

Combined nutritional and environmental assessment (CONE-LCA): A case study of alternatives to potato crisps



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Introduction



FoodSEqual Objectives

- Provide sustainable food access to citizens of culturally-diverse disadvantaged communities
- Co-develop new products, supply chains, and policy frameworks.
- Affordable, attractive, healthy and sustainable diet.



Objectives of this study

- Investigate the dietary and environmental performance of snacks options considering
 - Selected nutrients
 - Sateiate feeling (protein and fibre)

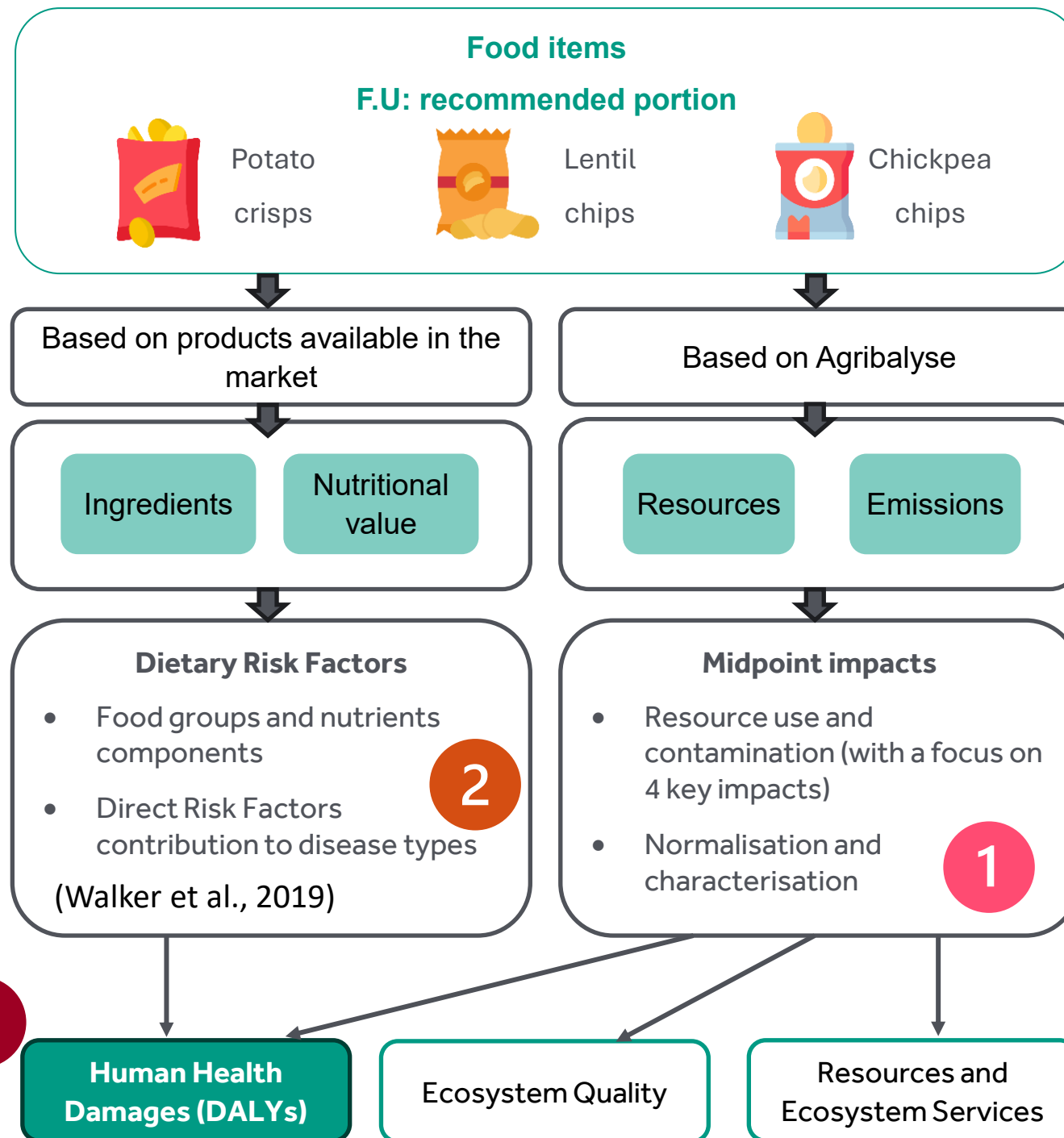
Comparison
and analysis
basis

Case study

Inventory

Midpoint
categories

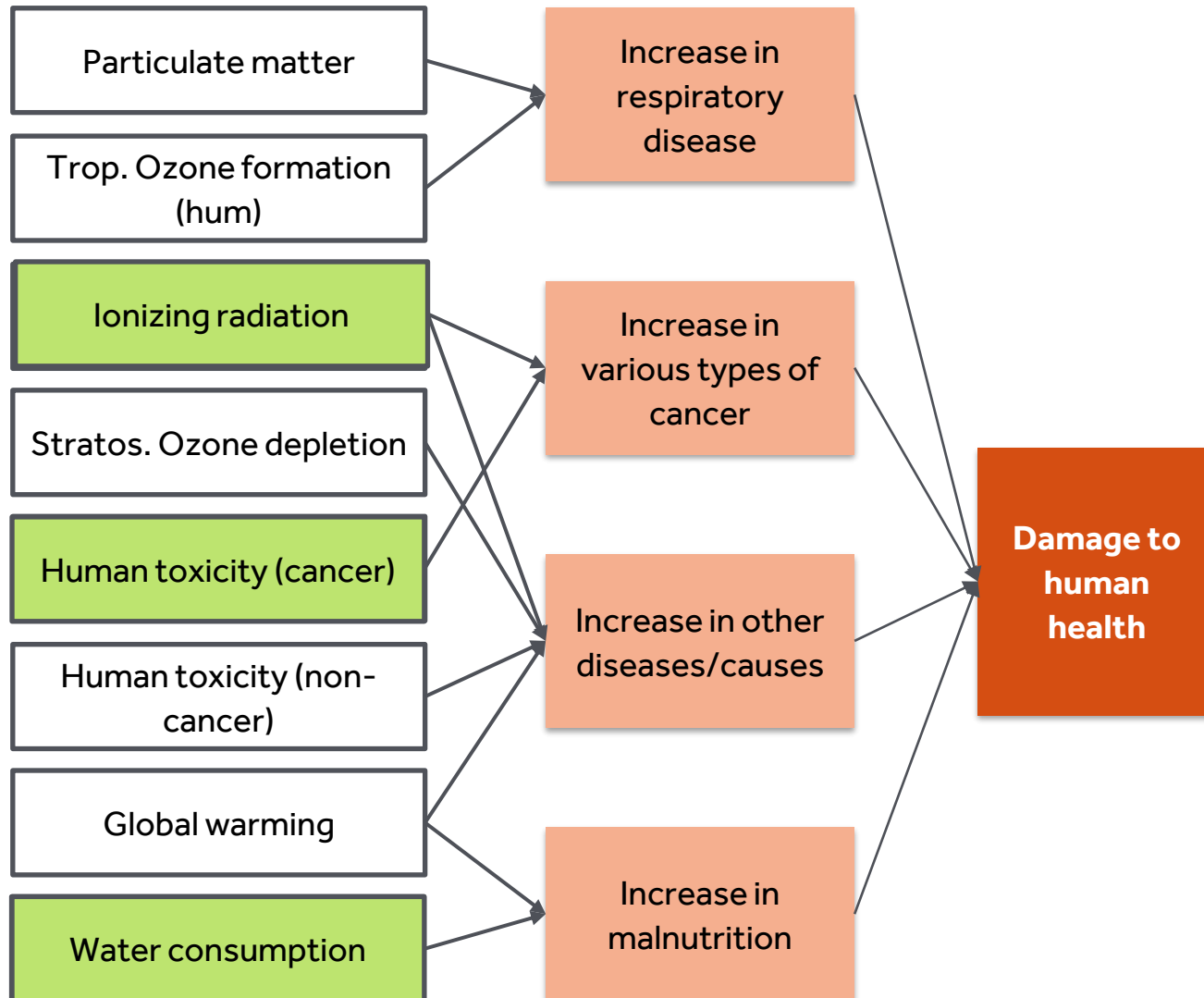
Endpoint
categories



The study design

- Functional unit
- Conversion of food items nutrition into DALYs
- Combining DALYs

