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Research exercise: ETHOS Coconut Oil Extraction Optimization

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ETHOS Coconut Oil Extraction Optimization

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Introduction

What is Virgin Coconut Oil?

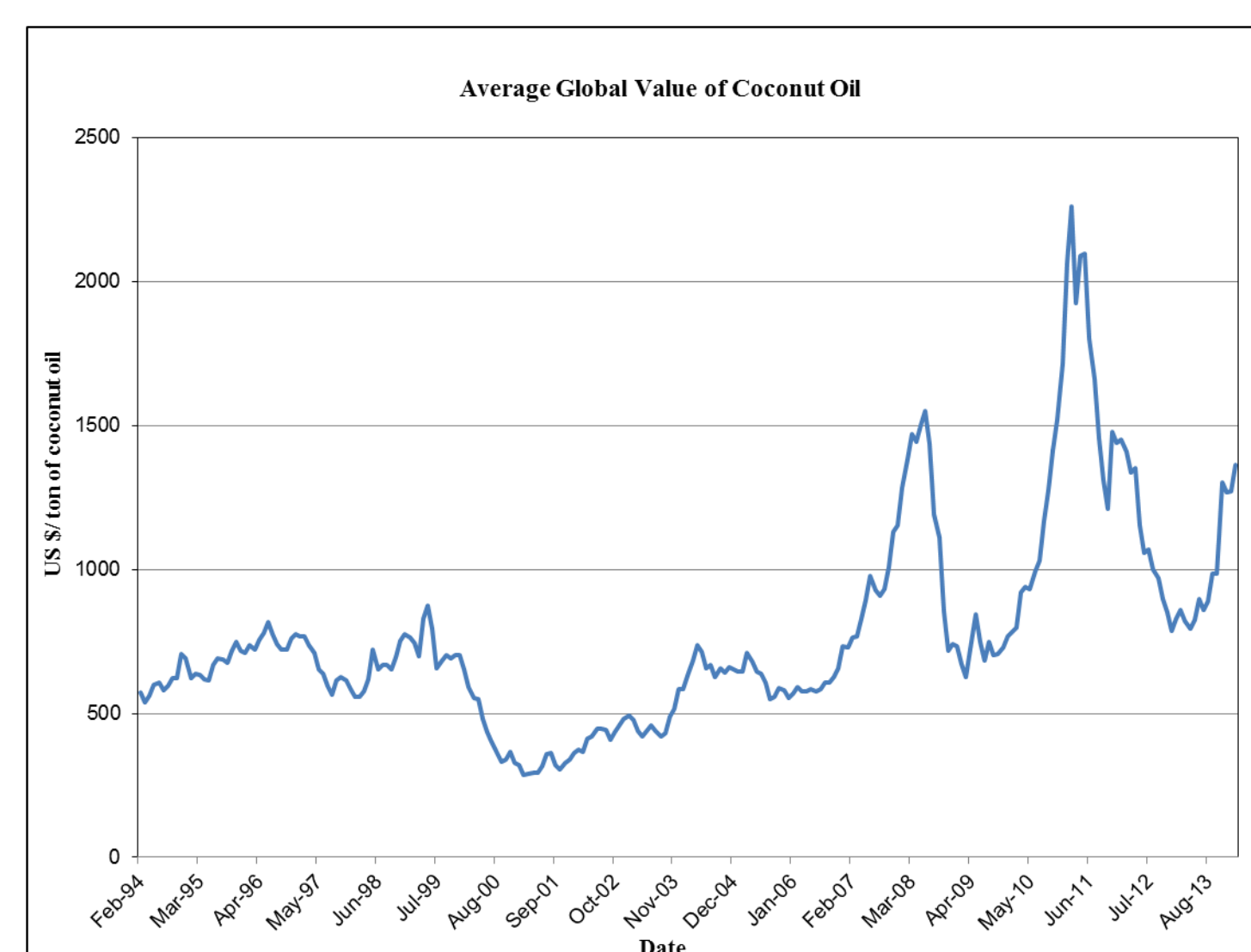
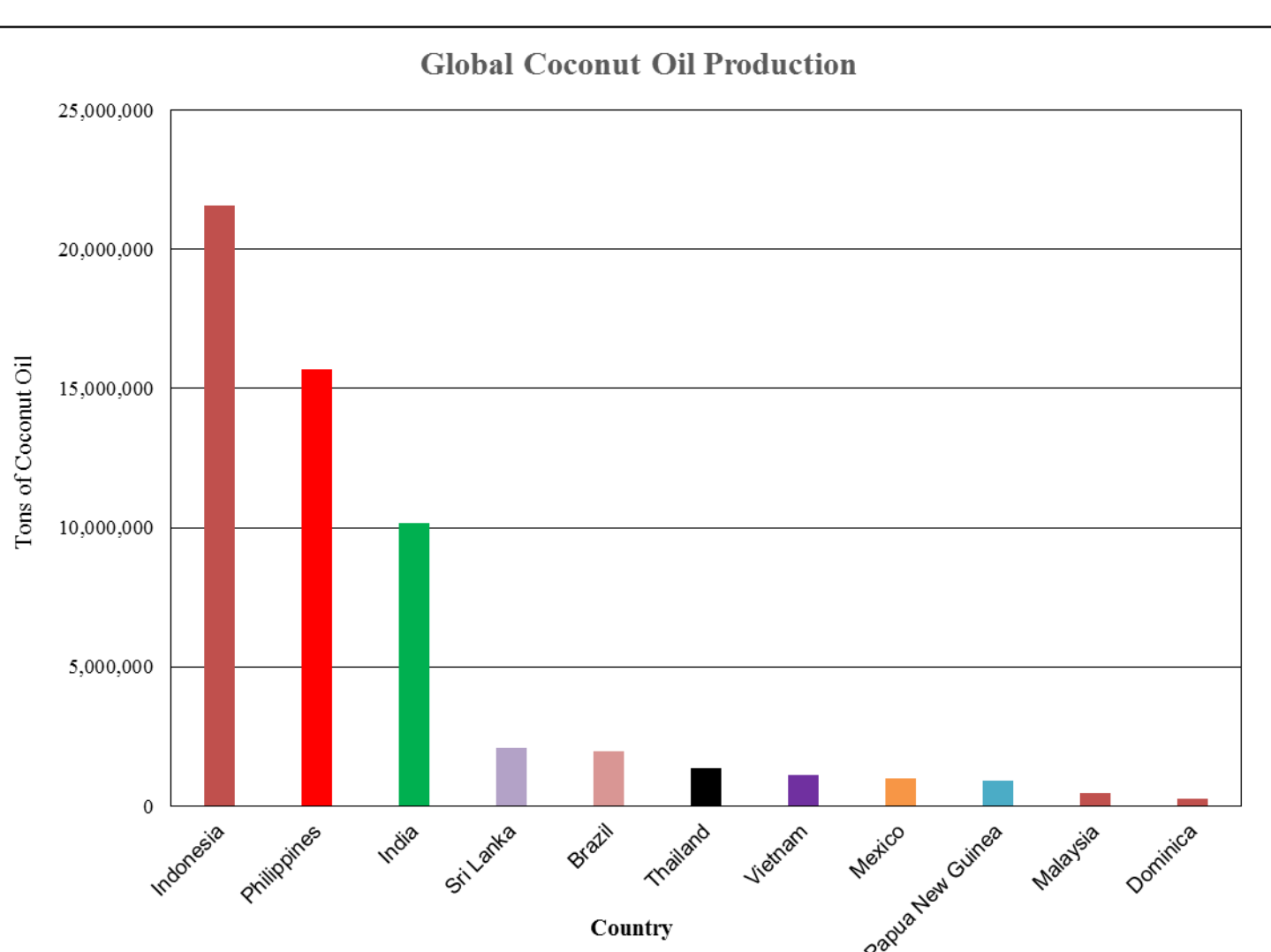
- No industry standard
- Clear and edible
- Extracted from the meat of a coconut through various methods

Uses of Virgin Coconut Oil?

- Positive health effects
- Hair/Skin moisturizer
- Cooking
- Soap

Global Value

Approximately \$1.5 billion in annual sales



Extraction Process

1. Break open and drain the coconut



2. Grind the copra and mix with cold water



3. Manually extract the oil from the liquid mixture

4. Let a natural separation process occur



Optimization Ideas

- Create technology to replace manual labor
- Add a heat source
- Vary the ratio of water to coconut milk
- Vary the grinding time of the copra
- Storage time of whole coconuts

ETHOS to Dominica

Why coconuts?

- Optimize production of a small scale virgin coconut oil extraction process
- Current state of the process is not ideal
- Improve safety conditions for workers
- Cassava Bread project

References

- Bawalan, Divina. "Processing Manual for Virgin Coconut Oil, it's Products and By-products for Pacific Island Countries and Territories." *Secretariat of the Pacific Community*. 2011. 1-88. Web.
- "Coconut Oil Monthly Prices." *Index Mundi*. The World Bank, Feb. 2014. Web.
- Weir, Tony and Kad Shashi. "Virgin Coconut Oil as a Tool for Sustainable Development in Outer Islands." *Pacific Economic Bulletin* 23.3 (2008): 50-62. Web.