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Agroscope

Nutritional, health and environmental (NHE) dimensions of Swiss consumer trends

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LCAFood20204, Barcelona

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Objectives

Objectives:

- Evaluate the nutritional, health and environmental (NHE) dimensions of commonly consumed foods by the Swiss population.
- Assess consumption trends in combination with the NHE dimensions from 1990 since 2017 at product and diet level.
- Suggest recommendations for their improvement.

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Methods

- Household survey
- 64 foods selected (n=77)
- Data from 1990-2017

- Nutritional composition
- Food classification

- Nutrition → NRF10.3
- Health → HENI
- Environment → IC

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Methods: Environmental dimension

- The LCIA was performed using SALCA v.2.0.1 methodology (Douziech et al. 2024).

- The environmental impact categories selected were:
  - Water scarcity: AWARE (AW)
  - Global warming: 100 years (GW)
  - Land occupation: Agricultural (LO)
  - Eutrophication: Freshwater (EF)
  - Eutrophication: Marine (EM)
  - Acidification: terrestrial (AT)
  - Ecotocicity: Freshwater UsEtox (ET)

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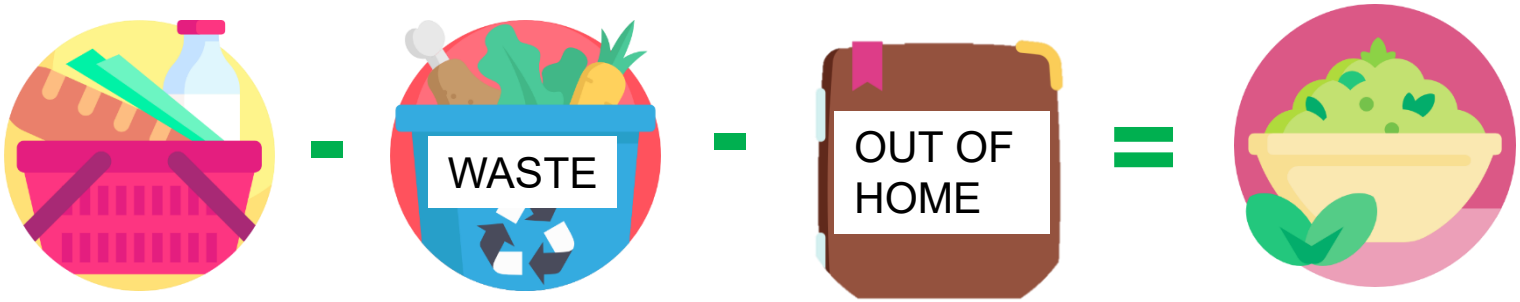
Methods step by step

