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Entrepreneurship in Waste Management
A guide for practitioners

INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT
The present guide is based on the lessons learned and best practices of the activities aiming at promoting youth entrepreneurship in waste management in the framework of the UNIDO project “Enhancing youth employability and local economic development in Upper Egypt”. The project was funded by the Government of Japan and implemented with the Egyptian Ministry of Trade and Industry.

The present guide was developed by Chemonics Egypt Consultants and Cleantech Arabia.

The views expressed in the present guide do not necessarily represent the views of the United Nations Industrial Development Organization.
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Drawing on the UNIDO program “Enhancing youth employability and local economic development in Upper Egypt” which supported entrepreneurs in the area of waste management in Upper Egypt,¹ this guide is intended to act as a manual for designing and implementing a similar support programmes in the waste management sector in Egypt. There may of course, however, be relevance for other sectors and regions.

¹ The UNIDO program was funded by the Government of Japan and implemented with the Egyptian Ministry of Trade and Industry in the governorates of Aswan, Luxor, Qena, and Sohag.
The set of tools and mechanisms that comprise the support program could be effectively applied in isolation, but collectively they are intended to assist potential entrepreneurs with business ideas reach the stage of creating a revenue-generating startup.

The guide sets out the stages of the program and the practical steps to implement them, including a timeline, key players, critical issues and success factors.

Throughout the guide, the word “entrepreneur” refers to an entrepreneurial team as a whole, who may attend the program as a group or nominate a lead entrepreneur to attend and act as the main contact for the program.

2 The business landscape of stakeholders and supporting institutions around entrepreneurs.
The driving philosophy of the program outlined in this guide is a desire to identify barriers facing potential entrepreneurs and help them to overcome them by integrating and tackling the market, human and technological challenges.

This includes, at the outset, assessing the market demand and mobilizing human resources and technology towards realizing market opportunities. So before commencing the program, a business opportunity mapping should be undertaken to identify areas which:

▸ Present a higher chance of success for entrepreneurs
▸ Meet socioeconomic development objectives of high employability and equal access to markets for women
▸ Have high growth potential

The program design incorporated the results of:

▸ Desk research which focuses on international experience and on literature related to developing countries, as well as Egypt
▸ Surveys which include public and private entities, including entrepreneurs, NGOs, business associations, investors, universities, incubators, and other stakeholders
▸ Analysis of Egypt-based waste management startups at various stages of development
▸ Ecosystem mapping which should be carried out to leverage the capacity of the Egyptian entrepreneurship ecosystem
The main objectives are to find out:

- Skills required for entrepreneurs in Egypt
- Barriers facing startups and routes to success
- Support mechanisms required for entrepreneurs in Egypt

Mapping and surveys should identify both business opportunities and the scale and nature of the entrepreneurial ecosystem.

Based on the mapping and surveys conducted, the main features of the program include:

- **Early stakeholder engagement**: Early engagement between the program and key stakeholders is crucial in generating awareness and interest, particularly from those that may provide direct support to entrepreneurs. Key stakeholders include the private sector, NGOs and potential investors.

- **Ecosystem integration**: The entrepreneurship support program should integrate with the existing entrepreneurship ecosystem and outreach to its different components to collaborate rather than replicate existing activities.

- **Skills transfer**: In all capacity building, training and consulting activities there should be a focus on learning rather than teaching. The program’s role is to create an environment conducive to learning and should transfer knowledge and skills rather than provide fixed solutions. Emphasis should be placed on approaches and methodologies rather than specific solutions to a particular challenge. This helps the startups to be more independent from the program and puts them on a more practical and sustainable path.

- **Transparency**: Transparency is a key element of the program. It is important that the program objectives and assessment methodologies are set out clearly from the start.

- **Community building**: The program works on creating a sense of community among the participants. The entrepreneurs should be encouraged to provide each other with support, to facilitate their learning experiences and to exchange resources. The program should share its vision, mission and values with the participants and encourage the entrepreneurs to carry them forward and become agents of change beyond the program in their communities.

### 1.2.1 CONTEXT OF IMPLEMENTATION

The UNIDO program showed that targeting a specific industrial sector (as opposed to a range of sectors) allows the program to:
It is important to stress that while the program can suit any industrial sector, some implementation activities and content-related changes might be necessary.

The implementation period might have to be adapted as the time needed to develop the technology, business model, product and/or service varies based on the sector. Other context-dependent factors include the type of stakeholders and of business services. For instance, startups producing biomedical devices might require more time to master their product than startups working in waste management. Moreover, in the waste management sector in Egypt, it is important to address the role of the informal sector in the life-cycle of waste, in order to mitigate related supply chain risks. On the other hand, it would be more pressing to address energy subsidies, incentives, and regulations if the program was working with startups in the energy sector.

When using the guide, the timeline, training content and financial support offered should be adapted to the targeted sector. In the UNIDO program, the context of Egypt dictated the stakeholders engaged by the program, as well as the skills and barriers which needed to be addressed throughout the stages. For example, research showed that in Egypt, NGOs and non-profits play a central role in the entrepreneurial ecosystem, meaning that their involvement and integration into the program was crucial (UNIDO, 2014).

**Social Impact**

While the program should ensure the feasibility of business opportunities, startups with higher social impact can also be targeted, provided that this is in line with the development objective of the program. In the UNIDO program, for example, whose main objective was to enhance youth employability and promote their socio-economic empowerment, this was done through an assessment based on a set of selection criteria that included social impact indicators along with market ones (discussed later in the guide). However, the program team can tweak the selection criteria to serve its objectives without changing the implementation mechanisms.

In conclusion, the program implementation stages, features, and support mechanisms that are presented in the guide are applicable as long as the program is implemented within a specific sector and the timeline, training content and financial support required are adapted to the targeted sector. Outside the context of Egypt, the training, capacity building and the type of stakeholders engaged may require modifications.
1.3.1 PROGRAM STAGES

The program consists of five stages which are designed to be dynamic enough to address the changing needs of the entrepreneur on their journey:

2 weeks Outreach

3 weeks Capacity Building

5 weeks Foundation Building

4 weeks Piloting

8 weeks Startup

Program stages
The stages can be summarized as follows:

- **Outreach:**
  - Awareness-raising and outreach to applicants through online and offline materials
  - Screening applications to identify innovative potential entrepreneurs

- **Capacity Building:**
  - Building entrepreneurs’ basic skills to develop their initial business plans
  - Assessing performance and selecting recipients of full support and partial support

- **Foundation Building:**
  - Setting targets and measuring performance of entrepreneurs, including demonstrating technical proficiency, validating numbers and assumptions on the ground, building the supply chain, identifying employees, and developing potential clients
  - Supporting entrepreneurs to develop revised, market-tested, business plans and feasibility analyses
  - Supporting entrepreneurs to design action plans

- **Piloting:**
  - Supporting startups in practical steps towards developing business, e.g. purchasing raw materials, selling sample products, developing agreements with clients etc.
  - Developing entrepreneurs’ knowledge and skills in financial analysis, to scrutinize and develop investment options

- **Startup:**
  - Supporting startups to enter the market and grow their operations and networks
  - Advising on action plans and assisting in negotiations with investing partners

### 1.3.2 PROGRAM TEAM

The team implementing the program will inevitably vary in size and expertise, depending on the number of entrepreneurs, as well as the needs of those participating and the areas of work covered.

