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Business Opportunity Mapping For Qena Governorate

CONTENTS


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Study Background and Purpose

One of Egypt's South Valley governorates, Qena has an abundance of mineral wealth, agricultural lands, historic monuments, labour, as well as two industrial zones—Al-Kalaheen Industrial Zone in Qeft and Hou Industrial Zone in Nag'a Hamadi. Qena's resources grant it great potential for improvement despite the social and economic challenges hindering the governorate's development and competitiveness, which is reflected in its low production levels, low incomes, and high poverty levels.

With the aim of unravelling Qena's business opportunities through identification of gaps within value chains, and the overarching objective of enhancing youth-led economic activities, this report will outline the structures of the agriculture, manufacturing, and handicrafts industries along with their sub-sectors, using the Rapid Market Assessment (RMA) approach. The sectors selected were determined to be the most suitable through preliminary desk research on the economic context of the governorate, as well as interviews with experts in the region. The business opportunity mapping, upon which this report is based, is prepared with research-inclusive techniques and a methodology that combined both quantitative and qualitative data and analysis. The analysis minimized bias and inferred information by utilizing different sources for data collection. The methodology also considered Enroot's ethical considerations, ensuring all participants were informed in their participation in the study and were aware of the study's objectives and scope. In cases of audio or video recording, respondents' verbal or written consent was obtained.

Primary resources were obtained through qualitative data collection using in-depth interviews (IDIs) and focus groups (FGDs) with producers, input suppliers, and traders involved across markets of sugarcane, fennel, pumpkin, tomatoes, dairy, compost, biogas, clay crafts, and loom. Secondary resources, particularly the Central Agency for Public Mobilization and Statistics (CAPMAS) annual bulletins and governorate and sectoral reports, were the main resources of quantitative date and governorate profiling.

Socioeconomic profiling

To identify areas with potential to create self-employment opportunities to young males and females, eight sub-sectors were selected during the preceding inception stage, then assessed through the RMA approach to identify current gaps and opportunities, which could later be translated into business opportunities, across the value chain stages.

Accordingly, the labour force was initially regarded as a core input of all value chains, to identify the business opportunities that would be relevant to the current labour supply. In line with that, the assessment of the education attainment levels and employment distribution per sector indicated that the sectors most engaging to the workforce in Qena are agriculture, which is responsible for 30 percent of employment—a percentage which is likely higher, considering that female employment is often unaccounted for and informal—in addition to construction, which is responsible for 23 percent of employment.

As construction is a sector of special nature, and wholesale and retail, and education are both service sectors with minimal to no value addition – and thus lack potential to create self-employment opportunities to young entrepreneurs, agriculture and manufacturing (namely, agro-related industries and manufacturing) were the focus of the assessment carried out.

Although the data for the number of establishments within each sector across Qena isn't available, the two industrial zones established in Qena—namely Al-Kalaheen Industrial Zone in Qeft and Hou Industrial Zone in Nag'a Hamadi—show highest concentration of private enterprises in the information and communication technology; food manufacturing; and ready-made garment industry sectors, respectively, suggesting they hold high potential for business and job creation. Normally, enterprise concentration isn't indicative of self-employment and entrepreneurial opportunities; however, the business landscape in Qena is majorly composed of small-sized enterprises, employing an average of 2.15 workers1. This may demonstrate ease of entry and potential. Enterprise concentration across the sectors is shown in the figure below.

