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Characterising sustainability standards in dairy production

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Sustainability

'Our Common Future' UN WCED Report 1987

Environment



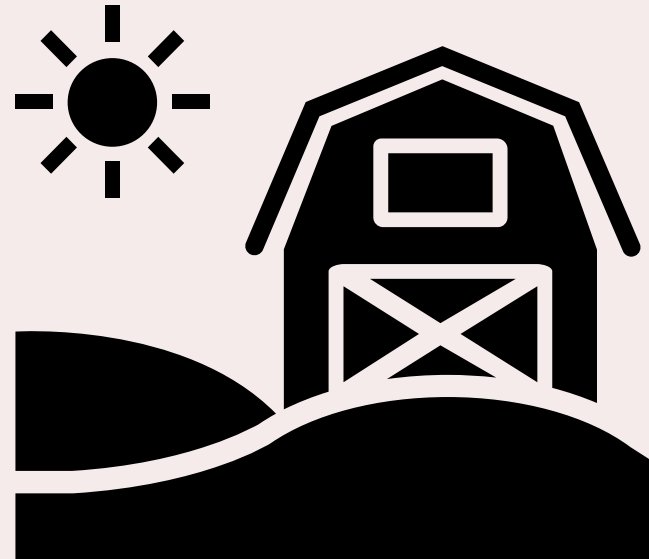
Development

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

Sustainability

Agricultural and Food Systems Sustainability

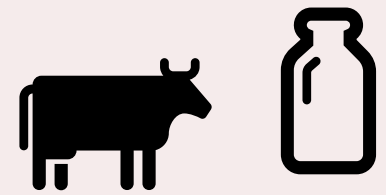
➤ Over to you!



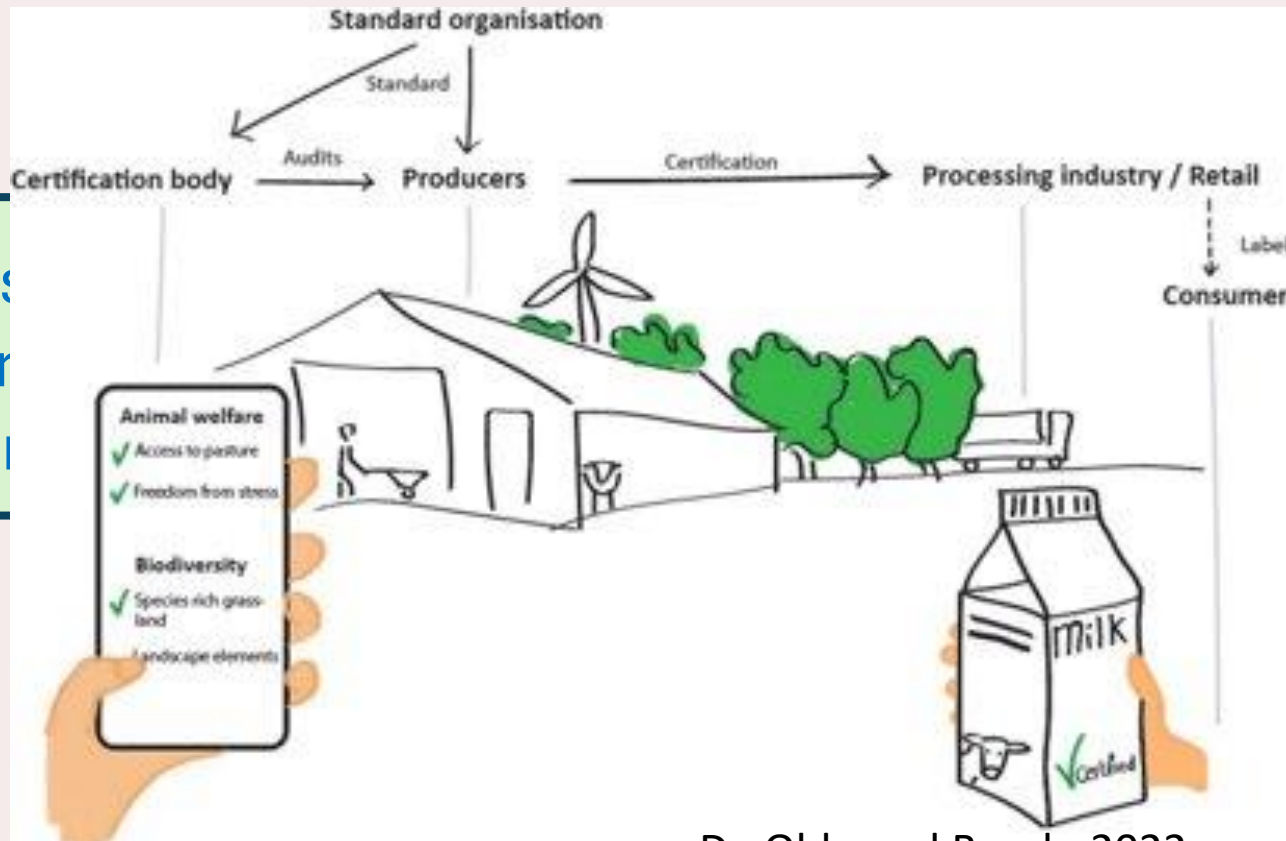
United Nations (UN) Sustainable Assessment of Food and Agricultural Systems (SAFA) Guidelines

