

 **Welcome!**

Sustainability on the job – an example of vocational training in the food sector

UNESCO World Conference on Education for Sustainable
Development, 17 May 2021

About us

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Scientific Supervision &
Evaluation
BIBB Pilot Projects



FH MÜNSTER
University of Applied Sciences



Institute
of Sustainable
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IBL

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of Education
and Research

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Head of Division 4.2
“Innovative Further Education,
Permeability, Pilot Projects”

Moritz Ansmann
Programme management
BIBB Pilot Projects



The BIBB approach on sustainability in vocational education and training: Our core assumptions

Vocational education & training must integrate professional competencies on sustainable development!

Not only „green jobs“ but all professions have the potential to contribute to sustainable development

Labor is a crucial point for technical & social innovations towards sustainable transformation!

Knowledge and action are mutually dependent



The Strategy: Linking Professions and Sustainable Development

PROFESSIONS

Potentials of professional competencies to foster sustainable development



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Requirements of sustainable development to innovate work & life environments



Identifying relevant fields of action for the domain



- Confectionary
- Vinegar
- Dairies

- Bread and bakery products
- Meat products
- Pasta

- Non-alcoholic beverages
- Alcoholic beverages
- Convenience products
-

2nd step
**Manufacturing of
prepared food products**



1st step
**Processing of agricultural
products**

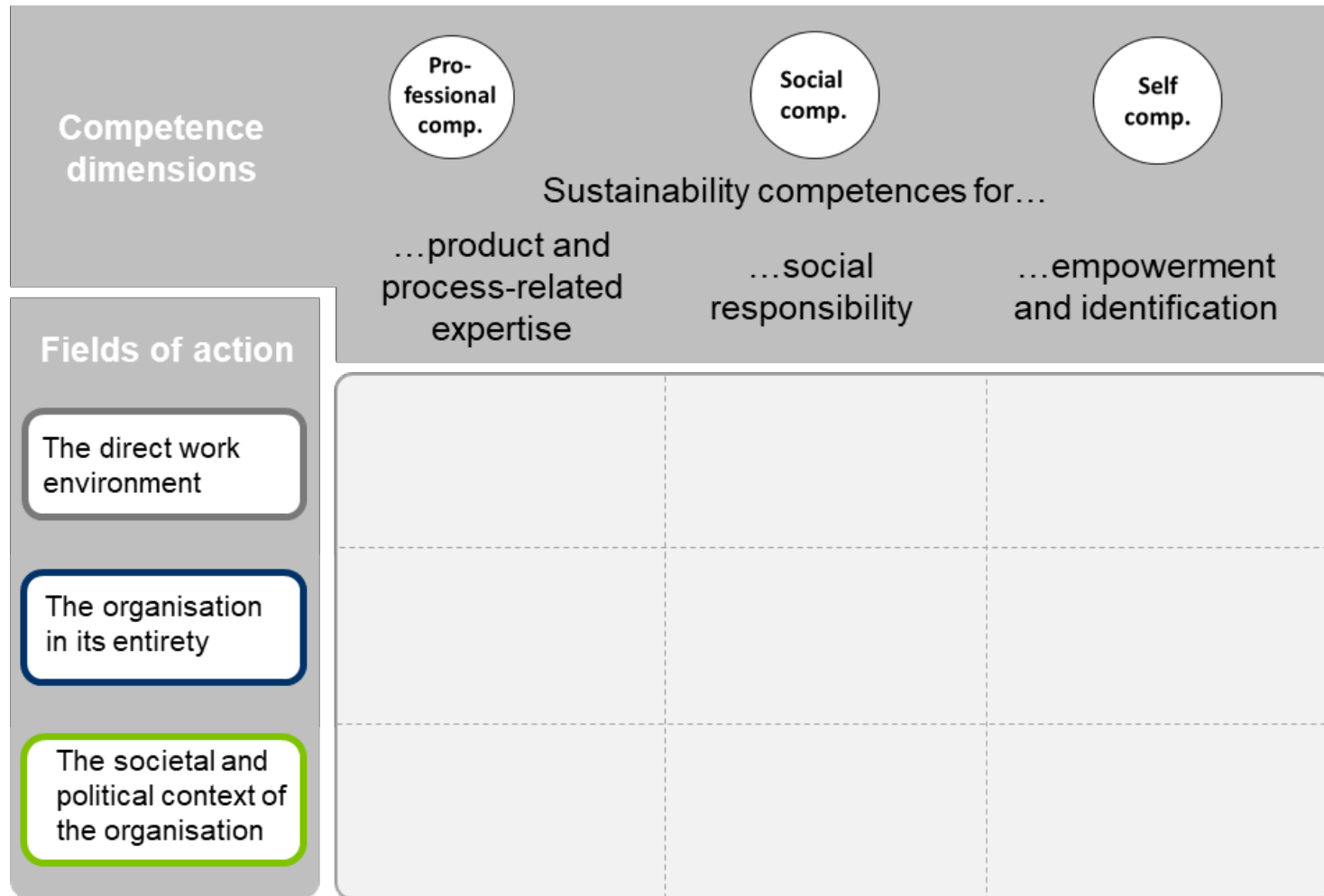
- Milling industry
- Fruit and vegetable processing
- Starch processing
- Slaughterhouse and cutting plants,
- Fish processing
- Egg processing

