Educ Local FOOD

Toolkit

Erasmus+

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General Introduction

Context

In today's world, our physical environment is facing a diverse array of challenges including the loss of biodiversity, land degradation, extreme weather events, climate change, deforestation, and environmental pollution. In parallel, we are experiencing social challenges such as under- and malnutrition, issues due to excess weight and obesity, the concentration of power or resources and the inequitable distribution of wealth, unequal access to land, and the prevalence of poverty amongst farmers. Our current global food systems are drivers but are also affected by these processes. To make a positive impact on these detrimental global phenomena, we have to rethink and re-design the food systems we are part of, and to re-integrate food into its socio-cultural, physical, and local context.

The European Union recently announced both the *Farm to Fork strategy - For a fair, healthy, and environmentally-friendly food system* (European Commission (2020), and the *European Green Deal.* These strategies, rolled out amidst the COVID-19 crisis, call for a reconciliation of our "*food system with the needs of the planet and to respond positively to Europeans' aspirations for healthy, equitable, and environmentally-friendly food. The strategy aims to make the EU food system a global standard for sustainability. The transition to sustainable food systems will require a collective approach involving public authorities at all levels of governance (including cities, rural and coastal communities), private sector actors across the food value chain, non-governmental organizations, social partners, academics, and citizens.*" [1]

But what potential exists to re-design non-sustainable food systems and make positive impacts given the tremendous challenges we are facing?

In a targeted approach to address these challenges, we decided to develop and elaborate ideas and materials on local and sustainable food systems for teachers and learners in agricultural vocational education and training. Our goal is to spread awareness of the transition needed through the educational sector and to reach the future actors and stakeholders of European food systems (and beyond). This transition will require promoting a conceptual and actionable approach that encourages learners to embrace an active role in the learning process, rather than the more usual passive passage of information, both in the classroom and in real-world contexts. Active involvement, critical reflection, and systemic, nonlinear, inter- and transdisciplinary thinking, are essential to understand the complex systems from which these challenges evolve.

With a focus on local sustainable food systems (LSFS), we emphasize a better (re-)organization of production (spatial and temporal), processing, the distribution and consumption of food, which is sensitive both to the socio-cultural context, and the local physical territorial dimensions. In an active learning setting, teachers and learners engage with environmental- and social-friendly practices, analyzing short supply chains, strengthening healthy and seasonal diets, and contributing to creating fairer societies.

[1] European Commission (2020) Farm to Fork strategy - For a fair, healthy and environmentally-friendly food system https://ec.europa.eu/food/horizontal-topics/farm-fork-strategy_en

General Introduction

The Erasmus+ EducLocalFOOD project

Five European partners: the University of Natural Resources and Life Sciences of Vienna, the University of Lisbon, the University of Maribor, the European Landscape Observatory in Italy, and the Bergerie Nationale in France as coordinator of the project have come together to launch the Erasmus+ EducLocalFOOD project.

The central goal of the project is to improve and extend LSFS themed teaching in European vocational education and training (VET) schools. Our aim is to tackle real issues on the ground, so our partners have worked in collaboration with teachers from a selected VET school in each country.

The project delivered a common teaching toolkit based on three prior research outputs:

- A comparative analysis of "*What are local and sustainable food systems*" in the 5 partners countries
- A comparative analysis of "*Innovative pedagogical practices in vocational education and training*" in the 5 partners countries
- A synthesis based on "*What kind of tools are needed to teach local and sustainable food systems*" in the 5 partners countries

These previous reports are openly available on the project website: www.educlocalfood.eu

How was the LSFS teaching toolkit designed?

The teaching toolkit comprises 3 modules and 3 focuses.

A framework for the three modules was initially co-designed by the teaching partners of the project during a transnational meeting. The partners have since worked to develop this framework and complete the modules. In a final step of refining the modules, a testing phase has been conducted by partner teachers and external teachers to gather experiential feedback on the toolkit and implement adjustments before a larger scale dissemination.

The final teaching toolkit corresponds to common innovative pedagogical cultures and practices shared by the partners. The modules and focuses integrate different phases of learning grounded on an inquiry-based approach and green pedagogy that enhances critical thinking and the acquisition of problem-solving skills. Time for knowledge reinvestment is proposed at the end of each module.

How to use the LSFS teaching toolkit?

The modules are divided into pedagogical sequences of differing durations: module 1, 4 hours; module 2, 15 hours; and module 3, 40 hours. In that last module, each sequence can be used independently.

The focuses mainly include activities organised in several parts of different lengths.

General Introduction

The modules include:

A general overview concerning the content, the teaching method, the materials needed, the time modalities, the specialised capacities, and the learning outcomes.

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Sequence 1 Duration: 1 hour	Objective: To understand what a food system is. **Specialised capacities** • To leverage knowledge on a given situation • To organize infor-mation within a scheme	To get an overview of the differ-ent actors and resources (natural, social, and economic) involved in processes from farm to fork. In-troduction to the concepts of a food chain and food system. **Learning outcomes:** **Draw up a scheme of a food chain and food system including the resources it requires (so-cial, environmental and eco-nomic)** **Definition of the food system as a concept.**	By identifying the actors involved and the resources they need for their activities, learners develop a representation-al model of what a food system is.	Whole class and individual work Plenum session moderated by the teacher	Learners: Paper and pens or paperboard Notebook Teacher: Board **Resource 1**

Flashcards present in detail a proposed course of action for each module sequence.

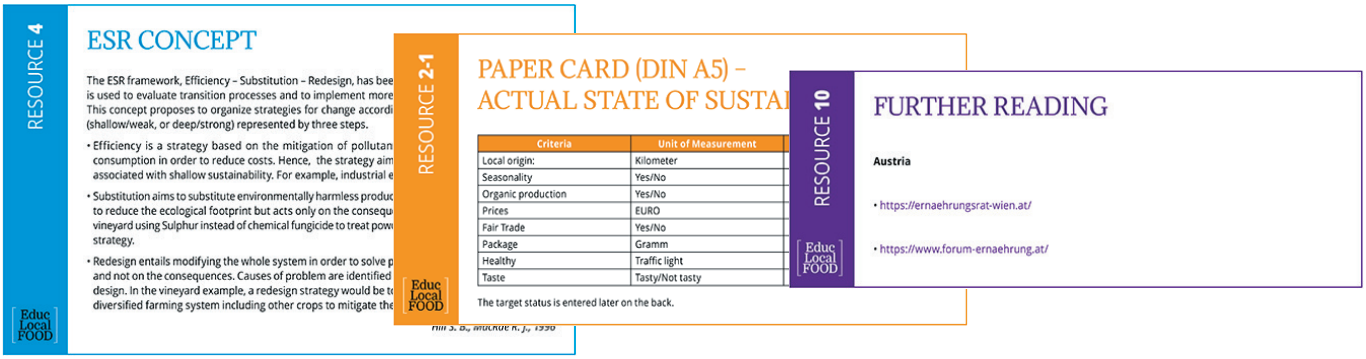
They present the general and specialised capacities
- general capacities are transversal skills that will be useful for learners in many different situations.
- specialised capacities are skills that are deployed or developed specifically for the topic of the module or focus.

SEQUENCE 6			
Request responses presentation Each group of learners presents their proposals for improving the sustainability of the FPU. Assessment of the work by the teacher and the FPU representatives.	**Estimated preparation time**	**Requirements**	**Estimated duration**
	20 mins	★★★☆	2 hours
	General capacities:		
	To present results clearly To achieve oral fluency		
	Specialised capacities		
	To share speaking time within a group To understand and answer audience questions.		
	Module Teaching sequence objective:		
	To present the results of the group work to a stakeholder		
	Learning outcome		
	Presentation document for the FPU with: **A SWOT analysis of newly selected inputs for the FPU** **Proposed Improvements and explanation of the strategy based on the ESR concept**		
	Material / Equipment:		
	Learners: Computer and IT supports (ppt, Word, Excel), clipboard Teacher: assessment grid		

Request responses presentation			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
180	**GW** **FPU M&E** **PL**	**Software package (ppt, Word, Excel)**	Presentation by each group of their improvement proposals (including the SWOT analysis) to the manager/employees. The presentation can be done in class in person or virtually through a vide call to the manager/employees in the FPU site. Audience questions.
60	**PL**	**Notebook**	Discussion and debriefing.

GW: Group work, FPU M&E: FPU manager and employees, PL: Plenum.

Additional information resources are based on previous syntheses and include tools for teachers (in blue) and learners (in orange) as well as links to go further (in violet).



Module 1

Module 1

- Type: awareness
- Estimated preparation time: 4h30 to 5h
- Estimated duration: 4 to 5 hours
- 14 to 22 year-olds
- Nutrition, diet, environment, food systems, personal choice

FROM HEALTHY HUMAN TO HEALTHY PLANET

According to the FAO definition proposed in 2010, sustainable diets are, "*diets which limit the impact on the environment while contributing to* ***food nutritional security and healthy living*** *for current and future generations; sustainable diets contribute to* ***protecting and respecting biodiversity and ecosystems***, *are* ***culturally acceptable, economically fair and accessible***, *affordable, nutritionally balanced and healthy, and enable us to optimize natural human resources.*"

Considering the food prism, allows us to distinguish the cross-cutting environmental, social, and economic issues that underpin the concept of local and sustainable food systems (LSFS). The following module will raise questions relating to the food habits of learners to probe the relationship between consumers and the food system (FS) as a whole. Learners will become more aware of the environmental and social impacts of FS, and of their power, both as consumers and future professionals in the agro-economy, to contribute by their daily choices, to developing local and sustainable FS.

Learning objective: To inform learners about the impacts of food systems on our health and the environment and on how this is linked to eating habits.

General capacities

→ To organise knowledge within a scheme
→ To use a questionnaire
→ To lead an investigation.
→ To analyse and summarise data

Specialised capacities

→ To analyse food chains, their actors and interrelations
→ To understand what a food system is
→ To be able to define and describe what a balanced diet is
→ To analyse the economic, social, and environmental issues of a food system.
→ To examine the consequences of our food choices: food habits; ecological, and ethical impacts
→ To share and leverage knowledge (family, friends, etc.)

MODULE OVERVIEW

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Sequence 1 Estimated duration: 1 to 1.5 hours	Objective: To work on what the learners already know about food supply chains and food systems. **Specialised capacities** • To analyse the structure of a food chain, including its actors and interrelations • To understand what a food system is.	To get an overview of the different actors and resources (natural, social, and economic) involved in processes from farm to fork. Introduction to the concepts of a food chain and food system. **Learning outcomes:** **Draw up a scheme of a food chain and food system including the resources it requires (social, environmental and economic)** **Definition of the food system as a concept.**	By identifying the actors involved and the resources they need for their activities, learners develop a representational model of what a food system is.	Whole class and individual work Plenum session moderated by the teacher	Learners: Paper and pens or paperboard Notebook Teacher: Board **Resource 1**

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Sequence 2 Estimated duration: 2 hours (+ homework)	Objective: To understand that our diet contributes both to our health, and impacts on the environment. **Specialised capacities** • To assess food products and food production sustainability • To show the impact of food on human health.	A healthy diet and the impacts of different kinds of food on the environ-ment. **Learning outcomes:** **Double Food and Environmental pyramids**	By studying the double food and environmental (DFE) pyramid from Barilla CNN, learners build awareness of healthy food and the environmental impact of food production. Learners are encouraged to reflect on the Implications and to critically assess the data provided.	Groups Plenum session moderated by the teacher	Learners: **Resource 2** Computer with office support (Word, Excel, ppt) Teacher: **Resource 3** **Resource 4** **Resource 5**

MODULE OVERVIEW

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Sequence 3 Estimated duration: 1 hour (+ homework)	Objective: To understand what a sustainable diet is. **Specialised capacities** • To be able to define and describe what a balanced diet is	From the knowledge gained in the previous sequence, learners will build on the implications of a sustainable diet. Individual research at home on eating habits. **Learning outcomes:** **Definition of a sustainable diet and objectives** **Sustainable diet scheme**	The components of a sustainable diet conforming to the FAO definition, will be brought together by learners. Learners will carry out home research to analyse the personal eating habits of their families.	Groups, work in pairs Individual work Plenum session moderated by the teacher Family (homework)	Learners: Paper and pen Paperboard **Resource 7** Teacher: Board **Resource 6**

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Sequence 4 Estimated duration: 1 to 1.5 hours	Objective: To make more responsible choices concerning food. **Specialised capacities** • To analyse the economic, social and environmental issues of a Food System • To examine the consequences of our food choices: Food habits, ecological and ethical impacts	Analysing learners' eating habits. Formalising the knowledge gained during the module. Evaluating the homework. **Learning outcomes:** **Synthesis of the class's eating habits** **Establish working concepts to make more responsible choices**	The results of the research will be collated and synthesized to generate a description of the eating habits of learners and their families. The results should take into account knowledge gained about sustainable and healthy diets, as well as lowering environmental impacts from food production to create a working concept.	Groups Plenum session moderated by the teacher	Learners: Notebook Teacher: Board **Resource 8** **Resource 9**

MODULE OVERVIEW

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Assessment Evaluated homework	Objective: To assess the new capacities and knowledge gained by learners **Specialised capacities** • To make the best choices for a sustainable and healthy meal on a given budget.	Creating sustainable meals on a fixed budget. **Learning outcomes: Presentation of 2 sustainable meals costing 5€ and 15€ Design a personalized tool to help make informed choices.**	Learners will go to a market to choose the ingredients they need to create two healthy and sustainable meals on a budget. They must describe the thinking behind their choice of shop and products.	Individual work	Learners: Markets, Camera Pen and paper IT Office support (ppt, Word)

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Knowledge and capabilities reinvestment	Objective: To strengthen the knowledge and capacities gained **Specialised capacities** • To share and leverage knowledge (with family, friends, etc.)	Option 1: Participate in a food festival (example: Alimenterre) **Learning outcomes: Sustainable meal recipes and double pyramid analysis** ..... Option 2: Social media video posting **Learning outcomes: Create social media videos about a sustainable diet** ---------- Option 3: Raising awareness by hosting a stand at a local event or in the school canteen **Learning outcomes: Setting up a stand to inform people about sustainable diets**	Option 1: Learners will create a sustainable and healthy lunch meal for a food festival with accompanying information Option 2: Learners carry out social media based research focussed on people discussing food issues, then present their findings Option 3: Learners prepare a healthy and sustainable menu then set up a stand to allow passers-by to taste the food while being informed about food system issues	Individual work Groups Festivals School canteens users	Learners: Supermarket, Pen and paper, clipboard, IT office (ppt, Word, Excel), Communication or visual supports, School Canteen, Social media

FLASHCARD

SEQUENCE 1			
What is the food system? Getting an overview of the different actors and resources (natural, social and economic) involved from the farm to the fork. Introduction to a food chain and food system.	**Estimated preparation time**	**Requirements**	**Estimated duration**
	1 hour	★★☆☆	1 to 1.5 hours
	Specialised capacities		
	To analyse the composition of food chains, its actors and interrelations To understand what a food system is.		
	Module Teaching sequence objective:		
	To understand what the food system is To work on what the learners already know about food supply chains and food system		
	Learning outcome		
	Scheme of a food chain and of a food system and its resources (social, environmental and economic). Definition of food system concept.		
	Material / Equipment:		
	Learners: Paper and pens or paperboard Teacher: Board, **Resource 1**		

What is the food system?			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
5	**PL**	**-**	Introduction to the module: objective and organisation (sequences).
15	**IW**	**Paper and pen**	Who are the actors from farm to fork? Create a scheme of the process (actors and relationships)
10	**PL**	**Board**	Analysis of answers by teacher and learners: choice of good answers and interesting errors.
15	**IW**	**Paper and pen**	Introduce into your scheme the resources (natural, social and economic) mobilised by each of these actors.
10 - 20	**PL**	**Board**	Analysis of answers by teacher and learners: choice of good answers and interesting errors.
5 - 10	**PL**	**Notebook** **Resource 1**	Confirm definitions of food supply chain and food system

IW: Individual work, PL: Plenum, GW: Group work.

FLASHCARD

SEQUENCE 2			
Double food and environmental pyramid Healthy diet and impacts of different kinds of food on the environment	**Estimated preparation time**	**Requirements**	**Estimated duration**
	1 hour	★★☆☆	2 hours
	General capacities:		
	To work in group To analyse schemes To apply critical thinking to different information sources		
	Specialised capacities		
	To assess food products and the sustainability of food production To show the impact of food on human health		
	Module Teaching sequence objective:		
	To understand that diet contributes to our health and impacts the environment.		
	Learning outcome		
	Double Food and Environmental pyramids		
	Material / Equipment:		
	Learners: **Resource 2**, computer with software package (Word, Excel, ppt) Teacher: **Resource 3, Resource 4, Resource 5**		

Double food and environmental pyramid			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
10	**PL**	**Resource 2**	Introduction Distribution of the Double Food and Environmental (DFE) pyramid. Pairing learners.
30	**GW**	**Paper and pen Computer with software package**	What does the DFE pyramid tell us? types of food, healthy diet proportions, food environmental impacts...
20	**PL**	**Resource 3 Board Notebook**	The learners will work in groups and prepare their presentation using software applications.
30	**PL**	**Resource 4**	Discussion about the pyramids: *food quality & quantity, health and diet, environmental impacts of food, social fairness*
20	**PL**	**Resource 5**	Critical look at the pyramids: Using the DFE pyramid, can we decide on the composition of a healthy and environmentally friendly diet? What information is still required?

IW: Individual work, PL: Plenum, GW: Group work.

FLASHCARD

SEQUENCE 3			
What is a sustainable diet? Using the knowledge acquired in the previous sequence, learners identify the meaning of a sustainable diet. Homework introduction: home research about eating habits	**Estimated preparation time**	**Requirements**	**Estimated duration**
	10 min	★★★☆	1 hour
	General capacities:		
	To organise knowledge within a scheme To use a questionnaire To lead an investigation.		
	Specialised capacities		
	To be able to define and describe what a balanced diet is		
	Module Teaching sequence objective:		
	To understand what a sustainable diet is.		
	Learning outcome		
	- Sustainable diet scheme - Questionnaire to analyse the personal eating habits of the learners' families.		
	Material / Equipment:		
	Learners: Paper and pens or paperboard , Resource 7 Teacher: Board, Resource 6		

What is a sustainable diet?			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
10	**PL**	**-**	Introduction Formation of groups
20	**IW or GW**	**Paper and pen Paperboard**	What is a sustainable diet? Draw a scheme to represent the main components of a sustainable diet.
20	**PL**	**Board Resource 6**	Analysis of answers by teacher and learners: choice of good answers and interesting errors. Discussion about sustainable diet
10	**HW PL IW**	**Resource 7**	Homework introduction: carry out home research. Use the questionnaire to collect information about your food shopping habits and/or those of the people responsible for cooking for you at home (parents, grand parents, tutor. ..). Option: This questionnaire can be created online (using Google Forms, etc.).

IW: Individual work, PL: Plenum, GW: Group work, HW: Homework.

FLASHCARD

SEQUENCE 4			
Food habits for a sustainable diet Analysis of learners eating habits. Formalization of the knowledge gained during the module. Evaluating the homework introduction	**Estimated preparation time**	**Requirements**	**Estimated duration**
	30 mins to 1 hour	★★★★	1 to 1.5 hours
	General capacities:		
	To analyse and summarise data		
	Specialised capacities		
	To analyse the economic, social, and environmental issues of the Food System To examine the consequences of our food choices : Food habits, ecological, and ethical impacts		
	Module Teaching sequence objective:		
	To make responsible choices concerning food.		
	Learning outcome		
	Synthesis of the class's eating habits **Establish working concepts to make more responsible choices**		
	Material / Equipment:		
	Learners: Notebook Teacher: Board, **Resource 8** , **Resource 9**		

Double food and environmental pyramid			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
20 to 50	**PL**	**Board** **Resource 8**	Homework restitution: Discuss the homework project and design a food system scheme. This should lead to a discussion about the following question : «how do my eating habits fit into a food system ?»
30	**PL**	**Resource 9** **Board** **Notebook**	1. What did we learn ? The teacher leads the discussion on the environmental, socio-economic, and health impacts of food choices using resource 9. 2. The teacher hands out 3 product labels (could also be just a copy of a label): one for a lower quality cheap product, one for a product from a famous brand, one for a high-quality product (environmental and social certifications + healthy). 3. The teacher should ask: How can we find out the impacts of these products from their labelling? 4. Opening: Does the label tell us everything ? What is missing? And where are the limitations? How can we overcome these limitations to find out more about the quality of products we buy? This leads to the conclusion: By buying your food at a local market, you can meet the producer and find out directly more information about the product.
10	**PL** **HW**		Introduction to the assement homework (see the next flashcard)

PL: Plenum, HW: Homework.

FLASHCARD

ASSESSMENT			
Sustainable meals Creation of sustainable meals on a given budget.	**Estimated preparation time**	**Requirements**	**Estimated duration**
	1 hour	★★★★	1 hour
	Specialised capacities		
	To make the best choices for a sustainable and healthy meal on a given budget.		
	Module Teaching sequence objective:		
	To assess the new capacities and knowledge gained by the learners		
	Learning outcome		
	Presentation of 2 sustainable meals of 5€ and 15€ **Design a personalised tool to help make informed choices**		
	Material / Equipment:		
	Learners: Markets, Pen and paper, Software package (ppt, Word, Excel)		

Sustainable meals			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
60	**IW**	**Shop** **Paper and pen or camera**	Learners choose healthy and sustainable meals They will go to a market to choose the ingredients they need to create two healthy and sustainable meals on a budget: -First meal: budget of 5 euros -Second meal: budget of 15 euros **Remark:** learners do not buy the food, they just note the information about the products they choose (price, quantity, ingredients, brand...)
-	**HW**	**Software package (ppt or word)**	Using a software package, learners describe their meals (recipes, quantity, ingredients with brand, quality of the ingredients, price etc.) For each meal, they explain why they chose the recipe, the shop and the different products. The work is assessed. - Option: Learners' menus can be displayed as posters at the canteen.

IW: Individual work, HW: Homework.

FLASHCARD

KNOWLEDGE AND CAPACITIES REINVESTMENT			
Three options Participation of learners in local events related to sus-tainable diets, the impact of food on the environment and health. Communication with the general public and social media.	**Preparation time**	**Requirements**	**Duration**
	Variable	★★★★	Variable
	General capacities:		
	To communicate clearly about a subject.		
	Specialised capacities		
	To share and leverage knowledge with other people (family, friends, etc.)		
	Module Teaching sequence objective:		
	To strengthen the knowledge and capacities gained.		
	Learning outcome		
	Option 1:Sustainable meal recipes and their double pyramid **Option 2: Social media videos about sustainable diets** **Option 3: Setting up of a stand to inform people about sustainable**		
	Material / Equipment:		
	Learners: Markets, Pen and paper, paperboard, Software package (ppt, Word, Excel), Festival , School canteens		

Three options			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
-	**GW** **F**	**Supermarket, pen and paper, Software package (ppt, excel, word)**	**Option 1: Participation in a food festival** (example: Alimenterre} Examples of several recipes for starters (1 or 2), main courses (1 or 2) and desserts (1 or 2) Combining the cultural aspect, the health benefits and any impact on the environment To present the meal using the food and environmental pyramid.
-	**GW** **IW**	**Computer and Internet** **School social media**	**Option 2: Social media videos posting** Carry out research among youtubers and bloggers who promote sustainable diets that are healthy and protect the environment and post it on the class/school social media.
-	**GW** **F** **Sc**	**Supermarket, Money, Kitchen, Communication supports (flyers, paperboard...)**	**Option 3: Awareness-raising stand at a local events or at the school canteen** Research of local events related to local markets / health / environment / traditional products. Set up a stand to allow passers by to taste the food while being informed about food system issues. This can be carried out at the school canteen

IW: Individual work; PL: Plenum, GW: Group work; F: Festival; Sc: School canteens

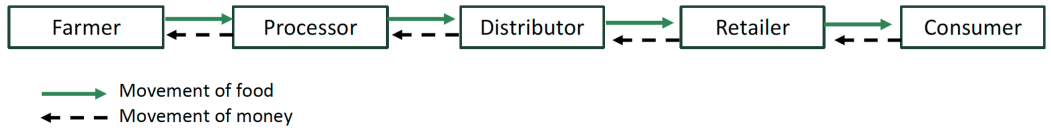
MODULE 1 RESOURCES

Blue: resources for the trainers and teachers
Orange: resources for learners

RESOURCE 1

DEFINITIONS

A food supply chain refers to the processes that describe how food from a farm ends up on our tables. The processes include production, processing, distribution, consumption and disposal.



HWP, 2020.

The food system is:

- "an interdependent network of actors (companies, financial institutions, public and private bodies),
- localised in a limited geographic area (region, state, multinational area)
- participating directly and indirectly in the creation of goods and services oriented to food needs satisfaction
- one or several groups of consumers locally or outside of this area".

Rastoin and Ghersi, 2010.

A food system is defined by and contributes to a cultural context.

RESOURCE 2

DOUBLE FOOD AND ENVIRONMENTAL PYRAMID

The double food and environmental pyramid is available on:
https://www.barillacfn.com/en/dissemination/double_pyramid/

RESOURCE 3

DFE PYRAMIDS DESCRIPTION

The Double Food and Environmental (DFE) pyramids is composed of 2 pyramids.

The first pyramid on the left deals with a healthy diet. As you can see the pyramid is made up of different layers. At the bottom we can find the type of food which makes up the biggest proportion of our diet such as:

- Vegetables and fruit
- Processed cereals such as bread, pasta or unprocessed cereals such as rice, potatoes and legumes (lentils, chickpeas, beans...)
- Vegetal oils and nuts
- Milk and yogurt
- Fish, eggs, cheese and lean white meat (poultry, rabbit, certain parts of pork)
- At the top: sugar and red meat

The second pyramid on the right, is reversed and deals with the food types which have the least and most impact on the environment depending on their production.

- The food types with the least impact on the environment are at the bottom and those with the most impact on the environment are at the top.
- Food types with a low impact are vegetables, fruit, milk and processed or unprocessed cereals and legumes.
- Food types with a high impact are all types of meat, cheese and vegetal oils.

RESOURCE 4

3 MAIN ENVIRONMENTAL IMPACTS OF A FOOD SYSTEM

Carbon footprint
The Carbon Footprint assesses the emissions of greenhouse gases (GhG) produced by human activities during the entire life cycle of food. The GhG emissions are responsible for climate change. It is measured in grams of CO_2 equivalent (gCO_2 eq) per kilogram or liter of food.

Water footprint
The Water Footprint represents the amount of water consumed in the different phases of the food production chain. It shows the quantity and the mode of use of water resources. It is measured in liters of water (lt) per kilogram or liter of food.

Ecological footprint
The Ecological Footprint represents the area of land or sea that a given population requires to produce the natural resources it consumes and to absorb its waste, especially carbon emissions. It is measured in global square meters (m^2) per kilogram or liter of food.

