

Lecture 3: Socio-Ecological Problems

Episode 2: Micro Level

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Lecture 3: Overview





Lecture 3: Overview

Episode 1: Macro Level

Episode 2: Micro Level

Episode 3: The Story of Stuff



Learning Objective

Identify the main socio-ecological impacts of products on a micro level.



Structure of the Episode

- Product Life Cycle from Cradle to Grave
- Socio-ecological Impact Matrix
- Life Cycle Assessment



Product Life Cycle from Cradle to Grave

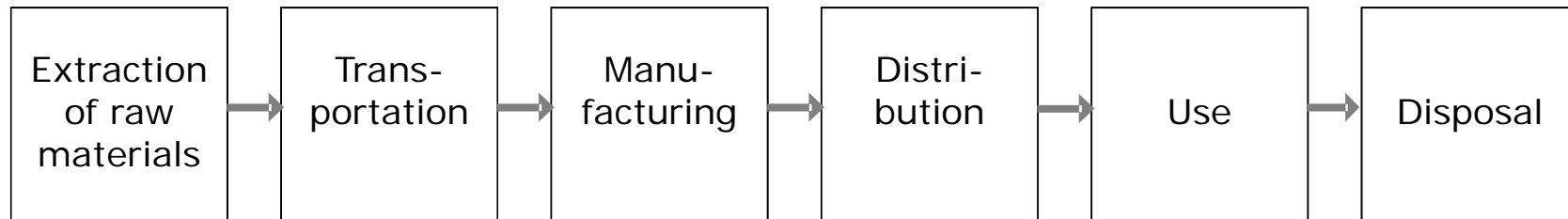


Photo: Zach Vega

Source: http://en.wikipedia.org/wiki/File:IPad_3.png



Product Life Cycle from Cradle to Grave



Source: Belz and Peattie 2012, p. 62



Socio-ecological Impact Matrix

	Extraction of Raw materials/ Material manufacturing	Automobile Manufacturing	Automobile Use/ Maintenance	Automobile Disposal
Resource Use	High Impact	Low Impact	Low Impact	Low Impact
Energy Consumption	Medium Impact	Medium Impact	High Impact	Low Impact
Air	Medium Impact	Medium Impact	High Impact	Low Impact
Noise	Low Impact	Low Impact	High Impact	Low Impact
Water	High Impact	Medium Impact	Low Impact	Low Impact
Waste	Medium Impact	Low Impact	Low Impact	High Impact
Land Use	Low Impact	Low Impact	High Impact	Low Impact
Health Accidents	Low Impact	Low Impact	High Impact	Low Impact

Legend:  High Impact  Medium Impact  Low Impact

Source: Belz 2001, p. 175



Socio-ecological Impact Matrix

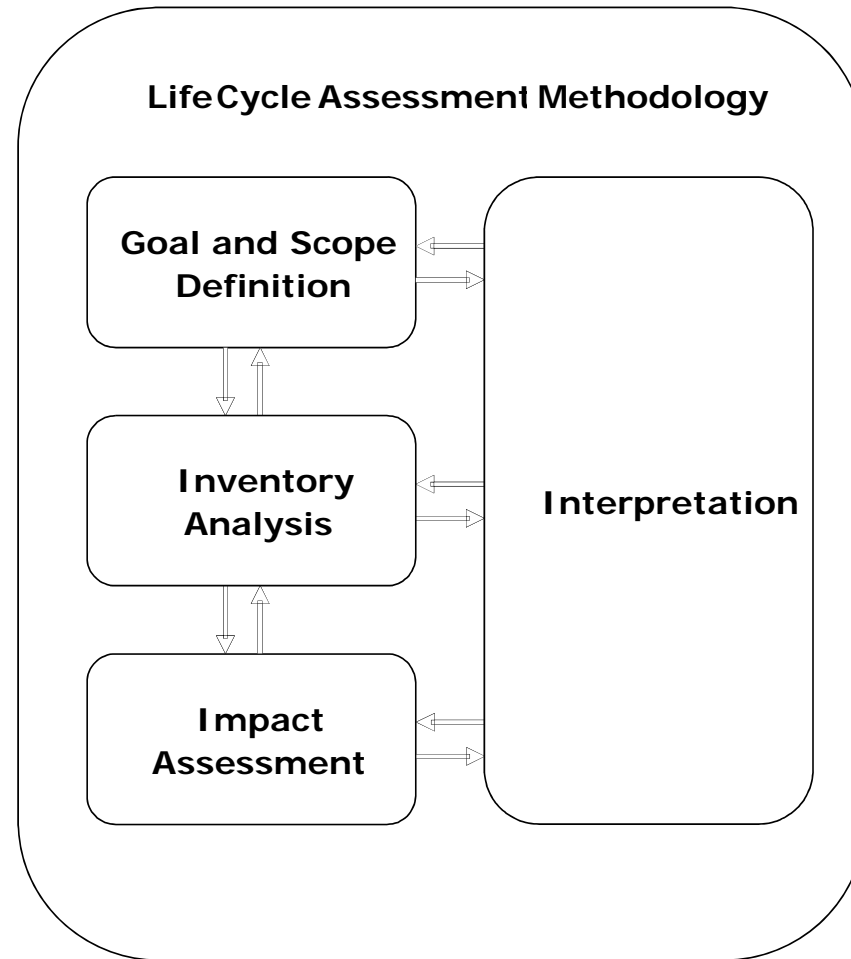
	Cultivation/ Primary Processing	Roasting Packaging	Distribution	Consumption Disposal
Energy	High Impact	Medium Impact	Low Impact	High Impact
Air	Medium Impact	Medium Impact	Low Impact	Medium Impact
Water	High Impact	Medium Impact	Low Impact	High Impact
Soil	High Impact	Low Impact	Low Impact	Low Impact
Waste	Low Impact	Medium Impact	Low Impact	High Impact
Ecosystems	High Impact	Low Impact	Low Impact	Low Impact
Health	Medium Impact	Low Impact	Low Impact	Low Impact
Equity	High Impact	Low Impact	Low Impact	Low Impact

