# Teaching and learning guidance

## capacity building for sustainable food planning

AESOP4FOOD

AESOP4FOOD
Action for Education Spatial Organisation and Planning For Sustainable Food

**Title**

**AESOP4Food teacher's guidance**

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# ACRONYMS

| | |
|---|---|
| AESOP | Association of European Schools of Planning |
| AESOP4Food | Erasmus plus Collaboration Project Action for Education, Spatial Organisation and Planning for Sustainable Food |
| AESOP sfp | The working group of AESOP for sustainable food planning |
| PALAR | Participatory Action Learning and Action Research |
| IP | Intensive Study Programme, short intensive international workshop |
| IPES Food | International Panel of Experts on Sustainable Food Systems |
| PAR | Participatory Action Research |
| KPI | Key Performance Indicator |
| NGT | Nominal Group Technique |
| OECD | Organisation for Economic Co-operation and Development |
| UNICEF | United Nations Children's Fund |

# CONTENTS

# Introduction: how to use this guidance

### Who should read this report?

This report is meant for teachers, researchers, community workers and other parties who want to work on transformative changes for sustainable food systems. For this we share with you our approach, the principles, values, methods guiding our work, and the experience we had for sustainable food planning. The report includes a reflection of the lessons we learned by delivering an online seminar and organising intensive community participation-inspired workshops and organising Polish, Spanish, Belgian and French Living Labs.

### The aim of AESOP4Food project

Our projects aimed to foster the development of sustainable food systems in several ways. To inspire people to undertake transformative actions to make the food system more democratic, just, sustainable and environmentally friendly. To build capacity by providing educational material both for an academic context and for civil society.

### How can one use this teaching guidance?

This teaching guidance and the open access supporting material in the AESOP4Food wiki and webpage can be used in various ways. It can serve to (1) develop a new food planning curriculum, (2) to adapt existing educational modules to integrate the aspect of food planning, (3) to create a deeper awareness of the current development of the production and consumption of food, (4) to organise a living lab where universities and other parties work together or (5) to apply the methods and tools for practice oriented workshops and collaborative work in a community.

### Developing a new food planning curriculum

For this most parts of this report are relevant. Possible steps are firstly to define the knowledge development approach, getting inspiration from concepts such as Participatory Action Learning (Chapter 5). Then make use of the phases and content of the AESOP4Food seminar which are explained in Chapter 3 and the Module descriptions in Annex B. The new course can combine the presented materials, recordings and presentation with additional content that is tuned to the needs of the learners of the new course.

### Adapting existing educational modules to integrate the aspect of food planning

For existing programmes, the Chapters 3 with the phases of the course, 6 which explains how to link living labs to a seminar, and 7 with the methods and tools are most relevant. Chapter 3 and Annex B can be used for inspiration, adding material and resources to a module or course. Chapter 6 provides information for who is interested to integrate participatory action learning and research into teaching, and Chapter 7 helps to select methods and tools for a course.

### Creating a deeper awareness of the current development of the production & consumption of food

The content of phase 1 of the seminar ‘exploring the field of play’ in section 3.1 together with the reading list can be used as a basis for a deeper understanding of the challenges and state of things. Teachers and learners who are new to the subject can make use of the Kick Start Kit (section 3.0).

### Organising a living lab where universities and other parties work together

If you are an academic, learner or community member seeking to develop Living Labs, or are already working within that framework, we share our story in the hope that you will benefit from our experience and our evaluation of the four Living Lab processes we carried out. To organise a living lab calls for additional actions and competences. Chapter 6 provides insight into how one can set up a living lab and link to various modes of education and academic research. In addition to this the presentations and recordings on living labs and PALAR can be consulted. Examples of the AESOP4Food living labs and their research questions are discussed in Chapter 6 and on the wiki page of the labs. The case studies that are presented in the course on projects and the work of living labs can be helpful to learn from the experience of others.

### Applying the methods and tools for practice-oriented work

The methods and tools for collaborative working, goal setting, visioning are presented in Chapter 7. An excellent method for collaborative goal setting is the Nominal Group Technique. Further different ways for onsite and online working are presented. For collaborative monitoring and evaluation Chapter 8 can be consulted.

Important methods for analysis are power mapping and food system mapping. These are explained in Section 3.2 ‘analysing your local foodscape’ and the additional presentations and recordings in the wiki.

### Engaged learners and researchers

We hope that this guidance report helps you to develop knowledge and capacity building for sustainable food systems. We experienced that one of the most important things is to inspire others to act. And to bring about a change, sufficient knowledge and skills is essential.

# PART I

## aim, benefits, overview of the sustainable food planning course

AESOP4FOOD

# 1. What is the aim of AESOP4Food?

The project Action for Education, Spatial Organisation and Planning for Sustainable Food (AESOP4Food) aims to bring together academics (researchers and educators) , policymakers and practitioners from an international audience and provide a forum for discussion and development of sustainable food systems, in city regions in particular.

Indeed, there is every reason to believe that the twenty-first century will be a new era for cities.

First because, from a structural standpoint, currently over half of the world population is urban (compared to 30% in 1950), and it will increase to two-thirds by 2050 according to the United Nations. This raises major challenges in meeting housing, infrastructure, transportation, energy, employment, education, health and, of course, food needs.

Second because cities are gaining tremendous social, political and economic power. This power rises which—in addition to the demographic weight that cities represent—may be partly explained by production system changes taking place worldwide in a globalisation setting and by the financial disengagement of states in land-use planning. Cities represent powerful local hubs that states can rely on to manage transitions to new development models. Cities have thus extended and asserted their power in many areas of social life to transform an ambient 'ecodesire' into tangible local reality (Haëntjens, 2009) while developing their scope of operations to ensure their sustainability (Emelianoff, 2007; IPES-Food, 2023).

Therefore, city regions tend to play a growing role in developing more sustainable food systems. Planning for sustainable food production and food provision is more than ever urging us to look for more effective, equitable and just approaches that radically change not only the way we grow food, but the very core of our living space. However, the food issue—certainly 'too big to see' (Steel, 2008)—has long been overlooked by urban actors.

But over the last two decades, many cities have developed their own food strategy while incorporating different aspects of the system in a common framework: production, processing, distribution, access, consumption and waste management. These strategies are often integrated in broader initiatives to promote urban sustainability (Jennings et al. 2015) and/or reduce the urban-rural divide (Forster and Getz Escudero, 2014).

