




Inclusive Green Growth in Egypt
النمو الأخضر الشامل في مصر

INCLUSIVE GREEN GROWTH IN EGYPT PROJECT

 Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
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Embassy of Switzerland in Egypt



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



Ministry of Trade & Industry
وزارة التجارة والصناعة

Acknowledgments

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Background to the Inclusive Green Growth in Egypt (IGGE) project



Main Governmental Partner
Ministry of Trade and Industry



Project Duration
2020 - 2023
4 Years



Geographical Coverage
Luxor and Qena
governorates, Upper Egypt



Main Partners

Industry Modernization Center (IMC)
Micro, Small and Medium Enterprises
Development Agency (MSMEDA)
Ministry of Environment
Luxor and Qena Governorates

IGGE aims to contribute to the efforts of the Government of Egypt to boost growth, productivity and job creation, while at the same time safeguarding the environment. The green economy has great potential in this area, with the private sector acting as a key driver of inclusive green growth. Micro, small and medium-sized enterprises (MSMEs) in the green economy play a crucial role in local economic development and make use of resources traditionally

overlooked or wasted. As such, their development brings about both economic and environmental benefits. The project's ultimate aim is to support market system changes for a favorable environment to businesses and the workforce in the green economy.

To this end, the IGGE project:



1 Supports green start-ups and MSMEs, including those led or owned by women, to improve their productivity, innovation, competitiveness and strengthen their resilience



2 Facilitates backward and forward linkages, strengthens networking and collaboration mechanisms



3 Fosters the employability of youth and women in targeted green sectors



4 Mainstreams green growth approaches into government policies and strategies



5 Enhances the offerings from financial and non-financial support institutions (from both Government and civil society) to green MSMEs



The project's ultimate aim is to support market system changes for a favorable environment to businesses and the workforce in the green economy

The project targets the green economy sectors of

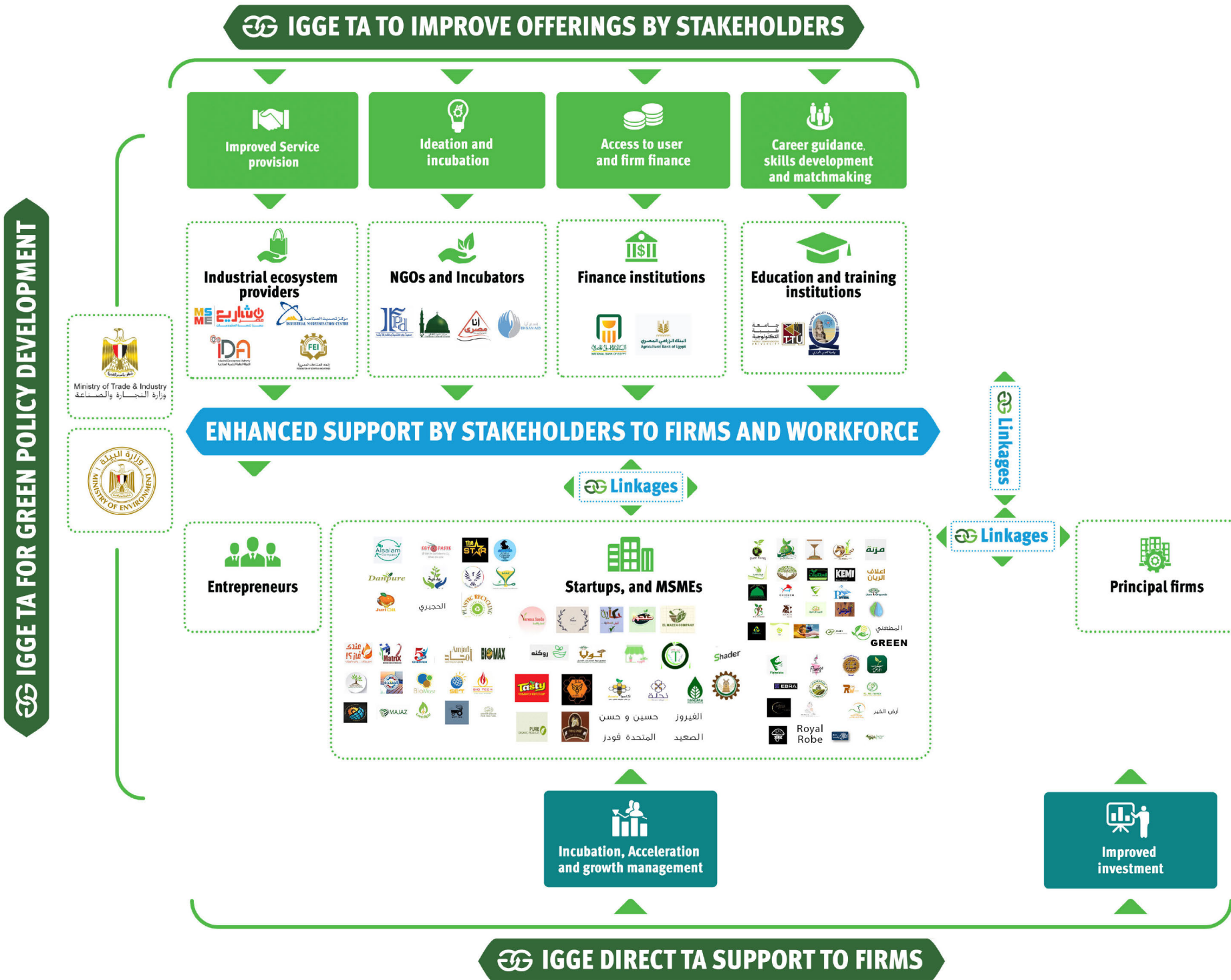
- Sustainable agriculture**
- Food production**
- Waste management**
- Sustainable energy**

