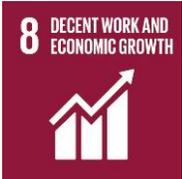


SEFY Lebanon, WECF Germany, WLC Lebanon, GIZ Contra and OTB Consult

YouRise Project Progress Report



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INTRODUCTION

SEFY Lebanon, WECF Germany, WLC Lebanon, GIZ Contra and OTB Consult launched the “YouRise” Project to empower underprivileged women and youth while contributing to Lebanon’s energy transition by providing sustainable education on renewable energy and employment in deprived regions of Lebanon. The curricula cover technical expertise, including theoretical knowledge and practical experience on solar technologies, as well as entrepreneurial skills on how to develop business models with solar energy originally developed and drafted by City of Munich.

The project aims at contributing to a significant increase in decentralized renewable energy generation in Lebanon, embedded in communal partnerships between Lebanon and Germany to exchange municipal experience on practical know-how, technology transfer and qualification concepts on solar energy across national borders. The focus is on knowledge transfer, capacity building, business model development, and job creation with a flexible and target oriented concept.

The project also promotes economic development and work opportunities through supporting the development of promising economic sectors and the CEDRE (Conference for Economic Development and Reform through Enterprises) vision, thus enhancing the possibility for the emergence of income generating activities with a goal to improve the self-reliance of underprivileged youth, women and refugees as well as vulnerable host communities. This project provides high-quality vocational training, professional education and job placement to bridge the gap between supply and demand in the renewable energy labor market.

CONTEXT

Lebanon pledged to improve and diversify its energy sources by covering 12% of the electricity consumption with renewable energy sources by 2020. In a meeting with the World Energy Council, Lebanese Prime Minister Hariri announced a new 30% renewable energy target for 2030, more than doubling the target of 2020. This will require major investments, as in 2016 the majority of the power production came from imported heavy oil fuels, only 3% of the total power production came from renewable energy sources.

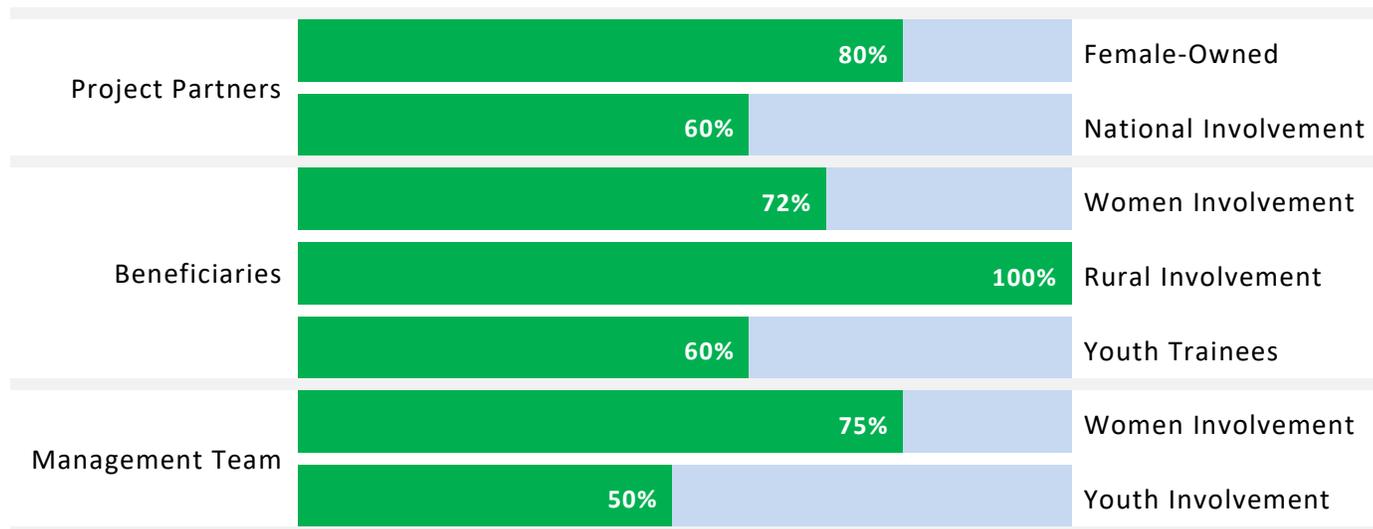
OBJECTIVES

The project focuses on improving prospects for underprivileged youth, refugees and vulnerable host communities in Lebanon through education and integrated provision of services to provide employment opportunities and improve the basic infrastructure of local communities in the solar energy sector.