The principal roles in the team are outlined below:

- **Program Lead(s):** One person, or a small core team, that has a background in supporting entrepreneurs and understands the requirements of successful startups, preferably in the sector in which they are operating (although a technical understanding is not essential). The Program Lead helps synchronize the implementation by making sure that all parties involved (including trainers, consultants and implementing partners) deliver a consistent message.
▸ **Program Coordinator(s):** One person, or a small core team, that handles the operations of the program. This includes scheduling and managing activities, event logistics and communications with the participants and stakeholders. This person/team is also responsible for identifying and engaging with relevant stakeholders (with the support of the Program Lead).

▸ **Consultation Team:** A team of specialists providing a consultancy and advisory service to participants, focusing on transferring knowledge and skills. The team consists of:

▸ **Marketing Consultant:** Advises on how to assess the market, identify customers, and determine the startup’s competitive edge, as well as their sales and marketing strategy.

▸ **Financial Consultant:** Advises on feasibility, cash flow, and cost structure analysis. The financial consultant can help in refining the startup’s business model and in determining the best investment scenarios. This person also ensures that startups are following good accounting practices.

▸ **Technical Consultant:** Advises on optimizing technology and the production process. The Technical Consultant assists in decisions such as acquiring machinery and building the supply chain. The Technical Consultant should ideally have knowledge of, and market experience in, the sector in which the program is implemented.
Understanding the role of stakeholders and engaging with them is central to the success of any entrepreneurship support program. The program works with a diverse pool of stakeholders, the most important of which are outlined below:

**Incubators and accelerators**

Play an important role in providing a holistic set of entrepreneurship support services, both financial and non-financial. Incubators and accelerators can also provide further support to participants upon completion of the program.

**NGOs**

Are strategically positioned to play a major role in reaching out to potential applicants, as well as in promoting social impact and mobilizing other stakeholders. NGOs can also help entrepreneurs build support networks and tackle specific challenges related to local community development.

**The private sector**

Can offer technical and managerial advice, as well as acting as startup advocates and supporters. Local SMEs (themselves often successful startups) can provide participants with technical input and even become suppliers, customers, or investors.

**The public sector**

Can provide networking support and access to resources and services. Furthermore, engaging the local administration can provide vital support when it comes to the legal and administrative issues around starting a business.

**Independent experts**

Including technical and business experts, can be involved in assessing and advising the startups throughout the program as well as being instrumental in feedback sessions or expert panels in between program phases.

**Private investors**

Whether as individual/angel investors or private sector companies, can provide financing opportunities and in-kind support to startups. Private sector investors, who typically provide equity financing, can become active partners for the startups, helping to ensure growth and sustainability through financial support, market access and management advice.

**The media**

Play a major role in giving exposure to the startups. This is particularly crucial given the limited resources of startups for marketing and public relations.
Below are the various stages of program implementation. Each stage contains the following:

- **Objectives**: The objectives of the stage
- **Key Players**: The main stakeholders involved
- **Main Features**: The main elements to be implemented
- **Key Activities**: The core action points in the stage
- **Hints & Tips**: A few hints and tips to maximize impact
2.1 OUTREACH AND SELECTION

2.1.1 OBJECTIVES

The main objectives of this stage are to:
▸ Generate awareness about the program and the application process
▸ Reach out to potential entrepreneurs to apply to the program
▸ Select the participating entrepreneurs
▸ Engage relevant stakeholders to promote and support the program

2.1.2 KEY PLAYERS

During the Outreach stage, the Program Lead and Program Coordinator should communicate and coordinate with key players in the entrepreneurship ecosystem, including:
2.1.3 **MAIN FEATURES**

- **Startup-centered communication campaigns**: Entrepreneurs are motivated by various factors, including social benefit, product innovation and financial rewards, and it is important to address as many of these factors as possible in the communication strategy.

- **Transparency**: Outreach communications should be clear and transparent, including managing expectations on program content. This has been shown to build credibility with stakeholders and increase participation from entrepreneurs.

- **Diversity**: The entrepreneurship ecosystem is diverse, and the range of partnerships developed (e.g. from NGOs to the private sector) should reflect this. Building broad and deep networks through these partners will allow the program to capitalize on existing resources, communication channels and support systems. In order to maximize the program’s reach to potential applicants, it is important that the Outreach stage includes a diverse mix of complementary online and offline activities that are relevant to the target audience. On-the-ground activities can provide a more concrete manifestation of the program, compared with social media, as well as reaching those with limited access to online channels.

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3. Research showed that 75% of entrepreneurs working in waste management in Egypt are motivated by social development drivers (UNIDO, 2014).
2.1.4 **KEY ACTIVITIES**

- **Create branding, logo and slogans (By Program Lead – Coordinator)**

  Branding is a core tool in reflecting the program’s vision, mission and values. Creating a brand that is true to the mission of the program helps anchor the message and starts to build a bond with potential entrepreneurs early in the program. The program should decide on the brand image that it wants to build and every piece of communication should be a contribution to this image: consistency in messaging is vital.

  **Figure 1: A snapshot of the program logo and campaign**

  ![UNIDO program logo and campaign](image)

  As an example the logo of the UNIDO program (Figure 1) illustrates innovation by using a light bulb; it also includes a gear that represents hard work and a recycling sign that reflects the nature of the program. The title of the program – *Supporting Startups in Waste Management for Development* – clearly states the social mission of the program. The slogan – “You are the hope” – also carries a motivational message that reflects a core aspect of the program: the belief in the importance of the human factor in the startup’s success and in achieving larger development goals.

- **Create and distribute promotional material (By Program Coordinator)**

  Promotional materials and information should come in a range of forms to engage diverse audiences. Through sharing a mix of scientific knowledge (e.g. through infographics and data) and showing a passion for socioeconomic development (as shown in Figure 2) the program can resonate with different people, from science-lovers to social workers.
Details of the program, including the assessment and selection criteria, should be announced in a clear and transparent way. Through the engagement conducted by the UNIDO program, one frequent concern expressed by entrepreneurs across many fields was the lack of transparency and effectiveness of some entrepreneurship program service providers. In order to distinguish the program as well as manage expectations, it is important to announce the stages of the program in as much detail as possible, including for example the type and duration of training sessions, and the amount and nature of financial support. This could assure potential participants that the program is reliable and worthy of the significant time investment that is required upon joining. Clear steps for the application process should also be provided.

Information announced should include:
- Launch date and dates for information sessions
- Training start/end dates
- Training topics
- Details of assessment criteria and selection process
- Information on support given to successful entrepreneurs

Create a clear application form (By Program Lead – Coordinator)

A concise application form with structured and specific questions can help filter out less serious participants, whilst also emphasising the required information. It also ensures fairness in the selection process and ease of assessment through a point-based system (see Selection Process below).
The applicants should submit:

- **Personal information:** name, ID number, address, landline or mobile number, e-mail address

- **Project details (total of 5 lines):** project name, geography, brief biographies of 3 team members

- **Project details (3 lines each):** project idea, product/service description, process and technology used, project innovation, active steps taken towards realizing the project, community involvement, risks, challenges and solutions

- **Engage Partners in Promotion (By Program Lead – Coordinator)**

Engaging a broad range of partner organizations in online and offline promotion is an essential, and cost-effective, way to improve outreach activities: increasing awareness and participation. Key partners include NGOs, non-profit initiatives, student organizations, and universities. Program staff should ensure consistent messaging, while remaining flexible in how partners communicate to their audience (see, for example, customized messages from a partner organization in Figure 3).

