



ENTREPRENEURSHIP ASSESSMENT

REPORT

Landscape of Sustainable Incubators and
Accelerators in Egypt for E-Waste Recycling



SUSTAINABLE
RECYCLING
INDUSTRIES

2017

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1 Executive Summary

Context: The primary objective of this assessment exercise is to identify trends related to green and sustainable entrepreneurship practices currently taking place in Egypt, with special emphasis on the e-waste recycling industry.

Although the entrepreneurial ecosystem in Egypt encloses different types of stakeholders, the assessment was limited to closely studying incubators and accelerators.

The report also aims to identify and list potential host incubators and accelerators that could support the design and launching of an e-waste recycling Programme as well as the emergence of an e-waste recycling industry under the SRI project.

The assessment is informed by both primary and secondary research endeavours. A preliminary desk research was undertaken to garner an overview of nationwide entrepreneurial trends and updated development, while field interviews and consultations were held with a selective sample based on the findings of the preliminary research.

The preliminary research stage culminated in the gathering of information on an average of 45 organizations and entities of interest. Elimination criteria were designed and applied to filter the identified entities of interest for the second research stage of interviews. 15 interviews were conducted as a result of this filtration.

Findings:

The following criteria have been used to assess and rank the interviewed incubators and accelerators:

- Partnership:

- Possibility to partner with CEDARE
- Possibility to partner with more than one partner (e.g. CEDARE and a co-working space)

- Legal Framework:

- Possibility to sign a contract (in case of non-governmental entity)
- Possibility to sign an MoU (in case of a governmental entity)

- Planning and Design:

- Ideation / Pre-incubation support services
- Support with outreach, call for applications and selection of entrepreneurs

- Physical Requirements:

- Office space
- Storage space

- Capacity Building Requirements:

- Technical e-waste training
- Soft skills
- Business and entrepreneurial skills
- Mentoring and consulting

- Financing:

- Overhead
- Seed funding

The interviewed organizations have been ranked based on the number of criteria they meet. The first two, ICE Cairo and Gesr came in first due to their focus on sustainability followed by Cleantech Arabia⁽¹⁾, Innoventures and Nahdet El Mahrousa.

Finally, some general recommendations regarding the e-waste market readiness to absorb innovative approaches to collection and dismantling have been extrapolated, as well as general recommendations pertaining to the overall incubation Programme design.

Market Readiness Findings

- Conduct a thorough assessment of the e-waste market, its supply and value chains along with its key players in Egypt (specifically, in Cairo) to be able to identify possible challenges that the entrepreneurs can turn into business opportunities.
- There is a general lack of information about the e-waste market with little data and success stories being published.
- According to data garnered through the conducted interviews; there is ample room to support the creation of companies at least in the collection and primary dismantling phases. Interviewed private sector players have expressed their willingness to cooperate by providing contracts to the newly established companies, especially in the collection phase.
- There is a need for an accreditation body for the recycling of e-waste in Egypt. This is particularly useful for businesses considering exporting to Europe.

General Findings for Programme Design

- Most incubators are not apprehensive about lacking the technical knowledge on e-waste management and recycling, but have raised concerns about the youth general command of the operations of a business.
- Most interviewees highlighted the need to provide incentives or a business case for the host incubator.
- There is a need to carefully identify the targeted youth for the Programme. The target pool should not be limited to students.
- It is recommended to consider a multi-stage / phase Programme (i.e. pre-incubation, incubation and post-incubation) to allow entrepreneurs to convey lessons learnt and opportunities to future cohorts.

- It is recommended to concentrate on the design of both an incubation Programme and an acceleration Programme to support different players in the market. Given the current limited e-waste market size, there is a need to create a market base and suitable eco-system.
- It is preferable that the incubation Programme design be open to entering into multi-stakeholder partnering.
- Ideally, the Programme should provide entrepreneurs with some seed funding to ensure entrepreneurs' commitment and seriousness. It is important to engage investors from the beginning, because they are the ones to absorb the market.
- The majority of interviewees suggested the need for an ideation activity and info sessions.
- All interviewed organizations welcomed the idea of having CEDARE serve as a technical partner who can conduct and manage the technical training.

2 Acknowledgments

The study was designed and conducted by The Centre for Environment and Development for the Arab Region and Europe (CEDARE) under the context of the SRI project. The lead author and expert consultant for this assessment exercise was Ms. Sina Hbous with authoring and research contributions by Ms. Menan Omar, the team's research consultant.

The study could not have been possible without the significant contributions of an array of representatives who provided the research team with a significant inflow of information. Much gratitude is owed to all interviewees.

All provided information by the interviewees was provided with a high level of credibility and transparency. Interviewees shared a unified understanding that e-waste could present a rewarding commercial opportunity for entrepreneurs.

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3 Background Information

The SRI Project: In 2012, the State Secretariat of Economic Affairs (SECO) together with

the Swiss Federal Laboratories for Material Sciences and Technology (EMPA), the World Resources Forum Association (WRFA) and ECOINVENT Association launched the “Sustainable Recycling Industries” (SRI) Programme, with the aim of supporting the sustainable integration and participation of small and medium enterprises from developing countries in the global recycling of secondary non-renewable resources. The project is expected to turn electronic waste into job and income opportunities.

Through the provision of financial, administrative, legal and technical support, the project encourages SMEs to develop a viable electronic waste recycling business. It addresses the demand for a comprehensive international approach to ensure that recovery of secondary resources is enabled under safe and sustainable conditions. Among others, the Programme will pursue and promote life cycle thinking, harmonization of international standards towards “fair” recovery and trade of secondary resources and application of novel financing mechanisms to safely detoxify waste streams and destroy illegal substances.

