INCLUSIVE GREEN GROWTH IN EGYPT PROJECT
Acknowledgments

This Market Intelligence report was prepared in the framework of the “Inclusive Green Growth in Egypt” (IGGE) project implemented by the United Nations Industrial Development Organization (UNIDO) together with the Government of Egypt with funding from the Government of Switzerland (Swiss Agency for Development and Cooperation). The report was developed by Chemonics Egypt Consultants under the guidance of IGGE Team.

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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 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

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

**Main Governmental Partner**
Ministry of Trade and Industry

**Geographical Coverage**
Luxor and Qena governorates, Upper Egypt

**Project Duration**
2020 - 2023
4 Years

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

IGGE TA TO IMPROVE OFFERINGS BY STAKEHOLDERS

- Improved Service provision
- Ideation and incubation
- Access to user and firm finance
- Career guidance, skills development and matchmaking

Industrial ecosystem providers
NGOs and Incubators
Finance institutions
Education and training institutions

ENHANCED SUPPORT BY STAKEHOLDERS TO FIRMS AND WORKFORCE

Entrepreneurs
Startups, and MSMEs
Incubation, Acceleration and growth management

IGGE DIRECT TA SUPPORT TO FIRMS

Improved investment
Principal firms
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.

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

**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.

**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.

**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.

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

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

**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.

**El-Saeed**
Production of dried vegetables with a variety of flavors to suit the tastes of different customers.

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

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

**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.

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

**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.

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

**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.

**Bio Max**
Construction of environmentally-friendly biogas units which provide gas and organic fertilizers to farmers to reduce energy consumption and fertilizer expenses.

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

**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.

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

**Together for Development**
Implementation of biogas units in Luxor and recycling of agricultural waste to produce organic fertilizers and alternative fuel.
## Directory of Inclusive Green Growth Project Companies in Egypt IGGE