- Wineries
- Oil producers
- Sugar refineries
- Malthouses
- Spices production
-

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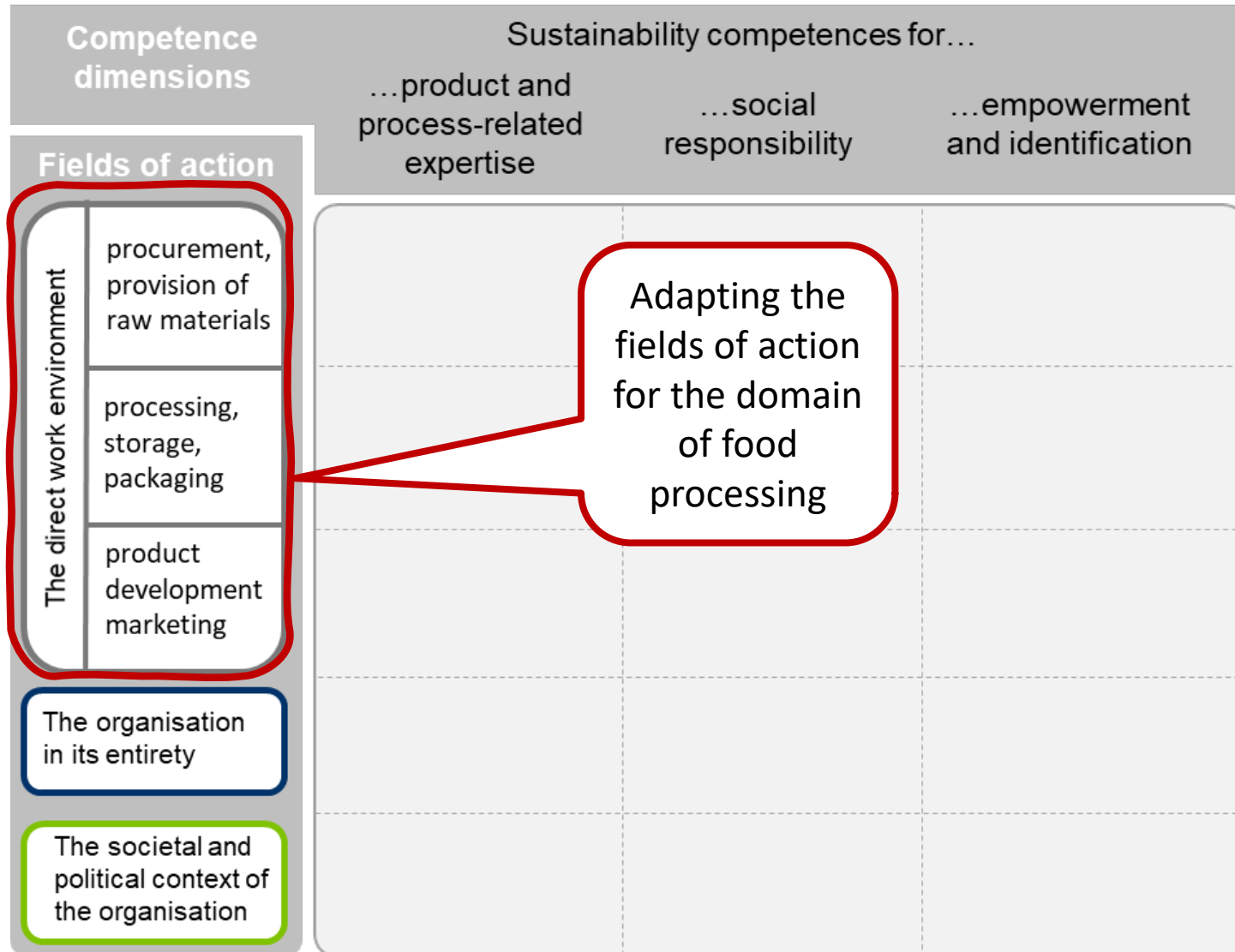