*Figure 3: Examples of Facebook post by NGO partner*

- **Arrange on-the-ground activities (By Program Lead – Coordinator – Implementing Partner)**
Holding workshops, events, information sessions and trainings on how to fill out an application/prepare a project proposal are key to building trust, generating engagement and attracting high-quality applicants. These offline activities offer applicants the chance to meet and engage with the program team, to be introduced to other entrepreneurs and change agents from their communities, and to find out further details about how to enter the program and its benefits. Partnering with local organizations can be an effective way of extending reach and utilizing existing skills and experience.

- **Select Participants (By Program Lead – Coordinator)**

The selection process can be broken down into 3 main steps:

1. **Collating applications:** Use a standard application form which is easily available and can be submitted online, by email or printed out and delivered in person (to the program or a partner office).

2. **Selecting participants:** Use a point-based system, which tends to be fast and fair. In a point-based system, each selection criterion is assigned a numerical value based on the assessment of the application. For instance “poor” can be assigned the value 1, “average” the value 3, “very good” the value 7 and “excellent” the value 10. This approach is faster than providing an integer grade varying from 1 to 10. An example of values assigned in assessment of a project is shown in Table 1 below. It is recommended to interview the shortlisted applicants after the first round of screening.

3. **Announcing successful applicants:** To ensure consistency and transparency, announce the selected participants through the same channels that were used for the call of applications.
### Table 1: Sample points-based selection form

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Poor =1</th>
<th>Average = 3</th>
<th>Very good = 7</th>
<th>Excellent = 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community-centered</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community-led initiatives promoting local solutions and innovation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proven generation of local job and income opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contribution to the socioeconomic development of local communities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-stakeholder initiative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community involvement and engagement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Impact</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High number of jobs created per capital investment required</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High number of jobs for unemployed per capital required</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absence of barriers to women</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feasibility and team</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working in high ranking business opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical/economic assessment of the success potential of the project</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steps taken by the applicant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applicant structure &amp; preparedness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of innovation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team readiness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2: Sample logistics checklist for the Outreach stage

<table>
<thead>
<tr>
<th>Logistics Checklist Activity</th>
<th>By who</th>
<th>Timing</th>
<th>Check</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine online and on-the-ground campaigning strategy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify local partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify graphic designer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design logo and choose messaging/slogan</td>
<td></td>
<td>One month before launch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collect data and statistics about target governorates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare announcements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare selection criteria and application</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set information session dates</td>
<td></td>
<td>One week before launch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Book venues in target governorates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare content for information sessions</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Disseminate announcement through partners</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Place printed applications in strategic locations through local partners in targeted governorate</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Follow up with questions and answers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Announce information sessions</td>
<td></td>
<td>Launch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create sign-up sheet for information sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm participant attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct on-the-ground information sessions in partnership with local partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collect applications through online channels and local on-the-ground partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form diverse evaluation panel</td>
<td></td>
<td>Selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen applications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Announce program participants/winners</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.1.5  **HINTS & TIPS**

- Once the program is launched, resources should be allocated to handle all enquiries from potential applicants (including phone calls, emails and messages on social media channels).
- Use a diverse range of venues to host the information sessions in order to reach as wide a pool of applicants as possible. Potential venues include university lecture halls, social clubs, NGO facilities and youth centers.
2.2.1 OBJECTIVES

The main purpose of the Capacity Building stage is to develop the technical and managerial skills of the participating entrepreneurs and to foster an environment for learning and knowledge sharing. A selection should occur at the end of the Capacity Building stage which divides the entrepreneurs into two small groups, one that receives full support and another that receives partial support.

2.2.2 KEY PLAYERS

- **Program Lead**: Facilitates the training sessions, maintains engagement with entrepreneurs and clarifies program objectives. The Program Lead also coordinates with the trainers to create a training program that is consistent in its content and delivery and that achieves the goals of the program.

- **Trainers**: Deliver training sessions which offer business and technical knowledge and skills. Trainers are preferably a diverse range of field-specific experts with experience in training and working with startups.

- **Selection Committee**: Assesses participants at the end of the Capacity Building stage. The Selection Committee should comprise a range of experts with experience of differing fields.
2.2.3 MAIN FEATURES

▸ **Clear narrative:** Before the training sessions start, each participant should know the purpose and goal of each session, including what information they will receive, what practical purpose this serves, how the sessions are connected and how their performance will be evaluated.

▸ **Shared vision and community building:** The training sessions offer the program the opportunity to create a community of entrepreneurs that share the vision of the program and the ambition to succeed personally and professionally. This vision should be shared from day one of the Capacity Building stage.

▸ **Varied training delivery:** The training sessions should cater to the entrepreneurs’ heterogeneous learning styles and include material relevant to the contexts that the businesses are operating in. As a guide, the Capacity Building stage could include 100 hours of knowledge-based lectures, exercises and case studies and 35–40 hours of free workshop time and one-on-one coaching, over a period of around 12 days. The delivery method should be divided into teaching (1/3), group exercises on relevant case studies (1/3) and hands-on activities related to individual projects (1/3).

2.2.4 KEY ACTIVITIES

▸ **Conduct induction session (By Program Lead)**

The Capacity Building stage should launch with an induction session that introduces the participants to each other and to the program team, schedule and content. During the session, the Program Lead emphasizes the program objectives, its mission and vision as well as its larger social goals and addresses the entrepreneurs’ personal drives. Introductions prior to each training session are also a good way of integrating the sessions and maintaining motivation.

▸ **Create a Facebook group for the participants to interact (By Program Lead – Coordinator)**

A closed, private, Facebook group, convened by the Program Lead and team, can be used as a space for the entrepreneurs to interact and support one another. The group also allows the team to remain in contact with the entrepreneurs throughout the program and beyond, resolving issues and reinforcing the program’s values.

▸ **Conduct Training (By Program Lead – Coordinator – Trainers)**

Training sessions should be arranged based on the areas of need highlighted by the business opportunity mapping conducted at the outset. This allows provides entrepreneurs with relevant training on market and technological issues and empowers them to take advantage of business opportunities. As the sessions are typically delivered by external professionals, it is up to the Program Lead to ensure consistency of delivery and messaging. This will involve briefing the trainers about program expectations, deliverables, and where their session fits into the broader program, in order to ensure that participants are presented with consistent teaching styles and homework requirements, for example. See table below for a sample timetable of training sessions.
Figure 4: Example timetable of courses in the Capacity Building stage

