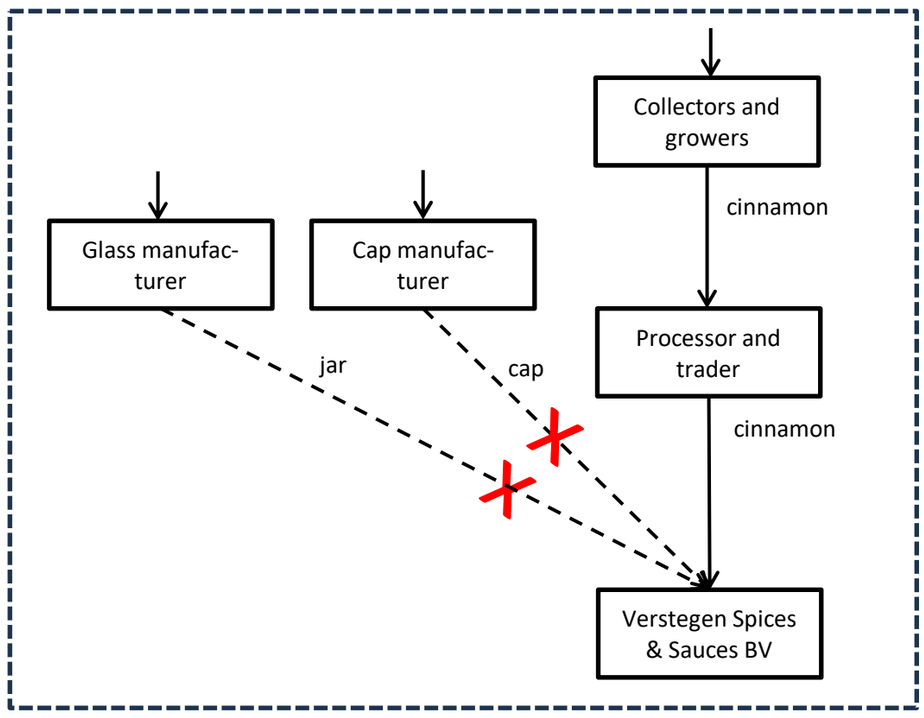
Oiconomy Pricing - Real price of ground cinnamon from Indonesia

Company	Verstegen Spices & Sauces BV
Location	Rotterdam, The Netherlands
Product	1 jar of ground cinnamon
Currency	Euro
Oiconomy Assessment	Oiconomy Sustainability Assessment Tool v2.04
Timeframe	Data from 2021
Case description	Verstegen is a spices & herbs manufacturer from the Netherlands. Verstegen sources broken and cleaned cinnamon bark from Kerinci, Sumatera, Indonesia. The cassia cinnamon tree is grown in a remote forest setting by smallholders and sold to local collectors. It takes 15 to 25 years to grow cinnamon. To harvest the cinnamon, the whole three, will be cut down to strip the bark of the trunk. Verstegen initiated a crop diversification project with their local partner to overcome the first 5 to 10 years after the trees have been harvested. The case study focesses on the inpacts of this mode of production.

Scope ofassessment



The supply-chain of ground cinnamon in a jar was traced back by including 80% of the purchased value. For ground cinnamon the product itself was identified as the most relevant of the sup-ply- chains (Figure 1) and accounting for 80% of the total purchase value.

The **ground cinnamon** comes from Indonesia where it is handled by an ex-porter and cultivated by cinnamon farmers. Tradition-ally cinnamon farmers plant trees in remote areas which are hard to access. After planting, the tree needs 15 to 20 years to produce a sufficient quality amount of cinnamon bark. No inputs are used during this period. The farmers are better defined as land-owners. For the harvest a special team is hired to harvest the whole plot. Cinnamon is of-ten plant after the birth of a child and its revenue is used for big life events such as weddings.

Figure 1: Scope of assessment: supply chain actors and outputs

Total results

Hidden costs show what impact the product has on planet, people, and prosperity, that are currently not reflected in the prices charged for the goods along the value chain. The impact can be negative or positive. The negative costs are based on costs of prevention, meaning the costs necessary to eliminate the negative impact. The total hidden costs of 1 jar of ground cinnamon are **€ 0,043** (Figure 2). The sales price of a jar is **€ 3,99**, meaning the hidden costs are adding **1,1%** onto the sales price. This does not include the production of the jar. Figure 3 displays the negative hidden costs per supply-chain partner.