Determining the dimensions of sustainability-oriented vocational action competence



Competence matrix for sustainable vocational education and training
(own illustration based on Casper et al., 2021)

Adapting the competence model for sustainable vocational education & training to the food sector



Structuring and allocating relevant topics into the competence model

Competence dimensions		Sustainability competences for...		
Fields of action		...product and process-related expertise	...social responsibility	...empowerment and identification
The direct work environment	procurement, provision of raw materials	Selecting and providing raw materials	Evaluating upstream working and production conditions and supply chains	Reasoning "from field to belly"
	processing, storage, packaging	Valorizing raw materials and optimizing working processes	Producing resource- and climate-efficiently	Promoting sustainable development through food processing
	product development marketing	Boosting sustainable product features	Supporting sustainable eating habits	Preserving traditions and setting trends
The organisation in its entirety		Implementing sustainability-oriented business models	Advocating social and health concerns of employees	Embracing the profession's possibilities
The societal and political context of the organisation		Understanding the role of companies as sustainability actors	Supporting the regulative idea of sustainability	Expressing lifestyles with food

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Formulating competence targets

Topic:

1.2.a

Valorizing raw materials and optimizing working processes



Bildlizenz: CC Battlecreek Coffee Roasters via Unsplash

Competence targets:

Trainees use machines and technical equipment in a resource-efficient way when valorizing raw materials. Trainees understand the special impact that losses and waste, or the excess use of packaging materials have on sustainability and they know strategies to avoid the wastage of resources. They can ...

- ... select and use machinery and equipment and carry out processes in a resource-efficient way such as water, raw materials, auxiliary materials and energy.
- ... compare different cleaning and disinfection measures with regard to quantities used, agents, procedures and safety.
- ... select and apply processes in production, packaging and storage of products (e.g. vitamins, antioxidants). If necessary, they apply special processing and storage properties of alternative products.
- ... set up maintenance plans or apply predictive maintenance concepts for machines and technical equipment in order to ensure their optimum service life and minimise unplanned downtimes.
- ... classify packaging components and their various functions (e.g. protective, transport, information, advertising or additional functions) and critically reflect their impact on sustainability.
- ... differentiate packaging options under sustainability aspects and select sustainable packaging considering functionality and quality requirements (material, packaging volume).
- ... determine data on the energy efficiency of machinery and equipment (e.g. kWh/product unit, percentage energy consumption) and critically compare the energy efficiency of machinery and equipment with average values of the industry and identify measures for improvement.
- ... develop concepts for increasing energy efficiency and resource conservation.