The AESOP4Food project aims to answer the need for sustainable food planning and its challenges in a multi-disciplinary way. Because of its multi-functional character, urban food systems are an ideal medium through which to discuss, design and plan sustainable urban structures and places. Indeed, sustainable food planning is a thriving transdisciplinary research and policy field bringing together policymakers, academics, community workers, NGOs, and practitioners. Graduates of (spatial) planning courses need to fulfil an essential role in developing integrated territorial plans in a democratic way, and for this, they need to be able to take an inter-sectoral, multi-level, and multi-stakeholder approach.

The project has the following objectives:

- To develop a European wide Sustainable Food Planning curriculum by which learners can deeply immerse in the theories, dialectics and methodologies associated with sustainable food planning. We envision that learners acquire a set of competences as actors for sustainable food planning. The project develops a joint

(e-learning) course and course material for higher education learners (and in the second instance community workers and local authorities' officers) that can be integrated into existing programmes (either as an elective course, either as an addition to existing modules) and fosters transdisciplinary collaboration and transformative science.

- To develop the discussion within academia and the planning professions on the need for sustainable food systems. The project aims to link expert and local knowledge which not only helps to inform better decisions but also ensures plans and policies which are both grounded in state-of-the-art knowledge and local communities' perceptions. The partnership between academic institutes, staff with civil society (NGOs and communities), and local authorities is supported by the Participatory Action Research nature of the project and the connected living labs. This allows knowledge to be co-created rather than simply transferred to communities top-down and connect it to local circumstances and needs.
- To create and share knowledge, by documenting the AESOP4Food methodology as an open educational resource.
- To disseminate the AESOP4Food curriculum and methodology as widely as possible.

The AESOP4Food project, through its comprehensive approach to sustainable food planning, serves as a practical and educational resource for a wide range of stakeholders. It provides valuable insights and methodologies for academics, policymakers, and practitioners interested in addressing the complex challenges of urban food systems. By focusing on participatory action and knowledge co-creation, AESOP4Food offers a relevant and actionable framework for those looking to contribute effectively to the development of more sustainable and equitable food systems.

## References


Brand C. et al. (eds) 2019 *Designing Urban Food Policies*. Urban Agriculture. Springer, Cham.

Emelianoff C (2007) *La ville durable : l'hypothèse d'un tournant urbanistique en Europe*. L'information géographique 71(3):48–65

Forster T, Getz Escudero A (2014) *City Regions as Landscapes for People, Food and Nature*. EcoAgriculture Partners, on behalf of the Landscapes for People, Food and Nature Initiative, Washington, DC

Haëntjens J (2009) *Le pouvoir des villes ou l'art de rendre désirable le développement durable*. Collection Monde en cours, Nouvelles éditions de l'Aube, 158 p

IPES-Food. (2023) *From plate to planet: How local governments are driving action on climate change through food.*

Jennings S, Cotte J, Curtis T, Miller S (2015) Food in an Urbanised World – The Role of City Region Food Systems in *Resilience and Sustainable Development*.

Steel, C. (2008) *Hungry city: how food shapes our lives*. Random House Group Ltd., London. 400 p

# 2. Who can benefit from the course material?

AESOP4Food Erasmus+ offers a state-of-the-art online open course material designed to cater to diverse targeted groups, each with unique interests and backgrounds in sustainable food planning. The core target groups of AESOP4Food are university staff and students from various disciplines such as architecture, urban planning, landscape architecture, agronomy, environmental sciences, and sustainability studies. The initiative also includes secondary audiences, such as NGOs and communities involved in local food systems, municipalities, and the wider public. The goal is to break down barriers and foster collaboration while encouraging knowledge development at personal, professional, communal, and political levels.

The course combined lectures and interactive exercises to cater to the diverse needs of targeted groups, striving to build a diverse community of learners and practitioners committed to creating sustainable and equitable food systems, fostering collaborative efforts, and promoting positive change in the realm of food planning.

### Bachelor and Master Students

The course is designed to engage both undergraduate and postgraduate students pursuing degrees in fields like urban planning, agronomy, environmental sciences, and related disciplines. It offers them an opportunity to delve into the conceptual frameworks of sustainable food planning, enriching their academic knowledge and preparing them to address real-world challenges in the food system. Students can make use of the modules and resources in various educational settings (see Chapter 6), during an internship, as an elective subject, connect it to a planning or design studio, or use it as a basis for their bachelor or master thesis.

### Researchers and Scholars

AESOP4Food is also relevant for Ph.D. candidates and academics interested in in-depth exploration and transdisciplinary research related to food system resilience, agroecological urbanism, regional agroecological food systems, multi-level governance, and food justice. The course serves as a valuable resource for advancing their expertise and contributing to the advancement of sustainable food planning practices and tools for analysis.

They can enrich their research with the framework of participatory action research (Section 3.1, Chapter 5). How to organise participatory research with communities, civil society in the context of living labs is presented in Chapter 6. From the stories of the individual labs, they can benefit from our experience.

### Community Members and NGO Staff

The course extends its reach to individuals actively engaged in community-based projects and non-governmental organisations working on sustainable food initiatives. Through interactive exercises and case studies, participants gain practical insights into effective planning approaches and community-centred food solutions. The experience of our local living labs (Chapter 7) can be inspiring to participate in or to organise living labs for sustainable food planning. For organisers of living labs, the approach of the living labs with the different phases can be used as a guidance. The tools (chapter 8) can be used for collaborative analysis, goal setting and planning.

### Civil Servants and Government Officials

For civil servants and policymakers, AESOP4Food offers valuable knowledge on multi-level governance and how to design policies that foster sustainable and resilient food systems at regional and urban levels. The course equips them with knowledge and tools to make informed decisions that align with food justice and democratic principles. When organising or taking part in a living lab, the information on living labs in Chapter 6 and 7 is valuable.

# PART II

## content of the phases of the course

AESOP4FOOD

# 3. What is the course about?

## 3.0 Introduction

As proposed in this project, training planning stakeholders in sustainable food issues has become a priority to meet several contemporary challenges. As a matter of fact, there is rising awareness that growing and often poorly controlled urbanization leads to urban sprawl, socio-spatial inequality, pollution and environmental degradation associated with non-sustainable modes of production and consumption. The increased distancing—geographic (remoteness from basins), economic (increased number of intermediaries) and cognitive (ignorance of production conditions)—between cities and supply basins raises many problems: increased transport costs, energy consumption and food loss and wastage. Finally, relationships between city and rural dwellers are becoming less tight knit because of the many food processing, logistics, distribution and catering operations.