Midpoint impacts 1



Objectives

- Understand the environmental factors that contribute to Human Health Damages
- Investigate the biggest factors to negative environmental impact

Four biggest factors

- Ionizing radiation
- *Freshwater ecotoxicity*
- Human Carcinogenic toxicity
- Water Consumption

Analysis

- Impact per portion
- Characterisation
- Normalisation

Nutritional contribution 2

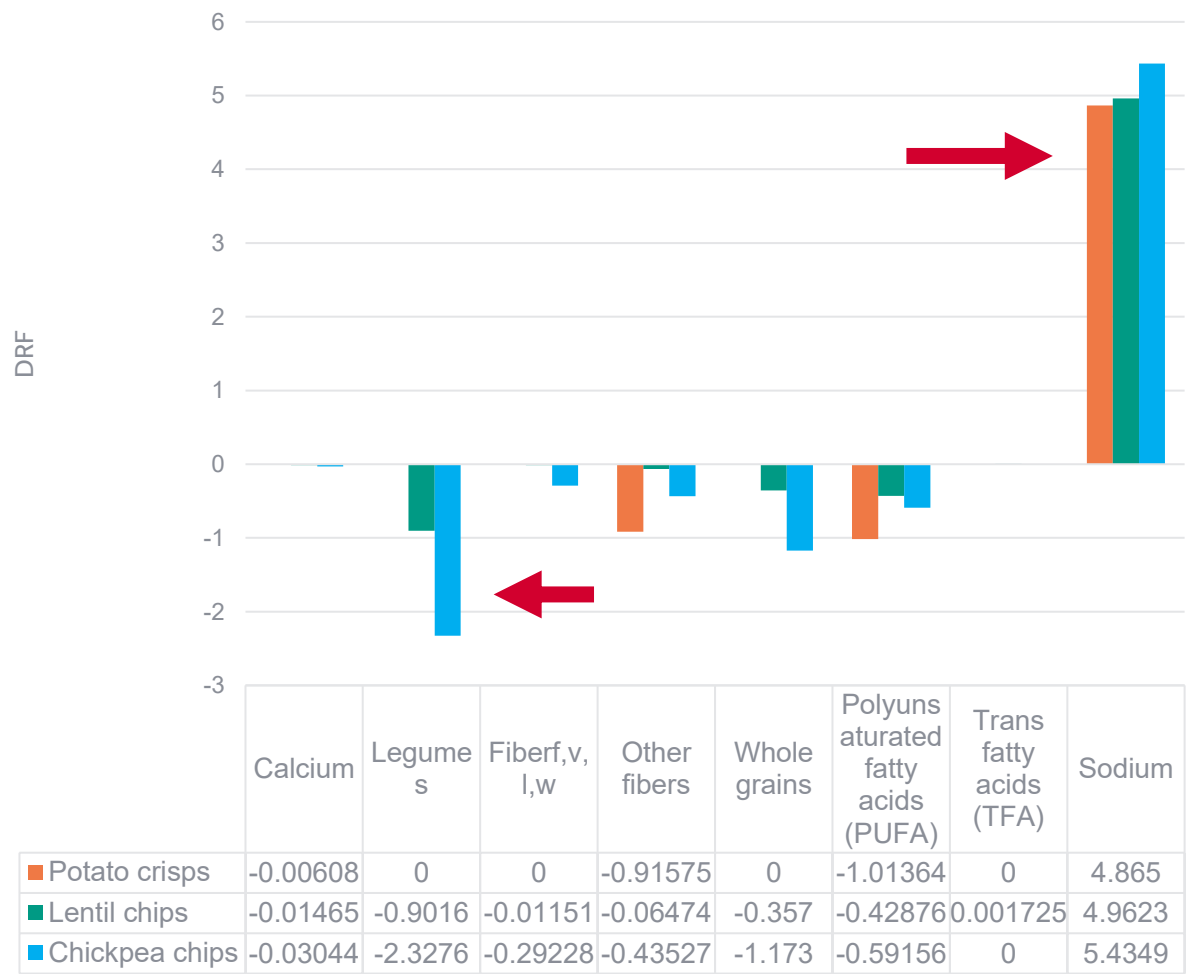


Figure 1. Nutrients and food groups contribution to Direct Risk Factors.