..... Employees understand the special impact that losses and waste, or the excess use of packaging materials have on sustainability and they know strategies to avoid the wastage of resources. They can ...

-
- set up maintenance plans or apply predictive maintenance concepts for machines and technical equipment in order to ensure their optimum service life and minimise unplanned downtimes.
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-

Competence model for sustainable vocational education and training in the food sector



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University of Applied Sciences

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ISuN



Scientific supervision of the pilot projects in the funding program
„Vocational education and training for sustainable development
2015-2019“

– Funding line III –

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Münster School of Vocational Education (IBL)
Institute for Sustainable Nutrition (ISuN)

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Competence model for sustainable vocational
education and training in the domain of
artisanal and industrial food production

Preliminary version from 15.02.2021



GEFÖRDET VON
Bundesministerium
für Bildung
und Forschung



bibb Bundesinstitut für
Berufsbildung



Kompetenzfeld:
„Vorgefaserte Arbeits- und Produktionsbedingungen“
Dieses Kompetenzfeld zielt darauf ab, die Teilnehmerinnen und Teilnehmer zu befähigen, die Auswirkungen von vorgefaserten Arbeits- und Produktionsbedingungen zu analysieren und zu bewerten. Es umfasst die Bereiche: 1. Analyse der Arbeits- und Produktionsbedingungen, 2. Bewertung der Auswirkungen, 3. Entwicklung von Maßnahmen zur Verbesserung der Arbeits- und Produktionsbedingungen.



Kompetenzfeld:
„Vom Feld bis in den Backof“ denken
Dieses Kompetenzfeld zielt darauf ab, die Teilnehmerinnen und Teilnehmer zu befähigen, den gesamten Prozess der Lebensmittelproduktion von der Erzeugung bis zur Verarbeitung zu verstehen. Es umfasst die Bereiche: 1. Erzeugung, 2. Verarbeitung, 3. Distribution, 4. Konsum.



Kompetenzfeld:
Nachhaltige Ernährungsgewohnheiten unterstützen
Dieses Kompetenzfeld zielt darauf ab, die Teilnehmerinnen und Teilnehmer zu befähigen, nachhaltige Ernährungsgewohnheiten zu unterstützen. Es umfasst die Bereiche: 1. Analyse der Ernährungsgewohnheiten, 2. Bewertung der Nachhaltigkeit, 3. Entwicklung von Maßnahmen zur Unterstützung nachhaltiger Ernährungsgewohnheiten.



Kompetenzfeld:
Traditionen bewahren und Trends setzen
Dieses Kompetenzfeld zielt darauf ab, die Teilnehmerinnen und Teilnehmer zu befähigen, Traditionen zu bewahren und Trends zu setzen. Es umfasst die Bereiche: 1. Analyse der Traditionen, 2. Bewertung der Trends, 3. Entwicklung von Maßnahmen zur Bewahrung von Traditionen und zum Setzen von Trends.



Kompetenzfeld:
Die regionale Idee der Nachhaltigkeit mitbringen
Dieses Kompetenzfeld zielt darauf ab, die Teilnehmerinnen und Teilnehmer zu befähigen, die regionale Idee der Nachhaltigkeit mitzubringen. Es umfasst die Bereiche: 1. Analyse der regionalen Idee der Nachhaltigkeit, 2. Bewertung der regionalen Idee der Nachhaltigkeit, 3. Entwicklung von Maßnahmen zur Umsetzung der regionalen Idee der Nachhaltigkeit.



Kompetenzfeld:
Mit Lebensmittelthemen die Leidenschaft ausdrücken
Dieses Kompetenzfeld zielt darauf ab, die Teilnehmerinnen und Teilnehmer zu befähigen, mit Lebensmittelthemen die Leidenschaft auszudrücken. Es umfasst die Bereiche: 1. Analyse der Leidenschaft, 2. Bewertung der Leidenschaft, 3. Entwicklung von Maßnahmen zur Ausdrucks der Leidenschaft.