The project targets the green economy sectors of sustainable agriculture and food production, waste management, and sustainable energy, with a particular focus on promoting local value-added activities, the valorization of biomass streams from the farming community and the agro-industrial sector, the uptake of small-scale, distributed renewable energy systems in the agroindustrial sector (such as biogas and solar). The project focuses on key value chains and potential clusters in Luxor and Qena, including sugarcane, tomato and palm date.

Targets:

-  **10 financial and non-financial institutions promote green business and investment opportunities**
-  **10 training and employment service providers offer upgraded services in line with market demand**
-  **4 new / revised policies adopted by policy makers**
-  **150 MSMEs with improved management practices**
-  **1,000 market actors gained knowledge and skills for employment**

Market Ecosystem



Directory of Inclusive Green Growth Project Companies in Egypt IGGE



Saheel

Production of nutritious animal feed mixtures from recycled sugarcane waste, in addition to waste management and animal feed production consultancy services.



Hekaya

Production of a variety of pickles packaged in different sizes, taking into account safety factors to achieve the highest quality of products.



El-Wadi

Production of concentrates of vegetables and fruits in innovative ways to be exported to European markets, where they are integrated into many subsequent industries.



Majaz

Energy solutions services implementing biogas units to generate thermal or electrical energy, bio-methane and bio-fertilizers.



Green Valley

Production and marketing of organic and mineral fertilizers, and provision of technical, agricultural consultancy, and marketing services to farmers and farm owners.



Tiba

Production of ketchup, tomato paste, mayonnaise, and hot sauce through an automated process which provides various sizes of ketchup and sauce containers. The company seeks to expand in new products.



MAC

Production and packaging of natural oil products that are used as cosmetics or used in various medical and food industries.



Amjad

Provision of solar energy solutions in addition to water pumping and lighting systems, the installation and maintenance of solar power plants in farms, and solar water heating.



Estinbat

Production and installation of smart units for the cultivation of barley and the sale of animal feed produced from agricultural waste such as sugarcane and peanut shells, in addition to providing technical trainings on the production of feed.



El-Saeed

Production of dried vegetables with a variety of flavors to suit the tastes of different customers.



Freedom Pharma

Production of a wide range of natural products such as rose water, glycerin, vaseline, hair polishes and castor oil which are used as natural cosmetics or inputs to the pharmaceutical industries.



BioMasr

Managing and treating organic waste by providing innovative engineering solutions to convert it into clean energy or fertilizers.



Mozna

Production of highly specialized liquid organic fertilizers and nutrients by using the outputs of biogas units with innovative modern technologies, in addition to technical support and consultancy services for farmers.



Hathor

Production of juices and jams from fruit concentrates through an automated production line. The company targets markets across Egypt.



Bedaya

Solid waste management company (municipal and agricultural) that produces alternative fuels with sorting recyclable materials such as cardboard and plastic.