<table>
<thead>
<tr>
<th>Company Name</th>
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<tbody>
<tr>
<td><strong>El-Dawly</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Nahla</strong></td>
<td>Production of multiple bee products and provision of consultations in the field of beekeeping as well as apiary supplies.</td>
</tr>
<tr>
<td><strong>El-Qobba El-Khadraa</strong></td>
<td>Production of highly specialized liquid organic fertilizers that are made of nutrients from agricultural waste and outputs of biogas units.</td>
</tr>
<tr>
<td><strong>El-Metwaly</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>REDEC for Development</strong></td>
<td>Production of accessories and carpets from textile waste and banana fibers in a contemporary and creative way, targeting households.</td>
</tr>
<tr>
<td><strong>Pure</strong></td>
<td>Packing, packaging, and distribution of various food products, in addition to manufacturing tahini, supplying the tourism sector and retail chains.</td>
</tr>
<tr>
<td><strong>Egyptian American Company for Poultry Feed</strong></td>
<td>Manufacturing of poultry feed. The company seeks to expand in the trade of poultry farm supplies.</td>
</tr>
<tr>
<td><strong>El-Mohandes</strong></td>
<td>Design, establishment, and management of farms, provision of technical support services as well as agricultural supplies to farmers, and exporting agricultural crops.</td>
</tr>
<tr>
<td><strong>EBRA</strong></td>
<td>Production of bags, and various accessories by recycling banana fibers and plastic.</td>
</tr>
<tr>
<td><strong>El-Motaheda Foods</strong></td>
<td>Marketing, distribution, packing and packaging of food products, and providing marketing support to suppliers in the form of periodic advertising campaigns.</td>
</tr>
<tr>
<td><strong>The Star</strong></td>
<td>Production and manufacturing of packaging materials for food products, such as foam, stretch and foil. The company targets food processing companies, retailers, and restaurants.</td>
</tr>
<tr>
<td><strong>Matrix</strong></td>
<td>Provision of diversified solar energy solutions to factories, commercial facilities, as well as land reclamation projects and specialized consultancy services.</td>
</tr>
<tr>
<td><strong>Royal Woods</strong></td>
<td>Production of wood clothespins by recycling various wood waste.</td>
</tr>
<tr>
<td><strong>El-Mataany Development and Recycling of Agricultural Waste</strong></td>
<td>Production of animal feed from sugarcane products. The company seeks to develop its operations to produce biofuel pellets.</td>
</tr>
<tr>
<td><strong>The Star</strong></td>
<td>Production and manufacturing of packaging materials for food products, such as foam, stretch and foil. The company targets food processing companies, retailers, and restaurants.</td>
</tr>
<tr>
<td><strong>Manahel Aal Hegazy</strong></td>
<td>Production of high quality natural bee honey from multiple sources. The company strives to expand the utilization of byproducts of the process.</td>
</tr>
<tr>
<td><strong>Twins Sweet</strong></td>
<td>Manufacturing of various types of sweets and chocolates by using by-products of dates and peanuts.</td>
</tr>
<tr>
<td><strong>El-Hegeiry for Vegetable Oil</strong></td>
<td>Extraction of raw vegetable oils, from corn, sunflower and other sources, to be used in subsequent manufacturing processes.</td>
</tr>
<tr>
<td><strong>Acacia</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>El-Fayrouz Bakery</strong></td>
<td>Production of bread and various Eastern and Western desserts.</td>
</tr>
<tr>
<td><strong>Andak Gas?</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Fifth Generation</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Sanabel El-Kheir</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Ser El-Ard</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Arab International for Solar Energy</strong></td>
<td>Provision of various solar energy solutions to farms and institutions from installation, maintenance, and supply of solar energy systems and lighting systems.</td>
</tr>
<tr>
<td>Company</td>
<td>Description</td>
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</tr>
<tr>
<td><strong>New Life</strong></td>
<td>Production of wood clothespins by recycling various wood waste.</td>
</tr>
<tr>
<td><strong>Pure Earth</strong></td>
<td>Production of compost for all types of farms with effective delivery through the proximity of production locations.</td>
</tr>
<tr>
<td><strong>Dandara-Hydroponics</strong></td>
<td>Manufacturing and selling of hydroponic units for households in Qena and Luxor governorates for those interested in home farming.</td>
</tr>
<tr>
<td><strong>Bio Powder</strong></td>
<td>Recycling of agricultural waste to produce bakashi powder, which is used to improve the quality of reclaimed agricultural lands. The company targets compost and fodder production companies.</td>
</tr>
<tr>
<td><strong>She</strong></td>
<td>Production of cosmetic products such as skin, hair and body care products using a range of high-quality and specialized natural plant extracts.</td>
</tr>
<tr>
<td><strong>Re-Feed</strong></td>
<td>Recycling sugarcane waste (molasses) and producing high-quality natural animal feed. The company targets livestock breeders and farm owners in Qena Governorate.</td>
</tr>
<tr>
<td><strong>Al-Salam</strong></td>
<td>Production of PET plastic to be sold to recycling factories.</td>
</tr>
<tr>
<td><strong>Azolla Feed</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Flamingo</strong></td>
<td>Production of handmade products such as bags and carpets from textile waste. The company targets the local market in Luxor and Qena governorates.</td>
</tr>
<tr>
<td><strong>El-Rayan feeds</strong></td>
<td>Production of high protein animal feed to serve small-scale breeders in Luxor and Qena governorates.</td>
</tr>
<tr>
<td><strong>Horse</strong></td>
<td>Collection of waste from homes, restaurants and cafes, sorting them and reselling the recycled products to factories.</td>
</tr>
<tr>
<td><strong>El-Hamd</strong></td>
<td>Recycling of agricultural waste to produce fodder. The company targets small-scale breeders.</td>
</tr>
<tr>
<td><strong>Fishnista</strong></td>
<td>Production of accessories and clothing from textile, plastic, and leather waste with modern designs.</td>
</tr>
<tr>
<td><strong>Verena Foods</strong></td>
<td>Production and packaging of spice mixes and natural flavors for household and restaurants.</td>
</tr>
<tr>
<td><strong>Green</strong></td>
<td>Manufacturing of feed using Moringa, azolla and the black soldier fly for poultry farms in Luxor and Qena.</td>