Participating countries include Colombia, Egypt, Ghana, India, Peru, South Africa and Brazil. The Programme started in Egypt in early 2016 and is planned until the end of 2017.

SRI Egypt and its implementation: In 2011 the Centre for Environment and Development for the Arab Region and Europe (CEDARE) with support from EMPA and in consultation with the stakeholders related to the Egypt Green ICT Initiative, executed a “needs assessment of the e-waste sector in Egypt”⁽²⁾.

Based on this assessment the main support of the “Sustainable Recycling Industries” Programme for Egypt has been structured to reach the following 4 objectives:

- ① A recycling accreditation system to introduce recycling standards and to initiate the conformity assessment system in Egypt

2 The implementation of a 'youth incubator Programme' for e-waste recycling in the informal sector

3 Develop incentive mechanisms under the principle of Extended Producer Responsibility (EPR)

4 Capacity Building, of all stakeholders and entrepreneurs involved in the project

4 Report Objective

Under the second objective of the SRI Egypt project (highlighted above), a youth incubation Programme should be designed to:

- Create a market supply of e-waste recycling expertise
- Support the creation of a domestic commercial market for electronic e-waste recycling
- Contribute to the reduction of overall unemployment through the creation of business opportunities along the e-waste recycling supply chain
- Build the technical capacity of youth in the fields of business, entrepreneurship, innovation and e-waste

In order to support the design of the incubation Programme, an assessment of potential host incubators and accelerators and a mapping of the current trends in sustainable entrepreneurship have been conducted. The report will therefore document the findings of the assessment and mapping exercise with sub-objectives that include:

- *Presenting a brief situational analysis of entrepreneurship in Egypt*
- *Creating a list of incubators and accelerators engaged in any relevant activities that could support the design of the requested incubation Programme*
- *Gathering information around the capacity of incubators and accelerators and the services that they provide*

- *Assessing the availability of eco/sustainable incubators*

- *Determining the existence of e-waste specialized incubators or accelerators*

- *Forming a conceptual understanding of the challenges that face e-waste recycling start-ups*

- *Assessing gaps and market requirements to inform incubation Programme design and implementation*

5 Methodology

The methodology for this assessment is qualitative and is twofold:

- A preliminary research phase
- An in-depth interviewing stage

Guiding the overall research, the adopted definitions of business incubators and accelerators for this assessment are:

An Incubator: Is an organization designed to support and nurture the growth and success of entrepreneurial companies (start-ups) through a range of business extension, development resources and services. These may include physical space, capital, coaching, trainings, and networking opportunities. Start-ups are usually still in the ideation or the beginning of the operation stage⁽³⁾.

Incubated start-ups and enterprises typically spend an average of 1-2 years in a business incubator. During this time the incubatees often share telephone, workstations, Internet, office space, and production equipment expenses in an effort to reduce overhead and operational costs.

An Accelerator: Business accelerators share numerous of the characteristics of incubators. They offer professional business advice and guidance to help start-ups that have well-defined and polished business plans or have already started operating, grow and scale. It is usually perceived as a second stage of support after incubation⁽⁴⁾.

Therefore the duration of acceleration Programme is shorter than that of an incubator and more intense with advanced business trainings designed to target a company's growth rate. More often than not, accelerators provide seed money or match making events with venture and angel investors.

Definition and traits of an E-waste Recycling Incubator: E-waste is a complex waste stream containing both hazardous materials and valuable secondary resources. As per the Step Initiative E-waste (2016) is defined as follows:

"E-Waste is a term used to cover items of all types of electrical and electronic equipment (EEE) and its parts that have been discarded by the owner as waste without the intention of re-use."⁽⁵⁾

Unsound practices of e-waste disposal pose serious health, socio-economic and environmental hazards to society. Thus, e-waste management requires specialized collection, segregation, transportation, handling, treatment, recovery and final disposal to prevent environmental pollution, risks to human health and efficient resources "re'/utilization".

Accordingly, a specialized e-waste recycling incubator is expected to offer technical trainings on collection, handling, dismantling and first stages of recover. Additionally, it will provide entrepreneurs with soft skills and business development trainings. Pre-incubation services and ideation workshops could also be conducted to sharpen their grasp of the challenges and opportunities of the e-waste market and create a pipeline of new ideas for innovative solutions and products. Finally, matchmaking events and seed funding are viable services that this incubator could ideally provide.

A specialized incubator would also have ample and appropriate room for storage, primary dismantling tools, in addition to workstations and Internet among others.

The preliminary phase of research included desk research and CEDARE expert contributions. The main outcome of this

phase is a compiled list of 47 organizations that can be presented as follows:

- Either or both incubation and acceleration services
- Provide physical space for collective youth to utilize as working space
- Manage or run donor funded incubation or entrepreneurship relevant project in addition to other services that define an NGO
- Considered as a branch of an international initiative or Organization with strict non flexible rules for either incubation or acceleration

As an intermediary stage; the 47 institutions were researched for detailed insights and elimination criteria were applied to further filter the list that was developed based on the considerations and needs of an e-waste incubator/accelerator and guidance provided by the Egypt SRI team. The criteria included:

- 1 Incubators/Accelerators should be based in Egypt and not operating from abroad to ensure close cooperation and liaising
- 2 Incubators/Accelerators should be geographically located in Cairo based on market considerations for E-waste collection, segregation and transporting
- 3 Should offer incubation and acceleration Programmes rather than just co-working space or individual entrepreneurial fellowships
- 4 Targets both genders and open for diversified participants (no specific students or gender or cluster of individuals)
- 5 Should be a sustainable or tech-based (no need for Fin-techs or Fab labs or Maker Spaces). Since the basic requirement of an E-waste incubator is a physical space for operation, collection, storage and a small workshop for minimal segregation if required

- 6 Reputation and credibility
- 7 Availability of physical working space needed for E-waste recycling collection and segregation
- 8 Operational ability, capacity and flexibility to engage in tailor made incubation Programme
- 9 Has a legal stature to enter partnerships
- 10 Should have the capacity to host in addition to the incubator/accelerator's normal call for application cycle

Based on the elimination criteria, **15 institutions** were shortlisted as potential partners of the SRI project in Egypt.