Source: BCFN, Recommendations for a sustainable diet, 2016

These indicators do not take into account the impact of chemicals and nitrogen used in local areas and therefore do not provide a complete view of the impact of food on the environment.
Only the Ecological Footprint was used to build the environmental pyramid, due to brevity.
However, the three environmental impacts all produce pyramids with similar results (vegetables at the bottom and beef at the top).
According to the Global Footprint Network, the methodology to measure the Ecological footprint includes several land types in the calculation:

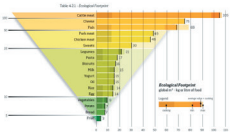
- Forests for carbon dioxide uptake
- Cropland, the land used for the agriculture production of food for humans or animals
- Grazing land, the land used to feed farm animals
- Forests for timber and fuelwood
- Built-up land, the land occupied by the buildings needed for production
- Fishing ground, the sea area used for the natural farming of fish products

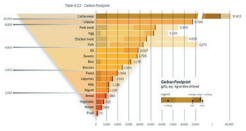
RESOURCE 4

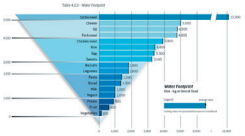
3 MAIN ENVIRONMENTAL IMPACTS OF A FOOD SYSTEM

Ecological footprint Water footprint Carbon footprint
The 3 main environmental impacts of the food systems are available on:
https://www.barillacfn.com/m/publications/doublepyramid2016-more-sustainable-future-depends-on-us.pdf
Page 57 of the document.

Source: Barilla CFN, 2016.







RESOURCE 5

SUSTAINABLE DIET - CONCLUSIONS

The DFE pyramid enables us to understand that:
- A healthy diet must be composed of several food types and in varying proportions
- The different food types do not have the same environmental impact
- There is a strong correlation between healthy food and sustainable food

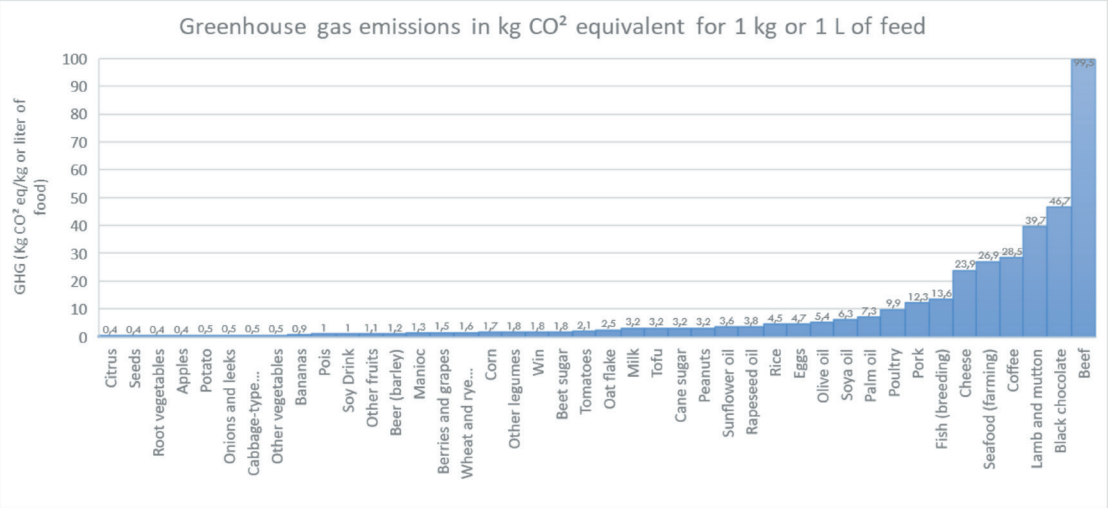
For instance, red meat such as beef or lamb are presented as the most harmful food for the environment and the least healthy. The pyramids shows also that cereals and vegetables generally have a lower ecological footprint than meat and dairy products. Legumes are an interesting food type because they have a low impact on the environment (less consumption in water and energy and a lower ecological and carbon footprint) and as they are legumes, they fix atmospheric nitrogen thus contributing to soil fertilization. As for sea products, overfishing and intensive aquaculture can have an adverse effect on marine biodiversity. However, with all this information we are still unable to agree on the best diet for both the health of humans and the planet. Why?

Because a food type does not constitute the only factor of a sustainable diet.

RESOURCE 5

SUSTAINABLE DIET - CONCLUSIONS

Firstly, for a same food type we can observe a difference in GHG emission. For example, to produce 1kg of potatoes, we generate 0,5 kg of CO2 while for 1kg of tomatoes, we generate 2,1 kg of CO2 (Science 2018/IPCC 2013).



Source: S.Cohen from Science 2018/IPCC2013/Quoi dans mon assiette.fr

RESOURCE 5

SUSTAINABLE DIET - CONCLUSIONS

Secondly, food quality is a very important factor, particularly at the level of farming and breeding. For instance, industrial breeding has more impact on the planet than grassland breeding: a diet high in grains can upset a cow's digestive system resulting in fermentation process issues. Hence, a study at the University of Vermont showed that a cow bred in grassland could generate up to 20% less methane than a cow bred in a conventional way. In addition, grassland breeding restores soil fertility and consequently improves carbon storage capacity. Another example is of the farming practice of commercial vegetable crops which can negatively impact the biodiversity and soil quality because of chemical inputs, intensive soil working and weeding. (EWG, 2011)

Hence, in order to build reflective and critical thinking with learners, we can conclude that the different diets (vegan, vegetarian, Mediterranean etc...) are a means to alleviate the impact of a food system on the environment because they reduce meat, fish and/or animal consumption. However, food origins, the type of transport, farming and breeding practiced, and climate seasonality are necessary aspects to take into account to contribute to a sustainable and local food system.

RESOURCE 6

HEALTHY AND SUSTAINABLE DIETS

"Sustainable diets are diets which limit the impact on the environment, while contributing to food nutritional security and healthy living of current and future generations; sustainable diets contribute to protecting and respecting biodiversity and ecosystems, are culturally acceptable, economically fair and accessible, affordable, nutritionally balanced and healthy, and enable us to optimize natural human resources."

FAO, 2010.

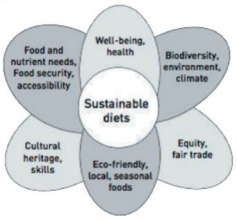


Figure: Schematic representation of the key components of a sustainable diet. (FAO, 2010)

RESOURCE 6

12 RECOMMENDATIONS FOR A HEALTHY AND SUSTAINABLE DIET

1. Choose a plant-based diet: for health reasons and also because it supports a sustainable diet by reducing the environmental impact of food production.	2. Eat a variety of foods: choosing food types of different colors ensures a varied meal A varied meal means variety in agriculture which means greater biodiversity.	3. Eat five portions of vegetables and fruit per day: Fruit and vegetables are a wise choice for a snack, even for young children.	4. Choose local and seasonal products: buy food from local farmers and you get the freshest and tastiest food while supporting the local economy.
5. Use fresh ingredients: This reduces packaging and diminishes the environmental impact of distribution.	6. Reduce processed food: they are rich in fats, salt and sugars as indicated on the labels, therefore there are neither a healthy nor a sustainable choice.	7. Increase intake of wholewheat grains: rice, barley, oat, corn and rye have more nutrients, prevent health problems and require less work, energy and water.	8. Avoid sugary drinks: choose water or create your own drink with herbs and fruits. Sodas are associated with health problems.
9. Increase your intake of legumes: it substitutes animal proteins with plant-based ones and provides fiber.	10. Reduce consumption of meat: red meat production is one of the farming businesses with the highest environmental impact! Legumes or walnuts are great substitutions.	11. Buy fish from sustainable sellers: certification can give you a guarantee you are not contributing to overfishing.	12. Choose products from free-range pastures and farms: you can contribute to the quality of life of the animals you eat!

Source: Barilla, 2016.

RESOURCE 7

QUESTIONNAIRE ABOUT HOME FOOD HABITS

Option: This questionnaire can be created online (using Google Forms, etc.).

1. Where do you buy most of your food?
- ❑ Supermarket
- ❑ Specialized store (bakery fishmonger butcher's neighborhood store, biostore, market)
- ❑ Internet
- ❑ Other: to precise

2. Classify the importance of the following criteria that may influence your choice when buying food.
(1 - great importance; 2 - a little; 0 - not at all)
- ❑ Price
- ❑ Food origin
- ❑ Quality
- ❑ Environmental impacts

3. Classify these food types according to their importance in quantity in your diet
(1 - great importance; 2- a little; 0 - not at all) and precise their nature (fresh/packed/bulk...)
- ❑ Vegetables (fresh or packed)
- ❑ Fruits (fresh or packed)
- ❑ Cereals (in bulk or packed)
- ❑ Legumes (in bulk or packed)
- ❑ Oil (1L /5L/?)
- ❑ Nuts (in bulk or packed)
- ❑ Meat (at the counter or packed)
- ❑ Eggs (in bulk or packed)
- ❑ Fish (at the counter or packed)
- ❑ Dairy products (at the counter or packed)

4. How much food do you waste per week?
- ❑ Packaged food: ... (kg)
- ❑ Consumed food (leftovers, damaged food, etc): ... (kg)

RESOURCE 8

DISCUSSION GUIDELINE

• Why do we prefer to go to the supermarket?

All products at the same place, best price, wider range of products

• Why do we prefer to go to a specialized store?

Food origin, quality

• Why do we choose the lowest price?
Low wage, low budget allocated for food, lack of interest for food quality

• What is local food? Why do we choose local food?
Trust in the product by producer/consumer relationship
Local dynamism
Less kilometers = low carbon footprint? Depending of the transportation

• Why do we choose healthy food?
Food-linked diseases: obesity, malnutrition (food deficiency in some vitamins or minerals)
Food as the first medicine

• How do we know about the farming and production methods of products?
Certification, direct sales

• Why should we question the packaging type?
Plastic pollution issues, waste, circular economy

• What can you say about your food habits when taking into account the DFE pyramid?

RESOURCE 9

EXAMPLE OF CONCLUSION

The conclusion aims to synthesize and put into use the knowledge acquired during the module.

First part of the conclusion: The teacher holds a discussion and builds a step-by-step scheme that synthesizes the learners ideas. As an example, teachers can follow the scheme below:

What did we learn about the food system?

Economic issues

- Economic chain: Local or global? How many intermediaries?
- Rurality: Rural flight or rural dynamism?
- Territorial autonomy: Dependency on global supply chains or food self-sufficiency?
- Food sovereignty

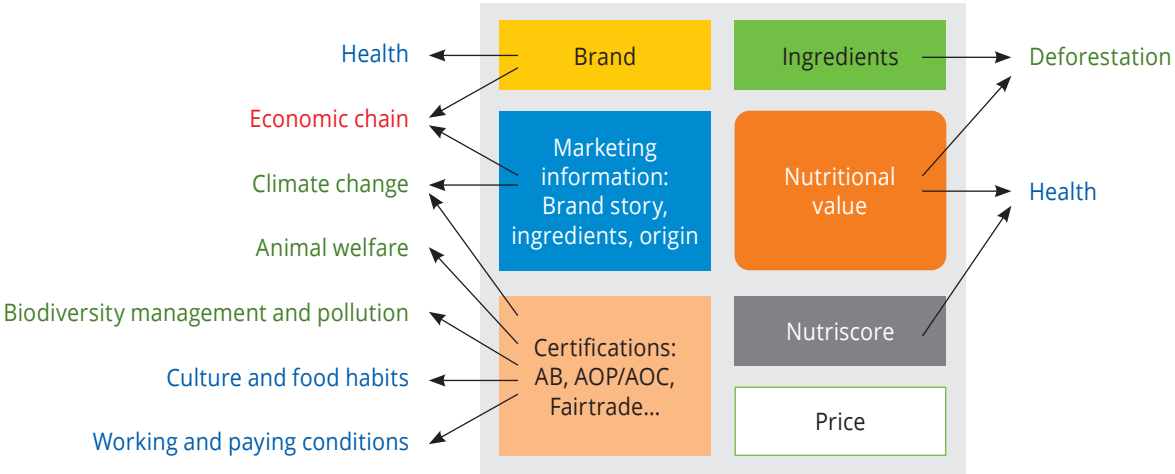
Environmental issues

- Biodiversity management and pollution: Farming practices? Pesticide use?
- Climate change: GHG emissions? Deforestation?
- Animal welfare: Industrial/intensive or extensive breeding?

Social issues

- Health: Healthy or not?
- Working and pay conditions: Who does the production? Who gets the added value? Living wage and quality of life issues - how do the actors live? etc.
- Culture and tradition: Food culture homogenization? Traditional practices, products, and processes?

Second part of the conclusion: The teacher distributes product labels and asks learners to answer the following question: What can we learn about the social, economic and environmental impacts of a product from its labelling?



Teachers should then ask a follow-up question: *What **don't** we learn about the social, economic and environmental impacts of a product from its labelling?*

To open this discussion, teachers should ask: *How can we gain more knowledge about the impacts of the food we eat?*

This should raise awareness about the interest of direct-selling.

RESOURCE 10

FURTHER READING

France

• La loi EGALIM: 5 mesures phares
https://www.optigede.ademe.fr/sites/default/files/decryptage_loi_egalim-v0606.pdf

Barilla Center for Food and Nutrition. 2016. Double Food pyramid.
https://www.barillacfn.com/m/publications/doublepyramid2016-more-sustainable-future-depends-on-us.pdf

• Footprint network
https://www.footprintnetwork.org/our-work/ecological-footprint/

• Les travaux pionniers de l'équipe "enseigner autrement" AgrocampusOuest Beg Meil sur "Manger autrement"
https://tice.agrocampus-ouest.fr/course/view.php?id=531&section=4

• Quoi dans mon assiette
https://quoidansmonassiette.fr/changement-climatique-quels-impacts-regime-alimentaire-agroalimentaire/

• Manger autrement: L'expérimentation | ARTE
https://www.youtube.com/watch?v=vlHJeAFN-38

• One Health, une seule santé
https://www.inrae.fr/alimentation-sante-globale/one-health-seule-sante

RESOURCE 10

FURTHER READING

Portugal

• Alimentar o futuro: uma reflexão sobre sustentabilidade alimentar
https://www.apn.org.pt/documentos/ebooks/E-BOOK_SUSTENTABILIDADE.pdf

• Alimentação Saudável e Sustentável
https://alimentacaosaudavelesustentavel.abae.pt/

• Hábitos Alimentares Saudáveis
https://www.rtp.pt/play/p3148/e310755/biosfera

• Pegada Alimentar
https://vilanovaonline.pt/2017/12/21/crise-ambiental-pegada-alimentar-alimentacao-ambiente/

• Alimentação saborosa, saudável e económica
https://www.pratocerto.pt/

• Pegada Ecológica dos Municípios Portugueses
https://zero.ong/resultados-da-pegada-ecologica-e-da-biocapacidade-de-seis-municipios-portugueses/
https://www.pegadamunicipios.pt/

• Projecto KM0 Alentejo https://www.km0alentejo.pt/

• Circuito dos Alimentos Incluídos na Rotina Diária
https://www.rtp.pt/play/p4238/e333981/biosfera

• Dieta da saúde planetária (br)
https://www.youtube.com/watch?v=4kpPRDEOyao

•Dietas sustentáveis
https://www.youtube.com/watch?v=XfvLzhQm_vY

• Dietas sustentáveis nas cantinas escolares
https://www.youtube.com/watch?v=5-5dKsnQxOQ

• Você come e muda o planeta (br)
https://www.youtube.com/watch?v=uNFHVC9Q8Y

• Impactos da produção animal
https://www.youtube.com/watch?v=i0OvKxpZDeA

RESOURCE 10

FURTHER READING

Slovenia

• Interview dr. Bavec (slo video)
https://www.youtube.com/watch?v=4izQ2hNRXtU

RESOURCE 10

FURTHER READING

Austria

• https://ernaehrungsrat-wien.at/

• https://www.forum-ernaehrung.at/

RESOURCE 10

FURTHER READING

Italy

• Alimentazione Sostenibile
https://www.greenstyle.it/storie/alimentazione-sostenibile

• Guida al Consumo
https://www.slowfood.it/wp-content/uploads/blu_facebook_uploads/2014/09/ita_guida_consumo_b.pdf

• Cambiamento climatico e sistema alimentare
https://www.slowfood.com/sloweurope/wp-content/uploads/ITA-PAPER-climatechange.pdf

• Linee Guida per una sana alimentazione
https://www.crea.gov.it/documents/20126/0/Linee+Guida+Alimentaz+2018_rassegna.pdf/cabf03c9-b13d-9f58-b1b4-6539eab22fe6?t=1579099649134

• Verso una alimentazione più sostenibile
https://www.eufic.org/it/food-production/article/towards-more-sustainable-diets

RESOURCE 10

FURTHER READING

English

• Our World data
https://www.visualcapitalist.com/visualising-the-greenhouse-gas-impact-of-each-food/
https://ourworldindata.org/food-choice-vs-eating-local

• Why do we need to change our Food System?
https://www.youtube.com/watch?v=VcL3BQeteCc

• 17 Sustainable Development Goals
from the UN https://www.undp.org/content/undp/en/home/sustainable-development-goals.html

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https://www.barillacfn.com/m/publications/doublepyramid2016-more-sustainable-future-depends-on-us.pdf
https://www.barillacfn.com/en/magazine/food-and-sustainability/12-recommendations-for-a-healthy-and-sustainable-diet/

C. Mbow and al. 2019. Food Security.
In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.-O. Pörtner, D.C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)]. In press.
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https://static.ewg.org/reports/2011/meateaters/pdf/methodology_ewg_meat_eaters_guide_to_health_and_climate_2011.pdf?_ga=2.145645815.270837031.1580997413-1967392111.1580997413

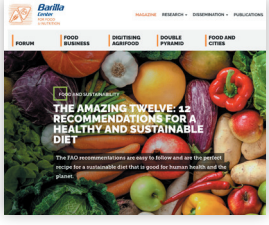
FAO (2010), Biodiversité et régimes alimentaires durables.
http://www.fao.org/3/i3004e/i3004e.pdf

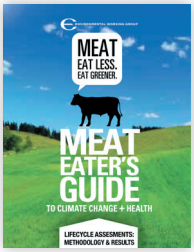
Harvard Web Publishing (HWP). 2020. Harvard Edu. Lesson 4: What is the food supply chain?
https://hwpi.harvard.edu/files/chge/files/lesson_4_1.pdf

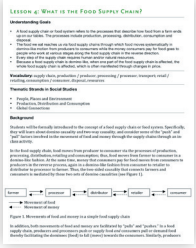
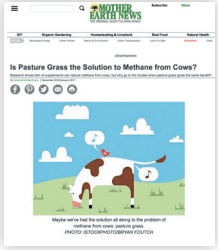
Poore J, Nemecek T. 2018. Reducing food's environmental impacts through producers and consumers
[published correction appears in Science. 2019 Feb 22;363(6429):]. Science. 2018;360(6392):987–992. DOI:10.1126/science.aaq0216

Rastoin JL., Ghersi G., De Schutter O. (2010), Le système alimentaire mondial:
concepts et méthodes analyses et dynamiques. Edition Quae. 565 pages.

The University of Vermont. Mother Earth News, 2011.
https://www.motherearthnews.com/homesteading-and-livestock/raising-cattle/pasture-grass-methane-from-cows-zmaz10djzraw#axzz3IKKiYHFf





Module 2

Module 2

- Type: professionalisation
- Estimated preparation time: 6 hours
- Estimated duration: 13 to 15 hours
- 16 to 22 year-olds
- LSFS, management, FPU, sustainability indicators, SWOT analysis

ANALYSIS AND MANAGEMENT OF A FOOD PROCESSING UNIT FOR A LOCAL AND SUSTAINABLE FOOD SYSTEM

The food system (FS) is composed of subsystems, themselves composed of other smaller systems. As such, the food system is a web of interconnected subsystems.

In 2010, Rastoin and Ghersi defined the FS as "an interdependent network of actors (companies, financial institutions, public and private bodies) localized in a limited geographic area (region, state, multinational area) and participating directly and indirectly in the creation of goods and services oriented to food needs satisfaction of one or several groups of consumers locally or outside of this area".

This interdependency of actors implies that a change at any level in the system will generate impacts, of different nature and with different intensity, on the whole system. In turn, systemic changes will also influence an actor who initiates a change. This is called system thinking: Wherein each actor in the FS can contribute to co-constructing a local and sustainable food system (LSFS) through their own choices. Food processing activities carried out by a farm, or a specialized entity is one component of an FS.

In this module, we will focus on a food processing unit (FPU) as part of an FS and include its direct partners (suppliers and consumers) to outline a simple food system.

This module is designed to aid future managers or workers of such companies to enable them to understand:

- What is a food supply chain, an FS, and an LSFS?
- How can an FPU, as an actor of the FS, contribute to the global FS and impact the environment and society (though using natural resources, energy, its employees, or by producing food...)?
- Which changes can be introduced to improve the sustainability of an FPU?
- What are the organizational, economic, social, and qualitative impacts for the FPU in carrying out such improvements?

To facilitate the implementation of this module, we will focus on changing only a limited number of inputs and/or suppliers of the FPU to identify the impacts. By understanding how this small FS functions, learners can extrapolate to the complexity of a global food system, composed of thousands of actors.

Learning objective: To identify specific inputs (raw materials, energy, workforce) and outputs (products, services, waste) of a real food processing unit (FPU), their impacts on the environment and society, and to manage them more sustainably.

General capacities

- To understand a professional demand and identify a problem
- To work in a team
- To analyse and find facts and reliable data
- To conduct an interview
- To ask relevant questions
- To record important data
- To present results clearly, to achieve oral fluency
- To share speaking time within a group - To understand and answer audience questions.

Specialised capacities

- to summarise knowledge about a working FPU - to identify relevant questions to better understand the FPU.
- To identify sustainability criteria according to an object
- To identify relevant questions to assess the sustainability. of a FPU
- To apply a system-thinking approach to understand FPU sustainability
- To use a SWOT analysis to analyse sustainability
- To make appropriate proposals based on a SWOT analysis
- To define a transition strategy based on the ESR concept
- To highlight the interrelations between technical process and economic and socio-environmental issues.

MODULE OVERVIEW

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Sequence 1 Duration: 1 hour	Objective: To understand the module's objectives	Presentation of the module with inputs from the FPU manager or employees. **Learning outcomes:** **Working groups** **FPU request**	The manager or an employee of the FPU comes to class and formulates a request to learners: How can we make my business more sustainable?	Plenum session moderated by the teacher FPU manager and employees	Learners: Paper and pens

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Sequence 2 Duration: 2-3 hours	Objective: To identify all relevant information for understanding the FPU. **Specialised capacities :** • To summarise knowledge about an operational FPU • To identify relevant questions to better understand the FPU studied.	Getting to know what the FPU is and how it functions (inputs, processes, outputs, stakeholders). Situate the FPU in the food supply chain. **Learning outcomes:** **Definition of a food supply chain** **Functional scheme of the FPU** **Technical part of the interview guide for the FPU visit**	For this sequence, the teacher prepares specific documents with the school's documentation center. After working on the conceptual representations, learners will work in a group to prepare the technical part of an interview guide for the FPU visit.	Groups Plenum session moderated by the teacher	Learners: Paper and pen Computer, Internet Selected documents Teacher: **Resource 1** or other videos, **Resource 2**

MODULE OVERVIEW

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Sequence 3 Duration: 2-3 hours	Objective: To learn how to assess the sustainability of an FPU. **Specialised capacities** • To identify sustainability criteria according to a set of objectives • To identify relevant questions to assess the sustainability of an FPU	Getting to know what a food system is, and to identify the economic, environmental, and social impacts of the FS. To distinguish different transition strategies through the ESR concept. Selecting indicators to assess FPU sustainability. **Learning outcomes:** **Definitions of a food system and an LSFS concept** **The ESR concept** **Sustainability indicators for the FPU assessment**	For this sequence, the teacher prepares specific documents with the school's documentation center. Learners work on their conceptual representations of an FS and sustainability to build a common definition of an LSFS. They work on the selected documents to define different transition strategies and indicators to assess the impact on the sustainability of the FPU.	Groups Plenum session moderated by the teacher	Learners: Paper and pen Computer, Internet Selected documents Teacher: **Resource 3** **Resource 4** **Resource 5**

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Sequence 4 Duration: 2 hours	Objective: To understand how the visited FPU functions. **General capacities** • To conduct an interview • To ask relevant questions • To record important data	Visit the FPU and collect relevant data for the investigation. **Learning outcomes:** **Collate on-site (field) data summarising how the FPU functions and particularly its inputs and outputs**	During the fieldwork phase at the FPU, learners will use their interview guide to gather technical, economic, social, and environmental information about how the FPU functions: inputs and outputs, processes, resources consumption, partnerships...	Individual FPU employees and/or manager	Learners: Fieldwork: visit of the FPU Interview guide

MODULE OVERVIEW

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Sequence 5 Duration: 4 hours (+ homework)	Objective: To assess the sustainability of an FPU and propose improvements. **Specialised capacities** • To use a SWOT analysis to analyse FPU sustainability • To make appropriate proposals based on a SWOT analysis • To define a transition strategy based on the ESR concept • To highlight the interrelations between technical processes and economic or socio-environmental issues.	Formulation and explanation of proposals to improve sustainability. **Learning outcomes:** **Produce a scheme showing the inputs and outputs of the FPU** **A SWOT analysis of newly selected inputs for the FPU** **Improvement proposals**	Outputs of the FPU including information collected during the fieldwork. They will use indicators and the SWOT analyses to propose improvements for the FPU.	Plenum session moderated by the teacher Homework	Computer and Internet, paperboard and pens, Software package (word, ppt, excel) Sustainability indicators Interview data Teacher: **Resource 6**

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Sequence 6 (assessment) Duration: 2 hours	Objective: To present the results of the group work to a stakeholder **Specialised capacities** • To share speaking time within a group • To understand and answer audience questions.	Group presentation. Assessment by the teacher and the FPU representatives. **Learning outcomes:** **Presentation document for the FPU with:** **A SWOT analysis of newly selected inputs for the FPU** **Improvement proposals** **Explanation of the transition strategy using ESR concepts**	The groups present their work and proposals for improved FPU sustainability to the FPU employees and/ or manager and teacher.	Learners groups FPU representatives (employees, manager)	Learners: Computer, paperboard Software package (ppt, Word, Excel) Notebook Teacher: Assessment grid

MODULE OVERVIEW

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Knowledge and capacities reinvestment	Objective: To strengthen acquired capacities and knowledge	**Learning outcomes:** **Internship report with improvement proposals and a transition strategy explanation (based on the ESR framework)**	During their annual internship, learners will reproduce the work individually: understanding how the organization functions, interviews, carry out a sustainability assessment, produce transition proposals and strategies (ESR concept)	Individual work Internship supervisor	Learners: Fieldwork Computer and Internet Software package (word, ppt, excel) Paper and pen

FLASHCARD

SEQUENCE 1			
I have a request for you Presentation of the module and intervention of the FPU manager or employees. To prepare this sequence, the teacher should identify an FPU to visit and make an appointment. The selected FPU should be straightforward, with not too many processing steps. Option "Personal case study": the teacher can ask learners if someone is willing to present his/her family food processing unit. The FPU has to be operationally simple.	**Estimated preparation time**	**Requirements**	**Estimated duration**
	2 hours	★★★☆	1 hour
	General capacities:		
	To understand a professional demand and identify a problem		
	Module Teaching sequence objective:		
	To understand the objective of the module		
	Learning outcome		
	Group work FPU request		
	Material / Equipment:		
	Learners: paper and pen		

I have a request for you			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
55	**PL** **FPU** **M&E**	**Paper and pen**	Introduction to the module Presentation by the manager/employees, and of the FPU Brief for the learners: *How can I make my business more sustainable?* The FPU presentation can also be done by video conference or using a video from the FPU website. Form groups of 3 or 4 learners for the duration of the module. The learners discuss and clarify the problem in groups.