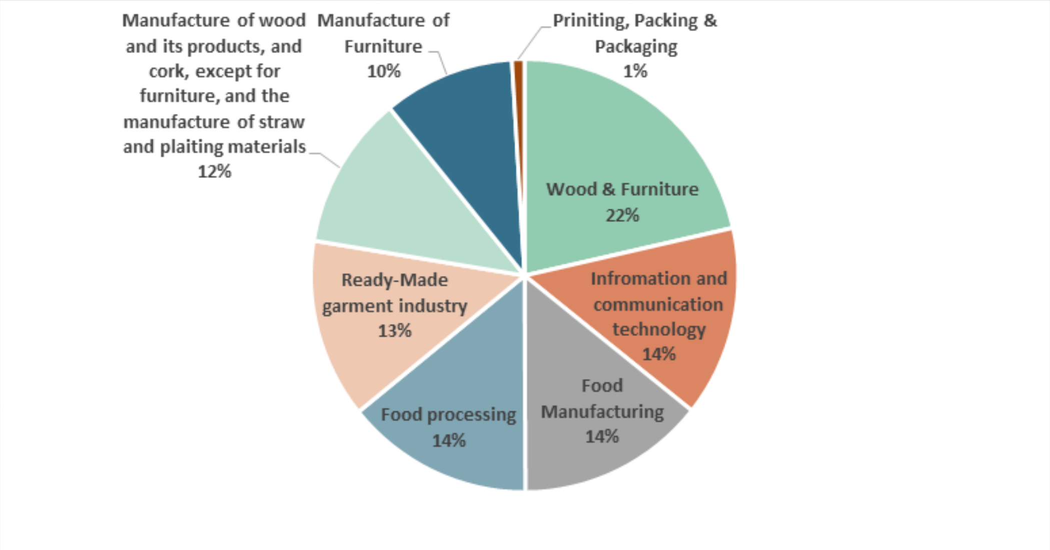

Figure 1: share of establishments per industry in Qena IZs

As for the agriculture sector, the assessment indicated that the sugarcane, pumpkin, tomato, and fennel crops hold great potential for job creation as they have high untapped potential for value addition as they would feed into the leading industries in the governorate and hold a competitive edge to other Egyptian governorates. The below table summarizes the abovementioned features across the four identified crops, in addition to Qena's untapped export potential for each crop, according to the data available through the International Trade Centre (ITC).

Cultivated area	Quantity produced	Competitive advantage	Potential for value addition	Untapped export potential of by-products	Highest potential markets
Sugarcane					
118,075 feddans (2017/2018)	6 million tons (2017/2018)	All varieties are cultivated. A high sugar content.	Waste-management and recycling related, including: animal feed, compost, ethanol, bagasse, biogas, and vinegar and yeast	Molasses, total: $1.82 million	The United Kingdom ($308 thousand), Ireland ($262 thousand), and France ($250 thousand)

Cultivated area	Quantity produced	Competitive advantage	Potential for value addition	Untapped export potential of by-products	Highest potential markets
Pumpkin					
323 feddans (2017/2018)	2,135 tons (2017/2018)	Cultivated in the summer, while other governorates cultivate it in the winter. High productivity.	Waste-management and recycling related: animal feed and compost		
Tomatoes					
6,135 feddans (2018/2019), whichconstituted 1.5 percent of national tomato cultivation area.	129,124 tons (2018/2019), whichconstituted 1.9 percent of national production of tomatoes.		Storage and refrigerating. Processing: drying and processing into tomato-based products such as tomato paste, sauce, and juice; as well as ketchup.	Prepared tomatoes, total: $10.4 million	Libya ($3.4 million), Saudi Arabia ($627 thousand), and Iraq (551 thousand)
				Fresh tomatoes: total: $6.6 million	Saudi Arabia ($760 thousand), Russia ($646 thousand), and the United Arab Emirates ($494 thousand)
				Tomato ketchup and sauces: $5.3 million	The United Arab Emirates ($437 thousand), Iraq ($456 thousand), and the United Kingdom ($323 thousand)
Fennel					
873 thousand feddans (25 percent of Egypt's fennel cultivation land)	1,294 tons (29 percent of national production)	High quality of soil and crop.	Post-harvest and processing facilities.		

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As official figures for governorates' export potential for crops aren't available, an approximate of exports potential was calculated based on the national export potential for the target crops and the governorate's contribution to national production of the target crops.