<table>
<thead>
<tr>
<th>WEEK 1, DAY 1 (1.5hrs)</th>
<th>Subject</th>
<th>Content</th>
<th>Delivery Method</th>
<th>By</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome Meeting</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Introduction to the program, sharing vision, motivation</td>
<td>Discussion</td>
<td>Program Lead</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 1, DAY 2 (5hrs)</th>
<th>Subject</th>
<th>Content</th>
<th>Delivery Method</th>
<th>By</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectation Setting</td>
<td></td>
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</tr>
<tr>
<td>Supply Chain:</td>
<td></td>
<td>Overview of training subjects and required results, community building activities</td>
<td>Discussion</td>
<td>Program Lead</td>
<td>-</td>
</tr>
<tr>
<td>Opportunities &amp; Risks</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Success Story</td>
<td></td>
<td>Guest Speaker – successful waste management startup</td>
<td>Discussion</td>
<td>Invited speaker</td>
<td>-</td>
</tr>
<tr>
<td>Success Story</td>
<td></td>
<td>Guest Speaker – successful waste management startup</td>
<td>Discussion</td>
<td>Invited speaker</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 1, DAY 3 (8hrs)</th>
<th>Subject</th>
<th>Content</th>
<th>Delivery Method</th>
<th>By</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Chain:</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Opportunities &amp; Risks</td>
<td></td>
<td>Overview of supply chain management, risks and opportunities, optimization of supply chain, development to increase success, involvement of informal sector and integrating with it</td>
<td>Lecture, cases studies and exercises</td>
<td>Technical trainer</td>
<td>Develop startup supply chain</td>
</tr>
<tr>
<td>Development &amp;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optimization</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 1, DAY 4 (4hrs)</th>
<th>Subject</th>
<th>Content</th>
<th>Delivery Method</th>
<th>By</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Chain</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Working on individual project supply chains</td>
<td>Free workshop and discussion</td>
<td>Technical trainer</td>
<td>Develop startup supply chain</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 1, DAY 5 (5hrs)</th>
<th>Subject</th>
<th>Content</th>
<th>Delivery Method</th>
<th>By</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Assessment</td>
<td></td>
<td>Introduction to basics of research methodology; assessing and evaluating technology; product development; performance assessment</td>
<td>Lecture, cases studies and exercises</td>
<td>Technical trainer</td>
<td>Develop product/service</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 1, DAY 6 (8hrs)</th>
<th>Subject</th>
<th>Content</th>
<th>Delivery Method</th>
<th>By</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Specific Training (1) - Compost/Biogas</td>
<td>Basics of technology presented, challenges, aspects that require innovation</td>
<td>Lecture, cases studies and exercises</td>
<td>Technical trainer</td>
<td>Develop product/service</td>
<td></td>
</tr>
<tr>
<td>Technology Specific Training (2) - Agricultural wastes to animal Feed/ Untraditional Animal Feed</td>
<td>Basics of technology presented, challenges, aspects that require innovation</td>
<td>Lecture, cases studies and exercises</td>
<td>Technical trainer</td>
<td>Develop product/service</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 1, DAY 7 (8hrs)</th>
<th>Subject</th>
<th>Content</th>
<th>Delivery Method</th>
<th>By</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Specific training (3) – Wastes Of Food Industry/ Bioethanol</td>
<td>Basics of technology presented, challenges, aspects that require innovation</td>
<td>Lecture, cases studies and exercises</td>
<td>Technical trainer</td>
<td>Develop product/service</td>
<td></td>
</tr>
<tr>
<td>Technology Assessment and Management</td>
<td>Assessing and selecting technology options; determining areas for R&amp;D</td>
<td>Lecture and discussion</td>
<td>Technical trainer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WEEK 2, DAY 8 (8hrs)</td>
<td></td>
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<td>----------------------</td>
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</tr>
<tr>
<td>Innovation in technology used</td>
<td>Determining aspects which require innovation in selected technology based on the business model</td>
<td>Free Workshop and discussion</td>
<td>Technical trainer</td>
<td>Develop product/service</td>
<td></td>
</tr>
<tr>
<td><strong>Engage a Stakeholder</strong>**</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 2, DAY 9 (8hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Structure</td>
</tr>
<tr>
<td>Introduction to Marketing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 2, DAY 10 (8.5hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility Study</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 2, DAY 11 (8.5hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility Study</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 2, DAY 12 (8.5hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Modeling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 2, DAY 13 (8.5hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Modeling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEEK 2, DAY 14 (8hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closing Session</td>
</tr>
<tr>
<td>Setting expectations for next step in the program</td>
</tr>
</tbody>
</table>

**Free workshop** is training-free, interruption-free, work period hosted in one of the program venues. It is intended to give all participants the chance to focus on developing their own projects.

**Engage a Stakeholder** is a full day where the participants are expected to leave the classroom and engage all relevant stakeholders in a dialogue to find out the problems that they are facing, what they are ready and willing to buy and if they would use their solutions. This includes meetings with potential customers, interviews with suppliers and one-on-one discussions with potential partners.
Entrepreneurship in Waste Management

Develop and analyze relevant case studies (By Program Lead – Trainers)

Case studies allow participants to apply theoretical knowledge to a practical context. Using examples of different kinds of businesses allows for more dispassionate and analytical discussions, outside of the field of work of the participants. Entrepreneurs are divided into working groups to analyze the case studies, which should be related to the topics discussed in the training sessions. Participants then present their assessments to the full group, followed by discussion and feedback.

Using the same case studies in different sessions, but looking at them from different angles, helps create a complete conceptual picture for participants in addressing the various aspects of creating a successful startup.

For instance, in the UNIDO program, an example of a paper making business (from recycled agricultural and/or municipal waste) was analyzed from various perspectives, including technology, supply chain and feasibility. It was also used in a training session related to assessing environmental impacts as a part of the feasibility analysis.

Figure 5: Extract from the Feasibility Study training that refers to paper making case study

The paper factory case study was used to illustrate a holistic approach to conducting a feasibility study. In the example, an investor decides to build a paper factory in an area by a river. This area relies heavily on the river as a source of fresh water, food and income. The investor’s business will use and discharge large quantities of water in the paper washing process. The polluted water would run into the river, which would in turn affect the quality of the water and marine life. This would have a negative impact on the community’s wellbeing, as well as increasing the cost of water purification and drinking water production.
The waste management examples illustrated in Figure 6 and 7 are from areas outside the fields that the participating startups are working in. The trainer used examples of producing refuse-derived fuel (RDF) from municipal solid waste and selling it to cement factories, producing wooden panels from palm tree mid-ribs and lastly the paper making example.

Multiple variations of the same example help stress that key decisions in a startup are highly dependent on the business model. For instance, as shown in Figure 8 below, one of the trainings that used the paper making case study compared and contrasted a manual process to create small quantities of artistic products with a semi-mechanized medium size factory working in agricultural waste, and a large-scale factory working on recycling...
municipal waste. The entrepreneurs were then divided into three working groups and asked to develop the supply chain for each case. The purpose of this exercise was to help them realize how the nature of the supply chain, as well as technology and innovation requirements, depends heavily on the business model.

Assign homework (By Trainers & Program Lead)

At the end of each training session assignments should be given to participants to work on their own product development, as well as their implementation and business plans. The participants should not be given fixed questions or templates to complete, but they should be encouraged to draw up a list of specific questions, challenges and deliverables and to discuss their proposed solutions and action points with the trainers. These are facilitated and followed up by the Program Lead.

Evaluate participants and trainers (By Program Coordinator)

It is important to evaluate the performance of both the participants and the trainers, as well as collecting and integrating feedback following every session.

Evaluation forms should be used to measure performance and satisfaction. The trainers should be asked to assess the participants’ personal performance, including the following criteria: punctuality; commitment; participation; ability to function within a group; ability to work under pressure; ability to work independently; ability to understand the instructions; ability to apply required knowledge. Entrepreneurs should be made aware that these evaluations form part of the assessment process.