Food has again become a global discussion issue because of the 2008 crisis regarding agricultural raw material prices and following numerous health crises (bovine spongiform encephalopathy, avian influenza, etc.), while cities are increasingly interested in finding ways to meet city dwellers' expectations on improving their diet. This twofold global/local movement is reflected on a territorial level by an increase in initiatives on food relocalisation, urban agriculture, farmland protection, school canteen provisioning, etc. This plethora of innovations is still poorly structured, while accounting for or including it in integrated food policies is still a recent phenomenon.

Pothukuchi and Kaufman (1999) were among the first authors to focus on the importance of the role of food in the city. According to these authors, at the time, there were at least four reasons for city representatives' and urban planners lack of interest in the food issue: the food system did not require special attention as it was considered to be functioning well, the food sector was not within the purview of urban planners, this sector (contrary to the transport and housing sectors) did not attract financing, and, finally, food was considered to be primarily a rural agricultural issue (not an urban and cross sectorial one).

According to Morgan (2009), the latter argument is not admissible to justify the 'puzzling omission' on the part of planners regarding food. First, the multidimensional aspect of the food system means that it has a substantial impact on other sectors such as public health, social justice, energy, water, land, transport and economic development. All these sectors are key concerns of urban representatives who have every right to deal with them. Second, considering food production as an exclusively rural activity challenges the fact that in many cities worldwide, urban agriculture has a pivotal role in food security and in others it inspires a rich socioeconomic movement geared towards producing food in cities.

All this underlines the importance of training future practitioners to meet the many challenges of sustainable food planning. These future practitioners will have to be well trained in navigating the multiple levels and sectors that shape food policy today. Sustainable food planning is in many contexts not a strongly institutionalised area of work and consolidated field of practice. It is rather a heterodox and emerging practice, bringing practitioners, policy makers and academics together from different policy areas and disciplines. In this course we hope to equip people better to engage in the work of co-constructing an emerging field of policy making and planning.

### The course content

AESOP4Food Erasmus+ aims to develop a comprehensive understanding of sustainable food planning, enabling them to address real-world challenges with informed, transdisciplinary, and participatory approaches.

The general structure of each session includes an introduction and recap of the previous session, followed by an exploration of theoretical backgrounds supported by compulsory readings and videos. Invited lecturers present case studies, and interactive exercises facilitate active learning and critical thinking. Each session concludes with an agenda for the next session and closing remarks.

Participants are engaged through interactive online tools like Padlet, Mural, and Miro, and methods like the Nominal Group Technique and Participatory Action Learning Research (PALAR) promote collaboration and knowledge co-creation.

The content and speakers of each session provide valuable insights into various aspects of sustainable food planning, from program introductions and challenges to theoretical frameworks and strategies for the productive urban landscape. Between sessions, participants are assigned compulsory readings and video lectures to deepen their understanding of the discussed topics, enhancing their knowledge base.

A set of module descriptions are developed based on the following phases: (1) exploring the field of play, (2) analysing your local foodscape, (3) collaborative goals and vision, (4) strategy and interventions, and (5) evaluation and monitoring. In this chapter we explain the content, learning outcomes and learning mode of each phase. In Annex B a set of module charts are presented that can be used as building blocks for a course or a programme on sustainable food planning.

The online seminar supports a broader and general understanding of the contemporary challenges and existing strategies of sustainable food planning and food systems transformation. Learners can acquire core competencies for sustainable food planning: systems thinking, values thinking, anticipatory and strategic competence and collaboration. They can gain awareness of main contemporary challenges to sustainable food systems, its multiple dimensions (social, environmental, economic and spatial) and setting (cultural, local and regional) in the context of spatial planning.

The comprehensive learning outcomes of the course are:

- Critical reflection on personal values, competences, and especially the role of the planner in a pluralistic society (expert vs facilitator) in developing a more resilient food system.
- General understanding of concepts such as City-Region food systems, theory of change, transition thinking and prototyping.
- Analysing a part of a food system or a specific food initiative.
- Engaging local community through participatory problem-solving techniques.
- Mapping and evaluating the power structures and the role of main stakeholders in the food system.
- Exploring the techniques of collaborative challenges and goal setting.
- Developing a joint vision and strategy based on suitable methods and tools for prototyping and transformative action.

## Recommended reading

Morgan, K. (2009) Feeding the city: the challenge of urban food planning. *Int Plan Stud 14(4):*341–348

Pothukuchi K, Kaufman J.L. (1999) Placing the food system on the urban agenda: The role of municipal institutions in food systems planning. *Agric Hum Values 16*(2):213–224

## 3.1 Kick Start Kit

For those who are just starting their journey in the field of sustainable food planning it may help to get an overview of how this discourse on sustainable food planning started, what the important driving factors of the systems are, and what the main challenges are. This preparation will take around 8 hours but may take more or less time for you depending on your language skills and experience with reference studies.

For this, you can start to make a **concept map**.

*Start with getting acquainted with what a concept map is. This may take 60 minutes.*

You can use this background material: Before making the map you can read this article by Joseph D. Novak & Alberto J. Cañas about Theory Underlying Concept Maps and How to Construct and Use Them. You can use any tool you like for producing the map, the easiest is just drawing and sketching. If you want to do it digital you might use the following open source software for producing your map: Cmap Tools or VUE - The Visual Understanding Environment.

Then view and read the following:

- View the video of **Cathryn Steel on the Hungry City**. Hungry Cities by Carolyn Steel video. 30 minutes.

Read the following pages of the reports of IPES-Food and FAO:

- FAO Report : "Integrating food into urban planning". Read **Chapter 1 Food and urban planning - The missing link**, page 18 - 32. This will take 60 minutes.

This report aims to motivate city officials and their technical teams, urban planners, and related professionals to view food as central to a truly systemic approach, and to contribute to the understanding of the different factors involved in the inclusion of food in all urban planning efforts. The book presents cases and examples from all over the world. The introduction highlights serious challenges that planners need to address.

- IPES-food: **From Plate to Planet**: How local governments are driving action on climate change through food. Read the whole report page 1-28 and make notes of the main issues you consider relevant to your role and position. 120 minutes.

