PROMOTING GREEN ENTREPRENEURSHIP: CONNECTING THE JORDAN VALLEY TO CLEAN TECHNOLOGY SOLUTIONS

JORDAN VALLEY LINKS
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JVL is made possible with the generous support of Global Affairs Canada and is implemented by Mennonite Economic Development Associates (MEDA).

Thanks to JVL’s many partners – both Key Facilitating and Private Sector Partners – and MEDA’s generous private supporters.

Acronyms

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<td>Clean Technology</td>
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<td>FPEC</td>
<td>Future Pioneers for Empowering Communities</td>
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<td>JVL</td>
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<td>LED</td>
<td>Light emitting diode</td>
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<td>MEDA</td>
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<td>REEE</td>
<td>Renewable Energy and Energy Efficiency</td>
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Enterprise Development for Women and Youth in the Jordan Valley

MEDA's Jordan Valley Links Project (JVL) is working with civil society and private sector partners to economically empower 25,000 women and youth in the Jordan Valley and increase their contribution to Jordan’s economic growth. Women and youth are supported with training and mentorship to improve their business acumen and are linked to markets where they can sell their products and services. The project works in three sectors: food processing, community-based tourism, and clean technologies. To increase access to finance, the project brings together Savings and Loans Groups, which are self-replicating, member-driven groups that meet regularly to save small amounts of cash which can be lent to members. JVL is building support for entrepreneurship in families and communities through role models, gender dialogues, and communication campaigns to promote the value of self-employment for women and youth.

JVL Learning Series
The JVL learning series is an ongoing initiative to share lessons learned as the project is being implemented. Topics include private sector engagement in Jordan, client experiences with savings and loan groups, effective strategies for enterprise development and measuring women’s economic empowerment.

Figure 1: Overview of the Jordan Valley Links project
### Promoting Clean Technology in the Jordan Valley

Clean technology (CT) is the term used to describe any process, product or service that reduces or optimizes the use of natural resources while minimizing harm to the environment. Its purpose is to make households and businesses more energy efficient, saving money and reducing waste, while simultaneously supporting increased production capacity through improved technology. Jordan relies heavily on imported fossil fuels to meet its energy needs, importing 94% of its oil and gas.\(^1\) This leaves the country vulnerable to fluctuations in fuel prices. However, with over 300 days of sun per year, strong winds and significant desert lands, Jordan has great potential for renewable energy. The Government of Jordan aimed to increase the share of renewable energy to 10% of the country’s energy use by 2020,\(^2\) and encourages adoption with generous incentives, including tax and customs exemptions and flexible lending terms to invest in renewable energy.\(^3\)

At the consumer level, national statistics indicate that a typical household spends between 2.6% and 4.6% of total household income on electricity, of which the majority is spent on temperature control (heating and cooling) and water heating. (For the purposes of comparison, American and Egyptian households spend an average of 2.15% and 4.5% of household income on electricity, respectively.)\(^4\)

Rural households typically spend more on electricity, particularly for lighting. Information collected through JVL’s energy consortium indicate household expenditure on electricity can be as high as 10% of total household income. In the poorest households, 10% of household income can be spent on lighting alone. While the unit cost of electricity in Jordan of 11 US cents per Kwh (compared with Tunisia and Lebanon – 8 cents, Canada – 11 cents, Spain – 23 cents, Cyprus – 27 cents) is relatively low compared to other countries, when actual household income is taken into consideration (Jordan’s 2017 GDP was USD 4,095\(^5\)) the cost of electricity to the average family in the Jordan Valley is expensive.

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3. Desogus, Giuseppe. *Preliminary Analysis of Electricity Production and Use (Annex).* University of Cagliari (UNICA) and FOSTer in MED project under the ENPI CBC Mediterranean Sea Basin Programme.
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High electricity costs compared to household income presents an opportunity, both for consumers and entrepreneurs, to transition to cleaner and more efficient technology. Switching to more energy efficient alternatives requires initial investment but reduces household costs considerably over time. The JVL team investigated a range of products, including light emitting diode (LED) lights, energy-efficient air conditioners, and photovoltaic / solar panels, that would deliver energy savings, minimize maintenance costs, and ensure good quality light, in terms of brightness and strength. LED lights were selected as the main product for the first phase of work with the project’s CT entrepreneurs because they are higher turn-over products and the most affordable for customers in the Jordan Valley. In addition, the initial investment capital required for entrepreneurs is lower for LED lights than for air conditioning or photovoltaic products, and with the faster LED turnover, their investment leads to quicker financial returns.

Figure 2: Breakdown of typical household energy expenditure for Amman in 2010

CT entrepreneurs receive training on photovoltaic / solar panels

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The JVL Business Solution: Linking the Jordan Valley to CT Products

The JVL team promotes CT solutions by creating a network of women and youth entrepreneurs, who start microenterprises promoting and selling clean technologies to both households and enterprises. The business solution is based on last-mile distribution and door-to-door sales, increasing the availability of the CT products as well as providing education on the benefits of clean technology, a necessary step in increasing adoption of equipment that requires users to make an initial investment. Young people are credible representatives of the CT sector because they are perceived as innovative and early adopters of technology.