Similarly, the participants should be asked to provide feedback on the training content and teaching method, including specific content learnt and how relevant/useful each course was.
This can be done verbally at the end of a session, through written evaluation forms and through the Facebook group.

**Host selection day (By Program Lead – Selection Committee)**

After the intensive training period, the startups should be given the space to take their ideas out of the classroom and work on developing their business model. One week after the closing of the training sessions, the entrepreneurs present their business models in front of a panel of judges for assessment.

This selection helps to decide which of the participants will receive full support, in addition to seed funding, and which will receive partial support. The participating entrepreneurs should be aware that the selection does not only depend on the results from the selection day. As a guide, the selection decision could be weighted as follows: selection day (1/3); evaluation by trainers (1/3); assessment by the program team (1/3).

The presentation style and structure should be left up to the entrepreneurs to decide on, rather than providing templates to follow. This provides another element for assessment, which helps the Selection Committee in analyzing the potential of each entrepreneur.

To ensure a fair and constructive evaluation process, it is advisable to form a balanced Selection Committee with a combination of business and technical experts, investors and established startups/SMEs. This diversity not only provides comprehensive assessment and feedback, but can also help to establish early links with potential supporters.

The Selection Committee should provide constructive criticism and advice. Sample evaluation forms to be used by judges and external observers are shown in Tables 3 and 4.

**Table 3: Sample judges’ evaluation form**

<table>
<thead>
<tr>
<th>Project Participants:</th>
<th>Evaluator:</th>
<th>Name:</th>
<th>Occupancy:</th>
<th>Telephone No.:</th>
<th>Organization:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Project Name:</th>
<th>Presenter:</th>
<th>Degree of Innovation:</th>
<th>Business Success Potential:</th>
<th>Business Readiness:</th>
<th>Entrepreneur Preparedness:</th>
<th>How Well the Barriers are Addressed:</th>
<th>Final Grade:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project 1</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Project 2</td>
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<td></td>
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</tbody>
</table>

Note: Grades are A, B & C Considering “A” is the Highest & “C” is the Lowest.
Table 4: Sample observer evaluation form

<table>
<thead>
<tr>
<th>Observer:</th>
<th>Name:</th>
<th>Occupancy:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone No.:</td>
<td>Organization:</td>
<td></td>
</tr>
</tbody>
</table>

Program Participants:

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Presenter</th>
<th>What is the most missing skill for the entrepreneur?</th>
<th>What would you have liked to hear in the presentation and didn’t?</th>
<th>What the biggest threat to this business is:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project 2</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

2.2.5 HINTS & TIPS

- Interactive community-building activities that involve all the participants will add value to their experience of the program.
- The program can build a sense of ownership and responsibility by allowing the participants to decide on and commit to their own training schedule.
- Participants should be reminded not only of potential financial rewards, but also of the social importance of their work. They should be encouraged to be change agents in their communities and be inspired to create value through their businesses.
- It helps to frequently remind the entrepreneurs that both the trainers and the program implementers are assessing their performance and encourage them to reciprocate the evaluation.
2.3 FOUNDATION BUILDING

2.3.1 OBJECTIVES

The main objective of the Foundation Building stage is to support the entrepreneurs in testing their business plans and refining their feasibility analyses, as well as developing action plans of how to carry their business ideas through to implementation.

2.3.2 KEY PLAYERS

- Consultation Team:
  - Technical Consultants: Assess the technology used and enhance startup processes.
  - Marketing Consultants: Guide the startups on how to measure the market size and enter the market, including identifying target areas, valuing appropriately and firming up sales plans.
  - Financial Consultants: Give specific advice on financial models, investment and growth scenarios.
Entrepreneurship in Waste Management

▸ **Independent Panel of Experts**: Critically appraises entrepreneurs. This diverse panel can overlap with the Selection Committee from the Capacity Building stage, in addition to bringing in independent technical experts.

▸ **Program Lead**: Plays various roles including following up on the progress of the entrepreneurs, coordinating the sessions and liaising between the Consultation Team members.

### 2.3.3 MAIN FEATURES

▸ **From a leader to a guide**: During the Foundation Building stage the program starts to assume the role of a guide rather than a leader

▸ **Independent expert feedback**: Business and technical experts plays a key role in assisting the startups, not only with crucial feedback sessions, but also in beginning to form part of a larger support network for entrepreneurs.

### 2.3.4 KEY ACTIVITIES

▸ **Conduct a needs assessment (By Program Lead)**

The Program Lead should conduct a needs assessment to determine the involvement needed to create successful startups. This involves drawing up a development plan which identifies the main risks and challenges, and incorporates feedback from the Selection Committee and the trainers’ evaluations. The time intensity of the support provided may vary according to the specific startup, however, the program team should provide at least 4 hours of support weekly for those receiving full support and 4 hours every two weeks for those receiving partial support.

▸ **Hold a state-of-play meeting (By Program Lead)**

Following the selection process, there is a risk that those receiving seed funding and full support might consider the program “won” and lose sight of the objectives, while those not receiving seed funding or full support might become demotivated. Therefore, it is important to call a meeting to stress that:

- The program is just starting and the real challenges are ahead.
- There are opportunities for everyone to receive investment by the end of the program, as well as the chance to succeed independently.
- The program represents one step on a long path to potential success, which depends highly on the participants’ persistence and hard work.
Hold a one-to-one feedback session (By Program Lead)

The messages above should be reinforced in a one-to-one feedback session following the meeting, which should also provide feedback and constructive criticism on the individual's presentation to the Selection Committee. Lastly, issues and challenges which need to be addressed immediately are highlighted.

Create a tailored “checklist” for each entrepreneur (By Program Lead – Consultants)

A checklist of tasks and stage milestones should be drawn up and discussed with each entrepreneur, including items such as:

1. Determine location and infrastructure required for setting up work space
2. Determine the optimum structure of the supply chain
3. Undertake a market survey that includes the names and locations of potential suppliers and clients
4. Identify and acquire quotations for all required equipment/operational expenses (e.g. rent)
5. Identify and meet with five potential customers
6. Establish relationship with one customer
7. Demonstrate mastery of production process/service
8. Determine legal and regulatory requirements
9. Register a company

The checklist should be prioritized based on the needs of each project. For instance, projects that require special machinery or equipment should focus on quickly identifying these, while other startups may need to streamline their processes or investigate regulatory requirements.

The entrepreneurs should then develop an action plan of how to meet the checklist items, in addition to other items that they find beneficial.

Engage stakeholders (By Program Lead – Program Coordinator)

At this point, the program should start to meet and engage with potential supporters for the program and its participants, including private sector CSR units; relevant NGOs; business incubators and other entrepreneurial support programs. The primary purpose is to gauge the stakeholders’ interest in assisting entrepreneurs, through:
Helping to build their support network
Offering them access to clients
Promoting their business
Connecting them to opportunities for further support

The program’s meetings with the identified stakeholders (including potential investors) should focus on presenting the program, the type of support provided to date, and the participating startups’ backgrounds and progress to date. Follow-up meetings should be set with those stakeholders interested in continuing to support the program and the participants.