TARGET GROUPS

- Unemployed youth
- Unemployed women
- Farmers
- Refugees
- Fishermen
- Small Business Owners
- Women Cooperatives

DIVERSITY & INCLUSION



WOMEN EMPOWERMENT

YouRise focuses on women and youth empowerment, aiming at building capacity and improving living conditions of those living in deprived areas.

The project in its first phase involved 13 female trainees, who demonstrated strong technical skills and capabilities, being able to lead installations of different solar PV systems and applications, in a sector where female involvement does not exceed 2% of the general workforce.

Additionally, the first phase of the project supported 7 female-led enterprises, involving more than 19 women living in rural areas. This initiative supported females in growing a their business and empowered them through revenue generation and product exposure.

THE TEAM

- Partners**
- ✚ GIZ Contra
 - ✚ SEFY Lebanon
 - ✚ WLC Lebanon
 - ✚ WECF Germany
 - ✚ OTB Consult

- Location**
- ✚ Union of Qaroun (18 partner municipalities)
 - ✚ Qaroun Waste sorting facility
 - ✚ Qaroun Wastewater Pumping Station
 - ✚ Sohmor Public Park

- Technologies**
- ✚ Decentralized PV energy systems
 - ✚ On-grid PV applications
 - ✚ Off-grid PV applications
 - ✚ PV pumping applications
 - ✚ Solar water heaters

- Target Group**
- ✚ Unemployed individuals
 - ✚ Women
 - ✚ Youth
 - ✚ Refugees
 - ✚ Rural residents

- Curriculum Material**
- ✚ Originally developed and drafted by City of Munich
 - ✚ Authors: Wilhelm Kirchensteiner & Thomas Hensel

- Trainer**
- ✚ SEFY Training Division

- Project Manager**
- ✚ SEFY Lebanon

- Consultants**
- ✚ OTB Consult

- Co-Funders**
- ✚ Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)



ABOUT THE PARTNERS



giz German-Lebanese
Cooperation

Within the scope of the German-Lebanese Cooperation, GIZ is implementing jointly with the Lebanese Ministry of Social Affairs (MoSA) the Construction & Training Programme, ConTra with the main objective to support vulnerable municipalities at many levels, such as enhancement of infrastructure through Cash for Work that includes trainings for the Cash for Work staff.



SEFY International is a non-governmental organization, committed to serve, educate and empower poor and underserved youth in Lebanon to benefit from opportunities in the renewable energy sector.



WLC The Women Leaders Council is the first council in Lebanon within the Federation of Chambers of Commerce, Industry, and Agriculture in Lebanon (FCCIAL).



