



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

UNIDO activities in Egypt



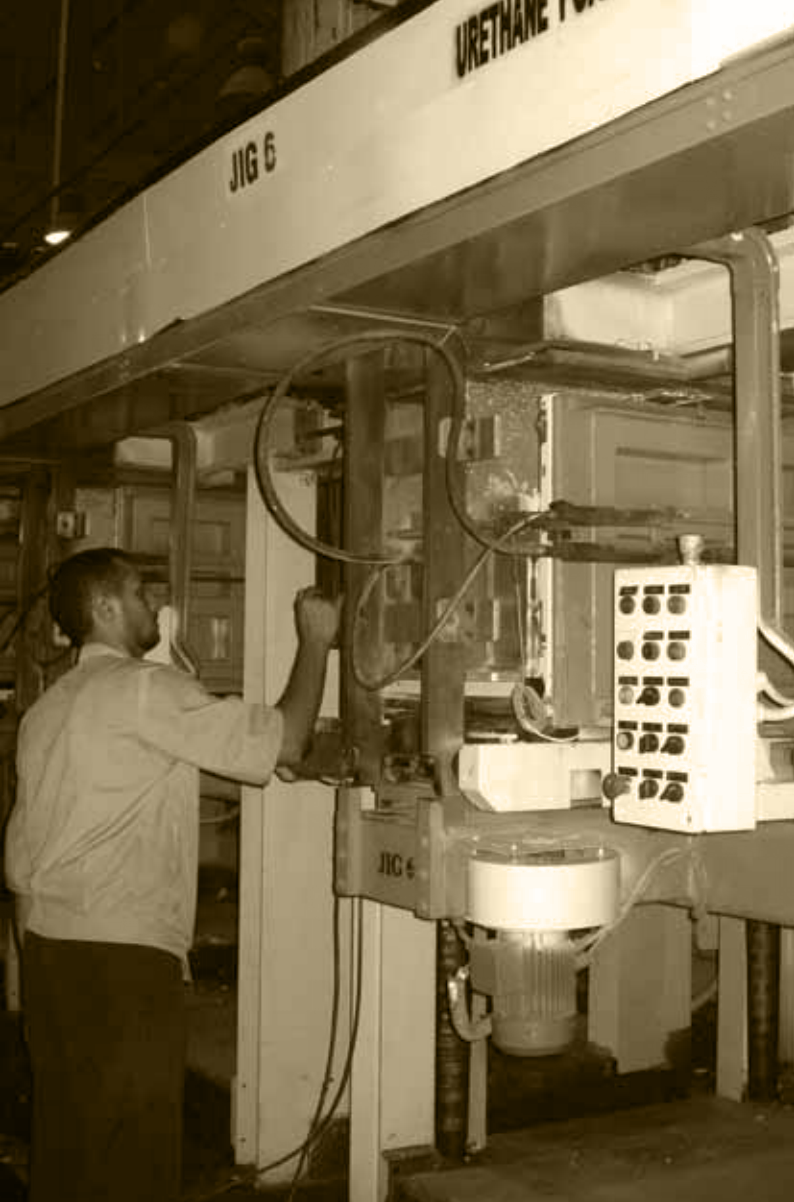
2014



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO ACTIVITIES IN EGYPT







“Poverty eradication remains the central imperative. This can only be achieved through strong, inclusive, sustainable and resilient economic and industrial growth, and the effective integration of the economic, social and environmental dimensions of sustainable development.”

“We believe that the effective measures towards inclusive and sustainable industrial development should encompass enhancing productive capacities in a way that supports the structural transformation of the economy; encourages economic growth and the creation of decent jobs; enhances productivity and development, transfer and absorption of technology on mutually agreed terms, infrastructure and technological innovation; advances trade and development, particularly in the small and medium-sized enterprise sector, micro-industries and other new forms of community-based entities; promotes the sustainable use, management and protection of natural resources and the ecosystem services they provide; and supports related research and development.”

“We task UNIDO to assist Member States towards achieving enhanced levels of inclusive and sustainable industrial development, with the aim of, inter alia, expanding and diversifying manufacturing value added, enhancing domestic entrepreneurial and technological capabilities for sustainable development and competitiveness, improving in equality and access to decent jobs in industry, and reducing the environmental impact, based on the Rio Principles.”

“UNIDO should serve as a global facilitator of knowledge and advice on policies and strategies towards achieving inclusive and sustainable industrial development; and should focus on the three thematic priorities in which it has comparative advantage and expertise: productive capacity-building, trade capacity-building, and sustainable production and industrial resource efficiency.”

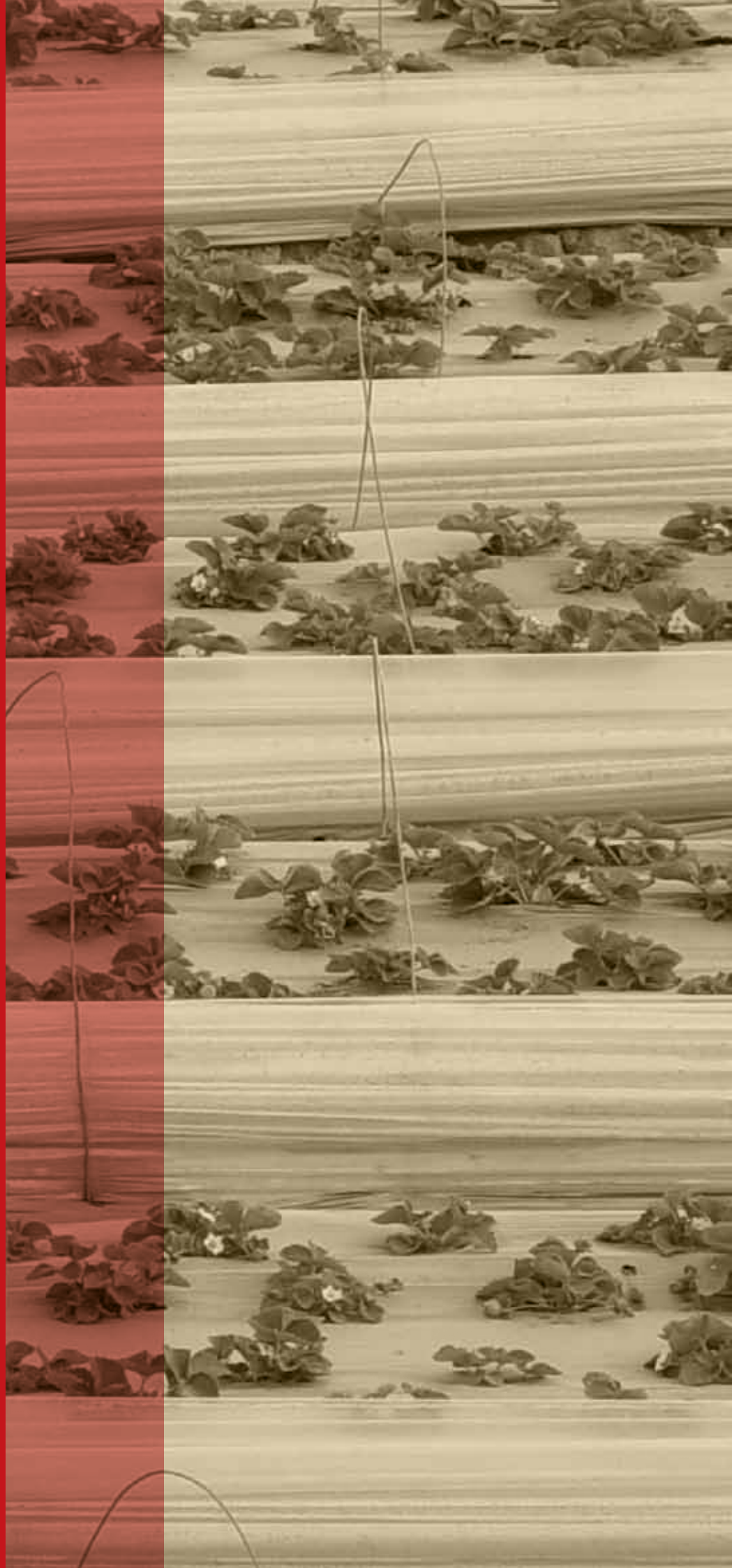
*Quotes from Lima Declaration: Towards inclusive and sustainable industrial development
adopted at the 15th UNIDO General Conference
Lima, Peru, 2 December 2013*

TABLE OF CONTENTS



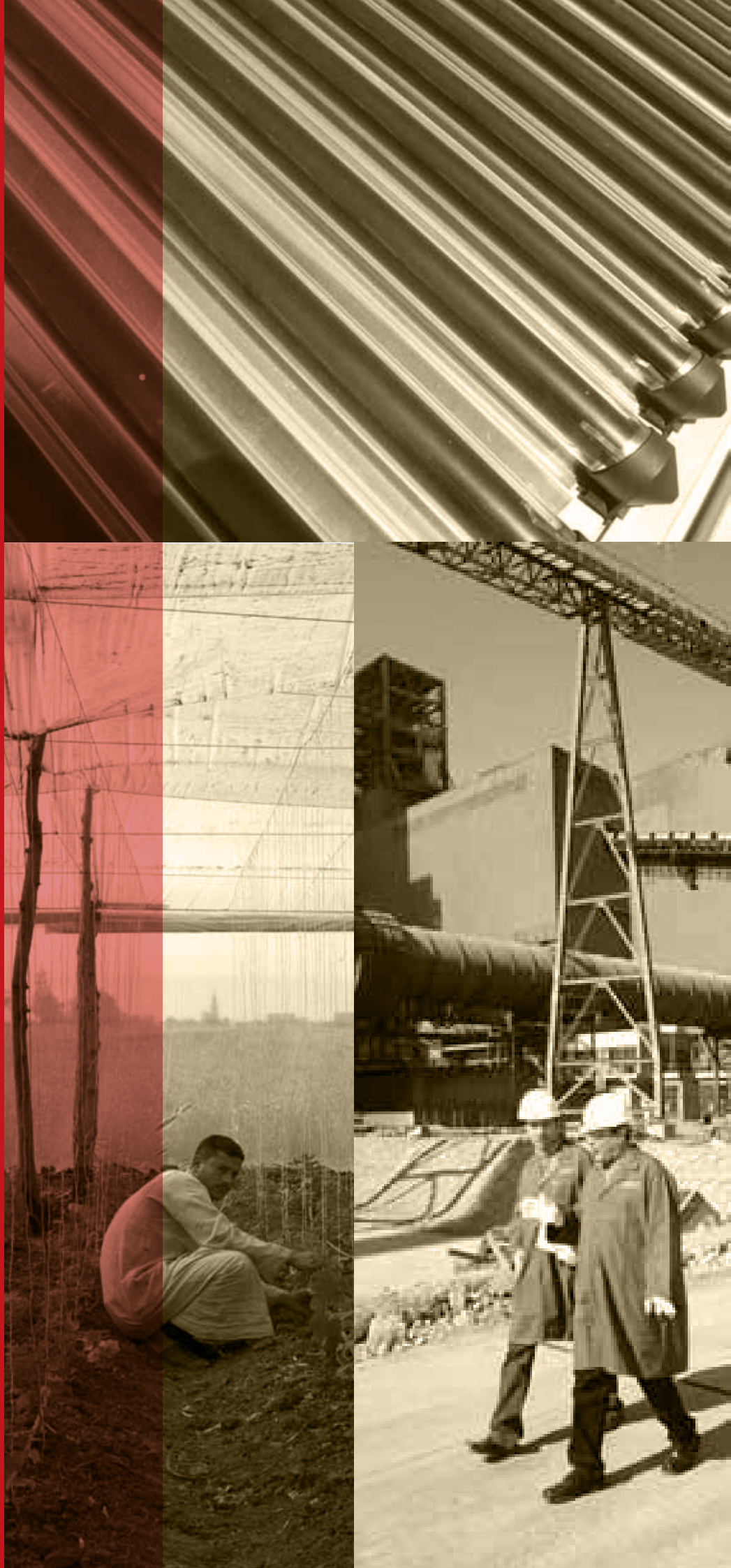
LIST OF ABBREVIATIONS	8
THE COUNTRY CONTEXT.....	10
OVERVIEW	11
CHALLENGES AND OPPORTUNITIES FOR INDUSTRIAL DEVELOPMENT	12
SMALL AND MEDIUM ENTERPRISES (SMES)	12
YOUTH UNEMPLOYMENT.....	13
AGRO-INDUSTRIAL VALUE CHAIN DEVELOPMENT	13
COMMUNITY DEVELOPMENT	14
UNLEASHING THE POTENTIAL FOR ENERGY EFFICIENCY AND RENEWABLE ENERGY	15
DECOUPLING ECONOMIC GROWTH FROM ENVIRONMENTAL PRESSURE	16
CURRENT AREAS OF INTERVENTION	18
UNIDO IN EGYPT	19
INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT (ISID).....	20
PRO-POOR GROWTH FOR PRODUCTIVE ACTIVITIES.....	21
EMAP: UPGRADING THE MEDICINAL AND AROMATIC PLANTS VALUE CHAIN: ACCESS TO EXPORT MARKETS	21
GREEN TRADE INITIATIVE	24
INTERREGIONAL PROJECT TO PROMOTE SME ORIGIN AND EXPORT CONSORTIA	25
HUMAN SECURITY THROUGH INCLUSIVE SOCIO-ECONOMIC DEVELOPMENT IN UPPER EGYPT	27
SUPPORT TO THE DEVELOPMENT OF CULTURE AND CREATIVE INDUSTRIES AND CLUSTERS IN THE SOUTHERN MEDITERRANEAN	28
EPALM: UPGRADING DATE PALM VALUE CHAIN IN EGYPT.....	29
ENERGY AND ENVIRONMENT.....	31
INDUSTRIAL ENERGY EFFICIENCY	31
MONTREAL PROTOCOL PROJECTS	33
PROMOTING LOW-CARBON TECHNOLOGIES FOR HEATING AND COOLING APPLICATIONS	37
LOW CARBON AND CLIMATE RESILIENT INDUSTRIAL DEVELOPMENT IN EGYPT, KENYA, SENEGAL AND SOUTH AFRICA	39
SWITCH-MED: DEMONSTRATION AND NETWORKING INITIATIVE	41
FUTURE AREAS OF SUPPORT	42
INDUSTRIAL POLICY.....	44
SKILLS FOR YOUTH EMPLOYABILITY IN UPPER EGYPT.....	44
CLUSTERS DEVELOPMENT: ENHANCING SMES PERFORMANCE.....	45
REFERENCES	48

