

# Social LCA considerations related to alternative proteins

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# Agenda

- Social LCA: what, why, how
- Social LCA of innovative products
- S-LCA of alternative proteins
- Takeaways



# S-LCA: what, why, how

ISO 14075:2024

The Social Life Cycle Assessment (S-LCA) is a methodology for assessing **positive and negative social impacts, performances and risks of products along their life cycle**, with the ultimate goal of *improving human dignity and wellbeing*.



## Stakeholders

- are the backbone of the assessment



## Life cycle perspective:

- direct and indirect impacts taking place in different life cycle stages in relation to different stakeholders



## Trade-offs

- among social topics and stakeholders, life cycle stages



## Context-specific assessment

- territorial context including cultural, economic, political aspects

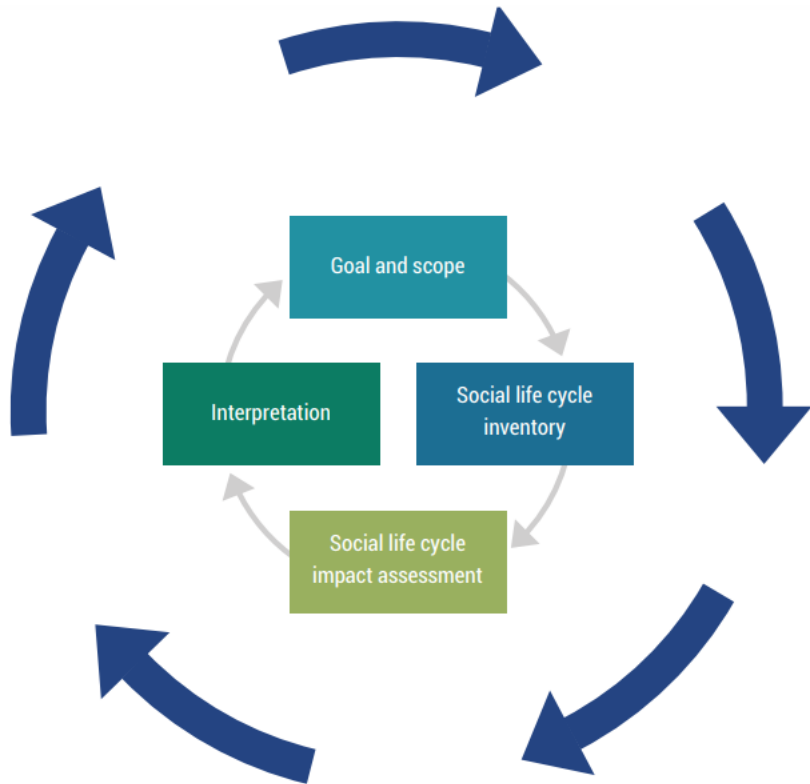


## Potential and actual social effects

- social impacts/risks vs social performances

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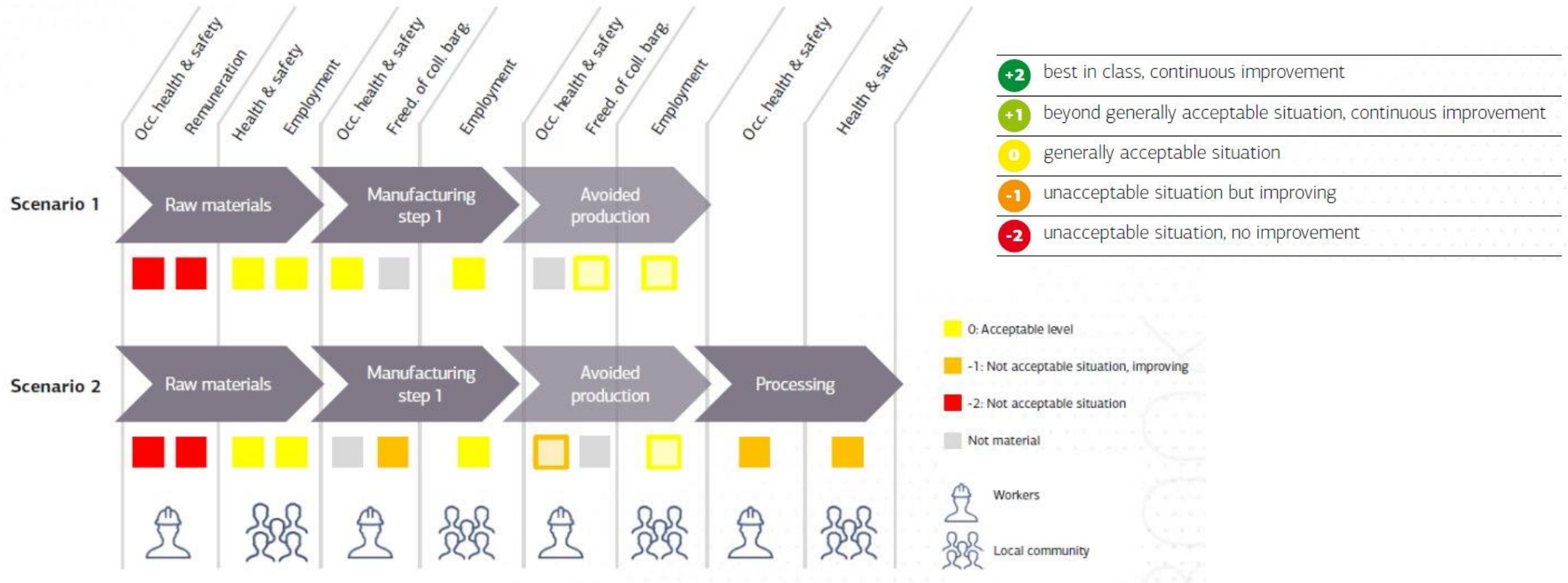
# S-LCA: what, why how