The process of linking the Jordan Valley to CT products involved multiple players and steps, as illustrated in the diagram below:

1. **Market screening**
   To understand the Clean Technology sector in the Jordan Valley, the MEDA team mapped the supply – what CT products are available, specifications and prices – and potential demand for these products. Mapping included identifying the companies and organizations involved in manufacturing, transportation, and marketing of CT products. Following this mapping and market screening, the team shortlisted possible private sector partners and selected a small group of viable companies with which to partner.

2. **Partner identification**
   The JVL team assembled a consortium of complementary partners, including private sector, non-governmental organization, and a not-for-profit company to promote CT solutions and train CT entrepreneurs to sell the technologies to end users. Partners were selected based on their background, expertise and commitment to building the capacity of women and youth to create CT businesses. Each partner signed a contract which outlined their role in the consortium. In the case of CT suppliers, formal agreements (Memorandums of Understanding) documented

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The Jordan Valley holds many opportunities to promote the adoption of Renewable Energy and Energy Efficiency (REEE) techniques, which will support local communities in reducing energy bills and utilizing the savings in improving their livelihood conditions such as health and education. This project allowed us to create a new market for REEE technologies and products in the targeted areas in the Jordan valley and to create new businesses opportunities for entrepreneurship in the CT field following the proper awareness, training and communication development.”

—Sawsan Bawarish, CT Project Manager, RSS / NERC
partner roles and responsibilities in supporting the CT entrepreneurs, as well as product specifications and conditions, including price, volume discounts and shipping.

The partners are:

**Clean Tech Consortium:**

- Royal Scientific Society / National Energy Research Center (RSS / NERC), a non-governmental organization, leads the CT component for JVL and trains women and youth in renewable energy and energy efficiency;
- Future Pioneers for Empowering Communities (FPEC), a not-for-profit company, leverages its strong grassroots-level connections in local communities to provide training and link CT entrepreneurs to the market through a mobile application; and
- GreenTech, a private sector company conducts market analysis, CT entrepreneur selection, capacity building and mentorship.

**CT Companies and Suppliers:** In addition to the CT Consortium, there are private sector partners who are the CT suppliers, namely Golden Arrow and EcoSol. The companies train CT entrepreneurs on their products (specifications, how to market it and unique features) and supply these products at an agreed-upon price. Additional companies have been added to supplement the two current CT suppliers and more are added, as necessary.

**Business Support Provider:** Al Jidara, a consulting company, provides specialized training and ongoing coaching on marketing and sales. They also provide support to CT Consortium members on training approach and curriculum development.

![Figure 4: Range of services available to CT Entrepreneurs through JVL and partner organizations](image-url)
3. Stimulating demand for clean technology
The project’s partners engaged active and interested women and youth within communities in the Jordan Valley to become CT ambassadors and community influencers, driving JVL’s efforts to increase adoption of clean technology in the Jordan Valley. By conducting awareness-raising campaigns on the value of CT solutions, these ambassadors and influencers also stimulated demand for CT products and services. Some of the more enterprising ambassadors and influencers were also considered during selection of CT entrepreneurs.

4. CT entrepreneur selection and preparation
CT entrepreneurs were selected through a multi-stage process. First, interested women and youth – including ambassadors and influencers – attended a business and marketing training. CT Consortium partner GreenTech assessed the candidates based on knowledge and skills, commitment and level of enthusiasm. These candidates then pitched business plans to JVL staff. Finally, once the successful CT entrepreneurs established their businesses, MEDA conducted spot checks to their place of business to monitor their progress and provide any necessary support.

5. Establish linkages between suppliers and CT entrepreneurs
The JVL project team plays an important role in facilitating market linkages within the CT sector, establishing communication mechanisms and follow-up measures across the consortium, which catalyzed relationships across a network of organizations and individuals that link CT solutions to end clients.

JVL negotiated agreements between several suppliers and the CT Consortium committing them to providing CT entrepreneurs with specific technologies at a guaranteed price. This creates a consistent supply of products for the entrepreneurs, as well as a source of technical and business information. The CT entrepreneurs and the company representatives have developed positive relationships through the training events and have formed a network which stays in regular contact through a WhatsApp group. This direct communication has allowed JVL to gradually step back from direct involvement in the network, increasing the likelihood that the relationships will be robust enough to outlast the project.

6. Ongoing monitoring and follow up
In addition to convening the consortium of partners, MEDA plays a valuable role in

This CT entrepreneur savings group meets regularly. Members save money from their business activities.
monitoring activities, including collecting data on the volume of CT entrepreneur sales, the profitability of their businesses and the attitudes of end customers to CT products. Where necessary, the JVL team follows up with the entrepreneurs and partners to ensure training quality, and ongoing product suitability and availability.

Lessons Learned

At each stage of the process, MEDA has learned valuable lessons about working with its partners and supporting CT entrepreneurs.

Forging market-based linkages for entrepreneurial success

Building strong linkages between private sector suppliers and CT entrepreneurs was key to the success of the initiative. JVL played an important mediation role at the beginning, selecting both companies and entrepreneurs, setting up the terms through contracting, facilitating the entrepreneurs’ training, and then stepping back, to allow a direct relationship to form between the companies and the entrepreneurs. This direct relationship was important and increased the efficiency at which the supply chain operated.

