 In the event of disputes arising in connection with this RFP, the parties shall make reasonable attempts to reach amicable settlement among themselves. In the event that the parties shall fail to reach an amicable settlement within thirty (30) days, the dispute shall be decided under the Contracts Disputes Act of 1978 (41 U.S.C. 601-613). A claim by the Supplier shall be in writing and submitted to the Aqaba Community and Economic Development Program Contracting Officer for a written decision.

## Annex 2: Persons Interviewed

- H.E. Dr. Munther Masri President of NCHRD
- Mr. Adel Lutfi Al Manar Project / Manager - NCHRD
- Dr. Raja Fayyad Deputy Director General for Training/ NETC
- Eng. Yahia Saud Assistant Director General for Training/ NETC
- Mr. Larry Hearn The ACED Program / Chief of Party Aqaba
- Mrs. Diala Alami The ACED Program / MSME Component Leader
- Mr. Taher Ben Amor The ACED Program / MSME Expert
- Mr. Hussam Tarawneh The ACED Program / Training Specialist
- Eng. Qasim The ACED Program / Advisor
- Eng. Tareq Al-Zoubi Aseza/ Director of Public Works
- Mr. Ziad Najada Aseza/ Head Division visa and Residency
- Eng. Hasan Darweesh MOL/ Director of Labor Directorate/ Aqaba
- Mr. Yazid Awajan MOL/ Head of Inspection Division/ Aqaba
- Mrs. Muna Zraiqi MOL/ Director of Employment/ Aqaba
- Eng. Ghassan Ghanem Saudi/ Oger, Saraya Aqaba Project Manager
- Eng. Mohammed Tarawneh JCCA/ Aqaba branch/ Director
- Eng. Mohammed Yaser Construction Contractor/ Director
- Eng. Yousef Al-Haj Contractor/ Al – Jaafan Company
- Mr. Ayman Khamaisah Director/ NETC Aqaba - Rabia
- Eng. Mahmoud Abbas Logistic Principal/ NETC Aqaba - Rabia
- Dr. Modfi Omyan Dean/ Aqaba University College
- Eng. Adel Qatatsheh Principal/ VTC Aqaba Center
- Eng. Abdel Salam Qaisi Director/ VTC Training Directorate/ Southern Region
- Dr. Issam Sharaia Principal/ MOE Vocational Secondary School
- Mr. Omar Amasri Secretary General/ JCCA/ Headquarter Amman
- Eng. Ahmad Saub Technical Department
- Mr. Raad Human Resources Development/ JCCA

# Annex 3: Questionnaire / checklist for the training providers TVET System

## The ACED Program

### Overview of Skills Gap and Training Needs in the Construction Sector TVET (Technical and Vocational Education and Training) System

The checklist covers the key factors to be assessed by the consultant. The aim is not to arrive at an overall score, but to compile a profile of the satisfactory and unsatisfactory aspects of performance for each factor.

1. Completely unsatisfactory
2. Less than acceptable
3. Acceptable
4. Generally acceptable
5. Completely acceptable

#### A. How Satisfactory are the Content and

##### Quality of Courses:

1. Contents and formats of curricula and syllabuses
2. Quality of curricula and syllabuses
3. Review and revision of Curricula and Syllabi
4. Teaching methods
5. Examinations and assessment

#### B. Students and Trainees:

1. Entry and Selection
2. Counseling and career guidance
3. Staff – Student relationships.

#### C. Staffing and Staff Development

1. Staffing policies
2. Selection and Qualifications
3. Staff Development and Training
4. Support Staff

#### D. Physical Resources:

1. Teaching facilities
2. Support facilities
3. Utilization of space
4. Provision of equipment
5. Equipment utilization
6. Consumable materials

#### E. Organization and Management

1. Objectives and plans
2. Organizational structure
3. Information system
4. Management style and effectiveness

#### F. Interrelations with Industry

1. Training and employment
2. Formal links and services
3. Industrial links of staff
4. work environment

#### G. Recommendations / Suggestions for improvements

- 1.
- 2.
- 3.
- 4.
- 5.

#### H. Training courses to be introduced to the study plan

- |    |     |
|----|-----|
| 1. | 6.  |
| 2. | 7.  |
| 3. | 8.  |
| 4. | 9.  |
| 5. | 10. |

I. Skills Gap observed through follow-up graduates

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

## Annex 4: Questionnaire / checklist for the employers

### The ACED Program

#### Overview of Skills Gap and Training Needs in the Construction Sector and Related Services

#### External Efficiency:

Questionnaire for employers:

- Name of Company: (if accepted)
- Industry
- Number of workers: total (      )  
Jordanian (      )      Non Jordanian (      )

Check appropriate box or supply information requested

1. Do you have a training unit within your company 

Y	N
---	---
2. Can you easily get workers 

Y	N
---	---
3. Which candidate of these described below is most likely to be hired:

<input type="checkbox"/>

  - Limited skills workers
  - Skilled
  - Craftsmen (Training centers and vocational schools)
  - Technician (Community Colleges)
  - Professional (University Graduates)

4. Determine whether the shortfalls in process or product are due to :
  - 4.1 Poor organization      Yes       No
  - 4.2 Inadequate supervision      Yes       No
  - 4.3 Unclear policies      Yes       No

- 4.4 Poor communication Yes  No
- 4.5 Improper personnel selection procedures Yes  No
- 4.6 Poor job design Yes  No
- 4.7 Equipment or material problems Yes  No
- 4.8 Work methods Yes  No
- 4.9 Inappropriate work standards Yes  No
- 4.10 Inadequate operator or supervision training Yes  No

5. Which occupations / specializations you mostly need?

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

6. Which competencies are needed for your company in order to achieve your objectives:

6.1 Occupational

- Technical       Theoretical       Practical
- Safety       Quality       Cost - Effective

6.2 Employable Competencies

- Languages       Computer Skills       Communication
- Team Work       Leadership

6.3 Interpersonal Competencies

- Flexibility       Adaptability       Self learning
- Cooperation       Stability

6.4 Others:

- 
- 

7. What kind of links / partnership your company has with the training providers:

- 
- 
- 
- 
- 

8. Would you like to support establishing an advisory committee for strengthening Human Resources in the construction sector.

