



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



# UNIDO activities in Egypt 2017 – 2018

INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT



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# Abbreviations

|                      |   |
|----------------------|---|
| BDS                  | business development services                       |
| BOM                  | business opportunity mapping                        |
| CCI                  | cultural and creative industries                    |
| CFCs                 | chlorofluorocarbons                                 |
| CP                   | cleaner production                                  |
| ECP                  | entrepreneurship curriculum program                 |
| EE                   | entrepreneurship education                          |
| EEAA                 | Egyptian Environmental Affairs Agency               |
| ENPC                 | Egypt National Cleaner Production Center            |
| FEI                  | Federation of Egyptian Industries                   |
| GEF                  | Global Environment Facility                         |
| GWh                  | gigawatt hours                                      |
| GHG                  | greenhouse gases                                    |
| ICT                  | information and communication technology            |
| ISID                 | inclusive and sustainable industrial development    |
| IEE                  | industrial energy efficiency                        |
| ITPO                 | investment and technology promotion office          |
| LED                  | local economic development                          |
| MENA                 | Middle East and North Africa                        |
| MALR                 | Ministry of Agriculture and Land Reclamation        |
| MoETE                | Ministry of Education and Technical Education       |
| MOE                  | Ministry of the Environment                         |
| MOLD                 | Ministry of Local Development                       |
| MSE                  | micro and small enterprises                         |
| MSME                 | micro, small and medium enterprises                 |
| MTI                  | Ministry of Trade and Industry                      |
| MtCO <sub>2</sub> eq | metric tons of carbon dioxide equivalent            |
| ODS                  | ozone depleting substances                          |
| PAFTA                | Pan Arab Free Trade Agreement                       |
| PET                  | Polyethylene terephthalate                          |
| RECP                 | Resource Efficient and Cleaner Production           |
| SCP                  | sustainable consumption and production              |
| SDG                  | Sustainable Development Goal                        |
| SPS                  | sanitary and phytosanitary trade measures           |
| TEST                 | Transfer of Environmentally Sound Techniques        |
| UfM                  | Union for the Mediterranean                         |
| UNDAF                | United Nations Development Assistance Framework     |
| UNPDF                | United Nations Partnership Development Framework    |
| UNIDO                | United National Industrial Development Organization |
| VSLA                 | Village Savings and Loan Associations               |



# Inclusive and Sustainable Industrial Development

**T**he United Nations Industrial Development Organization (UNIDO) is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability.

UNIDO supports its Member States in achieving higher levels of Inclusive and sustainable industrial development (ISID) and through this, progressing toward the attainment of the Sustainable Development Goals (SDGs), with a primary focus on SDG-9, which calls to “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”, and other industry-related goals and targets.

A number of trends can be observed in global development that pose challenges and opportunities for ISID. They include changes in manufacturing growth and value added, poverty and inequality, gender dynamics, more globalized markets, increased environmental degradation, the emergence of a new industrial revolution, an evolving finance architecture and innovative partnerships.

In responding to these challenges and opportunities, UNIDO focuses on services to support four strategic priorities, which aim to achieve the following development results:

- 1. Creating shared prosperity:** this priority aims at poverty eradication and social inclusiveness; building productive capacities in an inclusive manner; and providing more opportunities for women and men through partnerships with all stakeholders involved in the industrialization process.
- 2. Advancing economic competitiveness:** the focus here is on advancing industrialization and rapid growth; building trade capacities; and ensuring that all countries can benefit from international trade and technological progress through the application of industrial policies and compliance with international standards and norms. UNIDO recognizes that developing the private sector’s potential to generate income and sustainable economic growth is one of the most effective ways to reduce poverty and achieve ISID.
- 3. Safeguarding the environment:** within this priority, UNIDO aims at advancing environmentally sustainable industrial development; building institutional and industrial sector capacities for greening industries through resource efficiency and cleaner production (CP) technologies and practices; creating green industries, including in fields of waste management and recycling; and facilitating the transition to a circular economy.
- 4. Strengthening knowledge and institutions:** the focus here is on advancing the technical, policy and normative knowledge base for ISID; building the analytical, statistical and reporting capacity on industrialization-related matters (taking into account the architecture of the SDGs at global, regional and national level); and facilitating policy dialogue on issues pertaining to the advancement of ISID particularly (but not exclusively) in developing and middle income countries.

# UNIDO in Egypt



## Egypt key figures

|  |                             |
|--|-----------------------------|
| Population                             | 97.6million                 |
| Youth unemployment<br>(18 to 29 years) | 26.7%                       |
| Industrialisation stage                | Emerging industrial economy |
| GDP                                    | USD\$ 263.7 billion         |
| MVA                                    | USD\$ 41.6 billion          |
| Share of MVA in GDP                    | 16%                         |

Sources:

UNIDO Statistical brief; CAMPAS Census 2017

UNIDO supports the Government of Egypt's vision for sustainable development and its pillars of economic development, knowledge and innovation, environment and social justice, as outlined in its Sustainable Development Strategy: Egypt Vision 2030. UNIDO's efforts are also in line with the Ministry of Trade and Industry's Industry and Trade Development Strategy 2016 - 2020 to support a strengthened national economy through integrating micro, small and medium enterprises (MSMEs) into global supply chains and upgrading their skills and technological capabilities.

From 2013 to 2017, the UN Development Assistance Framework (UNDAF) for cooperation with the Government of Egypt guided the United Nations (UN)

programming in Egypt. UNIDO's focus in respect of the UNDAF has been to work on poverty alleviation through pro-poor growth and reducing disparities to promote food security and nutrition, and to support a sound environment and natural resource management. For the period from 2018 to 2022, and following intensive national consultations, a new UN Partnership Development Framework (UNPDF) was developed and signed with the Government of Egypt in March 2018. To contribute to the implementation of the UNPDF, UNIDO maintains a strong engagement in the areas of its competence, providing technical cooperation and capacity building measures to drive youth and women participation in productive activities, economic growth including in Egypt's rural areas, climate change adaptation and mitigation, and energy diversification.

While supporting the Egyptian private sector to reinforce its competitive position and open new market avenues, UNIDO also assists in identifying job opportunities for youth, promotes options and gains offered by models of circular economy and green technologies, and consistently focuses on extending the gains to lagging behind regions such as those in Upper Egypt. UNIDO's current portfolio in Egypt includes:

- A strong emphasis on **agro-industries**. This comes from the recognition of the great competitive advantage of Egypt in this field, coupled with the many development gains this sector can deliver. UNIDO focuses on adding value to agricultural production by strengthening linkages between agriculture, industry and markets; upgrading food processing technology and related skills; promoting food safety (at national and regional levels); and encouraging practices to reduce post-harvest losses and increase food security.
- The promotion of a **value chain approach in strategic sectors** such as cotton. The value chain approach championed by UNIDO in Egypt unleashes development opportunities in key sectors in a holistic and strategic manner. The cotton sector is a case in point. UNIDO, together with Government and private sector partners, is promoting a comprehensive support program



to improve both the agricultural and the manufacturing segments of the cotton value chain. Value chain work facilitates industry's access to domestic and international markets and better positions it to benefit from the opportunities offered by global trade, thereby promoting jobs, exports, capital, technology, and foreign direct investment.

- The development of **Micro, Small and Medium Enterprises (MSMEs) and clusters**. The focus here is on creative industries, such as leather and furniture, and the green economy, including in rural areas. UNIDO's efforts focus on supporting MSMEs to leverage untapped local resources and adopt innovative processes (for example, those engaged in turning waste into productive uses), while connecting MSMEs with suppliers, buyers, financiers, and supporting institutions. UNIDO also encourages women's participation in entrepreneurial activities to ensure equal opportunities for women and men. Activities provide entrepreneurial training to women, and help reduce formal and informal barriers to their business endeavours.
- **A priority on youth employment** as one of the greatest challenges facing Egypt. UNIDO is supporting stakeholders through the introduction of an entrepreneurship curriculum in technical secondary schools and non-formal education alike to foster a more entrepreneurial attitude to job seeking and is helping matching youth's skills with the requests and needs of private sector employers.
- **Local economic development**. Egypt presents a disparity of economic growth and poverty rates, which sees Upper Egypt as a lagging behind region. Conscious of this, but also of the great opportunity that this region presents, UNIDO together with its government partners, has been investing considerable efforts over a number of years in leveraging endogenous growth opportunities by promoting rural cluster development, technological upgrading, youth-led enterprises, agro-value chain approaches and a community-led, participatory approach.
- **The promotion of sustainable investment and eco-industrial parks**. Attracting investment is a priority for Egypt. However, not all investment produces the same developmental effects. UNIDO is partnering with Egyptian institutions to promote sustainable investment that generates revenues and growth, is job rich, produces a positive spill over in the surrounding communities and adopts clean and sustainable production approaches, thereby protecting the environment. Eco Industrial parks provide ample opportunities to implement a sustainable investment approach by localizing environmentally compliant companies, leveraging incentives to direct investment into the circular economy, attracting investors that can also employ local job seekers and establish supply links with local SMEs providing them with enhanced market access opportunities.
- **Energy efficiency and deployment of renewable energy**. This is a fundamental component of UNIDO's activities in Egypt and in general for industrial development in the country. UNIDO is working on both energy efficiency and on the deployment of renewable energy. The goals are to improve industrial energy efficiency by contributing to the creation of a market for energy-efficient products; diffuse energy-efficient industrial technologies through technical, financial and policy advice; and facilitate access to solar power technology to support productive activities and the income and employment opportunities they create. Given the ever-increasing demand for energy and the limited availability of fossil fuels, UNIDO also supports the Government of Egypt in its effort to increase the share of energy produced from renewable sources.

- **Resource efficiency and circular economy.** UNIDO promotes integrated solutions that combine resource efficiency and cleaner production, environmental management systems and environmental management accounting. The goals are to demonstrate and transfer low-carbon technologies; create new green industries and green existing ones; promote best practices and run clean technology programs; and increase the capacity of industry, governments, environmental service providers, and other stakeholders to adopt more resource-efficient and cleaner patterns of production.
- **Compliance with international environmental agreements.** UNIDO supports Egypt in meeting its obligations under multilateral environmental agreements, such as the Montreal Protocol, by focusing on building institutional capacity in government offices and relevant national authorities to plan, develop and implement aspects of the conventions related to industry and industrial development.