LIST OF ABBREVIATIONS



ADCO	Arab Drug Company	MDG	Millennium Development Goals
AfDB	African Development Bank	MED TEST	Transfer of environmental sound technologies in the South Mediterranean region
ATC	Agriculture and Agro-Industries Technology Centre	MoALR	Ministry of Agriculture and Land Reclamation
BOD5	Biochemical Oxygen Demand	MTI	Ministry of Trade and Industry
CAPMAS	Central Agency for Public Mobilization and Statistics	MoT	Ministry of Transport
CFC	Chlorofluorocarbons	MSEs	Micro and Small Enterprises
COD	Chemical Oxygen Demand	MSMEs	Micro, Small and Medium Enterprises
EEAA	Egyptian Environmental Affairs Agency	mtoe	Million tons of oil equivalent
EIPICO	Egyptian International Pharmaceutical Industries Company	NGOs	Non-Governmental Organizations
ENCPC	Egypt National Cleaner Production Centre	NREA	New and Renewable Energy Authority
EnMS	Energy Management System	OCHA	Office for the Coordination of Humanitarian Affairs
EOS	Egyptian Organization for Standardization and Quality Control	ODP	Ozone Depletion Potential
EU	European Union	ODS	Ozone Depleting Substances
FAO	Food and Agriculture Organization	PU	Polyurethane
FDI	Foreign Direct Investment	SCP	Sustainable Consumption and Production
FEI	Federation of Egyptian Industries	SDC	Swiss Development Cooperation
GEF	Global Environment Facility	SECO	State Secretariat for Economic Affairs
GHG	Greenhouse Gas	SFD	Social Fund for Development
GoE	Government of Egypt	SIP	Strategic Industrial Policy
GTI	Green Trade Initiative	SMEs	Small and Medium Enterprises
HCFC	Hydrochlorofluorocarbons	TEST	Transfer of Environmentally Sound Technologies
HPMPs	HCFC phase-out management plans	UN	United Nations
IDA	Industrial Development Authority	UN Habitat	United Nations Human Settlements Program
IDSC	Information and Decision Support Center	UN Women	United Nations Entity for Gender Equality and the Empowerment of Women
IEE	Industrial Energy Efficiency	UNDP	United Nations Development Program
ILO	International Labour Organization	UNEP	United Nations Environment Program
IMC	Industrial Modernization Centre	UNIDO	United Nations Industrial Development Organization
IOM	International Organization for Migration	UNTFHS	United Nations Trust Fund for Human Security
ISID	Inclusive and Sustainable Industrial Development		
kWh	Kilowatt hour		
MAP	Medicinal and Aromatic Plants		
MB	Methyl Bromide		

THE COUNTRY CONTEXT





Overview

Almost three years after the outbreak of the Arab spring uprisings, Egypt's economic performance is yet to recover. Amid the ongoing political uncertainty and social instability Egypt's macroeconomic indicators remain well below their pre-2011 levels.

Economic growth remains weak, coupled with high budget deficit and high public debt. Gross domestic product (GDP) real growth fell to 2.1 per cent in fiscal year 2012/2013, down from 5.1 per cent in fiscal year 2009/2010,¹ and manufacturing output fell by 1.4 per cent in the third quarter of 2013.² Nevertheless, for fiscal year 2013/2014 and fiscal year 2014/2015, Egypt's GDP growth is projected to accelerate to 3 per cent and 4.5 per cent respectively if political uncertainty and social instability recede.³

Low growth rates pose a danger to poverty eradication efforts and contribute to mounting social frustrations, as they will not suffice to deliver the needed jobs and opportunities. Poverty remains high especially in Upper Egypt: with a poverty incidence of 41.2 per cent Upper Egypt is almost doubling the national average of 21 per cent of the population living on less than USD per day during fiscal year 2010/11.⁴

The year 2013 saw the highest record of unemployment: national unemployment rate increased to 13.4 per cent of the total workforce in the third quarter of 2013 up from 13.3 per cent in the previous quarter.⁵ This is far higher than the Egyptian average unemployment rate of 9.9 per cent over the last decade.⁶ Most critically, more than one in three young people between 20 and 24 years old are not being absorbed by the labor market.

Egypt – Key Indicators		
Population (million)	84	UNDP 2013
GDP per capita (current US\$)	3,187 (2009-2013) (lower-middle income)	World Bank
HDI ranking^a	112/186 worldwide (medium HDI) 13/19 in the Arab states region	UNDP 2013
CIP ranking^b	62/118 worldwide 9/18 in the Arab states region	UNIDO 2011
Unemployment rate	13.4% total 25% female unemployment	CAPMAS 2013
Youth unemployment rate	39.3% 20-24 years old 20.9% 25-29 years old	CAPMAS 2013
Poverty ratio^c	at 1\$ a day 21% nationwide (2011) at 1.5\$ a day 25.2% (2011) at 2\$ a day 40% (2011)	World Bank
Industrial energy intensity	69/134 worldwide; 8/17 in the region	UNIDO 2011
GHG^d emissions	220 mtoe= 0.6% of world emissions (2005)	IMC-Mc Kinsey 2010

^aHuman Development Index ^bCompetitive Industrial Performance Index
^cPercentage of people living below national poverty line ^dGreenhouse gases

¹Ministry of Finance (2013). *The Financial Monthly – October 2013*. http://www.mof.gov.eg/English/publications/MOF_Publications/Pages/The_Financial_Monthly_Bulletin.aspx

²UNIDO (2013). *World manufacturing production. Statistic for quarter III, 2013*.

³African Development Bank (2013). *Egypt economic quarterly review, volume 4 June 2013*. African Development Bank Group, Egypt Country Office.

⁴UNDP (2010). *Situation Analysis: Key development challenges facing Egypt*.

World Bank data available at <http://data.worldbank.org/country/egypt-arab-republic>

⁵Official statement issued by CAPMAS on the 16th of November 2013.

⁶African Development Bank (2013). *Egypt economic quarterly review, volume 3 April 2013*. African Development Bank Group, Egypt Country Office.

The ongoing political uncertainty and social instability have also accelerated inflation rate, due to higher prices of imports, and hit tourism and foreign direct investment (FDI), two key sources of foreign reserves.

The imperative of supporting broader economic and social growth, within an environmentally sustainable framework where prosperity is shared among all parts of society and no one is left behind in benefitting from industrial growth, has become even more urgent in the aftermath of the Arab spring uprisings. Indeed, industry generates the wealth needed to address critical economic, social and humanitarian needs.

Challenges and opportunities for industrial development

Egypt's industrial sector has the potential to act as a driver of development⁷ contributing to increase growth rates, generating sufficient employment opportunities and fostering the country integration into the global economy. It enjoys strong backward and forward linkages with both the agriculture and the service sector, and it acts as a catalyst for technology transfer and attraction of FDI.

Egypt has a strategic geographical position with an important location on one of the main global trading channels, the Suez Canal, and proximity to a number of important markets, particularly the European market but also the Middle Eastern and the African market. Furthermore, the country has a relatively large and low cost labor force, a relatively advanced industrial infrastructure in areas such as transportation and energy, and a large number of public and private industrial zones. Finally, in addition to its growing domestic market, Egypt

has preferential access to a number of major markets, resulting from trade agreements the country signed over the last few decades (the EU-Egypt Association Agreement; the Qualifying Industrial Zone agreement;⁸ the Greater Arab Free Trade Agreement; the Common Market for Eastern and Southern Africa).

While these factors clearly offer important potential for industrial development in Egypt, the manufacturing sector is still underperforming and the country still lags behind key regional and global competitors, especially in manufacturing exports that are mainly resource-based and with low technology content.

Among the several challenges and opportunities characterizing the current status of industrial development in the country, the United Nations Industrial Development Organization (UNIDO) is particularly focusing on the following:

Small and Medium Enterprises (SMEs)

SMEs in Egypt face several obstacles both internal to the firms, such as low productivity, inconsistent quality of products, low innovation rates, and obstacles related to business environment such as uncompetitive market structures, uncertainty regarding government policies, shortage of skilled workers and missing or excessive regulation.

The Egyptian private sector is characterized by the presence of many micro, small and medium enterprises (MSMEs) having up to 99 employees⁹ and operating at high level of informality. On the other hand, the majority of large companies operate in highly regulated industries, such as oil and gas, telecom and financial

⁷Ministry of Trade and Industry (2006). *Egypt Industrial Development Strategy. Industry: The Engine of Growth.*

⁸The Qualifying Industrial Zone agreement offers duty-free and quota-free access to the US market.

⁹According to Law No. 141/2004 on the Development of Small Enterprises, an enterprise would be considered a micro enterprise if paid-up capital does not exceed 50,000 EGP and the number of employees is below 10 employees, a small enterprise if paid-up capital does not exceed 1 million EGP and the number of employees is below 50 employees. In a similar way, CAPMAS defines MSMEs as any enterprises having up to 99 employees (micro enterprises as having up to 5 employees, small enterprises as having up to 50 employees, and medium enterprises as having up to 99 employees). Ministry of Planning and International Cooperation (2012). *Development Cooperation Report 2011. Recent trends in Egypt's ODA with special reference to the Micro, Small and Medium Enterprise Sector.*



services. The estimated number of MSMEs at the end of 2011 amounted to around 3.04 million establishments, with an average size equal to 2.63 workers, generating the bulk of employment and income opportunities. MSMEs account for 85 per cent of non-agriculture private sector employment and for 33.7 per cent of total employment.¹⁰

Institutional obstacles that surround the start-up and the operation of a business are translated into a relatively low level of productivity and relatively high level of informality within the MSMEs sector. Over 83 per cent of Egyptian enterprises are informal.¹¹ The degree of informality decreases with the increase in the size of enterprise. Operating on an informal basis inhibits enterprises' growth potential, as it deprives them from the possibility to apply for formal loans, have positive and wider interactions with institutions and, ultimately, it deprives employees from the possibility to have consistent income, social security and protection.

A more competitive MSMEs sector is particularly crucial to contribute to create jobs, enhance entrepreneurship, generate and raise incomes, expand domestic markets, and finally contribute to the shift from an economy that depends on resources to an economy that depends on technology, knowledge and that preserves the environment.

Youth unemployment

As mentioned above, the year 2013 saw the highest record of unemployment: national unemployment rate increased to 13.4 per cent of the total workforce in the third quarter of 2013 up from a rate of 13.3 per cent in the previous quarter.¹² This is far higher than the Egyptian average unemployment rate of 9.9 per cent over the last decade.¹³

More critically, unemployment rate among youth has become a serious concern: more than 90% of the unemployed in Egypt are youth. In particular, about 39 per cent of Egyptians aged between 20 and 24 years old are unemployed, which means that more than one in three young people are not being absorbed by the labor market. Moreover, labor force participation rate is much lower among females than it is for their male compatriots: female unemployment is as high as 25 per cent.

In order to reduce the high unemployment rate, especially among youth and women, it is necessary to tackle the structural factors that drive the sub-optimal labor market outcomes, simultaneously intervening on labor demand (thus enhancing private sector productivity), on labor supply (thus closing the skills gap between educational system and private sector requirements), and on the matching process.

Engagement with the Egyptian local industries has shown UNIDO that, despite the deterioration of the country economic performance in the aftermath of the 2011 Arab spring uprisings, demand for qualified labor does exist in several sectors and can be stimulated further, together with the promotion of self-employment, entrepreneurship, innovation, and better access to financial and education assistance.

Agro-industrial value chain development

Agriculture continues to be one of Egyptian economy's most important sectors: it contributes to 15.6 per cent of GDP and directly employs almost one third of the labor force, which is estimated at 26 million of whom 22 per cent are women.¹⁴ Agriculture appears to be a more important source of employment and income in Upper Egypt compared to its share in Lower Egypt: in


¹⁰CAPMAS (2012). *Press Conference Bulletin 18/02/2012*.

¹¹OECD (2010). *OECD Working Party on SMEs and Entrepreneurship (WPSMEE)/ Issue Paper 1: Innovative SMEs and Entrepreneurship for Job Creation and Growth*, OECD, Paris.

¹²Official statement issued by CAPMAS on the 16th of November 2013.

¹³African Development Bank (2013). *Egypt economic quarterly review, volume 3 April 2013*. African Development Bank Group, Egypt Country Office.