Source: UNEP, 2020

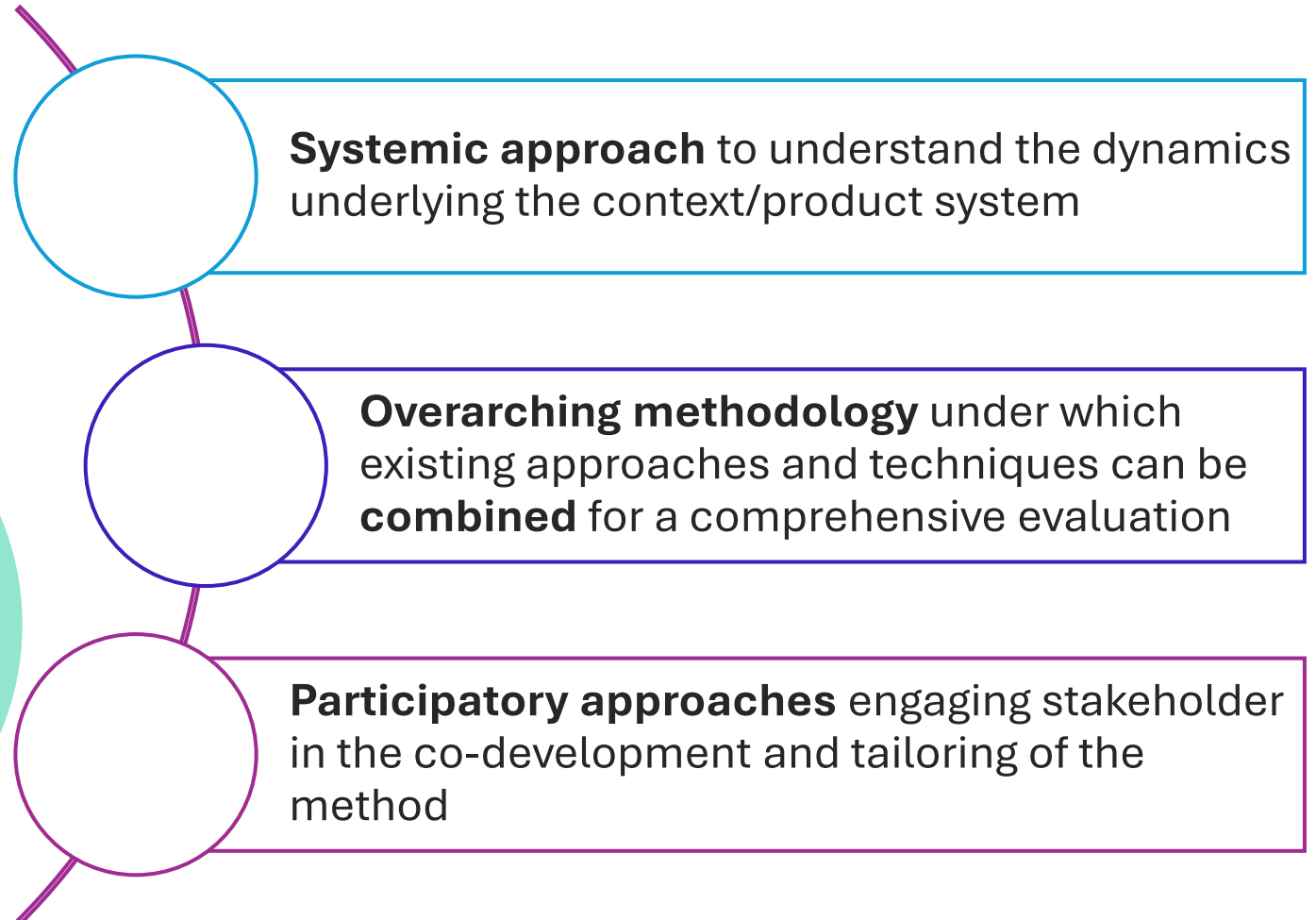
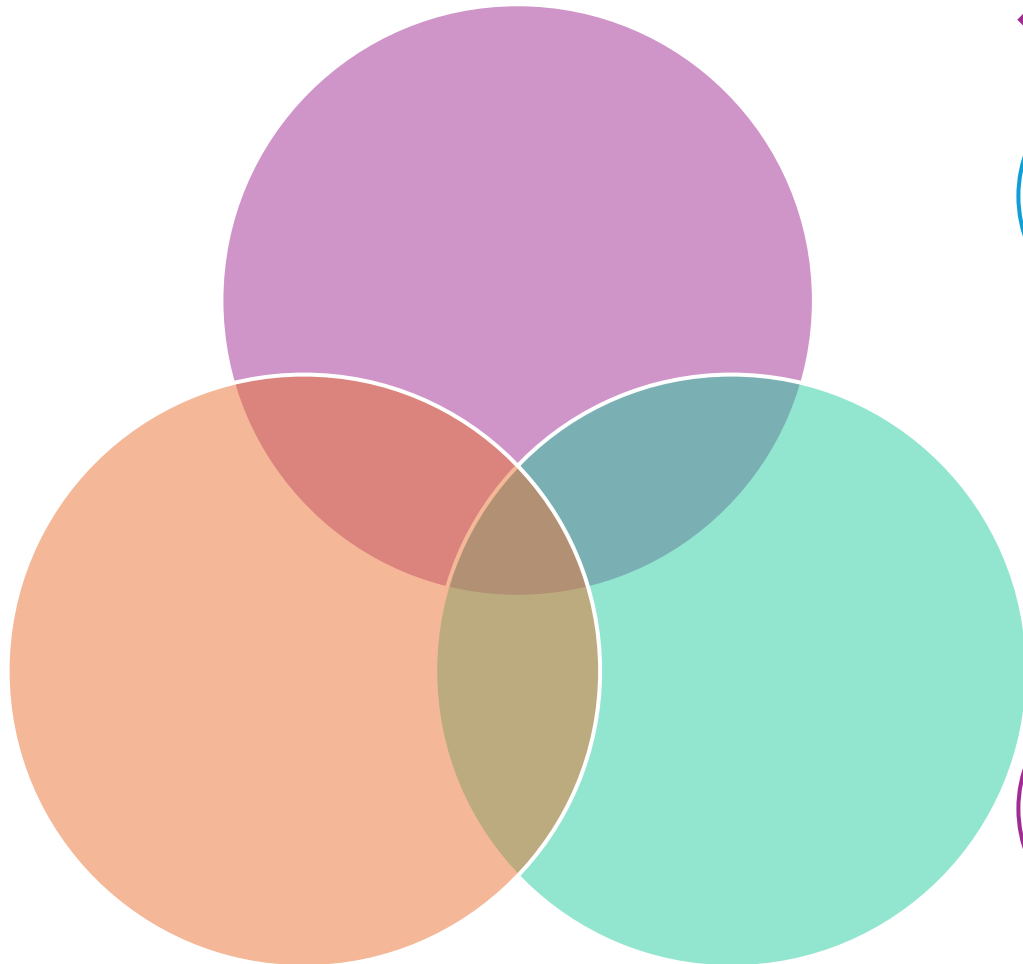
Stakeholder categories	Impact categories	Subcategories	Inventory indicators	Inventory data
Workers	Human rights	◆	▸ ▹	▬ ▬ ▬
Local community	Working conditions	◆	▸ ▹	▬ ▬ ▬
Society	Health and safety	◆	▸ ▹	▬ ▬ ▬
Consumers	Cultural heritage	◆	▸ ▹	▬ ▬ ▬
Value chain actors	Governance	◆	▸ ▹	▬ ▬ ▬
	Socio-economic repercussions	◆	▸ ▹	▬ ▬ ▬