Hold Consultation Sessions (By Program Lead – Consultants)

Prior to the Consultation Sessions (outlined below), the Program Lead should set a meeting with the Consultation Team in order to build a harmonized team. The purpose of this meeting is to allow each member of the Consultation Team to acquire basic knowledge of the challenges facing the startups in the other consultants’ areas. For example, the Marketing Consultant can provide better support if he/she is aware of the technical and financial aspects of the businesses, and so on.

Following each consultation session, changes to the entrepreneurs’ action plans and updates to their business models are discussed and agreed between the Program Lead and each entrepreneur. The Program Lead regularly takes feedback from the full Consulting Team regarding the progress and needs for each participant, and this informs the type and level of support for the entrepreneurs in subsequent sessions.

Week 1

Consultation Session 1: Cost structure – Supply Chain – Action Plan (By Program Lead – Financial Consultant – facilitators if needed)

The first Consultation Session should be conducted in a workshop format, with all participating entrepreneurs attending, including those receiving partial support.

During the workshop, each project should present its cost structure analysis, the outline of its supply chain, and the action plan to meet the requirements of the checklist. In the spirit of group learning and knowledge exchange, participants should receive feedback from the consultant and other entrepreneurs. Here, the main objective should be to identify risks and opportunities, as well as areas of cost reduction.

The Financial Consultant should shed light on how the cost structure analysis relates to major decisions, for example whether to hire or purchase equipment. There should be an emphasis on the importance of verifying data and identifying missing elements by questioning the sources of data and challenging their validity. As with all subsequent sessions, the lessons learnt and feedback should be discussed between the Program Coordinator and the entrepreneurs, and incorporated into an action plan.
Week 2

- **Consultation Session 2: Marketing and Technical Consultations** (By Program Lead – Technical Consultant – Marketing Consultant)

This completely individualized session, led by the Program Lead, should host only those receiving full support. It should commence with a progress check-in on the action plan developed during the previous consultation session. Each entrepreneur should then receive two hours of marketing consultations and two hours of technical consultations. During these intensive sessions, the consultants should mostly assist entrepreneurs with problem-solving and decision-making: addressing specific questions and challenges. The Marketing Consultant can assist the entrepreneurs in analyzing their market research and determining their target audience, competitive edge and marketing mix, while transferring relevant methods and techniques to the entrepreneur. The Technical Consultant should drive the entrepreneur to identify areas which require innovation in their product or service. The Technical Consultant should also place emphasis on identifying the technology that best fits the startup and market needs.

*Entrepreneurs should prepare the lowest Capital Expenditures (CAPEX) model and the business models that they developed after the third consultation session. The lowest CAPEX model could rely on renting machinery instead of purchasing or be based on the lowest profit generating production rates. The lowest CAPEX model can be easier to finance and thus offers the entrepreneur the chance to start their business as soon as possible in case investments could not be acquired, thus providing a cost-effective, soft-launch for the business.*

Week 3

- **Consultation Session 3: Cash Flow Analysis** (By Program Lead – Financial Consultant – facilitators if needed)

This session should be delivered in a general workshop format and involve all participants. As many startups suffer from issues related to cash flow and poor bookkeeping, this workshop should focus on developing the entrepreneurs’ knowledge and skills related to cash flow analysis and income statements. The consultant should present the basic principles of cash flow analysis and illustrate the theory with hands-on group exercises. As an assignment, the entrepreneurs should work on developing the cash flow model for their startups. They should then prepare an updated business model and feasibility study, and determine the level of investment required, based on their cash flow analysis.

Week 4

- **Consultation Session 4: On-demand Consultation** (By Program Lead – Financial Consultant – Technical/Marketing Consultant if needed – facilitators if needed)
Only those receiving full support should attend this final consultation session, which marks the beginning of the program’s transformation to an advisory role. Again, the entrepreneurs should receive intensive consultation sessions, with the financial, technical, or marketing consultants, depending on their needs (determined together with the Program Lead at the end of Consultation Session 3). But in this session, entrepreneurs should direct the discussions, through raising their crucial questions and concerns, with little direction provided by the consultants. It should be made clear to the participants that their questions are expected to be specific: such as how to choose between two different types of equipment or which material can improve the quality of the product. The entrepreneurs should also receive feedback on their cash flow analysis from the Financial Consultant, assisted by the Program Lead or facilitators as necessary. Finally, the entrepreneurs should work on finalizing and preparing a presentation about:

- Progress on their check list
- Progress on their business plan and feasibility study
- Investment required and team contribution/money already raised
- Outline of the lowest CAPEX model

The presentation should be delivered to a panel of experts following Consultation Session 4. For an overview of consultation sessions, see Table 5 below.

<table>
<thead>
<tr>
<th>Table 5: Overview of consultation sessions</th>
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</thead>
<tbody>
<tr>
<td><strong>What is covered</strong></td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Consultation Session 1</strong></td>
</tr>
<tr>
<td>Cost structure analysis; risks and opportunities; cost cutting</td>
</tr>
<tr>
<td>Outline of supply chain</td>
</tr>
<tr>
<td>Action plan</td>
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<td><strong>Consultation Session 2</strong></td>
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<td>Market research</td>
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<td>Marketing mix</td>
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<td>Product &amp; service development</td>
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<td>Technology assessment</td>
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<td><strong>Consultation Session 3</strong></td>
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<td>Cash flow analysis</td>
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<td>Business model</td>
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<td>Feasibility study</td>
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<td>Investment required</td>
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<td><strong>Consultation Session 4</strong></td>
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<tr>
<td>Cash flow analysis and investment needed</td>
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<tr>
<td>Technology assessment</td>
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<td>Marketing plan</td>
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Week 5

Feedback Presentation (By Program Lead – Expert Panel)

In Week 5, entrepreneurs receiving full support should present to, and receive feedback from, a panel of experts, which:

▸ Should include some of those who previously assessed the entrepreneurs on the selection day to judge progress achieved.
▸ Should be diverse and include technical experts, academics, practitioners, financial experts, and market experts.
▸ Should include experts who are meeting the entrepreneurs for the first time to provide a fresh assessment.
▸ Could include potential investors and supporters.

The entrepreneurs should be informed that they will not be assessed based on their presentations and that the main purpose of the feedback is to help them strengthen their business models and boost their chances of success. Entrepreneurs should also be aware that the feedback they receive will be as critical as possible; this is important to allow the entrepreneurs to face a realistic appraisal in a protected environment before they enter the market and get wider exposure in the following stage.

Each entrepreneur should present for 10–15 minutes, followed by a 20–30 minute discussion with the panel. Through constructive criticism and discussion, the entrepreneur should be assisted by these experts in moving towards an optimum business model which can be built in the next stage. The Program Lead should then coordinate the next steps with the entrepreneurs.

2.3.5 HINTS & TIPS:

▸ The program and consulting teams should bring to the table ideas about the startups’ potential environmental, social and financial impact.
▸ Encouragement should be given to those receiving partial support that they can still be recommended for investment if they excel in their performance, and vice versa for those receiving full support.
▸ When engaging stakeholders, the program team should keep an open mind about the type of support which they can give to entrepreneurs, allowing them to formulate ideas themselves, rather than approaching them with a restrictive list of ways they could be involved.
2.4 PILOTING

2.4.1 MAIN OBJECTIVES

The main objective of the Piloting stage is to make the startups viable: with tested business models, cash flow scenarios and investment plans that include capital requirements, investment cycles, and an exit strategy. This should be achieved through helping the startups to develop their product/service and test business models on the ground, for example by selling samples to customers and developing relationships with suppliers.
Here, the program should help build the startups’ support networks and facilitate access to finance for the teams performing exceptionally well. Teams performing less well should be connected to opportunities that could help them enhance their performance and raise funds when ready.