In the same line, the livestock sector, which includes dairy, meat, and poultry production, in the governorate holds high potential. The governorate houses 7.5 percent of Egypt's livestock—32 percent of which are sheep and 29 percent are goats—making it the 4th largest holder of cows in Upper Egypt in 2018. Consequently, Qena is ranked 9th across in terms of milk production, producing 3.8 percent of Egypt's raw milk. Given the lack of processing, this represents a great business opportunity for milk processing businesses.

Business opportunities mapping

The economic scene in the governorate was further assessed through a private sector lens to identify the potential agribusiness opportunities that can be capitalized on, focusing especially on the abovementioned crops and products, in addition to other creative industries – as reflected in the figure below - that started emerging in the region, and hold growth potential, both assess ed in the below sub-sections. In each section, the sub-sector's business opportunities, development and policy interventions are identified and linked to relevant sub-sectors.

Agribusiness	Agro-waste	Creative industries
- Sugarcane - Pumpkin - Fennel - Tomato - Livestock(milk)	- Compost - Biogas	- Clay - Handmade carpets and kilim

Figure 2: The main sectors in Qena, and their sub-sectors

Agribusiness opportunities

Sugarcane-based opportunities

There are three main productions based on sugarcane in Qena, sugar production – which is mostly dominated by few government factories in Egypt, molasses production, and juice production. While all three production processes have contributed greatly to the incomes and wellbeing of engaged businesses, some pitfalls were depicted in current practices that result in untapped value addition opportunities, all of which are within the waste-management sub-sector, to capitalize on.

Discharged and unprocessed waste of the molasses produced in sugar factories, and similarly, the waste produced by molasses juiceries, which is currently burnt, can be processed to produce a line of products, including animal feed, compost, ethanol, biogas, and vinegar and yeast. In line with current challenges facing juiceries and molasses factories in Qena, especially the high expenses associated with oil and natural gas, manufacturers of sugar and molasses would be highly incentivized to collaborate with new businesses through providing them with their discharged waste, namely bagasse, that they can later on utilize as biofuel; a cheap source of energy for their production. Juiceries' waste can also be sold to businesses and actors operating in both the agriculture and livestock sectors to be used as compost and animal feed.
Additionally, bagasse—the dry pulpy fibrous material that remains after crushing sugarcane—is valuable to the waste-management sub-sector. Bagasse can be collected, dried, and processed then supplied to wood and furniture manufacturers in Qena as it can be incorporated into paper and wood products, including loom—an essential input in the weaving of handmade carpets and kilim. This, in turn, can create an opportunity to establish waste collection units to the waste produced by sugarcane processing factories, among other agri-processing activities.

Nonetheless, current laws and regulations governing the industrial sector in Egypt prohibit individuals and private businesses to sell and transport biofuel, and legal procedures to issue permits for factories are lengthy, costly, and deeply perturb industries in the region. Accordingly, the main suggested business opportunities and development interventions in the sugarcane-based productions are to initiate bagasse processing, while advocating for the policies to facilitate such production, initiate the processing of juicery's waste into compost and animal feed, and to produce units to produce ethyl and methyl alcohol and yeast in proximate areas to sugarcane cultivated areas, while accounting for the needed policy-level interventions to stimulate the business environment to be suitable for such businesses to emerge.

Pumpkin-based opportunities

Pumpkin's production is abundant in Qena and exports of the raw pumpkin and its seeds have been high and relatively stable over the past few years. However, there are multiple points of the value chain that can be capitalized on, namely processing and waste management. Processing can add to the value of pumpkin and hence improve its profitability along the value chain, but most importantly for processors and exporters. Pumpkin waste can also be utilized as compost as well as highly nutritional livestock feed, and so waste collection and management facilities established will have the large livestock and agriculture sectors as customers. That said, regulations addressing the establishment of waste-management facilities in industrial zones must be taken into account and tackled before waste-management opportunities can be captured effectively and affordably. Another possible path for the facilitation of the establishment of waste-management and recycling businesses is the lobbying for the creation of agro-industrial zones, which would be agricultural processing zones near cultivation areas and collection hubs.