# S-LCA: what, why, how – An example



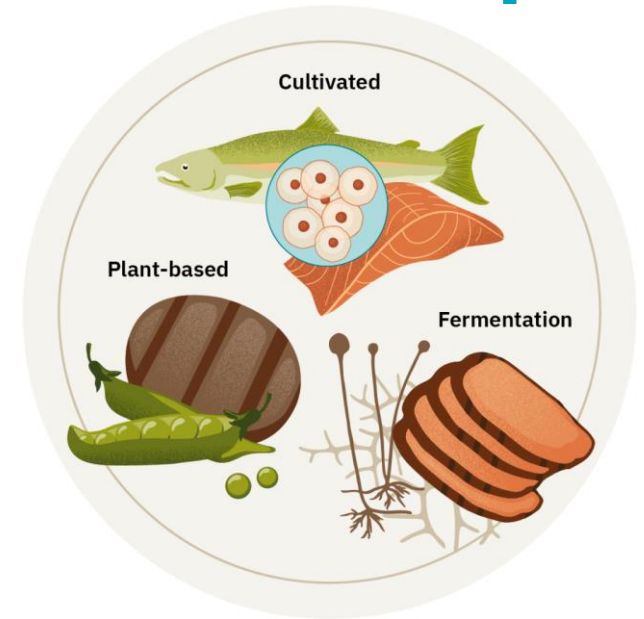
Source: Goedkoop et al., 2020

# S-LCA distinguishing features



# S-LCA of innovative products

- **Main characteristics of novel products and systems:**
  - Not available on the **market**
  - Available in specific and limited contexts (**low TRL**)
  - No organisations that manages social aspects of concern
  - **Limited data and information** available
  - Potential structural **changes** driven (and required) by the new system (**innovative** nature)