¹⁴African Development Bank (2013). *Egypt economic quarterly review, volume 4 June 2013*. African Development Bank Group, Egypt Country Office.



the former, agriculture alone accounts for 62 percent of employment and 44 per cent of income, while in the latter agriculture accounts for 54 per cent of employment and 37 per cent of income.

Nonetheless, the shares of income generated in agriculture are much lower compared with other economic activities, thus confirming further the higher poverty prevalence in rural areas.¹⁵ Poverty is much more pronounced in rural rather than in urban Egypt, and in Upper Egyptian rather than in Lower Egyptian governorates.

One important reason for the widespread poverty in rural Upper Egypt, especially among non-wage workers of small farms, is the excessive land fragmentation and the lack of sufficiently integrated agribusiness value chains that effectively and equitably integrate small landholders. Sixty-five per cent of Upper Egypt's agriculture value comes from holdings of less than 5 feddans (1 feddan equals 4,200 square meters),¹⁶ where farming is practiced with obsolete tools and methods. Furthermore, it is estimated that between 30 and 70 per cent of the crops¹⁷ are damaged or lost due to supply chain gaps that primarily affect small producers such as deficiencies in transportation and storage system (i.e. poor packaging, lack of cold chain facilities, rough transport, and multiple handling).

UNIDO recognizes agro-industries as one of the drivers for alleviating poverty in rural areas, hence contributing to a more inclusive and sustainable industrial development. Past projects implemented by UNIDO in the agro-industrial sector provided detailed insights into the challenge and bottlenecks hindering the sector de-

velopment potential, namely the disconnect between primary production and further processing, low degree of value addition, high post-harvest losses, as well as lack of technical knowledge and market information.

There is therefore a need for sustainable strategies to overcome land scarcity and fragmentation, and cope with the aforementioned difficulties hindering the sector potential, thereby upgrading the agro-industrial supply chain, its quality, its traceability requirements, and harmonizing national standards aligning them to international quality measures. Similar efforts will ultimately foster access to export markets as well as deepen local linkages, hence contributing to poverty reduction in rural communities.

Community development

The deterioration of the Egyptian economy in the aftermath of the 2011 Arab spring uprisings is having a severe impact on the economic security of communities in rural Upper Egypt, pushing the most vulnerable groups – youth, women and children – to slide deeper into poverty and exclusion. Decreasing incomes at the household level have repercussions on food and health security (hunger, unsafe food, malnutrition, decreased access to basic health care) as well as on personal and community security (crime, domestic violence and child labor).

Additional factors have compounded to jeopardize human security in Upper Egypt, including the widespread disappointment amongst vulnerable groups after expectations for rapid change had been created upon the Arab spring uprisings, and a lingering uncertainty regarding the political and economic future of Egypt.

¹⁵ECES (2008). *Agricultural productivity growth, employment, and poverty in Egypt*. Working Paper No. 129.

¹⁶The average plot size in BeniSweif is 1.1 feddan and in Minya and Qena 1.3 feddan. UNIDO (2009). *E-Trace, Survey Report on Farmers' Associations in Selected Governorates in Upper Egypt*.

¹⁷Current harvesting wastage ranges between 30% and 70%, depending on crop and farm location. Post-harvest and logistical loss is exceptionally high in poor areas of small farmers in Upper Egypt. UNIDO (2009). *Agro-value chain analysis and development. The UNIDO approach*.

http://www.unido.org/fileadmin/user_media/Publications/Pub_free/Agro_value_chain_analysis_and_development.pdf



The need for pro-poor economic growth and better targeting of development programs in Upper Egypt is well documented in the last Egypt Human Development Reports, as well as in Egypt's poverty map.¹⁸ Upper Egypt is inhabited by 40 per cent of the national population, and by 66 per cent of Egypt's extreme poor, making it the most vulnerable region in the country.¹⁹ With a poverty incidence of 41.2 per cent, Upper Egypt is almost doubling the national average of 21 per cent of the population living on less than USD 1 per day during fiscal year 2010/11.²⁰

In order to address the livelihood concerns of the poor, the Government of Egypt (GOE) initiated in 2007 the "1000 Poorest Villages Initiative". These villages are inhabited by approximately 12 million citizens and are located in 10 governorates. Almost three-quarters of the poor are concentrated in the 3 governorates of Minya, Sohag and Assiut.²¹

Recommendations from the "Initiative" included increasing agricultural productivity, improving access and quality of infrastructure, upgrading social and community services, and developing the skills of the local labor force, especially the young. However, during the transition following the 2011 Arab spring uprisings most development plans were at a standstill. Unsurprisingly, national statistics (from CAPMAS) indicate that between 2009 and 2011 poverty rates rose in both urban and rural areas in Upper Egypt.²²

Unless immediate measures are taken to strengthen human security and foster inclusive policies, the well-being of many communities in Upper Egypt may be severely compromised.

Unleashing the potential for energy efficiency and renewable energy

Egypt final energy consumption expanded by more than 70 per cent in the last decade, and it's expected to double within the next decade and simultaneously exceed energy supply by 15 per cent.²³ To be able to supply its total energy consumption, Egypt would need to import an additional 22 – 45 mtoe (million tons of oil equivalent) of petroleum products by 2030.²⁴

Industry represents a major energy consumer in the country. It contributes to about 43 per cent of end-use energy consumption and it takes over about 33 per cent of total electricity consumption. Final energy consumption per unit of output in the most important industries in Egypt is 10 per cent to 50 per cent higher than the international average. Energy saving potential can therefore be considered relatively high: it is estimated that the Egyptian industry could have produced the same output with almost 20 per cent less energy in 2005. The Egyptian energy-intensive industries can save up to 50 per cent of its energy consumption if adequate energy management system and energy efficiency measures are adopted.²⁵

Industrial energy efficiency represents a significant opportunity for energy savings as a way to bridge the gap between expected energy demand and supply in the country. Past interventions in the field of energy efficiency were significant in volume and were mainly supported by bilateral and multilateral donor organizations. Unfortunately, no major impact or true market transformation can be yet cited. The main reasons responsible

¹⁸UNDP (2010). *Egypt Human Development Report 2010. Youth in Egypt: Building our future*. UNDP and the Institute of National Planning, Egypt.

¹⁹World Bank (2007). *Main report of Egypt. Poverty assessment update*. World Bank, Washington, DC.

²⁰UNDP (2010). *Situation Analysis: Key development challenges facing Egypt*.

World Bank data available at <http://data.worldbank.org/country/egypt-arab-republic>

²¹UNDP (2010). *Egypt Human Development Report 2010. Youth in Egypt: Building our future*. UNDP and the Institute of National Planning, Egypt.

²²Between 2009 and 2011 poverty in Upper Egypt rose from 21.3% to 29.5% in urban areas and from 43.7% to 51.4% in rural areas <http://www.egyptindependent.com/news/govt-poverty-rate-increased-252-percent-population>.

²³Egyptian – German Private Sector Development Program (2010). *How to become an energy efficient company*. GTZ.

²⁴Egyptian – German Joint Committee on Renewable Energy, Energy efficiency, and Environment Protection (2010). *Impact of energy demand on Egypt's oil and natural gas reserves*. GTZ.

²⁵IMC– McKinsey (2010). *Egypt GHG emissions, reduction strategy*.

for the lack of success and resistance to energy efficiency are: (i) the persistence of subsidies on end-use energy prices and their untargeted and disproportionate distribution mechanisms;²⁶ (ii) insufficient implementation of policies on energy efficiency; (iii) limited level of awareness, information and capacity among the energy users about efficiency applications.

In its “Strategic framework for Economic and Social Development Plan until 2022”, the Ministry of International Cooperation recognizes that there is a possibility for improving energy efficiency and its consumption rationalization. Alongside efforts towards the implementation of energy efficiency strategies, the GoE is keen to set up policies and targets aiming to increase the share of renewable energy sources in the country energy mix, as exemplified by the strategy adopted by the Ministry of Electricity and Energy, which aims to increase the share of renewable energies in the Egyptian electricity supply from the current 9 per cent to 20 per cent in 2020.

Egypt is endowed with plentiful natural resources, first and foremost wind and solar according to the solar atlas issued in 1991. Solar energy is available from North to South with high intensity of direct solar radiation. Total solar radiation ranges between 5 – 9 kWh/m²/day; while direct solar radiation ranges between 5 – 7 kWh/m²/day and between 2,000 – 3,200 kWh/ m²/year, with the southern areas receiving more sun exposure. Egypt is also characterized by some of the longest sunlight durations of 9 – 11 hours/day with few cloudy days annually.²⁷ These sources represent great possibilities

to utilize solar energy in various applications, whether in electricity production or in heating and cooling applications.

Despite abundance of sun and availability of some local manufacturers and suppliers of solar technologies,²⁸ Egypt is still considered as a pre-matured market for solar thermal applications. This can be attributed to a number of barriers: (i) political, due to lack of policy frameworks to promote the installation of low carbon technologies for consumers and manufacturers; (ii) economical: as a result of energy subsidies, initial cost of solar technologies remains high²⁹ and payback period slow; (iii) technical, due to low quality and durability of the available local technology; (iv) social, due to lack of awareness about the opportunities and benefits of using solar energy.

The need for increased energy efficiency and diversified energy sources is even more urgent in the light of the frequent power cuts and fuel shortages (oil and natural gas) Egypt is currently experiencing, and which forced drop in production in some of the country energy intensive industries, such as cement and fertilizer industry, in the last months.

Decoupling economic growth from environmental pressure

Egypt is one of the African countries recognized by the Intergovernmental Panel on Climate Change Fourth Assessment Report (2007) as vulnerable to climate change and climate variability, putting its manufactur-

²⁶During the 2010/11 fiscal year Egypt spent US\$ 16 billion (6% of GDP) for energy subsidies. Distribution mechanisms are untargeted and disproportionate. As a result, the top 40% of the population enjoys 60% of energy subsidies, leaving the bottom 40% with only 25% of the benefits. These disparities are wider in urban areas: the top 40% of the urban population receives about 75% of energy subsidies and even 90% of petroleum subsidies. *Egypt – African Economic Outlook* available at <http://www.africaneconomicoutlook.org/en/countries/north-africa/egypt/>

²⁷Ministry of Planning and International Cooperation (2012). Op. cit.

Egyptian – German Private Sector Development Program (2009). *Solar thermal applications in Egypt, Jordan, Lebanon, Palestinian Territories, Syria and Tunisia: technical aspects, framework conditions and private sector needs*. GTZ.

²⁸The 56% of raw materials or system components are imported, 33% are partially imported and only 11% are completely locally produced. Ibid.

²⁹Costs of solar technologies are decreasing worldwide: costs already fell by around 75% over the past 7 years, and are expected to fall by an average 10% a year through 2020.



ing and associated sectors at risk. Current and future changes in climatic conditions may jeopardize Egypt's development gains and efforts for poverty eradication and inclusive and sustainable industrial development.

Egypt does not rank among the largest global contributors to greenhouse gases (GHG) emissions. Its per capita emissions of just 2.6 metric tons CO₂ equivalent are low compared to other countries in the Arab region, yet among the highest in the African continent.³⁰ Overall industry-related emissions accounted for 29 per cent of the total emissions in 2005, and are expected to increase their relative share to 36 per cent by 2030.³¹

Patterns of industry often rely on inefficient and wasteful use of energy, water and other resources. Many industries use more materials and energy than their production processes would require, due to the continued use of obsolete and inefficient technologies and methodologies, as well as to artificially low prices. Current consumption and production patterns are unsustainable, because they do not allow today's resource needs to be met without compromising the ability of future generations to meet theirs.

In addition to the inefficient use of energy resources and technologies previously mentioned, a major challenge is to close the rapidly increasing gap between the

limited water availability and the escalating demand for water from various economic sectors. The rate of water utilization has already reached its maximum for Egypt, and climate change will exacerbate this vulnerability.

The Nile Delta region, in particular, is under great stress due to many serious land-use management problems, including rapid, unplanned growth, pollution from all sectors of the economy in addition to wetland destruction. Per capita water share in Egypt is declining due to the unsustainable usage of the Nile River, mainly related to the disposal of solid and liquid waste from municipal and industrial sources.

Around 95 per cent of Egypt's fresh water needs are supplied from the Nile and over 90 per cent of crop production in Egypt relies on irrigation, thereby leaving crop yields vulnerable to climate change. Away from the Nile natural fresh water resources are limited, annual precipitation is low and the country suffers from desertification. Several studies also conclude that Egypt is highly vulnerable to sea level rise and saltwater intrusion.

Therefore, the key challenge is to decouple economic growth and revenues from increased pollution and resource consumption. The need to address climate change has become more real and urgent, responding to increasing scarcity of water, fuels and other materials.

³⁰2010. *World Bank data* available at <http://data.worldbank.org/country/egypt-arab-republic>

³¹IMC – McKinsey (2010). *Op. cit.*

CURRENT AREAS OF INTERVENTION





UNIDO in Egypt

Leveraging its extensive experience in alleviating poverty through productive activities, integrating developing countries in global trade, fostering environmental sustainability in industry, UNIDO responds to development challenges by providing technical expertise and assistance as well as capacity-building measures to enhance Egypt's industrial competitiveness for employment generation and environmental sustainability. The objective is to trigger a range of environmental, social and economic benefits for the country and unleash the potential for inclusive and sustainable industrial development (ISID).

With an eye on sustainability and up-scaling, UNIDO assists its governmental counterparts in formulating and advocating relevant policies for an appropriate regulatory framework, which is crucial for sustaining the activities' efforts in the long-run.