- IPES-food: **Who's Tipping the Scales?** Briefing note. Read the Key messages- page 4, the Introduction- page 5-6, make sure you understand the schemes on page 11 and 13, read the recommendations page 28-30. This will take some 60 minutes.

- IPES-Food: **Food from somewhere.** Read the management summary, 6 pages, this will take 60 minutes.

This report dives into the subject of territorial markets and their role in food security, food justice, and food democracy. It explains the mechanisms behind the global corporate chains which are more and more replacing or assimilating other modes of provisioning. This is happening in the context of deteriorating food and nutritional security, the rise of diet-related disease, sustained food price inflation, and supply shocks – where people need healthy, diverse, and accessible food provisioning options more than ever. Local markets can weather shocks and deliver resilience because they are rooted in communities, landscapes, and cultures, and because they empower diverse networks of people to deliver food sovereignty and food security. The report highlights leverage points in support of territorial markets. Providing appropriate support for these systems would allow them to deliver further benefits for food security, equity, and ecological health – reinforcing their role as the cornerstone of food security and climate resilience for years to come.

- Finalise your concept map on sustainable food planning and note down questions you have regarding the subject. 120 minutes.

At the start of the course or session, we will have a Q&A session discussing the questions.

## 3.2 Exploring the field of play

This phase focuses on the main challenges of the current food system, discusses theoretical frameworks and approaches and methods to address these challenges. Because participatory action research (PAR) is essential for transformative change, the PAR method in combination with the organisation of living labs is introduced. We expect that in this phase the learners will become better aware of their values regarding sustainable food planning and can define their own position in the planning process.

The learning objectives for Phase I encompass developing a broader understanding of sustainable food planning challenges, raising awareness of social, environmental, economic, and spatial dimensions in food systems, encouraging self-reflection on personal values and competencies, and fostering a general understanding of key concepts such as City-Region food systems, agroecological urbanism, food justice and democracy and transitions thinking.

### Main Challenges for sustainable food planning

The lectures present an overview of current challenges faced in sustainable food planning as these are made explicit by IPES-Food, NOVIB, Oxfam and the FAO. Firstly IPES-Food focused on the policy aspect in the report "Towards a Common Food Policy for the European Union" (IPES-Food, 2019). One of the primary challenges identified based on this report is the necessity for an integrated vision that seeks to address the interconnectedness of various food-related issues, considering their impacts on social, environmental, and economic aspects. The introduction aims to familiarize students with the diverse range of options within food systems and their significant impacts. A key focus is on addressing access and resource security issues. Through discussions, students explore the complex nature of food systems problems and gain an understanding of the diverse challenges that arise from specific regional contexts.

### Theoretical Frameworks

The course introduced participants to different theoretical frameworks that underpin sustainable food planning. These frameworks may include concepts like food system resilience, agroecological urbanism, regional agroecological food systems, food justice and democracy and multi-level governance (Chapter 4).

### Approaches and Methods

Various approaches and methods play a vital role in sustainable food planning. Participatory Action Research (PAR) and living labs are some of the participatory approaches that encourage active engagement with stakeholders and communities to co-create solutions. Participants have also explored different analysing methods to evaluate the effectiveness of interventions and policies in food planning.

- ***Participatory action research*** involves active involvement of people affected by the research in shaping the research process and outcomes. It can be a simple collaboration with a specific community or a formalised approach with multiple stakeholders.
- ***Living labs*** are experimental spaces where stakeholders work together to develop and test innovative solutions in real-life conditions. They can range from informal partnerships to complex networks of organisations (Chapter 6 and Annex A).

Both approaches prioritise collaboration and engagement, leading to more effective and relevant research and solutions.

Through the cultivation of critical subjectivity, PALAR emphasises the development of self-awareness and an appreciation of the unique agency, identity, emotions, beliefs, and desires of oneself and others. By actively involving all participants in the learning and research process through open dialogue and critical thinking, PALAR creates an inclusive space where diverse perspectives coexist and contribute to the co-creation of

knowledge. This approach promotes a deeper understanding of complex issues and supports the development of context-specific solutions, enriching the overall learning experience for everyone involved.

### Defining the participants Position and Values

As participants progress through the course, they have been encouraged to define their own positions and values in sustainable food planning. Understanding personal values and perspectives can shape one's approach to addressing challenges and contribute to more mindful and responsible decision-making.

Empowering Critical Thinking through Sustainable Transitions was supported by the presentation of the Multi-Level Perspective as our Guiding Framework to Nurture Students' Analytical Abilities.

The seminar on the WIKI Landscape Portal aims to explore sustainable food systems and spatial planning. It includes case studies on topics such as Agroecological Urbanism and Food Justice. For using references, compulsory readings are provided to deepen understanding of these topics. Exercises could include interactive discussions and project presentations, aimed at applying theoretical knowledge in practical contexts. An example of a transformative person in this field could be someone who has significantly contributed to sustainable food practices or urban planning. The assignments are likely designed to reinforce the concepts taught in each phase of the seminar. For more detailed information, please refer to the WIKI Landscape Portal.

### *Aim of the lectures, examples of case studies*

The aim of the AESOP4FOOD lectures was to develop competencies in sustainable food planning, with a focus on systems thinking, strategic competence, and collaborative approaches. The sessions covered various topics, including agroecological urbanism, food system mapping, and collaborative goal setting. Case studies and practical exercises complemented theoretical discussions, providing insights into real-world applications. For specific case study examples and detailed session content, you can refer to the WIKI Landscape Portal.

### *How to use the references: compulsory reading*

The compulsory readings for the AESOP4FOOD course are organised into preparatory materials and background readings for each of the five phases. These readings cover various topics related to sustainable food systems and urban planning. They include reports, academic articles, and practical guides. The aim is to provide a comprehensive theoretical foundation and practical insights into the field. Students are expected to engage with these materials to deepen their understanding of the course topics and to prepare for the interactive and application-focused aspects of the seminar. For detailed information on the specific readings, please refer to the WIKI Landscape Portal on reading list.

### *Which exercises can be included*

The exercises from the AESOP4FOOD course include creating a persona of someone contributing to sustainable food transformation, role-playing different stakeholders in public policy discussions, collaborative goal setting and visioning using the nominal group technique, and monitoring and evaluation through reflective questions. These exercises focus on interactive learning, problem-solving, and critical thinking, ideal for understanding and addressing challenges in sustainable food planning. For detailed descriptions of these exercises, please refer to Appendix B. the description of the modules and the WIKI Landscape Portal page on exercises.