The Second Phase of Research consisted of semi-structured, one-on-one interviews and consultations with the shortlisted institution that included:

- Incubation/acceleration Programme managers and CEOs
- CEOs of e-waste start-ups and businesses
- Government representatives and officials

However, not all contacted organizations responded in due time or were operational during the time span that our research team had set forth. At the same time, the SRI team recommended a number of additional local e-waste experts to broaden the perspective of the research. Accordingly, the final number of the one-on-one interviews reached 15.

A detailed introductory document defining the project and a brief synopsis of the status of e-waste were prepared and sent to interviewees prior to the meetings.

The main interview questions encompassed the following components:

- ▶ Understanding the legal structure of the organization
- ▶ Understanding the scope of operation, areas of expertise and conditions to join

- ▶ Understanding the technical and business capacity building trainings provided in great detail
- ▶ Understanding the technical and human resource capacity to engage into a partnership with CEDARE
- ▶ Understanding the facilities / physical space that are provided to entrepreneurs
- ▶ Learning about any additional services provided

6 Situational Analysis of Entrepreneurship in Egypt

Egypt is now considered an epicentre for entrepreneurship in the region. According to Forbes (2015), it is becoming an emerging centre for start-ups interested in technology⁽⁶⁾.

Despite alarming economic conditions and limited access to finance, young Egyptians have exhibited motivation and willingness to initiate their own start-up revolution. The Total Entrepreneurial Activity rate (TEA) for Egypt as per the 2015/16 Global Entrepreneurship Monitor (GEM) Report⁽⁷⁾, the percentage of the population (18-64 years old) either actively trying to start a business or already owning and managing a business that has been operational for less than three and a half years old, is 7.4%.

But why is Egypt witnessing such a trend?

Among the many answers available through expert analysis are:

- Relative education and skills of young generations
- High connectivity, access to internet and social media engagement
- Access to knowledge and information online

- Limited supply of traditional blue and white collar paid jobs in the market. This is corroborated by the 2015/16 Global Entrepreneurship Monitor (GEM) Report, which states that 40% of entrepreneurship in Egypt is driven by economic need and necessity
- Availability of internationally funded projects and competitions that support entrepreneurship
- Despite red tapes and notable bureaucracy, the availability of government-led one-stop-shops, such as the Social Fund for Development (SFD) has also contributed to the ease of setting up a business
- Positive societal perception of entrepreneurs: In fact, Egypt ranked high in the societal value of entrepreneurship as a good career choice and the high status of successful entrepreneurs⁽⁸⁾

However, it is also important to mention that economic conditions and market limitations could pose a challenge to entrepreneurs. According to the 2015/16 Global Entrepreneurship Monitor (GEM) Report, Egypt has a rate of 6.6% of discontinued businesses and start-ups. This trend can be indicative of a gap in⁽⁹⁾:

- Assessing the extent of impact of government led and donor led projects and Programmes that promote SMEs and Start-ups
- Lack of an overall strategic national level in identifying and prioritizing industries and sectors that should be targeted by entrepreneurs
- Lack of technical and financial support dedicated to SMEs and start-ups in the growth and acceleration phase
- Lack of managerial and leadership required to steer enterprises in unstable economic conditions
- Lack of sufficient post-incubation services and follow-up to enterprises
- Unstable and limiting domestic market potential

Box One:

Profiling the Average Egyptian Entrepreneur

According to the Global Entrepreneurship Monitor (GE33M) in 2012:

“The average Egyptian entrepreneur is male, 25-34 years of age, self-employed, living in Cairo, educated to post-secondary level, with a household income of EGP 8,001-10,000⁽¹⁰⁾. Very few women in Egypt are engaged in early stage entrepreneurial activities; the gender gap in Egypt is among the highest in the countries participating in GEM 2012.”⁽¹¹⁾

Box Two:

Scoping the Challenges

According to a study the Egypt entrepreneurship Study (2015):⁽¹²⁾

Entrepreneurship faces numerous challenges:

- Lack of entrepreneurial skills-related educational materials as part of the education system
- Access to finance and microloans is very scarce and challenging
- The legal framework is hindering the establishment of new/small companies
- Entrepreneurial projects in Egypt are only directed to the local market
- The rate of female entrepreneurs in Egypt is very low

Box Three:

Trends and Characteristics of Entrepreneurship⁽¹³⁾

- The ICT sector shows remarkable potential in the field of entrepreneurship followed by manufacturing, education and health
- About 29% of Egyptians are between the age of 15 and 29, representing a wide pool for entrepreneurship⁽¹³⁾
- The existence of strong government and international organization support is providing needed technical and sometimes financial support to start-ups
- Egyptian youth are known for high entrepreneurial spirit and motivation to be self-employed
- The rise of a nascent enabling entrepreneurial/innovation ecosystem including angel and venture investors, banking credit for SMEs, incubators, and accelerators

7 Mapping the Entrepreneurial Ecosystem in Egypt

Most frequently and on a global level, the Babson Model⁽¹⁴⁾ for defining the concept and lexicon of an entrepreneurial ecosystem is adopted as a baseline assessment and defining the conceptual framework of the determinants and prerequisites of a successful entrepreneurship environment.