Legend:  High Impact  Medium Impact  Low Impact

Source: Belz 1995, p. 37



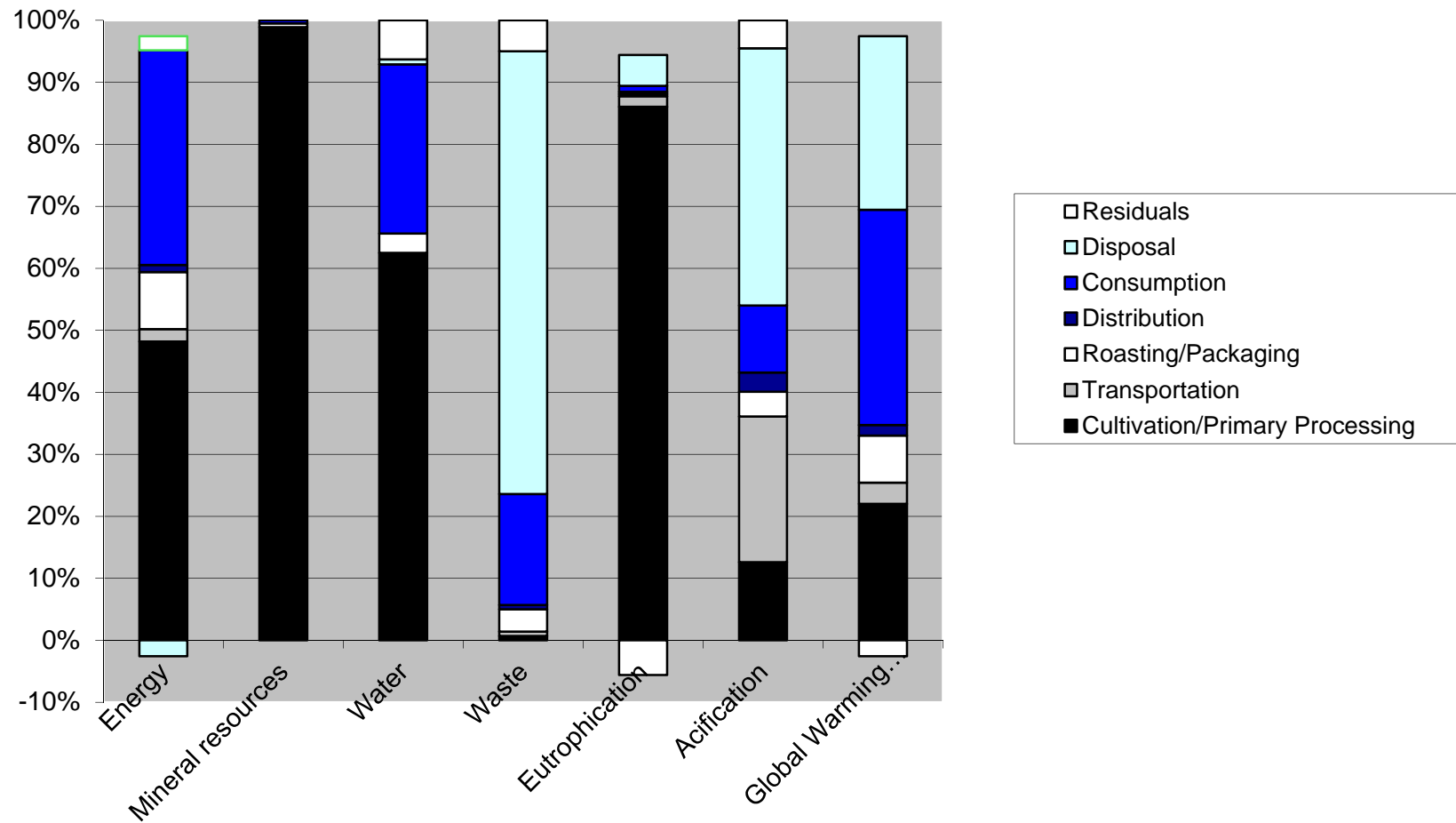
Life Cycle Assessment



Source: ISO 14040: 2006



Life Cycle Assessment



Source: Diers: A. et al. 1998, p. 85



Review and Discussion Questions

1. Describe the entire life cycle of a text book.
2. Develop a socio-ecological impact matrix for a cotton T-shirt. Which stages of the product life cycle and which categories should you consider? What are the main social and environmental problems associated with cotton T-shirts?
3. What conclusions can we draw from qualitative and quantitative LCAs of coffee? What implications could these have for sustainability marketing of coffee companies such as Starbucks?



References

- Belz, F.-M., Peattie, K. (2012): Sustainability Marketing: A Global Perspective, 2. ed., Chichester: Wiley, p. 61-72.
- ISO (2006): ISO 14040: 2006, www.bsigroup.com
- Rex, E. (2008): Marketing for Life Cycle Thinking, PhD thesis, Chalmers University of Technology, Göteborg, Sweden



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