

Sustainability of Colombian Coffee Consumption in Germany.

A Life Cycle Assessment – LCA – *Cradle to Gate.*

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Goal and Scope

To analyze the ecosystem impact of 1 kg of Arabica coffee sold by the Pacandé Rösterie in München

Key Assumptions

- Average small farm (<2ha) located in the Huila department
- Artisanal labor
- No Irrigation
- Average yearly yield of cherry coffee per ha of 20 tons.
- No reuse of organic waste
- Threshing activities held in Medellín.
- Average importing order of 1 ton
- Only solar – dry - drying method use.
- First order system boundary

Economic facts

Colombia produced 14,5 million green bags of Arabica Coffee in 2018 – 60 kg bags.

Germans consume an average of 5,1 kg of coffee per year. The 4th highest of Europe.

With a total value of USD\$ 183 Million, Colombia exported 6,8% of its coffee to Germany in 2017.

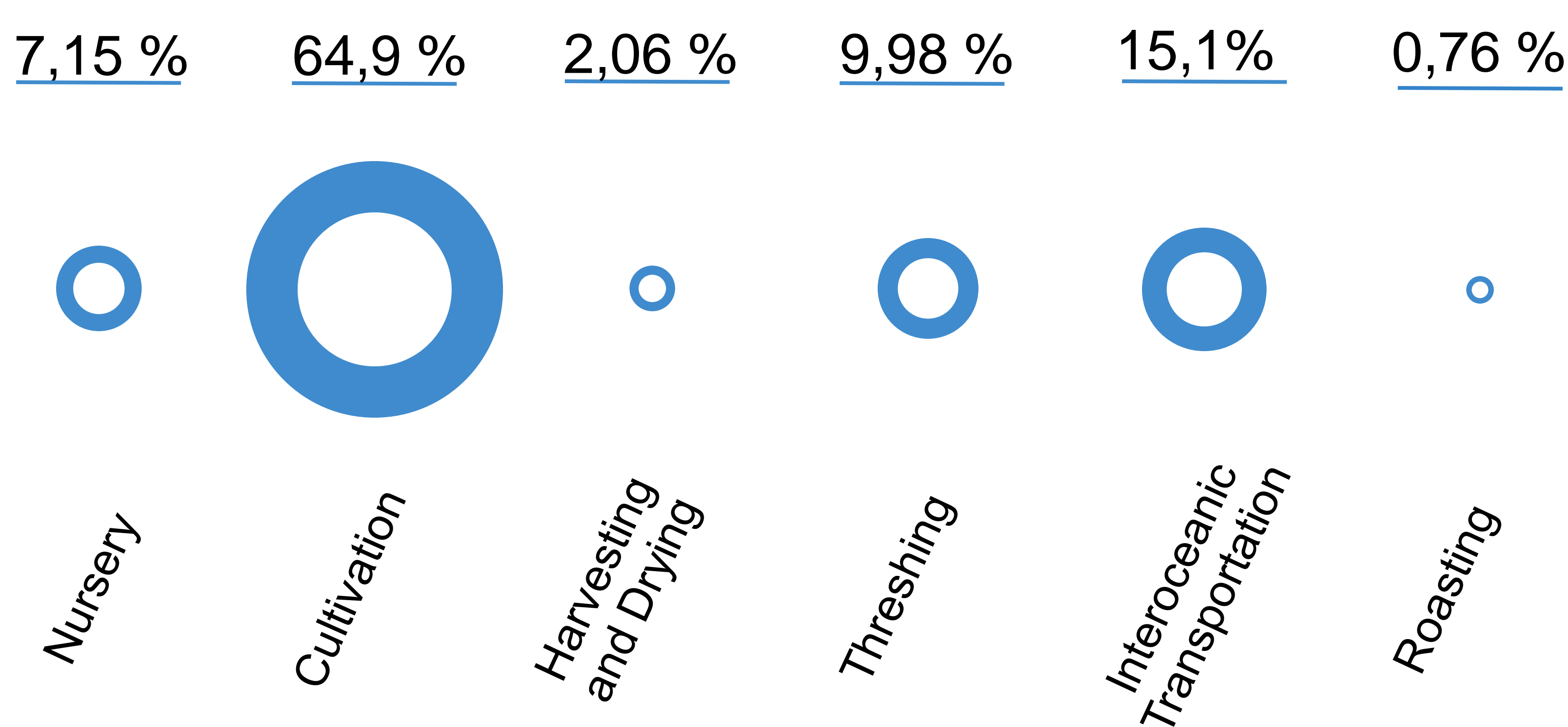
Most of the Coffee consumed in Germany is the Robusta variety and comes from Brazil.

Source: International Coffee Federation. 2020

Discussion

Two factors have heavily influence results and require further research. The use of mineral-based fertilizers increase the impact on the cultivation process. Additionally the constrain of the system in recognizing traditional agricultural methods and the use of organic fertilizers potentiated the cultivation impact.

Impact Assessment ReCiPe: Endpoint ecosystem quality



ReCiPe evaluation indicates that the **cultivation** of coffee plantation is the biggest contributing factor to the detriment of ecosystem quality. This is cause by the use of Nitrogen, Phosphate and Potassium fertilizers

Activities Description – Inventory Analysis.

	Nursery From the seeds to the transplants, The coffee plant takes aprox. 8 weeks to be ready for the next stage	<ul style="list-style-type: none"> + Plastic bags + Fertilizer Nitrogen
	Cultivation From the transplants to the <i>Cafeto</i> . Coffee grows in the field for 18 months until harvest.	<ul style="list-style-type: none"> + Fertilizer NPK
	Harvest & Drying From the cherry to Pergamino coffee, Pulped coffee is dried in “ <i>African beds</i> ” – Solar Sheds.	
	Threshing From Pergamino to green coffee. Threshed coffee – <i>Green Coffee</i> - is the internationally traded coffee.	
	Transport The coffee travels aprox. 11,4 thousand km. until it reaches the local Rösterie	 Jute bags not considered
	Roasting The coffee is roasted and packed every day. Sold fresh to “Münchnern”.	

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