UNIDO has been assisting the GoE supporting the country development progress towards the achievement of broader social and economic growth, through the promotion of an enabling institutional infrastructure, a vibrant private sector and a conducive business environment, within an environmentally sustainable framework.

UNIDO situates its ongoing and planned projects within Government priorities and the outcomes enunciated in the most recent United Nations Development Assistance Framework (2013 – 2017) "Achieving MDGs+ with inclusive growth, freedom, social justice and dignity", which conveys the over-arching aim to support Egypt's accelerated progress on MDGs and advance the development agenda beyond 2015.

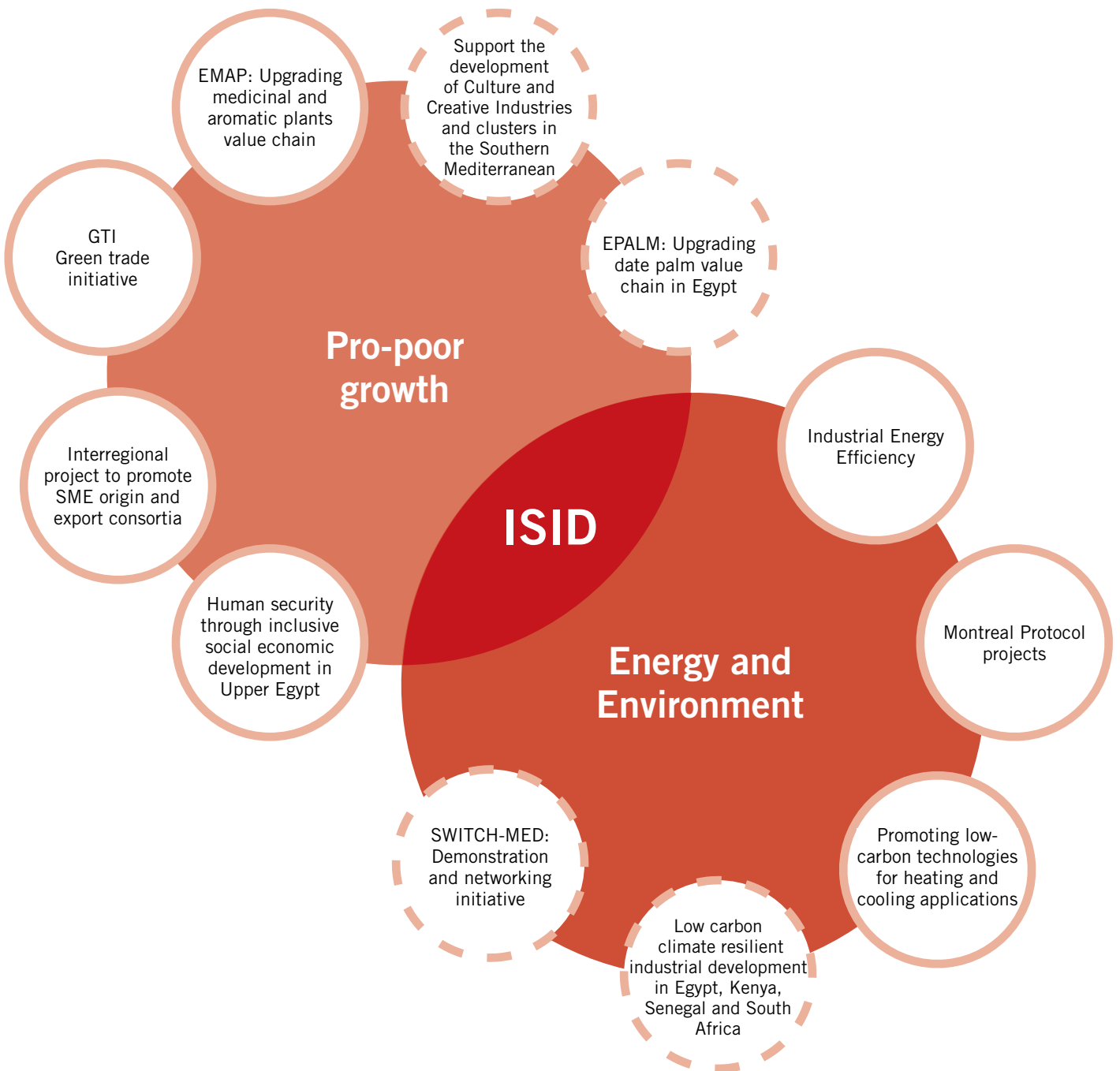
Inclusive and Sustainable Industrial Development (ISID)

UNIDO's mandate is to advance ISID in Egypt, as a means to accelerate industrialization in the country while leaving no one behind in benefitting from industrial growth and from the globalization of markets for industrial goods and services.

UNIDO proposes an approach to industrial development characterized by: (i) a focus on strategic and sustainable choices; (ii) tailor-made solutions based on local capabilities and potentials; (iii) attention to all segments of productive actors, including leading enterprises but particularly focusing on SMEs with a view to facilitate their interaction to reach common development goals and equitable development.

MSMEs are a major target of UNIDO's activities in the country. The overall objective is to upgrade the performance of MSMEs by targeting opportunities with proven market potential, and promoting trade while ensuring environmental sustainability, so as to enable MSMEs to generate higher aggregate value and become effective driver of inclusive and sustainable growth.

The following section provides a detailed presentation of the projects UNIDO is currently implementing and the projects under design as of January 2014 for which strong interest has been gathered from the GoE and the donors' community.





Pro-poor growth through productive activities

Through a participatory approach, UNIDO implements technical cooperation projects that enable Egypt's enterprises to become an effective driver of pro-poor growth. It promotes local entrepreneurship with a particular focus on developing the entrepreneurial skills of disadvantaged groups, such as youth and women.

Through its direct engagement with national partners, UNIDO also contributes to institutional capacity building. UNIDO has vast experience in identifying industrial sectors with competitive potential, analyzing trends in performance and formulating strategies to improve competitiveness, upgrading manufacturing and value-adding processes, and establishing export networks and consortia to support trade for SMEs.

The economic success of developing countries and economies in transition relies heavily on the ability to participate in global trade. UNIDO, therefore, supports SMEs to produce safe, reliable and cost-effective products that comply with international standards, supporting and fostering their presence both in local and external markets.

EMAP: Upgrading the Medicinal and Aromatic Plants value chain: Access to export markets

Project background and rationale

UN Implementing Agency	UNIDO
National Implementing Partner:	MTI/ATC
Donor:	Government of Switzerland –SECO
Budget:	US\$ 2,870,000
Duration:	2011 – 2014
Governorates:	Beni Sweif, Minya, Assiout, Fayoum


<http://www.emap-eg.org/>

Past projects implemented by UNIDO in the agro-industrial sector provided detailed insights into the challenge and bottlenecks hindering its development potential, namely the disconnect between primary production and further processing, low degree of value addition, high post-harvest losses, as well as lack of technical knowledge and market information.

UNIDO is addressing these bottlenecks and will continue to do so, jointly with the GoE, using a number of innovative tools aiming to improve the capacities of producers, especially the small scale ones, to increase productivity, quality, compliance and value addition, strengthen the linkages of value chain³² and support clusters and producers groups, as well as facilitate access to domestic and international markets. As opposed to the traditional exclusive focus on production, the value chain concept stresses the importance of value addition at each stage.

85% of Egypt's MAP production is exported
 MAP sector employs more than 140,000 workers
 About 80% of Egypt's MAP production is located in Upper Egypt

³²A value chain can be described as the entire range of activities required to bring a product from the initial input-supply stage through various phases of production, to its final market destination. UNIDO (2009) *Agro-value chain analysis and development. The UNIDO approach.*
http://www.unido.org/fileadmin/user_media/Publications/Pub_free/Agro_value_chain_analysis_and_development.pdf



The work UNIDO undertakes on value chains in the Egyptian agro-industrial sector includes a pro-poor dimension since it looks into the inclusion of small scale producers into formal and durable business opportunities, with a special focus on Upper Egypt. Activities in the sector of medicinal and aromatic plants (MAP) are fully in line with this approach.

Egypt has been growing MAP since ancient times and its products are considered today as high-value export crops.

However, the Egyptian MAP sector development potential is hindered by low quality and safety standards, lack of professional advisory services, highly fragmented and underdeveloped supply chain. These factors negatively affect the position of Egyptian MAP products in the local as well as in the export markets. Consequently, this had undermined the sector's ability to enhance productivity, quality and competitiveness of high value products and contribute to the generation of employment opportunities.

Project objectives

In order to ultimately upgrade Egyptian MAP sector value chain and consequently facilitate MAP products access to international markets, technical assistance and trade capacity building activities are implemented in the framework of the project. These activities are intended to raise the efficiency of the value chain, harmonize national standards and assure their compliance with international quality and food safety requirements, increase the value added of final products, and support the access of Egyptian MAP products to international market. In particular, the program focuses on two inter-related components: quality enforcement; and market access. EMAP provides an integrated approach directly targeting all supply chain members – growers, pre-processors/local traders and final processors/exporters – and indirectly supporting governmental as well as non-governmental organizations, research and sci-

entific institutions. Development and technical support programs are carried out through a network of specialized technical centers affiliated to the Ministry of Trade and Industry (MTI).

Project activities and achievements

As a core pillar to assure quality and promote Egyptian MAP products at export markets, EMAP contributed to set important milestones towards the establishment of an Egyptian MAP **Quality Scheme** following international best practices, namely (i) an Egyptian Standard for production, handling and processing of MAP that has been formally issued by the Egyptian Organization for Standardization and Quality Control (EOS), and (ii) a Ministerial Decree forming the Quality Scheme Steering Committee to set up the National Quality Scheme. In addition and in preparation for the implementation of a National Quality Scheme, EMAP had supported 12 targeted MAP small and medium exporters to comply with quality standards and to ensure their harmonization with international quality regulations.

Hosted by Fayoum University and MTI, two service centers have been established serving the main MAP production areas in the four target governorates in Upper Egypt and providing sustainable advisory services to supply chain members, through technical workshops and informative seminars, specialized training programs, field days and extension fields. Focused **technical assistance** is currently provided to 28 SMEs (exporters), 63 traders/pre-processors and 1126 producers (7,000 feddans) to cover all quality enforcement aspects. Material for technical assistance activities includes 8 crop guidelines on good agricultural and production practices developed by EMAP team.

In its efforts to provide effective tools for **product development and value addition** in response to market demand, the project has identified and successfully in-



roduced the cultivation of 17 new MAP varieties through the establishment of 12 extension fields in the targeted Governorates. The newly demanded varieties include: Dutch fennel, chamomile bona, curly parsley, savory, Genovese basil, oregano, stevia, lovage, black carrot, marjoram, chives, chervil, rosemary, lemongrass, coriander, Turkish anise and thyme. As market access is one of the main objective of the project, EMAP had expanded its support to link producers of new varieties to exporters and pre-processors through farm contracting.

On the product development front, EMAP introduced stevia (natural zero-calories sweetener) as a new MAP product relevant for cultivation in Egypt and with high in potential in export markets. EMAP had prepared a detailed techno-economic study on stevia to present relevant scientific & market information to target groups and so far, two enterprises had already started production under the project technical assistance.

A pilot model for a modern drying facility, considered the first hybrid herbal drying system based on solar

and conventional sources of energy in Egypt, has been developed and tested. Access to finance has been facilitated through a World Bank grant awarded to one company from Fayoum, which is currently implementing the mentioned model. EMAP also linked also target beneficiaries to the Global Environment Facility (GEF) Small Grants Program for establishing upgraded drying unit. Three associations managed to deliver grant proposals to GEF, assisted by the project.

The enhancement of Egyptian MAP products compliance with quality standards regulations, as well as their credibility and **access to market**, can be achieved also by improving Egyptian MAP products traceability. In this context, EMAP initiated the idea of developing and deploying a geographical based traceability system for MAP exports. As a first step towards enhanced traceability of the MAP supply chain members, a manual traceability and internal operations system had been introduced and is currently implemented at selected clusters in Beni Sweif and Fayoum.



Sieving curly parsley

With the aim to enlarge and enrich potential trade windows, business linkages were established between Egypt and Brazil (observatory mission, business-to-business meetings, trade mission). Building on the successful collaboration with SIPPO in the context of international co-operation for export promotion, Egyptian MAP companies participation to trade fairs was supported during 2012-2013 resulting in top new markets penetrated by MAP SMEs, such as Germany, Sweden, Poland and India.

Green Trade Initiative

Project background and rationale

UN Implementing Agency	UNIDO
National Implementing Partner:	MTI, MoALR, MoT
Donor:	Italian-Egyptian Debt for Development Swap Program
Budget:	EGP 54,962,854
Duration:	2013 – 2016
Governorate:	All over Egypt

The Green Trade Initiative (GTI) is meant to scale up previous interventions in the agribusiness sector implemented by the Government of Italy (donor of this project) and by UNIDO, namely the “Green Corridor Pilot Project” and the “E-Trace: Traceability of Agro-Industrial Products for the European Market Project”.

UNIDO will also capitalize on the results and networks built during the past SALASEL³³ project and the on-going EMAP project, applying the value chain approach. The value chain approach is an inclusive methodology meant to improve each and every step of the agrosupply chain from production to logistics, in order to enhance the quality and safety of goods, generate value addition, create a stable connection of all the stakeholders within the value chain and promote a sound institutional support to the sector.