Tomato-based opportunities

Qena's tomato production is concentrated in Al-Geblaw Village. Despite being one of the highest demanded crops in Egypt, there's excess market supply of fresh tomatoes, which does not penetrate other market except inside Qena as fresh tomato with no presence of post harvesting or processing activities. As such, multiple opportunities lie within the storage, refrigerating, and drying of tomatoes; as well as in processing tomatoes to produce tomato paste, sauce, and juice; as well as ketchup. It's important to pursue policy-level interventions that would tackle licensing, permit, and land rental and buying issues that impede the establishment of facilities, factories, and businesses in Qena and its industrial zones.

Fennel-based opportunities

Fennel constitutes the majority of MAPs production in Qena and accounts for 25 percent of the national fennel production. Fennel post-harvesting activities follow primitive processes and with total absence of processing facilities. This represents a significant business opportunity, especially given that 30 percent (a number which would likely be higher given proper handling and processing) is exported and hence presents incentivizing high returns to post-harvest and processing businesses. To ensure that businesses can capitalize on unfulfilled fennel-based potential in Qena, policy interventions must be undertaken to ease businesses' abilities to create processing facilities and factories in Qena.

Key general take-aways for agribusinesses

In Qena—and in Upper Egypt more generally—many policies, that can often be difficult to navigate, heavily regulate and impede the ability of waste-management businesses to establish factories and processing facilities.

Accordingly, policy level interventions must be undertaken to address such restrictions and, in tandem, facilitate the creation of agro-industrial zones near cultivation areas and collection hubs to minimize crop loss and increase efficiency.

Additionally, development interventions must be undertaken to address the common bad farming and post-harvesting practices and modernize both processes to improve efficiency, productivity, quality, and hygiene.

Livestock opportunities

Milk collection and production-based opportunities

Most milk production in Qena is confined to irrigated cropping area as livestock production is complimentary to agricultural production in Egypt. In Qena, milk is produced on micro and small scale and hence, the production methods are low-tech, with milking being manual. The unprocessed milk, 63 percent of which is buffalo milk and 37 percent is cow milk, is then packaged in plastic bags and sold to local supermarkets. This shows lost potential to value addition activities and selling products beyond local market. On that basis, Multiple business opportunities present themselves:

- Collection and processing hubs for the pasteurization, processing, and packaging of milk. As a large percentage of milk produced is badly handled and minimally processed, the resulting milk is unhygienic and hazardous. This presents an opportunity for processing facilities to produce healthier milk, as well as more processes varieties of milk—skimmed milk and 50 percent milk, for example.
- Cheese producing facilities. Cheese in Egypt is made almost exclusively from cow's milk (60 percent), producing a limited variety of cheese products. However, there relies potential of producing new varieties of high-quality cheese and other dairy products of processed milk from buffalo milk which represents the majority of animal resources.

Creative industries

Clay crafts

Clay production in Qena is concentrated in Hegaza, wherein clay is produced from the soil from nearby mountains. Participation in the clay sector is miniscule, with only around 1,000 people working in it. Qena's clay has a competitive advantage, as the clay produced is exclusive to the region's soil; however, the clay is produced through very primitive means, which is a factor in the frequent vessel breakages that occur during the shipping of final products. As it stands, the main buyers of clay pottery in Qena are cheese and molasses producers in Qena and molasses traders in Naga Hammadi, who use the products for storage. This presents an opportunity for businesses to mechanize and modernize the production process, brand Qena's clay and emphasize its unique characteristics, and produce clay products that serve large base consumer markets outside local areas.

Handmade carpets and kilim production

Handmade carpets and kilim are culturally significant products that the Egyptian government is interested in nurturing. Qena has traditionally participated in the production of both products; however, their value chains have multiple deficiencies with regards to costs, lack of skills, outdated designs, and lack of marketing that inhibits local and international demand. Therefore, these deficiencies inhibit business opportunities due to lack of knowledge of what the market needs yet privileged with heritage qualities of skilled labor, historical legacy and handmade production which make it of potential to grow. On that basis, there is business opportunities to grow this sector with new designs through development interventions targeted at enhancing the production to meet market demand.