# Programmes in Egypt

The UNIDO regional office in Cairo operates within the premises of the Egyptian Ministry of Trade and Industry. In 2017 - 2018 the UNIDO portfolio in Egypt comprised 11 projects with a total budget of over USD \$30 million which are implemented with the generous support of 9 primary donors. In the same period, the UNIDO team comprised of about 60 professionals supporting projects based in Cairo, Alexandria and Egypt's Delta, and in Luxor, Sohag and Minya in Upper Egypt. The following sections present the results from the period 2017 – 2018 and highlights the achievements in UNIDO Egypt's portfolio under the pillars of creating shared prosperity, advancing economic competitiveness and creating shared prosperity.

| UNIDO ISID in Egypt  |   |  |
|--|---|--|
| Creating shared prosperity   | Advancing economic competitiveness  | Safeguarding the environment   |
| <ul style="list-style-type: none"> <li>Inclusive &amp; sustainable LED - Local Economic Development</li> <li>Youth employability &amp; entrepreneurship</li> <li>Promoting women's economic empowerment</li> </ul> | <ul style="list-style-type: none"> <li>Green Trade Initiative</li> <li>Developing Cultural and Creative Industries in the Southern Mediterranean</li> <li>Arab food safety initiative</li> <li>The Egyptian Cotton project</li> </ul> | <ul style="list-style-type: none"> <li>Montreal Protocol projects</li> <li>Industrial energy efficiency</li> <li>Switch Med – transfer of environmentally sound technology in the Southern Mediterranean</li> <li>Solar heating in industrial processes</li> </ul> |



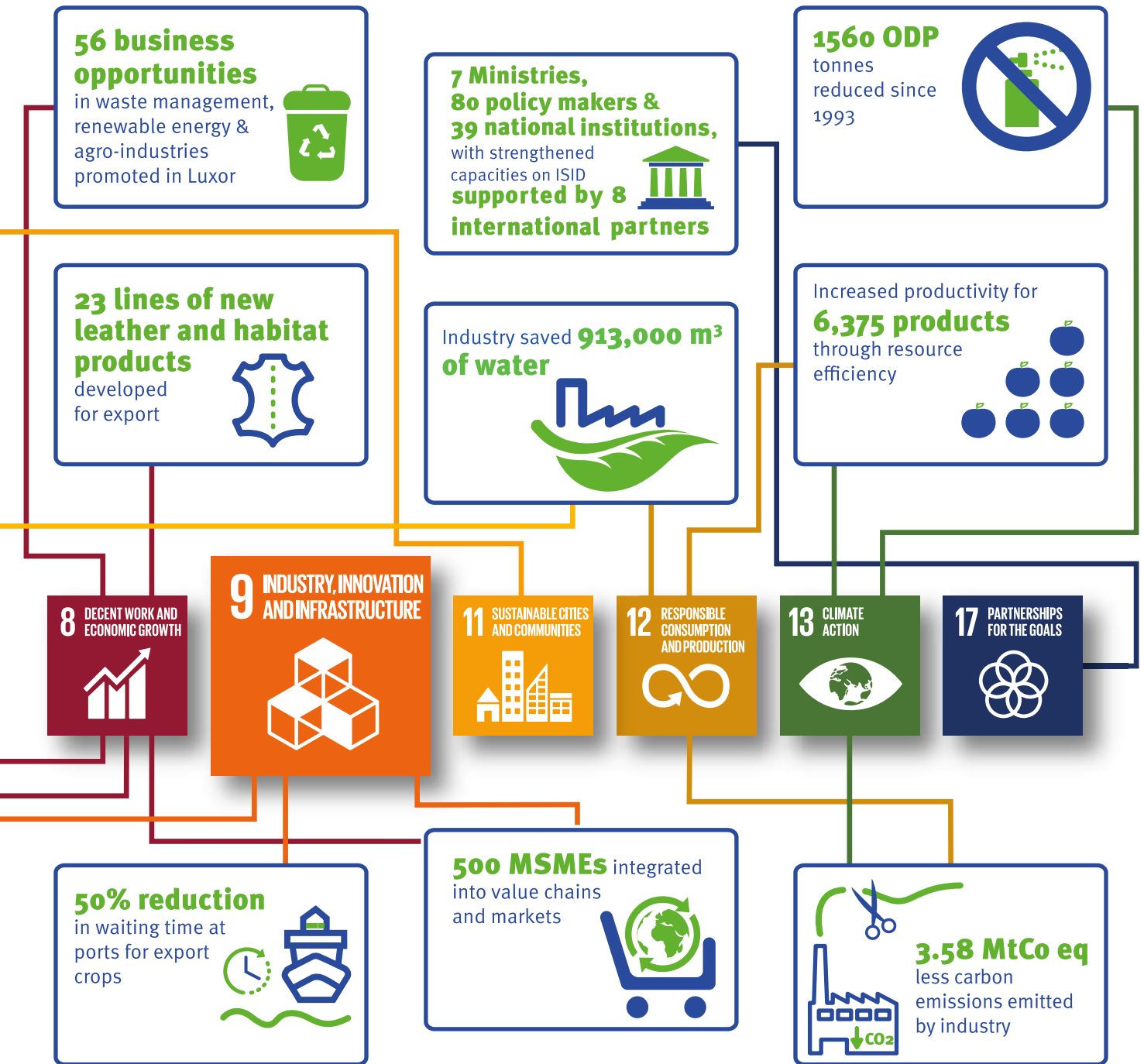
# KEY RESULTS AT A GLANCE

*"The mandate of the United Nations Industrial Development Organization in an essential component"*



# 2017-2018

of Sustainable Development Goal 9 and is instrumental to the achievement of all the other goals”



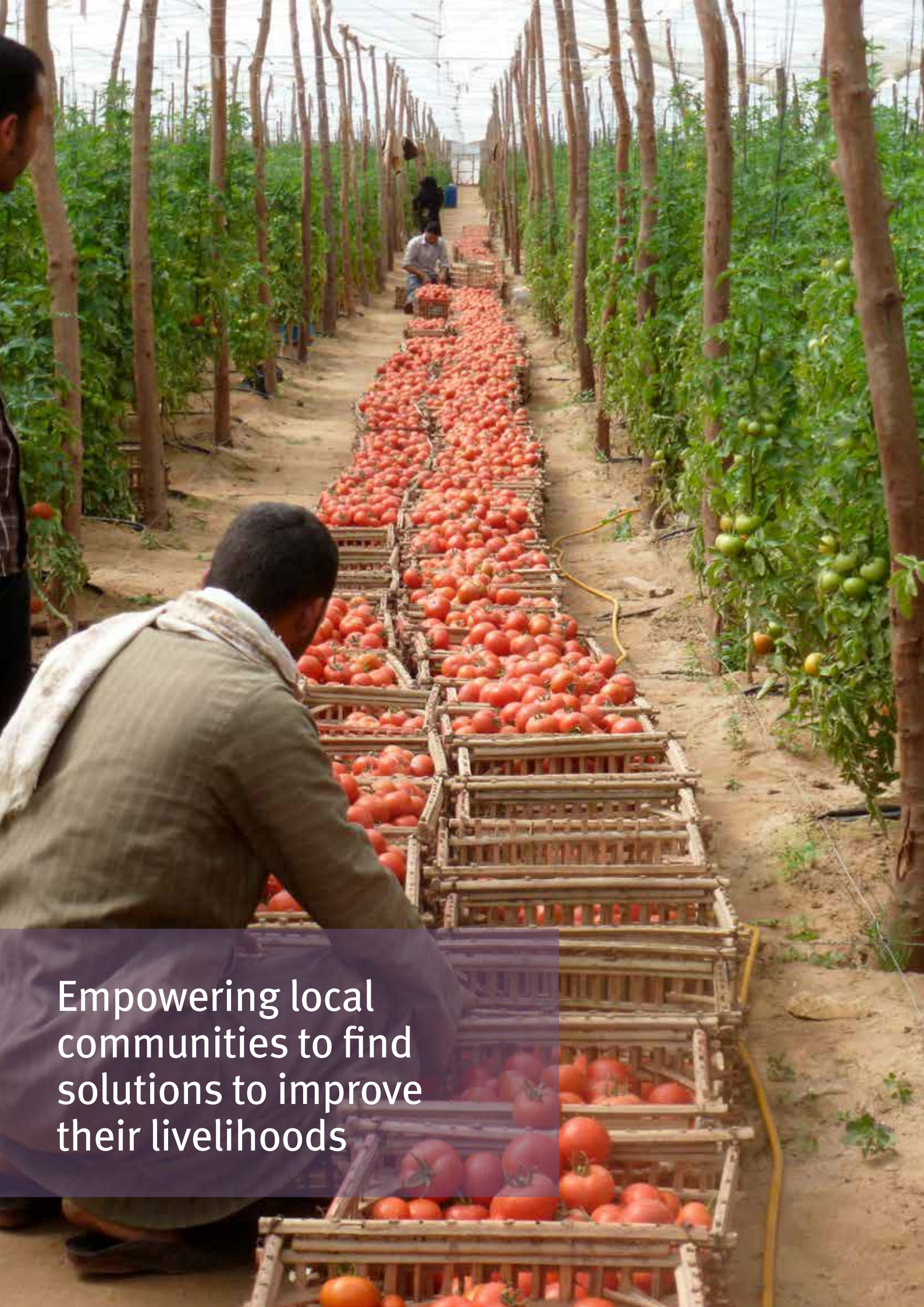
SUSTAINABLE DEVELOPMENT

GOALS



# Creating shared Prosperity

building productive capacities  
in an inclusive way and providing  
more opportunities for women,  
men and youth



Empowering local communities to find solutions to improve their livelihoods



# Inclusive and sustainable local economic development: Hayat

## Counterparters

- ▶ Ministry of Local Development
- ▶ Ministry of Trade and Industry
- ▶ Ministry of Manpower
- ▶ Ministry of Education and Technical Education
- ▶ Governorates of Minya and Sohag.

## Locations

Governorates of Minya and Sohag

## Donors

- ▶ United Nations Trust Fund for Human Security
- ▶ Swiss Agency for Development and Cooperation
- ▶ Government of Japan

## Target Groups

- ▶ Farmers and rural women
- ▶ Children and youth
- ▶ Unemployed / underemployed men and women
- ▶ MSMEs and productive clusters
- ▶ Civil society

## Status

Ongoing

## Project Context

The Upper Egyptian governorates of Minya and Sohag host more than 60% of Egypt's poorest villages. Inhabitants of these villages face multi-dimensional threats such as decreasing household incomes, unemployment, lack of access to sufficient and nutritious food, rudimentary health infrastructure, a high prevalence of non-communicable diseases and environmental degradation. At the same time, these communities possess significant assets such as a young and vibrant population and natural resource endowments that can be harnessed to increase local economic development and improve community resilience.

## Objective

The Hayat programme aims to promote inclusive and sustainable livelihoods and contribute to the reduction of economic, environmental, health, food challenges. A first phase commenced in 2013 in Minya governorate as a collaboration between five UN agencies led by UNIDO and was completed in 2017. A second phase commenced in Sohag governorate in 2017.

## *Greenhouse technology empowers women agri-business pioneers*

Many agricultural holdings in Egypt are only one feddan in size, too small to generate sufficient income to feed a family. Past UNIDO experience has demonstrated that sharing knowhow and using a simple innovation, such as vertical cultivation in greenhouses, can significantly increase productivity and income, and create jobs. Manal, a divorced mother of two in Upper Egypt, returned to live with her father, adding further economic burden on an already struggling household. Her father, a farmer, saw a greenhouse demonstration model that was constructed to share knowhow amongst local farmers by the Hayat programme in collaboration with the Directorate of Agriculture and a local NGO. Manal quickly understood the possibilities and joined the greenhouse promotion programme to learn about their construction and management. She persuaded her father to build their own greenhouse on part of their plot, and joined a village savings and loans association (VSLA) to contribute savings and take out a loan to purchase the needed materials. With UNIDO technical support, Manal tripled the productivity of her land thereby contributing to the family income, securing a job for herself and four local agricultural workers in the process. She was an early pioneer amongst 70 greenhouse owners in Minya governorate.

[Scan the QR code to watch Manal's experience with Greenhouses](#)



## Approach

The Hayat programme uses a **community-led approach to local development**, empowering communities to acquire the means to become self-reliant in addressing vulnerabilities and building their own future.

Hayat supports local **MSEs** to improve efficiency, quality processing and support better access to markets. With support from UNIDO, farmer groups gain significant productive and environmental benefits from applying good agricultural practices through the construction and use of greenhouses to cultivate crops. Farmers in Minya that **switched to vertical cultivation through greenhouses** were able to triple the yield of crops, generate jobs and use 75% less water than cultivation in the open field. Small businesses in the date palm, animal production and furniture sectors in Minya **expanded their businesses and increased revenues**. **Date producers** improved their practices and increased economies of scale through innovative drying practices and better sorting and packing, resulting in a **doubling in the value** of the final date product. Hayat also enhanced the **dairy value chain** in Minya through the provision of technical assistance to farmers to support breed improvement, and promote animal feed production by the use of agricultural residues – which reduced animal feeding costs and boosted milk yield.

| Greenhouses  | Animal production  | Date palm   | Environmental benefits   |
|--|--|---|--|
| 70 self-financed greenhouses constructed in Edwa                       | 5000 farmers trained on good animal husbandry                    | Increased value of dates from 2 to 10 EGP per kg  | 70% less water used to cultivate crops in greenhouses compared to open field agriculture |
| 300% increase in productivity of crops grown inside greenhouses        | Correct feeding and mixed breed cows produce 200% more milk      | 10,000 date palm trees freed of a pest that destroys the fruit                          | 200 farmers producing animal feed by reusing agricultural by-products                    |
| 3 new full time jobs per greenhouse and additional jobs during harvest | Improved poultry bird health and 30% reduction in bird mortality | 2 new date trading companies established, improving access to markets for 200 suppliers | 20 biogas units established  |

Given the high level of youth unemployment in Upper Egypt, and to support youth engagement and inclusion, the ILO established **volunteer groups** to identify opportunities, plan for and realize viable **social enterprises**. As a way of empowering women, increasing personal incomes and generating start-up capital, **community based village savings and loan associations (VSLA)** groups were established together with UN Women. In addition to financial literacy, over 10,000 women had access to finance through community saving schemes. The 2 million EGP saved through these groups improved access to finance and allowed for the start-up of micro businesses.