According to the Babson diagram the main 6 domains of the ecosystem include:

- Policy
- Finance
- Culture
- Supports
- Human Capital
- Markets

If we are to adapt this model to the Egyptian context, we can put together a framework that can map the main influencers, stakeholders and support services that make up Egypt's entrepreneurial system. However it is essential to stress that mapping using this framework should differ from one country to the other based on different and unique interlinked circumstances. The below table is a baseline mapping of the determinants and stakeholders of the Egyptian entrepreneurial ecosystem:

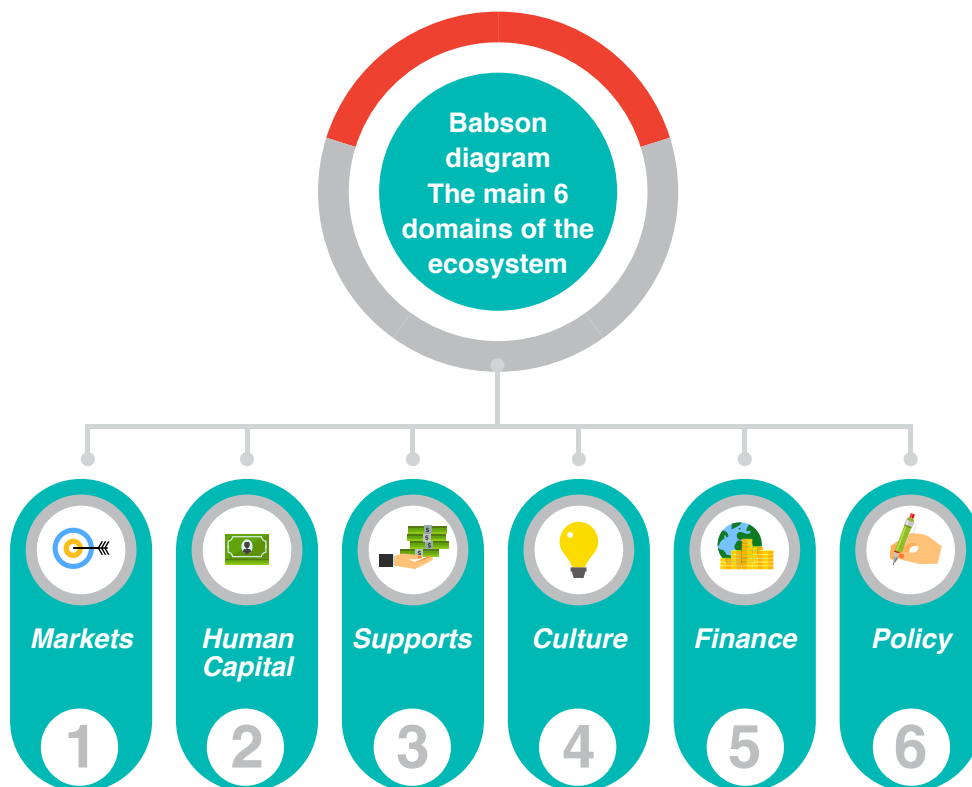


Figure One: Babson Entrepreneurship Ecosystem

| Domains | Related Activities | Stakeholders In Egypt | Efficiency of performance in Egypt |
|----------------|--|---|--|
| Policy | <ul style="list-style-type: none"> ■ Incentives ■ Regulations ■ Entrepreneurship strategy and action plan ■ Improving the business climate by shortening the duration of doing business among other ■ Creating one-stop shops to provide business registration services ■ Encouraging the private sector to transfer knowledge to start-ups ■ Promoting inclusive supply chains | <ul style="list-style-type: none"> ■ Government including Ministry of Finance, Ministry of Investment, Ministry of Trade and Industry and Ministry of Communication and Information Technology ■ Public institutions and government agencies such as the General Authority For Investments (GAFI), the Technology Innovation and Entrepreneurship Center (TIEC) and the Social Fund for Development (SFD) among other | <p>The government has been the front runner in supporting entrepreneurship in the mid 2000s. The government believes that promoting and supporting entrepreneurship nurtures innovation and could possibly lead to higher youth employment.</p> <p>On the policy level, however, regulations and incentives to set up and operate start-ups require revisiting for more efficiency.</p> |
| Finance | <ul style="list-style-type: none"> ■ Pre-seed funding for ideation ■ Seed funding for set-up, prototyping and operation ■ Series A funding for product optimization; Series B funding for expanding the market reach and Series C funding for scale | <ul style="list-style-type: none"> ■ Government Programmes for subsidized credit ■ Seed funds in government-owned incubators such as TIEC and the SFD ■ Private sector through venture investment and corporate social responsibility ■ Individuals in the form of angel investors and serial entrepreneurs ■ Public and private banks providing different credit products for SMEs ■ Crowd funding platforms | <p>The availability of these services and opportunities in Egypt are often influenced by:</p> <ul style="list-style-type: none"> ■ Sectors that are prioritized by the government and related strategy ■ Sectors that businesses want to invest in according to their expertise and areas of prioritised investments ■ International organizations and donors with specifically designed entrepreneurship Programmes and models |

