There are over 5000 dairy farmers in Guyana who are limited by the amount of milk they can store.

75% of all of Guyana’s milk is imported powdered milk from other countries.

A cheap and accessible milk dehydrator will allow farmers to store and sell milk without the loss of product.

**Reservoir**
A container to store excess farm milk that is ready to be dehydrated.

**Applicator**
A long cylinder with small holes that run along its bottom where milk drips onto the drum.

**Scraper**
A flat blade that runs along the length of the drum. The blade is held against the drum via springs to scrape dried milk off the drum.

**Furnace**
A cement rocket stove used as the milk dryer’s heat source with a biomass fuel.

**Drum**
A pressure vessel maintained at 50psi. This ensures that it is always at 140°C, the ideal temperature for drying milk.

**Drive Mechanism**
A geared pedaling system to rotate the drum.

**Collector**
A trapezoidal funnel to transfer the dried milk into its final container.

**Reservoir**
A container to store excess farm milk that is ready to be dehydrated.

**Applicator**
A long cylinder with small holes that run along its bottom where milk drips onto the drum.

**Scraper**
A flat blade that runs along the length of the drum. The blade is held against the drum via springs to scrape dried milk off the drum.

**Furnace**
A cement rocket stove used as the milk dryer’s heat source with a biomass fuel.

**Drum**
A pressure vessel maintained at 50psi. This ensures that it is always at 140°C, the ideal temperature for drying milk.

**Drive Mechanism**
A geared pedaling system to rotate the drum.

**Collector**
A trapezoidal funnel to transfer the dried milk into its final container.
Team Members

Maia Bageant
Andrea Blakemore
Carter Chang
Tommy Ciesielski
Michael Dobson
Jasmine Florentine
Michael Fraser
Tim Grejtak
Quinnton Harris
Stephan Hawthorne
Travis Hery
Moji Jimoh
Chiedozie Okafor
Matthew Rodriguez
Trevor Shannon
Thi Tran
Juan Valdez
Brett Van Zuiden

If you have any questions or would like to learn more about the Gaia Milk Dryer, you can email us at:

milkdrying@mit.edu

Projected Subsidized Profit

It will take us 6 years to become a fully functioning non-profit

Distribution Plan

200 USD
to manufacture

Selling for
40 USD/unit

Fixed donations
45,000 USD/yr

Market

2.5 BILLION Farmers Worldwide

POPULATION

900M Dairy Farmers

250M Rural Dairy Farmers

5K Guvanese Rural Dairy Farmers

Acknowledgements

Prof. David Wallace
Matt Duplessie
Sangbae Kim
Steven Keating
Thea Singer
Joe Bari
Mike Stern
Dr. Barbara Hughey
Dr. Pradip Sarmah
Jose Gomez-Marquez
Dick Fenner
Joe Cronin
Steve Haberek
Matt Duplessie
Bill Cromier
James Dudley
Conrad and Candace Wilson
Chevalley Duhart
Judith Anderson