Project objectives

The strategy of the GTI is meant to enhance the competitiveness of Egyptian horticultural fresh production and, consequently, its export rate towards Europe through Italy. The project aims to build capacity at institutional level and stimulate links and partnerships, in particular between the Italian and Egyptian private sectors not only in the production and export phase but also in the transfer of technical assistance, know-how and technology.

The GTI focuses on four main pillars:

- Enhancement of horticultural produce **quality** and phytosanitary controls by defining and adopting national standards in line with the European regulations;
- Integration and strengthening of **logistics** and transportation infrastructures to ensure a fast access to European markets;
- Increase private sector investments in the value chain by mobilizing existing financial resources, such as the Italian credit lines for Egyptian SMEs;
- Better **access to the national and international markets** for the small producers through the dissemination of horticulture market information (prices and products), the participation to specialized fairs and last but not least foster the establishment of joint ventures with Italian and, in general, European companies.

³³Pro-poor horticulture value chains in Upper Egypt (SALASEL): project funded by the MDG fund (Government of Spain) and implemented by UNIDO, UNDP, ILO, UN Women and completed in June 2013.



The geographical coverage of the project's activities, with reference to the enhancement of horticultural fresh production activities, will be defined during the inception phase, taking into consideration 8 selected crops and their value chains development, namely green beans, artichokes, strawberries, grape, lettuce, tomatoes, pepper and melons.

At the institutional level, the GTI will involve three Egyptian line Ministries: MTI, Ministry of Agriculture and Land reclamation (MoALR) and the Ministry of Transport (MoT).

The success of the initiative in supporting Egypt to adopt an updated food security legislation and to apply an efficient quality and monitoring control system will allow the country rank higher on fresh production export and enhance the overall reliability of Egyptian production. The direct beneficiaries of the program will be the final consumers in the Egyptian and European markets, who will have access to better and healthier horticultural products.

The inception phase of the project is expected to start in January 2014.

Interregional project to promote SME origin and export consortia

Project background and rationale

UN Implementing Agency	UNIDO
National Implementing Partner:	MTI
Donor:	Government of Italy
Budget:	EUR 140,000
Duration:	2012 – 2014
Governorate:	All over Egypt

For many SMEs exporting is often a complex business involving high risks and costs. The creation of export and origin consortia is a dynamic tool promoted by UNIDO to **support SMEs' efforts to gain export markets**, pooling

financial, operational and human resources towards clear common export targets (selected market and /or distribution channels, trade fairs, etc)

An export consortium is a voluntary alliance of firms with the objective of promoting the export of goods and services of its members through joint actions.

Project objectives

UNIDO has developed an interregional project to support the creation of SMEs consortia in the North African and Latin American regions, choosing four target countries, namely Egypt, Morocco, Peru and Ecuador. The project component implemented in Egypt, aims to improve the economic and social performance of origin and export consortia member companies. To this end, UNIDO intends to (i) build the capacity of national public and private support institutions in the country to promote, on a regular basis, the creation and development of origin and export consortia; and (ii) foster information exchanges and dissemination of best practices on export consortia among local and regional institutions.

In this context, technical assistance and support programs are carried out in collaboration with export councils (Food Export Council, Engineering Export Council, Furniture Export Council, Home Textiles Export Council), technology centers and other specialized national institutions supporting SMEs and export promotion.

Project activities and achievements

The project promoted the tool of export consortia to over 15 institutions in both public and private sector, training and coaching them in the concept of export consortia and their possible benefits in facilitating trade and increasing exports. Institutions were also coached in assisting the export consortia member companies in the establishment, management and promotion of the consortia within their first year. In addition, through tech-

nical guidance from UNIDO, various institutions have been able to identify sectors that could benefit from the tool of export consortia. Key sectors include the date palm sector, the hospitality industry, and the furniture industry. UNIDO has supported SMEs belonging to these sectors with key activities such as trade fair participation, technical assistance and legal consultations.

In the date palm sector, UNIDO has worked in the isolated oasis of Siwa, thus positioning itself to become one of the foremost agencies to assist date palm producers and processors. Interventions included several missions conducted by international expert and national consultants to train and assist SMEs in both pre and post-harvest operations, as well as in export promotion, participation to international trade fairs, and improvement of the overall product image to foreign clients. As first joint action, SMEs participated and exhibited in the Emirates International Date Palm Festival held in November 2013 in Abu Dhabi, where, supported by UNIDO and the Food Export Council, the SMEs successfully generated public interest in the unique date products of Siwa, raised awareness on the “Siwa Dates” brand, thereby also facilitating future business-to-business linkages with Malaysia and Sri Lanka.

The success of this event resulted in an increased awareness on the benefits of **combining human and financial resources** to successfully access an external market and increased ownership on their consortia gained by the SMEs, which are now planning new joint activities, quality improvement mechanisms (ISO certification) and starting the application for production certification to become more competitive in new target markets

Meanwhile, other SMEs in the hospitality and furniture sectors have benefitted from UNIDO assistance and they are now discussing and planning their first joint activities and drafting their consortium **business plan**. Once again, a key role has been played by the support and encouragement on the side of the related Export councils, which have shown clear interest in supporting group of SMEs to increase their outreach capacity.

While the “Furniture” consortium is still in the initial stage of group meetings to define complementarities and main objective of the alliance, the “Hospitality” consortium is already preparing a first trade mission to Erbil, has almost finalized the legal establishment and has defined a common export brand.



Siwa dates consortium booth during the “2013 Emirates International Dates Palm Festival” in Abu Dhabi





Human security through inclusive socio-economic development in Upper Egypt

Project background and rationale

UN Implementing Partners:	UNIDO (lead agency), UN Women, UN Habitat, ILO, IOM
National Implementing Partner:	Ministry of Local Development
Donors:	UNTFHS; SDC
Budget:	US\$ 5,372,791
Duration:	2013 – 2016
Governorate:	Minya

The deterioration of the Egyptian economy in the aftermath of the 2011 Arab spring uprisings is having a severe impact on the economic security of communities in rural Upper Egypt, pushing the most vulnerable groups – youth, women and children – to slide deeper into poverty and exclusion. Decreasing incomes at the household level have repercussions on food and health security (hunger, unsafe food, malnutrition, decreased access to basic health care), as well as on personal and community security (crime, domestic violence and child labor).

Project objectives

The project is working to strengthen the **economic security of vulnerable communities** in five mother villages and selected satellite villages in the vulnerable districts of El Edwa and Maghagha, both in the Minya governorate. The idea is to promote the sustainable employability of the local labor force, while contributing to mitigate threats to environmental, personal, community and food security. The project capitalizes on the combined resources of UNIDO, ILO, IOM, UN Habitat and UN Women, working through local government, civil society partners and community structures to serve at least 18,000 beneficiaries. The project supports target communities to become more resilient, self-reliant and inclusive. In this respect, the activities envisaged by this joint program aim at (i) strengthening human security through creation of more and better

employment opportunities and increased employability of the local labor force; and (ii) enhancing community and personal security through activities to develop communities' social capital, enhance cohesion and inclusiveness.

The overall concept adopted by this new initiative is the one of **human security** as a concept that focuses both on the **protection of well-being from threats** (such as chronic poverty, precarious livelihoods, unemployment, diseases, financial and economic downturns and environmental degradation) and on **community empowerment** measures, which allow communities to acquire means to become self-reliant in addressing vulnerabilities and building their own future.

Project activities and achievements

The project started implementation in June 2013, with the main aims of exploring mechanisms for active community engagement and detailing long-term strategies to achieve human security goals. This process is going to be supported by the information gathered through two parallel and coordinated field assessments:

- A territorial mapping exercise to be conducted in target districts, in partnership with local institutions, in order to assess the main human security threats and vulnerabilities, and to identify vulnerable and underserved constituencies within local communities. The mapping exercise is designed to eventually result in the formation of the Human Security Forum.
- A labor market study to assess the major sources of labor demands, the characteristics of the labor supply as well as local institutions offering match-making and skill-enhancing services.

In spite of difficult external conditions, the project managed to deliver tangible benefits to local communities and to simultaneously set the stage to prepare more sustainable interventions in the coming period.

The project adopted a strategy based on three parallel lines of action: (i) provision of **capacity building to local NGOs** on human security for economic development and project design, paired with a grant scheme for small-scale neighbourhood upgrading projects; (ii) delivery of quick-impact technical assistance modules to groups of local farmers; (iii) planning of longer-term strategic activities, including the formation of the **Human Security Forum**.

In particular, engaging local NGOs on a small-scale grant scheme has proved a valuable strategy to better understand the local context as well as to disseminate the Human Security approach in the community.

The Human Security Forum is expected to be built on pre-existing local representation structures, covering the village level (the configuration may differ across villages to better adapt to specific contexts and to allow for the testing of alternative solutions), and a common top layer at the district/governorate level for steering and coordination purposes.



Awareness training on Human security in Minya

Support to the Development of Culture and Creative Industries and Clusters in the Southern Mediterranean

UN Implementing Agency	UNIDO
National Implementing Partner:	MTI/ATC
Donor:	EU
Budget:	EUR 5,500,000
Duration:	2013 – 2016
Governorate:	All over Egypt

In terms of SMEs development, one of the sectors in which UNIDO has been engaged in the past years, that will continue to be targeted especially for its potential for youth, and women employment is the one of creative industries.

Creative industries are defined as those that use creativity and intellectual capital as primary inputs. They comprise tangible products and intangible intellectual or artistic services with **creative content, economic value and market objectives**. They are at the cross-road among the artisan, services and industrial sector, and constitute a new dynamic sector in world trade.

Creative industries include four groups: cultural heritage, arts, media, functional creations. The uniquely distinguishing characteristic common to all these industries is the involvement of creativity, human skills and cultural knowledge in the production process. This sector are largely dominated by SMEs bringing creativity, skills and talent into production, distribution and promotion of cultural and creative contents.

Due to the vast and diversified cultural traditions, Egypt has distinctive competitive advantages to emerge in this sector. Furthermore, in Egypt, creative industries could be closely related to tourism through the handicraft subsector. Prompt interventions in the craft sector would, therefore, also contribute to recovery the



Egyptian tourism industry and raise its competitiveness and employment generating capabilities. Tourism is a key sector in the Egyptian economy, but it has been adversely affected by the political uncertainty and social instability, which, in the last three years, has deteriorated Egypt's economic performance and dampened the country short-term economic outlook.³⁴

Creative industries in Egypt are still unable to unleash their potential for income generation and job creation due to several impeding factors, among which: (i) inadequate and obsolete market access strategies; (ii) insufficient focus on product diversification, quality and design (islands of excellence exist but vast majority of products remain of the low-range type); (iii) weak entrepreneurial capacities and fragmentation of the offer (many producers of very small size and limited capabilities); (iv) limited access to finance for innovation.

In this context, the proposed intervention aims to (i) provide assistance to the Southern Mediterranean Region in the creation of a conducive and sustainable environment for MSMEs in the field of cultural and creative industries; (ii) assist in the development of strong sets of intermediary organisations supporting the development of MSMEs operating in the sector; and (iii) demonstrate the benefits of the Euro-Mediterranean regional integration through fostering entrepreneurial co-operation in the cultural and creative industries.

The project will strengthen support institutions at the local, national and supra-national levels to provide the required services to SMEs clusters, thus building regional capabilities and competencies. A cluster approach will help the assisted enterprises move beyond their individual capacities, organizing themselves in dynamic production networks, developing strategic relationships with other firms and institutions to improve their com-

petitive advantages based on economies of scale, innovation and learning.

The new program will have a clear focus on the need to **consolidate business linkages and improve production techniques**, in order to improve the livelihoods of local entrepreneurs and to make them more resilient to changes in consumers' taste and to the increasing competition coming from East Asia. Doing so would create more decent and durable job opportunities, particularly for marginalized groups, while also contributing to safeguard element of Egypt's rich cultural heritage.

EPALM: Upgrading date palm value chain in Egypt

UN Implementing Partners:	UNIDO (lead agency), UN Women
National Implementing Partners:	MTI; MoALR; SFD; National Council for Women
Budget:	US\$ 10,000,000 (estimated amount)
Duration:	4 years
Governorate:	All over Egypt

The strategy UNIDO is pursuing towards increased productivity and profitability of SMEs in the agro-based value chains, by targeting agro-industrial sectors with growing market potential and promoting the development of linkages along the value chain, will be expanded and diversified to cover new sectors.

UNIDO is therefore planning to target the date palm products sector, aiming to upgrade its value chain via an integrated demand-based approach. The project strategy is in line with national policies for **SMEs promotion** in Egypt, focusing on building the capacity of SMEs and integrating them in **global value chains** as well as improving entrepreneurship policies with the inclusion of women.

³⁴14 million tourists a year visited Egypt prior to the revolution. Return to this level is expected in 2013 (TEPAV, 2012).

Several soft, semi-dry and dry date varieties are produced in different regions in Egypt and display particular market opportunities. Egypt actually enjoys important comparative advantages due to the high production capacity at relative low cost and a latent potential for improvement in quality, product development and value addition.

While Egypt is the largest palm date producer worldwide, its international presence is relatively scarce, especially in terms of value (9th in the export value rank of 2009). The sector faces many difficulties such as lack of production know-how and post-harvest technologies, lack of economies of scale and lack of linkage with research and development. Furthermore, local price volatility, weak market information system, underdeveloped infrastructure and a high percentage of post-harvest losses pose significant challenges to the sector. On the trade side, despite the growth in the international demand, a modest volume of exports is observed often caused by difficulties in meeting international quality and food safety requirements, as well as value addition and premium products.