1



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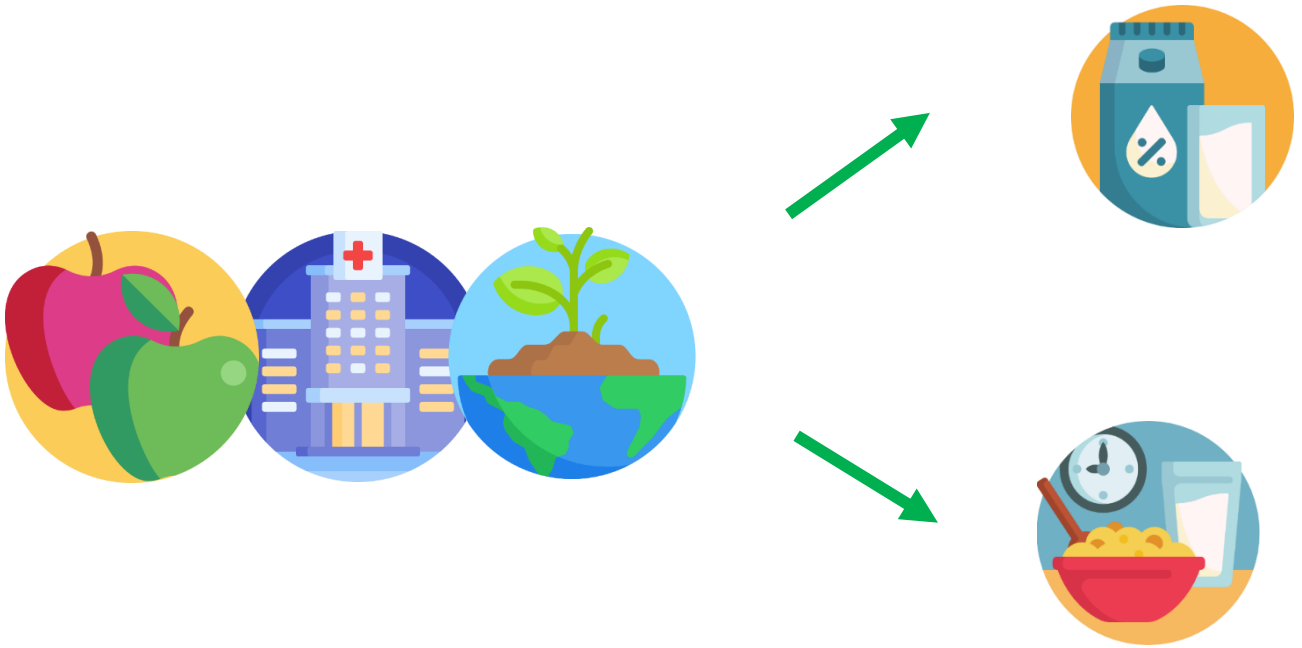
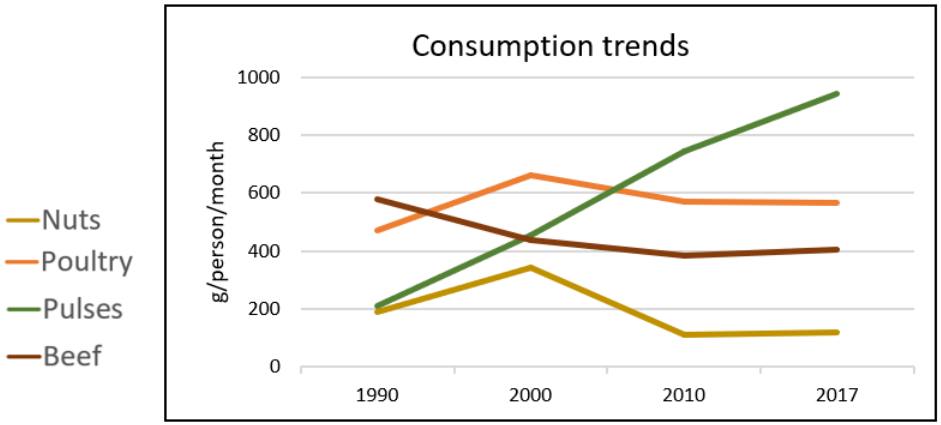
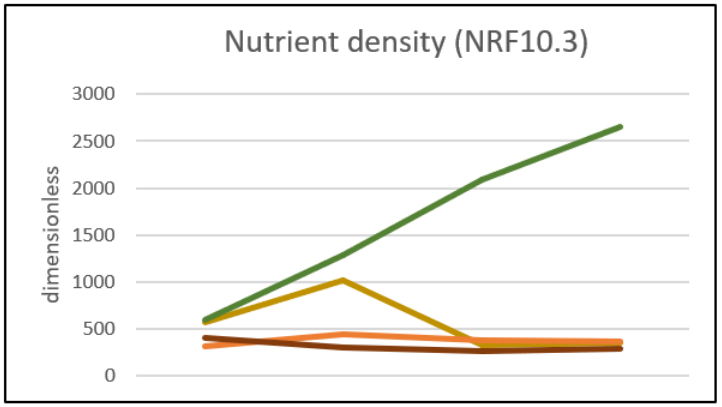
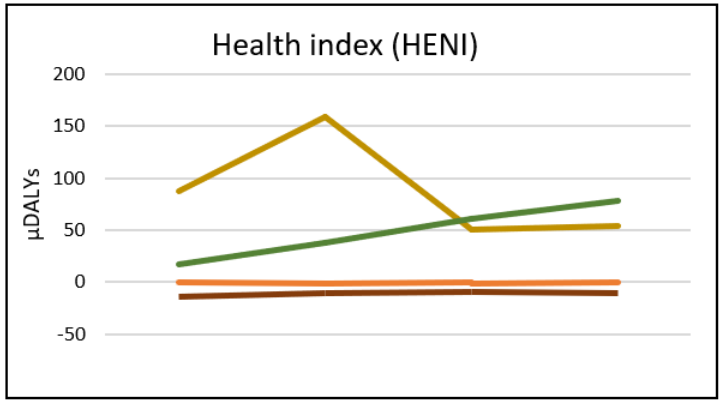
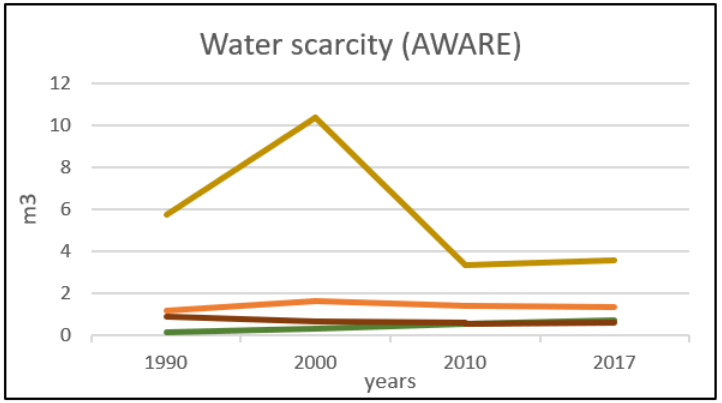