Hayat also promoted social capital through **community participation in local decision-making**. Led by UN Habitat, the project established community forums comprised of women, men and youth, with the aim of empowering the forums to identify priority needs for community socio-economic development in collaboration with key decision makers. Following capacity building on community-led planning, forums were able to **identify and assess needs and develop solutions to local challenges** such as unemployment, income generation, poor health and a need for infrastructure upgrading. The forums led a consultative process that reached more than 2,000 community members, developed local know how and enabled

<sup>1</sup> The International Labor Organization (ILO), International Organization for Migration (IOM), UN Habitat, UN Women and led by UNIDO

private sector actors to support change. A particular highlight was the solution developed to **access safe drinking water** through the installation of River Bank Filtration Units (RBF), implemented together with UN Habitat and benefitting around 150,000 people.

In recognition of the Government's vision for administrative decentralization, UNIDO and UNDP worked closely with the Ministry of Local Development (MoLD) to facilitate the establishment of a Local Economic Development Unit inside the governorate. The Unit was able to generate a **local economic development strategy** including key sectors for prospective investment in the governorate.

A second phase of the programme commenced in Sohag governorate in 2017. This second phase aims at improving the **livelihood of vulnerable communities in Sohag** by enhancing the institutional capacity of local organizations to support local socio-economic development, **fostering the entrepreneurial attitude** of youth and women and improving the **productivity of local small scale farmers**. Early results include the completion of training for 100 youth as pesticide applicators to support the **safe use of pesticides** in addition to opening new opportunities for local employment. Guided by value chain analyses, local investment plans and working with local farmers and the private sector, training programmes aim to **improve agricultural practices** in the animal production, poultry, onion and luffah value chains. In addition, the project **has enhanced the capacity of 69 teachers from technical secondary schools** on entrepreneurial competences using UNIDO's flagship Entrepreneurship Curriculum Programme (ECP) with 800 high school students having been exposed to lessons integrating entrepreneurial competences.

## Key achievements

**15 million EGP** additional revenues generated in local productive clusters



**37 village** schools renovated benefitting 15,000 students



**10,000 people** (mostly women) access to community loans via VSLA



**40,000 women** and children reached through health awareness and prevention campaigns

**2 million EGP** in collateral collected by savings groups



**150,000 people** gained access to clean potable water



**700 women** started their micro businesses

Farmers created **70 greenhouses** with their own investment



**2500 youth** linked to employment opportunities



**100 SMEs** started their business



**125,000 m<sup>3</sup>** irrigation water saved per year by introducing good agricultural practices – equivalent to 50 Olympic size swimming pools



Turning challenges  
into opportunities  
and nurturing the  
entrepreneurship  
ecosystem

# Youth employability and entrepreneurship in Upper Egypt: Imkan

## Counterparts

- ▶ Ministry of Trade and Industry
- ▶ Ministry of Education and Technical Education
- ▶ Ministry of Environment
- ▶ Ministry of Local Development
- ▶ Governorate of Luxor

## Locations

Governorate of Luxor

## Donor

Government of Japan

## Target Groups

- ▶ New and existing MSEs
- ▶ Unemployed and underemployed men and women
- ▶ Secondary school and university students and recent graduates
- ▶ Public and private business development service providers,
- ▶ Technical and vocational training institutions
- ▶ Civil society, NGOs

## Status

Completed

## Project Context

Luxor's economy has historically been heavily dependent on tourism with around 70% of its inhabitants working in the sector. Following the steep decline in tourism in Egypt since 2011, the governorate suffered a significant economic downturn, which has resulted in increased poverty and deepened exclusion of Luxor's large youth population from productive activities. Urgent action is needed to diversify the governorate's economic potential and offer opportunities to Luxor's youth.

## Objective

The IMKAN project aimed to contribute to the diversification of the local economy and enhance the employability of young women and men in Luxor Governorate.

## *Developing markets for agricultural waste products*

Upper Egypt produces significant amounts of agricultural waste. At least 50% of agricultural waste ends up burned in open fields or dumped into waterways, creating air and water pollution, contributing to poor health and environmental hazards and resulting in significant lost economic opportunities. UNIDO's experience demonstrates that new products can be generated from the reuse and recycle of agriculture waste that have the potential to be absorbed by local and national markets, uplifting rural economies and fostering new green jobs. In Luxor, the IMKAN project recognised the enormous, yet largely untapped, opportunity of converting for instance sugarcane residues into energy, fertilizers, animal feed and inputs for the pharmaceutical and food industries. The IMKAN project harnessed the geographical proximity of firms in the sugarcane cluster to support rapid diffusion of information on market opportunities, and on process and product innovations. As a result, IMKAN turned the abundant sugar cane straw (amounting to more than 500,000 tons per year in Luxor and more than 1,000,000 tons per year in neighbouring Qena) into a tradable and valuable resource demanded by the market – thereby generating income for farmers and businesses for entrepreneurs. Previously, farmers valued sugar cane waste very little. Now, a market for products developed from agricultural waste exists. Farmers sell residues to entrepreneurs who convert it into high protein organic animal feed, which is sold to livestock producers. The waste from the sugarcane mills is used to produce organic fertilizers which is then sold on to farmers. A very good example of circularity.

[Scan the QR code to see how Imkan develops Luxor's Entrepreneurship ecosystem](#)



## Approach

The project comprised three interlinked components to diversify the local economy, promote inclusive and sustainable investment, and enhance the employability of youth:

1. stimulating the **business environment for start-ups and MSEs** ;
2. aligning the **skills of the labour force to the labour market needs**; and
3. promoting a more **attuned to business** education sector.

To stimulate the **business environment for start-ups and MSEs**, business opportunities in the governorate were mapped by analysing primary and secondary data, engaging technical and market experts, value chain actors, local investors, and governmental and non-governmental supporting institutions. A **Business Opportunity Mapping** (BOM) identified 56 potential opportunities, anchored to local supply and demand and with the potential to expand into other markets, in the sectors of **waste management, renewable energy and agroindustry**. Business opportunities were prioritised based on socio-economic and environmental indicators to promote inclusivity and sustainability. Fact sheets and feasibility studies were disseminated to improve market information and community awareness on profitable opportunities.

Building on the identified business opportunities, IMKAN implemented an **enterprise promotion program** targeting start-ups, MSEs and business development service providers (BDS). 22 start-ups and MSEs were supported through market-driven mechanisms: sector-specific training and consultations on technical, marketing, financial and legal aspects, linkages to suppliers and buyers, connection with diverse sources of finance and supporting institutions. At the end of the 8-month program, two thirds of the start-ups were in operation, and those enterprises that were already operational are implementing growth strategies. To foster the generation of new business ideas in the renewable energy sector, an ideation programme was also organized in cooperation with GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) targeting 10 idea-stage entrepreneurs.

Medium and large-scale investment opportunities (in the range of 20 to 90 Million EGP) were also promoted in waste management, renewable energy and agroindustry to support the growth of larger firms that may further develop the local economy and establish linkages with the smaller enterprises. To this end, UNIDO supported Luxor Governorate in developing its **investment website** and **facilitated a public-private dialogue** to promptly identify action points arising from barriers to investment and business operations such as land allocation and licensing. As a result, 67 million EGP was earmarked by the Industrial Development Authority to develop the infrastructure of Boghdadi industrial zone in Luxor.

IMKAN's intervention extended to supporting entities, notably banks (Central Bank of Egypt; National Bank of Egypt) and entities providing BDS such as the NGO Dandara Cultural Center, and capacitated them to improve their offer of financial and non-financial services to start-ups and MSEs.

In addition, the IMKAN project worked to revive Luxor **alabaster cluster**, identified as one of Egypt's organic clusters. The decline in tourism inflows and associated revenues threatened the cluster given the challenge in reorienting the decorative objects and tourist souvenirs to other markets. To rapidly address this situation, IMKAN focused on product design and development and identification of new markets and products that are not dependent on tourism. In addition to fostering linkages among designers, artisans and traders, the project supported the branding of alabaster craftsmanship and products. The brand and its products received very positive feedback in national and international exhibitions and private investment has been leveraged to help the alabaster workshops in Luxor satisfy the orders placed.

To **align the skills of the local labour force to the market needs**, IMKAN provided youth with an array of relevant soft and hard skills in order to allow them to better access available employment and sought to improve the offering and quality of job intermediation services in Luxor governorate. In cooperation with the private sector, IMKAN offered demand-driven skills development and work-based learning opportunities in agribusiness to youth. On the supply side, the capacities of local job intermediation services and career development centres (Career Development Centre of South Valley University; Dandara Cultural Centre) were developed through career guidance sessions, job scouting and matchmaking events to link appropriately qualified youth with available employment.

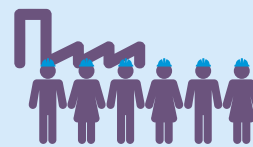
To address the pressing need for structural reform of the education sector to make it more responsive to labour market requirements and enhance the possibilities of youth employment and self-employment, IMKAN assisted the Ministry of Education and Technical Education (MoETE) **to introduce entrepreneurial education into technical secondary schools and non-formal schools** in Luxor governorate. Using UNIDO's flagship Entrepreneurship Curriculum Programme (ECP), 168 teachers (94 teachers from 21 technical secondary schools and 74 teachers from non-formal schools connected to Dandara Cultural Centre), school leaders as well as national and governorate level staff from the MoETE were exposed to entrepreneurial education. Fourteen teachers were accredited as master trainers by the Egyptian Professional Academy for Teachers (PAT), thereby creating a pool of trainers who are able to share their learning on entrepreneurial competences and teaching with others. The success of implementing the ECP in Luxor has led to UNIDO's contribution to the development, together with other partners active in entrepreneurial education, of **a unified entrepreneurship curriculum, which is intended for national roll-out under the guidance of the MoETE.**

## Key achievements

**4 Sectors** promoted for inclusive and sustainable investment (waste management, renewable energy, agroindustry, alabaster)



**279 youth** matched with job offers



**57 business** opportunities in waste management, renewable energy, agroindustry, alabaster promoted



**1778** Luxor technical secondary schools students trained on entrepreneurship

**22 enterprises** kick-started and grew their businesses in waste management, renewable energy, agroindustry



**96 Luxor TSS teachers** improved pedagogical and entrepreneurial skills

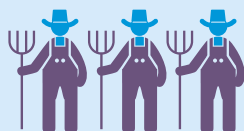


**1 Local incubator** established in an existing NGO



**60 Institutions** actively supporting diversification of the local economy, skills upgrading and education sector reform

**316 youth** with upgraded skills and career prospects in agriculture



Scan the QR code to see how Imkan develops Luxor's Entrepreneurship ecosystem





Harnessing the potential of women entrepreneurs to contribute to economic growth in the MENA Region



# Promoting women's empowerment for inclusive and sustainable development

## Counterparts

- ▶ Ministry of Industry in Egypt, Jordan, Lebanon, Morocco, Palestine and Tunisia
- ▶ Centre of Arab Women for Training and Research
- ▶ PROMOS the Italian Chamber of Commerce
- ▶ No Peace without Justice
- ▶ Fondazione Giacomo Brodolini
- ▶ Union for the Mediterranean

## Donors

Italian Agency for Development Cooperation

## Locations

Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, Tunisia

## Target Groups

- ▶ National Women's business associations in the target countries
- ▶ New and existing MSEs
- ▶ Women entrepreneurs in the target countries

## Status

Ongoing

## Project Context

The MENA region has the world's highest unemployment rate, with 25% of youth unemployed and 40% of women without jobs. Despite offering a route out of unemployment, the number of women entrepreneurs in the region is also very low. In Egypt, only 16% of SMEs are part-owned by women. Most of these businesses are in the trade, service and craft sectors, rather than in industrial and high value-added services sectors. Low levels of entrepreneurship is attributed to challenges in accessing business support services and networks, limited access to finance for new businesses and a lack of education and training opportunities. Gender-related constraints lying in the business regulatory and legal frameworks are also a contributing factor. Yet women's

entrepreneurship represents untapped potential for growth. Increasing women's economic participation to the same levels as males could increase GDP by 34% and productivity by 25%.