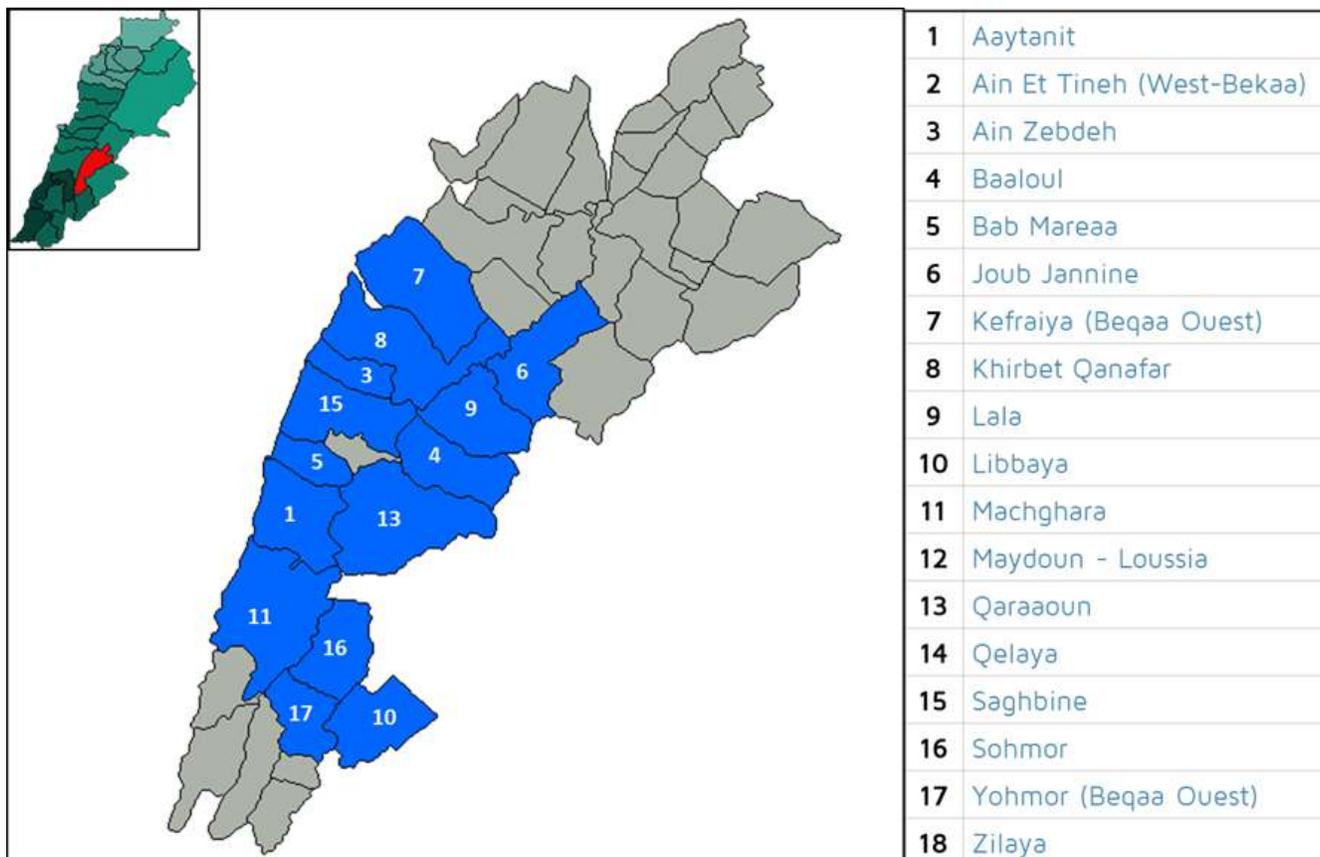
Women Engage for a Common Future is an international nonprofit network dedicated to a gender just and healthy planet for all. WECF's network consists of over 150 women's and civil society organizations implementing projects in 50 countries.



OTB Consult is a sustainability consultancy company with social development in mind. It works as a social enterprise and supports local communities and businesses in becoming greener and achieving sustainable development.

PARTNER MUNICIPALITIES

Partnering municipalities are members of the Federation of Bouhayra Municipalities Union, including 18 municipalities around the Qaroun Lake.



QAROUN LAKE POLLUTION

Qaroun Lake in Lebanon is a pivotal water body in a country rich with rain and snowfall yet desperately weak in the management of these resources.

The Qaroun dam was constructed in 1959 to produce hydropower and provide water for irrigation. The dam was built on the Litani river, the country’s principal water artery. Qaroun Lake is the largest artificial lake in Lebanon and has the capacity to hold about 220 million cubic meters of water. The lake’s water irrigates about 30 percent of the country’s irrigated land.

Due to years of neglect, large stretches of the Litani river and the Qaroun Lake have become highly polluted. This pollution poses a threat to public health and has resulted in major economic and environmental losses. The main sources of pollution are appalling and can be summarized as untreated municipal and industrial wastewater as well as dumping of solid waste along the river

banks. In a context where agriculture dominates the Litani river basin, agricultural chemicals, and non-degradable pesticides constitute another major source of river pollution.



Figure 1: pollution of Qaroun lake

As per an urgent need to reduce the quality of untreated municipal sewage discharged into the Qaroun Lake and to improve pollution management, three wastewater treatment plants have been built in 3 villages of the Union covering the Union needs.

CONDUCTED ACTIVITIES

1. SOLAR ENERGY WORKSHOP: SETTING THE FRAMEWORK FOR THE YOURISE PROJECT

Date: July 3rd, 2019

Location: Beirut, Lebanon

Participants: SEFY, GIZ WBC, OTB Consult, WECF, WLC, Presidency of the Council of Ministers, LCEC, DRI, Chamber of Commerce, Industry & Agriculture, Schneider Electric, City of Munich

The Solar Energy Workshop brought together important stakeholders on renewable energy, energy policy, business models and funding opportunities to understand and identify the current situation, needs and problems (unemployment, lack of access to clean and affordable energy, refugee crisis, lack of decent work and economic growth, no safe and sustainable cities, lack of innovation and resilient infrastructures, lack of climate protection strategies, etc.). The participants got to know each other, exchange their knowledge and experience, evaluate needs and potential, and develop concrete plans and next steps to launch the project.