IW: Individual work; PL: Plenum, GW: Group work; FPU M&E: FPU manager and employees.

FLASHCARD

SEQUENCE 2			
What is an FPU? Getting to know what an FPU is and how it func-tions (inputs, processes, outputs, stakeholders). For this sequence, the teacher prepares specific documentation with the school's documentation center.	**Estimated preparation time**	**Requirements**	**Estimated duration**
	60 min	★★★☆	2-3 hours
	General capacities:		
	To work in a team To analyse and research background facts and find reliable data		
	Specialised capacities		
	To summarise knowledge about a working FPU To identify relevant questions to better understand the FPU.		
	Module Teaching sequence objective:		
	To identify relevant information to understand the FPU.		
	Learning outcome		
	- Functional scheme of the FPU - Technical part of the interview guide for the FPU visit.		
	Material / Equipment:		
	Learners: paper and pen, computer, Internet, selected documents Teacher: **Resource 1** and other videos, **Resource 2**		

What is an FPU?			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
40	**PL**	**Pens and paper** **Resource 1** **Videos**	Introduction to the sequence Work on prior experience from the learners and how they understand the issues. *What is an FPU? What is a food supply chain?*
40-60	**GW**	**Computer and Internet Documents**	The groups work on the selected document and on the Internet to identify information that should be gathered. Then, two options : Option 1: In groups, the learners schematize how the FPU functions and select relevant questions for the interview guide. Option 2: The groups work by carousel-learning. They design the functional scheme for an FPU and agree on questions for the interview guide.
40-60	**PL** **GW**	**Paper and pen** **Resource 2**	Option 1: With the whole class, the teacher pools selected parts from each group, while finalising the technical part of the interview guide for the fieldwork. Option 2 (after the carousel learning): The teacher summarises important questions for the technical part of the interview guide.

IW: Individual work; PL: Plenum, GW: Group work

FLASHCARD

SEQUENCE 3			
What does sustainability mean? Getting to know the main ideas around a food system (food supply chain, actors, relationships), and identifying the economic, environmental and social impacts of the FS. To distinguish different potential transition strategies based on the ESR concept. Select indicators to evaluate the sustainability of an FPU. For this sequence, the teacher prepares support documents with the school's documentation center.	**Estimated preparation time**	**Requirements**	**Estimated duration**
	60 min	★★★☆	2-3 hours
	General capacities:		
	To work in a team To analyse and research background facts and source reliable data		
	Specialised capacities		
	To identify sustainability criteria according to a set of objectives To identify relevant questions to assess the sustainability of an FPU.		
	Module Teaching sequence objective:		
	To learn how to evaluate the sustainability of an FPU.		
	Learning outcome		
	Definitions of a food system and LSFS **The ESR concept** **Sustainability indicators for an FPU assessment**		
	Material / Equipment:		
	Learners: paper and pen, computer, Internet, selected documents Teacher: **Resource 3**, **Resource 4**, **Resource 5**		

What does sustainability mean?			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
40	**PL**	**Pens and paper** **Resource 3**	Introduction to the sequence Work on what the learners understand based on their prior knowledge. *What is a food system? What is sustainability? What is a sustainable food system?* ⚠ It is essential to lead the learners to differentiate the ideas of strong and weak sustainability in their representation.
40-60	**GW**	**Computer** **Internet** **Documents** **Resource 4**	Work on the selected documents and on the Internet to identify operational indicators of sustainability to assess the studied FPU functioning. Work on the ESR concept.
40-60	**PL** **GW**	**Paper and pen** **Resource 5**	Based on these indicators, finalise the questions about sustainability to complete the interview guide.

IW: Individual work; PL: Plenum, GW: Group work; FPU M&E: FPU manager and employees

FLASHCARD

SEQUENCE 4			
Visit of the FPU Visit an FPU and collect information and data for the investigation.	**Estimated preparation time**	**Requirements**	**Estimated duration**
	30 min	★★★★	2 hours
	General capacities:		
	To conduct an interview To ask relevant questions To record important data		
	Module Teaching sequence objective:		
	To understand how the FPU visited functions.		
	Learning outcome		
	Field data about how the FPU functions and in particular its inputs and outputs		
	Material / Equipment:		
	Learners: FPU visit, Interview guide		

Visit of the FPU			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
120	**GW** **IW** **FPU M&E**	**Field work: FPU** **Interview guide** **Paper and pen**	At the FPU, learners will conduct interviews in order to understand how it functions: inputs and outputs, production processes, co-production, waste generation and treatment, energy consumption, sales, local and other partnerships ... They will use their interview guide developed during sequence 2. Option: the interview can be done by videoconference.

GW: Group work, IW: Individual work, FPU M&E: FPU manager and employees.

FLASHCARD

SEQUENCE 5			
FPU assessment Analysis of the FPU visit results. Formulation and explanation of improvement proposals to increase sustainability.	**Estimated preparation time**	**Requirements**	**Estimated duration**
	60 min	★★★★	4 hours
	General capacities:		
	To use a systems-thinking approach		
	Specialised capacities		
	To use a SWOT analysis to analyse FPU sustainability To make appropriate proposals based on a SWOT analysis To define a transition strategy based on the ESR concept To highlight the interrelations between technical processes and economic and socio-environmental issues.		
	Module Teaching sequence objective:		
	To assess the sustainability of an FPU to offer improvement proposals		
	Learning outcome		
	Scheme of FPU inputs and outputs **SWOT analysis of newly selected inputs for the FPU Improvement proposals**		
	Material / Equipment:		
	Learners: computer, Internet, paperboard and pens, software package (Word, ppt, Excel), sustainability indicators, interview data Teacher: **Resource 6**		

FPU assessment			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
30	**PL**	**Paperboard and pens** **Resource 6**	Presentation of the SWOT analysis: **Resource 6**
120	**GW**	**Paper and pens or computer and software applications** **Resource 6**	Groups carry out a SWOT analysis for FPU: Step 1: Learners identify FPUs strengths, weaknesses, opportunities, and threats. Step 2: Learners correlate the strengths, weaknesses, opportunities, and threats, highlighting elements to consolidate, develop, redirect, or where investments are necessary.
60	**GW**	**Paper and pens or computer and software applications**	Groups propose improvements for FPU: Step 1: Each group prioritizes recommendations based on the SWOT analysis Step 2: They assess the feasibility of implementing their proposals based on how the FPU currently functions.
30	**GW** **HW**	**Computer / Software**	Groups will prepare a presentation using software applications such as Powerpoint (this can be finalised as group homework).

PL: Plenum, GW: Group work, HW: Homework.

FLASHCARD

SEQUENCE 6			
To substitute by Response to the request Each group of learners presents their proposals for improving the sustainability of the FPU. Assessment of the work by the teacher and the FPU representatives.	**Estimated preparation time**	**Requirements**	**Estimated duration**
	20 mins	★★★☆	2 hours
	General capacities:		
	To present results clearly To achieve oral fluency		
	Specialised capacities		
	To share speaking time within a group To understand and answer audience questions.		
	Module Teaching sequence objective:		
	To present the results of the group work to a stakeholder		
	Learning outcome		
	Presentation document for the FPU with: A SWOT analysis of newly selected inputs for the FPU Proposed Improvements and explanation of the strategy based on the ESR concept		
	Material / Equipment:		
	Learners: Computer and IT supports (ppt, Word, Excel), clipboard Teacher: assessment grid		

To substitute by Response to the request			
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / implementation
180	**GW FPU M&E PL**	**Software package (ppt, Word, Excel)**	Presentation by each group of their improvement proposals (including the SWOT analysis) to the manager/employees. The presentation can be done in class in person or virtually through a vide call to the manager/employees in the FPU site. Audience questions.
60	**PL**	**Notebook**	Discussion and debriefing.

GW: Group work, FPU M&E: FPU manager and employees, PL: Plenum.

MODULE 2 RESOURCES

Blue: resources for trainers and teachers
Orange: resources for learners

RESOURCE 1

WEB LINKS TO VIDEOS

FRANCE

French fries:
https://www.youtube.com/watch?v=Vy9mBeCS71Y
https://www.youtube.com/watch?v=BuLambFmOSk/

Bread:
https://www.youtube.com/watch?v=iuJ06jykSqk
https://www.youtube.com/watch?v=R4tYsUC665g

SLOVENIA

Modernizing traditional cheese production:
https://4d.rtvslo.si/arhiv/dokumentarni-filmi-in-oddaje-izobrazevalni-program/174448945

Diverse food factories (video):
https://www.youtube.com/watch?v=rS5Bv8dpGNA

AUSTRIA

Sugar:
https://www.youtube.com/watch?v=HNuuJwdE1lo
https://www.youtube.com/watch?v=UqhwdmrPpkc

Potato crisps:
https://www.youtube.com/watch?v=BzPOsGN0g3g
https://www.youtube.com/watch?v=gCvByqJGeAM

Fruit and vegetables:
https://www.youtube.com/watch?v=nkLMPDzrGL0
https://www.youtube.com/watch?v=7dIXCrjq_OM

Bread:
https://www.youtube.com/watch?v=4UYfYXTCGys
https://www.youtube.com/watch?v=WQfCHr9FhUM
https://www.youtube.com/watch?v=Ype8_6up1Go
https://www.youtube.com/watch?v=vrnu-6GMfH8

RESOURCE 1

WEB LINKS TO VIDEOS

PORTUGAL

Cheese:
https://www.youtube.com/watch?v=CjlEAsA3Vss
https://www.youtube.com/watch?v=_rCPljGaRHQ
https://www.youtube.com/watch?v=INHdOAoT-MA

Bread & Sausage:
https://www.youtube.com/watch?v=QDh0Nid0p0c
https://www.youtube.com/watch?v=EV6WfJ3SqrU

Corn Bread:
https://www.youtube.com/watch?v=m1l1thq6aWo

Bread from Alentejo:
https://www.youtube.com/watch?v=IEoiWHonYZU

Biological wine:
https://www.youtube.com/watch?v=yIYGc3bGJx8
https://www.youtube.com/watch?v=L9E1FbMcbVw

ITALY

Pasta (different kinds of production systems)
https://www.youtube.com/watch?v=Ey1MU71XC1s
https://www.youtube.com/watch?v=XoglsehsT8I&t=135s

Tomatoes (Different kinds of production systems)
https://www.youtube.com/watch?v=Li_bNbkMmf8
https://www.youtube.com/watch?v=aX9x518lxdc

Bread (Different kinds of production systems)
https://www.youtube.com/watch?v=FKXeLhvN0ZI
https://www.youtube.com/watch?v=8n_hkBst8VM

RESOURCE 2

INTERVIEW GUIDE AND EXAMPLE SCHEME

Supplier 1/Input 1: name
- Localisation: km
- Quantity: kg/tons
- Supply period: month
- Quality:
  - Freshness,
  - Seasonal,
  - Healthy
- Packaging:
  - Type: material
  - % total weight:
  - Recycling or reuse
- Farming and breeding practices:
- Environmental certification: biodiversity enhancing, natural resources eco-efficiency (water, land, energy)

Input transport
- **Type of vehicle**
- **Distance: km**
- **Cost:€**

FPU – general information
- Quality certification
- Number of employees (full / part time)
- Traceability/ transparence

FPU - process information
- Logistical needs:
  - Space,
  - Equipment,
  - Employees
- Processing time: hours
- Energy used:
  - Type: renewable/ non-renewable
  - Quantity
- Know-how: traditional, industrial
- Food losses: kg/ tons
- Nutrients preservation
- Sanitary standards

Output transport
- **Type of vehicle**
- **Distance: km**
- **Cost:€**

Client(s) / output 1: name
- Cost price:
- Added value:
- Sales period:
- Quality
  - Freshness,
  - Seasonal,
  - Healthy
- Packaging:
  - Type: material
  - % total weight:
  - Recycling or reuse
- Direct sales:
  - Client = consumers: %,
  - Client = intermediary: %

Co-product(s)
- Valorization:sold/not sold
- Sales price: €
- Packaging: yes/no
- Direct sales:
  - Client = consumers: %,
  - Client = intermediary: %

RESOURCE 3

DEFINITIONS

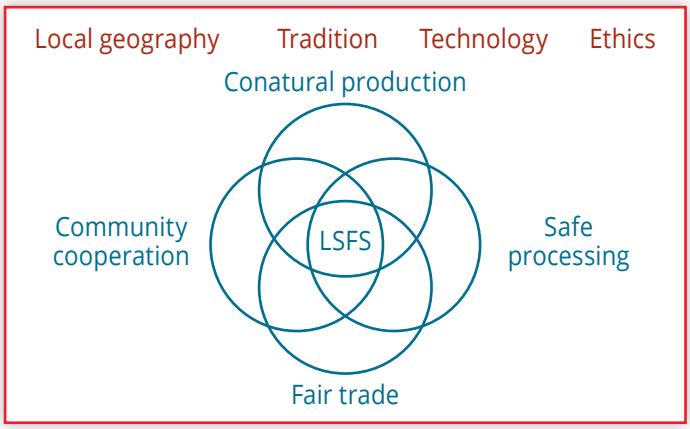


Diagram of a local and sustainable food system.

SLOVENIA

Local and sustainable food systems include co-natural production, safe processing, fair food trade, and community involvement. The entire LSFS involves dependency on the local geography (natural and social resources), traditions (knowledge and skills developed over the long-term and repeatedly validated), available technologies (mechanization, robotization, sensors, remote sensing), and ethics (environmental and social responsibility), which represent the framework within which the individual components of LSFS are developed (see figure above).

Vovk Korže, 2017; Vovk Korže and Yao, 2018; Davidovič, 2018

PORTUGAL

"Local food system" ("Sistema Alimental Local (SAL)") has been defined as "a set of interlinked activities in which the production, processing, distribution and consumption of food products aiming to promote the sustainable use of a territory's environmental, economic, social and nutritional resources, defined as a community of localized interests, strengthening relations between the respective actors".

Estratégia de Valorização da Produção Agrícola Local – GEVPAL

ITALY

Local and sustainable food systems is an agriculture that not only aims to guarantee food security through greater production, but helps farmers to meet their socio-economic and cultural aspirations and to protect and conserve natural resources to meet future needs.Sustainable agriculture is an essential component of the transition of the world economy to a green economy. Agriculture oriented towards a green economy integrates inputs from local natural resources and biological processes to restore and improve soil fertility, encourage more efficient use of water, increase the biodiversity of crops and livestock, reduce the use of chemistry to manage pests and pests and promote employment within small scale farms.

UNEP Green Economy Report, 2011

RESOURCE 3

DEFINITIONS

FRANCE

In 2010, Rastoin and Ghersi defined an FS as "an interdependent network of actors (companies, financial institutions, public and private bodies) localized in a limited geographic area (region, state, multinational area) and participating directly and indirectly to the creation of goods and services oriented to food needs satisfaction of one or several groups of consumers locally or outside of this area".

Rastoin and al, 2010.

LSFS are defined based on their aims which are "to promote the food products in proximity chain, to favor a familial farming and network of small and middle agribusiness and alternative commercialization circuit allowing a better share of generated value, to invent new production models more respectful of consumers' health and including a good management of natural resources limiting environmental impacts, loss and waste all food supply chain long. SAT's originality is mainly in their configuration and their participatory governance careful of fairness"

ARF, 2014.

AUSTRIA

In Austrian policy papers there is currently no explicit definition for an LSFS. From the Literature, we can use the general definition from Laszlo & Krippner (1998) of a system as "[...] a complex of interacting components together with the relationships among them that permit the identification of a boundary-maintaining entity or process", and derive a contemporary definition of an FS from the FAOs (2018) statement that FS "encompass the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products that originate from agriculture, forestry or fisheries, and parts of the broader economic, societal and natural environments in which they are embedded. The food system is composed of subsystems [...] and interacts with other key systems [...]". We can combine this with the concept of sustainability, "A sustainable food system (SFS) is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised" (FAO 2018), locality (in the sense of multidimensional embeddedness, and Food Sovereignty, to cover the questions of power relationships within a FS.

RESOURCE 4

ESR CONCEPT

The ESR framework, Efficiency – Substitution – Redesign, has been developed by S. B. Hill in 1985. It is used to evaluate transition processes and to implement more sustainable agriculture practices. This concept proposes to organize strategies for change according to their sustainability potential (shallow/weak, or deep/strong) represented by three steps.

- Efficiency is a strategy based on the mitigation of pollutant products and natural resource consumption in order to reduce costs. Hence, the strategy aims mainly to maximize profit and is associated with shallow sustainability. For example, industrial ecology is an efficiency strategy.
- Substitution aims to substitute environmentally harmless products for chemicals. This strategy aims to reduce the ecological footprint but acts only on the consequences of problems. For example, a vineyard using Sulphur instead of chemical fungicide to treat powdery mildew employs a substitution strategy.
- Redesign entails modifying the whole system in order to solve problems by working on the causes and not on the consequences. Causes of problem are identified through a specific spatial and time design. In the vineyard example, a redesign strategy would be to change from mono-cropping to a diversified farming system including other crops to mitigate the propagation of pests.

Hill S. B., MacRae R. J., 1996

RESOURCE 5

EXAMPLES OF INDICATORS FOR AN FPU SUSTAINABILITY ASSESSMENT

FROM SCHMUTZ U. AND AL, 2007

Environmental sustainability

1. Enhance eco-efficiency in abiotic resource use (land/soil, water, nutrients): each food supply chain type is related to certain farming or gardening systems, which may use abiotic resources more efficiently or not (good input–output relation under given regional conditions).

2. Enhance provision of ecological habitats and biodiversity: each food supply chain type is related to certain practices, which may enhance the provision of ecological habitats (hedges, trees), cultivate a wider range of crops and livestock including breeding of traditional or rare species and increase biodiversity in the farming system and beyond.

3. Animal protection and welfare: farming systems connected to certain food supply chains may result in different conditions for livestock.

4. Reduction of transportation distance and emissions: a chain type may be related to a shorter transportation distance ('food miles') and possibly a different mode of transport with less emissions and use of road infrastructure (e.g., trains versus trucks).

5. Recycling and reduced packaging: a chain type may be related to the reduction of the amount of packaging along the whole food supply chain and be able to recycle most or all of the input materials.

RESOURCE 5

EXAMPLES OF INDICATORS FOR AN FPU SUSTAINABILITY ASSESSMENT

FROM SCHMUTZ U. AND AL, 2007

Economic sustainability

6. Generating employment along the food supply chain: a chain type may create or enhance paid jobs (full- and part time, including opportunities for self-employment and volunteering) within the metropolitan region.

7. Generating long-term profitability: a chain type may generate income and surplus for the actors along the value chain, which can be reinvested and support the long-term economic viability of all types of food enterprises along the chain.

8. Regional viability and competitiveness: a chain type may be related to regional multiplier effects in the metropolitan and nearby rural areas through, e.g., regional value added, income and employment generated, tax revenues.

9. Enhance transport cost-efficiency from producer to consumer: a food supply chain type may enhance or reduce the cost-efficiency of transport which includes, e.g., adequate vehicles, capacity utilization, reducing the number of trips and unloaded drives.

10. Reduction of food waste and losses: a chain type may support the reduction of food waste or harvest losses (e.g., due to marketable yield size) at production stage, but also waste along all stages of food production, supply including consumption at home or out of home (restaurants, etc.).

RESOURCE 5

EXAMPLES OF INDICATORS FOR AN FPU SUSTAINABILITY ASSESSMENT

FROM SCHMUTZ U. AND AL, 2007

Social sustainability

11. Food safety and human health: a food supply chain type may result in the absence of pathogens and pollution in the food. Food may comply more or less with legal limits regarding microbiological, chemical or physical hazards.

12. Food quality (freshness, taste and nutritional value): a food supply chain type may result in the provision of food which is fresh, tasteful and has good nutritional value.

13. Viability of food traditions and culture: a food supply chain type may result in increased or decreased preservation of cultural distinctiveness, seasonal variation and local food traditions. This includes the knowledge about its preparation and cultural role including religious, ethnic or spiritual purposes.

14. Transparency and traceability: a food supply chain type may result in the increase or decrease of both. Transparency refers to information for the consumer about the way the food is produced and distributed. Traceability refers to the availability of information at each stage of the supply chain. Examples are direct trust-based consumer–producer relations or the use of labeling schemes (e.g., regional and fair, PDO, PGI, organic) or tracking of produce with smart codes and website information.

15. Food security and food sovereignty. Food security refers to the availability and accessibility of food, meaning that all people, at all times, have physical, social and economic access to sufficient food. Food sovereignty goes a step further and means that people also have the right to have 'a say' or 'ownership' (sovereignty) on how their food is produced and supplied, including, e.g., how profits, risks and public research inputs are distributed.

RESOURCE 5

EXAMPLES OF INDICATORS FOR AN FPU SUSTAINABILITY ASSESSMENT

Sustainability Assessment of Food and Agriculture systems (SAFA):
http://www.fao.org/nr/sustainability/sustainability-assessments-safa/en/

France
IDEA4 - Sustainability indicators for agriculture version 4
https://idea.chlorofil.fr/idea-version-4.html

RESOURCE 6

THE SWOT ANALYSIS

The acronym SWOT (Strengths, Weaknesses, Opportunities, Threats) was coined in 1963 at Harvard during a business conference given by professor K.R Andrews. In 1965, Harvard economists first applied SWOT approaches to business strategy development. Today, SWOT analysis are used widely in many other spheres of action, such as education, individual analysis, or any situation needing a structured description. The objective is to combine internal factors (strengths and weaknesses) with external factors depending on the environment (opportunities and threats), which may slow down the development of the object being analysed. In this case, it is the FPU which is assessed: LSFS indicators can be used to assess the triple sustainability of the FPU and to propose improvements. In each box, learners list a maximum of 5 elements from most important to least.

Step 1: Identify Strengths, Weaknesses, Opportunities, and Threats

		Internal factors	
		Strengths	**Weaknesses**
External factors	**Opportunities**	Consolidation	Development
	Threats	Positioning/ Redirection	Investment

Step 2: Correlate the Strengths, Weaknesses, Opportunities, and Threats

		Internal factors	
		Strengths	**Weaknesses**
External factors	**Opportunities**	Consolidation	Development
	Threats	Positioning/ Redirection	Investment

RESOURCE 6

THE SWOT ANALYSIS

Example : A dairy FPU in France

Step 1

	STRENGTHS Organic production Proximity Supply management Know-how Specialized employees	**WEAKNESSES** Only one milk supplier More than 50% turnover for one client No recycling process Partial dashboard No time to prospect (new clients, new products) No natural water supply No water recycling No natural energy use
OPPORTUNITIES Organic food trends/ social demand Population density Upper classes Agricultural school		
THREATS COVID Anthropocene Limited future visibility		

Step 2

	STRENGTHS Organic production Proximity Supply management Know-how Specialized employees	**WEAKNESSES** Only one milk supplier More than 50% turnover for one client No recycling process Partial dashboard No time to prospect (new clients, new products) No natural water supply No water recycling No natural energy use
OPPORTUNITIES Organic food trends/ social demand Population density Upper classes Agricultural school	**CONSOLIDATION** Keeping proximity for supply management Identify new dairy farms to develop the activity	**DEVELOPMENT** New clients and networks: employ a trainee Consolidate the dashboard to follow the evolution of natural resources
THREATS COVID Anthropocene Limited future visibility	**POSITIONING / REDIRECTION** Develop a logistical skill base A strategy	**INVESTMENT** Strategic thinking about SUSTAINABILITY, and then ... use renewable sources of energy ... think of natural water supply and recycling water ...

RESOURCE 7

TO GO FURTHER

English

Interactive graphic - Environmental Working group. Meat eaters guide. 2011
https://www.ewg.org/meateatersguide/interactive-graphic/

French

CEERD – Alimentation durable
http://www.cerdd.org/Parcours-thematiques/Alimentation-durable/Systeme-alimentaire-territorial-durable

ADEME - Mieux manger, moins gaspiller, moins polluer
https://librairie.ademe.fr/consommer-autrement/1885-mieux-manger-moins-gaspiller-moins-polluer.html

Réseau national des projets alimentaires territoriaux
http://rnpat.fr/

Association Terres en villes
http://terresenvilles.org/

Austria

https://cordis.europa.eu/project/id/776665/de
https://www.wien.gv.at/umweltschutz/nachhaltigkeit/lebensmittel-nachhaltig.html

Slovenia

Eco-social Farm Korenika (slo video)
https://www.youtube.com/watch?v=00wBpjviyF4

Educational Polygon for Self-sufficiency Dole (slo video)
https://www.youtube.com/watch?v=Ze1qKEyrADY

Resolution of the National Program on Strategic Directions for the Development of Slovenian Agriculture and Food «Our Food, Rural and Natural Resources from 2021» (slo text)
https://e-uprava.gov.si/drzava-in-druzba/e-demokracija/predlogi-predpisov/predlog-predpisa.html?id=10276

RESOURCE 7

FURTHER READING

Portugal

Variedades tradicionais de trigo: da farinha ao pão
https://www.rtp.pt/play/p3148/e287301/biosfera

Alimentos Tradicionais Sustentáveis Produzidos em Portugal
https://www.rtp.pt/play/p3148/e293970/biosfera

Guia Prático da Cadeia de Valor Sustentável (br)
https://cebds.org/cadeia-de-valor-sustentavel/#.XvC5TOd7nDc

Italy

La Campania istituisce l'Osservatorio dell'agricoltura di precisione
https://terraevita.edagricole.it/nova/nova-agricoltura-di-precisione/campania-osservatorio-agricoltura-di-precisione/

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ESR Concept

Hill Stuart B., MacRae Rod J., 1996. Conceptual Framework for the Transition from Conventional to Sustainable Agriculture. Journal of sustainable agriculture, 7:1, 81-87, DOI: 10.1300/J064v07n01_07 https:// dx.doi.org/10.1300/J064v07n01_07

LSFS indicators

Schmutz U, Kneafsey M, Sarrouy Kay C, Doernberg A, Zasada I. Sustainability impact assessments of different urban short food supply chains: examples from London, UK. Renewable Agriculture and Food Systems. 2017, October. https://doi.org/10.1017/ S1742170517000564

LSFS definitions

Rastoin JL., Ghersi G., De Schutter O. (2010), Le système alimentaire mondial: concepts et méthodes analyses et dynamiques. Edition Quae. 565 pages.