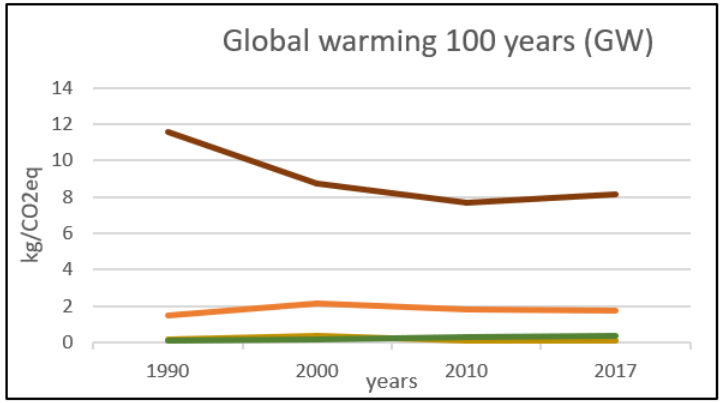
Results: product level











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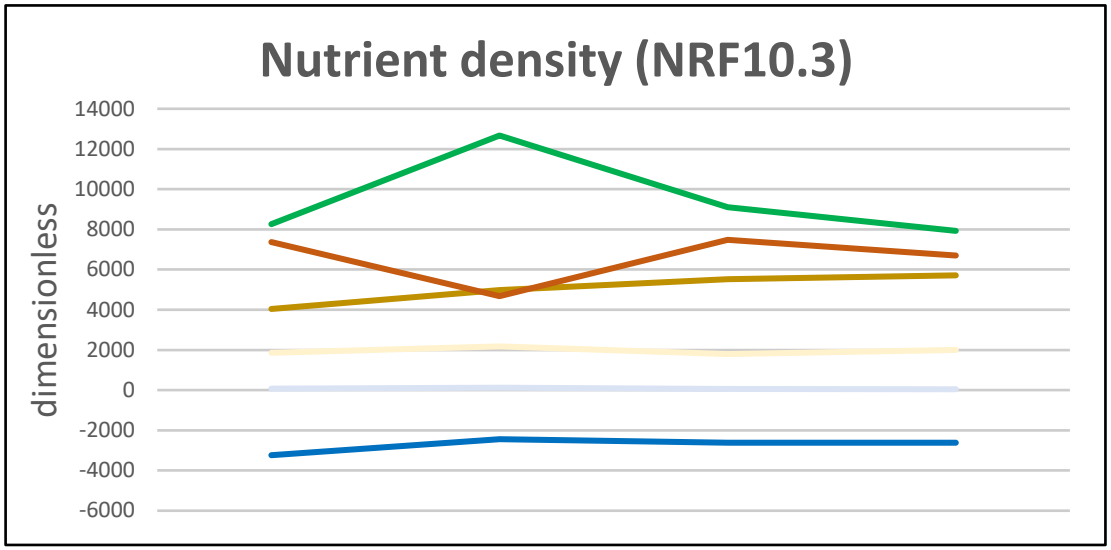
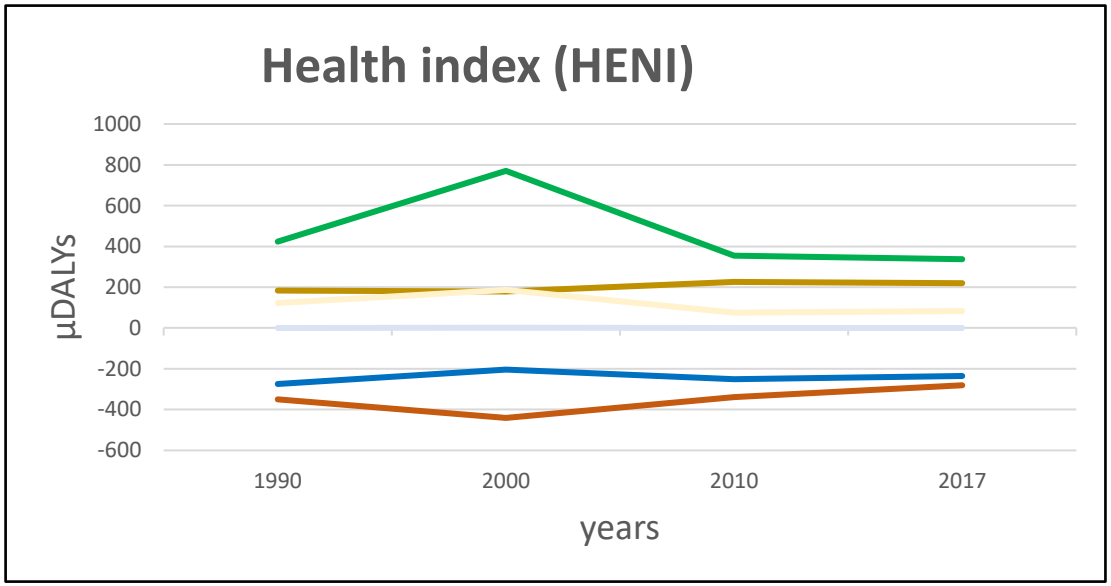
Results: by Swiss Food Pyramid

- Water, tea, coffee
