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Assessing the Professionals in the Al-Herafyah Area (Aluminum Fabrication)

Aqaba Community and Economic Development (ACED II) 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 II Program.

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

ACED Program	Aqaba Community and Economic Development Program (USAID)
ADC	Aqaba Development Corporation
ASEZ	Aqaba Special Economic Zone
ASEZA	Aqaba Special Economic Zone Authority
IT	Information Technology
JD	Jordanian Dinar
MOU	Memorandum of Understanding
MSME	Micro, Small & Medium Enterprises
NGO	Non-Governmental Organization
SME	Small and Medium Enterprises
SOW	Scope of Work
TOT	Training of Trainers
TVET	Technical and Vocational Education and Training
USAID	United States Agency for International Development
USD	United States Dollar
VTC	Vocational Training Center
WAEDAT	Women's Access to Entrepreneurial Development and Training

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I. INTRODUCTION

The Aqaba Community and Economic Development (ACED II) Program is an 18 month follow-on program funded by the United States Agency for International Development (USAID), benefiting the people and businesses of the Aqaba Special Economic Zone (ASEZ). Based in Aqaba city, ACED II is composed of activities under three major technical areas of work:

- Component 1 works to strengthen the government institutions, working directly with the Aqaba Special Economic Zone Authority (ASEZA);
- Component 2 strengthens the private sector by further-enabling the business environment to more effectively attract, support and enhance the numbers, competitiveness, capabilities of micro, small and medium enterprises (MSMEs) and support workforce development initiatives;
- Component 3 works closely with the local community to further develop its capacity and empower local non-governmental organizations (NGOs) and civil society organizations (CSOs).

Additionally, cross-cutting training and a grants and commodities program support all areas of the Program.

II. ASSESSMENT BACKGROUND

In line with the program goals to improve the capabilities of micro, small and medium-sized enterprises, ACED II conducted a needs assessment of local professionals in the Herafyah Area of Aqaba. The assessment covered the welding, carpentry, and aluminum fabrication workshops in coordination with the local business association, the Syndicate of Mechanical Professions (SMP). This report covers the aluminum fabrication industry. This study was conducted over a period of four days from September 30, 2013 to October 3, 2013. The focus of the study was on areas for improvement in terms of skills, equipment, markets and product development.

Following discussions with the local business association, the Syndicate of Mechanical Professions (SMP), a group of eleven aluminum fabrication workshops were selected for assessment. The purpose of the assessment would identify needs of the professionals to enhance their skills as well as the physical needs of the workshop to improve the professionals' abilities to be able to match their clients' and the market needs.

ASSESSMENT CRITERIA

For the assessment, owners, employees, and working conditions would all be evaluated. Owners and employees would be evaluated on their knowledge and use of management skills (including marketing, sales, production, quality, operation, service, delivery, and reasonable prices) technical knowledge, quality controls, and international standards. The workshops would be evaluated on materials, workplace and working environment (namely Health, Safety and Environment (HSE) standards), the services provided and overall caliber of the facilities.

Accordingly, each workshop was evaluated separately, and graded to one of the three levels, with Level I as the ideal score with potential to deliver work for mega projects with large contractors; Level II as being intermediate with the potential to develop, and Level III as being very weak and requiring substantial development. The general findings and recommendations are discussed below.

SELECTION SAMPLE

The workshops selected are listed below:

- AlShalabi Establishment for Aluminum Work

- Al-Khouli Establishment for Aluminum Work
- Bakir Brother for Aluminum Work
- Al Maharate for Aluminum & Steel Work
- Hamzeh for Aluminum Work
- Khaled Al Esawe for Aluminum Work
- M. Abu Heaija for Aluminum Work
- Saeed Ghazal for Aluminum Work
- Abu Dweik for Aluminum Work
- Al Ankaa for Aluminum Work
- Al Ghababshah for Aluminum Work