## Objective

The regional project aims to support women's contribution, as entrepreneurs, to inclusive and sustainable growth in the MENA region through technical assistance to national business women's associations in Algeria, Egypt, Jordan, Lebanon, Morocco, and Tunisia.

## Approach

The project takes a holistic approach to the challenges facing women entrepreneurs in the region and comprises three components:

1. dialogue to **promote policies that enable women's entrepreneurship**;
2. **strengthening the offer of business development services** to women entrepreneurs;
3. direct promotion of **promising women-led investments** through trainings, facilitation of business partnerships and access to finance.

The project facilitated policy dialogue through **regional conferences with key stakeholders** (including the Union for the Mediterranean (UfM)) and the production and dissemination of a detailed **technical report** on Women Entrepreneurship in the MENA region which analysed data from 1,210 women entrepreneurs. Women entrepreneurs identified access to finance, lack of experience and lack of networks as major obstacles to starting a business. The top challenges to business growth were a lack of access to capital, difficulties in finding good workers and a lack of access to new markets. The report contributes to the

body of evidence in respect of women's entrepreneurship in the region and **provides tangible policy recommendations** to stimulate women's entrepreneurship in MENA countries including:

- Establishing a dynamic assessment tool modelled after the Global Entrepreneurship Monitor for collecting regular **information systems on women's entrepreneurship** in MENA countries.
- Promoting policy initiatives that can offer a more **attractive and conducive institutional framework** for women such as positive media campaigns, increasing access to financial products and markets and recruitment facilitation.
- Developing **teaching and training programmes** that specifically target young women to nourish entrepreneurial aspiration and develop entrepreneurial skills.
- Developing **universities as seedbeds of entrepreneurial** activities for women, including guiding women toward opting to establish enterprises in the industrial sector.
- Providing support for women entrepreneurs through **seed funding**, and support to **company clusters, incubators and entrepreneurship centres**.

To **address the challenges in accessing finance for women entrepreneurs** and drawing on global UNIDO tools and methodologies, training on financial literacy and UNIDO's investment promotion methodology was delivered to National Business Associations. A total of **177 participants (121 women)** were trained on UNIDO's specialized software (COMFAR) which provides appraisal and feasibility analysis of investment projects and produces bankable proposals that are ready for financing. To support sustainability, the project invested in training of trainers for COMFAR software with 11 trainers now certified across the region (9 of whom are women). In addition, the capacity of counterparts in the Ministry of Trade and Industry in Egypt was built through the training of 51 public servants.

Following training on strategic planning for business associations, steps have been taken to establish a **regional platform for knowledge sharing, reflection and mentoring** with the project providing interested National Women's Business Associations with legal advice to support the establishment of a regional consortium. The activities above have contributed to a 30% increase in the membership of regional businesswomen's associations.

In November 2017 a Women Entrepreneurship and Investment Programme was held in Spain in collaboration with the UfM and ASCAME (The Association of Mediterranean Chambers of Commerce and Industry) involving 60 women entrepreneurs from the 7 countries. The forum comprised business-to-business meetings and technical tours for the agro-food, garment and ICT sectors and resulted in the conclusion of 6 new business partnerships and the instigation of 25 new business negotiations.

The project provided direct support to 276 women entrepreneurs to formulate business proposals while UNIDO's investment and technology promotion office (ITPO, based in Italy) promoted 176 of these through access to external markets. Additionally, **118** women were coached through the process from business creation, formulation to presentation of a bankable business plan, which resulted in 63 business plans being finalized.

## Key achievements



**276 women** entrepreneurs assisted in the formulation of their business proposals



**550 B2B** meetings held

**170 projects** promoted in Europe



**100 women** entrepreneurs involved in Study Tours in Europe (Agro-food, textile, ICT and Jewelry sectors)



**118 women entrepreneurs** coached throughout the formulation of a business plan

Scan the QR code learn more about UNIDO's COMFAR software for project analysis and appraisal



# Women Empowerment for Inclusive and Sustainable Industrial Development in the MENA Region

Venue: Hotel Le Meridien, Amman

Date: 20th July 2016

Time: 09:00 am





# Advancing economic competitiveness

supporting rapid growth,  
building trade capacities and  
developing the private sector's  
potential to generate income  
and sustainable growth



Nurturing Egypt's  
competitive advantage  
in agro-industries to  
increase exports to  
European markets

# Green Trade Initiative

## Counterparts

- ▶ Ministry of Trade and Industry
- ▶ Ministry of Agriculture and Land reclamation
- ▶ Ministry of Transport
- ▶ Ministry of International Cooperation

## Donors

Italian-Egyptian Debt for Development Swap Programme

## Locations

Nationwide

## Target Groups

- ▶ Egyptian horticultural producers, agricultural cooperatives and associations
- ▶ Egyptian small and medium exporters
- ▶ Egyptian institutions supporting agribusiness and trade
- ▶ European and Egyptian consumers

## Status

Completed

## Project Context

Despite being one of the world's leading producers of fruit and vegetables and the world's largest exporter of fresh citrus, Egypt is not on the list of top food processors for any fruits or vegetables. The global average for producing nations is to process 25% to 35% of their fresh crops, however Egypt processes less than 10%, and for some crops the amount is less than 5%. Over the last decade, UNIDO has supported several initiatives to develop Egyptian agribusiness to address challenges, bottlenecks, and hidden or unrealized opportunities. The latest project in UNIDO's programme to enhance Egyptian competitiveness through agribusiness is the Green Trade Initiative (GTI).

## Objective

**G**TI aims to enhance the competitiveness and performance of export-oriented horticultural value chains towards Europe with focus on inclusiveness and sustainability.

### *Value addition supports prosperous agribusiness*

Fluctuations in market prices, the increasing effects of climate change on horticultural production, together with high quality and safety requirements of export markets have all negatively affected the ability of Egyptian farmers to generate income. Retaining value at field level presents much needed opportunities for farmers to increase profit and generate local employment. UNIDO's Green Trade Initiative (GTI) promoted value addition to increase export opportunities in Bangar el Sokkar in Egypt's Delta. The area is renowned for artichoke production but had been suffering from a decrease in quality. Working with two local agricultural cooperatives, GTI helped producers to improve productivity and quality through better agricultural practices and the use of natural hormones (gibberilic acid) rather than expensive chemical fertilizers. The project also supported value addition by facilitating the conversion of a common space into artichoke preparation units for processing, thereby creating new jobs for local communities (80% of which employing women). These improvements caught the attention of two local exporters who engaged for the first time directly with farmers' cooperatives in contract farming for fresh and semi-processed artichokes without the involvement of intermediaries, meaning more profits are retained by the farmers.

Scan the QR code to find manuals and guidelines produced by GTI



## Approach

**W**ith a focus on **quality, logistics, finance and market access**, and guided by scientific research, innovation and an integrated value chain approach, GTI provided **technical assistance to small and medium producers, exporters and institutions at every step of the value chain.**

Eight horticultural products were targeted: tomato, artichoke, grape, lettuce, pepper, strawberry, green bean and pomegranate.

To support **quality and safety controls**, GTI worked with institutions and government counterparts to define and adopt national standards that are in line with the European regulations. These included an assessment and validation of the National Quality Infrastructure for horticultural crops and the development of guidelines for fresh produce, including the management of traceability, pesticide use and produce quality. **The guidelines were officially adopted by the Egyptian Organization of Standardization and Quality Control while a national monitoring system for pesticides was developed and endorsed by the Ministry of Agriculture and Land Reclamation (MALR).** In addition, guidelines for sampling pesticides residue have been finalized and related training was provided to public authorities and exporters. **Technical production manuals for GTI's eight crops** were validated and published together with the Horticulture Research Institute.

To increase the **adoption of good agricultural practices, promote alignment with the developed standards** and thereby **increase access to markets**, more than 4,200 farmers were trained on best production practices that are compliant with EU standards including food safety, control and processing techniques. Working through 25 farmers associations, the GTI project reached over 20,000 producers providing technical assistance on good agricultural practices, integrated pest management, food safety, value addition and contract farming. In Upper Egypt, GTI implemented a tailored programme for nursery management and grafting production to support the local production of seedlings, rather than purchasing from Cairo and the Delta, thus contributing to a reduction in farmers' input costs. In collaboration with the National Agricultural Pesticides Committee, a **nation-wide pesticides applicators program** has been adopted and launched by MALR: the first 650 pesticide applicators have been certified, and 50 Master Trainers located in governorate level departments of Agriculture have been qualified. Sustainability of the pest management program has been facilitated through the realization of a business model for pesticide applicators who provide safe pesticide application services in return for a fee.

**Value addition promotion** activities have taken place for artichoke, pomegranate and tomato crops involving 8,300 producers, resulting in the establishment of 11 small sun-drying tomatoes units and 3 value addition units for artichokes and pomegranates. These activities are a **source of employment for around 260 workers.** In addition, 6 new varieties of tomatoes that are suitable for fresh export and are appropriate for value added activities (through drying) have been introduced in Egypt.

To improve **logistics and optimize the transport of perishable goods to external markets**, GTI created a logistics roundtable to engage key private and public sector representatives from the Port of Alexandria, the Port of Damietta and Port Said (North, East and West). The roundtable offered a platform to raise awareness amongst logistics operators on export considerations for perishable goods; **enhance logistics operations from pack-house to port and propose best sea transport solutions** between Egypt and the EU for perishable products. The roundtable has been institutionalized through the creation of the Logistics Council, under the supervision of the Export Development Agency (established by the Ministry of Trade and Industry to supervise all export councils).

Through the roundtable, GTI achieved improvements in logistics for export by allowing portable generators on haulage into ports and the activation of a fast lane for perishable cargo in the Ports of Alexandria



and the Port of Dekhelia. These initiatives allowed 2 million tons of fresh products (accounting for 50% of Egyptian fresh export produce) to be given priority in port entry, and reduced waiting time by 50%. In addition, at the level of producer, awareness raising workshops on the benefits and practicalities of logistics have taken place in Luxor, Noubariya, Giza and Minya for 1000 participants. Technical support and training for the logistics component of the project is underpinned by the development of a **handbook** on efficient logistical practices for export and a **handbook on logistics handling for perishable horticultural products**.

To increase financial investment in agribusiness, two techno-economic studies were prepared – one outlining a master plan for an agro-industrial park in Qalioubeya, and the other focused on tomato mechanization. The Qalioubeya agro-industrial park model has been both endorsed by the Federation of Egyptian industries and submitted to the Ministry of Investment for implementation.

To increase access to markets, GTI has worked to reduce information gaps among producers and exporters and support participation in specialized fairs in Egypt and internationally. A total of 390 producers were trained on contract farming, with two associations renewing their contracts with local processing industries for the next season of artichoke production directly with exporters rather than through middle men, thereby keeping profits with the producers. Through GTI-facilitated exchanges, 402 small and medium producers were linked to buyers. A tailored export-coaching program for small and medium exporters has been delivered to 42 companies, while about 400 business to business meetings were facilitated, generating an **expected EURO 28million in exports towards EU countries**. It is worth mentioning that the GTI-led logistics and export-coaching training has been embraced and is now offered by the Export Development Agency, through the Foreign Trade Training Center and has been adopted by GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit).