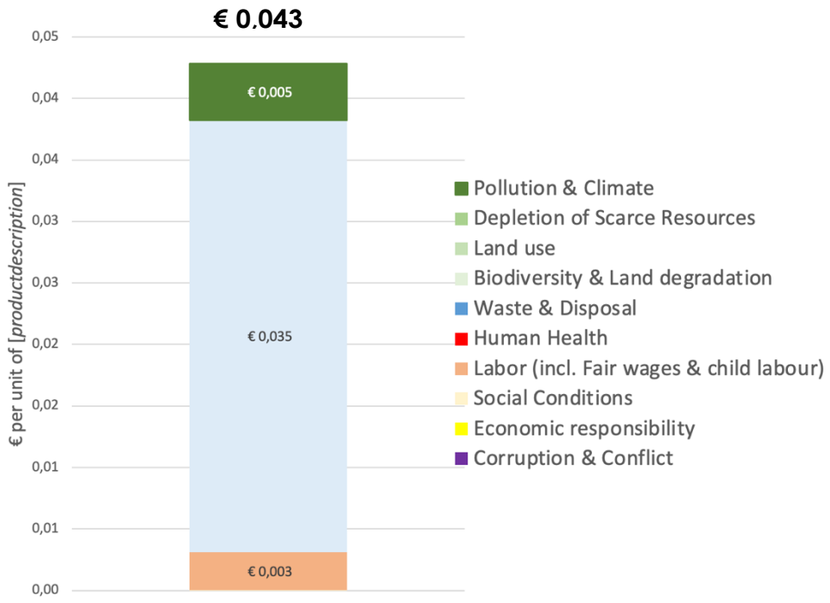


Figure 2: Negative hidden costs of 1 jar of cinnamon

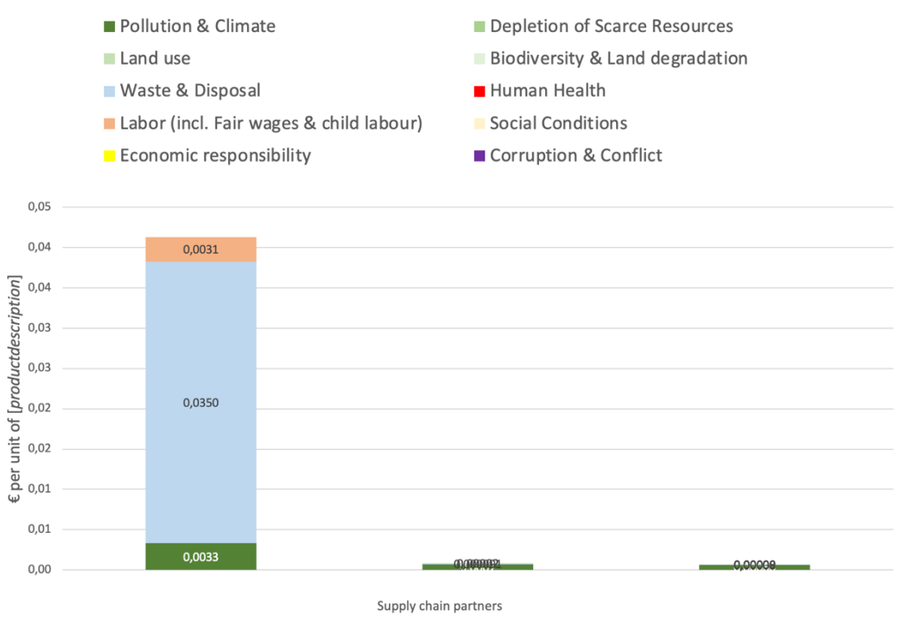


Figure 3: Negative hidden cost per supply-chain partner

The main negative hidden costs come from the category ***waste disposal***. This cost is related to the end-of-life recycling of the cinnamon glass jar and plastic cap. There is no specific recycling process for these items and most likely the jar and cap are downcycled instead of recycled. This is around 80% of the total hidden cost (€0,035).

The second and third biggest cost categories are ***Pollution & Climate*** and ***labor (incl fair wages & child labor)***. Most costs to mitigate pollution are caused by the transport of goods (€ 0,0028)) and commuting of staff and business trips (€ 0,0005) by Verstegen. The hidden labor costs are related to Personnel Development plans of Verstegen (€ 0,003) around 9% of the total costs.