An interesting challenge arose after the first group of companies was selected. JVL tried to convince the CT entrepreneurs to buy products only from the pre-selected companies. In part, this was to ensure that the money CT entrepreneurs received from the project in the form of grants would not be misallocated, in line with the project’s fiduciary responsibilities. In addition, the JVL team thought that aggregating demand from a small number of companies would lead to better discounted pricing. However, this limited the entrepreneurs’ agency and decision-making; in addition, companies didn’t respond with volume-based or loyalty discounts as was hoped. Therefore, the second round of company selection included a more open arrangement between entrepreneurs and private sector partners. Contracts still stipulated prices for particular products but entrepreneurs had the choice to purchase from these or other companies outside of the consortium. While this dilutes their collective bargaining power, the open sourcing model also allows the opportunity for more opportunistic trading and discount shopping. This is also a good sustainability strategy, preparing entrepreneurs to conduct business after the project closes, when they will no longer receive such support.

Clarity and complementarity for a strong partner network

The partnership model has been a successful strategy for connecting the Jordan Valley to clean technology. The CT consortium, with its three core partners, is a strong platform on which to build linkages between a network of companies and the CT entrepreneurs. The three

“Environmental awareness in the Jordan Valley has been significantly increased, where there became a higher demand for green solutions which inspired more CleanTech businesses across the region and even nation-wide. This project presented entrepreneurs with an opportunity to become leaders and agents of their own change.”

—Joman Abdo, GreenTech Project Coordinator
core partners complement each other well, in terms of knowledge and expertise, method of operation and key clients and stakeholders.

This success also extended to the companies which signed strategic agreements with JVL. They understand the project well and are committed to providing high quality products to CT entrepreneurs, with readily available inventory and consistent pricing. The strategic agreements signed with these companies clearly outline the roles and responsibilities of each party and also provide clarity on a number of key operational aspects of the relationship.

**Adapting to market shocks**

With the onset of the COVID-19 pandemic, markets entered a state of shock. Though planning of the CT initiative began several years ago, the first cohort of entrepreneurs launched their businesses in summer 2020 under a completely new operating environment. Many assumptions made at the planning stage were no longer true.

For example, a key value proposition envisioned for companies was the feedback loops that linked them to the end consumers, through the CT entrepreneurs. The companies would receive high quality intelligence on how their products were performing in the market, public perception of their brand and barriers to greater adoption. However, the pandemic brought lockdowns and instability, and many companies were fighting to simply survive. They could not effectively respond to customer feedback on products and pricing, reducing the value of the market intelligence provided by CT entrepreneurs.

As an alternative to in-person business transactions, Future Pioneers updated a mobile application of their own design to link suppliers and CT entrepreneurs. The mobile application lists trained CT entrepreneurs and suppliers, including their products and prices. The entrepreneurs can take orders from their end clients, and then source and purchase the CT products on the app. Even after pandemic limitations are lifted, the app can continue to form a valuable interface between entrepreneurs and suppliers.

**Conclusions**

The first cohort of CT entrepreneurs began conducting business in July 2020 and, despite extremely challenging market conditions, have already achieved success. As of September 30, 2020, 17 entrepreneurs have purchased 5,128 CT products from suppliers, of which 70% have been sold to end customers, resulting in JOD 1340 profit (CAD 2,463).

Several entrepreneurs noted challenges related to the lockdown, such as delays in receiving the LED lamps they had purchased for resale. Displaying true entrepreneurialism, many looked for alternative ways to earn income while they waited.
for their stock to arrive. Just before the lockdown was declared, CT entrepreneur Muneera asked her neighbours what they anticipated needing in the coming weeks. To her surprise, they said cosmetics, which she purchased in the local market and successfully resold, earning approximately 150 JOD (CAD 278). When her LED lamps arrived after the lockdown was lifted, she sold these too. Now, she sells both cosmetics and lamps, earning approximately 300 JOD (CAD 557) per month.

Ruqayah, a CT entrepreneur in Balqa governorate, faced a similar delay in receiving her lamps. Before lockdown was instituted at the beginning of summer, she sourced warm weather clothes from a relative in Amman and sold these to neighbours, earning 200 JOD (CAD 371) per month. When her LED lamps arrived after the lockdown, she sold these, in addition to clothing, earning approximately 300 JOD (CAD 557) per month (similar to Muneera in Karak). She said, “My husband appreciates my effort and tries to help me with the marketing and the financial management of my business.”

Despite the unprecedented challenges of COVID 19, these experiences demonstrate that demand exists for clean technology products in the Jordan Valley and consumers will buy them if they are available in the market. The market can also be energized through intentional training of entrepreneurs, strengthening of supply chains and effective marketing.

The most important lesson is in addition to extending clean technology into the Jordan Valley, JVL is helping women and youth CT entrepreneurs to realize success, and to inspire the next cohort of clean technology entrepreneurs.
CT entrepreneur displays the compost she made after receiving training from the CT Consortium.