| Domains | Related Activities | Stakeholders In Egypt | Efficiency of performance in Egypt |
|----------------------|--|--|---|
| Markets | <ul style="list-style-type: none"> ■ Availability of infrastructure, including high-speed Internet ■ Customer pool well aware of entrepreneurship ■ Availability of market information and studies ■ Availability of Programmes that support leadership and management required to operate in the local market | <ul style="list-style-type: none"> ■ Traditional customers ■ Integration into the supply chain of larger enterprises and businesses ■ Online customers ■ Exports (very limited) ■ Government (limited public procurement) | <p>It is considered to be the weakest domain in the ecosystem as there are no strategies to test market readiness and no sufficient match-making efforts to synchronise the expertise and sectors of emerging start-ups and the demands of both local and international markets. There is a shortage of start-ups and SMEs targeting exports and green products. However it is apparent that e-commerce related services intertwined with technology and communication are thriving sectors for entrepreneurship.</p> |
| Human Capital | <ul style="list-style-type: none"> ■ Large youth population ■ Availability of educated and skilled youth ■ Efficiency of mentorship Programmes ■ Lack of resources to pay the required qualified resources | Public and private schools, universities, institutions, think tanks and student- or youth-led organizations | <p>There is a lack of public education on entrepreneurial skills at primary, high-school and university levels. Youth are forced to seek alternative Programmes that provide scholarships, subsidized fees for training and capacity building Programmes.</p> |
| Culture | <ul style="list-style-type: none"> ■ Social and community acceptance ■ Social media presence ■ Social status and standing | General community public, peer youth, competing entrepreneurs, family etc. | <p>As per the 2015/16 GEM report, entrepreneurs in Egypt have a string and nurturing culture.</p> |

| Domains | Related Activities | Stakeholders In Egypt | Efficiency of performance in Egypt |
|-----------------|---|--|---|
| Supports | <ul style="list-style-type: none"> ■ Business and soft skills capacity building ■ Support in pitching, marketing and market penetration ■ Infrastructure for set-up, physical space ■ Mentoring and consulting ■ Technical support for technology and innovation | <ul style="list-style-type: none"> ■ Universities ■ Incubators ■ Accelerators ■ Growth and venture consultancies ■ NGOs and civil society | <p>It is one of the fastest growing domains of the ecosystem with different ranges and types of players. It is considered a manifestation of support and a melting pot that combines the above 5 domains. However, with the scale of current start-ups and the exponential potential for growth, demand is much higher than supply and available capacity; hence, the need for more incubators and accelerators and related Programmes.</p> |



Box Four:

Profiling Incubators and Accelerators in Egypt Types:

| Types | | | | |
|---|--|---|---|---|
| Government Hosted /Managed | University Hosted/Initiated | Private Sector/ For Profit | NGO Hosted/ Managed | Other |
| <p>TIEC SFD BEDAYA</p> | <p>AUC Venture Lab Nile University GUC BUE, Ain Shams, Cairo University among others</p> | <p>Ice Cairo – Qafeer Labs- Flat 6 Labs – Innoventures – Sustaincubator – Delta Inspire</p> | <p>GESR- EBNI- Nahdet El Mahrousa- Green Tech Arabia</p> | <p>INJAZ- Enactus – Synergos Egypt- Endeavor Egypt- Ebtaker AYB- Ashoka Egypt</p> |
| <p>Usually provide business trainings, space, maker labs, Internet and networking and in some cases seed funds</p> <p>Fully funded by the government and provide free services.</p> <p>Can enter into partnerships under the umbrella and approval of line ministries</p> | <p>With the exception of AUC, they exclusively target their students and provide physical space and training.</p> <p>Each model differs from one university to another.</p> <p>Usually, there is an external funder to support their activities.</p> | <p>At least cover operational cost via moderate fees for the services they offer to donors/ sponsors.</p> <p>Provide co-working space, equipment, Internet access, customized trainings and seed money in case they have a venture capital arm.</p> | <p>Funded by a donor or the NGO itself, or a consortium of partners.</p> <p>They have similar models to the private sector- and government-hosted incubators.</p> <p>They provide trainings, pre-incubation programmes and networking services.</p> | <p>This category includes incubation Programmes based on annual competition or round.</p> <p>It deals with initiatives and international branches of incubators and/or ones that operate in Egypt but are headquartered in another country.</p> |

Profile of Interviewed Institutions

Cleantech Arabia is a development foundation and platform that supports product development, markets as well as start-ups working in the area of clean technologies, with a particular focus on the waste management, renewable energy, water and transportation sectors in the Arab World. Through its technical arm, Chemonics Egypt, Cleantech Arabia provides a wide range of support services to SMEs in addition to developing research, awareness and training Programmes. For more information: <http://cleantecharabia.com/>

Bedaya is a government-led incubator that aims at enabling SMEs and entrepreneurs to access different financial and non-financial services through various Programmes and initiatives. It provides entrepreneurs with the skills and knowledge to manage and run their own business. By developing start-ups and SMEs, Bedaya hopes to advance Egypt's National Strategy of creating a sustainable innovation ecosystem that can contribute to the country's socio-economic development. For more information: <http://www.bedaya.org/eg/>

ICE Cairo is a social enterprise that seeks to create a green economy in Egypt, by enabling the formation of responsible and inclusive SMEs, employing youth, and growing the Egyptian economy in a sustainable manner. It offers a wide range of services to start-ups including a fablab to develop green products, technical training in green building and entrepreneurship trainings. For more information: <http://www.icecairo.com/>

Flat6Labs is a regional start up accelerator Programme that fosters and invests in entrepreneurs with cutting-edge ideas. The objective is providing entrepreneurship with mentorship, business training, networking opportunities and seed funding to eventually achieve financial returns in the long term. Flat6Labs first started in Cairo in 2011 and is currently operating in Abou Dhabi and Jeddah, with plans to expand to Beirut and Tunis. For more information: <http://www.flat6labs.com/>

Gesr is a Programme of Misr El Kheir Foundation that aims at identifying, supporting, and investing in social innovations and technology-based social enterprises. It provides entrepreneurs with mentorship, technical, administrative and financial support. There is also a pre-incubation Programme that is referred to as Gesr's acceleration Programme given its short duration, and which aims at helping entrepreneurs develop their idea into a registered social enterprise with a solid business plan. For more information: <http://gesr.net/>