## Key achievements

**4,200 farmers** trained in best practice through **25 associations** outreaching a further **20,000 farmers**



**6 new varieties** of tomato introduced for export



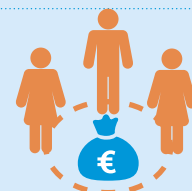
**22 public institutions** reached in **17 governorates**

**42 small & medium exporters** trained



**650 pesticide applicators** trained and qualification of **50 Master Trainers**

**Euro 28 million** generated from **400 B2B** meetings



Value addition and export promotion activities with **8,300 farmers**



**50% reduction** in waiting time at port for perishable goods



Harnessing local skills  
and Egyptian cultural  
heritage to generate  
income and jobs

# Developing cultural and creative industries in the Southern Mediterranean

## Counterparts

- ▶ Union for the Mediterranean
- ▶ Ministry of Trade and Industry
- ▶ Chamber of Handicrafts
- ▶ Export Council for Handicrafts

## Donors

- ▶ European Union
- ▶ Italian Agency for Development Cooperation

## Locations

Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine and Tunisia

## Target Groups

- ▶ Micro and small enterprises
- ▶ Craftsmen and designers in the leather and habitat sectors
- ▶ Private sector associations, universities, financial institutions, NGOs

## Status

Ongoing

## Project Context

Cultural and Creative Industries (CCI) are important because their products represent the identity of their countries and their people; they also contribute to countries' prosperity through generating income and jobs. CCIs are dominated by small enterprises and have significant (largely untapped) potential for growth as well as opportunities for skilled and less qualified workers, for youth and for women. Like other countries in the Southern Mediterranean, Egypt's vast and diversified cultural traditions provide a distinctive competitive advantage. Unleashing this advantage requires increased cooperation among entrepreneurs, product improvement to attract the interest of national and international buyers, increased access to local and international markets, and mutually beneficial cross-border partnerships.

## Objective

The regional Creative Mediterranean Project fosters entrepreneurial cooperation in CCI in the Southern Mediterranean. It also aims to demonstrate the potential for national and regional development of CCIs to promote new employment opportunities and inclusive growth in the region.

### *Egyptian cultural products reach export markets*

Esraa, a manager in a fashion export company and talented embroiderer wanted to change direction and start a business in which her handcrafted textile and home decoration items could become a viable enterprise. With few others able to replicate her style, which depicts Arabic and Islamic motifs, she stood a good chance of taking her unique products to a wider market. Despite her passion and skill, she faced two problems common to entrepreneurs wanting to grow a business: marketing nous and a lack of skilled workers. As part of UNIDO's Creative Mediterranean project, Esraa was able to source and train embroiderers through a collaboration with a local NGO. Ambitious to develop her enterprise further, Esraa joined Egypt's first Creative Cluster hub – a physical space that facilitates cooperation and innovation by bringing designers together and linking the creative and productive processes. Through these interactions, Esraa learned how to tailor her products to meet international trends, enabling her – along with other designers – to showcase her uniquely Egyptian products and textiles in an international exhibition and increase business networks in the process. With support from the Creative Mediterranean project, Esraa's business has expanded tangibly: the workforce has grown from 3 workers to 45 skilled embroiders and now creates 600 handmade home decoration and textile pieces per month that are exported on demand to Arab and European markets.

## Approach

To nurture creativity, foster innovation and create jobs, the Creative Mediterranean project works to strengthen cultural and creative clusters in Egypt through:

1. Capacity-building for MSEs' **new product or service development**;
2. Strengthening support institutions, cluster-to-cluster partnerships and private-public partnerships, **creating linkages** among local companies as well as with international buyers, local suppliers, financial institutions and other development partners; and
3. Devising **plans for national governments** to facilitate the replication of the project's activities.

To identify existing and potential clusters, a mapping was carried out which identified 144 cultural and creative clusters and their economic realities across the 7 countries. 136 clusters responded to a call for proposals to receive technical assistance, from which 14 design-based clusters were selected. Clusters received technical assistance using **UNIDO's cluster methodology** and UNIDO's strategy for cultural and creative industries.

In Egypt, the **habitat cluster** and the **leather cluster** were selected and a detailed diagnostic study took place to identify the cluster challenges and inform the development of an action plan. The diagnostic informed the project focus as product design and development; increasing market access and supporting marketing and branding, networking and international collaboration. Specific activities in Egypt targeted designers and workshops as follows:

### *Habitat cluster*

Support to habitat designers in Cairo and manufacturers across Egypt focused on **preserving and reviving Egyptian heritage through the promotion and adoption of local designs and crafts to match market trends**. Training to improve entrepreneurial capacity and business skills, help designers price and market their products at the most appropriate trade fair was provided to 139 designers. Technical support was delivered to 70 designers on product development, resulting in new prototypes being produced and displayed at international fairs including at *Maison et Objet* (Paris) and FURNEX 2017 (Cairo). In collaboration with the Industrial Modernization Center (IMC), a **Creative Design Hub** was inaugurated in November 2017. The Creative Hub provides business development services, networking, co-working spaces, technical support and incubation for designers and entrepreneurs working in the habitat sector.

### *Leather cluster*

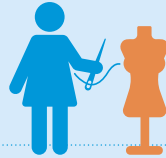
The project supported **manufacturers and designers of leather goods and footwear** including through improving the capability of 49 MSEs in new product development and design, strategies to access new markets, project management and supply chain techniques. Business development trainings included branding and pricing techniques to control costs and achieve maximum returns, while enterprising leather producers and designers received support to develop a business plan and were linked to financial advisory services to support greater chances of accessing finance. To support sustainability, in collaboration with the **Ministry of Trade and Industry** the project supported the leather technology centre to provide **cluster support services**. Access to external markets has opened up through collections of high-end leather footwear and fashion products that were showcased in European Fairs and Exhibitions in Milan, Paris and Barcelona in 2017.

To foster linkages, top-notch young Egyptian entrepreneurs and designers in the selected clusters were encouraged to showcase their businesses and their success stories through different networking events, exhibitions, and storytelling platforms (i.e. ASPIRE). Through these occasions, more than

20 designers have exhibited their new leather products, home accessories, pottery, home fabrics, and jewellery collections.

## Key achievements

**286 jobs** created



Cluster common brand developed:  
"Cairo Leather Cluster"



**4 new collections**  
developed and branded



**17 new product lines**  
developed and branded

**1 new design HUB**  
established



Partnership with leather  
technology center established



Participation in  
**international trade  
fairs**



**€ 36,525** increase in sales

**560 people** trained on business  
entrepreneurship and clustering





Collaborating with stakeholders to enhance food safety in the MENA region

# Arab food safety initiative for trade facilitation: SAFE Project

## Counterparts

- ▶ League of Arab States
- ▶ Arab Industrial Development and Mining Organisation
- ▶ Arab Organisation for Agricultural Development
- ▶ National standards bodies
- ▶ National food control authorities and relevant ministries
- ▶ National institutions involved in food standards and food safety e.g. the National Food Safety Authority of Egypt

## Donors

Swedish International Development Agency

## Locations

17 countries in the League of Arab States

## Target Groups

- ▶ Public sector food safety institutions
- ▶ Food business operators
- ▶ Private sector food organizations at national and regional level
- ▶ National and regional consumer protection organizations
- ▶ Food science community and academia in Arab countries

## Status

Ongoing

## Project Context

Differences in food standards and food regulations impede increases in the trade flow of food and agricultural commodities across the Arab region. Removing these obstacles to trade would potentially increase total regional trade by 10% and create at least 2 million jobs. Although forward steps have been taken to upgrade food safety systems in some countries, systemic enhancement is still needed to ensure confidence that regional food and agricultural products meet international standards.

## Objective

The SAFE project is the latest of UNIDO's initiatives that since 2010 **promote coordination amongst Arab countries** and strengthen their **technical and regional coordination capacities** toward the planning, implementation and management of a synchronized food safety system.

## Approach

The project seeks to activate existing regional agreements (in particular the Pan Arab Free Trade Agreement- PAFTA), by finalizing the **development of standards for Arab food commodities**. The key mechanism for developing a favourable institutional framework is **an Arab Taskforce on Food Safety**.

In a significant step forward, the Arab Task Force on Food Safety has been established with the support of SAFE project and comprises of 30 senior representatives of food safety from the competent authorities in 17 Arab countries. The Taskforce is a high-level steering group that is responsible for providing advice and guidance to the League of Arab States and its specialized organizations to enhance trade of food and agri-food products. The Taskforce aims to:

1. Enhance **cooperation and transparency** within and across national government departments, and between the relevant committees and bodies;
2. Endorse **science-based international standards** as the basis for regional measures and minimize national provisions;
3. Enhance **technical expertise and infrastructure to support conformity assessment**, as based on regional best practices and in cooperation with public and private sector bodies;

4. Generate **high level political commitment** toward regulatory reform and harmonization;
5. Recognize and embrace **the role of the private sector** in achieving regulatory convergence; and
6. Enhance **consumer protection** by empowering the national and regional institutional capacities.

With the establishment of the Taskforce, project activities have focused on accelerating the work of Expert Working Groups (EWGs) that provide advice to the Taskforce to bring regional food harmonization to fruition. Working on five priority areas, specific achievements include:

### *Rapid Alert Systems for food and feed*

Thirty experts from Arab Food Safety Authorities, regional and international partners and international organizations gained knowledge of **practices and regional and international rapid alert systems** (including the European Rapid Alert System for Food and Feed Safety Alerts and the global International Food Safety Authorities Network).

### *Food Safety Risk Assessment*

To support the creation of a network of risk assessors with enhanced competencies, regular interface between risk assessment managers from National Food Regulatory Bodies and experts from the Arab league of States, the EU and international entities has taken place. A **peer-to-peer network** of delegates from European Food Safety Authorities was established and a position paper has been developed to **support the systematic application of risk assessment in regulatory decisions** related to food safety. Pilot studies on risk assessment are planned and a lexicon of risk assessment terminology in the Arabic language is under development.

### *Food Import / Export Certification Systems*

**Arab food export / import** certificates have been proposed to the Arab Taskforce or approval in 2018. The proposed certification system has been guided by the Gulf Cooperation Council experiences particularly from the Kingdom of Saudi Arabia, Jordan and Morocco.

### *Codex<sup>2</sup> coordination*

**Practical solutions for fostering effective Arab participation** in Codex work on developing international food standards were promoted through the participation of Arab focal points in the regional Codex forum (CCNEA: the Coordinating Committee for the Near East). A position paper regarding food standards and control to support products that are traded intra-regionally was discussed at the Codex Alimentarius Commission. Guidelines for effective Arab participation in Codex are close to finalisation and will be followed by national and regional training workshops, in collaboration with the Food and Agriculture Organisation (FAO). Tools to support food safety standardisation have been developed in Arabic and 22 regional experts have been trained. In collaboration with the national governments and the FAO pilot assessments in Sudan and Tunisia commenced in August 2018.

<sup>2</sup> Internationally recognized standards, codes of practice, guidelines, and other recommendations relating to foods, food production, and food safety. The name is derived from the Codex Alimentarius Austriacus.