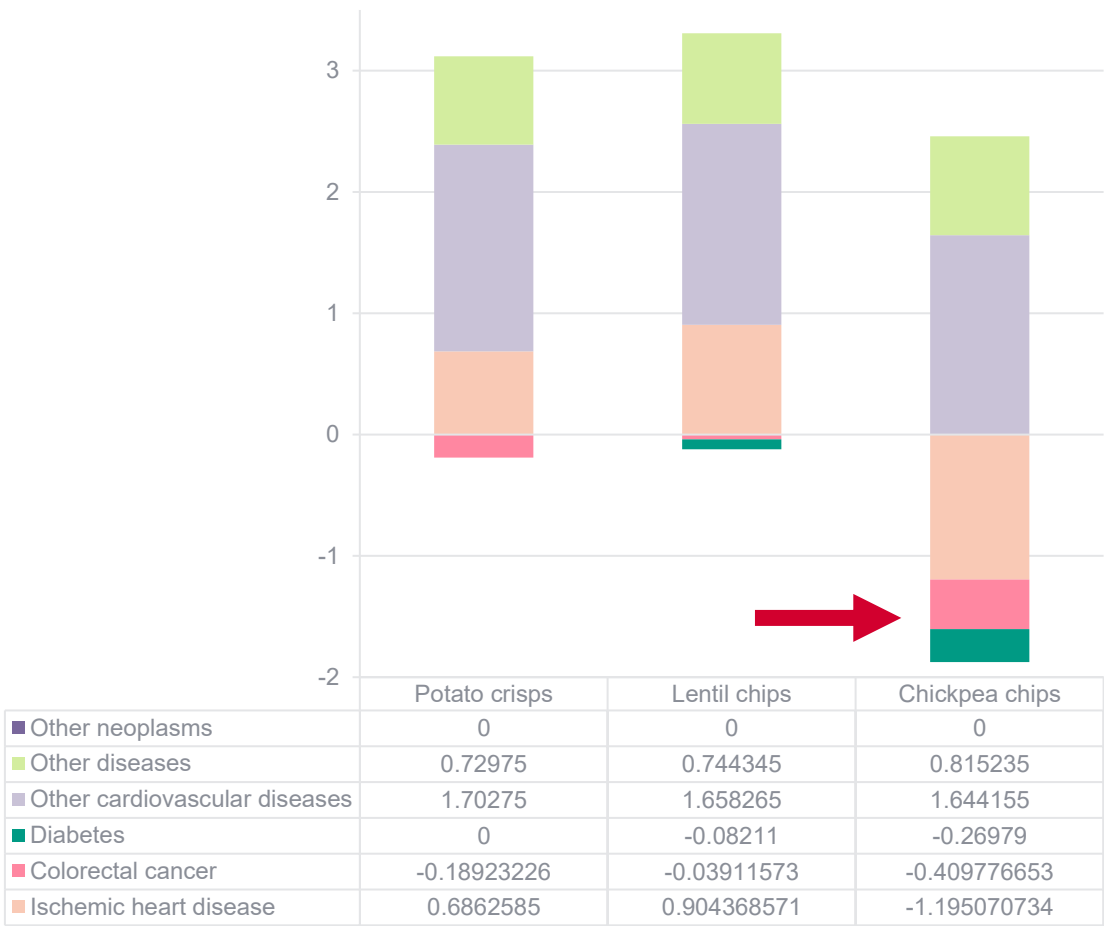


Figure 2. Direct Risk Factor's contribution to disease types

Combining DALYs 3

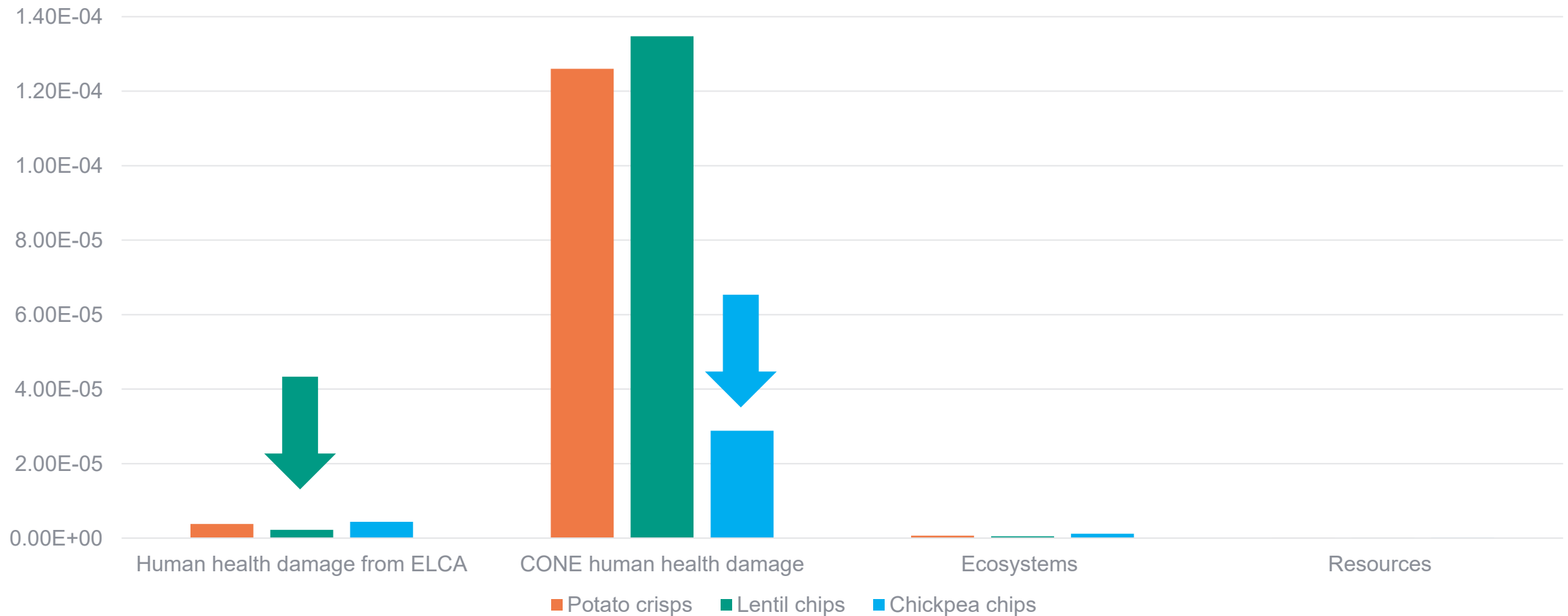


Figure 3. Endpoint normalised results including the total of nutritional and environmental

Practical implications



Contributions

Theoretical

- Calculating **impacts and benefits on health** resulting of a change product consumptions

Methodological

- Considering **processed food** for CONE-LCA
- Considering the effect of **nutrients' association in consumer response (satiety feeling)**
- **Recommended portions** as the functional units

Limits

Interpretations

- Nutritional impacts affect only the person consuming the food items.

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