Technology Innovation and Entrepreneurship Center (TIEC) is a governmental entity with a vision of becoming the region's leading innovation hub. TIEC acts as a catalyst between the government, private sector and academia to create an innovation-based economy. The Incubation Department offers incubation and acceleration package to start-ups that includes seed funding, consultancy services and a working space. For more information: <http://www.tiec.gov.eg/>

Nahdet El Mahrousa provides incubation services to help build social projects from an idea to a full-scale Programme. Entrepreneurs are being provided a wide range of services, including capacity building, one-on-one mentorship, infrastructure, administrative support and funding. The aim is to help entrepreneurs move from their early start-up stage to becoming financially sustainable, scalable and legally established entities. For more information: <http://www.nahdetelmahrousa.org/>

Qafeer Labs is a co-working space that supports entrepreneurs create successful start-ups. It started a crowd funding campaign to obtain equipment to turn it into maker space. Qafeer Labs is a social business with most staff being volunteers who provide training and mentorship to the community. It does not, however, offer a full-fledged incubation or acceleration Programme.

Social Fund for Development (SFD) is a quasi-government organization with business and technology incubators that aim at developing small enterprises outside of Cairo and help entrepreneurs. The objective is to help entrepreneurs realize their innovative potential by translating their ideas into viable enterprises through a wide range of financial and non-financial services. Currently, there are five operating incubation Programmes in Mansoura, Luxor, Assiut, Monofeya and a virtual incubator in Port Said. For more information: <http://www.sfdegypt.org/web/sfd/incubators>

Innoventures helps entrepreneurs turn their ideas into successful and viable business by providing them with a wide range of services, including a working space, company registration support and business training. The main Programme, Start-Up Reactor, is an accelerator and aims at supporting and accelerating start-ups with a high potential for growth. Innoventures has many international partners including Oxfam and VC4Africa through which it provides entrepreneurs with funding, a virtual access to mentors and networking opportunities. For more information: <http://innoventures.me/>

Green Environment Consultants (GREEN) is a professional partnership that provides diverse specialized research, consulting and management services in environment and sustainable development. Its clientele include governments, local and regional authorities, donor agencies, international organizations, civil and non-governmental bodies, multi-national corporations and the business/private sector community. The company has been operating for 12 years, during which it has specialized in environmental planning, environmental management, waste management, and energy technologies among others. For more information: <http://www.green-group.info/>

Recyclobekia is an electronic waste recycling company based in Cairo, Egypt, being the first in the Arab world to provide green recycling of electronic waste and safe data destruction services. The objective is to reduce potential health and environmental hazards, while creating employment and promoting sustainable economic growth that capitalizes on modern technology. For more information: <http://recyclobekia.com/>

Spirit of the Youth Association is a non-profit organization that seeks to empower the youth of the “garbage collectors’ community” through learning opportunities in the field of sustainable recycling. The ultimate aim is to advance the integration of the community into the formal sector of solid waste management.

Egyptian Electronic Recycling Company (EERC) is the first electronic equipment recycling facility in Egypt that seeks to create a knowledge base on how to do electronic waste refining in Egypt. EERC’s main supply channels are companies and scarp dealers, with an interest in creating new supply channel from home users.

Industrial Council for Technology and Innovation is a governmental platform under the supervision of the Egyptian Ministry of Trade and Industry that seeks to promote clean and innovative production in the industrial sectors. They run an incubation Programme for plastic recycling in Alexandria through which they provide entrepreneurs with technical training and a co-working space.

8 Main Findings of Assessment Exercise

Before delving in this report's findings, it is integral to extrapolate the main considerations that the SRI project should take into account to partner with a host incubator/ accelerator. In light of various findings and information collected via the conducted interview, the team is now better informed as to determine the main parameters needed out of the proposed partnership.



| | |
|--|---|
| Partnership | <ul style="list-style-type: none">■ Possibility to partner with CEDARE■ Possibility to partner with multiple parties (e.g. CEDARE and co-working space in case adequate office space is not available) |
| Legal Framework | <ul style="list-style-type: none">■ A contract if with a non- governmental entity■ An MOU if with a governmental entity |
| Planning and Design | <ul style="list-style-type: none">■ Support with conducting awareness raising sessions / ideation phase■ Support with outreach and call for applications■ Support with selecting the entrepreneurs |
| Physical Space | <ul style="list-style-type: none">■ Office space■ Storage and dismantling space |
| Training Content and Capacity Building | <ul style="list-style-type: none">■ Technical content on e-waste■ Business and entrepreneurial skills■ Soft skills■ Mentorship and consultations |
| Finance | <ul style="list-style-type: none">■ Provide overhead for accelerator in return for managing the Programme / the possibility of cost sharing with CEDARE■ Provision of seed funding /Capital needed to operate start-up |

Based on the above criteria, the interviewed incubators/ accelerators have been assessed and below are the main findings by theme:

Assessing the capacity of interviewed incubators and accelerators to design a customized Programme:

Incubators/ Accelerators that do not have the capacity to design a customized Programme and that have therefore been excluded from our analysis:

- Ebni Incubator is already at full capacity and does not have the leverage to incubate another Programme simultaneously.
- Sustaincubator responded to our attempts to connect but mentioned that they require time to be ready and did not get back to us to meet them, despite several follow-ups.
- The incubation Programme of SFD operates mainly in governorates outside of Cairo. However the SFD as an institution can provide non-financial services.