- Fruits & vegetables
- Grains, patatoes & pulses
- Dairy, meat, fish, eggs & tofu
- Oils, fats & nuts
- Sweets, salty snacks & alcoholic drinks





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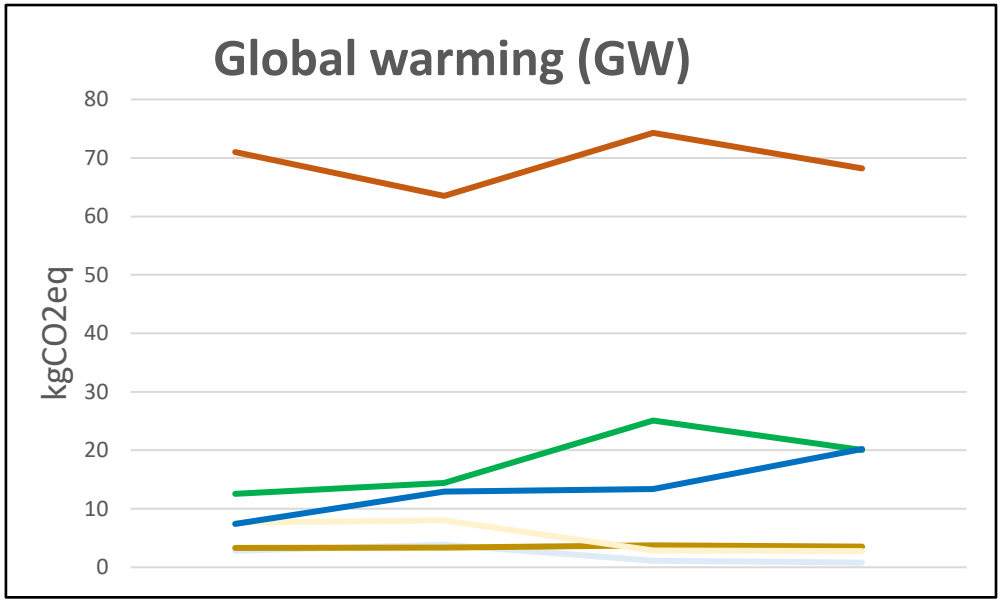