Egypt is the first producer of dates worldwide but its exports amount only to around 1.2% of production

The proposed intervention intends to help all value chain members – input suppliers, growers/producers, collectors and traders, processors, retail outlets and exporters – to upgrade their production, increase level of **value addition** and comply with technical regulations, codes of good practices and conformity standards required by destination markets, thereby facilitating their access to those markets. Enterprises in the palm sector will thus generate higher aggregate value and offer more equitable and inclusive job opportunities, especially to women.

The project will also address the different clusters of hand-crafted non-food products of the palm tree (woods and leaves) that require a high degree of innovation and design.



Energy and environment

UNIDO has long recognized the need for a perspective and a decision-making process that simultaneously considers both economic value and environmental sustainability. Realizing the ultimate goal of ISID means achieving broader economic and social growth within an environmentally sustainable framework. Sustainable energy solutions are central to the achievement of a broad-based growth in Egypt.

For the country, the priority today is to respond to the challenges posed to the industrial sector by soaring demand for energy, shortages of fuel and scarcity and unpredictable availability of resources.

UNIDO recognizes these challenges and, accordingly, provides assistance to: (i) enterprises to improve their energy consumption patterns; (ii) energy production sector to move towards a low-carbon path and (iii) the GoE to strengthen national energy and environmental standards, in compliance with international ones.

In this regard, activities implemented by UNIDO seek to promote resource-efficient and low-carbon industrial production, through clean, efficient and sustainable energy technologies, as well as capacity building for the enforcement of multilateral environmental agreements, such as the Montreal Protocol on the phasing-out of ozone-depleting substances.

Therefore, the key challenge is to decouple economic growth and revenues from excessive pollution and increasing resource consumption. The following section contains a detailed presentation of the projects UNIDO is currently implementing in order to improve energy efficiency, make renewable energy viable and switch to green industries in Egypt. The section also give a brief on the projects under design as of January 2014, for which strong interest has been gathered from GoE and the donors' community.

Industrial energy efficiency

Project background and rationale

UN Implementing Agency	UNIDO
National Implementing Partner:	EEAA
Donor:	GEF
Budget:	US\$ 3,950,000
Duration:	2013 – 2018
Governorate:	All over Egypt

Improving energy efficiency in industry is one of the most cost-effective measures to help supply-constrained countries meet their increasing energy demand and loosen the link between economic growth and environmental degradation.

Industrial energy efficiency represents a significant opportunity for energy savings as a way to bridge the gap between expected energy demand and supply in the country.

The industry sector represents a major energy consumer in Egypt: it contributes to about 43 per cent of end-use energy consumption. Final energy consumption per unit of output in the most important industries in Egypt is from 10 to 50 per cent higher than the international average. Energy saving potential can therefore be considered high.

Aware of the importance of developing an energy efficiency strategy to face the country development challenges, UNIDO is working on the Industrial Energy Efficiency (IEE) project together with the Ministry of State for Environmental Affairs, represented by the Egyptian Environmental Affairs Agency (EEAA), and in collaboration with the MTI.

Final energy consumption expanded by more than 70% in the last decade, and it is expected to double within the next decade
 Energy demand is expected to exceed energy supply by 15% within the next decade

The project provides support to all stakeholders involved in the energy supply chain for the industrial sector and tackles the following interrelated components: (i) national program to define energy benchmark and energy efficiency policy; (ii) awareness raising on industrial energy efficiency and management in industry; (iii) technical capacity building on energy efficiency raising and; (iv) access to financial assistance for energy efficiency improvement projects.

Project objectives

IEE aims to address the main barriers to industrial energy efficiency, so as to facilitate energy efficiency improvements in the industrial sector with a focus on energy intensive industries. Main identified barriers include: (i) lack of energy intensity benchmarking for policy formulation; (ii) perception by corporate decision makers and managers of high risk associated to energy efficiency projects because of their alleged high capital requirements; (iii) lack of awareness of the potential of energy efficiency in long-term cost reduction; (iv) lack of familiarity with the range of energy efficiency technologies and processes to design, evaluate and implement energy efficiency management and optimization.

The Egyptian industry could have produced the same output with almost 20% less energy in 2005. Egyptian energy-intensive industry can save up to 50% of its energy consumption by adopting energy efficiency measures.

Bearing in mind its successful experience in delivering capacity building in energy management and industrial energy systems optimization in China, South Africa, Turkey and elsewhere, UNIDO aims to effect sustained energy management and efficiency practices in the Egyptian industry by developing a holistic approach.

UNIDO's approach to energy efficiency does not only focus on technical improvement of individual components, but rather on the whole system, with an eye on policy, management, operation and financing aspects, thereby minimizing the use of energy in industrial processes.

Project activities and achievements

The IEE project work both on the supply (i.e. energy management and energy efficiency experts) and demand (i.e. industrial facilities) sides of the market, by developing and helping establish market oriented policy instruments, and by stimulating the creation of a market for industrial energy efficiency products and services, in order to ensure sustainability of energy efficiency improvement efforts after project closure. The project intends to **build knowledge** and in-depth **technical capacity** for IEE, with an emphasis on system optimization and energy management in industry, energy professionals and relevant institutions, such as EOS, Industrial Development Authority (IDA), Industrial Modernization Centre (IMC), Federation of Egyptian Industries (FEI), and MTI.



Technical assessment of an energy-intensive industrial facility



UNIDO's assistance is, in fact, directed towards the development of a national program to implement the International Standard Organization (ISO) **Energy Management Standard (EnMS)** – ISO 50001 – to provide companies with a management structure and process for continuously improving operational energy efficiency. This management structure is meant to organize and efficiently manage the purchase and use of energy, energy consuming equipment and systems, in order to reduce operating and energy costs and energy-related greenhouse gases emissions, and foster environmental performance.

The project closely coordinates the IEE policy development with a European Union (EU) project on energy policy reform as well as the Energy Efficiency Unit in the Information and Decision Support Center (IDSC). A national campaign to build awareness on the benefits of EnMS will also be implemented in the framework of the IEE project.

The project will provide technical assistance, including energy audits and support pilot IEE activities with potential for replication and/or high energy savings in key industrial sectors.

In the development and implementation of energy efficiency improvement activities, industry, consultants and suppliers/vendors will be assisted by a cadre of well-trained, specialized and equipped experts in system optimization and energy management. In this respect, training on EnMS is being undertaken targeting: (i) local experts, so as to stimulate the creation of a market for energy efficiency products and advisory services and (ii) representatives and operators from high energy consuming industries, such as cement, metallurgy, ceramics, paper, chemicals, and fertilizers sectors.

UNIDO & GEF

GEF is a major partner for UNIDO's activities UNIDO in the field of energy in Egypt. Since 2006, UNIDO has been formulating energy management and systems optimization projects to be funded through direct access to GEF focal areas of Climate Change and in the Ozone Layer Depletion. Through their partnership, UNIDO and GEF recognize the importance of the role played by energy and environmental policy and strategies in greening the industrial sector.

Montreal Protocol Projects

Project background and rationale

Since 1993, UNIDO has been assisting the GoE, through EEAA, to comply with its commitments as signatory party of the Montreal Protocol carrying out projects that aim **to phase-out ozone-depleting substances (ODS) in industry, agriculture, and the refrigeration sector.**

The main objective of the Montreal Protocol is to protect the ozone layer, by controlling ODS total global production and consumption. During its implementation, the Montreal Protocol should facilitate a smooth and sustainable transition from ODS-based technologies to non-ODS technologies without creating local market distortions or increasing social costs resulting from phase-out costs being passed to the consumer.

ODS, gases that damage the ozone layer, have been employed in a wide range of industrial and consumer applications, e.g. refrigerators, air conditioners, fire extinguishers and crop fumigation, as aerosol propellants, solvents and blowing agents for insulation foams.

All ODS are halogenated organic compounds, such as CFCs (chlorofluorocarbons), HCFCs (hydro chlorofluorocarbons), and other groups such as bromides.

Project objectives

To achieve the objective of phasing out ODS by replacing chemical substances and equipment in use that contribute to the ozone layer depletion, a planned and

The Montreal Protocol projects implemented by UNIDO in Egypt contributed to the phase-out of 1,396.3 ODP (ozone depleting potential) tons of ODS

coordinated approach must be undertaken. UNIDO has been promoting Montreal Protocol projects by providing assistance to build the capacity of the National Ozone Layer Protection Unit in EEAA to implement and comply with the requirements of the Montreal Protocol. Additionally, UNIDO provides technical support and technology transfer to the industries through investment projects and National Phase-out Plans.

Project activities and achievements

In the past years, Egypt has managed to phase-out Halons, Carbon tetrachloride, Methyl chloroform and Methyl Bromide, and almost all CFCs with UNIDO's assistance.

A strategy for the HCFC **phase-out management plan** has been developed by UNIDO in collaboration with the GoE to achieve the total phase-out of hydrochlorofluorocarbons production and consumption. The first control measure of the Montreal Protocol, which is to freeze HCFC consumption at baseline level, has been met by

Egypt in 2013. The next target as per HCFC phase-out management plans (HPMPs) is a 10 per cent consumption reduction, to be met by the beginning of 2015.

A number of investment projects are currently being implemented by UNIDO and UNDP in the foam sector and the related phase-out of HCFC consumption, where UNIDO, as the lead agency, will target the appliance foam applications, while UNDP, as supporting agency, will implement the HCFC phase-out in the non-appliance foam applications. UNIDO is also conducting a number of enabling activities in the Refrigeration and Air-conditioning sector.

These projects also resulted in an **increased competitiveness** of Egyptian enterprises in domestic and international markets, not only by replacing their chemical substances and equipment in use but by also adjusting their production processes to changing market requirements.

UNIDO will continue to lead the implementation of Montreal Protocol programs and will prepare the Second Stage Country Strategy for Egypt (2015-2020), in collaboration with the GoE.

Next activities include the implementation of demonstration projects in cooperation with UNEP, and preparation for the second stage of HPMPs.



Montreal Protocol projects implemented in Egypt by UNIDO include:

- **Strategic demonstration project for accelerated conversion of CFC chillers in 6 African countries (Cameroon, Egypt, Namibia, Nigeria, Senegal and Sudan), AFROC**

UN Implementing Agency	UNIDO
National Implementing Partner:	EEAA/National Ozone Layer Protection Unit
Donors:	Multilateral Fund for the implementation of the Montreal Protocol; GEF
Budget:	US\$ 1,000,000
Duration:	2008 – 2014
Governorate:	All over Egypt

Replacement of 20 CFC-based chillers with HFC chillers in hospitals, private and private buildings. The demonstration project is developing public-private partnership to: (i) coordinate inputs from engineering facilities and energy contracting providers, investors, financial institutions, government and private sector stakeholders; (ii) enable stakeholders to identify additional financial, technical and regulatory incentives in order to remove local barriers for chillers' investments.

- **Phase-out of CFC consumption in the manufacture of Aerosol Metered Dose Inhalers (MDIs)**

UN Implementing Agency	UNIDO
National Implementing Partner:	EEAA/National Ozone Layer Protection Unit
Donors:	Multilateral Fund for the implementation of the Montreal Protocol
Budget:	US\$ 5,899,000
Duration:	2011 – 2014
Governorate:	All over Egypt

MDIs are one of the main treatments for asthma and chronic obstructive pulmonary disease. MDIs use chemical propellant to push medication out of the inhalers. For decades CFCs were the most suitable propellant for use in MDIs.



Aerosol Metered Dose Inhalers filling machine

By adjusting their production processes to changing market requirements, UNIDO has allowed Arab Drug Company (ADCO) and Egyptian International Pharmaceutical Industries Company (EIPICO), the only two manufacturers of aerosol MDIs in Egypt, to phase-out 163.1 ODP tons supporting the manufacture of MDIs, while being able to actively compete in the local market.

The project intervention supported the necessary technology transfer process to allow the target companies to shift their production lines to CFC-free MDIs, create awareness among physicians and pharmacists on the benefits of the new products, thereby contributing to the transition to ozone-safe MDIs.

According to the manufacturers, the new product has been efficiently absorbed by the market. Moreover, UNIDO intervention is reported to have contributed to safeguard existing jobs in the targeted company.

- **National CFC phase-out plan for Egypt**

UN Implementing Agency	UNIDO
National Implementing Partner:	EEAA/National Ozone Layer Protection Unit
Donors:	Multilateral Fund for the implementation of the Montreal Protocol
Budget:	US\$ 900,000
Duration:	2010 – 2014
Governorate:	All over Egypt

Investment projects have been developed to retrofit the Egyptian National Railway air conditioning units (125 carriages) with ozone-friendly refrigerants.

- **Phase-out of HCFC-141B from the manufacturing of polyurethane foam**

UN Implementing Agency	UNIDO
National Implementing Partner:	EEAA/National Ozone Layer Protection Unit
Donor:	Multilateral Fund for the implementation of the Montreal Protocol
Budget	US\$ 1,440,498
Duration:	2011 – 2014
Governorate:	All over Egypt

The projects aim to phase-out the consumption of 284 metric tons of HCFC-141B (31.2 ODP tons) used in the manufacture of polyurethane rigid foams in the production of domestic freezers at El Araby Co. for Engineering industries, Mondial freezers Company and Kiriazi Refrigerators factory Company, and to manage the transition from HCFC-based foams to HCFC- and HFC-free products by applying cyclopentane technology.