Together for Development

Implementation of biogas units in Luxor and recycling of agricultural waste to produce organic fertilizers and alternative fuel.



Aradena

Supporting clean and dynamic agriculture by providing alternative organic fertilizers that contribute to the reduction of the use of chemicals and improvement of the natural properties of the soil.



Tiba

Production and packaging of natural bee honey that is free from sugar, chemicals, and pesticide residues, based on alfalfa flowers and Cider trees.



BIO TECH

Implementation and installation of multi-size biogas ground units for the production of biofuels and fertilizers as a by-product of the organic waste management process.



Sun Energy

Supplying and installing solar energy units, targeting all governorates, and seeking to expand by investing in a factory to manufacture mounting structures.



Vermi Upper Egypt

Production of organic fertilizers for farms in various forms such as vermicompost and liquid compost.



Tola

Production and recycling of date palm products. The company seeks to establish an integrated industrial complex for palm products to produce high value added products such as date molasses



El-Motaheda

Supply and installation of solar power plants as well as manufacturing of fixed and moveable metal structures and solar heaters.



Bio Max

Installing environmentally-friendly biogas units which provide gas and organic fertilizers to farmers to reduce energy consumption and fertilizer expenses.

Directory of Inclusive Green Growth Project Companies in Egypt IGGE



El-Dawly

Reclamation and agricultural lands development services, including excavation and land preparation, in addition to crop spraying, using modern equipment and devices to support sustainable agricultural operations.



Nahla

Production of multiple bee products and provision of consultations in the field of beekeeping as well as apiary supplies.



El-Qobba El-Khadraa for Investment

Production of highly specialized liquid organic fertilizers that are made of nutrients from agricultural waste and outputs of biogas units.



El-Metwaly

Provision of technical support services, training, and agricultural supplies such as fertilizers, pesticides, seeds, and seedlings for vegetable and fruit farmers in Southern Upper Egypt.



REDEC for Development

Production of accessories and carpets from textile waste and banana fibers in a contemporary and creative way, targeting households.



Pure

Packing, packaging, and distribution of various food products, in addition to manufacturing tahini, supplying the tourism sector and retail chains.



Egyptian American Company for Poultry Feed

Manufacturing of poultry feed. The company seeks to expand in the trade of poultry farm supplies.



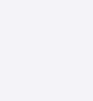
El-Mohandes

Design, establishment, and management of farms, provision of technical support services as well as agricultural supplies to farmers, and exporting agricultural crops.



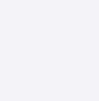
EBRA

Production of bags, and various accessories by recycling banana fibers and plastic.



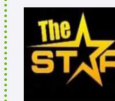
El-Motaheda Foods

Marketing, distribution, packing and packaging of food products, and providing marketing support to suppliers in the form of periodic advertising campaigns.



El-Mataany Development and Recycling of Agricultural Waste

Production of animal feed from sugarcane products. The company seeks to develop its operations to produce biofuel pellets.



The Star

Production and manufacturing of packaging materials for food products, such as foam, stretch and foil. The company targets food processing companies, retailers, and restaurants.



Matrix

Provision of diversified solar energy solutions to factories, commercial facilities, as well as land reclamation projects and specialized consultancy services.



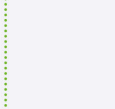
Twins Sweet

Manufacturing of various types of sweets and chocolates by using by-products of dates and peanuts.



Royal Woods

Production of wood clothespins by recycling various wood waste.



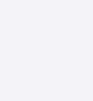
El-Hegeiry for Vegetable Oil

Extraction of raw vegetable oils, from corn, sunflower and other sources, to be used in subsequent manufacturing processes.



Manahel Aal Hegazy

Production of high quality natural bee honey from multiple sources. The company strives to expand the utilization of byproducts of the process.



El-Fayrouz Bakery

Production of bread and various Eastern and Western desserts.



Andak Gas?

Biogas units that produce gas for domestic use by recycling food residues, in addition to using the outputs of the biogas units to produce organic fertilizers.



Fifth Generation

Provision of smart management services for farms and greenhouses as well as management of solar energy systems in greenhouses through a mobile application, with the possibility of installing and maintaining solar energy systems.



Acacia

Recycling of bee waste for the production of beekeeper wax base and candles as well as the production of natural bee products such as honey, royal jelly, and various natural products. The company also provides training services for beekeepers and young graduates.