Incubators/ Accelerators that have the capacity to design a customized Programme

- ICE Cairo Sustainability Hub, CleanTech Arabia, GESR, Nahdet El Mahrousa, Flat6labs and Innoventures have the capacity and the willingness to create a customised Programme.
- Gesr and Innoventures even expressed their willingness to consider running a separate track / cycle on e-waste.
- TIEC and Bedaya have suggested to include the proposed e-waste start-ups in their normal incubation cycle and the same call for applications.
- Qafeer Labs is a co-working space, but is willing to design a Programme with a particular focus on the ideation phase.
- All interviewees have expressed their willingness and commitment to provide business and technical trainings to the entrepreneurs, while relying on CEDARE as the technical lead expert.

Assessing the availability of interviewed incubators and accelerators specialized in e-waste recycling:

- There are no specialized incubators in e-waste.
- There are two entities specialized in providing services to sustainable and/or green start-ups, namely Ice Cairo Sustainability Hub and Cleantech Arabia.
- However, a range of incubators are willing to host e-waste start up if the Programme can match the core focus area of the incubator/ accelerator. For example, TIEC is willing to support start-ups that develop solutions involving an electronic platform such as an e-waste collection application or website. Bedaya is specialized in innovation and hardware. Previously, they have provided free services to Recyclobekia, though it was not incubated there. Innoventures and Gesr incubators service early stage, promising start-ups including those that target clean energy, waste management, and green technologies and are therefore willing to host sustainable start-ups. Nahdet El Mahrousa is mainly targeting innovation and creative business ideas in general and is therefore interested in hosting e-waste start-ups. Finally, Flat6Labs is an accelerator and early stage fund manager and is willing to work with green start-ups provided that have a clear concept to grow and eventually scale.

Assessing the ability for partnerships:

- All interviewees have the ability to enter into a legal agreement with different forms depending on the legal status of the entity in question.
- In the case of governmental entities like Bedaya and TIEC, an MoU is expected to be signed.
- In the case of non-governmental entities like Innoventures, Gesr and Flat6Labs, a contract is expected to be signed.

Assessing the physical facilities:

- None of the interviewed incubators have a storage facility that could be suitable for e-waste collection.

- Similarly, there are no areas that could be turned into a dismantling workstation.
- With the exception of Cleantech Arabia, all other interviewees have a physical office/ working space.
- Other physical facilities that the interviewed incubators / accelerators can offer include maker labs, workstations and some basic equipment and tools throughout the duration of the incubation Programme.
- Most interviewees suggested and expressed a willingness to rent a storage area or forge a partnership with a co-working facility to provide entrepreneurs with the requested space.
- Some incubators have a wide collective space for all start-ups rather than individual rooms for each start up.

Assessing the SRI Programme attractiveness to interviewed incubators:

- For ICE Cairo Sustainability Hub and Cleantech Arabia, the Programme is in full alignment with their focus areas.
- For incubators exhibiting a high/medium and medium interest, this is an opportunity to build a track-record at the intersection of sustainability and innovation.
- TIEC and Flat6Labs would only be interested if the Programme adds to the success rate and if they see a viable business case in hosting a Programme on e-waste.

Assessing the services provided:

Legal Services:

All of incubators help start-ups with incorporation / business registration either through their legal departments, legal partners or contacts and partnerships with governmental agencies such as the SFD.

Incubation Programme and Training Structure and Content:

- GESR, TEIC, Innoventures, Bedaya, and Nahdet El Mahrousa provide cyclical incubation Programmes.
- Cleantech Arabia and ICE Cairo provide

customized incubation and training Programmes.

- Flat6Labs provides a cyclical acceleration Programme.
- All of the interviewed incubators / accelerators provide business and entrepreneurship focused training.
- Qafeer Labs provide ad-hoc / need-based training sessions that are not part of a coherent incubation Programme.

Ideation Activities/ Pre incubation:

- Bedaya, GESR, ICE Cairo Sustainability Hub, Nahdet El Mahrousa have ideation Programmes.
- Cleantech Arabia provides individual and ad-hoc ideation support,
- The other interviewees expressed a willingness to provide customized ideation activities.

Post-Incubation Services:

- None of the interviewed incubators / accelerators provide full-fledged post incubation services.
- However, some of the organizations like Innoventures and GESR are currently in the process of developing a post-incubation package.

Assessing financial requirements of the suggested incubation Programme:

Seed Funding

- TIEC, Flat6Labs, Bedaya, Gesr, Innoventures and Nahdet El Mahrousa provide seed funding for the start-ups and it's in the range of 100,000- 150,000 EGP.
- TEIC, Flat6 labs, Bedaya, GESR, SFD Innoventures, Cleantech Arabia.
- ICE Cairo does not recommend seed funding for this type of start-ups, because it may provide entrepreneurs with the wrong incentives to join the Programme.

Overhead / Cost-Sharing:

- All of the interviewed organizations will

expect a compensation for hosting the Programme. The exact budget will ultimately depend on the exact terms and conditions of the contract that would lay out the specific resources required of host incubator.

- ICE CAIRO will require a moderate fee to cover the initial cost of incubation.

Furthermore, the team has analysed the information gathered through the interviews to distil additional findings and recommendations pertaining to the overall Programme design. These can be summarized as follows:

- Most incubators are not worried about lacking the technical knowledge on e-waste management and recycling, but have raised concerns about the youth general command of the operations of a business. They all seemed to welcome the idea of having CEDARE serve as a technical partner who can conduct / manage the technical training. In their opinion, the real challenge is to ensure that the Programme provides a quality business / entrepreneurship focused training.
- Most interviewees advised to consider providing incentives or a business case for the host incubator.
- There is a need to carefully identify the targeted youth for the Programme, and should not limit its target pool to students. The majority of interviewees suggested the need for an ideation activity and info sessions.
- It is recommended to consider a multi-stage/ phase Programme (i.e. pre-incubation, incubation and post-incubation) so as to be able to monitor and support entrepreneurs throughout the entire cycle of starting and running a business, especially with e-waste recycling being a niche market. Supporting the entrepreneurs throughout their entire journey would allow them to convey lessons learnt/ opportunities to future cohorts.
- It is recommended to concentrate on the design of both an incubation Programme and an acceleration Programme to support different players in the market. Given the

current limited e-waste market size, there is a need to create a market base and suitable eco-system.