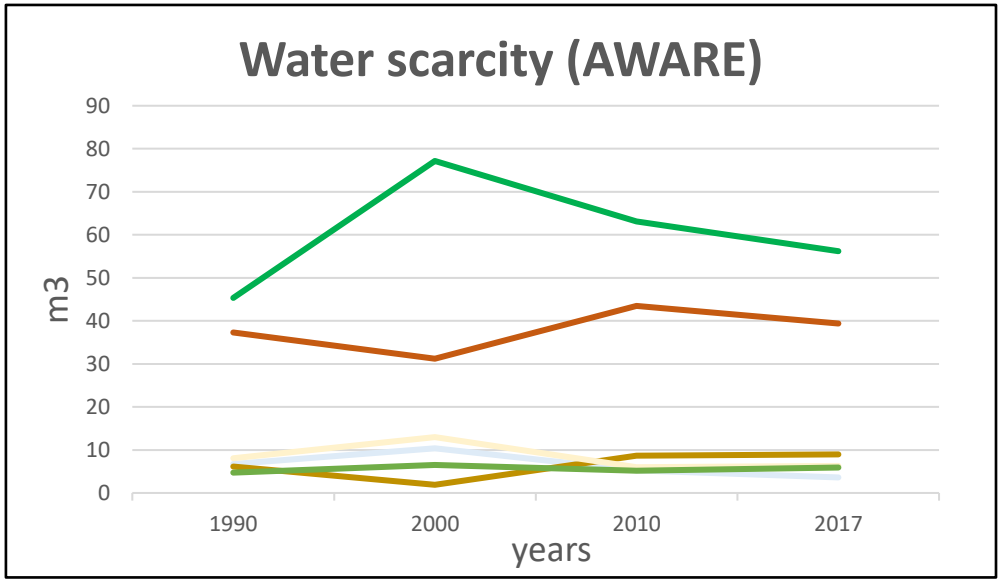

NHE dimensions of Swiss Consumption
Reguant-Closa, A; Loginova, D; Mann, S; Nemecek, T.
LCAFood2024, Barcelona

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Results: at diet level

	1990	2000	2010	2017
NRF10.3	9.23	9.50	9.98	10.04
HENI	2.11	14.19	1.57	3.25
AWARE	3.60	4.73	4.75	4.31
LO	3.98	4.38	3.62	3.64
GW	3.33	3.38	3.83	3.67
EM	0.0044	0.0048	0.0041	0.0039
EF	0.00059	0.00063	0.00063	0.00058
AT	0.0352	0.0342	0.0352	0.0329
ET	3365.72	1692.71	4957.13	4184.04

NRF10.3: Nutrient Rich Food index; **HENI:** Health Nutritional index; **AT:** Acidification terrestrial; **ETF:** Ecotoxicity freshwater; **EF:** Eutrophication freshwater; **EM:** Eutrophication marine; **GWP:** Global warming potential; **LO:** land use-agricultural; **AWARE:** Water scarcity.).