Foam machine

- **HCFC phase-out management plan: Enabling activities in the refrigeration and air-conditioning sector**

UN Implementing Agency	UNIDO
National Implementing Partner:	EEAA/National Ozone Layer Protection Unit
Donor:	Multilateral Fund for the implementation of the Montreal Protocol
Budget:	US\$ 502,0000
Duration:	2011 – 2014
Governorate:	All over Egypt

The project contributes to phase-out HCFC-22, by establishing/upgrading good practices in recovery, recycling and retrofit demo project for use of R290 in the air-conditioning sector.



- National phase-out of methyl bromide in horticulture and commodities fumigation**

UN Implementing Agency	UNIDO
National Implementing Partner:	EEAA/National Ozone Layer Protection Unit
Donor:	Multilateral Fund for the implementation of the Montreal Protocol
Budget:	US\$ 1,934,994
Duration:	2011 – 2014
Governorate:	All over Egypt

In agriculture methyl bromide is primarily used for soil fumigation, as well as for commodities and quarantine treatment (post-harvest protection treatment). The project has succeeded to phase-out methyl bromide by replacing it with non-chemical technologies such as grafting, metham sodium, soil solarization and bio-fumigation. This contributes to a better and safer development of the food processing industry through the use of healthier raw materials and give the industry the opportunity to become more competitive, by employing green sustainable methods as well as yielding higher quality products.

Grafting of horticultural crops, one of the alternatives promoted, proved to bring economic benefits to the companies. The companies with the largest consump-



Growth area after grafting

tion of methyl bromide were given the chance to co-finance grafting units, while in addition receiving extensive training and technology transfer to allow them to shift their production lines to CFC-free methyl bromide for grafting of horticultural crops.

Technical assistance on commodities' fumigation has been provided to the Development and Agricultural Credit Bank, which is responsible for open storage and Silos Company.

Promoting low-carbon technologies for heating and cooling applications


Project background and rationale

UN Implementing Agency	UNIDO
National Implementing Partners:	MTI; EEAA; NREA; Ministry of Tourism; Academy of Scientific Research and Technology
Donor:	GEF
Budget:	US\$ 6,500,000
Duration:	2014 – 2019
Governorate:	All over Egypt

The Egyptian economy is highly dependent on fossil fuels. The installed power capacity is no longer able to meet the increasing demand. To be able to supply its total energy consumption, Egypt would need to import an additional 22 – 45 mtoe of petroleum products by 2030.³⁵

Frequent power cuts and fuel shortages (oil and natural gas) that Egypt is currently experiencing, make the need for diversified energy sources, together with the need for increased energy efficiency, even more urgent.

³⁵Egyptian – German Joint Committee on Renewable Energy, Energy efficiency, and Environment Protection (2010). *Impact of energy demand on Egypt's oil and natural gas reserves*. GTZ.



In order to tackle these challenges effectively, the GoE set up policies and targets aimed at **increasing the share of renewable energy sources** in the country energy mix. In this regard, the Ministry of Electricity and Energy has recently adopted a strategy to increase the share of renewable energies in the Egyptian electricity supply from the current 9 per cent to 20 per cent in 2020. This is to be achieved mainly by scaling up solar power to 2 per cent (1,100 MW concentrated solar power and 220 MW photovoltaics) and wind power to 12 per cent (7,200 MW), while hydropower capacity shall be reduced to 6 per cent. Moreover, the Egyptian Solar Plan, approved in July 2012, set a target to install 3,500 MW of solar capacity by 2027 (2,800 MW concentrated solar power and 700 MW photovoltaics). In the attainment of this target a central role is envisaged for the private sector.³⁶

In particular, air conditioning and heating systems represent a burden for the Egyptian energy sector. Air conditioning and heating devices currently in use consume around 12% of the maximum productive capacity of the power stations and are among the responsible factors for the power cuts Egypt is experiencing.

Alternative technologies are already available to replace conventional air conditioning and heating systems, and most of them are solar powered, which represents a real opportunity for Egypt given the high solar radiation the country enjoys.

Project objectives

The overall aim of the program is to promote the use of low-carbon technologies for cooling and heating applications, thus facilitating a comprehensive market transformation towards increased use of solar energy technologies for air conditioning, hot water production, drying applications for industrial processes and large buildings. In the framework of its multidimensional and multi-track approach to the promotion of productive uses of renewable energies, UNIDO intends to (i) address the policy and regulatory framework to support and accelerate the use of solar technologies for heating and cooling; (ii) demonstrate the technical and financial viability of various feasible technologies; (iii) address the **supply chain of local manufacturing** of quality solar equipment and technologies, and; (iv) upgrade the technical skills on the design, installation, and maintenance of solar thermal technologies to strengthen the capacity of the local market to acquire the products.

To ensure success of renewable energies as cost-effective alternatives to conventional energy sources in heating and cooling applications, interventions are required to build the local capacities (institutional, human, entrepreneurial) and support local manufacturing sector. Such interventions would therefore foster the creation of a sound market environment and the commercialization and use of solar energy systems manufactured in Egypt.

³⁶According to the 2012 Egyptian Solar Plan, private investment share amounts to 67%, including enhancement of relevant local industry. Bryden, Riahi, Zissler(2013). MENA Renewables Status Report. MENA 2013. REN21, Paris.



Transfer of technology and know-how to local manufacturers is crucial in strengthening the local market production, supply and distribution of solar technologies for solar cooling and heating applications. In this respect, the project will provide business services, training to the local renewable energy manufacturers to adopt quality standards, upgrade production capacities, and better link them to the local market. Meanwhile, the project will also increase the awareness of developers and engineering bureaus on the adoption of quality standards in the local supply of renewable energy system components.

Close cooperation and involvement of the private sector, as beneficiaries, developers, service providers, engineering service and equipment suppliers, is essential to achieve the objectives of the project and sustainable results for the sector.

The development of a local manufacturing sector will thus create new employment opportunities and increase the competitiveness of solar heating and cooling applications in the Egyptian market.

Close cooperation and involvement of the **private sector**, as beneficiaries, developers, service providers, engineering service and equipment suppliers, is essential to achieve the objectives of the project and sustainable results for the sector.

The development of a local manufacturing sector will thus create new employment opportunities and increase the competitiveness of solar heating and cooling applications in the Egyptian market.

Low carbon and climate resilient industrial development in Egypt, Kenya, Senegal and South Africa

Project background and rationale

UN Implementing Agency	UNIDO
National Implementing Partners:	MTI; ENCPC
Donor:	Government of Japan
Total budget:	US\$ 1,500,000
Duration:	2014 – 2016
Governorate:	All over Egypt

There is growing recognition that a new and sustainable model of economic growth is urgently required, responding to increasing scarcity of water, fuels and other materials. At the centre of this new growth model is the need to decouple economic growth and revenues from excessive pollution and increasing resource consumption.

UNIDO recognizes these challenges and responds with initiatives, such as the **Green Industry initiative**, aiming to overcome obstacles that hinder the country path towards climate resilient and low carbon industrial development, hence contributing to the reduction of GHG emissions.

This is to be achieved by implementing cleaner, more efficient energy technologies and the sustainable management of natural resources in the manufacturing process.

The Green Industry initiative is simply defined as industrial production that does not come at the expense of the health of natural systems or lead to adverse human



health outcomes. It is aimed to mainstream environmental, climate and social considerations into the operations of enterprises. Green Industry aims at scaling-up and mainstreaming proven methods and practices for reducing pollution and resource consumption in all sectors – greening of existing industries – and expanding the supply of innovative, affordable, and reliable environmental goods and services – creating new green industries.

Egypt's vulnerability to the impact of climate change puts its manufacturing and associated sectors at risk. Current and future changes in climatic conditions may jeopardize Egypt's development gains and efforts for poverty reduction and sustainable and inclusive growth.

Egypt's industrial sector has a crucial role as driver of socio-economic development, but it is still a major energy consumer and a major cause of pollution.

Greening the industrial sector is, therefore, key to Egypt's green transformation and sustainable industrial development.

Project objectives

A new regional project “Low carbon and climate resilient industrial development” funded by the Government of Japan and implemented by Egypt National Cleaner Production Centre (ENCPC) will assure UNIDO continued contribution to cleaner and more competitive industrial development in Egypt, as well as Kenya, Senegal and South Africa.

The project intends to apply GI policy instruments, practices and techniques by encouraging the more efficient use of energy and raw materials in manufacturing processes, with a focus on the following sectors: (i) fruit and vegetable processing; (ii) meat/poultry processing; (iii) wastewater/sludge treatment.

Both the public and private sector are expected to be actively involved to advance GI implementation, create awareness and exchange best practices in low carbon and climate resilient development in the Egyptian industry. Moreover, this new regional project intends to advance South-South and triangular cooperation as complementary solutions to more traditional forms of North-South and multi-stakeholder industrial cooperation.

Activities envisaged by this new program include three main steps:

- Government actions, which include national assessment, consultation workshops, and green industry action plans, to implement green industry methods, instruments, and techniques for realization of government's mitigation and adaptation goals;
- Policy pilots, which include value chain assessment, needs/opportunity assessment, and pilot projects, to assess technology needs and opportunities for reduced carbon intensity and climate vulnerability in the target sectors;
- New public-private partnership between targeted countries and Japan, for awareness raising, technology identification and exchange of best practices in low carbon and climate resilient development in industry.



SWITCH-MED: Demonstration and networking initiative

Project background and rationale

UN Implementing Agency	UNIDO
National Implementing Partners:	EEAA; ENCPC
Donor:	EU
Total budget:	To be determined
Duration:	2014 – 2017
Governorate:	All over Egypt

Governments and private sector need to consider that an environmentally sound industrialization, through technology and know-how transfer, is one of the successful factor for ISID. Industrial operations often rely on inefficient technologies and wasteful use of energy, water and other resources, thus increasing production costs and depleting scarce resources. Many industries use more materials and energy than their production processes would require, due to the continued use of obsolete and inefficient technologies and methodologies. Current consumption and production patterns are unsustainable, because they do not allow today's resource needs to be met without compromising the ability of future generations to meet theirs.

Launched in 2009 and supported by GEF and the Government of Italy to address priority industrial hot spots of industrial pollution in the Alexandria region, the MED TEST project supported the participating companies in applying Sustainable Consumption and Production (SCP) practices and identifying opportunities for water and energy savings and BOD5 and COD reductions.

The project promoted the Transfer of Environmental Sound Technology (TEST): an integrated approach that combines resource efficiency and cleaner production, environmental management system, and environmen-

tal management accounting as part of the corporate social responsibility. By implementing and/or upgrading environmental management system, companies were supported in fully integrating resource efficiency into company policy, action plans and internal procedures, thereby improving their compliance with environmental regulations.

Past implementation of the TEST approach in the pollution industrial hot spots in the Alexandria region resulted in benefits for the participating companies amounting to 8,878,090 m³ of water saved per year, 212,600 MWh saved per year, 1,628 tons of BOD₅ reduced per year, and 1,773 tons of COD reduced per year.

Due to the high interest in replicating and scaling up this program at the national and regional level, the EU agreed to finance a new initiative including 10 countries in the Mediterranean region: Egypt, Algeria, Israel, Jordan, Lebanon, Libya, Morocco, occupied Palestinian territory, Syria, and Tunisia. This will include assistance to additional companies and training of national institutions, service providers, local professionals to become TEST providers, thereby promoting green entrepreneurship and empowering them as key drivers of sustainable consumption and production practices.

The geographical coverage of project's activities will be extended beyond the Mediterranean Sea coastal area; this would be particularly relevant for Egypt since its largest share of industrial base is not directly affecting the Mediterranean Sea. The number of industry demonstrations and manufacturing sector coverage will be increased so as to broaden skills, disseminate best practices on resource efficiency and mainstream sustainable products/services in the market.

FUTURE AREAS OF SUPPORT





In its effort to promote broader economic and social growth within an environmentally sustainable framework, where prosperity is shared among all parts of society and no one is left behind, UNIDO will continue to support Egypt's development plans and efforts for poverty eradication and ISID.

UNIDO will continue to provide technical expertise and assistance, as well as capacity-building measures to enhance Egypt's industrial competitiveness for employment generation and environmental sustainability, expanding its activities also to other both agro and non-agro sectors, in order to enhance inclusive local economic development, create decent and durable employment opportunities through productive activities, and ultimately support Egypt in moving forward on the industrial development path.

The following section provides an overview to some of the areas on which UNIDO is planning to focus its future efforts.

Industrial policy

Aware of the urgency to have a comprehensive and integrated framework to support the industrial sector, the GoE has requested UNIDO support in the development of an Industrial Policy. Evidence shows that the generation of successful evidence-based strategies can only be achieved if public and private institutions are engaged throughout the policy process, from assessment and design to implementation and monitoring and evaluation, as envisaged by UNIDO's **Strategic Industrial Policy** (SIP).


UNIDO can support the design of Egypt' industrial policies, by sharing international industry-related knowledge and providing technical expertise. UNIDO has developed the SIP program, a comprehensive and holistic approach to industrial policy making. UNIDO's SIP comprises four sequential stages: diagnosis, design, implementation and evaluation. These sequen-

tial stages are reinforced by two cross-cutting processes: legitimation and monitoring. Legitimation is about ensuring transparency and stakeholder ownership of the process and ensuring that the process is considered legitimate. Monitoring is about correcting in time malfunctions, delays and other deviations so that industrial policy making ensues smoothly.

UNIDO's SIP operates with three concurrent modalities: advice, facilitation, and capacity building. Policy and strategic advice is about generating knowledge and information on what could work given international trends and the country's own conditions. Facilitation creates the consultation space and the governance mechanisms for constructive and transparent dialogue among stakeholders and the capacity development modality transfers the underlying knowledge to the local personnel and institutions.