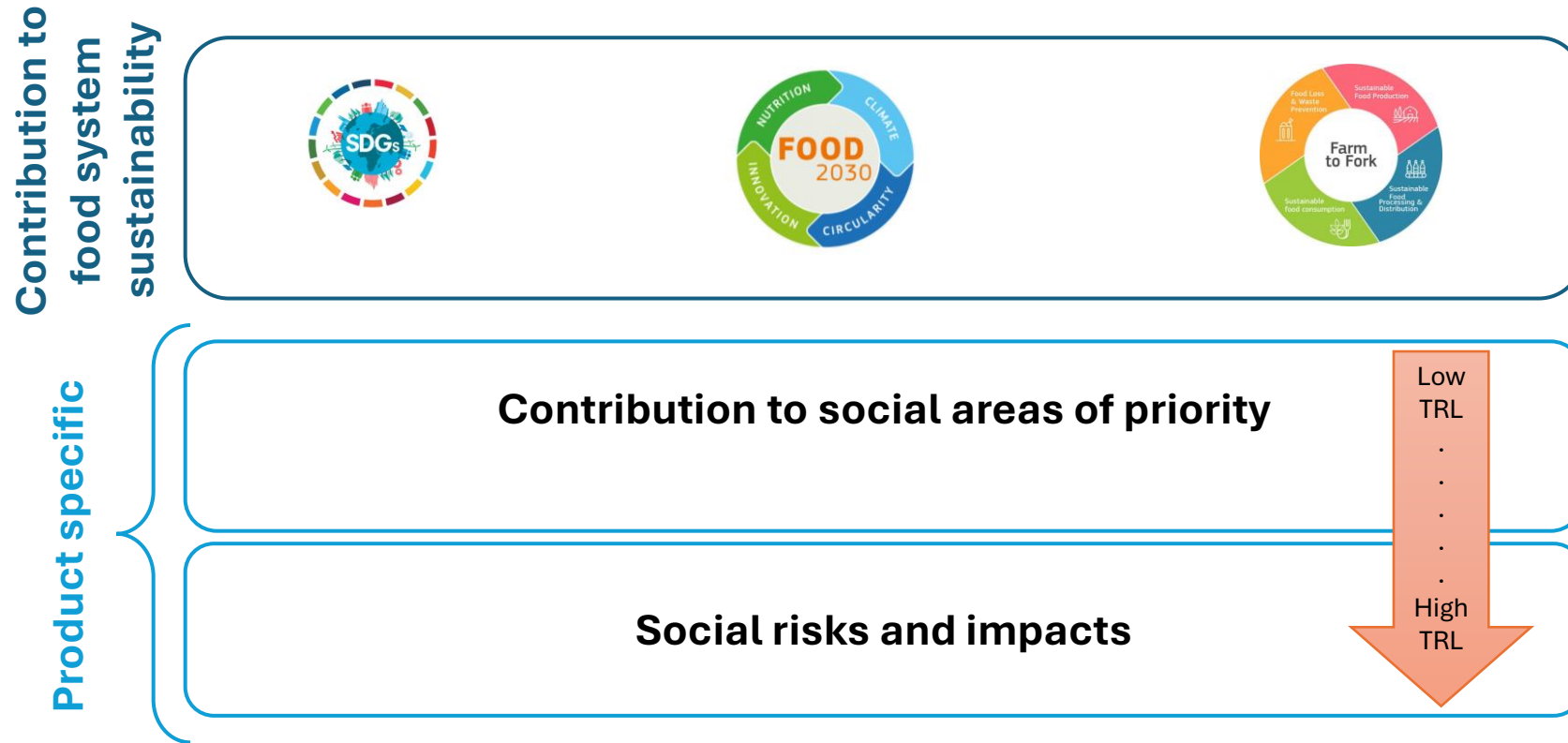


## → Attention points:

- **Trade-offs among sustainability dimensions:** Social impacts are the result of the interactions of human beings with the environment and the economic system, affecting and/or benefiting people, (i.e. the interactions among the dimensions of sustainability)
- Threat of **regrettable substitution**

