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 promoting entrepreneurship for sustainable development

Founding Partners



**🏆 SOUTH AFRICA WINNER 2015**

Responding to food insecurity and the increasing cost of animal farming in rural South Africa, Khepri Biosciences is piloting the cultivation of insect larvae on abattoir refuse, processing them into low cost, high protein animal feed.



## Khepri Biosciences, South Africa

### BUSINESS MODEL

The enterprise, at its first pilot site in Krugersdorp, collects abattoir and agricultural waste as input for the production of insect larvae, which, in turn, serve as raw material for protein-rich animal feed.

The product is cheaper than conventional feed based on fish meal, reducing the cost of animal farming. The enterprise also produces compost that is sold to farmers to organically improve yields.

### ENTERPRISE FAST FACTS:

Location	Mogale City, South Africa
Year founded	2014
Sector	Waste & Sanitation
Product/Service	Animal feed based on insect larvae protein

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### Social impacts:

- Contributing to food security by lowering the cost of livestock farming, in turn lowering the cost of food for local communities.
- Providing employment to women and youth from single or no income families, and ensuring women's participation in management committees and Board of Directors via the use of quotas.

### Environmental impacts:

- Introducing new green technologies and sustainable resource utilisation into the value chain of animal farming.
- Diverting 70 tons of agricultural waste from landfill per day once full pilot capacity has been reached, and protecting fresh water sources from organic waste.
- Preventing 15 tons of fish being converted into fishmeal – the most common animal feed in South Africa – every day at full pilot capacity.

### Economic impacts:

- Lowering financial barriers for emergent farmers to enter into animal production.
- Stimulating local economies by creating a new industry that rural communities can participate in.
- Establishing a monetary value for a product that would otherwise be unused problematic waste.

” By productively utilising abattoir refuse, communities will protect their fresh water sources from organic waste contamination.

### Scaling up activities:

- Register the product with the Department of Agriculture as animal feed, a requirement for feeding to certain livestock.
- Expand production to reach 100 % capacity at the current site within four months and scale to absorb 180 tons of waste per day at three sites in 12 months.
- Develop replicable processes and a fly farm kit to enable scale-up and replication.
- Long term goal: Build capacity to take in up to 50 % of the abattoir waste produced in Gauteng province, and feed up to 30 % of the chicken and 40 % of the pigs produced in South Africa within eight years from now.



” Khepri Biosciences harnesses the power of insects in order to close the loop between agricultural waste and farming inputs.

### Partnership

- **Khepri Innovations** is the lead of the bioconversion enterprise and is involved in the relationship development and management of the production sites.
- **The Centre for Science and Industry Research (CSIR)** provides incubated companies with access to ready-to use bio-manufacturing facilities, research and development
- **The Innovation Hub** provides innovation support, business development and office facilities.
- **AfriGrow Development** identifies communities that can participate in the outgrower model.
- **Technoserve** will assist the enterprise in identifying potential buyers in the poultry and fish farming industry.



The 2015 SEED Awards in South Africa are largely supported by the European Union, which is made up of 28 Member States who have decided to gradually link together their know-how, resources and destinies. Additional support is from **Hisense**

### About SEED

SEED identifies and supports promising small scale social and environmental enterprises around the globe, enterprises who while working towards a greener economy also tackle poverty, marginalisation and social exclusion. SEED provides these enterprises with know-how and networks, taking the lessons learnt at local level up to decision-makers to promote evidence-based policy making. For more information please write to [info@seed.uno](mailto:info@seed.uno) or visit:

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