3 THE SCALING UP

BIO ENERGY PROJECTS

In 2015, DJEFP supported the construction of three pilot biogas generation units in Port Saitt governorate, in partnership with the Ministry of Agriculture, as a pilot model for alternative energy generation and safe cattle manure waste management. The efficiency of the pilot units encouraged more than 60 households at the same villages to construct similar biogas units through their own funding. Due to its success and future potential, the project was featured as a “Development Success Story” by the Egyptian Cabinet’s Information and Decision Support Center (IDSC) in 2016.

In 2017, Minya governorate requested the replication of Port Saitt’s initiative to support the large number of cattle breeders throughout its rural communities, most of whom had low income levels.

A Public Private Partnership (PPP)

In 2018, the ILO signed an agreement with the National Bank of Kuwait - Egypt (NBK) to co-fund the construction of 100 biogas generation units in Minya governorate, for a total sum of EGP 1 million, to support the economic and social development of its rural communities.

A site survey and needs assessment study identified the village of Bani-Saif for the implementation of this project. DJEFP in partnership with the governorate representatives reached out to the village community, through several awareness-building sessions, to promote the units and their benefits. Several farmers signed up to have the units constructed at their households.

Due to the nature of the built environment at the village, the Minya university supported the initiative by adjusting the initial design to suit the construction and operation of the units inside these households, where the cattle are traditionally kept. A construction manual was developed based on the adjusted design as well as a new training manual which was used to train young engineering students to construct the units themselves.

In addition, to support future expansion in the installation of these units, a model biogas generation unit was established at Minya university’s cattle breeding station, for research purposes and also to permit the continuous qualification of young people to meet the rising demand in constructing these units.

In late 2019, the agreement with NBK was further extended to fund the construction of 60 additional units in Minya governorate.

Creating Green - Gender Inclusive - Jobs

Through these projects, DJEFP provided the necessary entrepreneurial and technical training to several young engineers and technicians to support the principal objective of stimulating green startups and jobs.

In Minya, 7 young men and 3 young women were trained on the construction of these units and after graduation participated in DJEFP’s “Start and Improve Your Business (SIDY)” entrepreneurial training programme. All of them have established their individual companies, participated in the construction of the original 100 units and are now successfully operating independently.

These young entrepreneurs have also provided decent employment opportunities to 30 masons and builders.

Ibraa, for instance, who had recently completed her degree in chemical engineering in 2018, was among the original six young people who have started their careers by choosing a green entrepreneurial path. Through her company, she has independently promoted and constructed several units in Minya and Beni-Saif governorates, is facilitating microcredit for households who prefer to pay for the units on instalments and is under contract to maintain the originally installed units at Bani-Hassan.

While conserving the environment

A biogas generation unit is composed of three separate chambers. The cattle manure is manually fed into the first, which is then gravity fed into the second chamber (the digester) where methane gas is anaerobically produced and fed through a hose to a stove. The digested by-product is then fed into the third chamber where it is manually extracted and used as a safe organic fertilizer. These units come in standard capacities of 2 - 6 m³, which is suitable for rural household installations.

Each 2 m³ unit is constructed using concrete and brick masonry over the duration of 4 days by 2-3 qualified masons, for a total cost of EGP 9,200. They are suitable for safe external installation and with the newly adjusted design can also be installed inside households, safely buried underground. The unit provides sufficient gas to operate a 3-burner stove for 2.5 hours/day, by digesting a mixture of 50 kg cattle manure with 50 liters of water.

8 IMPROVING HOUSEHOLD SAVINGS

Each biogas unit produces the equivalent of two gas cylinders per month for kitchen use. This allows families to save up to EGP 1,145/month. Furthermore, the extracted byproduct is considered as a safe high-quality organic fertilizer, which the farmers use to fertilize their crops. Field trials at both Port Saitt and Minya governorates achieved savings of 4 x 25 kg bags of urea and 12 x 25 kg bags of phosphate fertilizers, which further increases monthly savings achieved by these farmers (worth EGP 850/month).
WHAT’S THE NEXT BIG THING?

Economic activities, for traditional products and services, tend to have a natural cycle of growth, stagnation then decline. The rate of job creation tends to follow with those activities, also tends to follow this exact cycle. However, the market also creates new economic activities every once in a while, some of which provide high growth rates for businesses startups and job creation. Egypt has many examples in potential terms of new economic activities that can be stimulated to expand the market. But what are those? and which ones are suitable for Egypt’s young people?

Since its launch, the Decent Jobs for Egypt’s Young People (DEJP) project, sought to identify those emerging economic opportunities with high growth potential. The purpose was to provide the tools that would assist young people in acquiring the entrepreneurial and vocational skills needed to take advantage of the emerging opportunities. The approach developed was conducted, which led to the identification of environmental conservation-related activities to potentially offer high growth rates for new jobs and entrepreneurial startups.

The approach developed to pursue those green economy opportunities was to promote the potential for new green jobs and startups creation among the relevant stakeholders, to implement and support pilot initiatives at the various focus government to verify their commercial and technical feasibility, and for the most promising among those to build national awareness on their results for further replication nationwide to achieve scale. This particular approach was experimental in nature due to the uncertainty of the outcome. However, the benefits in terms of supporting young people to align their skills with new emerging occupations, offering high demand and growth rates, outweighed the risks.