2. SOLARIZATIONS PROJECT SITE VISITS: CAPACITY BUILDING & INDUSTRIAL PV APPLICATIONS

Date: July 4th, 2019

Location: Tripoli, Lebanon

Participants: SEFY, GIZ WBC, OTB Consult, WECF, WLC, City of Munich

As part of the current labor market and renewable energy business investigation, the team visited ongoing installations taking place in the underprivileged area of Beddaoui in North Lebanon, where they visited a solar training activity taking place. The team also visited completed solar PV installations at Perla industrial facility and Bechmezzine waste sorting facility, where PV systems were installed and providing a big share of the facilities' energy demand.



3. QAROUN WASTE SORTING FACILITY SOLAR DESIGN: ENERGY AUDIT & SITE ASSESSMENT

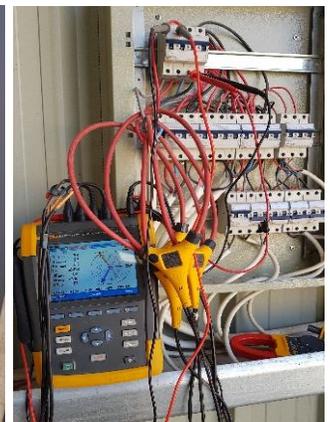
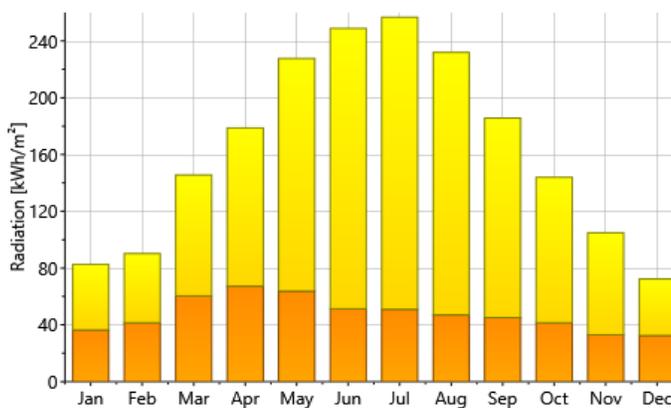
Date: November 2019

Location: Qaroun, Lebanon

Participants: OTB Consult

The waste sorting facility in Qaroun serves Al Bohaira Federation of Municipalities, with activities being performed including sorting, baling, storing, and transport. The facility includes two balers that are used alternatively for the time being due to lack of sufficient power. Currently it is powered by a 30-kVA diesel generator, with EDL expected to be made available.

The energy demand and patterns were analyzed through an energy audit and assessment, leading to the proposal of an 11.1 kWp on-grid PV system, which would lead to massive energy savings amounting to 17.7 MWh a year.



4. QAROUN WASTEWATER PUMPING STATION SOLAR DESIGN: ENERGY AUDIT & SITE ASSESSMENT

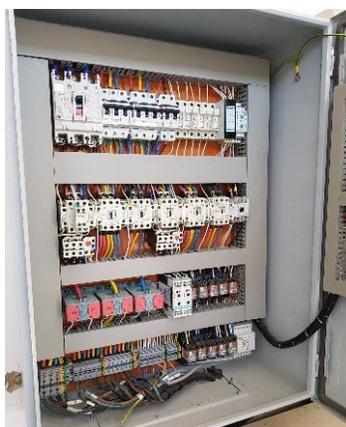
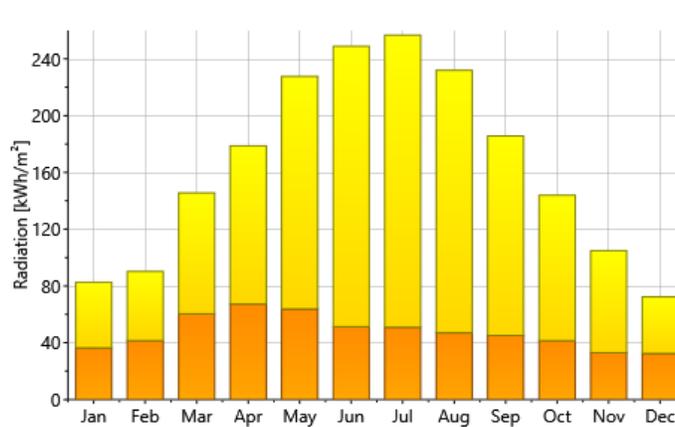
Date: November 2019

Location: Qaroun, Lebanon

Participants: OTB Consult

The wastewater pumping facility in Qaroun operates 24 hours a day to pump wastewater. The facility includes two pumps that operate alternately. The facility is located in a standalone building at an elevation of 880 meters above sea level. The facility is powered by EDL, with a 30-kVA diesel generator used for back-up power.