In line with the above assessment, the below table summarizes the business opportunities identified under each sub-sector, in addition to the development and policy interventions proposed to improve current practices and develop the different value chains.

Table 1: Business opportunities mapping summary table

Sub-sector	Business Opportunity	Development Intervention	Policy Intervention
Agribusiness			
Sugarcane	- Waste collection hubs. - Processing facilities that would process waste into compost, ethanol, biogas, vinegar, yeast, furniture, and paper.	- Educating farmers about the composting, recycling, and animal feed potential for their crops' waste. - Advocacy of forward and backward linkages through measures such as contract farming. - Improving bad farming and post-harvesting practices and modernizing both processes to improve efficiency, productivity, quality, and hygiene.	- Lobbying for the improvement of agro-waste and biogas regulations.
Pumpkin	- Waste collection hubs. - Sale of waste to be incorporated into animal feed.	-Advocacy of forward and backward linkages through measures such as contract farming. -Improving bad farming and post-harvesting practices and modernizing both processes to improve efficiency, productivity, quality, and hygiene.	-Lobbying for the improvement of agro-waste and biogas regulations. -Facilitating the establishment of agro-industrial zones. -Addressing the difficulties in acquiring permits, licenses, and registration papers; as well as the high costs of land rental and buying.
Fennel	- Processing facilities catering the international market.		-Facilitating the establishment of agro-industrial zones. -Addressing the difficulties in acquiring permits, licenses, and registration papers; as well as the high costs of land rental and buying.

<table>
<tr><th>Sub-sector</th><th>Business Opportunity</th><th>Development Intervention</th><th>Policy Intervention</th></tr>
<tr><td colspan="4">Agribusiness</td></tr>
<tr><td>Tomatoes</td><td>- Collection hubs.

- Refrigerating and storage facilities.

- Processing facilities and factories to process tomatoes into tomato sauce, paste, and juice; as well as ketchup</td><td rowspan="2">- Advocacy of forward and backward linkages through measures such as contract farming.

- Improving bad farming and post-harvesting practices and modernizing both processes to improve efficiency, productivity, quality, and hygiene.</td><td rowspan="2">- Facilitating the establishment of agro-industrial zones.