DIMENSION	THEME	SUB-THEME	DIMENSION	THEME	SUB-THEME
<u>Environmental Integrity</u>	Atmosphere	Greenhouse gas	<u>Economic Resilience</u>	Investment	Internal investment
		Air quality			community investment
	Water	Water withdrawal		long-ranging investment	
		Water quality		profitability	
	Land	Soil quality		Vulnerability	stability of production
		Land degradation			stability of supply
	Biodiversity	Ecosystem diversity		stability of market	
		Species diversity		liquidity	
		Genetic diversity		risk management	
	Materials & Energy	Material use		Product Quality & Info	food safety
		Energy use			food quality
		Waste reduction & disposal			product information
	Animal Welfare	Animal health		Local Economy	value creation
		Freedom from stress			local procurement
<u>Social Well-Being</u>	Decent Livelihood	Quality of life			
		Capacity development			
		fair access to means of production			
	Fair Trading Practices	Responsible Buyers			
		Rights of suppliers			
	Labour Rights	Employment relations			
		forced labour			
		child labour			
		freedom of association & right to bargain			
	Equity	non-discrimination			
		gender equality			
		support to vulnerable ppl			
	Human Safety & Health	workplace H&S			
		public health			
	Cultural Diversity	indigenous knowledge			
		food sovereignty			

Background



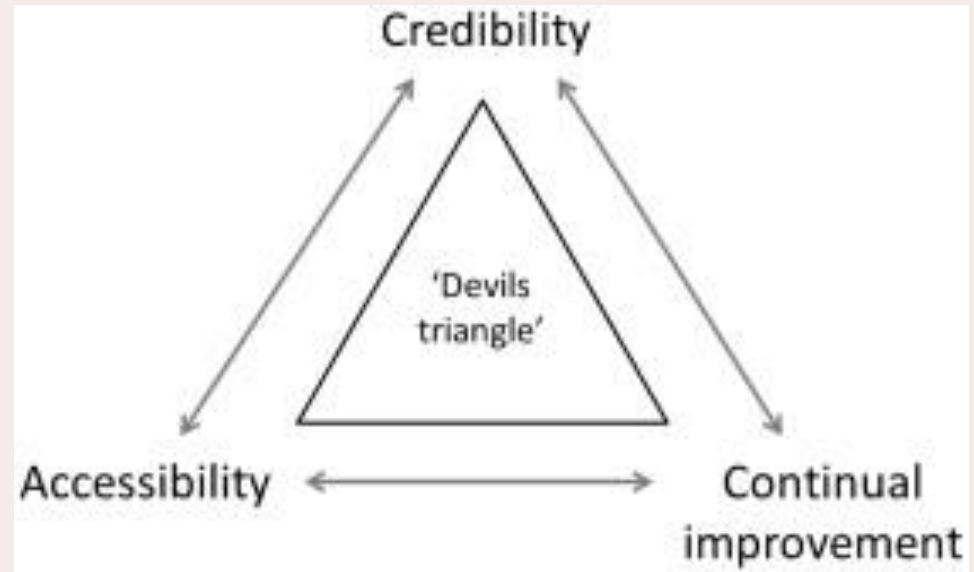
Increase in market-based dairy sustainability initiatives introduced over last decade, lack of research investigating them.