While the ultimate objective is the elaboration of an evidence-based national industrial strategy, the immediate objective of this intervention is to build the capacity of the GoE on the generation of industrial intelligence, through a process aimed to strengthen key government agencies and leave behind sustainable capabilities. Efforts to draft a policy statement can be unsustainable if institutions are not capable to generate their own intelligence and make it operational through workable action plans.

While private entrepreneurs will be the driving force in the economic transformation of Egypt, institutions (both public and private) can also play a fundamental role: setting the rules of the game through transparent, objective and evidence-based policies; creating/improving an enabling business environment; supporting private ventures and solving binding constraints to industrial growth. Along these lines, public and private partnerships are key to better implement industrial policies commonly set out by coalition building processes.



Upon request of the GoE, UNIDO will provide methodological tools to build data and analytical capabilities to assess the industrial performance, identify industrial sectors with competitive potential, benchmark industrial competitiveness at the macro and sector levels, and formulate an effective industrial development strategy and vision.

Skills for youth employability in Upper Egypt

An important dimension characterizing UNIDO's approach towards ensuring sustainable livelihoods opportunities is the development of entrepreneurial and technical skills, particularly of youth and women, so as to enable them to increase their employability, engage in productive activities, generate income, and thereby reduce poverty.

Engagement with the Egyptian local industries has shown UNIDO that, in spite of the post-revolution economic downturn, demand for qualified labor does exist in several sectors and can be stimulated further. A project under design to be implemented in the Egyptian Southern governorates therefore intends to provide young graduates with skills and training that are currently not supplied by the educational system, but highly requested by the private sector. The objective is to simultaneously intervene on upgrading MSMEs productivity, improve labor supply to close the **skills gap**, and match demand and offer of sustainable employment.

An analysis of the economic texture of the governorates of Aswan, Luxor, Qena and Assiut, followed by field visits and consultations with a wide range of stakeholders has revealed that sectors with potential for job creation are the agro-food sector (particularly horticulture and food processing) and the waste management sector (including related waste processors). Agriculture

and food processing are a source of employment for approximately 60 per cent of the workforce in the target governorates; yet processing of locally available horticultural crops does not fully unleash its striking potential for growth and job creation. In order to upgrade both the productivity and profitability of MSEs in the agro-food sector, hence enhancing their potential to provide new employment opportunities for the young and the women, the activities under this intervention envisage the provision of (i) integrated programs helping entrepreneurs to adopt technologies that are both innovative and labor intensive, such as grafting and greenhouse cultivation; (ii) vocational and entrepreneurial training for job seekers; (iii) advisory services, business development services and business counseling.

Using the field experience, know-how and training material accumulated by UNIDO in almost ten years of engagement in Upper Egypt, a pool of local qualified young agronomists will be trained through the institution of dedicated post-graduate courses at Upper Egyptian universities to fine-tune both knowledge and expertise of local experts on best practices in agro-industries operations and management; and the design of an innovative entrepreneurship curriculum, which will help strengthen the quality of local labor supply and develop young students' attitudes and attributes to become successful in the job market.

As far as the waste management sector is concerned, Upper Egypt displays a significant surplus of waste (both municipal and agricultural) that can be turned into employment opportunities. Informal recycling is already providing green jobs in Cairo, and these experiences have set examples of informal training, learning and acquisition of skills for thousands of youth that would otherwise be excluded from job markets. On average, the impact of better waste management systems on job creation has been estimated to be at least of seven jobs



generated per ton of collected waste. Although waste workers (both formal and informal) are currently active in Upper Egypt, inadequate resources and the heterogeneous capacities of local waste management systems are such that waste currently represents a social and an environmental problem rather than an opportunity for job creation.

The idea is therefore to upgrade the waste management system for both municipal waste and agricultural (which could be converted into energy and fertilizers) to unleash needed job opportunities in the target governorates.

Clusters development: enhancing SMEs performance

Leveraging on its experience in the delivery of cluster-based technical assistance and capacity building measures to developing countries, UNIDO intends to further advance the development of SMEs in Egypt through the adoption and application of **cluster development approach**, thereby enhancing their collective performance and competitiveness, improving the growth of value chains, promoting business linkages and fostering innovation.

A cluster approach will help the assisted enterprises move beyond their individual capacities, organizing themselves in dynamic production networks, developing strategic relationships with other firms and institutions to improve their competitive advantages based on economies of scale, innovation and learning.

While the growth of individual small-scale firms is constrained by limited access to resources and inability to achieve scale and scope economies, firms within clusters benefit from collective efficiency gains and they are able to achieve higher and sustained growth rates,

for synergies and collaborative linkages allow them to pool resources and efforts together for the achievement of shared economic goals.³⁷

Depending on further assessments and consultations with stakeholders, cluster development projects could be planned in the sectors described in the following sections.

Automotive sector

According to FEI, the Egyptian automotive sector is one of the largest in the Middle East and North Africa region and constitutes about 20 per cent of the engineering products export; however its potential for growing in the local and regional markets remains mostly untapped.

UNIDO can count on a number of tools and successful experiences in this sector in India, South Africa and other countries, that can be harnessed to offer the following services to the Egyptian automotive industry: (i) supplier development for production upgrading and application of lean manufacturing techniques and total quality management; (ii) business and investment linkages promoting transfer of technology; (iii) low carbon automotive supply chains including energy efficiency and awareness building of public and private sector on cleaner production, energy efficiency, and occupational health and safety (iv) capacity building of national consultants/service providers/institutions such as the Engineering Export Council and the Egyptian Auto Feeders association.

In collaboration with the Engineering Export Council, UNIDO is currently conducting an assessment for automotive companies and small workshops, using specific tools to help identify the sector actual bottlenecks and needs, such as gaps in production and technologies, market challenges, and unsustainable production practices and energy use. Meetings and factory field visits are being finalized and a report will be issued by UNIDO

³⁷UNIDO (2010). *Cluster development for pro-poor growth: the UNIDO approach*. Technical paper series. Business, Investment and Technology Services Branch, UNIDO, Vienna.

in 2014 that will serve as a key background document for developing strategic interventions that aim to provide effective support to the sector, such as increasing its productive capacity and efficiency, facilitating trade and upgrading its technologies.

Oliclusters

Another agro sector that UNIDO is planning to target if funds are mobilized is the olive oil sector. This is an interesting sector with important implications for rural development, employment generation and ecosystem preservation. The majority of olive oil production in Egypt is managed by small to medium scale farmers, with limited average farm size. Such producers face significant challenges with regard to access to technology, innovation and extension services, which ultimately results into higher cost structures, in turn compromising their competitiveness. Although progress has been made, yields still lag behind international competitors and lie below their actual potential. The olive oil international market is highly competitive; differentiation and sustained costs are essential elements for sustainability. As such, Egypt faces hard competition with more established producers of the Mediterranean region.

The proposed initiative aims to enhance the performance of SMEs clusters in the olives/olive oil industry by improving the efficiency, quality, environmental and export performance of SMEs in targeted clusters building capacity of local support institutions and cluster governance. The project intends to introduce novel organizational forms such as the cluster and origin consortia approach in areas with limited experience of inter-firm and inter-institutional collaboration and synergies and aims to (i) facilitate cross-border transfer of new technologies and best practices in the agro-food industry to upgrade the targeted value chains; (ii) foster the competitiveness of rural producers on the basis of the joint promotion of traditional products, thus delinking producers from the competition on commodity markets and instead supporting them to entering niche markets;

(iii) favour approximation to export markets policies and legislation, with special regard to food safety and traceability, providing technical assistance to both relevant national authorities and the private sector.

Dairy sector

The demand for dairy products in Egypt is growing rapidly. The processing industry however, is suffering from insufficient supply of fresh milk and is operating at roughly 40 percent of installed capacity, even though large imports of powdered milk is used as a substitute to fresh milk. The performance of Egypt's dairy sector should be improved, increasing quality and yield of dairy manufactured products thereby allowing for the replacement of imported powdered milk with locally produced quality milk. The value of the milk and cream imports in 2012 reached \$330 million, for butter the total value of imports reached \$200 million and for whey it reached \$77 million.

Egypt's milk production stems mainly from cow milk (3 million tons in 2011) and buffalo milk (2.6 million tons in 2011). According to FAOSTAT the cow milk production has gone up with 50 percent in 10 years and the buffalo milk production has increased with 27 percent. Goat and sheep milk production is rather low in comparison, and stood 18,000 tons and 113,000 tons in 2011 respectively.

Constraints relating to milk production include low yielding breeds, lack of Artificial Insemination (AI) and lack of proper feed throughout the year. Other constraints that affect the supply of fresh milk negatively include quality and food safety issues relating to milk collection, including unhygienic practices, lack of cold storage and multiple handling (too many middle men). Poor quality of milk leads to short shelf life even if pasteurization takes place. The involvement of middle men also brings the issue of their price dictating, as they may



often be the only link to the market for many farmers. Very low milk prices paid to the farmers naturally provide a disincentive for the farmers to invest and/or increase their production.

UNIDO intervention would thus focus on activities aiming to improve milk collection, production, and quality, and improve profitability of the small daily farmers, specifically through the establishment of 'dairy hubs'. A dairy hub is a milk collection centre combining collection of smallholder milk with services and training for the farmers.

Recycled plastic and marble waste

There is a huge untapped potential for utilizing the large volumes of plastic waste generated annually in the country as well as waste generated from marble and granite quarries as a valuable source for producing new innovative and high value added products, establishing and/or upgrading clusters of SMEs active in the field of waste recycling, thereby generating employment and income opportunities, opening new market, while reducing the adverse impact of waste on health and the environment.

REFERENCES





- African Development Bank (2013). *Egypt economic quarterly review, volume 3 April 2013*. African Development Bank Group, Egypt Country Office.
- African Development Bank (2013). *Egypt economic quarterly review, volume 4 June 2013*. African Development Bank Group, Egypt Country Office.
- Bryden, J., Riahi, L., and Zissler, R. (2013). *MENA Renewables Status Report*. MENA 2013. REN21, Paris.
- CAPMAS (2012). *Press Conference Bulletin 18/02/2012*. <http://www.capmas.gov.eg/>
- ECES (2008). *Agricultural productivity growth, employment, and poverty in Egypt*. Working Paper No. 129.
- Egyptian – German Private Sector Development Program (2009). *Solar thermal applications in Egypt, Jordan, Lebanon, Palestinian Territories, Syria and Tunisia: technical aspects, framework conditions and private sector needs*. GTZ.
- Egyptian – German Private Sector Development Program (2010). *How to become an energy efficient company*. GTZ.
- Egyptian – German Joint Committee on Renewable Energy, Energy efficiency, and Environment Protection (2010). *Impact of energy demand on Egypt's oil and natural gas reserves*. GTZ.
- IMC – McKinsey (2010). *Egypt GHG emissions, reduction strategy*.
- Ministry of Finance (2013). *The Financial Monthly – October 2013*. http://www.mof.gov.eg/English/publications/MOF_Publications/Pages/The_Financial_Monthly_Bulletin.aspx
- Ministry of Planning and International Cooperation (2012). *Development Cooperation Report 2011. Recent trends in Egypt's ODA with special reference to the Micro, Small and Medium Enterprise Sector*.
- Ministry of Planning and International Cooperation (2012). *Strategic Framework for Economic and Social Development Plan until 2022*. <http://www.mopic.gov.eg/Planning/PDF/Strategic%20Framework%20for%20Economic%20and%20Social%20Development%20Plan%20Until%20Year%202022.pdf>
- Ministry of Trade and Industry (2006). *Egypt Industrial Development Strategy. Industry: The Engine of Growth*.

- OCHA (2009). *Human security in theory and in practice. Application of the human security concept and the United Nations Trust Fund for Human Security. Human Security Unit, OCHA.*
- OECD (2010). *OECD Working Party on SMEs and Entrepreneurship (WPSMEE)/ Issue Paper 1: Innovative SMEs and Entrepreneurship for Job Creation and Growth.* OECD, Paris.
- UNDP (2010). *Egypt Human Development Report 2010. Youth in Egypt: Building our future.* UNDP and the Institute of National Planning, Egypt.
- UNDP (2010). *Situation Analysis: Key development challenges facing Egypt.*
http://www.undp.org/Portals/0/Homepage%20Art/2010_Sit%20Analysis_KDCFE_English.pdf
- UNIDO (2009). *Agro value-chain analysis and development: The UNIDO Approach. A staff working paper.* http://www.unido.org/fileadmin/user_media/Publications/Pub_free/Agro_value_chain_analysis_and_development.pdf
- UNIDO (2009). *E-Trace, Survey Report on Farmers' Associations in Selected Governorates in Upper Egypt.*
- UNIDO (2010). *Cluster development for pro-poor growth: the UNIDO approach.* Technical paper series. Business, Investment and Technology Services Branch, UNIDO, Vienna.
- UNIDO (2013). *World manufacturing production. Statistic for quarter III, 2013.*
- World Bank (2007). *Main report of Egypt. Poverty assessment update.* World Bank, Washington, DC.
- *Egypt – African Economic Outlook*
<http://www.africaneconomicoutlook.org/en/countries/north-africa/egypt/>
- *World Bank data* available at <http://data.worldbank.org/country/egypt-arab-republic>
- <http://www.egyptindependent.com/news/govt-poverty-rate-increased-252-percent-population>



20
14