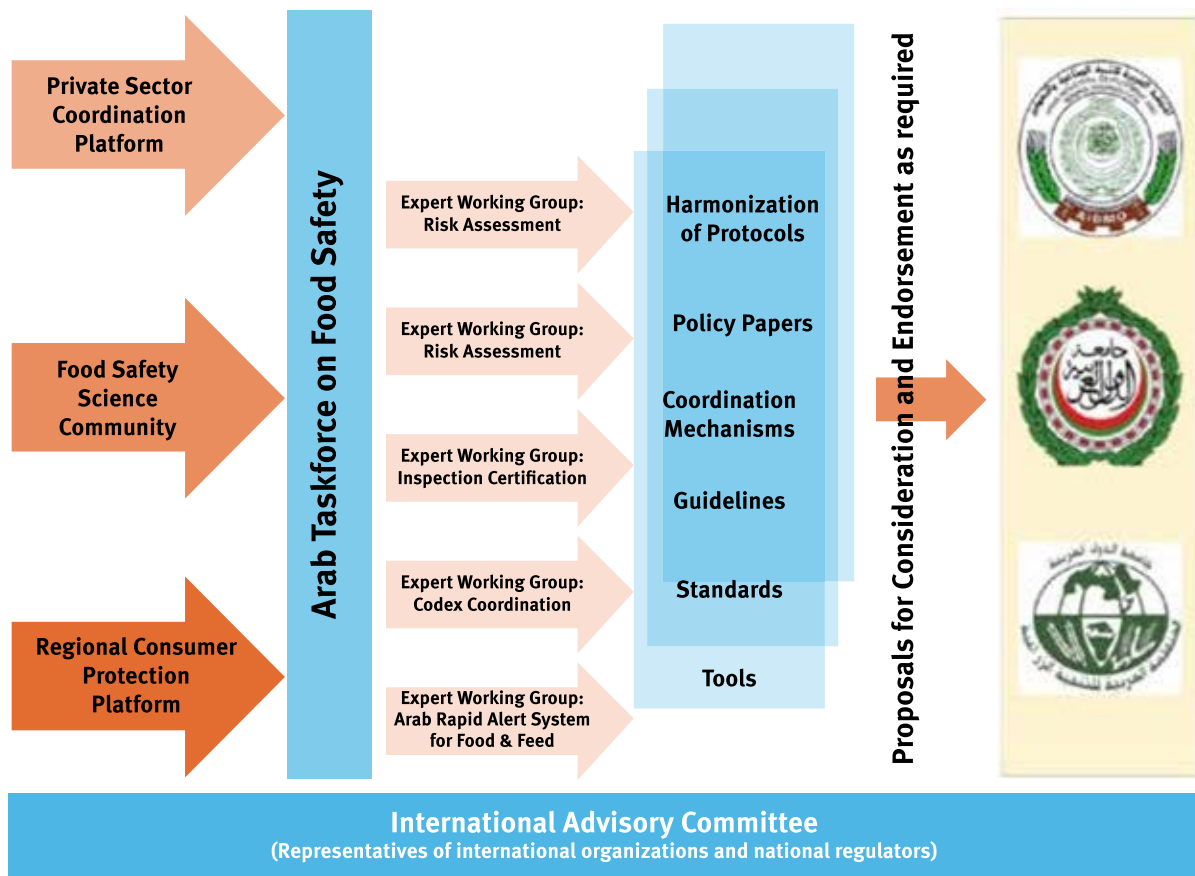


## Pan Arab Free Trade Agreement

An action plan to adopt relevant legal provisions on **sanitary** and **phytosanitary measures and technical barriers to trade** in the Pan Arab Free Trade Agreement (PAFTA) has been developed in collaboration with the League of Arab states. Designed to foster the institutional capacity of Arab countries to elaborate non-tariff measures in regional trade agreements, the plan includes national and regional trainings and workshop with PAFTA focal points.

In addition, the project is actively supporting counterparts to mainstream gender, through institutional assessments, training and awareness raising sessions. 12 experts from counterpart organizations participated in a workshop on gender sensitization and its relevance for food safety and regional trade in 2017.

### Steering Food Safety Coordination and Harmonization the SAFE Project Approach





Supporting sustainable  
cotton cultivation  
and industrial  
transformation

19

# The Egyptian Cotton project

## Counterparts

- ▶ Ministry of Trade and Industry
- ▶ Ministry of Agriculture and Land Reclamation
- ▶ Ministry of Education and Technical Education
- ▶ National Council for Women

## Donors

Italian Agency for Development Cooperation

## Locations

Governorates of Damietta, Kafr el Sheikh and Alexandria

## Target Groups

- ▶ Cotton growing farmers
- ▶ New and existing SMEs processing long staple and extra-long staple cotton
- ▶ Unemployed and underemployed men and women
- ▶ Secondary school students and recent graduates
- ▶ Public and private business development service providers
- ▶ Technical and vocational training institutions,
- ▶ Civil society, NGOs

## Status

Ongoing

## Project Context

**E**gyptian cotton is one of the highest quality fibers, known worldwide as Egypt's 'white gold.' Worth \$2.6 billion, the textile industry employs one third of Egypt's industrial workforce and represents 3% of GDP. Despite textile being a major industrial sector for Egypt, cotton production in the country has fallen significantly in recent years and the Egyptian textile sector currently plays a marginal role in the global textile value chain. Challenges include fragmentation, increasing input prices, absence of innovation, limited skilled workforce and unsustainable agronomic practices. To meet international market needs and support the Government of Egypt's aim in its *Vision 2030*, it is vital to revive Egypt's highly acclaimed cotton industry to create new employment and entrepreneurial opportunities. UNIDO launched the Egyptian Cotton project in 2017 aiming to enhance the sustainability, inclusiveness and value addition of the Egyptian cotton value chain.

## Objective

**T**he Egyptian Cotton project aims to promote the production of non-contaminated long staple (LS) and extra-long staple (ELS) cotton as well as organic cotton, by improving the economic, social and environmental performance of cotton growers and processors, and strengthening support institutions.

## Approach

**T**he project capitalizes on UNIDO's well-established expertise in **enhancing the agro-industrial value chains** in Egypt and focuses on the promotion of **sustainable cotton production** and **local value addition**, developing the capacities of key institutions, all the while engaging with the private sector. The project leverages the "Cottonforlife" corporate social responsibility initiative by Filmar, which is co-funded by Alexbank (part of Intesa San Paolo Group). The project emphasises **people, planet and prosperity** as key pillars of the UN's engagement in Egypt and UNIDO's contribution toward the **global sustainable development goals** through activities including:

- Improving cotton growers' economic performance, technical skills and sustainable agricultural practices.

- Deploying demonstration plots with lead cotton growers to support the implementation of sustainable agricultural practices including organic plantation, low crop contamination and a more efficient use of water, fertilizers and pesticides.
- Establishing key partnerships with private sector support institutions and cotton growers to enhance linkages throughout the cotton value chain.
- Benchmarking national guidelines to bring Egyptian cotton up to international market standards as promoted by the International Cotton Advisory Committee and Better Cotton Initiative, in collaboration with the Cotton Research Institute.
- In collaboration with the National Council for Women, empowering women to re-evaluate their key roles in cotton production and their impact on the cotton crop cycle.
- In collaboration with the Ministry of Education and Technical Education, introducing a curriculum on organic farming practices in agricultural high schools, as well as, together with private companies in the Borg el Arab textile cluster, updated curricula on spinning, weaving and finishing to improve knowledge amongst young students in industrial technical schools.
- Raising the awareness of the textile industry (both technicians and managers) on environmentally sustainable practices.
- Developing multi-stakeholder linkages with global brands such as Hugo Boss to revive international brands' awareness on and promote Egyptian cotton in global markets, in coordination with the Cotton Egypt Association.
- Investing in innovative solutions to design sustainable garments thereby promoting circular economy and upcycling.

As a result, it is expected that at least 1,000 individuals in the Egyptian cotton value chain will have **improved living standards** and **access to employment and entrepreneurial opportunities in a decent work environment**, all the while improving the economic performance of LS and ELS cotton. Key achievements since the project commenced in 2017 include:

## Key achievements

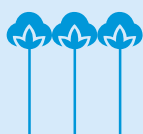


**400 cotton growers** have been trained on reducing water, reducing pesticide use and contamination control during harvest and post-harvest



**35 fashion young designers** and readymade garment producers trained on sustainable fashion design in collaboration with Italian fashion designers and university professors from the Milano Politecnico

**4 cotton demonstration plots** launched in collaboration with agricultural cooperatives and the Cotton Research Institute Research Station



**30 readymade garment technicians** trained on chemical management using the Zero Discharge of Hazardous Chemicals programme



**Development of curricula** on organic farming practices, spinning, weaving and finishing and entrepreneurship for implementation in technical secondary schools

Scan the QR code to find out more about Zero Discharge of Hazardous Chemicals



# Safeguarding the environment

building institutional and  
industrial capacities for greening  
industry through resource  
efficiency and cleaner production  
technologies and practices



Implementing phase out plans for ozone depleting substances to support compliance with the Montreal Protocol

# Montreal Protocol projects

## Counterparts

- ▶ Ministry of Environment
- ▶ Ministry of Trade and Industry
- ▶ Ministry of Finance

## Donor

Multilateral fund for the implementation of the Montreal Protocol

## Locations

Nationwide

## Target Groups

- ▶ Consumers of ozone depleting substances
- ▶ Manufacturers of foam, refrigerators, and air conditioners
- ▶ Agri-business farmers and companies that use ODS in soil fumigation and commodities

## Status

Ongoing

## Project Context

The importance of the ozone layer in protecting the earth from the sun's most dangerous ultraviolet rays is well known. It is also known that gases which damage the ozone layer have been used in a wide range of industrial and consumer applications including fire extinguishers, refrigerators, air-conditioners, crop fumigation, aerosol propellants, inhalers used by asthma sufferers, solvents and blowing agents for insulation foams. Since 1993, UNIDO has been working with the Government of Egypt on a long-term programme of initiatives to help industries phase-out ozone-depleting substances (ODS) and replace them with ozone- and climate-friendly substances.

## Objective

The objective of the programme, which currently comprises 6 projects, is to reduce the production and consumption of ozone depleting substances and help Egypt meet its obligations under the Montreal Protocol and shift to products or processes with low global warming potential.

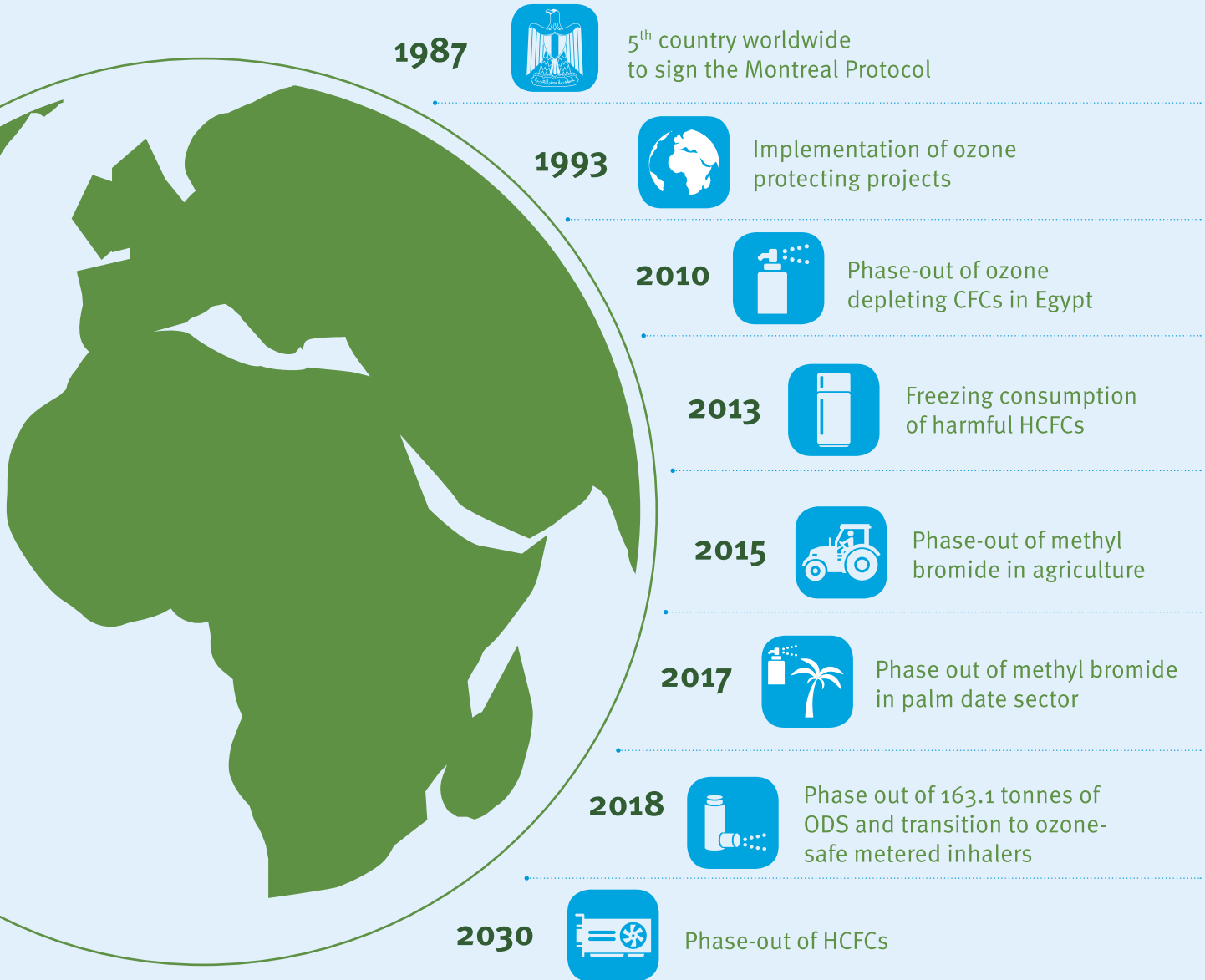
## Approach

Together with the Government of Egypt, UNIDO aims to find **alternatives to ozone depleting substances** that facilitate a transition to non-ozone depleting substances and technologies **without creating local market distortions or increasing production costs** that are then passed on to consumers. The approach is to redesign either products or processes entirely, or to provide ozone friendly substances and technologies as alternatives.