- The project team should be open to entering into multi-stakeholder partnering that involve government entities such SFD or the Council of Innovation and Technology: Ministry of Trade and Industry and Bedaya that can provide entrepreneurs with storage/ dismantling facilities and private incubators like ICE Cairo that can provide business training, mentorship and networking opportunities with potential investors.
- It is important to consider the issue of funding. Ideally, the Programme should provide entrepreneurs with sort of seed funding if possible to ensure entrepreneurs' commitment and seriousness. It is important to engage investors from the beginning, because they are the ones to absorb the market. It is therefore important to gauge their interest in funding start-ups operating in a niche market like e-waste recycling.

Finally, the several interviews and meetings with sustainability experts and the current key players in the e-waste market have been conducted to gauge its potential to absorb the businesses of new entrepreneurs. The market readiness findings can be summarized as follows:

- It is highly recommended to conduct a thorough assessment of the e-waste market along with its key players in Egypt (specifically, in Cairo) to be able to identify possible challenges that the entrepreneurs can turn into business opportunities.
- There is a general lack of information about the e-waste market with little data and success stories being published. Therefore, most interviewees were unable to give concrete advice as to whether the team should proceed with designing an incubation or acceleration Programme, i.e. whether the objective is to create a pipeline of ideas or to help an existing start-ups grow and scale.

- There are concrete opportunities for entrepreneurs to “plug-and-play” within the existing market structure, upon receiving guidance and the required training. The current main players in the market are few, but according to them, there is ample room to support the creation of companies at least in the collection and primary dismantling phases. Interviewed private sector players have explicitly mentioned their willingness to cooperate by providing contracts to the newly established companies, especially in the collection phase.
- When considering a partnership with the informal sector, it is important to do extensive research on the challenges facing the

informal sector and seek a partnership that can prompt informal activities to formalize. The Programme should not stipulate any kind of competition with the informal sector, because this can expose the participants to a high risk. Any activity involving the informal sector should not jeopardize or compromise their leverage in essentially monopolizing the waste business in Egypt.

- There is a need for an accreditation body for the recycling of e-waste in Egypt. This is particularly useful for businesses considering exporting to Europe. This may be a way to force part of the informal traders to formalize their businesses (though the percentage is not expected to be high).



9 Recommendations/Models for Designing an E-Waste Recycling

Having assessed the interviewed incubators / accelerators basis and their ability to meet the aforementioned criteria and having analysed the findings presented above, the team recommends the following ranking of the most likely candidates to partner with CEDARE for the purpose of launching the e-waste incubation Programme:

| Suggest Partner | Ability to Partner | Working Space | Green/Sustainable Focus | Outreach/Selection Support | Cost-Sharing Model with CEDARE | Ideation Phase Support | Flexible Program Duration | Flexible Program Design | Seed Funding Provision | Trainer, Mentor, Investor Network | Score (out of 10) |
|---------------------|--------------------|---------------|-------------------------|----------------------------|--------------------------------|------------------------|---------------------------|-------------------------|------------------------|-----------------------------------|-------------------|
| ICE Cairo | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | 9 |
| Cleanteatch Arabia | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | 8 |
| Innoventures | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | 8 |
| GESR | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | 9 |
| Bedaya | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | 7 |
| Flat6labs | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | 7 |
| TIEC | ✓ | ✓ | | ✓ | | | | | ✓ | ✓ | 5 |
| Qafeer Labs | ✓ | ✓ | | ✓ | ✓ | | | | | | 4 |
| Nahdent El Mahrousa | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | 8 |

It is worthy to note that the Social Fund for Development (SFD) can provide non-financial support to start-ups, even if the incubation Programme is managed by a different host incubator.



*Final
Conclusions*

Recommended Models for the Incubation Programme

This section has the purpose of providing technical guidance on the possible format/structure of the incubation Programme.

It is recommended that the Programme:

- Engages multiple stakeholders to maximize the benefits of partnering with different institutions and to ensure optimal results for entrepreneurs.
- The programme should also dedicate a track to support the acceleration or capacity building of already existing companies to contribute to the overall existing formal market eco-system.
- A second round of validation interviews should be conducted with shortlisted organizations after the evaluation.
- It is preferable to partner with a host incubator that could support in the provision of or fundraising for seed funding for incubated start-ups.

It is suggested that the final selection criteria should include

- Availability to assist in the provision of seed funding
- Physical capacity to host the programme
- Availability of track record of managed and structured incubation programme
- Evaluating the success factor of previous start-ups that graduated by these organizations
- Interested in sustainability and green initiatives



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Endnotes

- (1) Cleantech Arabia could have also ranked first but due to the unavailability of a physical working space, it came in after GESR and ICE Cairo
- (2) All provided information are extrapolated from project documents, press releases and website.
- (3) This is the most general and used understanding and definition of an incubator in Egypt. However it is worthy to indicate that although the distinctions between an incubator and accelerators are clear, a unified definition of incubators vs. accelerators varies on a global level and sometimes on an institutional level as well.
- (4) Ibid
- (5) The Step Initiative, "Solving the E-Waste Problem". The Step Initiative Online. <<http://www.step-initiative.org>>.
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- (8) Ibid
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- (10) Monthly Income.
- (11) Hattab, Hala. Global Entrepreneurship Monitor: Egypt Country Profile. 2012. Report. GEM Consortium Online. <<http://www.gemconsortium.org>>.
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- (13) Ibid
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