# Assessing social impacts of novel food products – A proposal

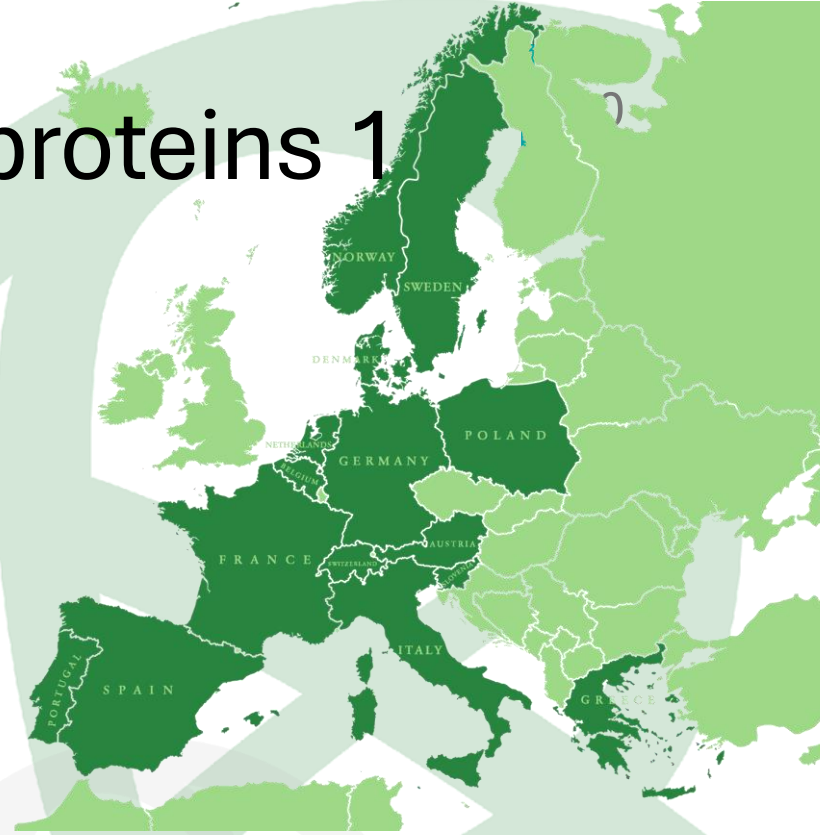
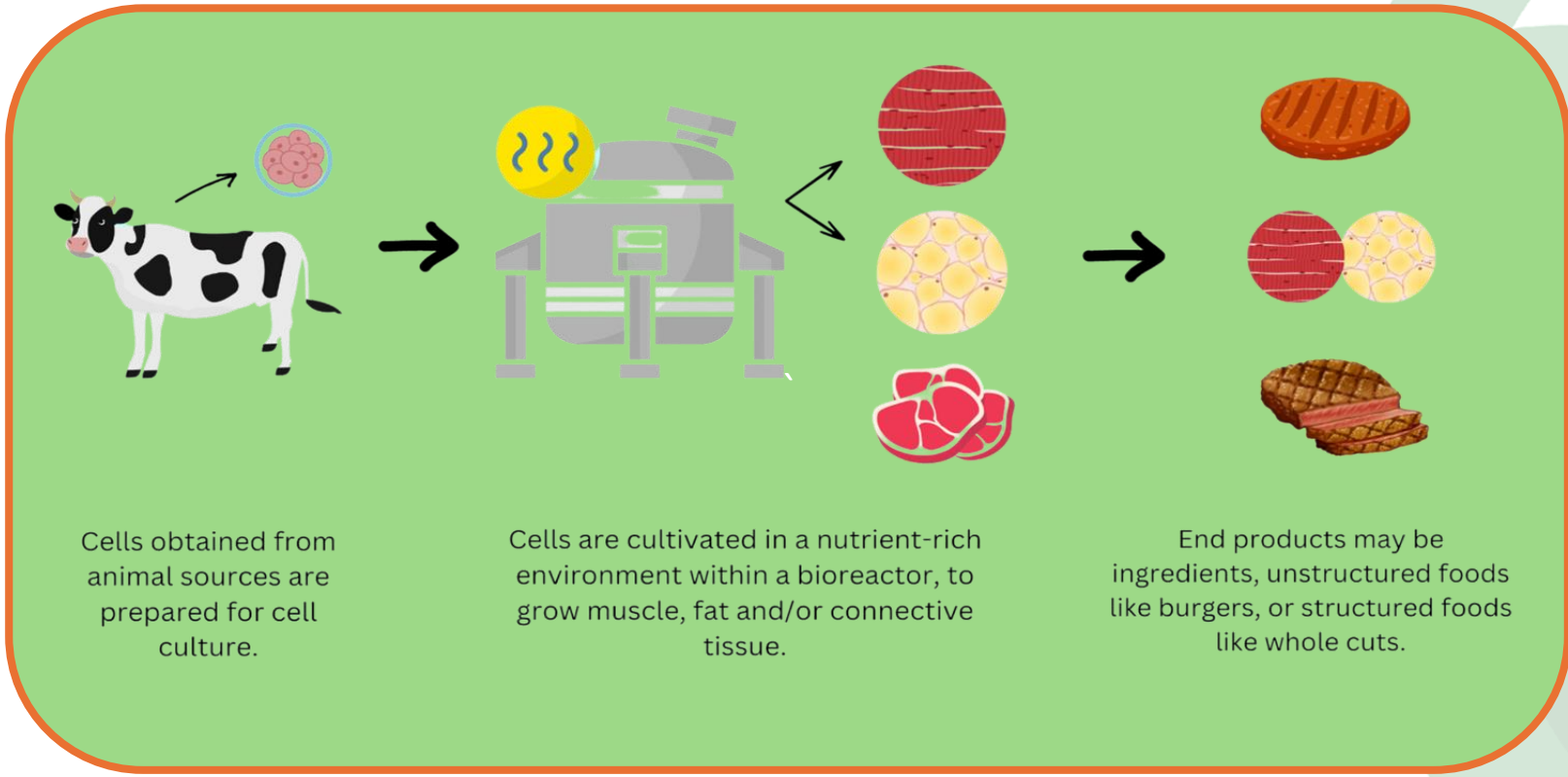
*What do we want to assess:* social impacts (positive and negative) and risks related to the implementation of novel food products and their value chains into the market





