

Sustainability assessment in horticulture



Presenter:
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BACKGROUND

According to the Sustainable Development Goals of the UN it is essential to improve sustainability in different sectors. Especially in horticulture there is much potential to increase sustainability in the environmental, social and economic field. So, it is necessary to have a framework for assessing the sustainability in horticultural companies.

METHODS

1. Literature research of existing sustainability assessment systems (SAS) in the agricultural context for
 - a) Identifying frequently used indicators
 - b) Identifying aspects of theoretical framework
2. Frequency distribution of used indicators in the reviewed SAS

RESULTS

Sustainability assessment system for horticulture companies (potted plants) including a scope and a sustainability indicator catalogue.

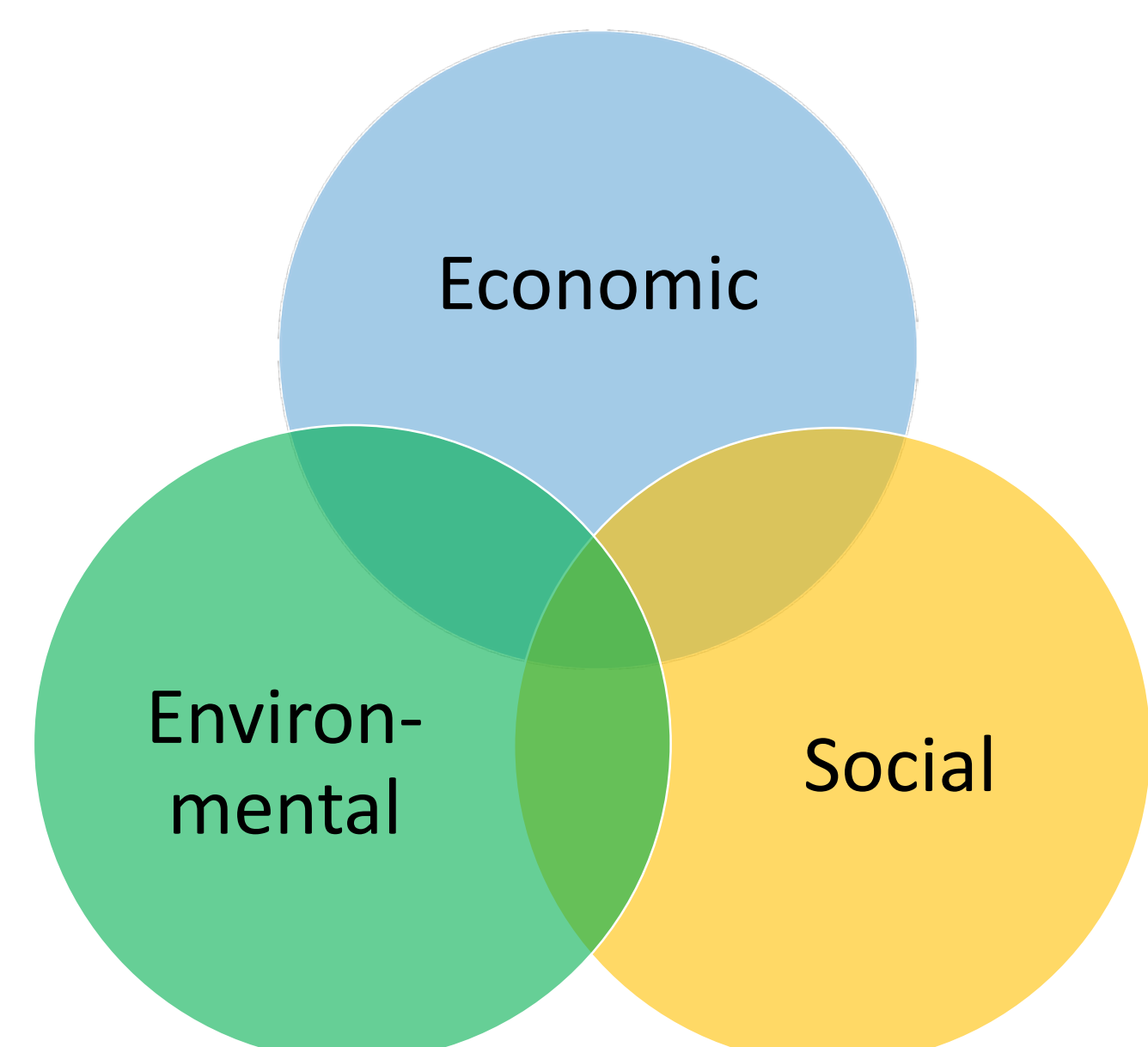


Fig. 1: The triple bottom line approach

Theoretical framework of a sustainability assessment system

When building a framework for a sustainability assessment system some aspects have to be defined and some challenges have to be faced (Fig. 2).