</tr>
<tr>
<td><strong>Green</strong></td>
<td>Manufacturing of fodder and organic fertilizers using the black soldier fly for small breeders and farmers.</td>
</tr>
<tr>
<td><strong>Royal Robe</strong></td>
<td>Production of clothing and home decorations from textile waste, with unique designs.</td>
</tr>
<tr>
<td><strong>Rokna</strong></td>
<td>Cultivation of household roofs with designs executed specifically for customers. The company targets households in Qena Governorate.</td>
</tr>
<tr>
<td><strong>Proteina</strong></td>
<td>Manufacturing of feed using the Azolla plant to animal and duck farms.</td>
</tr>
<tr>
<td><strong>Lotus</strong></td>
<td>Provision of consultancy and agricultural supplies such as fertilizers, seeds and pesticides to owners of medium farms in Southern Upper Egypt.</td>
</tr>
<tr>
<td><strong>KEMI</strong></td>
<td>Production of and selling biochar, which is used as fertilizer for soil by recycling agricultural waste.</td>
</tr>
<tr>
<td><strong>Noor for Dates</strong></td>
<td>Production of palm date products such as (jam - and date biscuits). The company targets the governorates of Qena and Luxor.</td>
</tr>
<tr>
<td><strong>Just Organic</strong></td>
<td>Production of organic fertilizer by recycling the agriculture waste for Farmers and agricultural greenhouses.</td>
</tr>
<tr>
<td><strong>Green Culture</strong></td>
<td>Production of cultured barley units. The company targets animal farms and small-scale breeders, in addition to local fodder dealers.</td>
</tr>
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<td>Zaidco.</td>
<td>Recycling of agricultural waste and production of organic fertilizer and animal feed. The company targets owners of reclaimed agricultural lands and poultry production farms.</td>
</tr>
<tr>
<td>Juri Oil</td>
<td>Production of medicinal and aromatic oils using steam distillation. The company targets pharmaceutical, cosmetic, and food processing factories.</td>
</tr>
<tr>
<td>Plastic recycling</td>
<td>Recycling of plastic and selling it as a raw material to factories.</td>
</tr>
<tr>
<td>Ard El Kheir</td>
<td>Provision of technical support and agricultural consultancy to farmers and farm owners, and provision of agricultural supplies such as high quality fertilizers.</td>
</tr>
<tr>
<td>Hussain and Hassan</td>
<td>Manufacturing of palm date products such as dates and date molasses. The company targets candy factories and local commercial outlets.</td>
</tr>
<tr>
<td>TUT</td>
<td>Production of natural silk cocoons and mushrooms, in addition to providing consultations and production requirements for local mushroom producers.</td>
</tr>
<tr>
<td>AWC</td>
<td>Provision of agricultural waste recycling service. The company targets farms, livestock breeders, feed and fertilizer producers, as well as wood and paper factories.</td>
</tr>
<tr>
<td>Dan Pure</td>
<td>Production of natural detergents and disinfectants using plant extracts. The company targets stores, farms, and food processing companies.</td>
</tr>
<tr>
<td>HAPI</td>
<td>Manufacturing of feed from the Azolla plant, targeting the owners of animal farms and poultry farms, as well as small-scale breeders.</td>
</tr>
<tr>
<td>El-Mazen Company</td>
<td>A company specialized in cleaning and sifting medicinal and aromatic plants. The company targets wholesalers, and it also seeks to export.</td>
</tr>
<tr>
<td>Green Light</td>
<td>Manufacturing of biogas units for domestic use and fertilizers by recycling animal waste.</td>
</tr>
<tr>
<td>Shader</td>
<td>A digital platform that connects vegetable and fruit farm owners, wholesalers and retailers.</td>
</tr>
<tr>
<td>Arab Company for Investment and Agricultural Development</td>
<td>Production of animal feed and organic fertilizers by recycling agricultural waste, targeting agricultural and animal farms.</td>
</tr>
<tr>
<td>Nobit</td>
<td>Production of kilim carpets and handmade clothes for local markets and tourist bazaars.</td>
</tr>
<tr>
<td>Smart Farm</td>
<td>Production of smart irrigation systems for farm owners and agricultural reclamation companies.</td>
</tr>
<tr>
<td>Dokan El-Ward</td>
<td>A digital platform that delivers fresh agricultural and animal products to homes. The platform targets the local population in Luxor Governorate.</td>
</tr>
<tr>
<td>MS Team</td>
<td>Production of mushroom seeds, targeting mushroom producers in Upper Egypt.</td>
</tr>
<tr>
<td>Green Vision</td>
<td>Production of biogas and organic fertilizers from municipal and agriculture waste. The company targets the local market.</td>
</tr>
</tbody>
</table>
Business Opportunity Mapping
(from 51 opportunities identified by the project)
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
Overview

Renewable energy is a rapidly growing market in Egypt. However, this sub-market is unique in the sense that 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 units for livestock and 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

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- At least one financial product for solar food drying technology, biogas, distillation, or solar thermal heaters
- Renewable Energy Local Manufacturing Roadmap
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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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 interactions 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.

Supported Firms Focusing On Intermediary Products To Industries

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

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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- EXPAND for operational firms with more than 3 years of operations
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- Enhancing offering of selected service providers and enabling private sector access to financial and non-financial services
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.

This sub-market will contribute to the

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

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.

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

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 2 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 sector of selected service providers and enabling private sector access to financial and non-financial services
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 agri-waste
  - 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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