# ecoinnovazione Projects on alternative proteins 1

## FEASTS Fostering European Cellular Agriculture for Sustainable Transition Systems



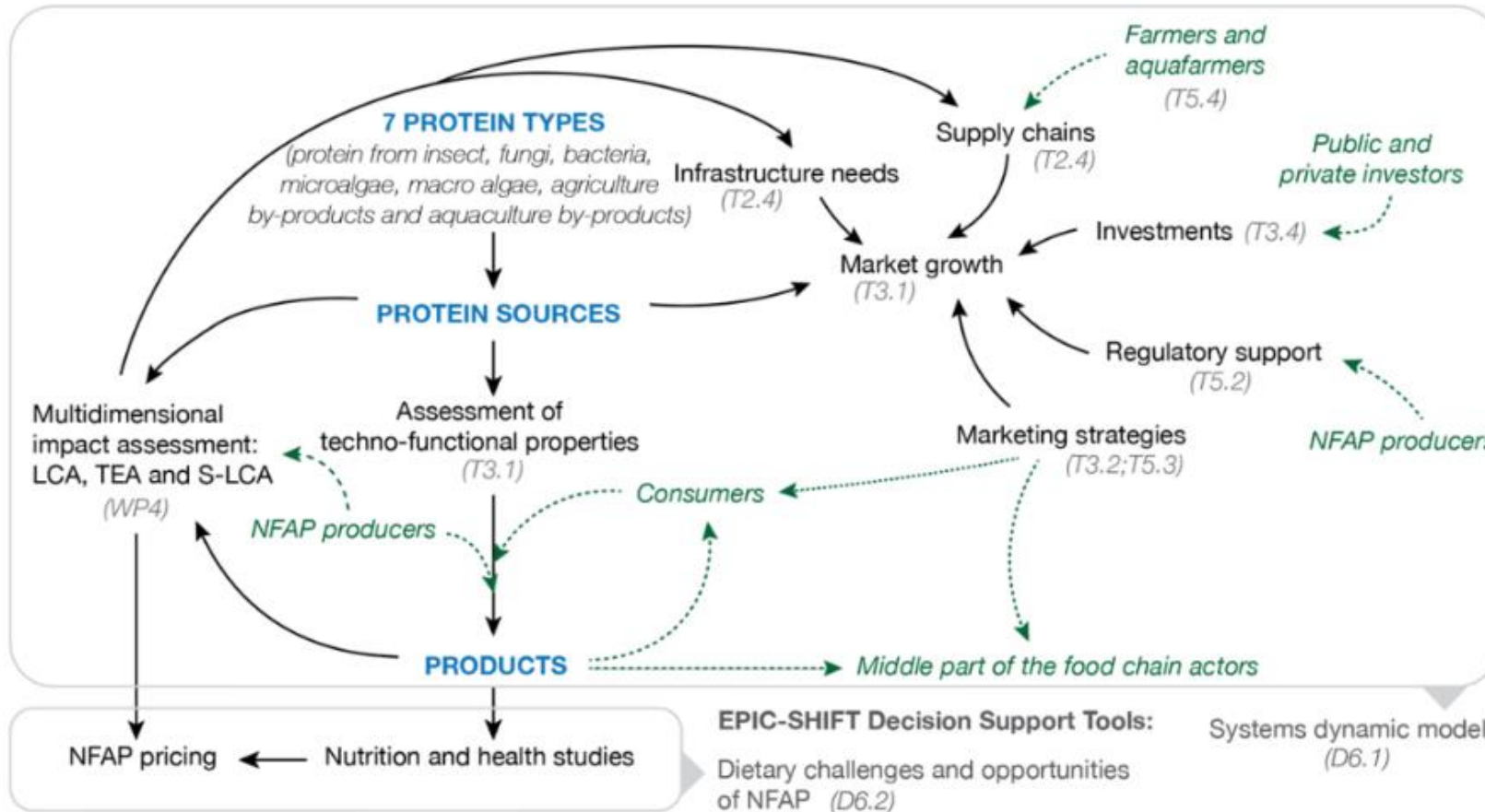
### FEASTS at a glance



Zamagni, Niero/ S-LCA considerations on alternative proteins. FEASTS is funded by the European Union's research and innovation program under Grant Agreement no. 101136749.



## EPIC-SHIFT Securing Holistic and Impactful Food Systems Transformation with Novel Foods based on alternative proteins



EPIC-SHIFT methodology work flow, demonstrating different level of analysis done in the project (protein type, protein source, product; in blue), the different assessments done (in black), the participation of target groups (in green) and the produced decision support tools (in grey)

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# S-LCA for alternative proteins



Farmers



Workers



Value chain actors



Consumers

Examples (ongoing review)

Farmers' income  
Economic competition  
Technological challenges

Examples (ongoing review)