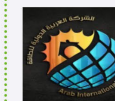
Sanabel El-Kheir

Grinding and production of flour and its various products for the domestic and foreign markets. The company seeks to benefit from the by-products of the grinding process by producing raw materials that enter into multiple manufacturing processes.



Ser El-Ard

Provision of technical consultancy, marketing, offering and selling agricultural products to customers through a mobile application and enabling agricultural business owners to communicate and exchange experiences.



Arab International for Solar Energy

Provision of various solar energy solutions to farms and institutions from installation, maintenance, and supply of solar energy systems and lighting systems.

Directory of Inclusive Green Growth Project Companies in Egypt IGGE



New Life

Production of wood clothespins by recycling various wood waste.



She

Production of cosmetic products such as skin, hair and body care products using a range of high-quality and specialized natural plant extracts.



Flamingo

Production of handmade products such as bags and carpets from textile waste. The company targets the local market in Luxor and Qena governorates.



Fishnista

Production of accessories and clothing from textile, plastic, and leather waste with modern designs.

Royal Robe

Production of clothing and home decorations from textile waste, with unique designs.



KEMI

Production of and selling biochar, which is used as fertilizer for soil by recycling agricultural waste.



Pure Earth

Production of compost for all types of farms with effective delivery through the proximity of production locations.



Re-Feed

Recycling sugarcane waste (molasses) and producing high quality natural animal feed. The company targets livestock breeders and farm owners in Qena Governorate.



Verena Foods

Production and packaging of spice mixes and natural flavors for household and restaurants.



Rokna

Cultivation of household roofs with designs executed specifically for customers. The company targets households in Qena Governorate.



Noor for Dates

Production of palm date products such as (jam - and date biscuits). The company targets the governorates of Qena and Luxor.



Dandara-Hydroponics

Manufacturing and selling of hydroponic units for households in Qena and Luxor governorates for those interested in home farming.



Al-Salam

Production of PET plastic to be sold to recycling factories.



Horse

Collection of waste from homes, restaurants and cafes, sorting them and reselling the recycled products to factories.



Green

Manufacturing of feed using Moringa, azolla and the black soldier fly for poultry farms in Luxor and qena .



Proteina

Manufacturing of feed using the Azolla plant to animal and duck farms.



Just Organic

Production of organic fertilizer by recycling the agriculture waste for Farmers and agricultural greenhouses.



Bio Powder

Recycling of agricultural waste to produce bokashi powder, which is used to improve the quality of reclaimed agricultural lands. The company targets compost and fodder production companies.



Azolla Feed

Manufacturing of high-protein animal feed using the Azolla plant. The company targets owners of animal production farms and small breeders in the governorates of Luxor and Qena.



El-Hamd

Recycling of agricultural waste to produce fodder. The company targets small-scale breeders.



Green

Manufacturing of fodder and organic fertilizers using the black soldier fly for small breeders and farmers.



Lotus

Provision of consultancy and agricultural supplies such as fertilizers, seeds and pesticides to owners of medium farms in Southern Upper Egypt.



Green Culture

Production of cultured barley units. The company targets animal farms and small- scale breeders, in addition to local fodder dealers.

Directory of Inclusive Green Growth Project Companies in Egypt IGGE



Zaidco.

Recycling of agricultural waste and production of organic fertilizer and animal feed. The company targets owners of reclaimed agricultural lands and poultry production farms.



Juri Oil

Production of medicinal and aromatic oils using steam distillation. The company targets pharmaceutical, cosmetics and food processing factories.

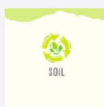


Plastic recycling

Recycling of plastic and selling it as a raw material to factories.

Ard El Kheir

Provision of technical support and agricultural consultancy to farmers and farm owners, and provision of agricultural supplies such as high quality fertilizers.



Soil

Production of organic fertilizers using agricultural waste and black soldier fly for small breeders and farmers.

Hussain and Hassan

Manufacturing of palm date products such as dates and date molasses. The company targets candy factories and local commercial outlets.



TUT

Production of natural silk cocoons and mushrooms, in addition to providing consultations and production requirements for local mushroom producers.



AWC

Provision of agricultural waste recycling service. The company targets farms, livestock breeders, feed and fertilizer producers, as well as wood and paper factories.



El-Mazen Company

A company specialized in cleaning and sifting medicinal and aromatic plants. The company targets wholesalers, and it also seeks to export.