ARF (2014 July 4), Déclaration de Rennes: Pour des systèmes alimentaires territorialisés. https://www.bretagne.bzh/upload/docs/application/pdf/2014-07/syst_alimentaires_territorialises_-_declaration_arf_07_2014.pdf (2019/02/14)

Direção-Geral de Agricultura e Desenvolvimento Rural (2012), «Relatório do Grupo de Trabalho « Estratégia para a valorização da produção agrícola local - GEVPAL ». Lisboa, Direção-Geral de Agricultura e Desenvolvimento Rural.

Vovk Korže, A., 2016. Agroecology in Slovenia. In Journal for Geography 11-2.Page 95-118.

Majkovič, D., Borec, A., Rozman, Č., Turk, J., Pažek, K. (2005): Multifunctional Concept of Agriculture: Just an Idea or the Real Case Scenario? Društvena istraživanja 14 (3). 579–596. https://hrcak.srce.hr/index.php?id_clanak_jezik=27736&show=clanak

Pažek, K., Rozman, Č., Bavec, F., Borec, A., Bavec, M. (2010): A Multi-Criteria Decision Analysis Framework Tool for the Selection of Farm Business Models on Organic Mountain Farms. Journal of Sustainable Agriculture 34. 778–799.

Prišenk, J., Borec, A. (2013 a): How to Improve the Contribution of Local Food Supply Chains to the Development of Rural Areas with Different Methodological Approaches: A Slovenian Case Study. https://mnet.mendelu.cz/mendelnet2013/articles/49_prisenk_749.pdf

Prišenk, J., Borec, A. (2013 b): Models of Partnerships and Organisational Forms in Short Food Supply Chains in the Slovenian Mountains. Economics of Agriculture 60 (2). 277–286. http://ageconsearch.umn.edu/record/152807

SWOT analysis

Saidalieva G. S. The SWOT analysis method as a means of developing critical thinking among ESP students // Jeune scientifique. - 2017. - №24. - pages 382 à 385. https://www.moluch.ru/archive/158/44567/ (date d'accès: 26/02/2019).

Module 3

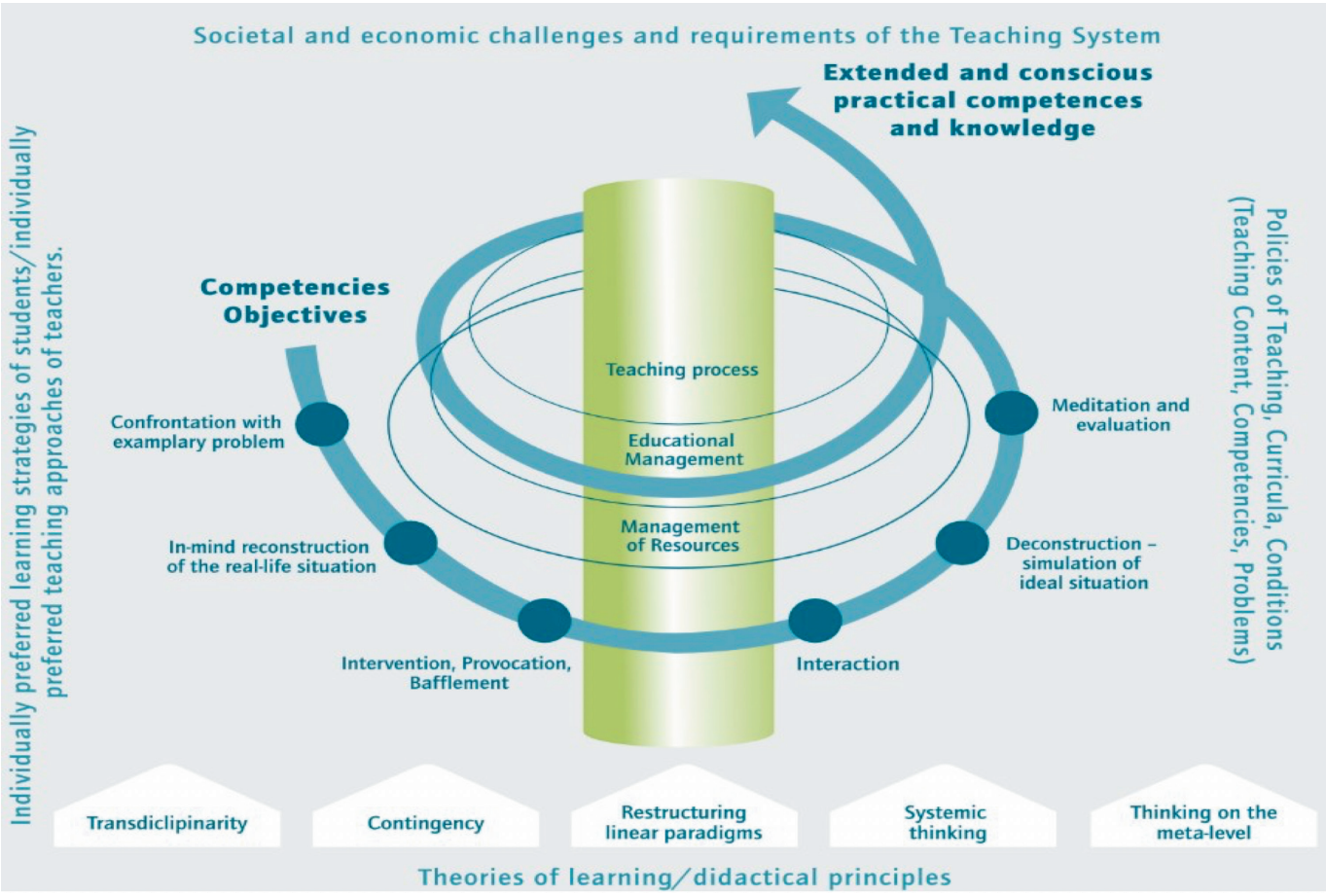
Module 3

- Type: Professionalisation and citizenship
- Estimated duration: 30-40 hours
- Level: 16 to 22 year-olds
- Cooking, LSFS, mapping, sustainability criteria, nutrition, business model

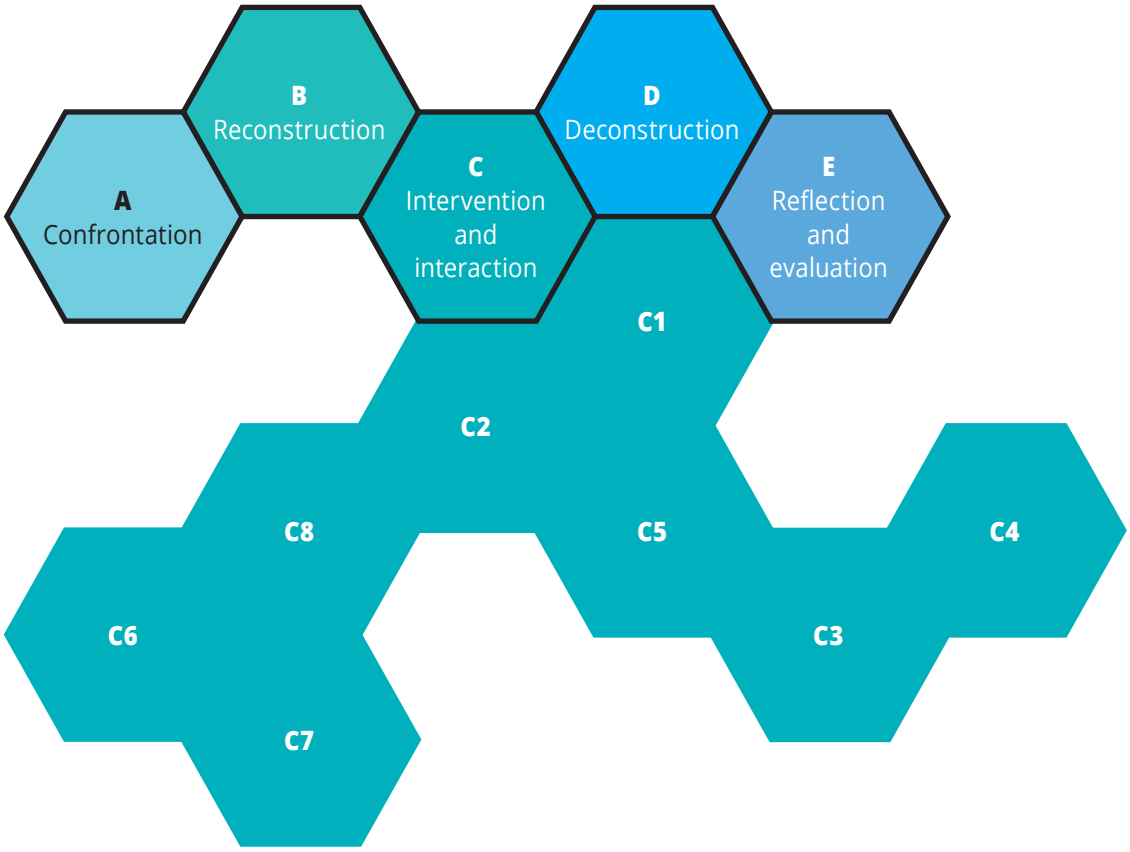
„SHAPE YOUR ENVIRONMENT! EAT FAIR FOOD!"

How well do you know the region where you live? Are there local food producers? Where does the food you eat actually come from? How can you eat your favourite meals and still take care of your health, the environment, your local economy, and everyone from your community who might benefit from Fair Trade?

This learning and teaching kit for school-based vocational training should boost students awareness of their local environment, enabling more informed, conscious choices taking into account the origins of their food. This requires students to apply extensive thinking and negotiation processes. It is not about creating perfect solutions for a local sustainable food system, but more about initiating critical thinking processes and seeking feasible options using their favourite meals as case studies. By examining personal consumption and relating it to agriculture and sustainability, it should become clear that solutions in these areas always require a willingness to compromise.



MODULE COMPOSITION



Decide, plan, prepare, and eat the groups favourite meal
Learning outcome:
Favourite foods
Challenge a real-life example

Analyse the favourite meal according to defined sustainability criteria
Learning outcome:
Completed & coloured ingredient cards
Reconstruction of the current situation

Dealing with the individual components in a game setting
Learning outcome:
Suggestions for improvements to ingredients
Intervention and Interaction

Optimisation of the groups meal based on the ingredient cards & regional optimisation
Learning outcomes:
Planning ingredient purchases and preparing the dish
Regional action plan
Compare current and target situations; find compromise solutions
Deconstruction

Preparing and thinking about the meal
Learning outcomes:
Sustainable favourite meal
OR favourite sustainable meal
Reflection and evaluation

General capacities

- understanding the basics of systemic thinking.
- to be able to view dilemmas and problems, as well as tensions and conflicts from different perspectives.
- to cooperate with others in a way that helps gain clarity about your own and other worldviews and to perceive that alternative systems and perspectives are thinkable/possible.
- to make a positive contribution towards other people, their social and environmental environment at both local and global levels.
- to act based on critical-thinking and pragmatism.

Specialised capacities

- to understand the interconnections between natural, social and economic systems and how they work.
- to understand that your thinking, living, and actions, has an influence on future sustainability.
- to understand the urgent need for change, moving away from unsustainable practices and towards better quality of life, equality, solidarity and ecological sustainability.
- to understand the need for critical thinking, vision and creativity, in planning for the future and initiating processes of change.
- to be able to use the natural, social, and constructed environment - including your own company/farm - as a context and source of professional development.
- to be willing to question opinions grounded on unsustainable actions.

MODULE OVERVIEW

When? Module phases	Why?	What? Content	How? Method/ procedure	Who/with whom? Social setting	With which means? Media, working materials
A Confrontation Challenge an example Estimated duration: 6-8 hours	Objective: Discover the topic and arouse interest **Specialised capacities** See flashcard	Decide, plan, prepare and eat the groups' favourite dish **Learning outcome: Favourite dish**	Students can assign themselves the meal they like best. They can research recipes, plan their purchases, buy products, prepare and eat the meal.	Group work (3 to 5 persons, depending on the number of cooking stations)	Typical favourite meals could also be suggested by the teacher based on simple dishes with not too many ingredients. For example: Schnitzel, Kaiserschmarrn, pizza, spaghetti bolognese,...

When? Module phases	Why?	What? Content	How? Method/ procedure	Who/with whom? Social setting	With which means? Media, working materials
B Reconstruction of the current situation Estimated duration: 3-5 hours	Objective: Familiarisation with sustainability criteria. Contextualisation of food, building units to measure individual criteria **General capacities** Reflecting on individual progress by using a learning diary	Analyse a favourite meal according to defined sustainability criteria **Learning outcome: Completed, coloured ingredients cards**	Students design criteria-based coloured index cards for the ingredients of their favourite meal to indicate the «current state» of their ingredients.	Group work (same groups as before)	Ingredient cards belonging to one meal should all use the same basic colour

MODULE OVERVIEW

When? Module phases	Why?	What? Content	How? Method/ procedure	Who/with whom? Social setting	With which means? Media, working materials
C Intervention and Interaction **C0 How well do you know your region?** Estimated duration: 10-25 hours	Objective: Gaining a better overview of the region **General capacities: To ask relevant questions, To represent relevant information**	Getting to know the regional institutions (farms, companies and other stakeholders of interest). Regional food production and food systems **Learning outcome: Model the home region food system (Maps, GIS etc..)**	Students develop an overview of their environment/living environment by reconstructing their region. Model making in class: GIS map, houses or cards, pin needles with descriptions, etc. Field trips, farm/company visits, visits to public authorities, best-practice farms/companies (possibly outside the region - creating visions), etc. Answering questions and presenting the model - building the supply chain: 1. Where does the food come from? 2. Which farms (or other stakeholders) are based in the town/ region/country? (draw circles - measure distances) 3. What is "local"? 4. What food is available locally and how is it produced? 5. What is not available? 6. Black box foods - origin untraceable?	Group work (same groups as before) Plenary, whole class Interactions with stakeholders (farms, companies, institutions and public authorities ...)	Questionnaires, interview questions, farm/company profiles, Internet research, ...

Other possible units in the module phase "Intervention and interaction": These can be handled in a station mode or in individual items, depending on the available resources and needs

When? Module phases	Why?	What? Content	How? Methodical procedure	Who/with whom? Social setting	With which means? Media, working materials
C1 What's in season in your region? After the Confrontation/ Reconstruction phases (see above) OR, as a stand-alone unit	Objective: Getting to know about the seasonality of regional products **General capacities:** **• Developing and justifying your own solutions or approaches** **• Preparing a structured conversation.**	Unit 1: Seasonality Learning product: Regional seasonal calendar How this relates to the favourite meal	What is locally available and when (during which season of the year) is it available? Literature & consultations with actors Create a seasonal calendar, based on the first intervention, for the region	Plenum, Group work	Interviews, literature, internet, excursions
C2 Hands on Sustainability After the Challenge and Reconstruction phases (see above) OR, as a stand-alone unit	Objective: Transferring methods and technical knowledge for assessing the economic sustainability of at least two actors (e.g. enterprises) in the local food system	Unit 2: Business models of farms/ companies in the region with a focus on ecology and economy	Definition and application of tools for assessing sustainability criteria Evaluation and comparison of entities	Plenum, Group work	Assessment tools, spider diagram, excursions
C3 It's never too late for solidarity After the Challenge and Reconstruction phases (see above) OR, as a stand-alone unit	Objective: Overview of the social conditions in agricultural production – including regional and global considerations	Unit 3: Fair Trade production with a focus on the the social dimension	Entry point is the "exotic" ingredients of the favourite meal (eg. Pepper; Vanilla, etc. – in cases where there is no exoctic ingredients – cacao should be used for this unit). Guiding questions: How is this produced? Who earns the largest share from selling cacao in the local grocery store? What happens in the local food system concerning fair payments, etc?	Plenum, Group work	Movie, Internet, Literature, Booklets , Optional: Excursion

MODULE OVERVIEW

When? Module phases	Why?	What? Content	How? Methodical procedure	Who/with whom? Social setting	With which means? Media, working materials
C4 Food only - zero waste After the Challenge / Reconstruction phases (see above) OR, as a stand-alone unit	Objective: Getting to know the impact of packaging materials and how to investigate them	Unit 4: Food packaging	Questions/criteria... How much packaging do we "consume" in one month? Zero waste challenge – Investigate how to find unpackaged alternatives within the region? etc.	Plenum, Group work	Movies Internet Literature Optional: Excursion
C5 How our region eats After the Challenge / Reconstruction phases (see above) OR, as a stand-alone unit	Objective: Getting to know increasing awareness of sustainable local consumption	Unit 5: Nutritional - physiological , and sensory analysis of food	Embedding our consumption into its socio-cultural and physical regional context. Which factors play a role in what we choose to eat or drink? What would a healthy and sustainable diet adapted to the local food system look like?	Plenum, Group work	Movie Internet Literature Booklets
C6 Food wastage After the Challenge / Reconstruction phases (see above) OR, as a stand-alone unit	Objective: Getting to know the challenges of food loss and food wastage and how to address this	Unit 6: Food wastage	Talking to actors, discussing and evaluating food wastage in the local food system	Plenum, Group work	Movies, Guest speakers, excursions
C7 Beyond competition After the Challenge / Reconstruction phases (see above) OR, as a stand-alone unit	Objective: Getting to know the concept of food sovereignty (FS)	Unit 7: Food sovereignty and global agriculture. Regional ideas representing FS	What is FS? Where did the concept of FS come from? How can we look at the local food food system in terms of FS?	Plenum, Group work	Movies Literature Optional: Excustions

MODULE OVERVIEW

When? Module phases	Why?	What? Content	How? Methodical procedure	Who/with whom? Social setting	With which means? Media, working materials
D Deconstruction Duration: 6-8 hours of lessons	Objective: Creating awareness of sustainable local consumption or how to enhance regional sustainability.	**Learning outcome 1: "Sustainable favourite meals"** **Learning outcome 2: Regional action plan** Access the sustainability of the local food region and propose improvements to stakeholders. Communicate with key regional stakeholders (decision makers; sectoral organizations; citizens organizations) on the current picture and the classes' suggestions. Identify and use sustainability criteria to evaluate local food systems	Optimisation of the groups' meal using ingredient cards with the target outcomes on the back; planning sustainable and local shopping trips, preparing the meal. Model extension or proposed changes to optimise the regional food system Compare the current and target situations - find compromise solutions	Favourite meal groups In small groups Plenum	Favourite meals made with local ingredients from a sustainable food system.

MODULE OVERVIEW

When? Module phases	Why?	What? Content	How? Methodical procedure	Who/with whom? Social setting	With which means? Media, working materials
E Reflection and evaluation Duration: 2-4 hours of lessons	Objective: The impact of our individual eating habits on regional and global food systems - present and future	**Learning outcome:** Action plan for the future food consumption	Discussion and reflecting on diverse learning processes with a focus on personal nutritional behaviour based on the following points** (see below)	Plenum and individual work moderated by the teacher	Possible: An online challenge on sustainable consumption decisions, e.g: Short YouTube clip "I buy this product because..."

**) Points for reflection:

Learners should begin to understand the basics of systemic thinking.

Learners should understand the interconnections between natural, social, and economic systems, and how these work. Learners perceive that their thinking, life choices and actions have an influence on future sustainability.

Learners appreciate the urgent need for change, moving away from unsustainable practices, towards better quality of life, equality, solidarity and ecological sustainability.

Learners will understand the need for critical reflection, vision and creative thinking in planning for the future and in initiating transformative processes.

Learners will be able to view dilemmas and problems, as well as tensions and conflicts from different points of view.

Learners will be able to use natural, social and constructed environments, including their own company/farm, as a context and source of professional development.

Learners demonstrated they can cooperate with others in a way that helps gain insights about their own and other worldviews and in understanding that alternative systems and perspectives are feasible.

Learners are people who make a positive contribution to other people and their social and environmental environments at both local and global levels.

Learners are people who are willing to question opinions based on unsustainable actions.

Learners are people who apply critical thinking and act pragmatically.

FLASHCARD

A	Our favorite meal is best	

Confrontation: challenge an example

The learners think about their favourite meal and plan the preparation and purchase of ingredients in a team. Afterwards the group has the option to source the necessary food and ingredients independently.

During the practical lessons the students prepare and eat their favourite meal. Afterwards they reflect on their individual learning process.

Preparation time	Requirements	Estimate duration
20 mins	★★★☆	5h

Specialised capacities

Independently prepare food and a recipe,
Plan a purchase,
Recognise and interpret product labels

Aim of the teaching sequence in the module:

Arouse the learners interest and show they can take a personalised approach to the topic

Learning outcome

A self-made favourite meal

Required materials/media

Class or group room, pens and paper,
Computers with Internet access or cookbooks;
Teaching kitchens with equipment and a dining room
Food is selected and purchased by the learners themselves

A	Our favorite meal is best		
Duration in mins	Social- setting	Materials/ Media	Methodology-didactical notes / implementation
20 *Confrontation*	**PL**	**Pens and paper**	Entry 1: The students are given the task of choosing their personal favorite meal. This can be a starter or dessert / sweet or spicy. The entries are then clustered. The students form groups according to their preferences Entry 2: The teacher provides a recipe for popular meals and students assign themselves to each based on their preferences. This leads to the formation of groups
50 *Reconstruction*	**GW**	**Computer and Internet, cookbooks**	Students research recipes on the internet, in cookbooks, or by interviewing family members. They plan their own purchases and create a workflow plan for preparing their meal
Free time *Interventions/ Interactions*	**GW**	**Money, shopping facilities**	They buy the food needed from a grocery store/supermarket of their choice. There are no restrictions. Invoices and packaging must be brought into class. In case of unpackaged food, the product labelling must be photographed or written down while in the shop.
150 *Deconstruction*	**GW**	**Kitchen including equipment, dining room**	Entry 1: In the teaching kitchen, the dishes are prepared and eaten by the team using the ingredients purchased during the practical lessons. All preparation, main, and follow-up work is carried out by the students based on their workflow planning. The meals are taken together in a beautiful ambience. Entry 2: Students bring in home-cooked meals, or a print out / model (made out of modeling dough) / drawing of a meal.
20 *Reflection*	**PL**	**Pens and paper**	Subsequently, the students think about and discuss the following questions: How did the dish taste? What are the aesthetics of the meal? What is the nutritional value? Is it «healthy»? What criteria were used to choose ingredients when shopping? They write out their results on a flip chart in groups.

IW: Individual work; PL: Plenum; GW: Group work.

FLASHCARD

B	There is no plan(et) B

Reconstruction of the actual situation

Analyse the favourite meal according to predefined sustainability criteria

For each of their required ingredients they should fill in criteria-guided index cards, which are categorised by a color scheme based on food groups. The ingredient cards show the «current state» of selected foods.

Ingredient:

Criteria of sustainability	Evaluation of actual status		
Regionality:	_____ km		
Seasonality	☐ yes	☐ no	
Organic production	☐ yes	☐ no	
Price / 100g	_____ €		
Fair Trade	☐ yes	☐ no	
Packaging type / weight	_____ / _____ g		
Health	Not healthy	Neutral	Healthy
Taste	☐ Tasty	☐ Not tasty	
Plant vs. animal product	☐ Plant pr.	☐ Animal pr.	

Preparation time	Requirements	Estimate duration
40 min	★★★☆	5h

Specialised capacities

To select food for a wholesome meal using available resources

Aim of the teaching sequence in the module:

Familiarisation with sustainability criteria when buying food

Learning outcome

Complete colour coded ingredient cards
Definition and clarification of criteria for sustainable nutrition
Action plan

Required materials/media

Class or group room, pens and paper,
Colour coded ingredient cards for each meal using the same basic colours;
Invoices of purchases and food packaging, Invoices of purchases and food packaging, tablet (www)

B	There is no plan(et) B		
Duration in min	Social- setting	Materials/ Media	Methodological-didactical notes / Implementation
30 *Implementation*	**L** **IW** **PL**	**Poster, Statements, Movie, Internet, PC, Beamer**	The teacher makes topic-related statements to learners such as their daily shopping has a major impact on living conditions on planet earth. Possible solutions to this statement are discussed in the plenum. *Option: Where available, the school shop could be visited* **RESOURCE 1**
90 *Reconstruction*	**GW** **PL** **GW** **GW**	**Ingredients cards, food packaging, receipts, bills, scale**	The teacher presents the ingredients cards showing the selection criteria for sustainable nutrition, and using a concrete example. The students are asked to analyse the food they bought according to these criteria and record the results on their cards. Each food or ingredient gets its own card, which is assigned to the colour coded groups in the food pyramid. **RESOURCE 2** *Optional:* The teacher encourages students to create their own ingredient cards by first explaining sustainable nutrition criteria, then tasking students to work in small groups to design their own card, and finally, asking the class to compare these cards and come to agreement on a common ingredient card for the whole group.
75 *Interventions/ Interactions*	**GW** **PL** ***GW*** ***GW***	**Completed ingredient cards, food pyramid** **Reflections & thoughts from unit A** **Completed ingredient cards,**	Learners are split into groups based on food groups. The students then rank ingredients based on how well they satisfy the sustainability criteria. The results are presented and discussed in the plenum. This involves comparing the students purchasing decisions. The teacher moderates this process, specifying which food choices are to be compared. *Additional option:* The learners form new groups and play «quartet» with the ingredient cards. The goal is to obtain the most sustainable ingredients. Sustainability is trumps!
30 *Deconstruction*	**PL**	**Learning diary**	Learners create their own learning diary, in which they will work on three questions about their consumer behavior. They can also create their own comic strip for the three questions.
25 *Reflection*	**PL**	**Padlet**	Students discuss the topic; «There is no plan(et) B» and write their opinions in a padlet with subdivisions for school and region. Led by the teacher, they come to the conclusion that buying regional food can make a significant contribution.