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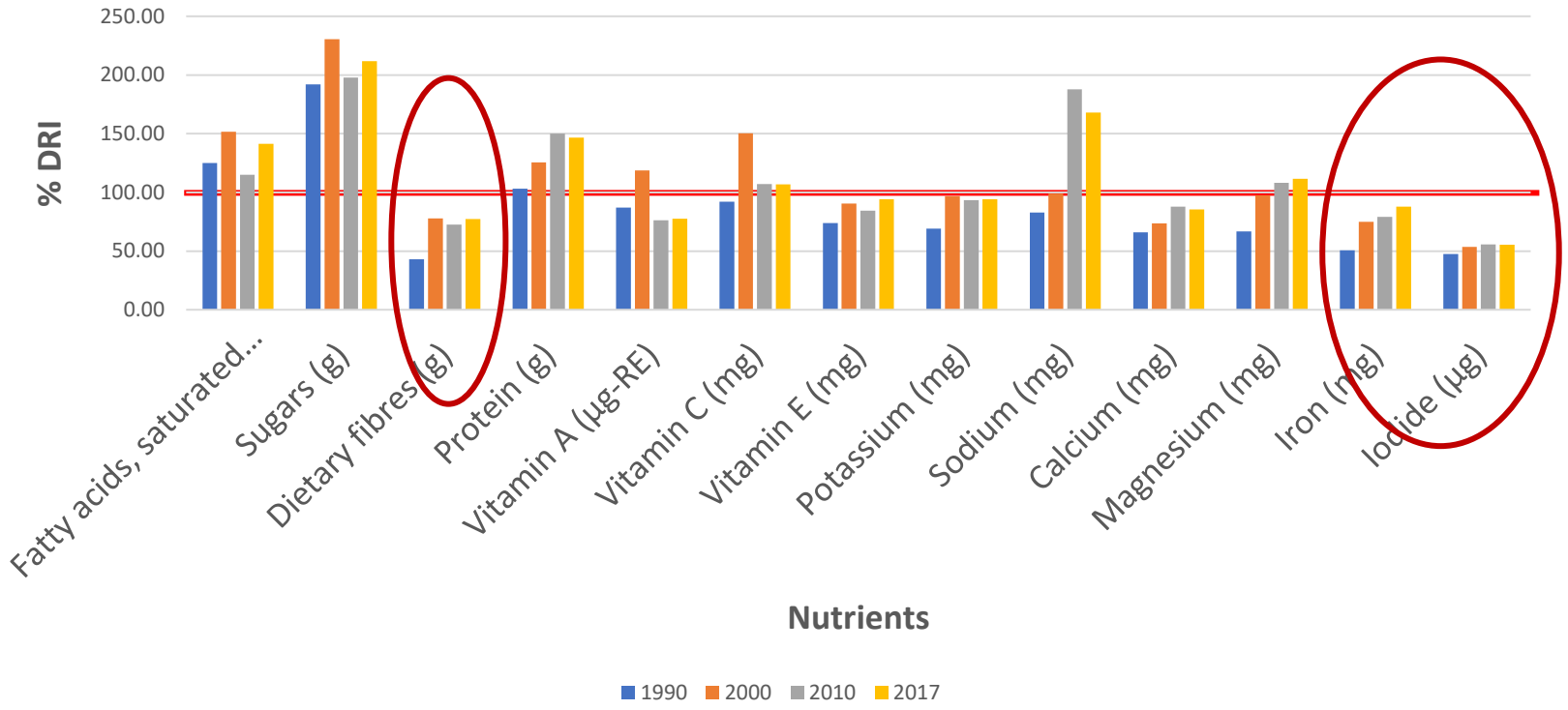
Results: at diet level

***Figure**: Dietary intake (% DRI$_{home}$) by nutrients per person/day*



Main findings

- At **product level,** the decrease consumption of all meats except for poultry had a positive nutritional and health impact while decreasing the environmental impact of meats.
- At **food group level by the SFP,** it should be recommended to increase consumption of group three of the SFP (especially pulses), which will increase the nutritional density and health of the Swiss population while having a low to moderate overall environmental impact.
- At **diet level**, the food share consumed in year 2000 has the best health impact (lead by nuts, pulses, fruits, vegetables and fatty fish increased consumption), but will require to improve nutritional density and environmental impact of some IC.

Conclusions

- Increased consumption of nuts, pulses, fruits and vegetables should be recommended as they have a higher impact on health and nutrition dimensions and low to moderate environmental impact.