Dan Pure

Production of natural detergents and disinfectants using plant extracts. The company targets stores, farms, and food processing companies.



HAPI

Manufacturing of feed from the Azolla plant, targeting the owners of animal farms and poultry farms, as well as small-scale breeders.



Shader

A digital platform that connects vegetable and fruit farm owners, wholesalers and retailers.



Green Light

Manufacturing of biogas units for domestic use and fertilizers by recycling animal waste.



Arab Company for Investment and Agricultural Development

Production of animal feed and organic fertilizers by recycling agricultural waste, targeting agricultural and animal farms.



Nobit

Production of kilim carpets and handmade clothes for local markets and tourist bazaars.



Smart Farm

Production of smart irrigation systems for farm owners and agricultural reclamation companies.



Dokan El-Ward

A digital platform that delivers fresh agricultural and animal products to homes. The platform targets the local population in Luxor Governorate.



MS Team

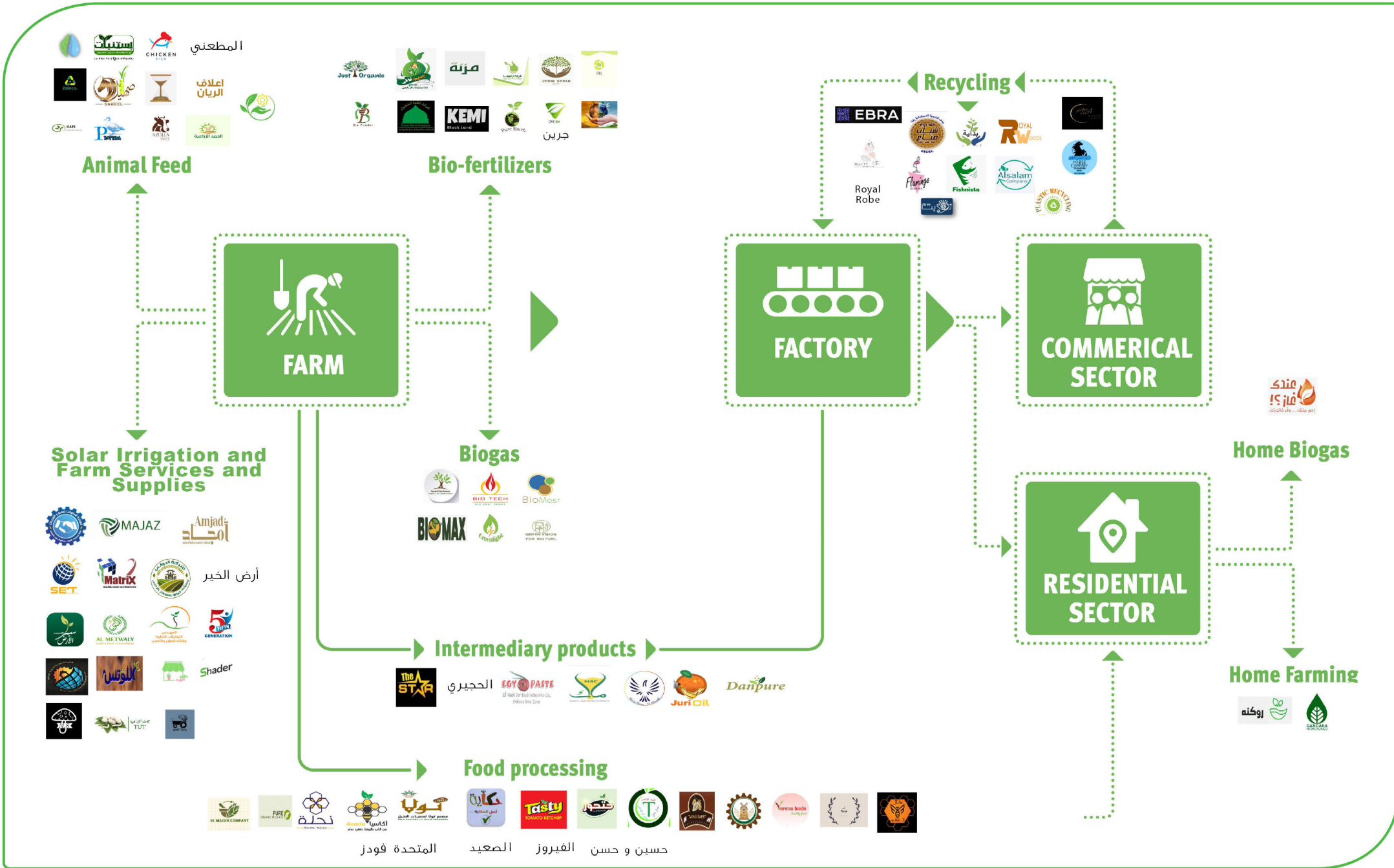
Production of mushroom seeds, targeting mushroom producers in Upper Egypt.