IW: Individual work; PL: Plenum; GW: Group work; L: Lecture

MODULE 3 RESOURCES
B RECONSTRUCTION

Blue: resources for trainers and teachers
Orange: resources for learners

RESOURCE **1-1**

MOVIES OR ARTICLES FOR CHALLENGE

A Tale of Two Chickens
https://www.youtube.com/watch?v=KVTLLrP9uOg
Why do we need to change our food system?
https://www.youtube.com/watch?v=VcL3BQeteCc
Our food system is at risk of crossing 'environmental limits' – here's how to ease the pressure
https://theconversation.com/our-food-system-is-at-risk-of-crossing-environmental-limits-heres-how-to-ease-the- pressure-104715
Environmental impacts of food production
https://ourworldindata.org/environmental-impacts-of-food

France

Almeria : la méga-ferme de l'Europe | Dezoom #1 | ARTE
https://www.youtube.com/watch?v=eHZeWiz0mtA
The conversation. 2018. Impact de notre consommation sur l'environnement, une vaste étude fait le point
https://theconversation.com/impact-de-notre-consommation-sur-lenvironnement-une-vaste-etude-fait-le-point-103931
Euronews. 2017. Poulets en batterie: les images choquantes
https://www.youtube.com/watch?v=JvhOavlS1s0
Konbini news. 2018. Hugo Clément dans l'enfer des usines à cochons
https://www.youtube.com/watch?v=HlAIJ-hBDOA
France 3 Nouvelle-Aquitaine. 2018. Suicide des agriculteurs : témoignage d'un éleveur de chèvres dans la Vienne
https://www.youtube.com/watch?v=ojNJ1WhXZ6g
DarnaTelevision. 2017. France: le cri de détresse des éleveurs/agriculteurs
https://www.youtube.com/watch?v=6Pe0HwdUE7E

RESOURCE 1-2

MOVIES OR ARTICLES FOR CHALLENGE

Portugal

Consumir de forma insustentável
https://www.eea.europa.eu/pt/sinais-da-aea/sinais-2011/artigos/consumir-de-forma-insustentavel
Você come e muda o planeta (br)
https://www.youtube.com/watch?v=uNFHVC9Q8Y0

Slovenia

Conservation agriculture (slo video)
https://www.youtube.com/watch?v=fUcp0ZN9BMY
Eco-farm Krišelj (slo video)
https://www.youtube.com/watch?v=lEOQ21FB0Sk Honey production (slo video) https://www.youtube.com/watch?v=qlsbshOwbWs
Kurzgesagt – In a Nutshell: The Death Of Bees Explained (eng video)
https://www.youtube.com/watch?v=GqA42M4RtxE
Vox: Why beef is the worst food for the climate (eng video)
https://www.youtube.com/watch?v=3lrJYTsKdUM
Kurzgesagt – In a Nutshell: Is Meat Bad for You? (eng video)
https://www.youtube.com/watch?v=ouAccsTzlGU
Vox: The diet that helps fight climate change (eng video)
https://www.youtube.com/watch?v=nUnJQWO4YJY

RESOURCE 1-3

MOVIES OR ARTICLES FOR CHALLENGE

Italy

Il pianeta vive se vive la biodiviersità (ita video)
https://www.youtube.com/watch?v=pjqJ37SmZeo&t=58s
Al supermercato facciamo una spesa 'amica del pianeta': l'Eco Menù di Greenpeace
https://www.youtube.com/watch?v=0Yxv_m6778Y
I consigli di Greenpeace per una spesa amica dell'ambiente
https://www.youtube.com/watch?v=DKg1Eg7HE_8
L'IMPATTO AMBIENTALE DELLA NOSTRA ALIMENTAZIONE
https://www.educambiente.tv/impatto-cibo-alimentazione-ambiente

Austria

Weltagrarbericht 2018
https://www.weltagrarbericht.de/themen-des-weltagrarberichts.html
https://www.weltagrarbericht.de/fileadmin/files/weltagrarbericht/Weltagrarbericht/10B%C3%A4uerlicheIndu strielleLW/Agraratlas2018.pdf
Landwirtschaft Österreich ORF Quantensprung
https://www.youtube.com/watch?v=XyNmYNU0-Fs
Fleisch – Das leckerste Übel der Welt (Germany)
https://www.youtube.com/watch?v=y6f3dwxexZM

RESOURCE 2-1

PAPER CARD (DIN A5) – ACTUAL STATE OF SUSTAINABILITY

Criteria	Unit of Measurement	Actual state (to be filled in)
Local origin:	Kilometer	
Seasonality	Yes/No	
Organic production	Yes/No	
Prices	EURO	
Fair Trade	Yes/No	
Package	Gramm	
Healthy	Traffic light	
Taste	Tasty/Not tasty	

The target status is entered later on the back.

RESOURCE 2-2

INGREDIENTS CARD

Ingredient:

Criteria of sustainability	Evaluation of actual status	
Regionality:	_____ km	
Seasonality	☐ yes	☐ no
Organic production	☐ yes	☐ no
Price / 100g	_____ €	
Fair Trade	☐ yes	☐ no
Packaging type / weight	_____ / _____ g	
Health	Not healthy	Neutral / Healthy
Taste	☐ Tasty	☐ Not tasty
Plant vs. animal product	☐ Plant pr.	☐ Animal pr.

FLASHCARD

C	How well do you know our region?		
Intervention and interaction «Region»	**Preparation time**	**Requirements**	**Estimate duration**
By creating a model of their region, learners gain an overview of their (living) environment. They explore their region and get to know food producers, food processing companies, and the flow of goods in the regional food system. They can ask questions leading to a model of their food supply chain in the classroom: **1. What does regionality mean to us?** **2. How many people live in the region and what is the make up this population?** **3. Where does our food come from?** **4. Which farms are in the region?** **5. Which foods are in the region and how are they produced?** **6. What is not available? "Black box" -in which cases are the origins untraceable?** **7. What could have been procured locally rather than as a "black box"?**	180 mins	★★★☆	10-20h
	Specialised capacities		
	Interpreting figures, data and facts about agriculture and drawing conclusions. Explaining the economic importance of agriculture. Creating a representative model of a living environment.		
	Aim of the teaching sequence in the module:		
	Providing an overview of the region and getting to know the actors in the regional food system(s)		
	Learning outcome		
	Model of the food system of the home region, learning diary		
	Required materials/media		
	Slide/poster, Digital map, 2-dimensional base map of the region, Materials for the region model, Postcards of the region, Tasks for group work, Learning diary Excursions to entities (farms, processors, companies, public authorities, NGOs etc.) to experience first hand examples of best-practice (possibly outside the region – creating visions), etc.		

C	How well do you know our region?		
Duration in mins	Social- setting	Materials/ Media	Methodological-didactical notes / Implementation
15 *Confrontation*	**PL**	**Questionnaire**	Learners are challenged with provocative questions intended to make them aware of what they don't know about their immediate surroundings.
50 *Reconstruction*	**PL**	**Base map, materials for model building**	The learners create a model in the classroom based on their knowledge of the region. Based on their favorite food and its ingredients, this model should show producers, processing companies, distributors, consumers, and waste disposal facilities. They should consider the flows of goods and put foods / ingredients with ambiguous origins into the black box. **RESOURCE 1**
350 *Interventions/ Interactions*	**GW**	**Postcards, tasks for group work**	Based on these assumptions, the learners receive research tasks concerning the local supply chain and the overall situation of the region. Based on the questions (see front page) they should research demographic data, companies, consumers, etc. in the local food system. For this purpose, depending on the available teaching time, excursions, and visits to farms, good practice sites, public officials (possibly beyond the region, which create visions), etc. can be organised.
50 *Deconstruction*	**PL**	**Regional model**	Learners create a representation of the ACTUAL (current) situation in the region. This should give an overview of actors in their region and enable them to identify missing factors to ensure supply. **RESOURCE 1**
35 *Reflection*	**PL / IW**	**Learning diary**	The learners draw conclusions about how to optimize future purchases for their favorite meal. The additional units / learning sessions (C1-C7) offer further learning opportunities based on sustainable nutrition criteria, depending on the teaching time available.

IW: Individual work; PL: Plenum; GW: Group work.

MODULE 3 RESOURCES
C HOW WELL DO YOU KNOW YOUR REGION

Blue: resources for trainers and teachers
Orange: resources for learners

RESOURCE 1

TOOLS FOR MODEL MAKING

Digital workspace MURAL
https://www.mural.co/

Open source QGIS
https://qgis.org/de/site/

Online flowchart maker
draw.io

FLASHCARD

C1	What's season in your region?		
Intervention UNIT 1: Seasonality Challenge individual purchasing behavior based on the products of M3 A "favorite meal". Investigating seasonality and regionality. **Task 1:** Analysis of the current situation **Field:** Local grocery store **Study:** Seasonality and regionality of a fruit and vegetable assortment Writing an open letter to the management of grocery stores on the topics of "regionality" and "seasonality". Receiving information on the topics "seasonality" and "change in seasonality due to climate change". Lead an interview with farmers in the region. Topics: Vegetation changes, the current weather situation, weather-related problems in fruit and vegetable cultivation, alternative planting options for the future. Processing the interview using a "world-café" method. Presentation of the results in plenum. Analysis of specific cultivation alternatives and their demand in the region. Collating results on a padlet. Reflection on the individual learning experience with the help of a learning diary.	**Preparation time**	**Requirements**	**Estimate duration**
	120 mins	★★★☆	8h
	Specialised capacities		
	Taking regional, ecological and climatic conditions into account in the production of agricultural products and assigning production possibilities to specific areas. Describing the local climatic conditions Identifying regionally specific crops and their significance.		
	Aim of the teaching sequence in the module:		
	Learners can get to grips with the topics of seasonality and regionality and can come up with strategies for the future		
	Learning outcome		
	Summary of the current situation, Open Letter, Interview and resulting poster, Padlet, Learning diary entry		
	Required materials/media		
	Suitable premises + standard presentation material, seasonal agricultural calendars, excursions to supermarkets, documents on regional vegetation + climatic changes		

C1	What's season in your region?		
Duration in mins	Social- setting	Materials/ Media	Methodical-didactical notes / Implementation
50 *Confrontation*	**GW** **PL**	**Season calendar** **Lables Invoices**	Learners will be challenged to examine their own buying behavior by looking at the products purchased in M3 A "favorite meal" taking into account seasonality and regionality (using a seasonal calendar).
170 *Reconstruction*	**IW** **GW** **PL**	**Tables** **Clipbards**	After this students should solve **Task 1**. There, they have to analyse the range of fruit and vegetables available at a regional grocery store. They should express their suggestions, opinions, and attitudes, on the topic of regionality and seasonality in the form of an open letter to the regional grocery store. The open letter should be addressed to the management of the grocery store
140 *Intervention/ Interaction*	**IW** **PL** **GW**	**Interview questions** **IT** **Excursion** **Input climatic conditions**	Students will receive information on the topics of "seasonality" and "changes in seasonality caused by climate change". The teacher should focus on new, previously unconsidered aspects. Subsequently, the students can focus more on these aspects during their interviews. The interview should be processed using the "world-café" method. Here the learners summarise their findings and compare these with each other. By changing perspective, they gain a broader point of view. In the end, they should present their results in front of the class.
50 *Deconstruction*	**GW**	**Overview of the region**	The learners should propose an alternative planting option and the demand for it in their region. Here we reach a Conclusion to the phase "Reconstruction." They can design a seasonal calendar that fits their region.
20 *Reflection*	**GW** **PL**	**Modell of the region**	Finally the outcome will be discussed together. The students should reflect on their own learning experience with the help of a learning diary.

IW: Individual work; PL: Plenum; GW: Group work.

FLASHCARD

C2	Hands-on Sustainability		
Intervention UNIT 2: Farming and business practices of the farms/ companies This unit is designed to collect more specific information on agricultural and business practices of farms/companies that produce ingredients for the „favorite dish" in order to acquire operational key figures with special focus on sustainability and evaluate and compare them amongst businesses.	**Preparation time**	**Requirements**	**Estimate duration**
	4h	★★★★	20h + homework
	Specialised capacities		
	To assess the effects of ecological and economic actions on the circular economy using a concrete case study.		
	Aim of the teaching sequence in the module:		
	Learners should, based on real-world cases , realize and analyze the differences between small, regional farms/companies and large, industry-scale farms/companies. Focus is placed on a selected part of similar production chains. Main aspect: Sustainability.		
	Learning outcome		
	Illustration of the similarities and differences of production chains leading to a final product using the example of dairy farming in the frame of portfolios based on field trips and containing several business analyses.		
	Required materials/media		
	Form for data acquisition, already available information on locations to be visited. **RESOURCE 2**		

C2	Hands-on Sustainability		
Duration	Social- setting	Materials/ Media	Methodical-didactical notes / Implementation
100 *Confrontation*	**PL, GW**	**Form for filling in data, information on RISE-model and businesses**	Introduction to the module and the scientific background (selected value production chain, RISE- indicators/model). Discussion of content-related objectives, learning outcomes, and preparation of materials to analyse several businesses on-site in groups.
6h *Reconstruction*	**PL**	**Pens and paper, flip chart, internet, model of the region**	The teacher introduces sustainability issues and asks the learners to consider how these are reflected in their best case. **RESOURCE 1** By doing so, criteria can be defined together (e.g. a fact sheet template, spider diagram, etc.), to gather the information needed to verify the sustainability of any actor in the regional food system (e.g. producer, processor, trader,...) providing a given ingredient of the favourite meal. **RESOURCE 2+3** The actors to be assessed are identified using the model and the map (see unit C), the specific modus operandi (questionnaires, division of tasks for groups, etc.) of the assessment is planned and the excursion to the actor(s) site is organised. **RESOURCE 4**
6h *Intervention/ Interaction*	**PLGW**	**Questionnaire, fact sheet template, spider diagram**	Field trip to farms and food producing businesses. E.g: **Day 1:** One industrial-scale farm and processing company (here: dairy) **Day 2:** Three small-scale farms with processing/vending on site. The focus of every group should be on the key operational figures selected on their data form.
100 *Deconstruction*	**PL**	**Completed data form, pictures, further information**	Presentation of materials and information gathered in class, overview of important information, short discussion of the main insights, summary and evaluation of key information, discussion of next steps to be taken for homework. Optimisation suggestions for the portfolios of each business (as homework)
100 *Reflection*	**GW**	**Presentation, documents, port-folio**	Presentation of results by business, discussion of experience, results, and what was learned. Summary of all information in a portfolio

IW: Individual work; PL: Plenum; GW: Group work.

MODULE 3 RESOURCES
C2 HANDS ON SUSTAINABILITY

Blue: resources for trainers and teachers
Orange: resources for learners

RESOURCE 1-1

SUSTAINABILITY ASSESSMENT

Sustainability Assessment of Food and Agriculture systems (SAFA)
http://www.fao.org/nr/sustainability/sustainability-assessments-safa/en/
SAFA Sustainability Assessment of food and agriculture system - indicators
http://www.fao.org/fileadmin/templates/nr/sustainability_pathways/docs/SAFA_Indicators_final_19122013.pdf
SMART – Sustainability Assessments in the Food and Agriculture Sector
https://www.fibl.org/en/themes/smart-en.html
Using the Sustainability Monitoring and Assessment Routine (SMART) for the Systematic Analysis of Trade-Offs and Synergies between Sustainability Dimensions and Themes at Farm Level
https://www.mdpi.com/2071-1050/8/3/274
RISE – getting sustainability down to earth
https://www.bfh.ch/en/research/reference-projects/rise/
RISE, a Tool for Holistic Sustainability Assessment at the Farm Level
https://ideas.repec.org/a/ags/ifaamr/34379.html
Assessing sustainability at farm-level: Lessons learned from a comparison of tools in practice
http://www.fao.org/fileadmin/templates/nr/sustainability_pathways/docs/Assessing_sustainability_at_farm_level__2_.pdf
Agroecology Criteria Tool
https://www.agroecology-pool.org/methodology/

France

IDEA4. Indicateurs de durabilité des exploitations agricoles version 4
http://methode-idea.org/
RMT Erytages. Les productions
http://www.erytage.org/webplage/index.php?option=com_flexicontent&view=category&cid=119:prodrmt&Itemid=182

RESOURCE 1-2

SUSTAINABILITY ASSESSMENT

Portugal

Agridiag – Software DIALECTE
https://www.terraprima.pt/pt/projecto/10

Slovenia

Limits to Growth (LTG), Millennium Assessment (MA), Environmental Sustainability Index (ESI) and Environment Performance Index (EPI) (slo text) (Kirn, 2006)
https://www.dlib.si/details/URN:NBN:SI:doc-5JTUPXQF

Recognizing the sustainable development on regional level with the example of Dravinja valley (slo text) (Vovk Korže, 2014)
https://dk.um.si/Dokument.php?id=123881

Sustainable scheme of the regional agenda 21 (slo text (Vovk Korže, 2010, p. 41)
https://repozitorij.uni-lj.si/Dokument.php?id=109023&lang=slv

Italy

Pillole di sostenibilità / Agenda 2030: Garantire modelli sostenibili di produzione e di consumo
https://www.youtube.com/watch?v=9qdCSGJt1Vg

Quando l'agroalimentare diventa circolare e sostenibile
https://www.youtube.com/watch?v=RLnx7aMRWxk

Una soluzione circolare per una agricoltura sostenibile
https://www.youtube.com/watch?v=RkAnA9KEhr4

Il Bio Sotto Casa - La Filiera Corta
https://www.youtube.com/watch?v=Zlmcv3MOLGw

RESOURCE 1-3

SUSTAINABILITY ASSESSMENT

Austria (materials in German)

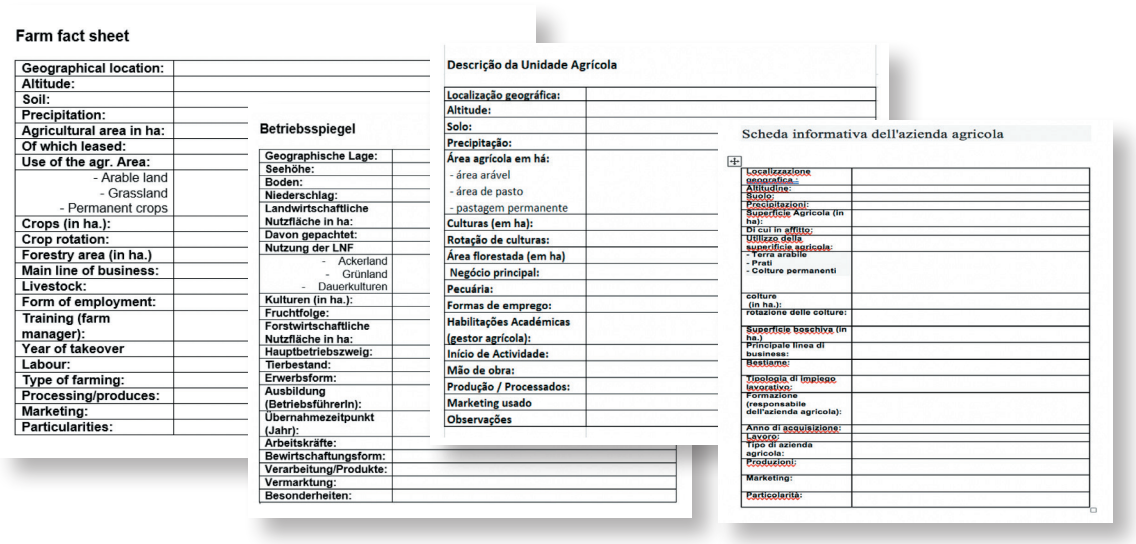
SMART – Sustainability Monitoring and Assessment RouTine
https://www.fibl.org/de/themen/smart.html und https://www.youtube.com/watch?v=nPYJauHnmeA

RISE – Nachhaltigkeit be-greifbar machen
https://www.bfh.ch/de/forschung/referenzprojekte/rise/

Ermittlung des „Biodiversitätswerts" landwirtschaftlicher Betriebe in Schleswig-Holstein - Ein Schnellverfahren für die Praxis
https://www.nul-online.de/Magazin/Archiv/Ermittlung-des-Biodiversitaetswerts-landwirtschaftlicher-Betriebe-in-Schleswig-Holstein,QUlEPTQzMDc5MDAmTUlEPTgyMDMw.html?UID=DF1773F06EE0C03B4C1E77B63EC6498B2CA819BD9A26A0CC

RESOURCE 2-1

FACT SHEET (EXAMPLES)



Farm fact sheet

Geographical location:	
Altitude:	
Soil:	
Precipitation:	
Agricultural area in ha:	
Of which leased:	
Use of the agr. Area:	
- Arable land - Grassland - Permanent crops	
Crops (in ha.):	
Crop rotation:	
Forestry area (in ha.)	
Main line of business:	
Livestock:	
Form of employment:	
Training (farm manager):	
Year of takeover	
Labour:	
Type of farming:	
Processing/produces:	
Marketing:	
Particularities:	

Betriebsspiegel

Geographische Lage:	
Seehöhe:	
Boden:	
Niederschlag:	
Landwirtschaftliche Nutzfläche in ha:	
Davon gepachtet:	
Nutzung der LNF	
- Ackerland - Grünland - Dauerkulturen	
Kulturen (in ha.):	
Fruchtfolge:	
Forstwirtschaftliche Nutzfläche in ha:	
Hauptbetriebszweig:	
Tierbestand:	
Erwerbsform:	
Ausbildung (BetriebsführerIn):	
Übernahmezeitpunkt (Jahr):	
Arbeitskräfte:	
Bewirtschaftungsform:	
Verarbeitung/Produkte:	
Vermarktung:	
Besonderheiten:	

Descrição da Unidade Agrícola

Localização geográfica:	
Altitude:	
Solo:	
Precipitação:	
Área agrícola em há: - área arável - área de pasto - pastagem permanente	
Culturas (em ha):	
Rotação de culturas:	
Área florestada (em ha)	
Negócio principal:	
Pecuária:	
Formas de emprego:	
Habilitações Académicas (gestor agrícola):	
Início de Actividade:	
Mão de obra:	
Produção / Processados:	
Marketing usado	
Observações	

Scheda informativa dell'azienda agricola

Localizzazione geografica:	
Altitudine:	
Suolo:	
Precipitazioni:	
Superficie Agricola (in ha):	
Di cui in affitto:	
Utilizzo della superficie agricola:	
- Terra arabile - Prati - Colture permanenti	
colture (in ha.):	
rotazione delle colture:	
Superficie boschiva (in ha.)	
Principale linea di business:	
Bestiame:	
Tipologia di impiego lavorativo:	
Formazione (responsabile dell'azienda agricola):	
Anno di acquisizione:	
Lavoro:	
Tipo di azienda agricola:	
Produzioni:	
Marketing:	
Particolarità:	

Austria (materials in German)

Muster Betriebsspiegel
https://docplayer.org/28006228-Muster-1-betriebsspiegel-allgemeine-angaben-name-des-betriebs.html

RESOURCE 2-2

FARM FACT SHEET

Farm fact sheet	
Geographical location:	
Altitude:	
Soil:	
Precipitation:	
Agricultural area (in ha):	
Of which leased:	
Use of the agr. Area:	
-Arable land	
-Grassland	
-Permanent crops	
Crops (in ha.):	
Crop rotation:	
Forestry area (in ha.)	
Main line of business:	
Livestock:	
Form of employment:	
Training (farm manager):	
Year of takeover:	
Labour:	
Type of farming:	
Processing/produces:	
Marketing:	
Particularities:	

RESOURCE 3

SPIDER WEB (EXAMPLES)

World

SMART Visualisations
https://www.sustainable-food-systems.com/wp-content/uploads/2016/09/SMART_Dimensions-1030x857.jpg with the key https://www.fibl.org/fileadmin/_processed_/c/6/csm_20161130_SMART_Rating_EN_small_6998924db1.png

France

Prospective Agriculture, forêt, climat: vers des stratégies d'adaptation. Educagri editions. Présentation de la grille d'analyse "Efficience, substitution, reconception"
https://editions.educagri.fr/cop21/ST72/res/AFClim_186-188_1.pdf

Portugal

Exemplo de visualização (br)
https://www.researchgate.net/publication/283860399_AVALIACAO_DA_SUSTENTABILIDADE_DE_UNIDADES_DE_PRODUCAO_AGROECOLOGICAS_UM_ESTUDO_COMPARATIVO_DOS_METODOS_IDEA_E_MESMIS/figures

Italy

MISURARE LA SOSTENIBILITÀ Indicatori per l'agricoltura italiana
https://www.isprambiente.gov.it/files/biodiversita/ISPRA_2008_Indicatori_biodiv_agric.pdf
Analizzare le connessioni per esplorare un modello agroecologico
http://agroecologia.acra.it/wp-content/uploads/2019/02/ACRA_Brochure-STUDI_exe.pdf
Valutazione della sostenibilità dei sistemi alimentari ed agricoli (SAFA)
https://www.youtube.com/watch?v=fJJuRrt-2BI&list=UUtu8MkufmVgxS8_Ocl7mMig

Austria (materials in German)

SMART Visualisierung
https://www.sustainable-food-systems.com/wp-content/uploads/2019/09/01_Gesamtbewertung.png
RISE Visualisierung
https://www.bfh.ch/.imaging/mte/bfh-theme/image-and-gallery-lg-2x/dam/bfh.ch/forschung/hafl/referenzprojekte/rise/bilder/rise-achhaltigkeitspolygon.jpg/jcr:content/rise-achhaltigkeitspolygon.jpg

RESOURCE 4

EXCURSION

World

https://www.visitmyfarm.org/teachers
https://www.foodforlife.org.uk/~/media/files/resources/ffl%20school%20resources/farm%20links/farm-visit-pro-forma.pdf

Slovenia

Applied Geography (slo webpage)
http://uporabna.geografija.si/
eGarden (slo webpage)
www.evrt.si

Austria

Betriebserkundung
https://www.univie.ac.at/geographie/fachdidaktik/Handbuch_MGW_16_2001/Seite32-44.pdf

FLASHCARD

C3	It is never too late for solidarity		
Intervention UNIT 3: Social Dimension of LSFS reflected in a global perspective— FAIR TRADE Many learners remember for example cocoa as a breakfast of their childhood or they associate chocolate with a special time or emotion. Almost everyone has an opinion about chocolate. For this reason, and also because cocoa is an imported produce that cannot be cultivated in the region, the topic of social conditions is addressed in the topic of cocoa production and chocolate manufacturing. The production conditions of cocoa beans «conventionally» or taking into account social conditions are compared and quality labels that stand for fair production conditions are examined under the microscope. Next, the Corona crisis is discussed, highlighting social problems in the regional and domestic agriculture. Product calculations that make fair working conditions possible are made and learners recognise the «value» of food produced under fair conditions.	**Preparation time**	**Requirements**	**Estimated duration**
	30 min	★★★☆	8h
	Specialised capacities		
	Carrying out partial and full cost accounting with given data. Justifying business decisions on the basis of cost accounting. Making a positive contribution to other people and their society and environment at a local and global level.		
	Aim of the teaching sequence in the module:		
	Raising awareness of fair working conditions not only in countries abroad, but also at home.		
	Learning outcome		
	Presentation of the differences between fair and unfair production in an importing country using cocoa as an example. Analysis and interpretation of product calculations/contribution margin, calculations with focus on the appropriate remuneration of harvest workers, taking into account working conditions.		
	Required materials/media		
	Suitable premises + standard presentation material* Product calculations, certification.		