2.4.2 KEY PLAYERS

- **Consultation Team:**
  - **Technical Consultants:** Assess the technology and its performance during testing in the Pilot stage.
  - **Marketing Consultants:** Guide the startups on how to best utilize the market research gathered during the Pilot stage and advise them on their marketing strategy moving forward.
  - **Financial Consultants:** Give specific advice on the financial model, exit strategies, investment and growth scenarios.

- **Program Lead:** Plays various roles (potentially assisted by facilitators), including monitoring and following up on progress of participating entrepreneurs, and liaising between the Consultation Team. In the Piloting stage, the Program Lead also begins to engage with investors to identify and channel fundraising opportunities.

2.4.3 MAIN FEATURES

- **Move to independence:** Entrepreneurs should be made aware that the program will take a back seat and that they are expected to take the lead in determining the content of the advisory sessions in order to achieve the desired goals.
Investor and stakeholder engagement: The Piloting stage is a crucial period for entrepreneurs to interact with partners and potential supporters (as well as customers); therefore it is important that the program assists the teams in identifying and building their own networks. The program should also help in identifying such supporters and, if necessary, actively reach out to key contacts on the behalf of the entrepreneurs.

2.4.4 Key Activities

▸ Provide seed funding & advice

To support the completion of their testing phase, the entrepreneurs should receive both financial (seed funding for teams receiving full support) and non-financial support in terms of advisory through the Consultation Team. As the entrepreneurs move towards independence, the level of support should decrease to 4-hours every two weeks. As a guide, the UNIDO program offered seed funding of 2,000 USD to 6 startups to pilot their business ideas in the market.

▸ Engage stakeholders (By Program Lead)

Follow-up meetings with stakeholders engaged earlier in the program should be carried out, with details of the potential and needs of entrepreneurs and respective business opportunities. The stakeholders should then be asked to pledge the type of support they can provide. This can include: access to clients and other support services (such as incubation programs), exposure and marketing, and connection to relevant experts.

▸ Facilitate investment (By Program Lead)

As with stakeholders, meetings with prospective investors should take place to provide potential investment opportunities in the startups, based on the program’s technical view of each business’s growth potential, degree of innovation, and risks/challenges.

On an important note, the program should independently verify the entrepreneurs’ assumptions, data, and technology, and present the team’s unbiased assessment. The program team could also advise investors and facilitate further discussions/negotiations. Participants should be openly informed that the program provides an assessment of their businesses and performance to the investors.

▸ Hold a state-of-play meeting (By Program Lead – Coordinator)

A meeting should be held to recap progress to date and outline the coming steps, underscoring the program’s diminishing involvement. Emphasis should be placed on the importance of the Piloting stage as a real-world assessment, as well as the increasing responsibility of participants.
Entrepreneurs should be provided additions/amendments to the checklist:

1. Develop sample product/service
2. Test sample product/service in the market
3. Identify employees to be hired
4. Recognize supporters and build network
5. Attempt to finance the business
6. Register the company
7. Standardize/certify product
8. Finalize business plan
9. Develop investment plan and exit strategy

Entrepreneurs should be asked to prioritize their checklist and add items, including any not delivered in the Foundation Building stage. At this point, the program should communicate some of the identified potential supporters for each entrepreneur.

The entrepreneurs should then be asked to:

- Produce an action plan and budget for the Piloting stage.
- Develop a refined and optimized business model and investment plan, based on feedback from the expert panel (at the end of the Foundation Building stage) and interactions with suppliers and clients during the Piloting stage.
- Optimize their supply chains, cut costs and develop exit strategies and risk mitigation measures.

- **Advisory sessions** (By Program Lead – Consultation Team)

For an overview of advisory sessions please see Figure 9 below.

- **Advisory Session 1: Consultation as needed** (By Program Lead)

Only those receiving full support should attend the session. The Program Lead should begin the session by discussing and questioning the progress achieved and the exit strategy developed. At this point, the entrepreneurs should have chosen the type of advice they would like to receive from the consultation team. It is highly likely that more marketing and finance (as opposed to technical) advice would be required at this stage and that the overall time spent with consultants would be less than in previous stages. The advisory
sessions should turn into problem solving sessions where the entrepreneurs ask questions related to the problems they are facing on the ground.

After the first session, the Program Lead should wrap up with a reflection on the results of the testing phase and advise the entrepreneurs to prepare their long-term growth plans. Finally, the entrepreneurs should be asked to submit their final business models, investment and growth plans and exit strategies to the program during the week following Advisory Session 1.

- **Consultation Team analysis** *(By Program Lead – consultants as needed)*

The Consultation Team, together with the Program Lead, should hold a meeting to review the entrepreneurs' final business plans. This meeting should focus on determining cost cutting measures, risk mitigation, and supply chain optimization. Any major concerns and proposed modifications should also be pointed out.

- **Advisory Session 2: Feedback and consultation as needed** *(By Program Lead – Coordinator if needed)*

All participants should attend this session. Again, the Program Lead should ask for a progress update. The participants should be reminded that the Piloting stage will be concluded by a public event that will present an excellent and important networking and fundraising opportunity for entrepreneurs. Details of the public event, including format, content and venue should be discussed. Following this discussion, the Program Lead should present suggestions from the Consultation Team to each entrepreneur. These should remain as suggestions that the entrepreneur is encouraged to challenge, modify, or reject. Finally, the entrepreneurs should be given one final chance to receive advice from a member of the Consultation Team.

**Figure 9: Overview of advisory sessions**

<table>
<thead>
<tr>
<th>What is covered</th>
<th>When</th>
<th>By who</th>
<th>Delivery mode</th>
<th>Attendees</th>
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</thead>
<tbody>
<tr>
<td><strong>State-of-play meeting</strong></td>
<td><strong>WEEK 1</strong></td>
<td>Program Lead &amp; Coordinator</td>
<td>Discussion</td>
<td>Full Support and Partial Support</td>
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<tr>
<td>≫ Recapping the program’s objectives and progress</td>
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<tr>
<td>≫ Emphasizing Pilot stage objectives and deliverables</td>
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<tr>
<td>≫ Refine checklist</td>
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<tr>
<td><strong>Advisory Session 1</strong></td>
<td><strong>WEEK 2</strong></td>
<td>Program Lead &amp; Consultants (as needed)</td>
<td>One-on-one sessions</td>
<td>Full Support</td>
</tr>
<tr>
<td>Entrepreneurs choose (more likely to be related to operations)</td>
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<tr>
<td><strong>WEEK 3: Consultation Team Analysis</strong></td>
<td><strong>WEEK 4</strong></td>
<td>Program Lead &amp; Coordinator</td>
<td>One-on-one sessions</td>
<td>Full Support and Partial Support</td>
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<tr>
<td>Discussion of:</td>
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<tr>
<td>≫ Final business model</td>
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<td>≫ Investment plan</td>
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<tr>
<td>≫ Exit strategy</td>
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<tr>
<td>≫ Growth potential</td>
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Once entrepreneurs acquire the necessary knowledge to turn their ideas into startups in the Capacity Building stage, they can begin to operate in the market at different paces. Many factors like the nature of their products, market demand, resource availability and even personal talent affect the time and resources needed for them to conduct a proof of concept.