Green Vision

Production of biogas and organic fertilizers from municipal and agriculture waste. The company targets the local market.

Market Structure





Business Opportunity Mapping

(from 51 opportunities identified by the project)



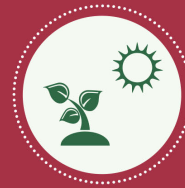
Biogas/compost from animal waste for households, poultry, husbandry



Untraditional agricultural marketing services



Dried fruits and vegetables for export



Sun-dried aromatic plants and spices for local markets



Hot air-dehydrated aromatic plants to export markets



Dried fruits and vegetables for local markets



Sun-dried tomatoes for consumers and retailers



Animal feed from sugarcane bagasse for cattle breeders



Dried dates from fresh dates for local markets



Advanced farming services for palm farmers, including treatment of date palm and fruits



Animal Feed, Compost, Organic & Bio-Fertilizers

Overview

This sub-market is a prime example of circularity in economic activities. It couples valorizing agricultural waste with serving sustainable agriculture, restoring soil health and biodiversity. The growth of this market will

- Increase profitability of farming processes
- Add extra income to farmers by purchasing agriwaste generated by them
- Increase sustainability and limit environmental hazards associated with chemical fertilizers and processed animal feed and with the burning of biomass residues

It saves water and energy indirectly by replacing traditional feed and fertilizers, the production of which requires intensive use of water and energy. This will contribute to the promotion of sustainable agriculture and support the export of agricultural products by providing bio-based alternatives to agricultural inputs.



Business Opportunities

1. Animal feed from barley for cattle breeders
2. General fermented animal feed from agricultural waste for cattle breeders
3. Vermi-compost from food waste and agricultural waste for farmers
4. Animal feed from date pits for retailers
5. Vermi-worms for vermi-compost manufacturers and fisheries
6. Animal feed from sugarcane bagasse for cattle breeders
7. Animal feed from sugarcane straw for cattle breeders
8. Biochar from sugarcane waste for farmers

Summary of UNIDO IGGE's Interventions

> Start-up and MSME support programs:



GO
for entrepreneurs and early-stage start-ups



GROW
for operational firms with 1 to 3 years of operations

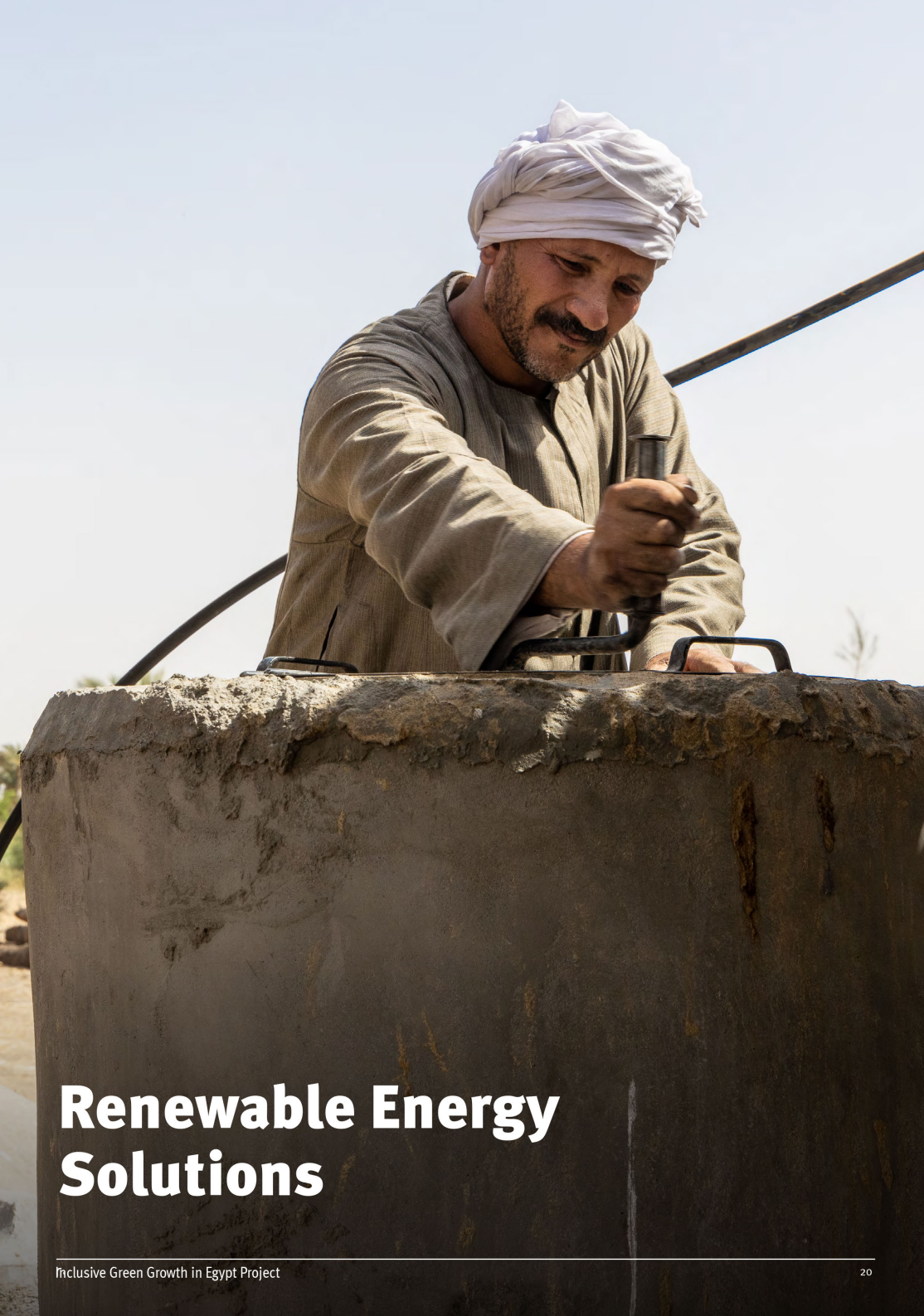


EXPAND
for operational firms with more than 3 years of operations

> Cluster- and value-chain focused focus groups, networking and market linkages events

> Enhancing offering of selected service providers and enabling private sector access to financial and non-financial services

> Supporting the process of creating a solid set of standards for bio-based agricultural inputs and improving registration procedures



Renewable Energy Solutions

Overview

Renewable energy is a rapidly growing market in Egypt. However, this sub-market is unique in the sense that it is centered on serving the agro-industrial sector. This submarket will be centered on integrating renewable energy to the agricultural process, including solar-powered agricultural equipment and solar energy for general farm use as well as for lighting or energy consumption in administrative buildings and labour lodges.



This will increase farmers profitability (who currently spend 30% of their costs on energy), save the government on energy subsidies and in some cases valorize waste from farms. This sub-market also includes agricultural equipment that is powered by solar energy. The sub-market revolves around three technologies:

- Solar thermal
- Photovoltaic (PV)
- Biogas

It also focuses not only on serving farms, but also serving cold storage units and food processors.

Business Opportunities

1. Biogas/compost from animal waste for households, poultry, husbandry
2. Biogas units for livestock and poultry farms
3. Biomass pellets and heaters from agricultural waste for poultry farms
4. Solar thermal heating for poultry farms
5. Solar PV pest control for farmers
6. Solar PV powered ventilation for poultry farms
7. Solar PV powered lighting systems for poultry farms
8. Solar PV pumping for farmers
9. Solar-powered cold storage units for farmers and retailers

Summary of UNIDO IGGE's Interventions

> Start-up and MSME support programs:

- GO**
for entrepreneurs and early-stage start-ups
- GROW**
for operational firms with 1 to 3 years of operations
- EXPAND**
for operational firms with more than 3 years of operations

> Cluster- and value-chain focused focus groups, networking and market linkages events

> Enhancing offering of selected service providers and enabling private sector access to financial and non-financial services

> At least one financial product for solar food drying technology, biogas, distillation, or solar thermal heaters