The triple bottom line (Fig. 1) is the most common approach when considering sustainability (1). It includes the environmental, economic and social dimension. Considering them separately would prevent a compensation amongst the dimensions. Merging the indicators of one dimension would enable substitution. System boundaries have to be set dimension-specific (2). Indicators should be i. a. problem specific, measurable, transparent and relevant (3). Also it is necessary to not overload the system in the beginning with too many indicators and only choose the most important. One can assess sustainability on farm-level (whole company or one production line) or on product-level (whole life cycle or one part of it). Reference values influence the result of the sustainability assessment (4). Examples are area, product quality, product quantity or added value. The key challenge in building a sustainability assessment system is to preserve objectivity and factual correctness.

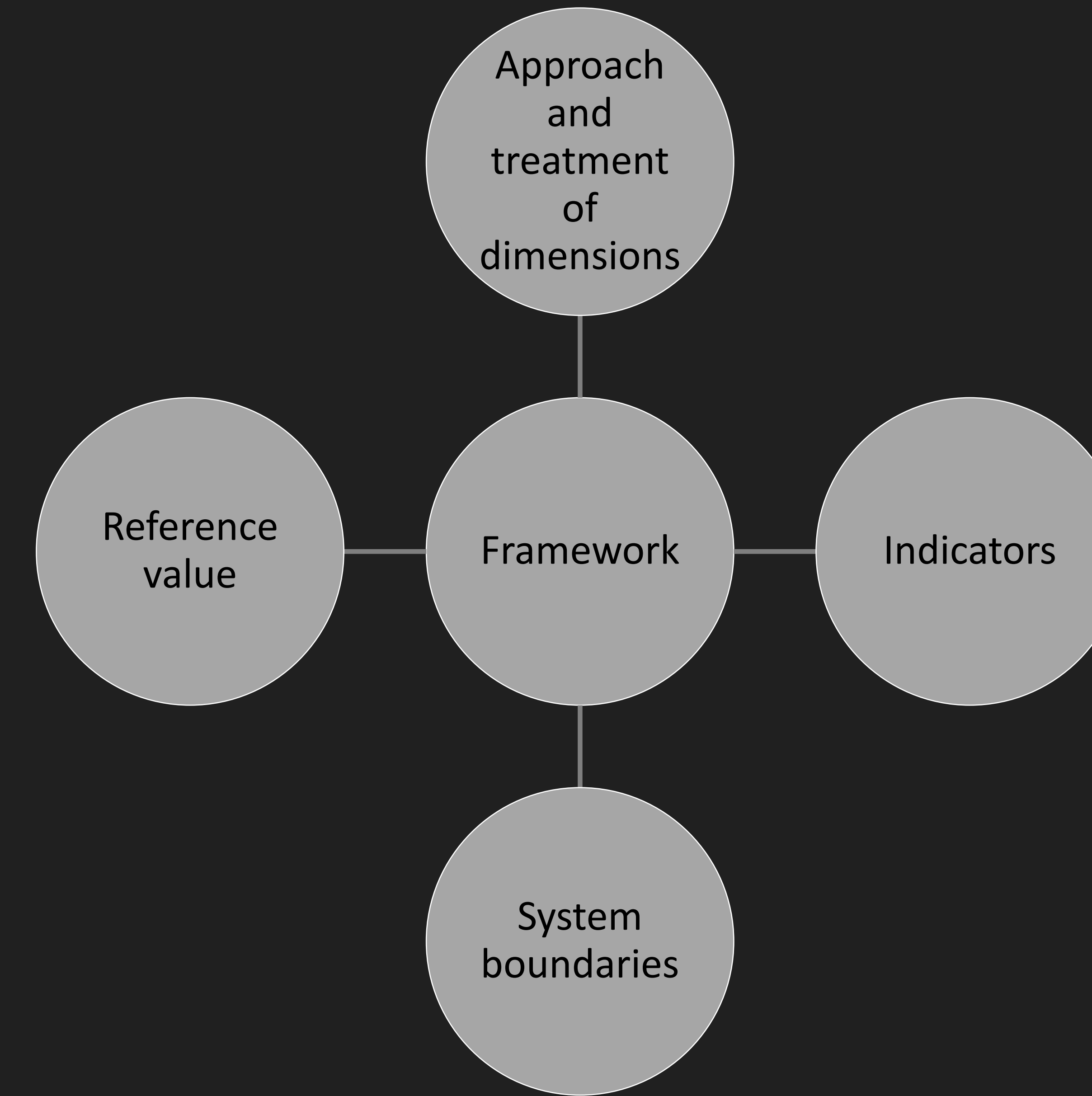


Fig. 2: Aspects of the theoretical framework

Scope for potted plants companies

Only aspects within the leeway in decision-making of the potted plants company should be included, so it is a farm-level assessment. This enables the farmer to improve the sustainability of his/her company. It is assumed that 'added value' is the best reference value for most of the indicators, due to the potential to invest the added value in further sustainability activities.