THE PILOT PROJECTS

WASTE MANAGEMENT & RECYCLING

Egypt generates an annual volume of 100 million tonnes of waste, only 55% of which is collected for sanitary disposal while the balance largely goes illegally discarded on road ways, in water channels or littered in agricultural fields (Egyptian Environmental Affairs Agency, 2017). Overall, only 2.5% of the generated waste is recycled. In 2012, DEJP held a consultative meeting with Port Said governorate, with the objective of developing a strategy and action plan to improve solid waste management in the Port Said governorate. A door-feeder visit to the waste disposal facility in Port Said and Port Fouad cities was organized to assess the waste management practices in the governorate and possible scenarios to improve the prevalent practices at the time.

Based on the findings, a workshop on Training Awareness on Solid Waste Management in Port Fouad was organized in 2013 at Port Said governorate. During the workshop, 204 participants debated the proposed alternative improvement scenarios including the promotion of waste management systems through private providers to be established by young people at the governorate. During that workshop, the Egyptian version of ILO’s Start Your Waste Recycling Business (SYWRB) tool was also introduced to support future entrepreneurship and job creation. The workshop resulted in the development of a general plan on the methodology of solid waste management in Port Fouad.

Building on the success achieved at Port Said, a cooperation protocol was signed in 2017 between the Ministry of Environment (represented by the Waste Management Regulatory Authority) and the ILO to train the new companies that are to work in the area of solid waste management nationwide. Between 2017 and 2019, more than 80 young entrepreneurs and NGOs completed the programme and set up waste management services at various communities in Port Said and Luxor governorates. To support the future sustainability of the toolkit, 29 central and regional ministry representatives completed a Training of Trainers course and all tools are available on the SYWRB website.

ORGANIC FARMING

Organic farming practices are empirically proven to reduce green house gas emissions by an average 11%. Expansion in organic farming practices in Egypt thereby has a dual benefit of both supporting efforts to regulate Global Warming, while also providing new jobs for young people. In 2014, DEJP supported the establishment of a pilot organic barley growth and development project in Port Said governorate to provide livestock fodder for the fattening station in ElQuseir area. The organic barley produced was proven an as effective nutriment substitute for livestock fattening. Based on the pilot, the governorate officials further sponsored the establishment of additional production units for organic barley growth and development. The success story was documented by an advisor to the Minister of Agriculture for further dissemination.

In addition, DEJP supported the establishment of a pilot greenhouse protected cultivation project in partnership with Alkhalidiya Association for Agricultural Development in Minya governorate. The greenhouse covered an area of about 5,000 m² and was organized on pilot crop production of organic agricultural products, using new practices, at desert reclaimations areas to both reduce the consumption of water and eliminate the use of chemical fertilizers and pesticides. The pilot model was observed by the United Nations Industrial Development Organization (UNIDO) and has been taken up as a model for future replication and development of greenhouse protected.

ECO-LABELING FOR HOTELS

Egypt’s Red Sea coastal area is considered among the most diverse ecosystems for coral reef growth that sustains a rich diversity of marine life. Tourism developments along the coast line created an immense pressure on the marine life that caused its gradual decline, mainly attributed to increased activities of the tourism sector. In 2015, DEJP organized a national conference on marine tourism in cooperation with the Egyptian Ministry of Tourism aiming at creating green jobs in tourism in Egypt’s Red Sea governorates. The conference entitled “Green Jobs through the case study of Green Star Hotel Certification Programme for Hotels in the Red Sea” brought together several national stakeholders and high-level executives, managers and singhnesses from hotels and resorts across the Governorates. As a result of the conference included plans for further collaboration between the DEJP and the Ministry of Tourism to integrate the Green Star Hotel Certification Programme into the ILO’s “Improving Competitiveness in the Tourism Sector through Decent Work” training toolkit and to create jobs by building the capacity of trainers and auditors.

To support the outcomes of the conference, 6 young graduates from Port Said University were supported to attend an internationally certified training programme on the audit of environment-friendly activities and eco-management of hotels, that was organized in Alexandria governorate. This programme supported the young graduates in building their skills to achieve sustainable development, not only for the hotels but also for the environment through the effective eco-management of hotels. Training was conducted by international environmental audit and rating agencies from the EU, including SGS, that selected the environmental audit and rating for environmental rating and auditing. Most of these young graduates have since been active, and more than 40 hotels attained the Green Star certification.

SOLAR ENERGY DRYER FOR CROPS

Egypt grows a wide variety of herbs that are traditionally dried in unhygienic conditions. This has restricted the further expansion of the cropping area and food processors according to accessing export markets with lucrative returns. In 2015, DEJP supported a pilot research and development project, which was an on-farm experiment conducted on a farm in ElGouna city under the Faculty of Agriculture farm, with the focus on developing and testing a solar dryer to improve and expand production of herbs and some fruits that enables the production of high-value export grade crop. The final model built to present this new technology uses a mixture of heating techniques providing a maximum heating efficiency while consuming minimal amount of energy. Based on the pilot’s success, it was decided to scale up the technology across the country and DEJP supported the young graduates from the pilot research and development to start their own business and development company and to pursue more innovative solutions for the agricultural sector.