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Considering complexity



Bush et al., 2013

Method

I) Define dairy sustainability certification standard:

Farm-based; Audited; >1 Sustainability theme; Market-based; English/Dutch language

II) Identify current dairy standards

Selection Process, exclude non-relevant initiatives

III) Characterise & analyse standards:

a) General Information per standard

b) Sustainability focus per standard

c) Addressing trade-offs:

framework for scoring the 'devil's triangle'.

Results

19 dairy sustainability standards identified

Variability across multiple aspects

- Such as: verification, comprehensiveness, sustainability focus, balancing of trade-offs

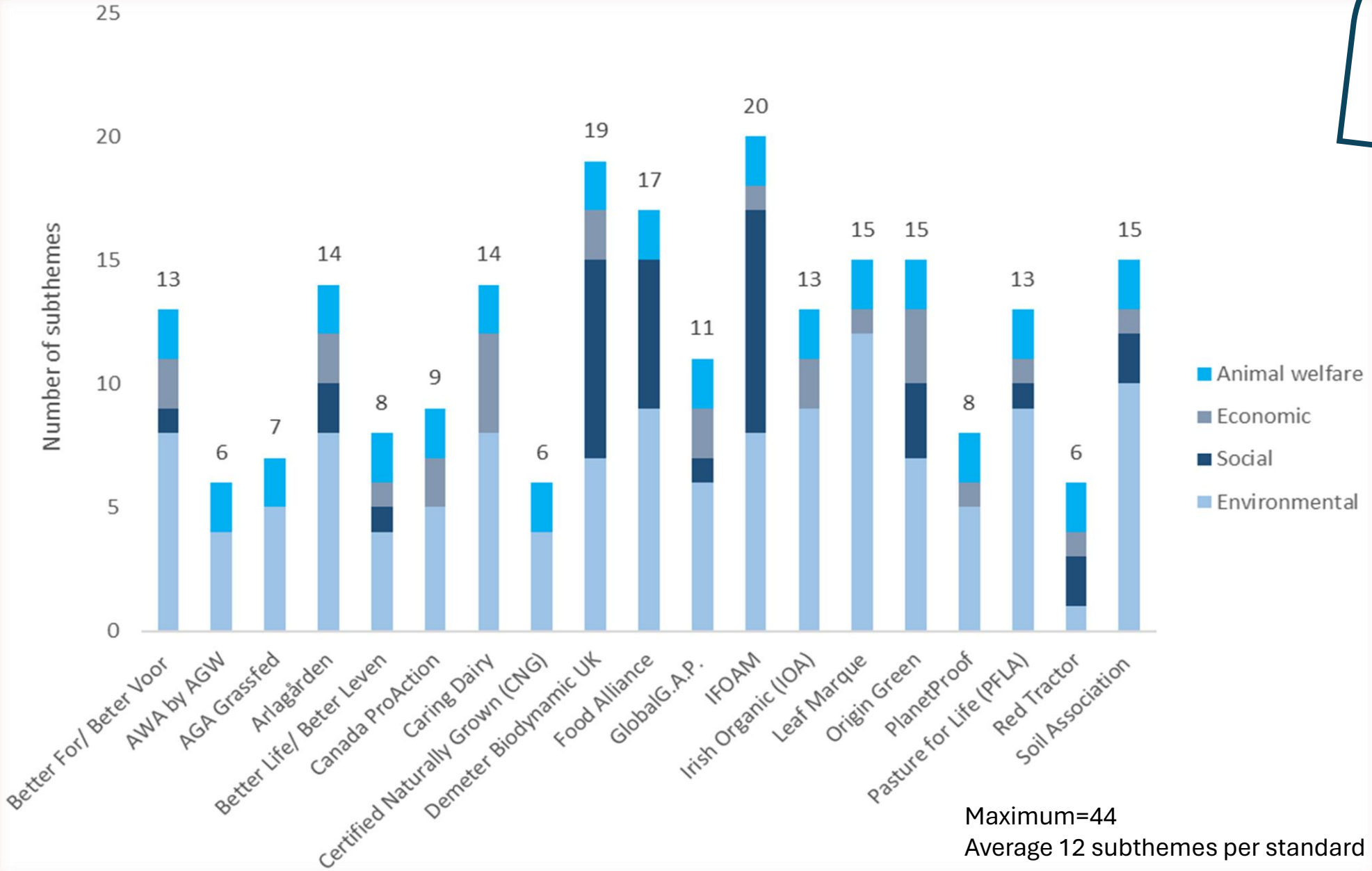
e.g. in general analysis:

- certification audits: 5 internal, 12 external (+2 outliers)
- Indicators per standard: range 18 to 436

Results

25

Sustainability subthemes addressed per standard



Maximum=44
Average 12 subthemes per standard

Results

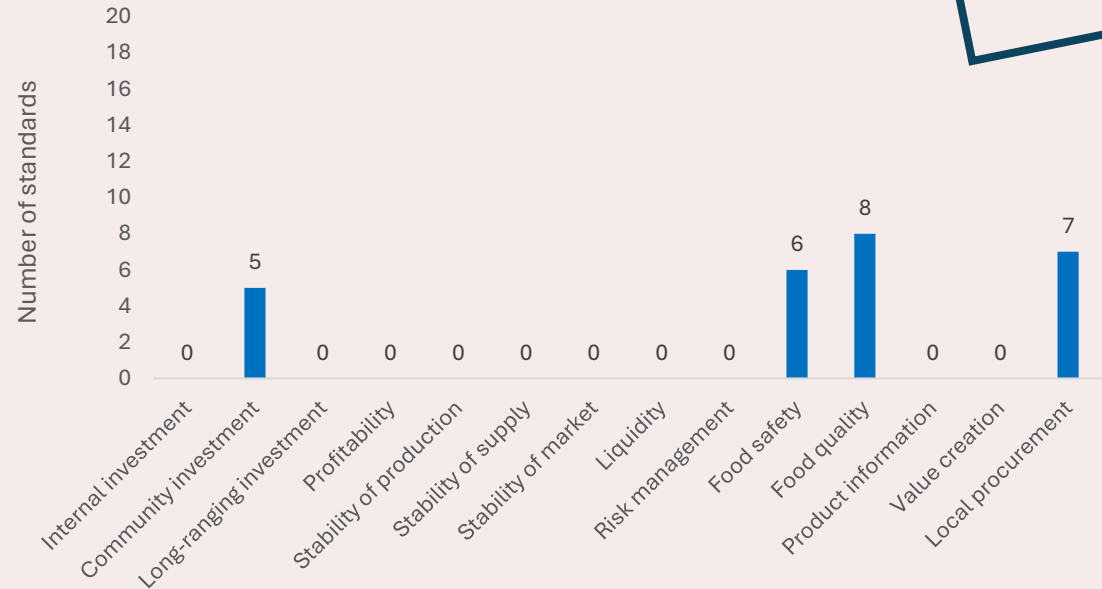
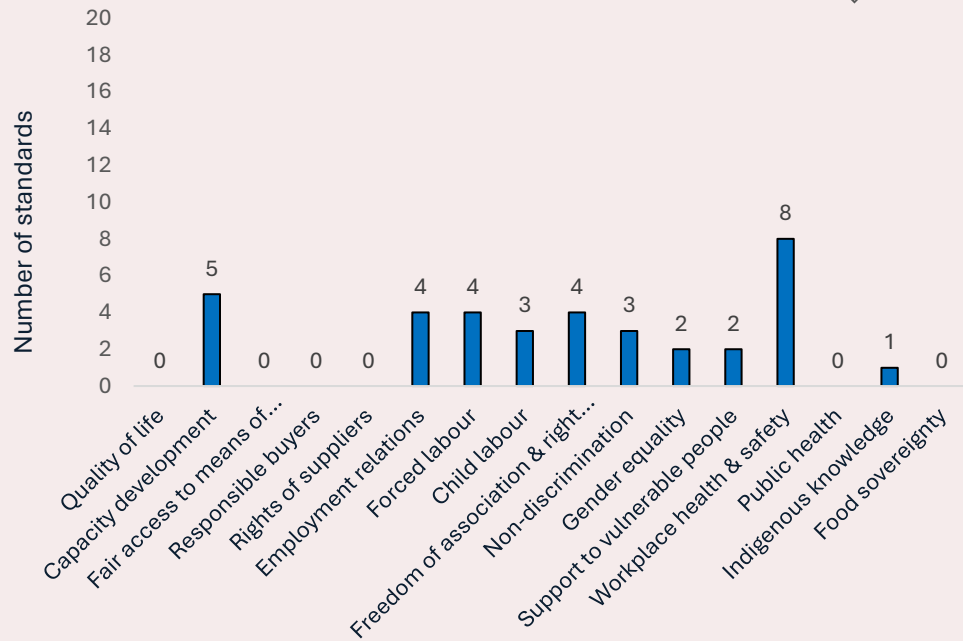
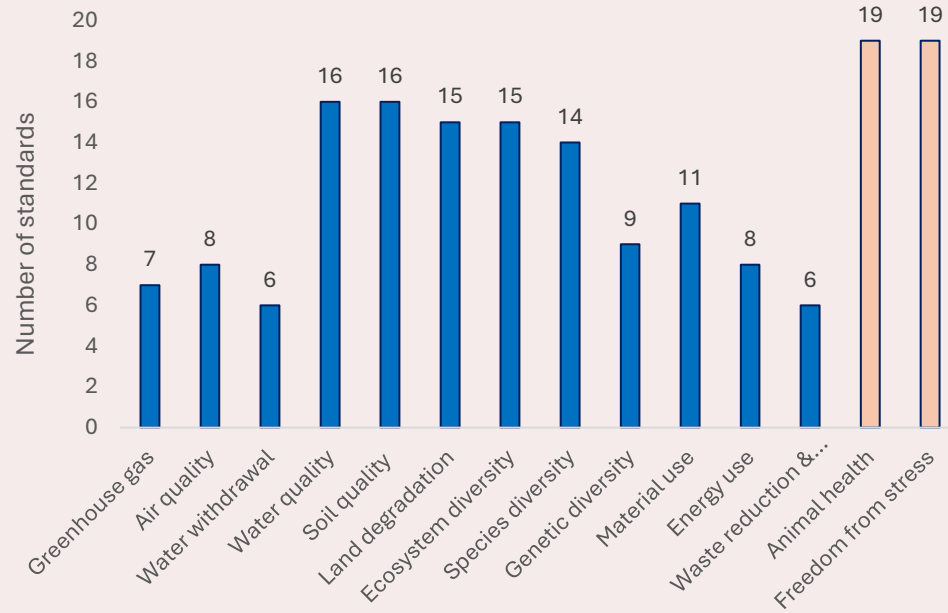
19 Standards (Max=19)