Regarding the indicator catalogue for potted plants companies (Fig. 3), each indicator is imposed by one or several different enquiry methods which have to contain suitable reference values. The results of the enquiry methods can be weighted equally or differently regarding their importance.

Example:

Indicator: Energy intensity

Enquiry:

- Energy input [GJ/€ added value]
- Percentage of renewable energy sources
- Fuel [l/€ added value]

Economic dimension	Ecological dimension	Social dimension
Net yield	Materials and material flow	Occupational safety
Solvency	Energy intensity	Safety and health of consumers
Equity ratio	Water management	Payment
Change in equity	Intensity of plant protection	Qualification
Investment activity	Soil sealing	Diversity and equality
	Peat substitutes	Work-life-balance
	Recycling rate	
	Status of biodiversity	
	Productivity	

Fig. 3: Indicator catalogue

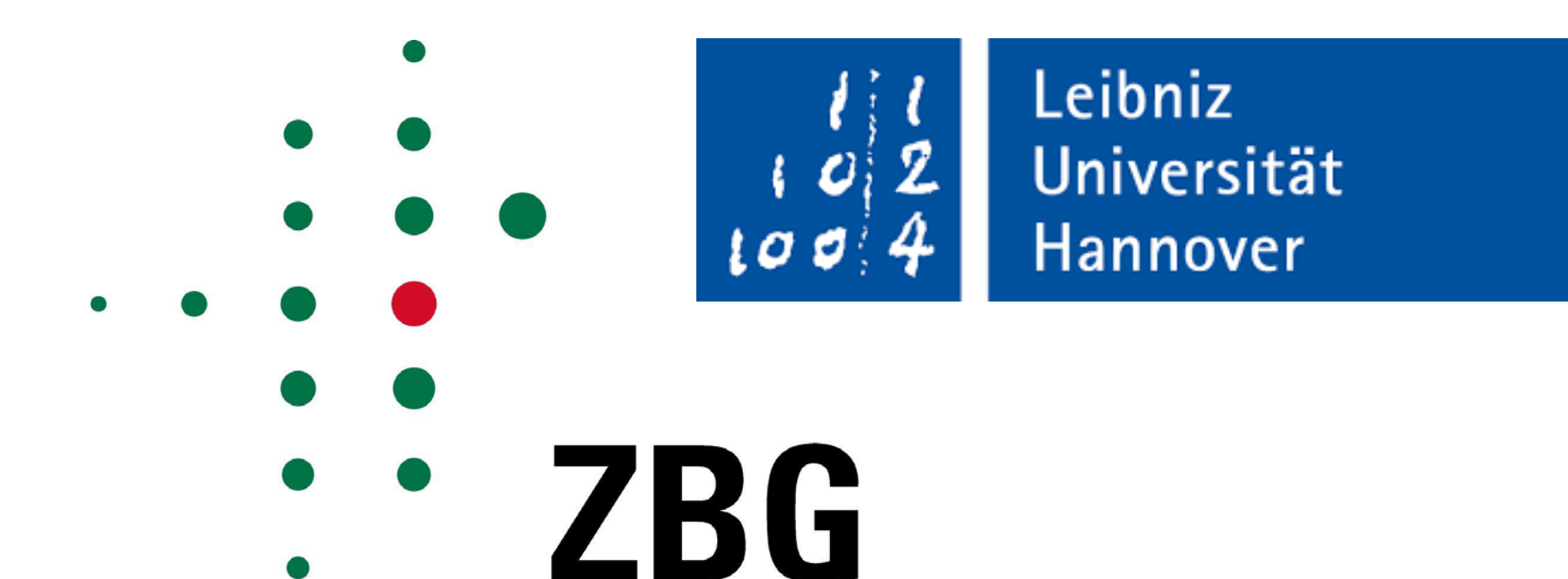
FUTURE RESEARCH

- Involvement of stakeholders:
Qualitative survey of potted plants companies regarding sustainability assessment
- Developing frameworks and indicator catalogues for other horticultural sectors
- Approach for weighting of indicator groups

References:

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