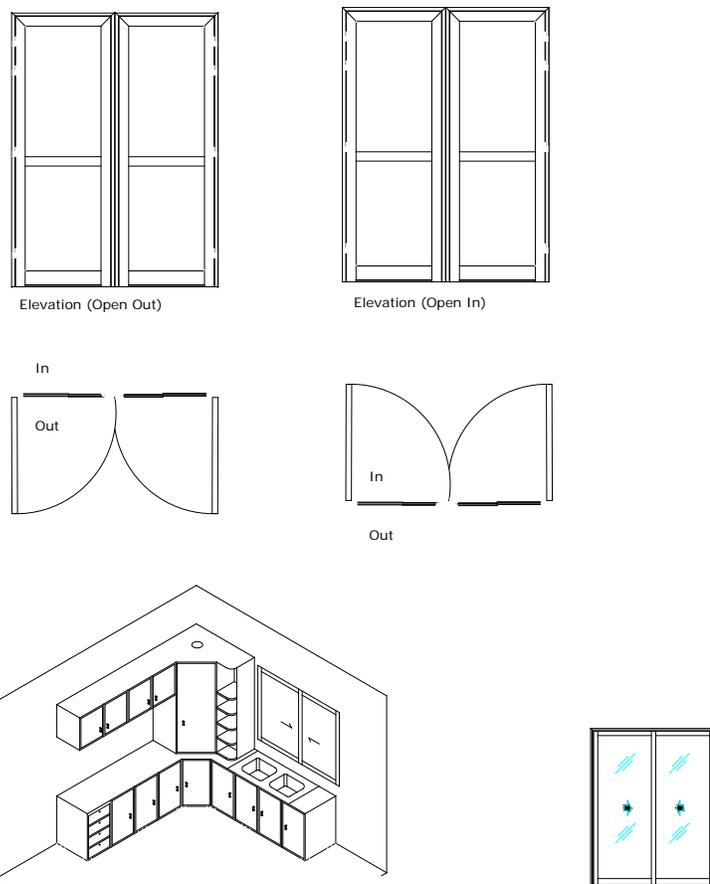
III. GENERAL FINDINGS AND RECOMMENDATIONS

Following the four-day evaluation process, each of the eleven sample sites demonstrated a number of similar challenges to development. However, many had specific needs and areas of improvement so separate individual recommendations were created for each firm. In general, the firms in aluminum industry in Al Herafyah lacked strong systems to create timely products, were unfamiliar with cost structures and pricing, and were lacking in administrative and procedural knowhow. Furthermore, the firms suffered from a chronic lack of a locally-qualified labor pool and the firms did not specialize in any particular area. To address these issues, the below recommendations were provided by the evaluators.

SYSTEMS DEVELOPMENT

One of the key areas for improvement across the board is systems development. From simply reorganizing the workshop to allow for better flow, to training on computer programs, these simple adjustments can help reduce the time and cost to produce higher caliber products and services.

AutoCAD Training. AutoCAD, a computer program for engineering drawings would allow workshop staff to draw geometric shapes for aluminum windows, doors and kitchen cabinets on this program in a clear, concise manner. The program permits a drawing, such as a door, to show the exact specifications—the measurements, whether the door opens in or out, location of hinges and handles, etc—for the client and manufacturer to agree on, before signing a contract. This drawing can also be attached once the item is completed to ensure the contract’s deliverables are met. The approved drawing can also be sent to the workshop for fabrication as per the agreement with the orders details, which applies to the doors, windows and kitchen cabinets as shown below:



Introduction of a pricing program. Using a simple Excel sheet, pricing can be applied for all work items, such as aluminum windows, doors and kitchen cabinets. This will enable the owner of the workshop to accurately identify the real cost of aluminum products as the net price varies from one size to another size depending on the area of, for example, a window. The cost calculation should take into consideration the manufacturing input prices of aluminum profiles, glass, accessories, etc. and the likelihood that the rates may vary from period to another. An example for the pricing form is shown below:

Aluminum	Finish	Length (M)	Weight (Kg/M)	total Weight (Kg)	Price (JD/Kg)	Total Price (JD)
(Corner Cleat)	M.F.					
(Fly Screen Chair)	M.F.					
(Sliding Frame)	P.C.					
(Top & Bottom Sash)	P.C.					
(Vertical Style)	P.C.					
(Interlock Style)	P.C.					
(Fly Screen Frame)	P.C.					
(Barrier Profile)	M.F.					
WASTAGE						0.00
5%						0.00
TOTAL (JD)						0.00
Accessories		Length (M)			Price (JD/M)	Total Price (JD)
(EPDM Gasket)						
Bolts and Screws						
TOTAL (JD)						0.00

TOTAL AREA (M ²)	0		
Manufacturing Cost (JD/M ²)	0	TOTAL MANUFACTURING COST =	0
Glass Cost (JD/M ²)	0	TOTAL GLASS COST =	0
Installation Cost (JD/M ²)	0	TOTAL INSTALLATION COST =	0
Material Cost (JD/M ²)		Total Material Cost (JD) =	
		PROFIT (JD)	0%
			0
		SUM TOTAL WITH PROFIT (JD)	0
		PRICE (JD PER SQUARE METER)	

Introduction of a special form of contracts

A general contract form can be developed for each workshop to use for the aluminum work of doors, kitchen cabinets and windows. In addition, standardized measurements forms, pricing forms, and production order forms are very good tools for keeping records of the projects and clients for any future reference.