- Consumer dietary intake is difficult to measure and data available is limited BUT highly relevant to give future recommendations.

- Nutritional and health indices have limitations BUT are a more holistic way to include nutrition when evaluating the environmental impacts of diets.

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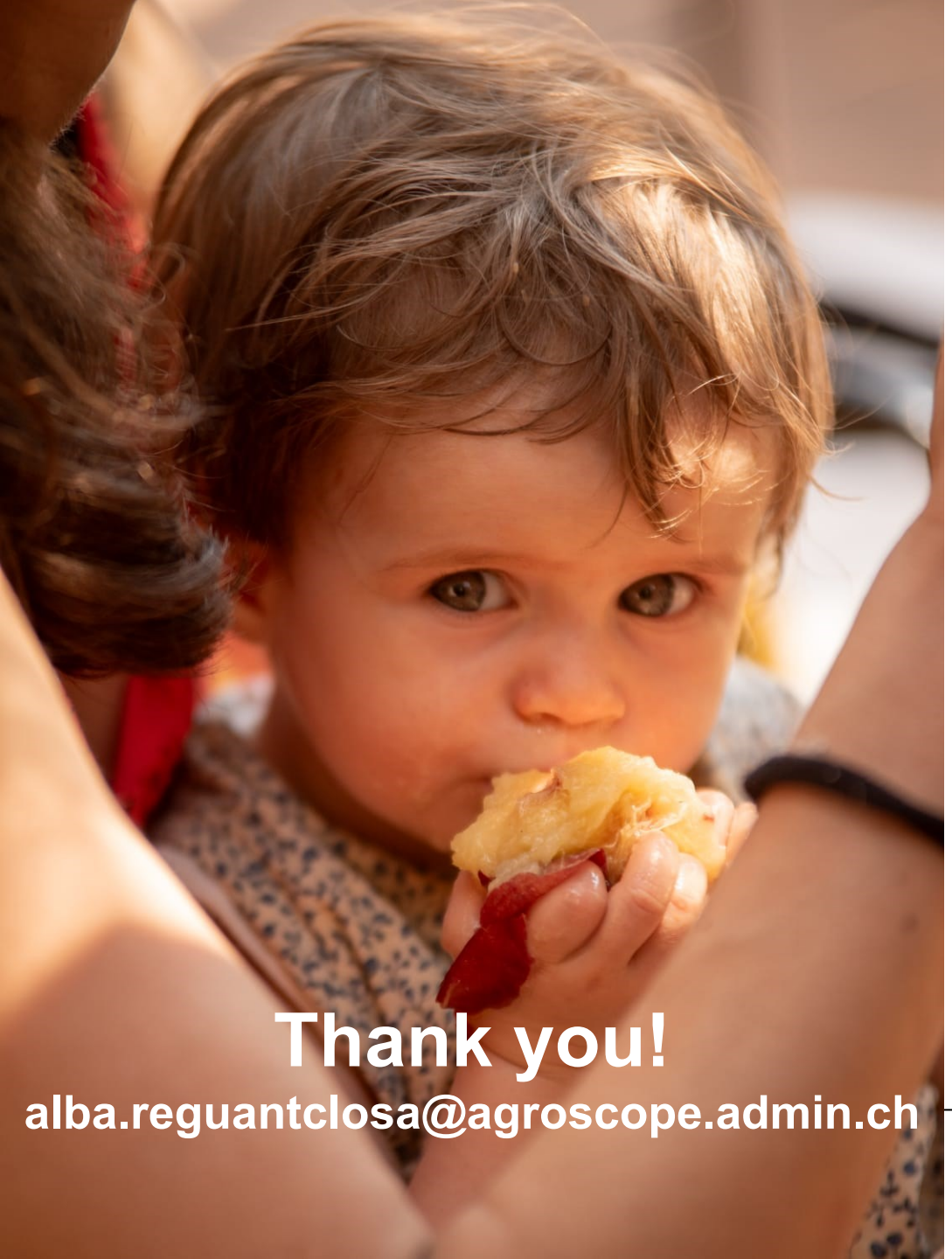

Thank you!

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