In the course we used for example exercises where participants presented an example of a person or a persona who undertook transformative action for improving the food system, role plays where learners adopted the position of a specific stakeholder, using Mural.co for collaborative goal setting and visioning, and one on monitoring and evaluation.

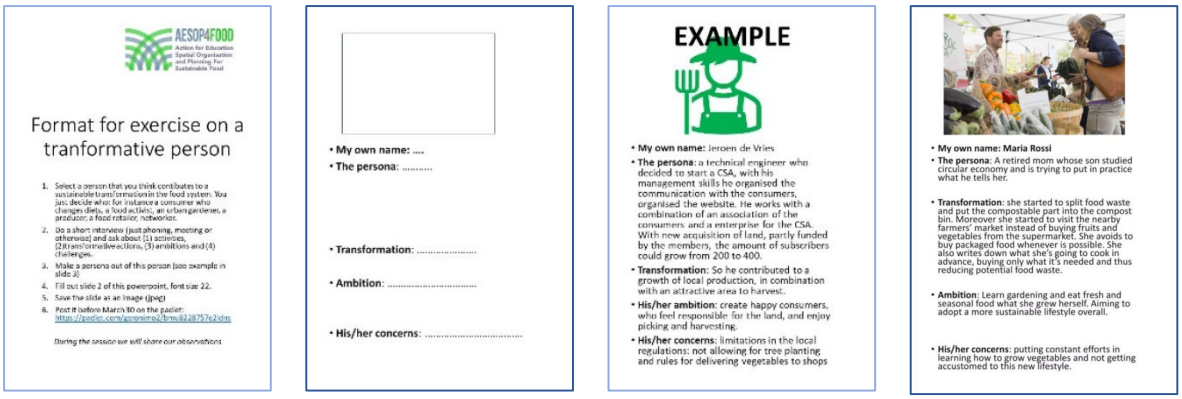



*Figure 1. Exercise of a transformative person with the format, an example and contribution by a participant.*

***Which part of the assignment is relevant for this phase?***

For the phase focusing on learners with varied knowledge levels in sustainable food planning, the video of from Carolyn Steel, and the presentations by Damien Conaré, Michiel Dehaene, and Sébastien Marot are recommended. Their materials provide a foundational understanding and historical context of food systems, catering to beginners and advanced learners alike. This approach ensures a comprehensive learning experience for all participants, regardless of their initial knowledge level. For detailed content and specific lectures, refer to the WIKI Landscape Portal.

What is your experience while preparing, organising and delivering this part of the course: lessons learnt, advice for teachers and developers.

There are different starting levels of the learners relating to their knowledge and awareness of what sustainable food planning is about.

We propose for learners who need to start from the beginning with the subject of sustainable food planning the material of the Kick Start Kit (section 3.1 and wiki page) where you can find videos, introductory reports on the subject, such as the material of Carolyn Steel, author of Hungry City and Sitopia.

Damien Conaré, l'Institut Agro Montpellier, provides insight into the field of play, looking back at the development of food systems and showing the impact of the current system (Session February 29, 2024). Michiel Dehaene, Universiteit Gent, presents the development of the approach of an Agroecological Urbanism, with a set of building blocks that can be used as thematic entries for all planners (Session March 7, 2024). Sebastien Marot (Marne-la-Vallée School of Architecture/ EPFL) gives on rear view mirror and scenarios of agriculture and architecture, based on the architectural Triennale in Lisbon 2019 and the exhibition that has been developed from that. This presents a good historic overview of the development of the food systems (Session May 11, 2023). Background information can be found in the exhibition panels in the reading list. This is the online exhibition and resource curated by Sebastien Marot (https://agriculture-architecture.net/). It consists of 42 panels arranged in 6 thematic lines of thinking. They compose an ideology, i.e. a jurisprudence of ideas, moments and figures which one might bear in mind when considering the nexus of agriculture and architecture, and its evolution.

## 3.3 Analysing the local foodscape: contextualizing food systems

Historically, mapping has been an important element in urban planning, and we assume that it can also be an important part of the sustainable food planning process. Within the urban real, most maps represent areas by showing the location of buildings, open spaces, infrastructures, building, as well as land uses, etc. Besides these cartographies, there are also conceptual maps, depicting diagrams or “visual representation that that shows the relative position of the parts of something“ (Merriam Webster dictionary)

### *Food maps as powerful tools for transformative process*

Cartographies allow the visualisation of geo-localised information. Food maps show patterns, and help to recognise different situations, gaps, and opportunities. If we learn to read /interpret (and produce) maps, we can get a better understanding of the foodscape; maps unfold a world of opportunities for envisioning desirable futures.

There is a growing number of available geo-referenced data, which is an opportunity for intentionally driven spatial analysis. That is good news, but data should be regarded carefully. Before embarking on overwhelming mapping, it is important to know why we are doing it and what data is necessary and valuable. Maps are a powerful tool, but no more than a tool. They are not a substitute for planning, decision making or intentional and critical thinking. Data mining comes at a cost, it is time consuming, and it is easy to enter a loop of "data demanding more data". Here are a few ideas on how to approach the mapping process:

### *A) Narrow down the purpose of mapping*

Maps serve a purpose. The AgroecologyNow Initiative at the Centre for Agroecology, Water and Resilience (CAWR) and Cultivate! Have defined four common objectives driving mapping work (Milgroom et al., 2019):

- Inspiring, be it inspiring people to get involved in food movements, or to explore possibilities.
- Networking, facilitating the connections between different stakeholders… and giving visibility.
- Evidence-building, to get a deeper understanding and influence policymakers, institutions, etc.
- Marketing, as a showcase for farmers and producers.

A good way to start the analysis of the foodscape, is to clarify the purpose of mapping. In the framework of the course, we suggest working on inspiring maps, as a key element for the process of envisioning better desirable futures. These maps will also ease the path to design by mapping opportunities (Katrin Bohn's presentation). We start by making an inventory of urban capacity to develop an opportunity map. Areas of opportunity can refer to spatial places, but not only.