Re-design the workshop facilities

Reorganizing the layout of many of the facilities such as placing tools, machinery, aluminum profile shelves and assembly tables in different locations in the workshops will enable the technicians to move easier in workshop reducing production time. The setup must take into consideration the importance to display some of aluminum products to the client. This can be achieved by setting a suitable location at workshop show, for example, windows, doors, and small kitchen cabinets along with some of the accessories.

TRAINING OF TECHNICAL LABOR

As a result of the technical labor coming from other areas in Jordan, there is an urgent need to establish a Technical Training Committee for Employment through courses and workshops in a suitable place for training. The training should be dedicated for technicians, workshop owners, and residents of Aqaba. The training courses should first be given to workshop owners and then for professionals who reside in Aqaba area only at a later stage. This will allow the owners to feel empowered and be able to encourage their employees to learn about the new technologies and skills in the marketplace.

These courses are divided into three levels as follows:

- Level 1(basic training) is concentrated mainly on the general work practices for (door, windows and kitchen cabinets).
- Level 2 (intermediate), where the trainee is trained on manual and electric aluminum shuttering in addition to the general work practices for (door, windows, and kitchen cabinets).
- Level 3 (advanced), where the trainee is to be trained to work on new techniques such as curtain wall façade, aluminum composite panels, spider fitting system, etc.... for the big projects. For this level, it shall target engineers to train them on these works in all respects to prepare this group to take large projects and compete with companies that come from Amman, as new large-scale projects are starting in Aqaba.

SPECIALIZATION

Aluminum Profiles

Workshops should consider introducing a special section of aluminum profiles commensurate with the local market. The price would be a little more expensive than the simple commercial section that is currently available on the domestic market, but this new section would be exclusive for the Aqaba region, and will have many additional features over the section of commercial destinations.

PVC Profiles

There is a need to introduce special profiles from the PVC for doors and windows in Aqaba. According to international studies, there currently is a trend towards PVC windows and doors. This will create an opportunity for the workshops to compete in the market of aluminum products (windows and doors), as is happening in the Amman market. It is noted that PVC bars of excellent quality are now available in the markets, and their features are a substitute for this current product.

Modifying Kitchen Profiles:

Regarding the aluminum kitchen cabinets, an adjustment in the simple profiles in aluminum private section for kitchens, and specifically in front leaf of the kitchen cabinets, adds luster to new kitchens using new materials with minimal cost. Workshop owners also need to be introduced to new varieties of front leaf kitchens as is happening in Gulf market.

CREATE A MARKETING SYSTEM IN WORKSHOPS

As discussed above, workshops were categorized into three levels. For the second and the third level workshops, we recommend an area to display their aluminum products (aluminum window, doors and small kitchen cabinets) in a place commensurate with the new design of the workshop. This will enable the client to know the product before buying from the shop. For the first level workshops, we recommend that the supply system of the workshop to be from a gallery that is separate, and to be located in the downtown Aqaba market. This show room will be proportional to the product being displayed, and can serve the purpose of exhibiting new aluminum product (such as curtain walls) for the contractors of big projects and first-class high rise buildings, as well as to cover the consultants requirements and compete in supplying Aqaba big projects.

In addition, using the measurement forms, pricing forms, contract forms and production order forms for each project during client correspondence gives a highly professional image as well as it serves the purpose to save the project files and complete information for their reference at any time.

IV. CONCLUSIONS

The ACED II program, SMP and VTC should work collaboratively in developing the aluminum fabricators. In broad guidelines, this can be achieved as follows:

- SMP shall have a big role in identifying and approaching donors (including ACED II program) to deliver training and work improvement capacity building for the aluminum fabrication workshop owners and technicians.
- VTC shall develop general training program in aluminum fabrication (in three levels) and attract business owners and Aqaba residents to be trained and fill the gap in this field.
- ACED II program shall start financing prioritized training programs (e.g. AutoCAD) and simple development activities such as the development of standardized forms and computerized pricing. In parallel, ACED II can assist SMP in raising other funds for the support of Al-Herafyah aluminum fabrication workshops.