Earlier phases of the programme focused on **ridding Egypt of chlorofluorocarbons (CFCs)** in commonly used industrial processes (including the manufacture of refrigerators, air conditioners, meter-dosed inhalers, common pesticides and industrial solvents) through providing technical support and transfer of green technologies and related know-how. A particular highlight is the assistance provided by UNIDO to **Egyptian pharmaceutical companies to switch to CFC-free inhalers** for asthma sufferers, while keeping down the cost of inhalers for patients of respiratory diseases.

To phase out methyl bromide, a pesticide widely used in the agricultural sector, UNIDO worked with farmers to introduce environmentally friendly ways to increase yield and reduce loss of harvest, including through good agricultural practices. Engaging local farmers in trials and pilot demonstrations, UNIDO works to win the support of the agricultural community to **replace harmful fumigants with environmentally friendly alternatives**. Simple and effective alternatives to using methyl bromide in soil fumigation introduced by

# UNIDO efforts to protect the ozone layer in Egypt includes phase out of 1567 ODP tonnes in industrial, manufacturing and agricultural practices since 1993



UNIDO and adopted by farmers include exposing the soil to sun and using grafting techniques. UNIDO works with companies to help them build greenhouses for cultivation and supports technology transfer of the different grafting techniques, which demand skilled labourers. In addition to being environmentally friendly, these techniques bring positive economic benefits to the agricultural sector such as **higher yield and better quality of crops and income opportunities for women** (as grafting techniques require specific fine motor skills), while entrepreneurs have also started businesses to meet the growing demand for grafted seedlings.



More recent activities aim to reduce the need for farmers to use methyl bromide to protect the date crop from insects during the storage. These efforts include UNIDO–led technical assistance to key stakeholders in the date sector including the Palm Dates Pest Control Fund, date factories, date traders, the Agriculture Research Center and extension officers in governorate level Agriculture Directorates. Efforts include training on two **ozone-friendly alternatives to methyl bromide**, one administered by a fumigation company and another which is self-administered by the farmer. The alternatives are ozone-friendly, but need to be handled with care. Therefore, the training addressed safe handling of the alternatives.

The next part of UNIDO’s long-term strategy is being implemented from 2017 to 2025 and focuses on **phasing out hydrochlorofluorocarbons**. The focus continues to be on reducing ODS consumption in the foam, refrigeration and air-conditioning manufacturing sectors. In addition, activities will work to limit the consumption of ODS in the refrigeration and air conditioning servicing sector. This phase is being led by UNIDO in collaboration with UNDP, UN Environment and GIZ.





Using energy management systems to systematically analyze, manage and reduce energy use

# Industrial energy efficiency

## Counterparts

- ▶ Ministry of Environment
- ▶ Ministry of Trade and Industry
- ▶ Federation of Egyptian Industries
- ▶ Egyptian Office of Standardization and Quality Control

## Donor

Global Environment Facility

## Locations

All governorates of Egypt

## Status

Completed

## Target Groups

- ▶ Energy intensive industrial sectors
- ▶ Policy makers
- ▶ Local consultancy providers
- ▶ Local banking sector

## Project Context

Industry accounts for 43% of Egypt's final energy consumption and 33% of national electricity consumption. Industry-related emissions accounted for 29% of total emissions in 2005, with this expected to increase by one third by the year 2030. Egypt has a high potential for improving industrial energy efficiency. Industrial energy consumption per unit is 10 to 15% higher than the international average. In the context of the rising cost of fuel, making savings on energy consumption is not just good for the environment, but saves money and creates a competitive advantage for industry. Potential energy savings for Egyptian industry could reach 25% of the total energy consumption.

## Optimizing energy systems for efficiency

With energy costs increasing by 40% in Egypt, industries are seeking ways to improve their energy performance to reduce overall costs. UNIDO uses its comprehensive expertise and a holistic approach to help industries improve efficiency across all phases of the production process. The Industrial Energy Efficiency (IEE) project assists companies in 12 industrial sectors to adopt Energy Management Systems (EnMS) that comply with the international standard ISO 50001. Sidpec, a petrochemicals company in Alexandria produces plastics material for packaging, with 50% of its production targeting international markets. Under pressure from rising energy costs, Sidipecc staff worked to implement EnMS starting with securing management commitment all the way to third party auditing and certification. Over a period of three years, UNIDO helped the company to implement a systematic approach to improving energy efficiency, use and consumption, using low cost measures as a way to convince staff as to the potential benefits. The EnMS was implemented over a one year period, after identification and implementation of specific opportunities for system optimization. Now the company makes energy savings of 40,000 MWh and emits 100,000 tCO<sub>2</sub>eq less greenhouse gas emissions. Sidipecc also reaps significant financial benefits from implementing an EnMS – with financial savings of EGP 8,300,000 far outweighing the initial outlay of 300,000 EGP implementation cost. The company has become a flagship example for the IEE project. Having completed the UNIDO Energy Management Expert Training and achieved the ISO 50001 certification for energy management, Sidipecc is a leading player in the IEE peer-to-peer network, utilizing its position as an industrial role model to train representatives from other companies within the petrochemicals sector.

Scan the QR code for UNIDO's practical guide to implementing EnMS



## Objective

The Industrial Energy Efficiency (IEE) project aims to promote efficient use of energy by industry, strengthen policy frameworks, disseminate best practices and technologies to accelerate economic growth and enhance competitiveness and job creation, all the while mitigating climate change.

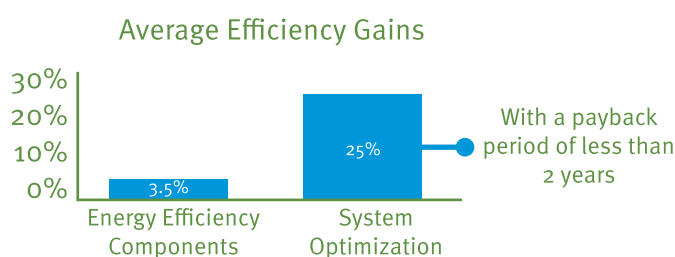
## Approach

The IEE project takes a holistic approach, focusing on technical advances and improvements in policy, management, operations and financing. The project supports companies to optimize their entire energy system rather than focusing on improvements to individual components or equipment. UNIDO helps companies and countries implement energy management systems (EnMS) in line with ISO 50001. EnMS allows managers to track and quantify energy consumption and design action plans to improve their performance. In addition, and to support sustainability, the project aims to create a well-functioning local market for industrial energy efficiency services. Core components are:

1. A national programme to define energy benchmarks and energy efficiency policy;
2. National awareness raising on industrial energy efficiency;
3. Capacity building on energy efficiency services to support the supply side for energy efficient services providers;
4. Access to finance for energy efficiency improvement projects to support take up of EnMS by Egyptian industry;
5. Implementation of energy management systems and system optimization in selected industrial sectors.

## System optimization vs. Improving Efficiency of individual Components

Improving the efficiency of energy systems is more effective than improving each component's efficiency separately



To develop policy instruments that support energy efficiency in industry and contribute to international competitiveness, the project worked with the Government of Egypt to **define energy benchmarks and implement the ISO 50001 standard**. IEE prepared benchmarking reports for the cement, fertilizer, ceramics and the iron and steel industrial sectors. These reports developed a methodology for continuous energy data collection and monitoring.

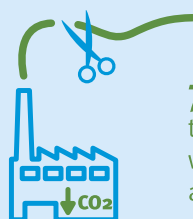
The awareness-raising component took the form of a national campaign, “Kafaa”, which aimed to build understanding amongst **industrial manufacturers regarding the concept of energy efficiency** and the economic benefits of energy management and system optimization. The campaign reached more than 500 companies across Egypt.

The IEE project built technical capacity on energy efficiency services to generate demand for a **local market of energy efficiency service providers and supporting institutions**. On the supply side, the project supported the development of technical services through the training of a cadre of specialized and certified experts in energy management and system optimization. To support the take up of EnMS by industry, an implementation manual was developed and published. Using a comprehensive methodology over a 12 month period, the UNIDO EnMS Expert Training Program **combines theoretical as well as hands-on experience in energy-intensive industries on EnMS implementation**. A total of 180 local consultants were trained on system optimization, while a further 700 experts have been trained on energy management system implementation. To increase access to finance to implement EnMS and compliance with international standards, a total of 50 representatives in the financial services sector were trained on project financing that is available through national and international financial institutions to finance energy efficiency projects.

With UNIDO technical support, **25 companies in 12 industrial sectors have implemented EnMS**, are ISO 50001 certified or compliant, while a total of 75 industrial enterprises were trained on energy efficiency measures and provided with technical and business advisory services.

## Key achievements

Reductions in GHG emissions of **3.58 MtCO<sub>2</sub>eq** over a 10 year period



**75 Industrial** enterprises trained on EE measures, provided with technical and business advisory services



Industry saves **1200 GWh** of energy saved per year



**11 Industrial enterprises** received **ISO 50001** certificates

Government adopts the **ISO 50001** standard



**14 Industrial enterprises** implemented EnMS and are **ISO 50001** compliant

**4 Benchmarking** reports developed for cement, iron and steel, fertilizers and ceramics sectors.



**700 Local consultants** trained on EnMS implementation



**Industrial energy efficiency** policy recommendations approved by the Ministers of Environment and Trade and Industry and incorporated in the MTI strategy 2020



**50 banks** capacitated on energy efficiency financing



**IEE sectoral strategy** for building material and chemical sectors developed.

Scan the QR code to find out how UNIDO has helped companies in Egypt





Measuring the economic  
and environmental  
impact of production to  
shed light on savings  
potentials

# Switch-Med: transfer of environmentally sound technology in the Southern Mediterranean

## Counterparts

- ▶ Ministry of Trade and Industry
- ▶ Ministry of the Environment
- ▶ Federation of Egyptian Industry
- ▶ Food Export Council and Chemical and Fertilizers Export Council

## Donor

European Commission

## Locations

Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, Tunisia

## Target Groups

- ▶ Policy makers
- ▶ Start-ups and entrepreneurs
- ▶ Industry service providers
- ▶ Impact investors

## Status

Completed

## Context

Industry all over the world is facing pressure to be competitive while reducing its ecological footprint. In Egypt, industrial operations often rely on inefficient technologies that produce high waste of energy and other resources, thus increasing production costs and reducing competitiveness. Enterprises often need assistance to identify measures that can improve resource efficiency and enable industry to be more competitive, sustainable and expand its market reach, especially towards markets with high environmental standards such as the European Union (EU).