C3	It is never too late for solidarity		
Duration in min	Social- setting	Materials/ Media	Methodical-didactical notes / Implementation
50 *Confrontation*	**PL**	**Chocolate mystery, Questionnaire**	As an introduction the learners are confronted with the "chocolate mystery" game: The teacher reads a story about chocolate shopping and leading questions: Every learner gets a hint card - learners must solve the mystery together with the hint cards After this, learners fill out the questionnaire " Fair trade and me" **RESOURCE 1**

100 *Reconstruction*	**IW** **GW**	**Internet, Pens, Paper**	Learners gather knowledge on fair trade in the form of a mind map. Next learners research information on certification marks. - Criteria and requirements for fair trade certification marks. - Regional suppliers and their conditions. - Learners can either design an advertising poster for fair trade or write a recommendation addressed to consumers.
150 *Intervention/ Interaction*	**IW** **PL**	**Chocolate bars, Movie**	Learners analyse chocolate bar labels. In this unit they are given the task of bringing the label or a photo of their favorite chocolate brand with them. They analyse the label with the aid of an analysis sheet looking in depth at seals of approval and labels. The results are presented in the classroom. The next step will be the film «Dirty Chocolate" which will be shown in the plenary session, the film will then be reviewed by the group. The learners then have time to reflect on their shopping. They receive a template of an empty shopping scale and can fill it with resolutions for a «cleaner chocolate shopping». **RESOURCE 2**
50 *Deconstruction*	**GW** **PL**	**Simulation game**	Learners read an article about the production steps of chocolate manufacturing. They then are divided into groups. Each group represents a group of people from the chocolate production chain (plantation workers, plantation owners, traders, ...) Each group is now asked to carry out more in depth research on their group of people. In doing so, they should also consider the living conditions of the people. They receive a role description and should think of a possible negotiation strategy. When the research work is completed, everyone returns to the plenary session. Each group now sends a representative of their group to the negotiation. Each group of people now represents their own needs. The aim is to negotiate a price that is as fair as possible for all participants. The rest of the learners observe the discussion. **RESOURCE 3**
25 *Reflection*	**PL**	**Discussion**	They reflect on the effects of a food system taking into account the individual interests of the actors in the system. The teacher can use this phase to try and open a discussion on these 3 social issues: • Working conditions of workers in a country that produces cocoa • Working conditions of migrants in your country • Working conditions of farmers in your country

MODULE 3 RESOURCES
C3 IT'S NEVER TOO LATE FOR SOLIDARITY

Blue: resources for trainers and teachers
Orange: resources for learners

RESOURCE 1

CHOCOLATE MYSTERY

Process		
overview	action steps	material
entry: initial story; key question	The teacher introduces learners to the topic and the problem by reading out the initial story and asking the key question.	Initial story Key question
assumptions	The learners comment on the key question and make assumptions about the connections.	
processing on the key question	The learners work on the key question together in small groups (3-4 learners). They arrange and sort the mystery cards in the way they consider appropriate to answer the key question - not all information is relevant to answering the question and connections between the facts must be uncovered.	paper and pens, mystery cards
presentation	The learners present the answers and solution found.If necessary, the teacher completes.	

RESOURCE 1-1

CHOCOLATE MYSTERY

INITIAL STORY:

Paula has got a 3 in maths - a small miracle, because actually her maths is not at all good and she already gets a stomach ache when she only thinks about maths. This is a little bit strange, because actually she likes her maths teacher Mr. Schröder very much and also her classmates never give her the feeling that she is stupid just because she is bad at maths! On the contrary, two boys and a girl from the class even met with her several times before the class test to help her learn - so it's no wonder that she got a 3! Anyway, Paula is beside herself with joy and wants to thank her supporters. She thinks for a long time back and forth about what to give them, then she decides on a bar of chocolate - after all, everyone likes that! Arriving at the discount store, it is not easy for her to decide on a bar of chocolate - there are so many different varieties, brands and price differences! Actually, Paula is not stingy, and she doesn't want to be stingy towards her friends either, after all they have invested their time to help her - and more! She thinks about the new bicycle in the corner shop on Schlösserstraße, for which she is saving up at the moment, and about her pocket money, which she finds far too low anyway (after all, she's 15 now, so there are needs for which you need a little more money!) If she could only buy one bar, yes, it could cost a bit more, but three of them? Besides, she's not sure whether her friends really like the expensive chocolate, which sometimes costs 3 €, better. And can one rely on all these labels on the packaging (which, by the way, are a mystery to her anyway) or is this just another new sales pitch that exploits the buyers' conscience? On the other hand - giving cheap chocolate as a present looks stingy and often doesn't taste so good - oh dear, «just for once» buying chocolate, if it were that easy! Finally Paula decides to go for a special offer of a brand she knows - this way it won't be so expensive, it won't look stingy and you can be sure that a big brand is a good choice.

KEY QUESTION:

Why is Paula partly responsible for the fact that 14-year-old Kofi from Ghana cannot go to school?

RESOURCE **1-2**

"FAIR TRADE AND ME" QUESTIONNAIRE

- What does «fair trade» mean to you?

- Which fair trade products do you know?

- What Fair Trade products have you already consumed? How often do you consume these products?

Tried it once	Sometimes	Always

- Where do you think you can buy fair products? Name products you can buy there!

Where	What

MODULE 3 RESOURCES
C3 IT'S NEVER TOO LATE FOR SOLIDARITY

Blue: resources for trainers and teachers
Orange: resources for learners

RESOURCE 2

MOVIE

"The dark side of chocolate"
https://topdocumentaryfilms.com/dark-side-chocolate/

RESOURCE 3

SIMULATION GAME

"Cocoa from Latakia"
https://hendrik-kraemer-haus.de/Doku/Dokum/Kakao%20aus%20Latakien.pdf

"The chocolate trade game"
https://www.christianaid.org.uk/get-involved/schools/chocolate-trade-game

FLASHCARD

C4	Food only - zero waste		
Intervention UNIT 4: Food packaging Learners observe their own use of packaging for a week taking the Zero Package Challenge and consider the impact of their excessive use. By analysing the results, learners discuss the different uses, reflecting on consumption within a local food system and what action could be taken to reduce the quantity. Finally, learners look for unpackage possibilities within the region and decide if they would be willing to include those products in their shopping list.	**Preparation time**	**Requirements**	**Estimated duration**
	60 min	★★★☆	9h
	Specialised capacities		
	Reflecting on my own eating behaviour. Identifying types of packaging. Recognising the impact of my own behaviour and consumption Introducing models of «best practice» into my own life.		
	Aim of the teaching sequence in the module:		
	Getting to know packaging materials, their effects and the alternatives. Reflection of one' s own behaviour. Concept of waste avoidance.		
	Learning outcome		
	concept maps, learning diary, flipcharts		
	Required materials/media		
	Newspaper article about the food package issue + Zero Wastage website + photo of local farmers' market and of local super/hyper market.		

C4	Food only - zero waste		
Duration in min	Social- setting	Materials/ Media	Method/In practice
60 *Confrontation*	**GW** **PL**	**Computer Beamer Internet Pens Paper Flipchart**	Introduction to the topic. **RESOURCE 1** The teacher distributes a newspaper article on the subject of food packaging, in which the effects and possible solutions are shown. The learners analyse the article in group work and present it to the plenum. **RESOURCE 2** The creation of a flipchart of the most important points follows. The teacher presents the Zero Waste Challenge website to the learners: for one week packages are collected for analysis in class. Learners register voluntarily. **RESOURCE 3**
60 *Reconstruction*	**GW** **PL**	**Pens, Paper**	The collected packaging is presented in the classroom and learners exchange ideas and write an entry of the observations in the learning diary. The plenary construction of a concept map on functions and effects of packaging follows, expanded in comparison with the flipchart of the article. The teacher supports, validates and adds any missing information. **RESOURCE 4**
60 *Intervention/ Interaction*	**PL** **GW**	**Photos, Computer, Internet, Padlet**	The teacher presents a photo of two types of market (packed food in a super- market and unpacked food in a farmers' market) taken somewhere in the region. Learners organised in group work describe what they see. The teacher asks learners if these type of photos could have been taken in the region, creating a list of the possibilities of where to find them. When presenting to the big group, the teacher summarises ideas as bullet points in the Flip-Chart notebook.
100 *Deconstruction*	**GW** **PL**	**Flip-Chart Pens, Paper**	The teacher asks what impacts both types of markets have, followed by a discussion in small groups and presentation in plenary. Additionally or as an alternative: Research and visit of regional stores in small groups with the possibility of questioning employees and customers. Learners incorporate their findings into the Concept Map.
60 *Reflection*	**PL**	**Created Flipcharts, Pens, Paper**	The learners reflect on their own conclusions of the Zero-Waste-Challenge and experience in small groups. They create a learning diary entry about what they can and want to change in packaging consumption in the long term or what they cannot and do not want to do. What changed behavior remains and for what reason?

PL: Plenum; GW: Group work.

MODULE 3 RESOURCES
C4 FOOD ONLY-ZERO WASTE

Blue: resources for trainers and teachers
Orange: resources for learners

RESOURCE 1

DEFINITIONS

https://en.wikipedia.org/wiki/Packaging_waste

EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE 94/62/EC of 20 December 1994 on packaging and packaging waste:

English

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01994L0062-20150526&from=EN
(Page 7)

German

https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:01994L0062-20150526&from=EN
(Seite 6)

French

https://eur-lex.europa.eu/legal-content/FR/TXT/HTML/?uri=CELEX:01994L0062-20150526&from=EN
(Article 3)

Portuguese

https://eur-lex.europa.eu/legal-content/PT/TXT/HTML/?uri=CELEX:31994L0062&from=EN
(Artigo 3º)

Slovenian

https://eur-lex.europa.eu/legal-content/SL/TXT/HTML/?uri=CELEX:31994L0062&from=en
Italian: https://eur-lex.europa.eu/legal-content/IT/TXT/HTML/?uri=CELEX:31994L0062&from=IT
(Art.3)

RESOURCE 2-1

THE FOOD PACKAGING ISSUE NEWSPAPER

Throwaway culture has spread packaging waste worldwide: here's what to do about it
https://www.theguardian.com/environment/2017/mar/13/waste-plastic-food-packaging-recycling-throwaway-culture-dave-hall

France

Greenpeace. 2018. Pollution plastique: changeons de modèle économique!
https://www.greenpeace.fr/pollution-plastique-changeons-de-modele-economique/
Le Monde. 2017. Peut-on venir à bout de tout le plastique que nous produisons ? (Vidéo)
https://www.youtube.com/watch?v=Um3-Pks58PQ
OuestFrance. Pourquoi le plastique a-t-il un impact (très) négatif sur l'environnement ?
https://www.ouest-france.fr/environnement/ecologie/pourquoi-le-plastique-t-il-un-impact-tres-negatif-sur-l-environnement-6280346
mtaterre. À la découverte des solutions et des alternatives
https://www.mtaterre.fr/dossiers/le-plastique-peut-vraiment-sen-passer/la-decouverte-**des-solutions-et-des-alternatives**

Portugal

O mundo está cada vez mais contaminado por plásticos
https://www.rtp.pt/noticias/especial-informacao/o-mundo-esta-cada-vez-mais-contaminado-por-plasticos_n841198

Slovenia

The are still mistakes in waste separation (slo text)
https://deloindom.delo.si/energija-okolje/odpadki/pri-locevanju-odpadkov-se-vedno-napake
Every Ljubljana resident generates 46 kilograms of packaging waste per year (slo text)
https://www.dnevnik.si/1042832700
The Mediterranean Sea is in danger to become a sea of plastic (slo text)
https://www.dnevnik.si/1042824998/magazin/aktualno/sredozemskemu-morju-grozi-da-postane-morje-plastike-

RESOURCE 2-2

THE FOOD PACKAGING ISSUE NEWSPAPER

Slovenia (cont)

Packaging waste in Slovenia: Why do we need competition and information? (slo text)
https://www.tax-fin-lex.si/Home/Vsebina/Odpadna-embalaza-v-Sloveniji-Zakaj-potrebujemo-konkurenco-in-informacije?fbclid=IwAR2vKfhyg1QgVcANzATXFhIEITLPXGHJpalFc11guw7gbArOrlrn5qcOe_c
Slovenia, the first country without plastic bottles? (slo text)
https://www.delo.si/novice/okolje/slovenija-prva-drzava-brez-plastenk-187556.html

Italy

Il 43% degli italiani acquista food in base all'impatto ambientale del packaging
https://www.ilsole24ore.com/art/il-43percento-italiani-acquista-food-base-impatto-ambientale-packaging-ACdxOZLB
Riciclo, Italia terza in Ue per recupero degli imballaggi. Ma è indietro sui rifiuti elettronici e per l'organico mancano gli impianti
https://www.ilfattoquotidiano.it/2019/12/07/riciclo-italia-terza-in-ue-per-recupero-degli-imballaggi-ma-e-indietro-sui-rifiuti-elettronici-e-per-lorganico-mancano-gli-impianti/5601253/
IMBALLAGGI, LA NUOVA FRONTIERA TRA SOSTENIBILITÀ, RIDUZIONE DEGLI SPRECHI E SICUREZZA ALIMENTARE
http://www.corriereortofrutticolo.it/2020/05/27/imballaggi-la-nuova-frontiera-tra-sostenibilita-riduzione-degli-sprechi-e-sicurezza-alimentare/

Austria

2015: Österreicher sammelten 115,4 Kilo Verpackungsmüll pro Kopf
https://www.derstandard.at/story/2000038378717/2015-oesterreicher-sammelten-115-4-kilo-verpackungsmuell-pro-kopf
Wie viel Müll Österreichs Haushalte tatsächlich produzieren
https://www.derstandard.at/story/2000083761252/wie-viel-muell-oesterreichs-haushalte-tatsaechlich-produzieren
Gegen den Verpackungsmüll: Im Handel wird wieder ausgepackt
https://www.derstandard.at/story/2000112830695/gegen-den-verpackungsmuell-im-handel-wird-wieder-ausgepackt

RESOURCE 3-1

PACKED AND UNPACKED FOOD

Packed food
https://undisciplinedenvironments.org/wp-content/uploads/2016/02/city-puffed-food-1024x812.jpg

Unpacked food
https://naturalcapitalcoalition.org/the-idea-of-food-as-commons-or-commodity-in-academia-a-systematic-review-of-english-scholarly-texts/

ZERO WASTE CHALLENGE

World

Zero Waste Challenge
https://sustainability.tufts.edu/zero-waste-challenge/

France

1 astuce par jour pour un résultat 0 déchets
https://www.myslowlife.fr/challenge-zero-dechet/
Blog Zéro dechet challenge
https://zero-dechet-challenge.com/

Portugal

Zero Waste Lab
http://www.zerowastelab.pt/home.php
Zero Waste Portugal
https://www.facebook.com/zerowasteportugal/

Slovenia

Vox: Going green shouldn't be this hard (eng video)
https://www.youtube.com/watch?v=BxKfpt70rLI
Responsible with food at every step (slo text)
https://www.delo.si/novice/okolje/odgovorno-s-hrano-na-vsakem-koraku.html
Let's reduce the amount of food waste (slo webpage)
https://www.nasasuperhrana.si/clanek/zmanjsajmo-kolicino-zivilskih-odpadkov/
Re-use Centers (slo webpage)
https://www.cpu-reuse.com/
Home with no waste (slo webpage)
https://ebm.si/dom

RESOURCE 3-2

ZERO WASTE CHALLENGE

Italy

Ambiente, contro lo spreco di plastica 'porta la sporta'
https://www.ilfattoquotidiano.it/2016/08/17/ambiente-contro-lo-spreco-di-plastica-porta-la-sporta/2977081/
La rete italiana di chi vive senza rifiuti
http://www.retezerowaste.it/

Austria

Zero Waste Family Challenge: 5 Familien befreien sich von unnötigem Müll
https://www.zerowasteaustria.at/zero-waste-austria-family-challenge.html
Zero Waste Austria Family Challenge MUTTER ERDE 2019
https://www.youtube.com/watch?v=Yo2xCcsAR-4&feature=emb_err_woyt

RESOURCE 4

ZERO WASTE CHALLENGE

https://foodprint.org/issues/the-environmental-impact-of-food-packaging/

Kurzgesagt – In a Nutshell: Plastic Pollution: How Humans are Turning the World into Plastic (eng video)
https://www.youtube.com/watch?v=RS7IzU2VJIQ

RESOURCE 5-1

FURTHER READING

CIEL. 2019. Plastic & Health: The Hidden Costs of a Plastic Planet
https://www.ciel.org/reports/plastic-health-the-hidden-costs-of-a-plastic-planet-february-2019/
Is plastic packaging bad for the environment? (The industry's voice)
https://www.bpf.co.uk/packaging/environment.aspx

Italy

ADEME - Mieux manger, moins gaspiller, moins polluer
http://multimedia.ademe.fr/animations/alimentation/
ADEME. 2019. Les avis de l'ADEME. Impact environnemental des sacs d'emballage fruits et légumes
https://www.ademe.fr/sites/default/files/assets/documents/avis-ademe-sacs_fruits_legumes-novembre2019.pdf
ZBA. 2018. Emballage alimentaire: Enjeux et opportunités
https://www.agrireseau.net/Transformation-Alimentaire/documents/CTAC_emballage_alimentaire.pdf

Portugal

Pacto dos plásticos
http://m.smartwasteportugal.com/pt/atividades/pacto-portugues-para-os-plasticos/o-que-e/
O que estamos a fazer para minimizar o impacto do plástico no planeta?
https://eco.sapo.pt/2020/02/05/o-que-estamos-a-fazer-para-minimizar-o-impacto-do-plastico-no-planeta/
Embalagens: é altura de pensar fora da caixa a bem do ambiente
https://www.wattson.pt/2020/04/06/embalagens-e-altura-de-pensar-fora-da-caixa-a-bem-do-ambiente/
Lixo Zero
https://lixozero.pt/
Comprar a Granel
https://www.rtp.pt/play/p4238/e354360/biosfera

RESOURCE 5-2

FURTHER READING

Slovenia

Packaging waste (slo video)
https://www.youtube.com/watch?v=QAUpA1ZLzsg
Vox: Takeout creates a lot of trash. It doesn't have to (eng video)
https://www.youtube.com/watch?v=5qx2WFpNTPs

Italy

La straordinaria storia degli imballaggi e del riciclo
http://www.conai.org/video/la-straordinaria-storia-degli-imballaggi-e-del-riciclo/
Imballaggi e del riciclCome ridurre lo spreco alimentare attraverso il Packaging
https://www.pluricart.com/come-ridurre-spreco-alimentare-packaging/
I Comuni ricicloni
http://www.ricicloni.it/ Comuni Ricicloni Campania 2019
https://legambiente.campania.it/2019/10/24/comuni-ricicloni-campania-2019/

Austria

«natürlich weniger Mist» der MA22 und der MA48 der Stadt Wien
https://www.wenigermist.at/
Abfall und Recycling
http://www.umweltchecker.at/abfall.htm
2015: Österreicher sammelten 115,4 Kilo Verpackungsmüll pro Kopf
https://www.derstandard.at/story/2000038378717/2015-oesterreicher-sammelten-115-4-kilo-verpackungsmuell-pro-kopf
Weniger Plastikmüll - Was Österreich tun kann [eco | 06.09.2018]
https://www.youtube.com/watch?v=Ux8Rhmhnk3o
Abfallvermeidung und Abfalltrennung an Volksschulen
https://www.youtube.com/watch?v=mRU3XfdJDuU

FLASHCARD

C5	How our region eats		
Intervention UNIT 5: Nutritional requirements The learners work on the energy needs of humans and the importance of food. What is the importance of ingredients in human nutrition? What types of food and nutrition describe the principles of a balanced diet? Which cultural similarities can be found in the dishes or products of a region? The learners think about the typical eating habits in their region. What family structures are predominant and what eating habits are evident? How much food is eaten each week and how much does a weekly ration cost? Finally, the products of the region are offered at a market place, taking into account resources and trends. How can the region be supplied, what has to be produced or bought transregionally? In the reflection process, possible solutions for a sustainable and balanced diet are found on the basis of the information acquired and recorded in the learning diary.	**Preparation time**	**Requirements**	**Estimated duration**
	20 min	★★★☆	10h
	Specialised capacities		
	Explain the functions of nutrition. Analyse my own eating behaviour. Describe and evaluating important foods and diets according to the principles of wholefood nutrition.		
	Aim of the teaching sequence in the module:		
	Learners can look at sustainable and healthy nutrition and compare it with real data from their region. Using this comparison, they can draw a conclusion and develop appropriate solutions.		
	Learning outcome		
	A poster is used to raise awareness of the family structure and the food requirements of individual regions. Calculate the energy and nutrient needs of a person. Write a learning diary entry with ideas for increasing the self-sufficiency of a region.		
	Required materials/media		
	Class/room with chalkboard/flip chart, pens and paper, computer with internet access, beamer, pictures (Menzel), calculator. Literature: Pictures by Peter Menzel, Nutrition Report 2019, nutrition tables, Green Report, food pyramid		

C5	How our region eats		
Duration in min	Social- setting	Materials/ Media	Method/In practice
20 *Confrontation*	**PL**	**Computer, beamer, pictures by Menzel**	Introduction to the topic with the pictures by Menzel «What are the similarities?» «Which subject area could now be dealt with?" **RESOURCE 1**
50 *Reconstruction*	**GW** **PL**	**Posters, pens, Food pyramid, Computer and Internet**	Group division: Each person receives a picture and has to find the partner picture. Write down on a poster: 1.) Family structure of the region: Number of people per household | home situation | pets | surrounding environment | market 2.) How does the family eat? | How much food per week does the family need? How much food per week is needed? | How many euros per week are needed? Guesses are compared with the correct values in plenary and improved. «Why is the situation like this?" **RESOURCE 2**
130 *Intervention/ Interaction*	**IW** **PL**	**Literature, calculators**	Energy and nutrient requirements of one person are calculated and then applied to the entire population of the example region. Where is there a surplus?. Where is there a deficiency? What amounts of food are actually needed per week? Which foods must be on the menu to ensure a healthy and sustainable diet? Which ones are also realistic?
250 *Deconstruction*	**GW**	**Poster, figures, pictures, data on the region**	The learners examine the products of the region: Which region produces which food? Over/underproduction? Self-sufficiency? Learners are confronted with the following questions: How many people can the region sustain?" What kind of people can the region accept (vegetarians,...)? Results are presented with the role play «Marketplace»: One group are sellers and offer products from their region. The rest are critical customers («origin and processing of the products?», «purchase decision?"...). **RESOURCE 3**
50 *Reflection*	**PL**	**Poster, learning diary**	Plenary discussion summarised on a poster. What are the roles of: Agriculture | Customers | Politics | Public Are there alternatives? Learning diary: Reflection on the marketplace: What is important to you for the future as a farmer, consumer, politician or a member of the public and how could this be managed?

PL: Plenum; GW: Group work; IW: Individual work.

MODULE 3 RESOURCES
C5 HOW OUR REGION EATS

Blue: resources for trainers and teachers
Orange: resources for learners

RESOURCE 1

CONFRONTATION

What the World Eats by Peter Menzel
https://time.com/8515/what-the-world-eats-hungry-planet/

RESOURCE 2

THE AUSTRIAN FOOD PYRAMIDE

Die Österreichische Ernährungspyramide
https://www.ages.at/themen/ernaehrung/oesterreichische-ernaehrungspyramide/

OR

The double food and environmental pyramid
https://www.barillacfn.com/en/dissemination/double_pyramid/

THE PORTUGUESE FOOD PYRAMIDE

Consumo de carne, ovos e pescado é insustentável
https://zero.ong/consumo-de-carne-ovos-e-pescado-e-insustentavel/

Roda da alimentação mediterrânica e pirâmide da dieta mediterrânica: comparação entre os dois guias alimentares
http://actaportuguesadenutricao.pt/wp-content/uploads/2018/01/n11a02.pdf

RESOURCE 3

PICTURE IDEAS FOR MARKETPLACE ROLEPLAY

RESOURCE 4-1

FURTHER READING

France

Outil PARCEL de Terres de liens
https://terredeliens.org/nouvelle-plateforme-parcel.html
L'impact de la viande sur l'environnement expliqué en 4 minutes
https://www.youtube.com/watch?v=nVydgG2DFU0

Portugal

Dieta Mediterrânica, um padrão de alimentação saudável
https://www.apn.org.pt/documentos/ebooks/Ebook_Dieta_Mediterranica.pdf
Dieta Mediterrânica - Património da Humanidade
http://dietamediterranica.net/

Austria

Grüner Bericht 2019
https://gruenerbericht.at/
Lebensmittel in Österreich 2018
https://www.bmlrt.gv.at/service/publikationen/lebensmittel/lebensmittel-in-oesterreich-2018.html
Statistik Austria: Versorgungsbilanzen
https://www.statistik.at/web_de/statistiken/wirtschaft/land_und_forstwirtschaft/preise_bilanzen/versorgungsbilanzen/index.html
Landwirtschaft: Österreich ist weitgehend selbstversorgt
https://www.derstandard.at/story/2000065223181/schmelzkaeseberge-und-bierseen-oesterreich-ist-weitgehend-selbstversorgt
Der Mythos Eigenversorgung – Warum Österreich so viel Gemüse und Obst importiert
https://lebensmittel.greenpeace.at/blog-mythos-eigenversorgung/ resp. https://act.greenpeace.at/assets/uploads/publications/presse/Mythos-Eigenversorgung-Juni2020-final.pdf

RESOURCE 4-2

FURTHER READING

Slovenia

Prehrana.si (slo webpage)
https://www.prehrana.si/novica/456-lokalna-osrkba-s-hrano-in-vrtarjenje?highlight=WyJsb2thbG5vll0=
National Institute for Public Health (slo webpage)
https://www.nijz.si/sl/podrocja-dela/moj-zivljenjski-slog/prehrana
Local restaurant Cooperative Dames (slo webpage)
http://www.kooperativa-dame.si/o-nas/
Local low waste store Dobrina
https://www.zadruga-dobrina.si/
Pohorje beef (slo video)
https://www.youtube.com/watch?v=b0EVN8Ikh38
Adventure farm Sunny Paradise (slo webpage)
https://posestvosoncniraj.si/
Organic farm At the Baron's (slo webpage)
https://www.pribaronu.si/
Association for Organic Farming of Northeast Slovenia (slo webpage)
https://www.xn--ekozdruenje-krc.si/

Italy

La Dieta Mediterranea di Ancel Keys in meno di 5 minuti - Che il cibo sia la tua medicina
https://www.youtube.com/watch?v=CkMgv3co9UU
Cucina campana. L'Abc dei prodotti e dei piatti della regione
https://www.gamberorosso.it/notizie/articoli-food/cucina-campana-l-abc-dei-prodotti-e-dei-piatti-della-regione/

FLASHCARD

C6	Food Wastage		
Intervention UNIT 6: Food wastage	**Preparation time**	**Requirements**	**Estimated duration**
	60 min	★★★☆	10h
	Competence-oriented learning outcome:		
	Reflecting on my own eating behaviour. (Influencing factors) Interpreting figures, data and facts about agriculture and drawing my own conclusions.		
	Aim of the teaching sequence in the module:		
	Getting to know the challenge of food losses and food waste and how to address it.		
	Learning outcome		
	Flipchart - food processing company, interview recordings, Poster of the observation task, folder or flyer, letter		
	Required materials/media		
	Suitable rooms, flip-chart with notebook / computer with projector to display movies, guest speakers, pen, paper, Resources		

Learners look at the challenge of food wastage from different points of view of the local food system:

• They research data on food loss and waste at the national level.

• They have a conversation with a food producer and reflect on the results.

• Learners interview actors in their home region, such as regional farm stores, school kitchens, restaurants, grocery stores, bakeries/grocery shops ... and present the results.

• After the evaluation of the interviews, learners prepare an observation task and a flyer about waste and waste prevention.

• They identify the different causes of food loss and waste - taking into account the food loss pyramid and the FAO's «Reduce Food Waste Toolkit» - measures to avoid them.

• Finally, they discuss the impact of food loss and waste on the environment, the economy and world hunger.