BIBB-Pilot-Projects in the framework of the UNESCO-Roadmap



PRIORITY ACTION AREA 1

Advancing policy: Mainstream ESD into both education and sustainable development policies, to create an enabling environment for ESD and to bring about systemic change

**Standardization
of sustainable
competencies**

PRIORITY ACTION AREA 2

Transforming learning and training environments: Integrate sustainability principles into education and training settings

**Curricular/
didactical
concepts**

**Sustainable
learning venues
in the
companies**

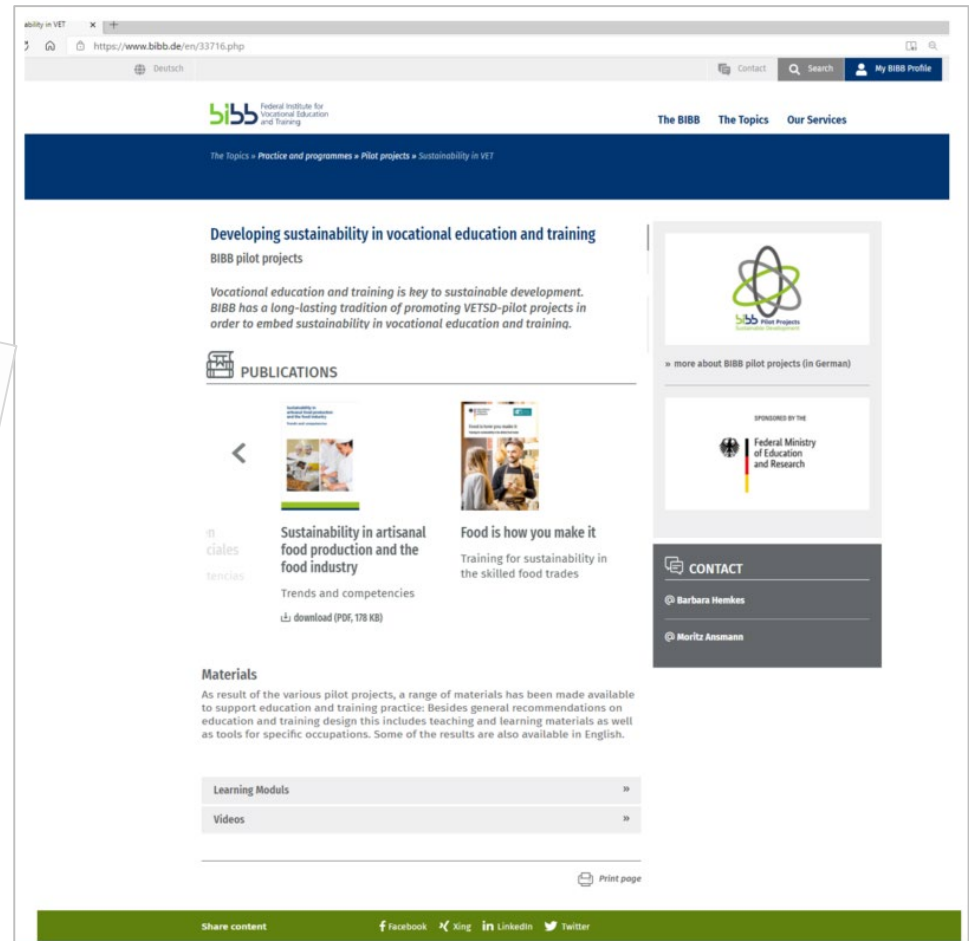
PRIORITY ACTION AREA 3

Building capacities of educators and trainers: Increase the capacities of educators and trainers to more effectively deliver ESD

**Train the
trainers**

Visit our website for teaching and learning materials and further information

► **www.bbne.de**
(see English version)



Thank you for your attention!

Don't hesitate to contact us!

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