### *B) Narrow down the "object" to be mapped*

After the "why" comes the "what". The options are multiple, we may decide to focus on transforming the food system by improving the options for short supply chains. In this case, one can be tempted to map the WHOLE food system which is barely assumable or learn about the situation and the opportunities by mapping only a part of the food chain, only a (significant) product (See the presentation of Jorge Molero). Maps can reflect **places** (places of production, transformation, distribution, consumption, etc), and they can also reflect **fluxes**. And they can be complemented by maps of **virtual networks**.

### *C) Mapping to identify "the missing links"*

Maps that provide information not only about what is already happening, but also about the missing elements, are of special interest.

When the issue of right to food, food justice and universal accessibility to healthy food comes to the forefront, the use of spatial indicators is a good approach. Especially if they are represented disaggregated according to meaningful spatial units. This approach can be of special relevance when Sustainable food planning is intertwined with the right to food and food sovereignty aims (presentation of Marian Simón). The systematization of publicly available data enables the classification of neighbourhoods according to their potential to deploy transformative urban plans related to food crafting food-related emancipatory alternatives. Needs can be compared to assets (i.e. food banks, solidarity pantries, and alternative networks, spaces reclaimed for collective purposes, community gardens, , etc. community kitchens) to identify actions and craft proposals (Simón-Rojo, 2021).

The gap between regional production of energy and nutrients and the demands/needs of the population, together with its visualization through mapping, is certainly a key element to feed the envisioning process and explore the potential urban food system innovation (Jensen and Orfilla, 2021).

### Recommended reading on people and participatory process

Jensen, P. D., & Orfila, C. (2021). Mapping the production-consumption gap of an urban food system: An empirical case study of food security and resilience. *Food Security, 13*, 551-570

Milgroom, J., Anderson, C., & Chappell, M. J. (2019). *A guide to mapping for food system change.* Coventry University. 2019.

Simón-Rojo, M. (2021). Powering transformative practices against food poverty with urban planning. *Urban Agriculture & Regional Food Systems, 6(1), e20021.*

Baker, L. (2018). *Food asset mapping in Toronto and Greater Golden Horseshoe region. Integrating Food into Urban Planning*, 264-75.

United Nations Environment Programme (2019) *Collaborative Framework for Food Systems Transformation. A multi-stakeholder pathway for sustainable food systems.*

## 3.4 Collaborative goals and vision

The third phase of the AESOP4FOOD online seminar is designed to achieve specific learning objectives around collaborative goals setting and visioning:

- being able to apply techniques of collaborative goal setting, i.e. how the visioning process is taking place?
- being able to formulate actions as possible solutions for selected challenges, i.e. how this vision will translate into an implementation strategy?

This step is important in terms of shaping the context in which an urban food policy is governed. The way the goal setting and visioning work is conducted shall be a process of organising the future governance of the food policy: may it be reinforcing or establishing a food policy council-like group; creating institutional bodies; creating a new directorate (or an intersectoral one) in local authorities; may it build a holistic territorial approach ; etc.

***Visioning***

Collaborative goal setting is a strategy to decide on and set goals as a collective. Participants are advised that this process should include:

- identifying stakeholders needs.
- prioritizing and allocating available resources.
- assessing and evaluating goal performance over time.

« Visioning is basically a process by which a community envisions the future it wants and plans how to achieve it. It brings people together to develop a shared image of what they want their community to become. » (UN-Habitat, 2012) In short, a vision is the overall image of what the community wants to be and how it wants to look at some point in the future. The vision statement and design are the first steps for the creation and implementation of strategic action plans.

Again, the participants will be introduced to some principles that this process should follow:

- Accepting different agendas / allowing all kind of expressions.
- Building local capacity.
- Spending money.
- « Now is the right time! »: the best time to start involving people is at the beginning of any planning process; the earlier the better, even before the data-gathering phase.
- Recording, documenting and following up.
- Working on location! (though keeping a reflection across scales - as food is multiscalar per se).

Visioning will be more successful if it is not undertaken as a stand-alone activity, and if it is also improved, multiplied and repeated over time.

### *Participation*

As participants progress through the course, they will be introduced to notions of participation in food planning.

Depending on the food system node or component at which they operate, different stakeholders will be able to offer different insights. For this reason, participating stakeholders should be broadly representative of actors in the City Regional Food System (identified by mapping – see Phase II). Bearing in mind that a participation process cannot be limited to participation "professionals", and that processes (such as the drawing of lots for citizens e.g.), not always satisfactory, must be envisaged to engage stakeholders who happen to be off the radar of participation. Arnstein (1969) defined power structures in society and how they interact, in the form of a “ladder of participation”. This can be used as a guide to analyse who has power when important decisions are being made.

The bottom rungs of the ladder are (1) Manipulation and (2) Therapy: they describe levels of "non-participation" (powerholders just "educate" or "cure" the participants). Rungs 3 and 4 progress to levels of "tokenism" that allow the have-nots to hear and have a voice: (3) Informing and (4) Consultation. Under these conditions, citizen lack the power to ensure that their views will be heeded by the powerful. Rung (5) Placation is simply a higher level of tokenism because the ground rules allow have-nots to advise but retain for the powerholders the continued right to decide. Further up the ladder, citizens can enter a (6) Partnership (enabling them to negotiate and engage in trade-offs with traditional power holders), a (7) Delegated Power and then (8) Citizen Control.

### *From vision to action*

Now that visioning, and participation in this process, have been introduced to the participants, the course will tackle the definition of an action plan.

Such a process calls for considering the necessary and available resources (technical, human, financial, legal, institutional, etc.), establishing a provisional timetable and anticipating the measurement of expected impacts. Actions should be relevant, feasible, and coherent (beware of actions that may contradict each other or those that would mobilise too many resources).

### *Evaluation*

Assuming that participants have a broad understanding of the local issues, the problems, potentials and the sustainability challenges (phases 1 and 2), the assignment invite them to develop in group a process of goal setting, visioning and action plan definition, step by step:

1. Defining collectively the food (planning) challenge they want to address in this process.
2. Selecting individually their top 3 strategic goals to address the challenge they work on.
3. Voting on their top goal.
4. Formulating a vision by bringing all goals together and frame them with an overreaching idea or sentence.
5. Selecting one goal and defining 2-3 actions that would lead to this goal. Selecting one action and trying to identify responsibilities, actors, resources and achievable targets in the three years to come.