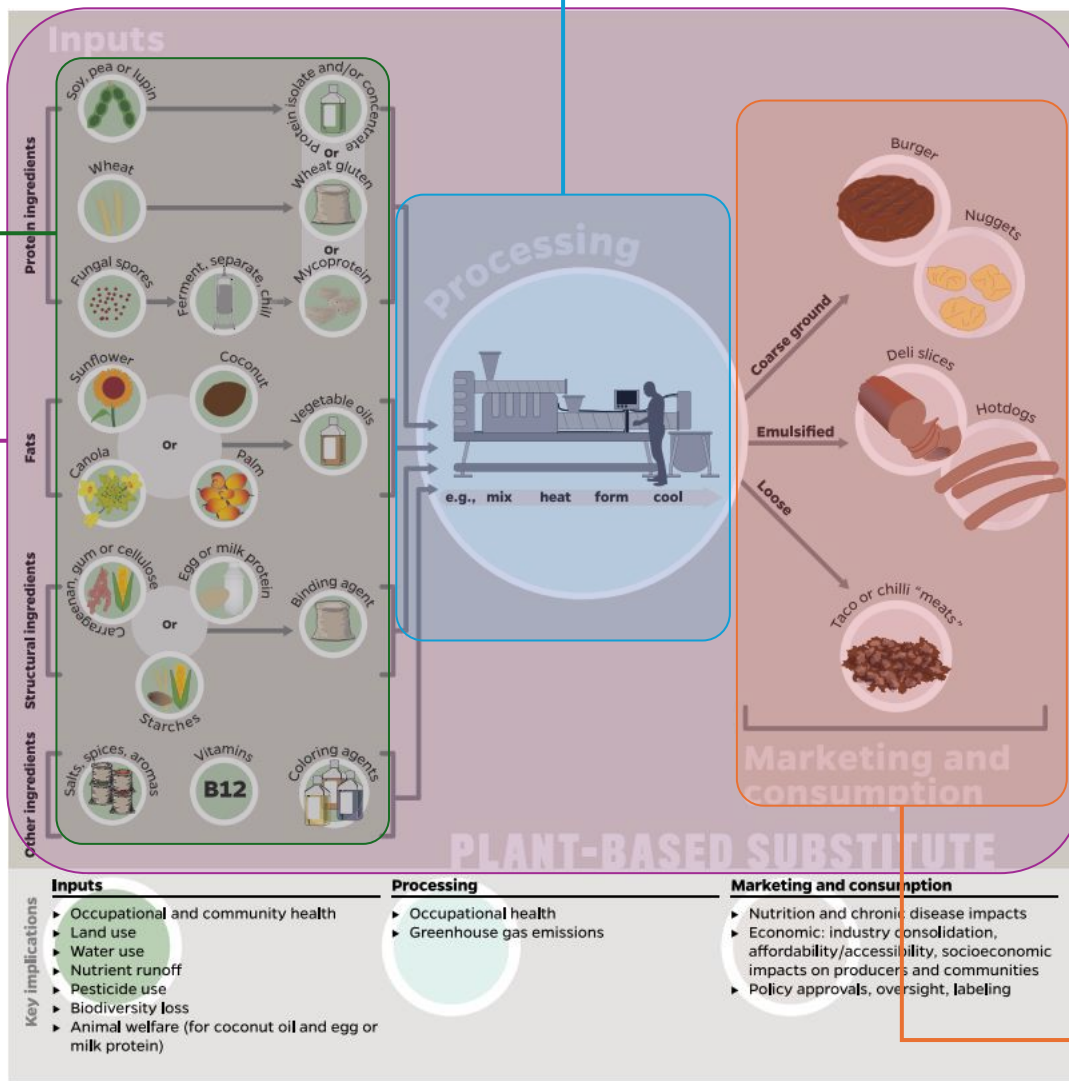
Working conditions  
Human health  
Training  
Participatory democracy  
Profit value

Examples (ongoing review)

Local community  
Society  
Inclusive economic growth  
Improved livelihoods  
Human health  
Food security  
Ethical concerns  
Societal acceptance

Examples (ongoing review)

Food safety  
Nutritional concerns  
Consumer acceptance



# Take-aways

## Life Cycle thinking

- considering not only the product and consumption side, but also the whole production process (how it is produced matters)

## Integrate social considerations since the early development stages

- Detect potential social risks and identify if the system is going in the right direction
- Support the management of transition towards innovative food systems

## Co-development and tailoring of the methods

- stakeholder engagement to co-define the social topics to be assessed that are relevant in the specific context → S-LCA contributing to Responsible Research and Innovation



Any question?



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