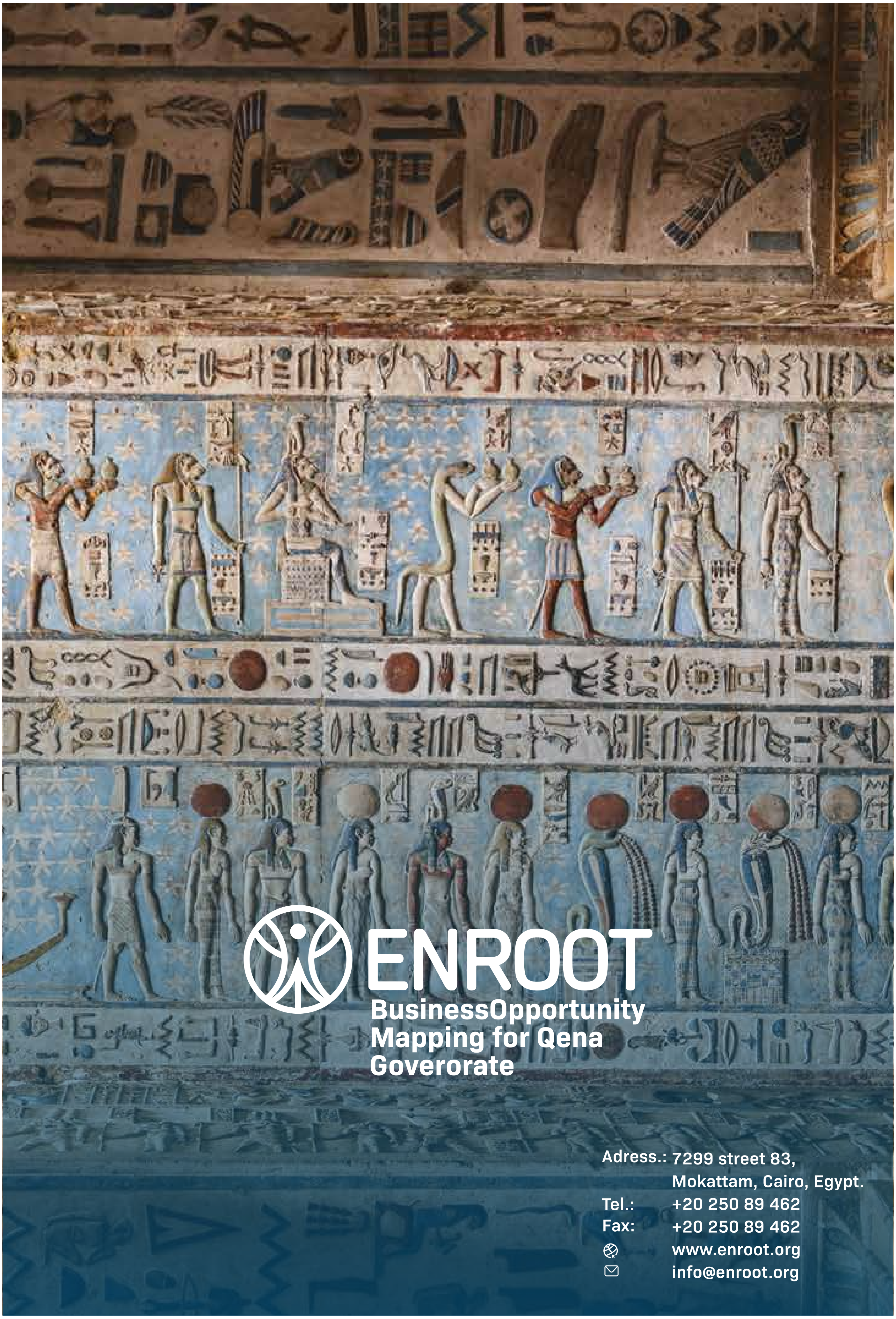
- Addressing the difficulties in acquiring permits, licenses, and registration papers; as well as the high costs of land rental and buying.</td></tr>
<tr><td>Livestock</td><td>- Collection and processing hubs for the pasteurization, processing, and packaging of milk.

- Cheese, namely goat and sheep cheese, production facilities.</td></tr>
<tr><td colspan="4">Agro-waste</td></tr>
<tr><td>Compost</td><td>- Waste collection hubs.
- Processing facilities that would processes sugarcane, fennel, and pumpkin waste into compost.</td><td rowspan="2">- Advocacy of forward and backward linkages through measures such as market linkages and contract farming.</td><td rowspan="2">- Lobbying for the improvement of agro-waste and biogas regulations.

- Facilitating the establishment of agro-industrial zones.

- Addressing the difficulties in acquiring permits, licenses, and registration papers; as well as the high costs of land rental and buying.</td></tr>
<tr><td>Biogas</td><td>- Initiate the production of biogas as a cheaper and environmentally friendly alternative to electricity, which can be linked to all other sub-sectors, and would necessitate policy interventions.
- Waste collection hubs and processing facilities.</td></tr>
</table>

Sub-sector	Business Opportunity	Development Intervention	Policy Intervention
Creative industries			
Clay	- The sale of machinery that would mechanize and modernize the clay production process. -Creation of companies that would design products to be served to consumers. - Creation of businesses that would brand and sell raw Qena clay.	- Branding of Qena's pottery, especially online, emphasizing its unique characteristics. - Investing in design and R&D to improve upon the quality and characteristics of Qena's pottery products, and make products more user friendly and less prone to breakage.	
Handmade carpers and kilim	- Carpet and kilim businesses.	- Providing training to improve skills and ability to create new and demanded designs. - Developing yarn products in Qena.	



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