> Renewable Energy Local Manufacturing Roadmap



Supported Firms Focusing On Food Retail Products

Overview

This sub-market links agricultural products through value-added manufacturing to local markets. Most retail products in the food sector in Luxor and Qena come from Lower Egypt. However, food processing of agricultural products to serve retail can replace the products on the shelf in supermarkets and groceries with those produced locally. In this sense, IGGE is targeting sustainable consumption where local resources:

- Serve local markets
- Limiting energy consumption in transportation
- Processing agricultural products close to source
- Limiting cost of transporting raw material to Lower Egypt markets



Business Opportunities

1. Black honey products from sugarcane for consumers and retailers
2. Traditional food retail products such as baked goods and ready-made meals for local markets
3. Packaging of dried aromatic plants for local markets
4. Packed frozen agricultural products for small-scale markets

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Supported Firms Focusing On Intermediary Products To Industries

Intermediary Products to Industries (food, pharmaceuticals, wood and paper)

Overview

Most of Egypt's imports are intermediary industrial goods. This sub-market focuses on producing various industrial intermediary products and services to industries including

- Food
- Pharmaceuticals
- Wood and paper

It creates strong interaction along value chains. The sub-market enables value chains to grow by providing local value-added intermediary goods. All opportunities are those which enjoy

lower resource consumption than the market average, thereby increasing sustainability of the final markets. These products add greater value for the same amount of resources than current practices.



Business Opportunities

1. Date syrup/dips from second grade dates for food and feed industries
2. Aromatic plant oil extracts for perfumes, cosmetics and food
3. Pulp from sugarcane bagasse for paper industry
4. Ethanol from sugarcane molasses for pharmaceutical industry
5. Medium-density fibreboard (MDF) from agricultural waste for wood industry
6. Tomato paste from second grade tomatoes for packaging facilities
7. Tomato/mango concentrates from second grade tomatoes/mangoes for food industry
8. Dates to powder (not instant) for food and dairy industries
9. Jam manufacturing for packaging facilities (confectionary)
10. Untraditional agricultural marketing services for retailers and small-scale markets
11. Services for date palm farmers including trimming, collection and treatment

Summary of UNIDO IGGE's Interventions

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Supported Firms Focusing On Dried Products

Overview

Integrates food processing with renewable energy (through solar drying). Highly promising sub-market that can grow into a comprehensive industry in Luxor and Qena.

It leverages the high sun irradiance in Luxor and Qena. It is job intensive and can create jobs for semi-skilled labour as well as skilled roles. This industry can serve various markets from local to export.

This sub-market will contribute to the

- Reduction of food waste
- Valorization of agricultural products
- Create extra impact for farmers

Business Opportunities

1. Dried fruits and vegetables for export
2. Sun-dried aromatic plants and spices for local markets
3. Sun-dried tomatoes for consumers and retailers
4. Dried onion powder for consumers, retailers and food industry
5. Hot-air dehydrated aromatic plants for export markets
6. Dried fruits and vegetables for local markets
7. Dried dates from fresh dates for local markets

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Other

Overview

Handmade Accessories:

This is part of the wider market of creative industries and is mainly hinged on valorization of waste to home and personal accessories and apparel. It is a job intensive sub-market, though perhaps on a smaller scale than others.



Technology / Equipment Manufacturing:

This sub-market is part of the sector of engineering industries as well as the chemical industrial sector.

- It focuses on producing technology and machinery to serve the food and agriculture sectors.
- Production of technology locally enables other industrial facilities to expand their operations.
- This provides local access to cost-effective equipment, potentially coupled with maintenance services.
- The focus is on equipment which enables sustainable food production, including:
 - Drying to decrease waste
 - Recycling of agriwaste
 - Bio-pest control systems
 - Other

Business Opportunities

1. Fibres from banana waste for handmade products
2. Artistic paper from agricultural waste for consumers
3. Agricultural machinery for recycling businesses
 - Shredders
 - Crushers
 - Trucks
 - Loaders
 - Date palm trimmers
4. Efficient animal feeder system for rabbit production and poultry farms
5. Pheromone bio-pest control traps for farmers
6. Farm bedding from wood waste for poultry and livestock farms
7. Manufacturing of fruit and vegetable dryers
8. Advanced irrigation system components for farmers

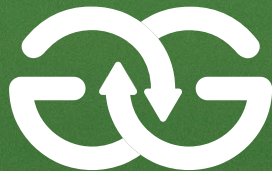
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