A 55.5 kWp hybrid solar system is proposed, where the solar panels are connected to a solar on-grid inverter, pumping power directly to both the public electric grid and the diesel grid, with a solar controller dedicated to the management of the solar-diesel grid. The system would lead to massive energy savings amounting to 88 MWh a year.



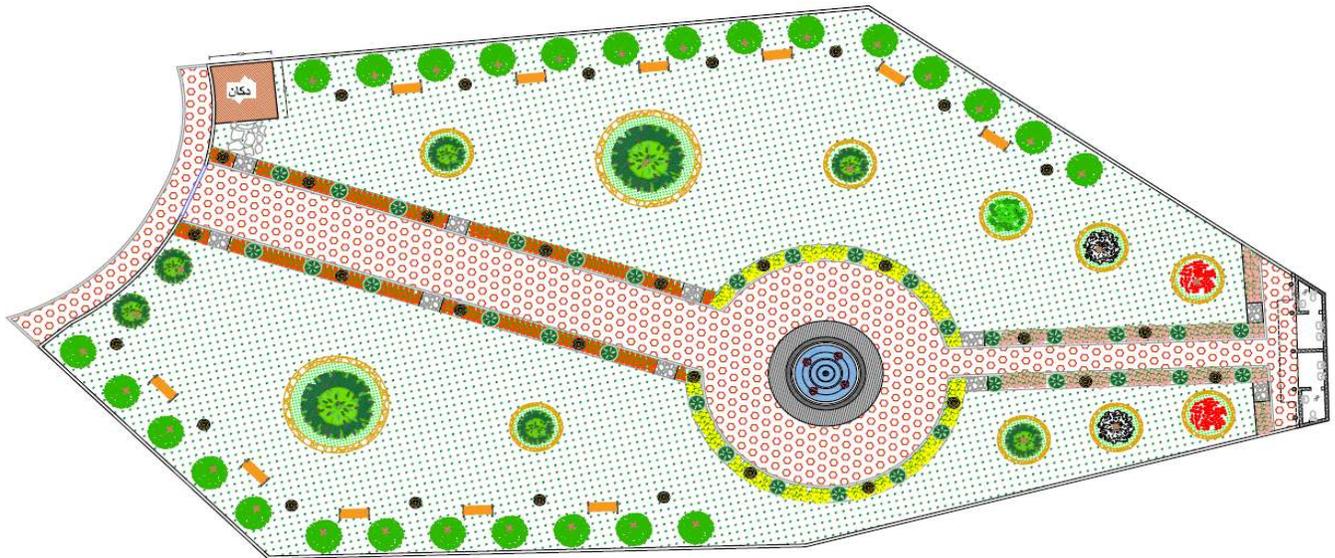
5. SOHMOR PARK SOLAR DESIGN: STREETLIGHTING SOLARIZATION

Date: November 2019

Location: Sohmor, Lebanon

Participants: OTB Consult

Sohmor park is a public park under construction, expected to be open to public by Spring 2020. The 2,200 square meter park is designed with a total of 32 lighting poles distributed as shown in the drawing supplied by the designer and a solar tree.



CONDUCTED TRAININGS

1. SOLAR YOUTH TRAINING: VOLUME 1

Date: November 2019 – Present

Location: Qaroun, Lebanon

The first solar training was initiated in Qaroun including 25 trainees from different backgrounds and geographic distribution. The training is conducted to bring in technical and interpersonal skills, concluding in the installation of a solar on-grid PV system at Qaroun Waste Sorting Facility.

COMPLETED ACTIVITIES

1. SELECTION OF TRAINEES

The team interviewed more than 75 applicants and selected the first batch of 25 individuals demonstrating the best fit for the program.

The selection is largely diversified with 52% of the females, 44% refugees, and 8% disabled.



2. SOLAR TRAINING & CAPACITY BUILDING

The trainees are trained and empowered through a series of theoretical and practical training activities. Participants learn about design, installation, commissioning, and troubleshooting of solar systems.



3. SOLAR PV SITE VISITS & INSPECTIONS

Trainees are involved in several site visit and PV installation inspections, where they witness real-life systems, perform inspections, and understand the different operating principles of PV systems in operation.