## Recommended reading


UN Habitat, (2012): *Visioning as a Participatory Planning Tool;*
https://issuu.com/unhabitat/docs/visioning_as_participatory_planning_tool

Sherry R. ARNSTEIN (1969), ”A Ladder of Citizen Participation”, *Journal of American Institute of Planners, n°35/4.*

N. Cohen, R.T. Ilieva, « Expanding the boundaries of food policy: The turn to equity in New York City », *Food Policy, vol. 103,* 2021.

« FAO/RUAF – *A Vision for City Region Food Systems – Building Sustainable and Resilient City Regions* »
https://www.fao.org/3/i4789e/i4789e.pdf

*Alessandra Manganelli (2020): Realising local food policies: a comparison between Toronto and the Brussels-Capital Region's stories through the lenses of reflexivity and co-learning, Journal of Environmental Policy & Planning*

Van de Griend, J., Duncan, J., & Wiskerke, J. (2019). How Civil Servants Frame Participation: Balancing Municipal Responsibility With Citizen Initiative in Ede's Food Policy. *Politics and Governance, 7(4)*, 59-67

Candel, Jeroen J. L (2019): *What's on the menu? A global assessment of MUFPP signatory cities' food strategies, Agroecology and Sustainable Food Systems*

Sonnino, R. Tegoni, C. De Cunto, A. , *(2019) The challenge of systemic food change: Insights from cities. Cities, Vol. 85*, pp. 110-116

Landert, J.; Schader, C.; Moschitz, H.; Stolze, M. A Holistic Sustainability Assessment Method for Urban Food System Governance. *Sustainability 2017, 9*, 490

## 3.5 Strategy and interventions

This phase discusses how to formulate a strategy, designing an intervention and testing it.

Learners should be able to:
- develop a strategy based on a joint vision reflecting on concepts of change and change agency.
- select and apply methods and tools for prototyping possible interventions.
- develop a prototype to connect strategies and interventions/ discuss prototypical interventions with others as a way of testing a strategy.

Sustainable food planning is a broad and pluralistic practice. This makes the discussion on questions of strategy development and intervention difficult.

Food planning does typically not belong to one policy field and implementation of strategies aimed at food systems transformation are not just singular 'projects. Phase IV is therefore centred around thinking what interventions might deliver transformative change, not looking at the implementation of a singular project as the change itself or the delivery of a policy in and of itself. The course instead focuses on the way in which specific interventions are grounded in different concepts of change. It uses this as the basis to strategize around change agency and ways of linking a systems perspective to possible ways of intervening in the food system. The focus, in other words, is less on the effective implementation of concrete policy actions or projects but rather on the strategic formulation of where action could be directed.

More in particular the course focuses on three things:(1) - food planning and the politics of green transformation, (2) -the role of policy navigation, policy windows and policy entrepreneurship, and (3) co-creation and experimentation in policy development: foresight approaches & prototyping.

### 3.5.1 The politics of green transformation

Food systems analysis has the merit of showing the many relationships and connections that define the way in which food is produced, processed, distributed and consumed. Insisting on food as an entry point reinforces this, because it brings together many different worlds involved in the co-construction of the way in which cities and regions are being fed, drawing attention to multiple and variously scaled geographies, but also to a multitude of stakeholders, and a wider range of aspects, from technical and technological question taking place across the food chain (growing techniques, conservation techniques, cooking, cooling, packaging) to aspects related to the cultural meaning of food, dietary change, personal and cultural preferences, etc. A systems perspective however tends to be descriptive in nature, tends to black box agency and does not provide a direct understanding of how systems transformation might be delivered. In fact, they tend to normalise and explain the reproduction of the current situation, the status quo.

Next to such analytical exercises there is a proliferation of concrete exercises, projects, local initiatives, alternative food networks. It is not always clear how these actions, apart from being alternatives to the

dominant food system, may deliver change, and may transform existing systems. To give students tools to place existing actions in context, and to understand the various (often ideologically motivated) assumptions that underlie different types of action, we used the introductory chapter of the work of Scoones et al. on the politics of green transformation. This chapter identifies 4 broad narratives of green transformation. These narratives combine different ways of framing the problem with different ideas on how change can be delivered. They look at transformation as either primarily technology driven, state led, market driven, or citizen led. These narratives mainly serve the purpose of highlighting the many normative assumptions that underlie actual transformative pathways. They help to keep the political dimension central against the background of strong tendencies that tend to depoliticize questions of change agency and policy delivery.

**Table 1. Narratives of green transformations: diagnoses and solution**

| Narratives of green transformation / diagnoses | Solutions |
|---|---|
| **Technocentric**<br>Either about to or already exceed many planetary limits, urgency and crisis.<br>Emphasis on population; Malthusian models of scarcity and conflict.<br>Highlighting the role of technology as magic bullets . but also, potentials of alternative technologies. | Technologies as global public goods to tackle environmental crisis<br>Low-carbon transitions: new energy technologies<br>Including 'technical fixes', from geoengineering to genetically modified crops, but also bottom-up, grassroots innovation<br>Top-down governance arrangements in favour of 'the planet' |
| **Marketised**<br>Crisis results from market failures, externalities.<br>Primacy of (green) growth.<br>Corporations as agents of change. | Technological entrepreneurs, green capitalists and consumers to lead<br>Prices will reflect scarcity of resources and demand to protect them, and reward ecosystem service providers<br>Need to allocate and enforce property rights and use institutions to this end<br>Economic investments and market incentives to achieve green growth and a green economy |
| **State-led**<br>Need for state involvement in steering transformation and re-embedding markets.<br>State-backed R&D and wider finance central to a 'developmental state'.<br>Crisis of governance at national and global levels; importance of institutions, agreements, international architectures. | At the national level, need for a green state, adopting green Keynesian industrial policies of stimulus, infrastructural projects, creating green jobs<br>At the international level, modifying and reforming existing institutions or creating new ones (World Environment Organisation) Strengthening global architectures (Earth System Governance) |
| **Citizen-led**<br>Change comes from below, cumulative actions of multiple, networked initiatives Linking niches, experiments and demonstrations through movements.<br>Behaviour change, advocacy and demonstrating alternatives central: 'another world is possible'. | Power from below, involving connected social movements (e.g. green consumers, green living/transition towns; food, water, energy- sovereignty movements)<br>Radical system change required (e.g. arguments for eco-socialism, eco-feminism, Third World environmentalism, post- developmentalism)<br>Bio-communities; self-sufficiency; dematerialization; degrowth |

*Source: Scoones et.al., 2015*

The politics of green transformation revolve around different political pathways that insert themselves in real contexts and usually strategically combine these narratives. Scoones et.al. (2015) describe four strategies or ways in which change agency may be constructed. In the context of the class these strategies were used to provide examples from the context of sustainable food planning and food system change.