C6	Food Wastage		
Duration in min	Social- setting	Materials/ Media	Method/In practice
100 *Confrontation*	**PL and GW**	**Flip-chart with notebook / computer with projector**	Introduction to the topic by the teacher The teacher presents a short video on food wastage, distinguishing between food loss, what is lost while the product is being prepared for the retailer, and food waste, what is lost once the product is ready to be sold, in retailing and during consumption. **RESOURCE 1** and **RESOURCE 2** The teacher announces a visit to a local food processing plant to talk about food waste. Learners form groups and prepare questions for the guest. The questions are discussed in the plenary and noted on the flipchart. At the end the teacher adds her own questions if they are not covered.
50 *Reconstruction*	**GW** **PL**	**Pen and paper**	Learners are divided into groups of 3, each group is assigned its own interview partner (restaurant, supermarket, bakery, school kitchen, regional farm store...). Groups select the appropriate questions for the topic (food waste) and present the interview guide to the class for validation. The teacher adds missing questions if necessary.
100 *Intervention/ Interaction*	**GW** **PL**	**Voice recorder, Computer**	The interview will be conducted in the learners free time. The hard facts are summarised and presented to the class by means of a creative presentation (PowerPoint, flipchart, pictures, ...). After that group discussions take place.
150 *Deconstruction*	**GW** **PL**	**Flip-chart, notebook; Internet, Paper**	Learners are given an observation task for home use. Next unit the results are discussed in "buzz groups" and recorded on a poster. Afterwards, the learners prepare a folder or flyer on the subject of waste and waste avoidance. With the help of a feedback sheet, the learners products are evaluated by the learners. **RESOURCE 3**
100 *Reflection*	**PL**	**Food Wastage pyramid print** **Flip-chart with notebook**	The teacher presents the FAO Food Wastage Pyramid. Learners describe the advantages and disadvantages and some examples of each of these possibilities with their own research. The teacher presents a video on statements and national data on food waste. Next, two articles are handed out, the class is divided into two groups and the articles are presented to each other. At the end, each learner is asked to write a letter to his or her future self 10 years from now, thanking it for the right measures they took at that time. **RESOURCES 4 8 9** and **RESOURCES 5 7**

PL: Plenum, GW: Group work.

MODULE 3 RESOURCES
C6 FOOD WASTAGE

Blue: resources for trainers and teachers
Orange: resources for learners

RESOURCE 1

FOOD WASTAGE CONFRONTATION

World

Just eat it: A food waste story
https://www.imdb.com/title/tt3597400/?ref_=nm_flmg_wr_3
Food Waste - What You Should Know
https://www.youtube.com/watch?v=RL_NYVxe8uY
What's the problem with wasting food?
https://www.youtube.com/watch?v=ioCzxxqgLf0

France

ADEME. Le gaspillage alimentaire, 2015.
https://www.youtube.com/watch?v=59FH0MkMxf4

Portugal

Desperdício alimentar. Quando o lixo não é lixo
https://observador.pt/especiais/desperdicio-alimentar-lixo-nao-lixo/

Slovenia

Food waste (slo text)
https://ebm.si/prispevki/odvrzena-hrana-globalna-tragedija
An inhabitant of Slovenia threw away an average of 74 kilograms of food (slo text)
https://www.delo.si/novice/okolje/prebivalec-slovenije-zavrgel-povprecno-74-kilogramov-hrane-73866.html
The data do not lie - more and more food is discarded in Slovenia (slo text)
https://www.zelenaslovenija.si/EOL/Clanek/2541/embalaza-okolje-logistika-st-116/podatki-ne-lazejo-v-sloveniji-vse-vec-zavrzene-hrane-eol-116
Vox: Food waste is the world's dumbest problem (eng video)
https://www.youtube.com/watch?v=6RlxySFrkIM

Italy

Documento di posizione sulle perdite e gli sprechi alimentari
https://n4v5s9s7.stackpathcdn.com/sloweurope/wp-content/uploads/ITA_position_paper_foodwaste6.pdf

Austria

Essen verschwenden ist Mist!
https://www.youtube.com/watch?v=YGAVWYV_Y78
ORF Newton Lebensmittelverschwendung 09 04 2016
https://www.youtube.com/watch?v=PEEpp8yeecQ
Zu viel des Guten ORF Am Schauplatz
https://www.youtube.com/watch?v=VZxJ3YRVA14

RESOURCE 2-1

DEFINITIONS

Food loss is food deteriorated which is a decrease in the quality (nutritional value) and in the dry matter quantity (mass) of human food. These are mainly caused by the inability in the food supply chains, like insufficient knowledge, skills and management capacity of supply chain actors, poor logistics and infrastructures, lack of access to markets, lack of technology. Considering also the role played by natural disasters. It takes place before it reaches the consumer.

Food waste is food lost, deteriorated or not and it is referred to discarded human food, that might be left to spoil or with an expired date, or not. It often happens because of oversupply due to markets or consumers' eating and shopping habits. It takes place after being purchased by the consumer.

Food wastage is referred to food lost because it was discarded or lost by deterioration. This term includes both terms above, food lost and food waste.

Toolkit Reducing the Food Wastage Footprint by the Food and Agriculture Organization of the United Nations (FAO) 2013:
http://www.fao.org/3/i3342e/i3342e.pdf

RESOURCE 2-1

WHEN AND WHY

Farm
- Challenging climatic conditions
- Inadequate practices at harvesting and handling, harvesting time,
- Difficulties in marketing produce

In storage
- Impropriate storage
- Decisions at earlier stages of supply chain causing products to have a shorter shelf life

In transit
- Inefficient trade logistics and bad infrastructure
- Human error
- Technical malfunction

At the shop
- Limited shelf life
- Need of aesthetic norms of shape, color, size and demanded variability

At home
- Poor meal planning and poor purchase
- Too much buying (influenced by oversized packages and promotions)
- Confusion between best before and use by
- Poor in-home storage

The State of Food and Agriculture 2019. Moving forward on food loss and waste reduction by the Food and Agriculture Organization of the United Nations (FAO):
http://www.fao.org/3/ca6030en/ca6030en.pdf

RESOURCE 3

OBSERVATION TASK FOR HOME USE

Write a short observation report - in the next session, buzz groups will be formed and the observations will be discussed in plenary!

You can ...

... investigate which foods end up in the garbage at home.

... which and how much food is thrown away unprocessed.

... which and how much food ends up on your plate and is then thrown away.

... make a note of what and how much food you throw away over a period of one week.

... check your shopping behavior. (Criteria: quantity, with shopping list, spontaneous shopping, ...)

... check how food is stored at home.

In the group, the results are discussed, and the results are recorded on a poster.

!

The data can be kept confidential before the assessment if the observations from the learner's own household represent information too sensitive to share!

RESOURCE 4

Educ Local FOOD

FOOD WASTAGE PYRAMID

https://publications.parliament.uk/pa/cm201617/cmselect/cmenvfru/429/42905.htm

RESOURCE 5

FOOD WASTAGE PYRAMID DESCRIPTION

Reduce
Considers the enormous impact that food production has on natural resources, increasing as food goes through the phases of the value chain until the consumer. To reduce the waste of natural resources the first best action is to reduce food wastage and avoid food surplus.

Reuse
When food surplus happens, one best option is to maintain it in the human foodchain, conserving its original purpose and avoiding the use of additional resources to produce more food, like using secondary markets or donating it to food banks and related solutions dedicated to feed vulnerable people. If no longer appropriate for humans it might still serve to feed livestock, conserving the resources otherwise used to produce commercial animal feed.

Recycle/Recover
It allows the recovery of energy or nutrients with great advantages over landfill. Good options to recover and recycle would be composting, anaerobic digestion, incineration with energy recovery and by-product recycling.

Landfill
Burying organic waste produces a green house gas called methane and might polute underground water and soil, produce odour and other societal disturbances. It should be the last option for food waste management.

Toolkit Reducing the Food Wastage Footprint by the Food and Agriculture Organization of the United Nations (FAO) 2013:
http://www.fao.org/3/i3342e/i3342e.pdf

Educ Local FOOD

RESOURCE 6

MAIN IMPACTS OF FOOD WASTAGE

- At Global scale, one-third of all food produced is uneated, wasted between the farm and the plate.
- The direct economic impact, based only on producers' prices is equivalent to the GDP of Switzerland
- The Food Wastage Footprint calculates the impact on natural resources like land, biodiversity and water, used along the food supply chain, from producing, distributing and disposing the waste. It also considers the GHG emissions on the atmosphere.
- Reducing food wastage can potentially preserve natural ressources.
- Biodiversity footprint is also notable, since farming is a great threat for biodiversity around the world, due to monoculture crop production.
- Carbon footprint of food wastage, excluding land use, was estimated as more than double of the total greenhouse gas emissions of all transportation by road in the USA in 2010. If it would be a country it would rank in number three of the most GHG emissions

Toolkit Reducing the Food Wastage Footprint by the Food and Agriculture Organization of the United Nations (FAO) 2013:
http://www.fao.org/3/i3342e/i3342e.pdf

RESOURCE 7

MAIN ACTORS AND ACTIONS

State and local governments
- Can lead food waste education campaigns for prevention
- Install municipal composting programs
- Provide farmers with tax deduction for food bank donations

Businesses such as restaurants, grocery stores, and institutional food services
- Can assess food waste situation and establish good practices
- Supermarkets can offer promotions for nearly expired produce
- Restaurents can diminuish plate portions and donate uneaten prepared food or excess ingredientes to charities.
- Schools can consider self-service canteens

Farms
- Can access food losses over the production phases like storage, distribution or processing and integrate best practices.
- Farmers' markets or on-farm' stores can sell produce out of eaesthetic standarts, usually discarded due to appearance.
- Can sell unmarketable produce to charities at reduced prices

Consumers
- Can distinguish beteween best before and use by
- Can cook with leftovers, store food properly and learn how to compost

Toolkit Reducing the Food Wastage Footprint by the Food and Agriculture Organization of the United Nations (FAO) 2013:
http://www.fao.org/3/i3342e/i3342e.pdf

RESOURCE 8

FOOD WASTAGE WORLD AND NATIONAL DATA

World

Hidden costs of the world food wastage
Food Wastage Footprint 2
https://www.youtube.com/watch?v=Md3ddmtja6s
Food wastage: Key facts and figures
http://www.fao.org/news/story/en/item/196402/icode/

France

France Bleu. 2019. Les chiffres du gaspillage alimentaire en France
https://www.youtube.com/watch?v=sIm5_9wMYZI
Le gaspillage alimentaire : Décod'Actu, saison 2
https://www.youtube.com/watch?v=fnwmdW_RnVQ

Portugal

Comissão Nacional de Combate ao Desperdício Alimentar
https://www.cncda.gov.pt/

Slovenia

National Statistical Office: Food in waste (slo text)
https://pxweb.stat.si/SiStat/sl/Podrocja/Index/85/kmetijstvo-gozdarstvo-in-ribistvo

Italy

QUANTO VALE LO SPRECO ALIMENTARE IN ITALIA?
https://www.ilgiornaledelcibo.it/spreco-alimentare-italia/
Lo Spreco Alimentare in Italia: i risultati del progetto REDUCE
https://www.sprecozero.it/2019/07/16/lo-spreco-alimentare-in-italia-i-risultati-del-progetto-reduce/

Austria

Verschwendung - Essen für den Müll ORF WELTJOURNAL
https://www.youtube.com/watch?v=NZCaEoOvJBI
Fakten zu Lebensmittelverschwendung
https://www.muttererde.at/fakten/

RESOURCE 9

FOOD WASTAGE AND THE HUNGER ISSUE

World

This video will change the way you see food. #ZeroHunger starts with you
https://www.youtube.com/watch?v=Jlmojq_INqQ
FOOD WASTE: a shame for human kind and for the environment
https://www.youtube.com/watch?v=7QbHlWNoyp4

France

Decod'Actu. 2017. La faim dans le monde, une fatalité ?
https://www.youtube.com/watch?v=FgoxUn0wjYY

Portugal

A fome do desperdício
https://jra.abae.pt/plataforma/artigo/fome-do-desperdicio/

Slovenia

A gift that can feed a lot of hungry mouths (slo text)
https://www.delo.si/gospodarstvo/podjetja/odpustek-ki-lahko-nahrani-veliko-lacnih-ust.html

Italy

Aumenta lo spreco alimentare: una piaga per la società e l'ambiente
https://asvis.it/home/46-3836/aumenta-lo-spreco-alimentare-una-piaga-per-la-societa-e-lambiente

Austria (in German)

Systematischer Irrsinn – Lebensmittelverschwendung
https://www.youtube.com/watch?v=bcvhgYD81VE

RESOURCE 10

FURTHER READING

World

Food loss and waste and the right to adequate food: Making the connection
http://www.fao.org/3/ca1397en/CA1397EN.pdf

France

Association ZeroWasteFrance
https://www.zerowastefrance.org/passer-a-laction/adopter-zero-dechet/
10 initiatives anti gaspillage alimentaire
https://youmatter.world/fr/gaspillage-alimentaire-10-initiatives-loi-transition-energetique/
Reportage Canal+. Global Gâchis: Le scandale mondial du gaspillage alimentaire
https://www.youtube.com/watch?v=hSR4-TW0Zbw

Portugal

Combater o Desperdício Alimentar
https://www.rtp.pt/play/p2841/e261273/biosfera
De resíduo a combustível
https://www.rtp.pt/play/p1499/biosfera-xii
Phoenix App – comprar excedentes alimentares
https://wearephenix.com/pt-pt/phenix-app-desperdicio-alimentar/

Slovenia

How we treat discarded food at IC Piramida Maribor (slo text)
https://www.ekoskladovnica.si/Prispevek/Pregled/49?Predogled=False

Italy

Giornata Nazionale contro lo Spreco Alimentare: la filiera corta è la soluzione
https://www.slowfood.it/giornata-nazionale-spreco-alimentare-la-filiera-corta-e-la-soluzione/
Le ricette contro lo spreco alimentare
https://www.bancoalimentare.it/it/ricetteantispreco
Giornata nazionale contro lo spreco alimentare, le iniziative del ministero
http://www.salute.gov.it/portale/news/p3_2_1_1_1.jsp?lingua=italiano&menu=notizie&p=dalministero&id=3629
FOOD SHARING, TRE PROGETTI PUGLIESI CONTRO LO SPRECO ALIMENTARE
http://www.conmagazine.it/2019/06/06/food-sharing-tre-progetti-pugliesi-contro-lo-spreco-alimentare/

Austria

Lebensmittelabfälle: Zahlen, Daten und Fakten
https://www.wien.gv.at/umweltschutz/abfall/lebensmittel/fakten.html
Lebensmittelverschwendung: Zu gut für die Tonne
https://www.global2000.at/lebensmittelverschwendung
TELLER STATT TONNE
https://www.wwf.at/de/lebensmittelverschwendung/
«Frisch verfault» - Lebensmittelverschwendung in Österreich
https://www.wwf.at/de/frisch-verfault/

FLASHCARD

C7	Cooperation instead of competition	

Intervention UNIT 7: Food sovereignty

Who controls what food is produced in the region and how it is produced? Who decides what food we eat? Why are so many farmers in our region giving up farming and closing down their businesses?

Provision of food by shopping at the supermarket is a regular activity for almost everyone - so grocery shopping is an ordinary task for most learners. When we buy food in the supermarket we know the price of the product, but we usually know nothing about what proportion of the price paid goes to which of the various actors along the value chain.

We also know little or nothing about how much power these different actors have to influence the share in the value chain.

The consumer then only has the decision to buy or not to buy a particular product currently available in the supermarket assortment.

It is inherent in food sovereignty to challenge this nontransparent and market-driven food system and to demand a transformation of the current food system. Food sovereignty therefore provides a basis for looking at food and eating in all its dimensions from different perspectives and for exploring and arriving at different conceptions of food and eating as well as the circumstances of their production, processing, distribution, consumption, etc.

Preparation time	Requirements	Estimated duration
120 min	★★★☆	6h

Specialised capacities

Taking into account regional, ecological and climatic conditions in the production of agricultural products and assigning production possibilities to specific areas.

Introducing models of «best practice» into my own life. (Designing concepts and ideas for businesses in your own region)

Aim of the teaching sequence in the module:

Objective: Getting to know the concept of food sovereignty (FS), its possible appearances in context of the local food system and how it relates to the individual actors of it

Learning outcome

The learners are able to (i) define the foundations of the concept of FS and (ii) demonstrate it on a concrete contextualized example

Required materials/media

Flip-chart with notebook / computer with projector to display movies,

Guest speakers from local food system (optional),

CSA and supermarket (optional)

C7	Cooperation instead of competition		
Duration in min	Social- setting	Materials/ Media	Method/In practice
45 *Confrontation*	**PL, GW**	**Flip-chart with notebook / computer with projector**	The Teacher introduces the topic with a movie on the challenges of farmers (such as low revenue of produce, heavy workload and free market competition) often resulting in a move away from agriculture). **RESOURCE 1** In a large group discussion, the teacher asks learners about the most common challenges presented in the movie and what they are caused by and lists the main ideas. The teacher validates and adds any further comments . **RESOURCE 2** The teacher can decide which direction the discussion should take. This choice could be related to the region and be based on the knowledge and experience of the learners. But also nationwide or European factors could be taken into account such as the concentration of power for whole sale and retailers (supermarket chains) in the value chain or the Common Agrarian policy of the EU which favours the big land owners and agroindustry.
90 *Reconstruction*	**PL, GW**	**Flip-chart with notebook**	In order to best understand the challenges of farming in their own region, the teacher presents a video about global food production and the agroindustrial monopoly in the world raising the question "What about our region?". Next, the teacher asks learners to extract the main ideas from the video, which are registered on a Flip-chart notebook. The teacher informs the learners of a special guest who is familiar with the history of agriculture and farmers in the area (maybe a teacher from the agricultural school or farmers' cooperative, or a senior farmer in the town). In small groups, the learners collect the questions that they will put to the invited speaker. In the large group, the teacher organises the learners contributions in an FC notebook that validates the following questions and supplies any missing information: -How has the local food system changed in the last ten years (e.g. number (and size of farms) of farms, crops produced, food sold/consumed, etc.) and what were the reasons for these changes? -In relation to the national level: What has changed in the country? Who owns Land? Before the speaker's visit, some learners are used as interviewees and some as note-takers. After the visit, the interviewees and note-takers are organized into mixed groups to gather key ideas. In the plenary, all groups help to identify the current situation, its reasons and challenges during the conversation with the guest, while the teacher collects the most important ideas in an FC notebook.

150 *Intervention/ Interaction*	**PL, GW**	**Flip-chart and notebook**	The teacher asks learners to remember the challenges identified in the previous class and asks if an idea has been put forward to overcome the identified challenges. The teacher brings in the challenges and reasons of the FC notebook sheet and distributes two copies of **RESOURCES 3 4 5** to small groups so that some groups may have the same information and others different. Learners are then asked to correlate the information they have with the challenges and reasons they previously identified. For the discussion in the plenary, the teacher suggests the following question: Which principles of food sovereignty are anchored in the food chain / food system of the region? Groups share their conclusions and the teacher asks for specific examples to be presented. These principles are studied and the teacher summarises the definition and each principle with their practical example within the region on the FC notebook. The teacher asks how much of the final price that the consumer pays for the products goes to the different operators of the food chain, considering whether or not there are distributors between the farmer and the consumer. The learners organise themselves into small groups. Given the fresh ingredients in their favorite dish, learners need to figure out the proportions of the final price to be paid. Each group takes into account the price paid in a supermarket in the region and a specific diagram for short supply chains in the region. The learners can use the online search, the remote interview or visit the specific operator and complete a short questionnaire. If the learners have chosen to do the interview, the group work is geared towards defining, with the support of the teacher on who, how and which questions to ask. As a result, learners prepare a poster with the information they have gathered to present in the next class. The teacher can organize an excursion to deepen the understanding of a short supply chain by visiting the nearest CSA in the area or a local producer with short supply chains. In this case, learners will need to organize themselves into small groups and create a guide of questions, focusing on the differences in these approaches and on their implications and motivation for overcoming the above challenges. The teacher supports each small group and in the large group the class should decide what questions to ask, who will present them, who will keep a note of them, and who will present the information on a poster during the next class. **RESOURCE 6**

60 - 120 *Deconstruction*	**PL**	**Flip-chart with notebook; projected presentation, poster**	During this course, groups will collect and produce a poster in the FC notebook showing how the FS principles will be implemented by the producer they visited. The teacher brings in the FC notebook with the principles of the previous class for groups to study. In a plenary session, all posters hang on the wall and each group comments on their own poster in relation to the others, in relation to the ideas used and the clarity of the language used. This is followed by the teacher comments validating and adding any relevant information.
90 *Reflection*	**PL**	**Food Wastage pyramid print** **Flip-chart with notebook**	To end this unit, the teacher asks for a round in which each learner gives their personal opinion on CSA and FS in general. Each learner repeats what they have heard from their previous colleague in their own words, agrees or disagrees, and in this case adds further information. The teacher registers the points mentioned. At the end the teacher comments on what they recognised as the main points.

PL: Plenum, GW: Group work.

MODULE 3 RESOURCES
C7 COOPERATION INSTEAD OF COMPETITION

Blue: resources for trainers and teachers
Orange: resources for learners

RESOURCE 1

CONFRONTATION WITH THE FARMERS SITUATION

France

La Conf' en action : PAC : pourquoi se mobilier ? Témoignages de paysannes et paysans
https://www.youtube.com/watch?v=FeThKgUpdKw
Association Solidarité paysans. Parlons difficultés.
https://solidaritepaysans.org/parlons-difficultes/index.html

Portugal

Agricultura portuguesa e a PAC
https://www.geografia-ensino.com/2016/10/conclusao-do-tema-agricultura.html

Slovenia

Resolution on strategic directions for the development of Slovenian agriculture and food until 2020 (slo text)
http://www.pisrs.si/Pis.web/pregledPredpisa?id=RESO80#
Strategy for adapting Slovenian agriculture and forestry to climate change (slo text)
http://agromet.mkgp.gov.si/Publikacije/STRATEGIJA%20prilagajanja.pdf

Italy

Sara e Giulia: sorelle in stalla | Storytelling
https://www.youtube.com/watch?v=FPxKr9sIddU
Malga Pala e il segreto della famiglia di Giorgio Turra
https://www.youtube.com/watch?v=m9vavqnzze4
ROVERETO: MICHELA, L'ORTO E LA CITTÀ
https://www.youtube.com/watch?v=XZRzXNoAMos

Austria

Am Schauplatz Unfaire Milch - Warum ein Lebensmittel nichts wert ist
https://www.youtube.com/watch?v=ab3iEiNiTqs
Am Schauplatz: Das Bio Dilemma
https://www.youtube.com/watch?v=YMHna_9pRRE
Bauernleben Bauernsterben | „Menschen & Mächte" | ORF 2
https://www.youtube.com/watch?v=qPSUx_9S-oA
Warum immer mehr Landwirte aufgeben (Germany)
https://www.youtube.com/watch?v=-6yNm3OltLc

RESOURCE 2

CHALLENGES FOR PRODUCERS

World

The relationship between supermarkets and suppliers: What are the implications for consumers?
https://www.researchgate.net/profile/Masoud_Rahiminezhad_Galankashi/post/Can_society_or_buyer_power_influence_the_supplier_motive/attachment/59d63ae8c49f478072ea6e5f/AS%3A273735821529096%401442275113772/download/the_relationship_between_supermarkets_and_suppliers.pdf

Portugal

Ameaça à produção alimentar
https://www.rtp.pt/play/p6689/e469922/biosfera
Semente: monopólio da vida
https://www.rtp.pt/play/p6689/e475008/biosfera
Política Agrícola Comum
https://www.quercus.pt/artigos-agricultura-sustentavel/3117-politica-agricola

Slovenia

The future of the CAP and the challenges of Slovenian agriculture (Juvančič et al., 2017) (slo text)
https://www.researchgate.net/publication/318570698_Prihodnost_SKP_in_izzivi_slovenskega_kmetijstva
Challenges of Slovenian farming (slo video)
https://4d.rtvslo.si/arhiv/tele-m/174567532
A talk with the minister for agriculture, forestry and food, dr. Aleksandra Pivec (slo video)
https://4d.rtvslo.si/arhiv/tele-m/174567536
How young farmers feel the coronavirus crisis (slo text)
https://agrobiznis.finance.si/8959845/Kako-mladi-kmetje-obcutijo-krizo-zaradi-koronavirusa
Slovenian Press Agency: Minister Pivec: In the crisis, we are becoming more sensitive to home-grown food (slo text)
https://www.sta.si/2757849/pivceva-v-krizi-postajamo-bolj-obcutljivi-na-doma-pridelano-hrano

Italy

Controllo delle sementi scorte di cibo e poverta' programmata
https://www.youtube.com/watch?v=dMu439zan_s
Seeds and farmers | Salvatore Ceccarelli | TEDxLakeComo
https://www.youtube.com/watch?v=RZxw_qLgHPE

Austria

Strukturanpassung im österreichischen Lebensmittelhandel
https://www.wifo.ac.at/jart/prj3/wifo/resources/person_dokument/person_dokument.jart?publikationsid=58751&mime_type=application/pdf
Wie schaffen wir die Agrarwende? ARTE Doku
https://www.youtube.com/watch?v=mu4RWL2cXHg
Lebensmittelhandel in Österreich: Metamorphose mit drei Gewinnern
https://www.regiodata.eu/de/news/1065-lebensmittelhandel-in-oesterreich-metamorphose-mit-drei-gewinnern

RESOURCE 3

DEFINITIONS

"Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. It puts the aspirations and needs of those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations. It defends the interests and inclusion of the next generation. It offers a strategy to resist and dismantle the current corporate trade and food regime, and directions for food, farming, pastoral and fisheries systems determined by local producers and users. Food sovereignty prioritises local and national economies and markets and empowers peasant and family farmer-driven agriculture, artisanal - fishing, pastoralist-led grazing, and food production, distribution and consumption based on environmental, social and economic sustainability. Food sovereignty promotes transparent trade that guarantees just incomes to all peoples as well as the rights of consumers to control their food and nutrition. It ensures that the rights to use and manage lands, territories, waters, seeds, livestock and biodiversity are in the hands of those of us who produce food. Food sovereignty implies new social relations free of oppression and inequality between men and women, peoples, racial groups, social and economic classes and generations."

Source: Nyéléni 2007 - Forum for Food Sovereignty, February 23rd – 27th, 2007, Sélingué, Mali, Synthesis Report
https://nyeleni.org/spip.php?article290

RESOURCE 4

PRINCIPLES I

"1. **Focuses on Food for People:** Food sovereignty stresses the right to sufficient, healthy and culturally appropriate food for all individuals, peoples and communities, including those who are hungry or living under occupation, in conflict zones and marginalized. Food sovereignty rejects the proposition that food is just another commodity for international agribusiness.

2. **Values Food Providers:** Food sovereignty values and supports the contributions, and respects the rights, of women and men, peasants and small scale family farmers, pastoralists, artisanal fishers, forest dwellers, indigenous peoples and agricultural and fisheries workers, including migrants, who cultivate, grow, harvest and process food; and rejects those policies, actions and programs that undervalue them, threaten their livelihoods and eliminate them.

