

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.

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IWMI is a
CGIAR
Research
Center
and leads the:



RESEARCH
PROGRAM ON
Water, Land and
Ecosystems

The *Fortifer™* production plant

Borteyman, Greater Accra Region, Ghana

A public – private partnership model

Between

Jekora Ventures Ltd. (JVL)



Facilitated by

Tema Metropolitan Assembly (TMA)



In collaboration with

International Water Management
Institute (IWMI)



With technical support from

Training Research and Networking for
Development (TREND)

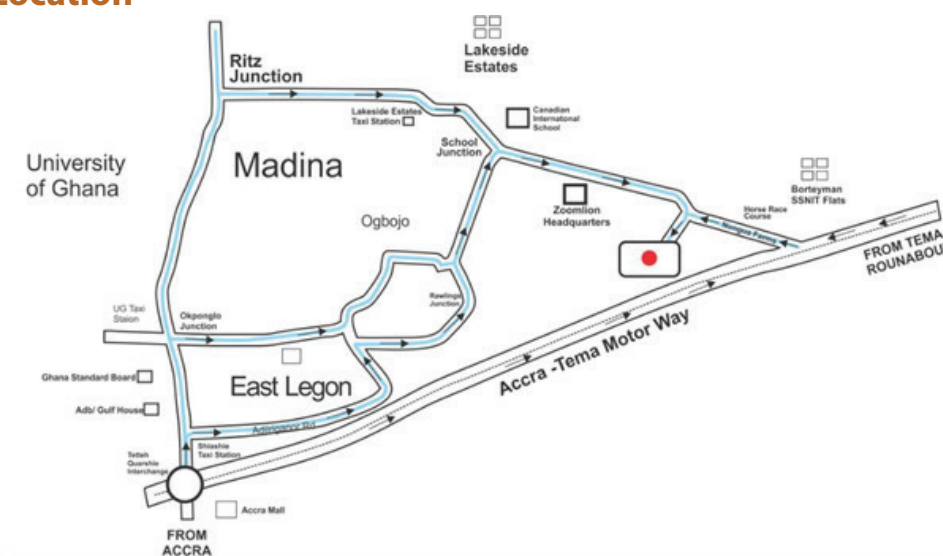


With technical support from

Council for Scientific and Industrial
Research (Institute of Industrial Research)
(CSIR-IIR)



Location



Supported financially by

BILL & MELINDA
GATES foundation



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Grands Défis Canada





The plant components		
Drying bed	Number	5
	Surface area	240 m ² each
Sorting bay	Number	1
	Surface area	400 m ²
Composting platform	Number	3
	Surface area	1,200 m ² (in total)
Pelletization unit	Surface area for indoor section	160 m ²
Fortifer storage	Surface area for indoor section	320 m ²
Office building	<ul style="list-style-type: none"> Two office rooms One storage room One staff room 2 toilet + shower blocks 	50 m ²

Duration of the production process

Drying of the faecal sludge

Co-composting of dried sludge/organic wastes

Sieving, enrichment and pelletization of the resulting composts

Fortifer™ plant

10 days, on average

90 days, on average

1 day or less

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:

- 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.