Verstegen, together with the cinnamon exporter, invested in agroforestry solutions to increase income and biodiversity. Through this project, supply-chain specific mitigation costs were used to calculate prevention costs to preserving biodiversity and income of farmers. Costs were allocated to prevent illegal land occupation in the natural park of Indonesia. Local farmers expand their cinnamon productions by cutting down forest. The project is supporting farmers to diversify their income by planting alternative crops like coffee, oranges and annual spices like ginger, turmeric, and chili. The income diversification should overcome the first 5 to 10 years of the cinnamon production and prevent farmers to expand the business in the natural forest. This assessment demonstrated the absence of negative impacts on various aspects.

It showed that all suppliers get paid fairly for their products and that the depletion of scarce materials is very low.

Figure 4: Photo of cinnamon farming

Positive costs

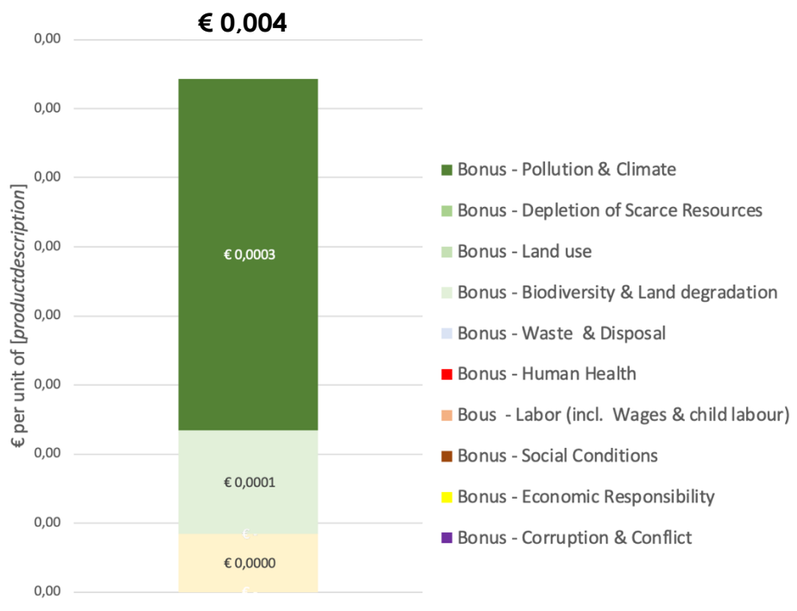


Figure 5: Positive costs of 1 jar of cinnamon

Besides negative hidden costs, positive costs were calculated (Figure 5). Positive costs are based on actual company spending, benefitting others than the ones involved in the transaction. ***Positive costs*** of € 0,0004 were found, the majority of this was spent by Verstegen. Verstegen invested in a carbon sequestration project to increase biodiversity & the income of farmers, by planting cinnamon in degradated land. The carbon sequestration revenues beside the cinnamon bark are benefiting a group of farmers (expressed in the category ***Biodiversity and Land degradation***). The project also decreased pollution and climate costs of the cinnamon production (***Pollution and Climate***).

Data specificity

Hidden costs are calculated as the sum of the quantity of an issue (performance data), and the costs to prevent the issue (prevention costs). Both performance data and prevention costs can be company-specific or generic database-sourced.

Performance data are measuring the sustainability performance of companies (e.g. kWh used). Verstegen, the cinnamon exporter, and the cinnamon farmers were able to complete the assessment using company-specific data. The data of Verstegen was around 70%. For the cinnamon exporter it was just below 50% and Collectors and growers just above 50%.

Prevention costs are data on the costs of sustainability mitigation measures (e.g. investing in solar panels). None of the value-chain partners were able to provide much company-specific prevention costs, as it takes time to make investment proposals to mitigate impact. This should be a focus when the assessment is repeated.

Company reflection	*"For the second pilot the reason for selecting cinnamon was the long growing cycle of 20 years. Often cinnamon seems an ecofriendly product grown in a forest environment without the use of any chemical inputs. Expanding cinnamon production because higher demand will cause issues related to the land use of Indonesia. With the tool we should be able to measure this in time".–* *Evert-Jan Verschuren (Verstegen Spices & Sauces BV).*	*"Within Tripper the results get shared internally and externally to educate and inform our stakeholders. Tripper have been investing for more than 10 years in the supply chain by training farmers, implementing programs and providing seedlings. The oiconomy tool supports us in communicating our efforts and helps us were to focus on in the coming years"-* *Olivier Bernard (Tripper Nature)*

Utrecht University thanks ARTE *for their transparency and cooperation. More information is available online on the explanation of the Oiconomy Pricing method and its principles, the Oiconomy Pricing tool, and examples of companies applying the method. For contact, please reach out to oiconomy@uu.nl*

Disclaimer: this assessment was based on company data, but not independently verified.

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