## Objective

The regional Switch Med Project connects industry, SMEs, emerging green entrepreneurs, civil society and policy makers across the Mediterranean to promote social and environmental innovations and **support patterns of Sustainable Consumption and Production (SCP)** through demonstration activities, policy development and networking of incubators for eco innovations. MED TEST II is a component of the Switch MED programme that aims to turn challenges into opportunities using a unique methodology,

### *Partnering for a competitive industry in Egypt*

BariQ, a subsidiary of Raya Holding, is the biggest bottle to-bottle recycler in the MENA region, reprocessing plastic PET bottles into internationally-compliant food grade PET (polyethylene terephthalate) pellets. Incorporating state-of-the-art and innovative green technology from major European suppliers, BariQ has a total annual capacity of 15,000 MT, targeting major international bottle and food container producers. A long-term partner with UNIDO, BariQ upgraded their ISO 14001 certification under earlier phases of the MED TEST II project and took on board advice to change its accounting system to achieve better tracking of materials and losses. Mohamed Gamal, BariQ's Chief Operating Officer reflects: "in the last period BariQ faced a few challenges related to the quality of feedstock, and excessive consumption of resources such as water. These, in turn, are reflected in production costs, so overcoming such challenges would definitely lead to a better and more efficient performance in both operational and financial aspects". From the eleven measures that were identified to reduce the consumption of energy (electricity and fuel), water and raw materials, eight were accepted by top management for implementation. The MED TEST II project identified measures bringing total annual financial saving for BariQ of Euro 981,962 in energy, water and raw materials from an investment of Euros 358,000. The average payback period is 0.4 years, and 36% of the measures have already been implemented.

transfer of environmentally sound technologies (TEST), to address rising energy and raw material costs by demonstrating how best practices in Resource Efficient and Cleaner Production (RECP) with an attractive return on investment, can be integrated into business operations. This project scales up a previous successful phase of MED-TEST project and is implemented by UNIDO in collaboration with UN Environment and the Regional Activity Centre for Sustainable Consumption and Production.

## Approach

**C**entral to UNIDO's TEST approach is enhancing productivity by integrating practices and technology that lead to greater efficiency in the use of natural resources, reduces waste, reduces energy consumption and offers opportunities for innovation. In this way, the adoption of RECP not only leads to better environmental performance, it also enables businesses to operate more competitively, save money, invest and grow sustainably. More efficient production also contributes to saving valuable resources for the national economy, such as energy, water and raw materials. Thus, the economic benefits of RECP extend beyond individual businesses, and contribute to additional growth, sustained job creation and the long-term resource resilience of Egypt.

UNIDO's TEST method **combines resource efficiency and cleaner production, environmental management systems and environmental management accounting**. Companies that implement UNIDO's TEST approach have the ability to fully integrate resource efficiency into company policy, action plans and internal procedures and in doing so increase company compliance with environmental regulations. MEDTEST II extended the TEST approach to **more businesses and builds capacity amongst national institutions, service providers and local professionals** to become TEST providers.

Under the patronage of the Ministry of Trade and Industry (MTI) and the Ministry of Environment (MOE), MED TEST II was implemented together with the Egypt National Cleaner Production Center (ENCPC). The project supports demonstration companies in taking the necessary steps to introduce effective monitoring systems and upgrade their existing ISO certifications. Priority sectors and geographical locations on which to focus are selected in close consultation with national authorities and requires **winning the voluntary support of industry** by presenting the business case for resource efficiency. UNIDO considers that voluntary participation is critical to ensuring sustainability of the project and integrating lasting resource efficiency changes at the company level.

28 companies ranging from SME to large companies operating in food and beverage, chemical and textile sectors were selected for the MED TEST II demonstration phase. The demonstration projects proved the potential **for Resource Efficient and Cleaner Production** within industry to generate valuable savings both for companies as well as for the national economy, even by introducing small measures with a short payback period. The majority of the identified measures in Egypt had a payback period of less than half year.

In anticipation of a growing local market for technical services to support sustainable production and consumption, the project exposed a large pool of **additional service providers** to the TEST through a series of trainings. This wider group of local TEST service providers included consultancy firms, individual consultants, and industrial associations – reaching a total of 25 service providers from 10 technical cooperation partners and 5 additional institutions. After training, service providers are:

- Able to conduct integrated resource and energy efficiency audits with focus on process optimization;
- Able to introduce benchmarking techniques for environmental performance of industries;



- Able to integrate resource efficiency into environmental management systems for continuous improvement;
- Able to carry out material flow cost accounting using accounting techniques to reveal to company managers the actual economic losses due to inefficient use of resources within production processes and the potential gains;
- Equipped with best practices on eco-innovative technology for specific industrial sectors;
- Equipped with tools to market sustainable production services to the industry

Direct support to enterprises through SwitchMed’s MED TEST II project has reached over 130 companies in the region in sectors including food, textile, mechanical, electrical and chemical. In Egypt alone, 28 companies were included, with 253 resource efficient and cleaner production measures identified. Of these, 80% (204) were approved by the companies for implementation. Industries applying sustainable production models can gain multiple benefits including:

- Increased productivity, reduced operational costs, optimized investments;
- Reduced environmental compliance costs, reduced environmental risks and environmental footprint;
- Compliance with international environmental standards to access new markets (global supply chains and export markets, new green markets and public procurement, etc.);
- Ability to secure long term supply of production inputs because the adoption of a resource efficiency strategy can mitigate the effects of disruptions and price volatility in the raw material supply chain;
- Improve relationship with stakeholders (investors, banks, regulatory body, local communities, consumer associations)

## Egypt demonstrated Resource Efficient and Cleaner Production in 28 industries from the food, textile, and chemical sectors





Helping companies  
switch to solar thermal  
energy for industrial  
processes

# Solar heating in industrial processes

## Project

Utilizing Solar Energy for Industrial Process Heat in Egyptian Industries (SHIP)

## Counterparts

- ▶ Ministry of Trade and Industry
- ▶ New and Renewable Energy Authority
- ▶ Ministry of Environment

## Donor

Global Environmental Facility

## Locations

All governorates of Egypt

## Target Groups

- ▶ Textile, food and chemical producers and input suppliers
- ▶ Solar thermal heating manufacturers
- ▶ Feed-in industries
- ▶ Local experts / technicians
- ▶ Banking sector

## Project Context

The Egyptian economy is highly dependent on fossil fuels. Almost 80% of installed electricity generation is composed of conventional thermal power plants, which threatens the energy security of the country and results in the emission of large amounts of greenhouse gases. With the installed capacity no longer able to meet increasing demand, the Government of Egypt has recognized the need for energy reform and there is an increasing focus on using all potential energy sources, including expanding into renewable energy. The Government of Egypt's aim is for new and renewable energy to contribute to up to 35% of Egypt's energy supply by 2020. Egypt's desert climate and year round sunshine offers great

potential for using solar power as an alternative energy source to power economic growth and meet increasing energy demand. Solar thermal technology uses the sun's energy, rather than fossil fuels, to generate low-cost, environmentally friendly energy.

## Objective

The project aims to **develop the renewable energy market** in Egypt by supporting local manufacturing of **solar energy** systems and by developing a market for solar energy products and services. The project focuses on three industrial sectors with potential for switching to solar energy: food, textiles and chemicals.

## Approach

To help enterprises **switch from fossil fuels to solar energy**, UNIDO cooperates with Egyptian companies to identify the potential of integrating solar technology into their industrial processes, and facilitates an enabling environment by supporting the relevant authorities to develop standards and accredit testing facilities for solar thermal energy. The project has four interrelated components:

1. Developing the **policy framework** to support the use of renewable energy in industrial and commercial applications;
2. Supporting the deployment of **solar heat technologies** and **disseminating good practices**;
3. Establishing a **financial platform** to increase access to funding for solar projects; and
4. Enhancing the **local manufacture, supply and distribution** through developing standards, quality control and improving technical skills.

The first component aims at stimulating the market for solar energy through developing policy instruments to promote the **use and application of solar energy in industry** and the **local manufacture of quality solar energy components and products**. To guide implementation of the project and complement Government-led energy reform in Egypt (through targets for renewable energy, reducing electricity subsidies, introducing feed-in tariffs and other financial incentives), a roadmap for dissemination of solar heat in industrial process has been presented to the Ministry of Trade and Industry for three sectors (textile, chemicals and food). Regular interaction via working groups takes place with key stakeholders including the Ministry of Trade and Industry, New and Renewable Energy Authority, for Standardization and Quality Control, Import / Export Agency and local manufacturers. Working groups are in the process of developing standards for maintenance and installation personnel and standards for solar heater components.

To support the deployment of solar heat technologies and disseminate practices amongst companies, the **project conducts technical and financial feasibility studies to identify the steps needed to transfer to solar systems**. The project aims to conduct 100 detailed audits with a view to financing 30-40 projects. To date 13 case studies have been prepared providing a reference point from which implementation of solar technologies and practices can commence and 30 energy audits detailing energy savings that can be made if defined solutions have been conducted. Five (5) feasibility studies, which focus the financial and technical feasibility of applying solar water heating systems have been undertaken.

The third component **supports the mobilization of finance for solar heating projects** through a revolving fund that provides loans to industries at a better rate, in collaboration with the National Bank of Egypt, and **sensitization of the banking sector** toward the economic viability of switching to solar power. To support a positive inclination of the financial sector toward shifting to solar powered industry, the project builds the capacity of mid-level and senior banking staff on how to appraise proposals for funding the installation of solar thermal technologies. A total of 65 **bankers** have been reached in **awareness raising sessions**, while 55 bankers were trained on financial schemes related to industrial solar system finances. 12 bankers joined a capacity building and knowledge transfer tour to Tunisia in a joint activity with UNIDO's Industrial Energy Efficiency project.

The fourth component of the project supports the **development of local manufacturing capacities** toward producing solar power technologies in Egypt in order to **reduce the market cost** and stimulate industrial development and economic diversification in Egypt, creating new jobs and potentially developing new export industries. The successful penetration of these products into the domestic and external market will depend on the quality of manufactured products and components. Work in this component entails **testing of the quality of solar technology products** and **supporting manufacturers in improving practices and models** to meet requirements of this emerging market, as well as building the capacity of laboratory staff in the National Renewable Energy Authority (NREA) to ensure that the relevant standards and management systems are applied. Technology transfer for accreditation of the existing laboratories and enhancing the testing facilities to compete with their European peers takes place through a collaboration between an international firm and a national partner in Egypt. Accreditation of the laboratory in NREA is anticipated to be completed in 2019.

The project also aims to stimulate **a market for services** for solar thermal energy in the industrial sector. Efforts in this component foresees extensive training as follows:

- **Energy efficiency training on optimization of the process heat system** complemented with training on the **design of the solar thermal systems** for industrial applications.

- Training for **installers** and **service providers** on **installation** and **maintenance** of the systems.
- Training on **business development** and **entrepreneurship** for new businesses to support the creation of a more vibrant sector.

49 national experts (consultants, service providers, academia and industrial companies) have been trained on **Steam System Optimization**. In addition, 34 national experts have been trained on **the design and integration of solar thermal technologies into industrial processes**. The project has also identified 40 companies that will be assisted in upgrading their practices to ensure quality manufacturing of components, and their capacities will be built on the use of the tools and equipment. A training programme is also planned for 100 companies on best practices in solar energy components and systems manufacturing. Training for 200 technicians from selected companies on best practices of solar energy components and systems manufacturing is also planned. 100 smaller solar energy enterprises will be also supported on business development.

## Key achievements

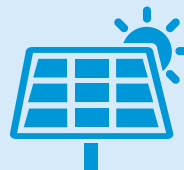
**250 Companies** reached through awareness raising (10th October; 6 Ramadan; Sadat) and national manufacturing expos



**49 National Experts** capacity Building on Steam System Optimization

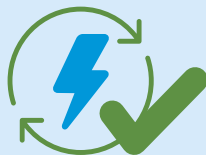


**65 Bankers** capacity building for mid-Level Bankers on renewable schemes financial schemes



**34 National Experts** capacity Building on Energy Efficiency and Solar Thermal Process Heat

**55 Bankers** awareness Session for Senior Level Bankers on renewable energy financial schemes









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