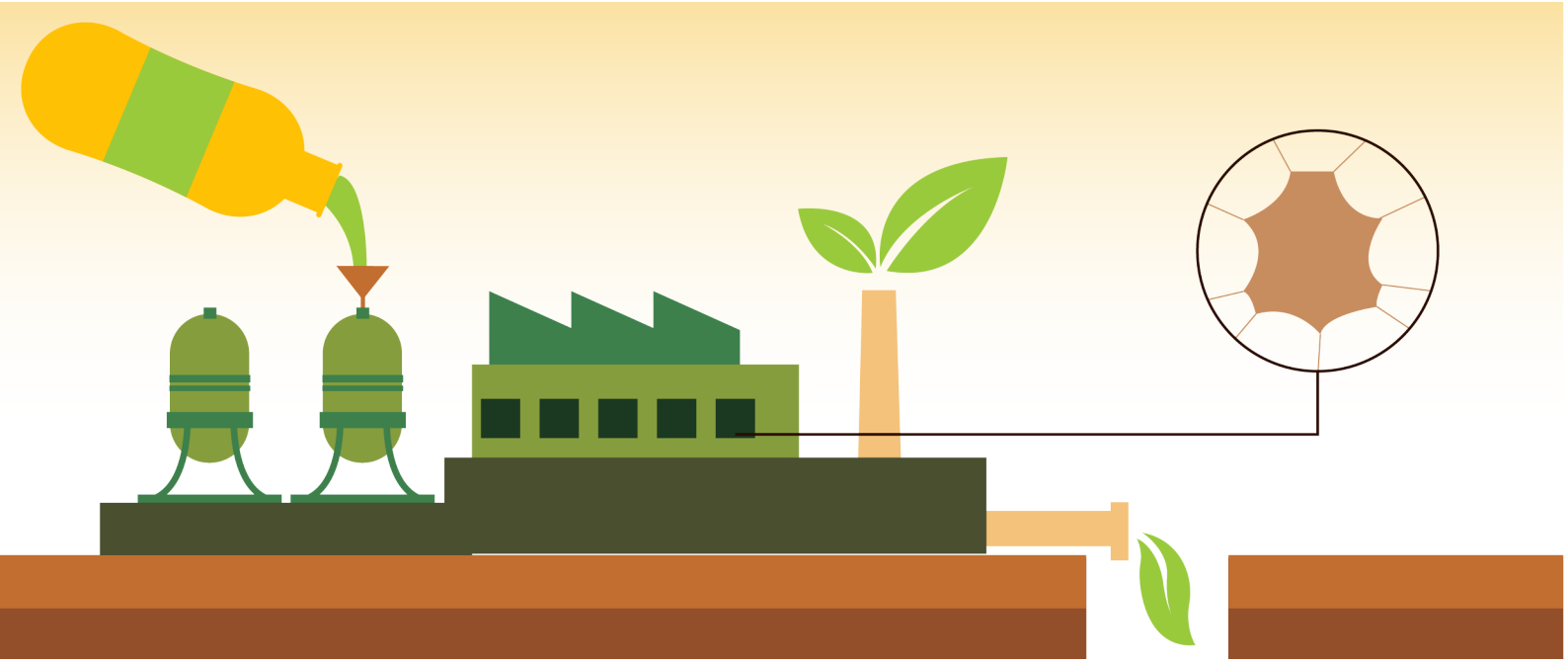

Piloting use of novel enzymes from local bacterial isolates for eco-friendly processing of hides and skins

Preamble

The leather industry in eastern Africa is yet to realize its full potential due to challenges associated with environmental health and product quality. Current general practice in processing hides and skins involves use of toxic chemicals. Lime and sodium sulphide, for example, contribute about 80% of the total pollution load in tannery waste, discharging both noxious gases and solid wastes such as hydrogen sulphide and lime itself. In turn, costs of leather production become exorbitant because not only are these chemicals expensive, but they also take a long time to dehair the skins, consume huge quantities of water and energy from lengthy processes, and may damage the skins. Although the use of enzymes in leather processing has been a topic of study worldwide, it is yet to be fully explored and embraced in eastern Africa. The novel enzymes being piloted in the project can recover good quality hair or wool, and preserves better leather strength characteristics.

Lime and sodium sulphide contribute

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Current general practice in processing hides and skins

- Discharging both noxious gases and solid wastes
- Processing hides and skins involves use of toxic chemicals.
- Consume huge quantities of water and energy from lengthy processes, and may damage the skins.
- Costs of leather production become exorbitant
- Take a long time to dehair the skins

The technology

The enzyme is isolated from a local bacterial strain. The isolated enzyme is produced using submerged fermentation, then extracted, concentrated, and formulated for final testing at industrial scale

Local and regional benefits

The expected benefits include:

Replacement of use of toxic chemicals in leather processing with an environmentally friendly and effective enzyme as alternatives.

Additional income streams and value-added products, such as animal feed and garments, using skins, hides and fish scales as raw materials.

Project leader
Prof. Francis Mulaa - University of Nairobi, Kenya

Project partners
Dr. Wycliffe Wanyonyi - *Green Enzyme Technologies Ltd (GETL),* Kenya
Prof. Frank Kansiime - *Makerere University (MAK), Uganda*
Dr. Suhaila Hashim - *Pwani University (PU), Kenya*
Joab Ouma - *Lasting Solutions, Uganda*
Zul Jessa - *W.E Tilley Fish Processors, Kenya*

For more information about this project, please contact:

BioInnovate Africa Programme
icipe — International Centre of Insect Physiology and Ecology
Duduville Campus, Kasarani
P.O. Box 30772-00100
Nairobi, Kenya.

Telephone: +254-20-8632433
Email: bioinnovate@icipe.org

www.bioinnovate-africa.org