n.b.: Does not account for quantity of indicators

Social subthemes

Environmental subthemes

Economic subthemes



Results

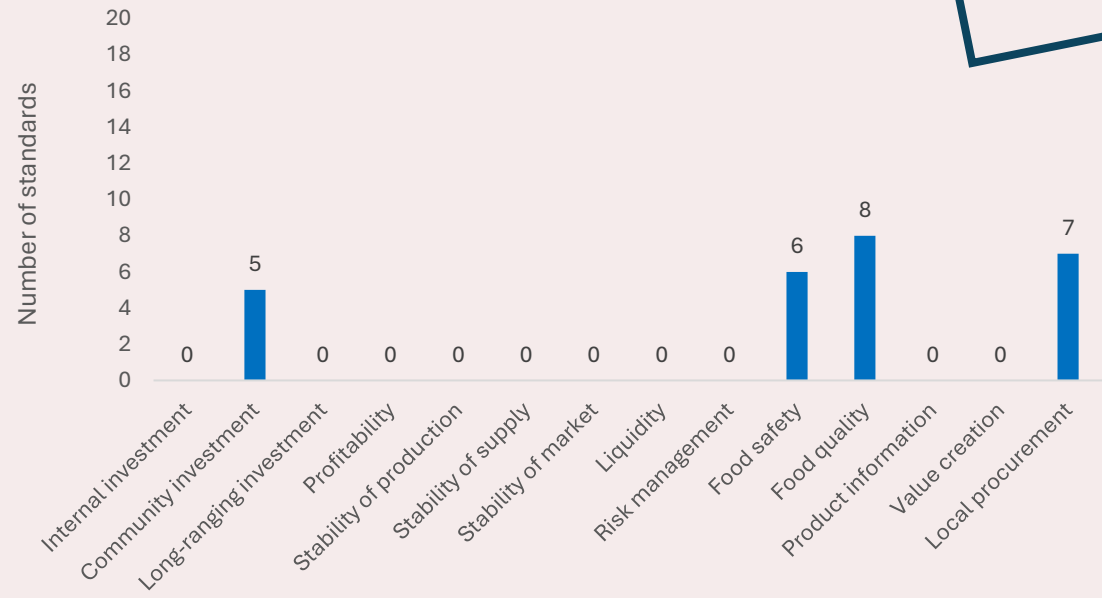
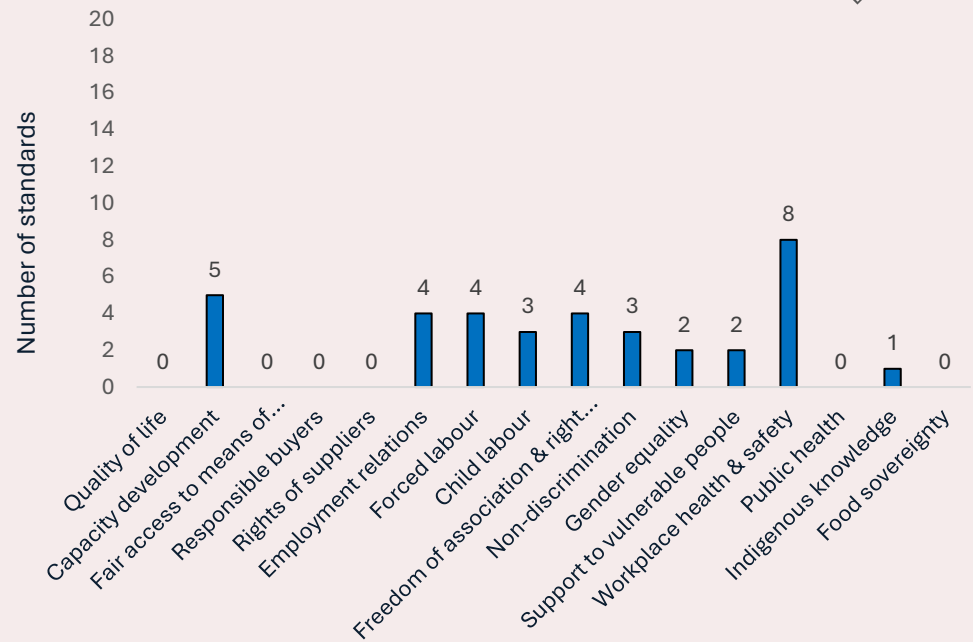
19 Standards (Max=19)

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Social subthemes

Environmental subthemes

Economic subthemes



Results



Devil's Triangle analysis

Devil's Triangle framework score per standard

Discussion

Study outcomes:

- ❖ Understanding attributes & focus of existing dairy sustainability certification standards
- ❖ Illustrating sector-wide variability- demand on farmers to participate, potential for loss of trust in standard validity
- ❖ Revealing that continuous improvement, a requirement for sustainable development, not focused on by most standards
- ❖ Established framework for similar analyses in other ag/food sectors

To Conclude...

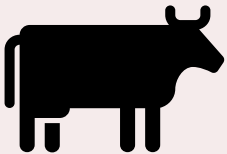


- ❖ The Market is an important arena for sustainability transformations
- ❖ Consumers hold power to create change



BUT...

- ❖ Complexity is inherent within sustainability of production systems
- ❖ Defining and communicating sustainability is important, challenging
- ❖ Trust is critical- transparency matters
- ❖ This is an area of expanding academic and societal interest-lots more to learn!





Thank you

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