Y	N
---	---

9. What challenges / opportunities / threats you expect will be faced by the construction sector:

Strengths:

- 
- 
- 

Weaknesses:

- 
- 
- 

Opportunities:

- 
- 
- 

Threats:

-

- 
- 

10. What are the training programs you recommend to be conducted by T.P or international agencies, and their level of importance:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

11. Are you ready to cooperate, participate and contribute towards implementing training programs targeting:

- |                        |                              |                             |
|------------------------|------------------------------|-----------------------------|
| - Organizational level | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| - Departmental level   | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| - Individual level     | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

**Performance Assessment of Training Programs:  
Training Providers and Employers Assessment.**

**(G: good, A: Acceptable, W: Weak)**

Assessment Criteria Measures		Trg. Providers			Employers		
		G	A	W	G	A	W
	<u>Relevance</u>						
1	To trainees needs						
2	To trainees job						
3	To trainees performance						
	<u>Effectiveness</u>						
1	In terms of returns						
2	The value of training in meeting expectations						
3	Effectiveness of trainers						
4	The success in attracting new trainees						
	<u>Efficiency</u>						
1.	In terms of time allocations						
2.	Was it worthy in terms of costs						
	<u>Impact</u>						
1.	Success in enhancing self assessment						
2.	The ability to improve knowledge						
3.	The ability to effect behavior of trainees						
4.	Using training materials as future reference						
	<u>Sustainability</u>						
1.	The ability to inspire continued learning						
2.	The ability to motivate continued develop						
3.	The ability in simulating interest in ACED						

## Annex 5: Aqaba employment in the construction sector and the licensed areas

### Sector Employment

Year	Jordanian	Foreign	Total	All Sector employment
2007	3,600	6,400	10,000	31,284
2006	3,000	7,000	10,000	31,132
2005	700	2,650	3,350	21,805
2004	1,480	3,602	6,082	25,287

The above table shows that:

- The percentage of foreign workers was the highest in 2006, up to 70%.
- Number of Jordanian workers increased by 100% (2006) compared with 2004.
- Also number of foreign workers increased by 100% (2006).

### Construction licensed area/m<sup>2</sup>

	2005		2006		2007	
	Total	%	Total	%	Total	%
Residential	257,730	52.85	224,602	40.7	244,874	40.2
Commercial	64,286	13.18	60,543	11.0	73,251	12.0
Storage	95,340	19.55	330,190	6.0	112,783	18.6
Crafts	8,520	1.75	7,192	1.3	8,159	1.3
Hotels	1,533	0.31	20,490	3.7	0	0.0
Industrial	5,506	1.13	6,739	1.2	67,001	11.0
Tourism	48,240	9.89	252,671	27.7	30,159	4.9
Public Buildings	6,478	1.33	436,40	7.9	71,923	11.8
<b>G. Total</b>	<b>487,633</b>	<b>100</b>	<b>551,328</b>	<b>100</b>	<b>609,362</b>	<b>100</b>

## **Annex 6: Major Investments in ASEZA (Projects)**

### **Major Investments in ASEZA (Projects)**

ASEZA's original goal of attracting \$6 billion of investment by 2020 was quickly exceeded with signed memorandums of understanding already reaching this goal by 2006.

By the end of 2006, ASEZA and the ADC had signed agreements with several companies reaching a value of almost 6.5 billion USD and covering an area of 3.7 million m<sup>2</sup>.

#### **Major Projects are as follows:**

1. Horizon, an integrated urban city project - valued at (5) billion USD.
2. The Aqaba project, executed by the Al-Kurdi group - valued at JD 210 million and covering 100,000 m<sup>2</sup>. (Trade center, hotel, Water Park and entertainment play city).
3. The Holiday-Inn Aqaba, - JD 20 million. Includes 155 hotel rooms in the first phase, with a final count of 220 rooms and suites.
4. Ayla Plaza - project cost JD 3 million. 8000 m<sup>2</sup> of commercial offices.

#### **ADC's Achievements for 2006 include:**

1. Two projects executed by the National Kuwaiti Real Estate company at a value of USD 37 million and covering 1.5 million m<sup>2</sup>.
2. The development of the port of Aqaba - project cost around JD 16 million.
3. The Aqaba center project, executed by Talal Abu Ghazaleh company. The project costs JD 10 million.
4. A residential village for airport employees and maintenance experts, executed by the Al-Badad Group. It cost JD 5 million.
5. A Mercedes truck maintenance and mechanical center, covering an area of 10 km<sup>2</sup>.
6. The development and management of the container port for 25 years. The project cost 500 million JD.
7. Al-Qasaba, an integrated residential city project occupying 285 km<sup>2</sup> north of the city. It costs JD 100 million.
8. An integrated residential city project is Yamnia Heights, valued at 90 million USD.
9. A public-private partnership for the management of the King Hussein International Airport.
10. Saraya Al-Aqaba, which laid its cornerstone in 2006, valued at JD 600 million and covering 612,000 m<sup>2</sup>.

## Annex 7: Bibliography

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