Following the launch of the Fortifer™ plant:

- JVL will:
  - Manage the plant, i.e., operate and maintain its facilities.
  - Supply organic waste segregated at the source of generation.
  - Market the Fortifer™ product.
- TMA will supervise JVL operations and ensure a constant supply of faecal sludge to the plant.
- The CSIR-IIR will support the Fortifer™ plant and its staff in operating and maintaining the unit for at least 6 months.
- IWMI will:
  - Provide technical support for the production and marketing of co-composts and fine-tune the business model with JVL.
  - Support JVL in monitoring plant performance and assessing the impacts that result from the plant.
  - Document and publish lessons from this experience.
- TREND will conduct consultations to identify potential production partners, willing to take part in a replication initiative.
- A Board of Directors will be constituted, which shall assume responsibility for reviewing the strategic plans and supervising the operations and management of the Fortifer production plant.

The Fortifer™ production plant
Borteyman, Greater Accra Region, Ghana

A public – private partnership model

**Between**
Jekora Ventures Ltd. (JVL)

Tema Metropolitan Assembly (TMA)

**Facilitated by**
International Water Management Institute (IWMI)

**In collaboration with**
Training Research and Networking for Development (TREND)

**With technical support from**
Council for Scientific and Industrial Research (Institute of Industrial Research) (CSIR-IIR)

**Location**

Supported financially by
Duration of the production process

<table>
<thead>
<tr>
<th>Process</th>
<th>Duration</th>
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</thead>
<tbody>
<tr>
<td>Drying of the faecal sludge</td>
<td>10 days, on average</td>
</tr>
<tr>
<td>Co-composting of dried sludge/organic wastes</td>
<td>90 days, on average</td>
</tr>
<tr>
<td>Sieving, enrichment and pelletization of the resulting composts</td>
<td>1 day or less</td>
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</tbody>
</table>

**Fortifer™ plant**

- High-quality compost in normal humus form as a soil ameliorant
- Normal and pelletized composts that are enriched with inorganic fertilizers

Anticipated sale price at the Fortifer™ plant for a 50-kg bag of compost is GHS 25, with likely adjustments, depending on market demand and subsidies. Other packages of 10 kg and 30 kg will also be available.

**Equipment installed includes:**
- The pelletizer, imported from General Dies (Italy), in collaboration with the Institute of Industrial Research (Council for Scientific and Industrial Research) for design sharing and replication.
- Ancillary equipment, such as the sieve, grinder, mixer and bagging unit, constructed locally by the Institute of Industrial Research (Council for Scientific and Industrial Research).

The nominal capacity of the pellet processing unit per hour of operation is 0.5 metric tonne.

**Investment cost without land:** US$ 650,000
- Cash contributions by the TMA for 1 ha of land.
  In cash contribution by JVL: Working capital requirement of approx. US$90,060 = GHS387,258

To produce 500 Metric tonnes of Fortifer™ each year, the production plant transforms liquid and solid waste into a useful product. It absorbs every year approximately:
- 700 metric tonnes of organic waste collected in Accra (mostly food waste, segregated at the source of generation to prevent contamination from other undesirable waste streams), and
- 12,500 m³ of faecal sludge, of which:
  - One-third is from public toilets (septic tanks and pits)
  - Two-thirds come from household septic tanks and pits

At full capacity, the plant absorbs over the year the liquid waste from an equivalent of 65,000 to 100,000 people.

**The plant will produce:**

- Fortifer plant