3. **Localizes Food Systems:** Food sovereignty brings food providers and consumers together in common cause; puts providers and consumers at the center of decision- making on food issues; protects food providers from the dumping of food and food aid in local markets; protects consumers from poor quality and unhealthy food, inappropriate food aid and food tainted with genetically modified organisms; and resists governance structures, agreements and practices that depend on and promote unsustainable and inequitable international trade and give power to remote and unaccountable corporations."

Source: Nyéléni 2007 - Forum for Food Sovereignty, February 23rd – 27th, 2007, Sélingué, Mali, Synthesis Report
https://nyeleni.org/spip.php?article290

RESOURCE 5

PRINCIPLES II

"4. **Makes Decisions Locally:** Food sovereignty seeks control over and access to territory, land, grazing, water, seeds, livestock and fish populations for local food providers. These resources ought to be used and shared in socially and environmentally sustainable ways which conserve diversity. Food sovereignty recognizes that local territories often cross geopolitical borders and advances the right of local communities to inhabit and use their territories; it promotes positive interaction between food providers in different regions and territories and from different sectors to resolve internal conflicts or conflicts with local and national authorities; and rejects the privatization of natural resources through laws, commercial contracts and intellectual property rights regimes.

5. **Builds Knowledge and Skills:** Food sovereignty builds on the skills and local knowledge of food providers and their local organizations that conserve, develop and manage localized food production and harvesting systems, developing appropriate research systems to support this and passing on this wisdom to future generations. Food sovereignty rejects technologies that undermine, threaten or contaminate these, e.g. genetic engineering.

6. **Works with Nature:** Food sovereignty uses the contributions of nature in diverse, low external input agro ecological production and harvesting methods that maximize the contribution of ecosystems and improve resilience and adaptation, especially in the face of climate change. Food sovereignty seeks to heal the planet so that the planet may heal us; and, rejects methods that harm beneficial ecosystem functions, that depend on energy intensive monocultures and livestock factories, destructive fishing practices and other industrialized production methods, which damage the environment and contribute to global warming."

Source: Nyéléni 2007 - Forum for Food Sovereignty, February 23rd – 27th, 2007, Sélingué, Mali, Synthesis Report
https://nyeleni.org/spip.php?article290

RESOURCE 6

WHAT IS A CSA?

World

Overview of Community Supported Agriculture in Europe
http://www.fao.org/family-farming/detail/en/c/416085/
History and Principles
https://urgenci.net/principles-of-teikei/

France

Annuaire nationale des AMAP
http://www.reseau-amap.org/recherche-amap.php
Réseau Rural. Recherche de projets
https://www.reseaurural.fr/centre-de-ressources/projets?f%5B0%5D=themes%3A525
Les Incroyables comestibles France
http://lesincroyablescomestibles.fr/annuaire-ic-france/

Portugal

Carta de Princípios
https://amap.movingcause.org/carta-de-principios/
Programa CSA - O modelo
https://www.herdadedofreixodomeio.pt/programa-csa
Rede Nacional RECIPROCO
http://www.rederural.gov.pt/images/Rede_Rec%C3%ADproco.pdf
Associação para a Manutenção da Agricultura de Proximidade@RTP
https://www.youtube.com/watch?v=ZgmB8GumwEQ

Slovenia

Society for the Development of the Humanities: CSA (slo text)
http://zofijini.net/partnersko_kmetovanje/
CSA: Benefits for farmers and consumers (slo text)
https://deloindom.delo.si/ekoloska-pridelava/partnersko-kmetovanje-koristi-za-kmeta-potrosnika

Italy

Via dall'agricoltura industriale con la CSA
https://www.permacultura-transizione.com/cura-terra/autoproduzione-di-cibo/via-dallagricoltura-industriale-con-la-csa/
L'agricoltura civica funziona. E batte coronavirus e modello intensivo
https://valori.it/agricoltura-civica-coronavirus/

Austria

Community Supported Agriculture (CSA)
https://www.garteln-in-wien.at/en/solidarische-landwirtschaft-csa/
CSA-Landwirtschaft – nah, fair und frisch
https://www.umweltberatung.at/csa-landwirtschaft-nah-fair-und-frisch
Solidarische Landwirtschaft in Österreich
https://www.ochsenherz.at/solidarische-landwirtschaft-in-oesterreich/
CSA-Betriebe und Initiativen in Österreich
http://www.ernährungssouveränität.at/wiki/CSA-Betriebe_und_Initiativen_in_%C3%96sterreich
Solidarische Landwirtschaft stellt sich vor
https://foodcoops.at/2019/01/24/solidarische-landwirtschaft-stellt-sich-vor/

RESOURCE 7

FURTHER READING

World

2015_Food_Sovereignty_Assessment_Tool
https://www.firstnations.org/wp-content/uploads/publication-attachments/2015_Food_Sovereignty_Assessment_Tool.pdf
Food Sovereignty Now! A Guide to Food-Sovereignty
https://viacampesina.org/en/wp-content/uploads/sites/2/2018/02/Food-Sovereignty-A-guide-Low-Res-Vresion.pdf

France

Outil PARCEL de Terres de liens
https://terredeliens.org/nouvelle-plateforme-parcel.html
Outils CRATer, Les Greniers d'Abondance
https://crater.resiliencealimentaire.org/
Le Réseau rural. Qu'est-ce que le FEADER
https://www.reseaurural.fr/le-fonds-europeen-agricole-pour-le-developpement-rural-en-france
Le Réseau rural. Territoire LEADER
https://www.reseaurural.fr/territoire-leader

Portugal

Crise, direito à alimentação e soberania alimentar em Portugal
https://www.dn.pt/opiniao/opiniao-dn/convidados/crise-direito-a-alimentacao-e-soberania-alimentar-em-portugal-2968312.html
FAO Brasil participa de evento no Rio de Janeiro para discutir comida, planeta e saúde
https://www.youtube.com/watch?v=r_XrH2AcfsY
RURANIMAR - Os benefícios do feijão na saúde / Vitor Barros
https://www.youtube.com/watch?v=Fvv-cD_G6Zc&feature=youtu.be
RURANIMAR - Agricultura extensiva e desenvolvimento rural e local / Inocêncio Seita
https://www.youtube.com/watch?v=Cw7-ia_ZKok&feature=youtu.be
Soberania alimentar em contraponto à segurança alimentar – Dra. Eliane Tomiasi Paulino (BR)
https://www.youtube.com/watch?v=q_AaA1AiKMY

Slovenia

Radio Slovenia podcasts For our Farmers (slo webpage)
https://www.rtvslo.si/radio/podkast/zanaekmetovalce/99
Meeting of young farmers (slo text)
https://www.program-podezelja.si/sl/knjiznica/134-srecanje-mladih-kmetov-2017/file

Austria

Ernährungssouveränität
http://www.ernährungssouveränität.at/ernahrungssouveranitat/
Ernährungssouveränität
https://www.attac.at/ziele/ernaehrungssouveraenitaet
„Umgedacht" – Alles über Ernährungssouveränität...
https://fian.at/de/artikel/umgedacht-alles-uber-ernahrungssouveranitat/

FLASHCARD

D	The region invites you to enjoy		
Deconstruction A festival takes place: The learners invite their guests to a stakeholder workshop with the motto «The region invites you to enjoy» and cook a sustainable favorite meal for them. They present the model of the region and inform the guests about the insights they have gained from the learning processes by presenting the background to their purchasing decisions and justifying their actions. In this way the pupils' learning progress becomes visible and they act as multipliers for a sustainable region. A station operation in which guests actively participate with pupils on the further development of the region is put in place and the region model is expanded by "useful" results.	**Preparation time**	**Requirements**	**Estimated duration**
	60 min	★★★☆	6-12h
	Specialised capacities		
	Introducing models of «best practice» into my own life . Selecting foods for a balanced diet according to available resources.		
	Aim of the teaching sequence in the module:		
	Creating awareness for sustainable regional consumption or further developing the region with regard to sustainable regional food systems.		
	Learning outcome		
	«Sustainable» favourite dish, station with a role in regional development, final report.		
	Required materials/media		
	Suitable premises + standard presentation material, region model, food is selected and bought by the learners themselves.		

D	The region invites you to enjoy		
Duration in min	Social- setting	Materials/ Media	Method/In practice
30 *Confrontation*	**PL**	**Flipchart, pens index cards**	The learners are confronted with the situation that they, as multipliers in their region, are to present the knowledge they have gained to a selected group of guests and present them with their favorite dish, which has since become a lasting favorite. They decide on the guest list and start thinking about the invitation. **RESOURCE 1**
200 *Reconstruction*	**GW**	**PC, printer, flipchart, pens, checklist**	Learners plan and design the information evening, taking into account all the detailed steps - purchasing, work flow chart, table design, service, etc., introduction to presentation using the model + station operation on the topics of sustainable nutrition.
250 *Intervention/ Interaction*	**PL** **GW** **IW**	**Kitchen including equipment, dining room** **Presentation materials**	Day of the workshop: The highlight of this learning setting is the culinary and intellectual interaction with the guests in their role as multipliers. The learners manage the station mode (World-Café) - at each station, interesting questions about the further development of the region are discussed with the guests and the results are recorded.* *If resources are lacking, this evening can also take place in a family setting and be documented in the form of a photo collage, for example. The questions about the region can be discussed in the family
50-100 *Deconstruction*	**PL**	**Model of region** **Cards & pens**	The results of the station mode (World-Café) as a contribution to the optimisation of the the region are discussed and the actual/ target state is compared. Possible solutions are summarised and relevant ones are incorporated into the region model.
20 *Reflection*	**IW** **PL**	**Final report, learning diary**	The learners reflect on the added value of the evening through the participatory involvement of people from the region. What did the learners learn from the multiplier role played during this evening?

IW: Individual work, PL: Plenum, GW: Group work.

MODULE 3 RESOURCES
D THE REGION INVITES YOU TO ENJOY

Blue: resources for trainers and teachers
Orange: resources for learners

RESOURCE 1

CHECKLIST

1. Preparation

· Date confirmation
· Create guest list
· Write invitations (inform experts about stakeholder workshop)
· Approval by management
· Information of the teacher colleagues
· Organisation of a second teacher
· Statement of costs
· Clarification of the boarding school kitchen (packed lunch boarding school kitchen)
· Purchasing
· Table design
· Catering Service
· Set group speaker
· Set seminar start and end dates
· Lesson preparation for workshop (presentation, station operation)

2. Implementation

· Control: Station operation, presentation, PC, kitchen,...
· attendance list
· Clarify and execute work orders
· Clarifying open points to the seminar
· Write down and answer information in the form of questions

3. Follow-up

· Collect, summarise and rework stakeholders (general report)
· Link the workshop with the subject
· Report

Other materials:

- Flipchart, pens, index cards
- PC, printer, beamer, screen
- Decoration for table design
- Food and drinks
- Premises (seminar rooms, dining room, kitchen)
- Tables and armchairs

FLASHCARD

E	Glocal - think global, act local		
Reflection and Evaluation The focus of this section is discussion and reflection on the diverse learning process with an emphasis on personal nutritional behaviour according to defined reflection categories. The learners then create videos in which they express their most important insights in the form of messages.	**Preparation time**	**Requirements**	**Estimated duration**
	20 min	★★★☆	2-3h
	Specialised capacities		
	Reflecting on my own eating behaviour.		
	Aim of the teaching sequence in the module:		
	Effects of one's own eating habits on regional and global food systems in the present and future		
	Learning outcome		
	Action plan for the future consumption of food Online challenge on sustainable consumption decisions, e.g: Short video «I buy this product because...»		
	Required materials/media		
	Smartphone, learning diary		

E	Glocal - think global, act local		
Duration in min	Social- setting	Materials/ Media	Method/In practice
10 *Confrontation*	**PL**	**Slides**	The teacher provides an overview of the final teaching and learning setting for reflection.
65 *Reconstruction*	**GW**	**Learning diary** **Questions for reflection**	Learners are given questions on reflection categories to work on as a team and report in the learning diary. Which role(s) do you actively play in the food supply chain of the region? What contribution can you make in each role?
50 *Intervention/ Interaction*	**GW**	**Smartphones**	Learners choose and specify one of their roles. Then, in groups, they create short videos with messages that outline their active contribution to the sustainable region: e.g.: «I produce ... because ...!» «I buy ... because ...!» «I recycle .... because ....!» «I express the following opinion ....., because .....!
25 *Deconstruction*	**IW**	**Social Media** **Internet**	The short videos are published on a voluntary basis via social media and commented on by the classmates*. *Alternatively, the videos can be presented in the class
... *Reflection*	**PL**	**...**	The teacher plans a suitable closure for the module

PL: Plenum, GW: Group work, IW: Individual work.

Requirements: This focus-study should be done with learners who have already worked conceptionally on sustainability, local or global food systems, or sustainable diets.

Focus 1

- Type: Professionalisation
- Estimated preparation time: 2 hours
- Estimated duration: 4 to 6 hours
- Level: 19 to 22-year-olds
- Sustainability, food system, field visit, analysis

Focus 1:
A transformative potential evaluation interview guide

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Estimated duration: 4 to 6 hours	• **Objective:** To understand the potential for a shift to greater sustainability that an entity such as a farm, an agribusiness company, a shop, etc. can have on the local and dominant food system. **General capacities:** • To use an interview guide • To record relevant information during interviews • To ask relevant questions in a stakeholder interview **Specialised capacities** • To conceptualise sustainability • To understand how an entity operates in its environment • To understand the different scales in a food system	Visit one of the food system's actors. Diagnose the potential for change of the entity. **Learning outcomes:** **Representation of a sustainability concept** **Locate an entity to visit.** **Proposal for increased sustainability of the food system based on the entity visited**	Learners will visit an entity belonging to their FS and use an interview guide to gather data on how the entity functions. Then, they will debrief on the transformative potential of this entity for the FS and formulate a proposal for increased sustainability.	Individuals and working groups Manager/ employees of the entity visited Plenum session moderated by the teacher	**Learners:** Paperboard and colored pen Interview guide Field visit Notebook Paper and pen **Teacher:** Board Colored pens

INTRODUCTION – 1 to 2 hours

1- Class discussion to examine the learners' representations of Sustainability, Local, Global, and Dominant Food Systems, with a final summary from the teacher – 30 minutes

2- Option 1: Presentation of the interview guide - 30 min.
The teacher presents the interview guide proposed in resource 1.
Option 2: Designing an interview guide - 1h30
In a 45 min group work session, learners design an interview guide according to a set of objectives presented by the teacher.
During the next 45 minute session, the groups share their interview guides and gather ideas to compile a common template.

ACTION! – 2 hours

3- Presentation of an entity to visit. The entity chosen should be part of this food system - 20 mins

4- Field visit using the interview guide\ levels 1 and 2. Visits are carried out by the entire class. The interviews can be led by learners in groups. The interview guide must be used as a guide and not as a questionnaire. This means that learners must not ask the manager or employees presenting the entity all the questions in the guide but rather base their questions on the explanations and use the interview guide as a support to orientate the exchange, leading to questions that will gather missing information.

5- Research at home (in group or individual) on the interview guide\ level 3.

DEBRIEFING – 1 to 2 hours

6- Debrief of the visit. Group discussion to draft the transformative potential of the organization studied in the dominant food system it is part of, and propose actions that would shift the entity towards greater sustainability.

RESOURCE **INTERVIEW GUIDE**

A TRANSFORMATIVE POTENTIAL ASSESSMENT INTERVIEW GUIDE

Based on Gimenez & Altieri, 2013; Schmutz et al. 2016

• **The first level** of the analysis aims at getting the essential information to better understand the organization, describing its values, objectives, and internal way of functioning.
• **The second level** aims at positioning the studied organization within the food system it is part of, identifying the systems border, the relationship of the visited entity to the system, and its territoriality.
• **The third level** is not composed of questions for the host but group reflection once coming back from the visit. The questions are not exhausted and should serve to generate discussion and concrete proposals that would influence the studied organization to change its food system towards greater sustainability.

FIRST LEVEL: THE VISITED ENTITY

1. What are the main activities of the entity?
Farming / processing / distribution / etc.

2. What are the main crops/products/services as the activities' main outcomes?

3. Who works for or contributes to the studied entity: which are the social categories of these people?
Citizens; Activists; Professional: farmers, food processors, distributors; Other

4. How many people work for or contribute to the studied entity?

RESOURCE **INTERVIEW GUIDE**

5. Which kind of business model is it?
Community-based; association; cooperative; business; institutional; other (innovative business model)

6. Describe how the entity is managed - What is the management model?
Primarily hierarchical management / Participatory management

7. Are there local and global challenges motivating the activities/actions?
- the industrial model of agricultural production
- the concentration of food production in a few companies
- market-based land reform and extensive land grabs
- rural poverty and hunger from food price inflation
- biodiversity loss
- societal health issues
- cultural food habits loss
- climate change
- degraded farmland
- others

8. What do the expected results contribute to?
- changing of food patterns from fast to local, healthy and bio food
- food education
- food sovereignty (class-based, redistributive demands for land, water, and resources)
- sustainable agriculture
- short food supply chains
- peasant-based, agroecological development
- shifts in the dominant food system
- social equity
- increase income at local/regional level
- increase the entity's income
- others

9. How is the relationship between humans and nature considered in the activities (of production/breeding/processing/...)?
- Controlling nature, greenwashing of the dominant agricultural model
- Technological innovation and reduction of chemical products
- Research on optimization of ecosystem services, reduction or suppression of the use of chemical products

SECOND LEVEL: THE ENTITY'S FOOD SYSTEM

10. Who are the different actors in the entity's main food system?

11. What is the geographical distance between them?

12. How many intermediaries lie between the producer and the consumer?

RESOURCE **INTERVIEW GUIDE**

13. How do the partners of the given food system communicate?
Face to face and direct contact; Online dedicated platform; Collective open scheduled meetings; Other

14. How many people are affected by your activities and the food system you are part of (consumers, beneficiaries)?
Few families / Hundreds of people / Thousands of people

15. What are the expected (reported or declared) results?
- the changing of food patterns from fast to local, healthy and bio food
- food education
- food sovereignty (class-based, redistributive demands for land, water, and resources)
- sustainable agriculture
- shorter food supply chains
- peasant-based, agroecological development
- a shift in the dominant food system
- social equity
- increased income at local/regional level
- increasing the entity's income
- other

THIRD LEVEL: CONSIDER THE BROADER FOOD SYSTEM – REFLECTING ON THE RESEARCH DATA

16. Who are the main actors in the dominant food systems of the region examined (geographical area of the entity's food system)?

17. What kind of links exist between the actors in the visited entity's food system and actors in the primary regional food systems?
- Limited communication (information sharing, consultation) or complete lack of communication between actors in the main food system. No network, or regional dimensions.
- The actors work together. Networking. Collective decision-making

18. Where there is an LSFS in the region examined, does the entity's food system participate?

19. Does the entity have the potential to shift the dominant food system towards more sustainability?

20. What could the entity change or improve to help make the broader food system transition towards greater sustainability?

21. What can I do (as a farmer, worker, manager, or owner, etc.), to contribute to improving the sustainability of the entity or its broader food system?

Educ Local FOOD

Focus 2

- Type: Awareness
- Estimated preparation time: 1 to 1.5 hours
- Estimated duration : 3 to 4 hours
- 14 to 18 year-olds
- Roleplay, food system, links

Focus 2:
Playing the food system

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Estimated duration : 3 to 4 hours	**Objective:** To understand what a food system is. **Specialised capacities** **• To apply systemic thinking** **• To explain clearly the roles of each actor**	Who are the actors in the FS? How do they function? Which resources or other actors are needed? Which resources or other actors are impacted by their activities? **Learning outcomes:** **Defining actors and their roles in both conventional and sustainable food systems** **Resources needed to produce food** **Links between the food system actors**	Learners become actors, resources, and other components of the food system. Using a role-playing approach they will link the food system around a food product. They will use strings to represent these links between each other, their needs, and their impacts on the environment	Individuals Plenum session moderated by the teacher This activity is better adapted to small groups. If the class is larger than 15 learners, it should be divided into two groups.	**Learners:** Strings (10 meters) Notebook **Teachers:** Board

WARMING UP - 30 minutes to 1 hour

1. The teacher chooses a basic processed food, such as bread, pasta, or steak.

2. The teacher asks : « What components are involved from production to consumption, of this food in a conventional system? »

3. A teacher, or a learner, lists on the board all the components suggested by learners. These components include actors (from farm to fork, including transporters and waste management), natural resources (water, soil, sun, air...), energy sources (fuel, renewable resources...), raw materials (seeds, fertilizer and plant protection products, manure, pesticides, organic products...), and materials (trucks, tractors, food processing machines...), etc.

Remark: the components must not be the food product itself in its different forms along the food chain. For the bread, the wheat, flour, and bread will be represented by the string as a connection between two actors, and can not be represented by a learner.

Teachers can ask questions if they see learners are stuck at any point:
- What raw materials are needed for this processed food?
- What does the farmer need to produce these raw materials? (a plot of land, soil, seeds, fertilizer, pesticides, pest control techniques, tools and equipment, water, knowledge...)
- Who supplies the farmer?
- Where does the waste go? (a landfill, refuse company, compost pile in the farm)
- Where is it processed? (industrial processing, handmade processing)
- Is it packaged? (Industrial packaging)
- After processing, how does it get to the consumer? (transport company, logistics)
- Where does the consumer find it? (retailer company, supermarket, local market, consumer)

4. Using this list, the different roles are distributed amongst the learners. The teachers distribute strings to each learner, which they will use to connect themselves. The learners can also link arms to represent the links between the actors. If necessary, this can be combined with strings when there are more connections.
Optional: 3 or 4 learners can play the role of a jury. While learners explain their roles and links in the FS, the jury will examine this representation to prepare remarks and additional information that they deem missing.
Teachers can bring different types of clothes, scarves, or textiles to be used as representations of the different actors or to represent other things in the setting.

ACTION! – 2 hours

5. Each learner uses a string or his/her arms to connect with each resource they need and their downstream and upstream actors in a conventional food system.

6. When all the learners are connected, the teacher asks everyone to freeze and conducts small interviews.
   a. What is your role?
   b. Which natural and energy resources do you use? And how?
   c. Which natural resources do you impact? And how?
   d. Who are your upstream and downstream actors?
   e. What is your waste?

In the option of a learners' jury, they can take note of these interviews to propose some improvements when all learners have presented themselves.

7. Each actor counts the number of strings he or she has.

8. When all learners have presented themselves in the conventional food system, the teacher asks "If we want to shift this system to more sustainability, what will change for each actor? (actors (some of them may disappear), roles (who will take care of resources for instance), resources used, impacts, connections...).
The interviews are then repeated in this second part: the teacher interviews each learner successively.
9. Each actor then counts the number of strings he or she has.

COMMENTS – 30 minutes to 1 hour

10. Discussion about sustainability and the role of different actors
   a. What is most important for sustainability in this food system?
   b. How did each learner feel when representing each role in both food systems?

Focus 3

- Type: Citizenship
- Estimated preparation time: 1.5 to 2 hours
- Estimated duration: 2 hours
- 16 to 22 year-olds
- Food system, debate, reliable data and sources

Focus 3:
Debating a food system

When?	Why?	What? Content	How?	Who/with whom? Social setting	With which means? Media, working material
Duration: 2 hours + individual research at home	**Objective:** To form reasoned arguments on social issues, the FS transition, and to formulate and defend a position. **General capacities:** • To work in groups **Specialised capacities** • To research and select reliable data • To debate a topic with solid arguments based on reliable data • To formulate a sound proposal for change	Research data, select reliable sources and organize arguments to inform the debate about transitions in the food system **Learning outcomes:** **Reasoned judgments on FS** **Arguments pro and con an FS shift** **Reliable sources of information**	First, through individual research followed by a debate with the whole class, learners will use arguments pro and con a food system transition and develop reasoned judgments	Groups Plenum session moderated by the teacher	**Learners:** Media (Internet, newspapers, scientific revues) **Teacher:** Board

This activity can be done after working previously on food systems.
But if necessary, add a moment during class time to work firstly, on the learners' understanding of what a food system is, and secondly, to intoduce the homework.

Individual research at home
At home, learners can use the media or sources of their choice to answer the following question:

Does the current food system need to change?
Develop at least 5 arguments pro and 5 arguments against the transition of our current food system, related to health, social issues (poverty, food security...), environmental issues (biodiversity, climate change...), or economic issues.
Use multimedia sources (Internet, newspaper, others) to support your argumentation with facts and figures.
Quote your sources and explain in a few sentences who wrote the document/newspaper/articles..., for which audience, and to which intellectual trend it belongs.

Class Time – 2 hours

The teacher organizes a debate around the question: Does the current food system need to change?

• Option 1: The teacher should designate a facilitator, who can be either the teacher or a learner, to form two random groups of learners, one for a shift in the FS and one against a shift. Within each group, they should gather opinions and develop their arguments to defend the group's position (pro/con a shift in the FS). Each group chooses one speaker and two note takers to debate with to debate with the opposing group. - 30 minutes

• Option 2: The debate follows the form of a fishbowl conversation, which can be done in two versions. To make sure that everybody participates, the teacher should point out that each learner will have to ask at least one question.

See more in:
https://en.wikipedia.org/wiki/Fishbowl_(conversation)
http://www.mspguide.org/sites/default/files/tool/fishbowl_slitoolkit.pdf

Debate – 30 minutes

Warning: The teacher should organise this activity to encourage as much participation as possible.

The 2 representatives (option 1)/or groups (option 2), should debate their collective arguments concerning social, economic, and environmental issues related to the FS.

One rule: before putting forward figures or facts to support a group's arguments, the sources must be quoted, e.g. according to (name of the institution/ author of the information).

During the debate (option 1 or 2).
- the note-takers write down the arguments (pros or cons) and list the learners' sources on the board alongside their corresponding argument.
- the facilitator manages the speaking time.

After the debate, the learners who did not take place can add additional remarks.

Debrief on the debate – 30 minutes

The sources are discussed by the teacher to distinguish sources that are reliable from sources that aren't. The objective is to raise awareness about the risks of the manipulation of data and facts by some media, corporations and groups with vested interests, and to understand why this happens.

To finish the discussion, the teacher should summarise key principles to take into account when assessing the reliability of an information source.

Discussion about changes – 45 minutes

The debrief should lead to conclusions on the necessity of a food system transition to improve sustainability. In the concluding remarks, the teacher asks: How can we change this food system – as individuals/or as professionals?

Class Time – 2 hours

The teacher organizes a debate around the question: Does the current food system need to change?

• Option 1: The teacher should designate a facilitator, who can be either the teacher or a learner, to form two random groups of learners: learners in 2 groups randomly, one for a shift in the FS and one against a shift. Within each group, they should gather opinions and develop their arguments to defend the group's position (pro/con a shift in the FS). Each group chooses one speaker and two note takers to debate with to debate with the opposing group. - 30 minutes

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- the facilitator manages the speaking time.

After the debate, the learners who weren't representative can add additional remarks.

Debrief on the debate – 30 minutes

The sources are discussed by the teacher to distinguish sources that are reliable from sources that aren't. The objective is to raise awareness about the risks of the manipulation of data and facts by some media, corporations and groups with vested interests, and to understand why this happens.

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[Toolkit]

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