KHOURY HOSPITAL – ZAHLE: 40 KWP ON-GRID PV SYSTEM



ALFA INTERFOOD – TAANAYEL: 100 KWP ON-GRID PV SYSTEM



JARRAH RESIDENCE – BEKAA: 75 KWP ON-GRID PV SYSTEM



ZAAROUR RESIDENCE – BEKAA: 27 KWP ON-GRID PV SYSTEM



4. SAFETY & FIRST AID TRAINING

Participants are trained on performing basic first aid activities to avoid and deal with accidents related to solar end electrical installations. The training is delivered on-site by the Red Cross team.



5. 11.1 KWP ONGRID PV SYSTEM INSTALLATION

The trainees apply their learning and knowledge to install, commission, and operate an 11.1 kWp on-grid solar PV system to power the waste sorting facility at Qaroun.

The installation activity will take place from January to February 2020.

SOCIAL & COMMUNITY SUPPORT ACTIVITIES

1. SUPPORTING LOCAL WOMEN ENTREPRENEURS

The impact of YouRise is expanded and maximized through reaching out to local female entrepreneurs and supporting them in improving their business and creating opportunities for more than 19 women.

YouRise helps female-led small businesses and women in the cooperatives prepare and sell their rural processed food through the women's association of the town (WASD). The project supports the organization and its mission in promoting rural development and empowering local female business and individuals, by means of generating diversified income and employment opportunities. When successful, processing at village level can create an enhanced quality of life for villagers because of greater prosperity and improved health and nutrition. The initiative also supports local farmers and creates sustainable job opportunities.



ANNEX 1: LIST OF TRAINEES

Trainee	Gender	Nationality	Occupation	Education	Achievements
 Swaidan Swaidan	♂		-	BE Mechatronics	Part-time employment
 Amin Daher	♂		Electrician	Solar Certificate	
 Rabih El Karout	♂		-	BT	Part-time employment
 Ahmad Fayad	♂		-	BE Electrical	
 Hiba El Youssef	♀		Student	Masters	
 Bilal Chahine	♂		-	Certificate Electrical	Part-time employment
 Omar Zaghoul	♂		-	School Drop-out	
 Ali Taifour	♂		-	Certificate HVAC	
 Mohamad Hatem	♂		Fisherman	School Drop-out	
 Mohamad Ismail	♂		-	BT	
 Noura Laila	♀		-	BS	
 Enaya El Youssef	♀		-	BS	

	Ghadeer Menhem			-	BS
	Rajaa Haimour			-	BS
	Mohamad El Mahmoud			-	School Drop-out
	Mandoub El Maayouf			-	School Drop-out
	Bilal Daghmouh			-	School Drop-out
	Afendeya El Mahmoud			-	School Drop-out
	Jawaher Mohamad			-	School Drop-out
	Rouaida El Joudou			-	School Drop-out
	Manal El Maayouf			-	School Drop-out
	Ghouroub El Jassem			-	School Drop-out
	Hiba Ahmad			-	School Drop-out
	Bashira Hamar			-	School Drop-out
	Jawahir El Yawe			-	School Drop-out

ANNEX 2: LIST OF SOCIAL COMMUNITY SUPPORT BENEFICIARIES

Beneficiary	Gender	Nationality	Type of Business	Contribution
Zeynab Abbas			Women's Cooperative	Management & coordination
Faten El Khesheh			Bakery	Breakfast Packages
Hadia Kamar			Bakery	Breakfast Packages
Mariam Krayem			Bakery	Breakfast Packages
Fatima Abdel Moussa			Bakery	Breakfast Packages
Mariam Kamar			Bakery	Breakfast Packages
Souad Kazwini			Bakery	Breakfast Packages
Daad Harb			Women's Cooperative	Rural Products
Mariam Alaa El Dine			Women's Cooperative	Rural Products
Enjal Kamar			Women's Cooperative	Rural Products
Mariam Menhem			Women's Cooperative	Rural Products
Iman El Khesheh			Women's Cooperative	Rural Products

Elissar El Kheshen			Women's Cooperative	Rural Products
Sherifa Wehbe			Women's Cooperative	Rural Products
Kawthar El Zein			Women's Cooperative	Rural Products
Zeynab Abbas			Women's Cooperative	Rural Products
Fatima Abbas			Women's Cooperative	Rural Products
Amina Shahshouh			Women's Cooperative	Rural Products
Mariam Kamar			Women's Cooperative	Rural Products
Zakiya Al Harshi			Women's Cooperative	Rural Products