A good support program should accommodate these nuances and tailor the services offered to the startups. Some of the businesses will have the capacity to start operations and generate profit in the piloting stage.

Below are two case studies from the UNIDO program:
- One startup which produced animal feed from date rejects, managed to single-handedly raise funds for the production of 20 tons of animal feed worth 12,500 EGP. This generated profits of 16,500 EGP that could be reinvested into the startup to grow operations.
- Another startup which produced compost developed a business model that allowed for the startup to grow at a steady rate with revenues of 4,700 EGP/month without an initial capital investment.

Entrepreneurs with operating startups should only be provided support on demand, which in most cases will consist of building and expanding their networks.

▸ Prepare presentations for public audience

At this point, participants should be ready to develop their ideas into working models that can be presented, evaluated and challenged. The program team should work with entrepreneurs to develop a succinct written and verbal presentation to be presented to a public audience.

The Program Coordinator should work closely with the participants to rehearse their presentations. These rehearsals should be conducted over 1–2 days around a week before the final presentation day and should include a recap of results from the Capacity Building, Foundation Building and Piloting stages, as well as their 5-year action plans.

Participants should be encouraged to practice their presentations as frequently as possible, with time limits (around 3 minutes), and in front of their fellow participants who can also give comments and feedback. Participants should also prepare a poster which can be made public on the event day.

Participants should be supported to be able to present the following:
▸ Executive summary (key drivers [market opportunity, social need], innovation aspects, steps taken towards developing the project etc.)
▸ Value proposition
▸ Process (method, technology used etc.)
▸ Main challenges/risks and mitigation
▸ Investment ask and breakdown (CAPEX, OPEX, team contribution, required investment)
Entrepreneurship in Waste Management

- Financial and non-financial support needed
- Pay-back period and future plans
- Team (names, credentials and roles)

Host first public event

The purpose of this event is to introduce the startups to a wide group of stakeholders from the media and the public, private and civil society sectors that can support the startups directly and can potentially replicate the program at a wider scale. It will also be the first time the participants would have the chance to present their projects to a large public audience.

The program should invite a diverse group of stakeholders, including a range of relevant policy-makers, entrepreneurship program implementers, funding institutions, upcoming/established entrepreneurs – as well as those who could replicate the program or assist the startups, including representatives from relevant ministries, international donors, incubators, and NGOs. An influential government representative and an inspirational guest speaker should be invited to address the meeting, as this can contribute greatly to the success of the event and the exposure it receives.

At the event, the full program action plan and results should be presented, followed by all the startups presenting their 3-minute presentations to the audience. This should be followed by a networking session, where the audience has the opportunity to understand the project details through the poster displays and get acquainted with the entrepreneurs.

2.4.5 HINTS & TIPS

- During the advisory sessions, the consultants should guide the entrepreneurs to answer their questions rather than feed them solutions.
- The program should aim to organize as many networking events as its resources permit; it is crucial that awareness is created and that stakeholders in local communities are engaged.
- The program team should monitor and follow up with participants as much as possible and offer them advice and feedback on how to best present their startups in public.
2.5 STARTUP

2.5.1 OBJECTIVES

The final stage of the entrepreneurship support program should aim to get the startups ready to enter the market and succeed. This process should be enhanced through providing the startups with exposure, connecting them with existing entrepreneurship support systems, and helping them to expand their network. This stage should also include fundraising activities with, or independent of, the program’s support, with the aim of ensuring the sustainability of the startups.

2.5.2 KEY PLAYERS

- **Investors**: Invest in startups and ideally provide in-kind support through their business experience, access to financial services, and technical know-how. Investors can also help build and upgrade the team’s management skills.
Entrepreneurship in Waste Management

▸ Media outlets: Offer coverage of the startups, document their stories and help them reach a wider audience. The coverage can also be a tool for marketing.

▸ Supportive stakeholders: Deliver different types of assistance to the startups alongside and beyond the program.

▸ Legal/corporate experts: Advise on different company structures and legal frameworks, financing means and types of partnerships.

2.5.3 MAIN FEATURES

▸ Complete independence: The program should phase out its support, while partnering with supportive stakeholders and others who can take a lead on specific tasks like network building and technical support. Partners who have pledged support should be asked to increase their involvement. The program team should offer only one support session monthly.

▸ Advocacy and exposure: The program's main role at this stage should be to ensure the sustainability and growth of the support offered to the participating entrepreneurs. A key contribution to this is helping startups expand their network, which may include potential clients and other entrepreneurship support programs. In addition, the program should help the startups gain media and marketing exposure.

▸ Fundraising support: The program should help the startups to acquire funding and finalize investment deals (with investors engaged in the program). Those startups which the program is not directly facilitating funding for should be directed to relevant resources and advised how to acquire funding independently.

2.5.4 KEY ACTIVITIES

▸ Provide on-demand support (By Program Lead – Consultants)

The program should provide only ad-hoc and on-demand support over a specific period of time, to tackle particular issues and challenges. The program could also offer fundraising advice and even take the lead on closing a few partnership deals.

▸ Host further public events (By Program)

Public events are an effective way to share the successes and lessons of the program and startups. These events should include selected stakeholders who have the potential to provide ongoing financial, legal, and administrative support to the startups. The program should organize as many public events as necessary, depending on geographical reach and the number of stakeholders engaged.

▸ Host closing advisory session (By Program Lead)

The closing advisory session should give startups the chance to ask their most pressing questions. The Program Lead should emphasize that “the journey has just started” and advise the startups against slowing down their pace.
Assist in network building (By Program or Partner)

One of the most important success factors of a startup is its network. With specific knowledge of each startup’s needs, the program should help mobilize a strong network of fieldspecific business and technical advisors, university laboratories and academics, NGOs, government officials, private sector partners and key industry players to support the startups. Engaging previously successful startups and SMEs working in similar fields is a particularly effective approach, as they are often willing to share their experience with those just starting out on their journey.

Some startups will have already built a robust network and will not require further assistance. One or two key connections should still be made with those who still need assistance – so the program should communicate with and setup meeting for startups to engage with key players.

In the waste management sector, for example, key stakeholders include trade associations; NGOs; public sector technical service providers (through the Ministry of Industry); SMEs; university laboratories and academics; important industry players and successful startups in the sector. In many cases, the startups will come forward with contacts they are having difficulty in reaching and require assistance in doing so; the program should help them in this regard.

Assist with media exposure (By Program Coordinator)

The media plays a major role in giving exposure to the startups – considering that they are too small to spend on marketing and public relations. A mix of targeted, local and international, traditional and digital media can help reach the right audience to continue to build on the momentum generated by the support program.

2.5.5 HINTS & TIPS

- If the identified support partners can carry out activities initially planned to be delivered by the program, these activities should be handed over to them. This can be particularly helpful in building networks and creating exposure, since a larger partnership base can bring in wider and more diverse networks. This could also help build the capacities of local supporting institutions.
- The program should plan for events focused on investors, but should also plan events with customers and communities in mind too.
- The program team should coordinate the support offered by different groups to avoid confusion, duplication and conflict of interest.
- The program should maintain continuous reciprocal feedback with stakeholders: sharing the lessons learnt at every step.