There are multiple transformations: strategies for change: (1) shaping and resisting structures. (2) reframing knowledge, (3) realigning institutions and incentives, and (4) mobilising and networking.

Shaping and resisting structures the possibility to contribute to change is distributed unevenly within existing structures for instance existing investment in monocrop farming and highly commodified food supply chains, or existing regulation on waste management preventing the use of organic (waste) streams for on farm composting.

Reframing knowledge focuses on existing discursive structures, which place a limit on how we see and imagine problems and solutions, and how we define, know and frame futures, for instance food safety, right to food, food sovereignty, or food miles as the exponent of climate policy and the dominant focus on emission reductions, or the lack of knowledge regarding the role of living soils in farming.

Realigning institutions and incentives which state that it is both necessary and institutionally poorly placed to contribute to emerging possibilities, for instance framing of sound solutions as 'alternative'.

Mobilising and networking address the potential of place-based struggles to resonate and 'globalise' through transnational advocacy networks e.g. Via Campesina and New Municipalism networks (Fearless Cities).

Apart from the chapter by Scoones et al. (2015) we included the text of Vaarst et al.(2018) in the reading for this class. This text revisits the regional food systems literature from an agroecological perspective and may help to reflect about the way groups have been drawing upon agroecology in the construction of a transformative understanding of food system change.

### 3.5.2 The role of policy navigation, policy windows and policy entrepreneurship

The construction of food policies does not happen in a vacuum. The construction of effective actions needs to navigate around the existing policy action, but also needs to succeed to draw in (popular) support and gather the necessary power and resources to deliver effective change. A policy arrangement is described by Van Tatenhove et al. as 'the temporary stabilisation of the content and organisation of a policy domain'.

They describe the actual change in environmental policy change as the result of the changing relation between four dimensions: (1) the actors and their coalitions involved in the policy domain; (2) the division of power and influence between these actors, where power refers to the mobilisation, division and deployment of resources, and influence to who determines policy outcomes and how (3) the rules of the game currently in operation, both in terms of actual rules for political and other forms of interaction, and in terms of formal procedures for pursuit of policy and decision-making; and (4) the current policy discourses and programmes, where the concept of discourse refers to the views and narratives of the actors involved—in terms of norms and values, definitions of problems and approaches to solutions—and the concept of programme refers to the specific content of policy documents and measures.

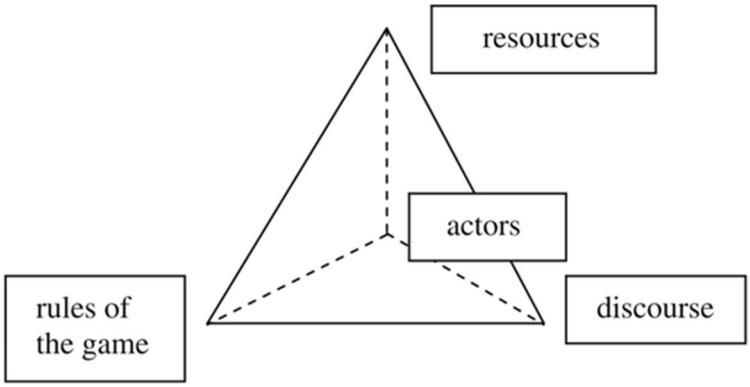



*Figure 2. The tetrahedron as symbol for the connections between the dimensions of an arrangement [source: Arts, B., Leroy, P. & van Tatenhove, J. Political Modernisation and Policy Arrangements: A Framework for Understanding Environmental Policy Change. Public Organiz Rev 6, 93–106 (2006). https://doi.org/10.1007/s11115-006-0001-4]*

The policy arrangement approach is a meso-level perspective that tries to link questions of agency to the analysis of aspects that consider how the context in which agency develops is always pre-structured. The focus on arrangements tries to think about relational settings in which actions can unfold and structures may change.

In the course we placed this discussion on policy navigation next to work that tries to navigate the complexity of food planning in its distribution across various policy sectors. Students are invited to look at efforts to systematise food planning approaches in this light (Brand, et al. 2019), but also a recent exercise conducted in the context of the FOOD-E research programme (Wissman et al. 2022). This last work encourages practitioners engaged in policy making to be entrepreneurial scramble for policy windows (Kingdon 2011) where innovative action for food planning may be inserted.

### 3.5.3 Co-creation and experimentation in policy development: foresight approaches & prototyping

The previous sections put the emphasis on the need to link goals to strategies and to navigate a complex policy field in which there is a high level of disagreement both regarding the way to set goals as well as regarding the best way to deliver change. In this light the course briefly outlines two traditions to make room for a co-creative experimentation, trying to resource knowledge within a group of stakeholders to arrive at greater agreement regarding ways to proceed. Such strategies follow a learning approach to knowledge and combine ways of determining possible paths of action with the building of shared knowledge and mutual trust among involved actors.

#### *Foresight approaches*

A first set of experimental methodologies come under the term of foresight approaches or the use of explorative scenarios. Through explorative scenarios a mixed group of stakeholders tries to think about possible futures they may have to answer to in light of the strategic goals they have set for themselves. Explorative scenario development nicely complements joint goal setting exercises. The joint goal setting gives the scope of the explorative exercise but links it to the joint exploration of factors that will determine the extent to which and the way in which these goals can be achieved.

In the course we focus on methodologies that try to identify critical driving factors that may have a high impact on the future foodscape and are at the same time highly uncertain. When two such critical driving factors are identified they can be used to define 4 quadrants that all define possible futures

Each of these quadrants represents a possible future. The team needs to subsequently engage in the narration of these quadrants. To allow for comparison and for pertinence regarding the goal of the foresight exercise they agree on several thematic areas they wish to explore in all the quadrants (i.e. diets, use of energy, soil quality, …). The quadrants need to be developed considering a number of a set of certain driving factors (high impact but certain) and the variable uncertain aspects (high impact but uncertain).

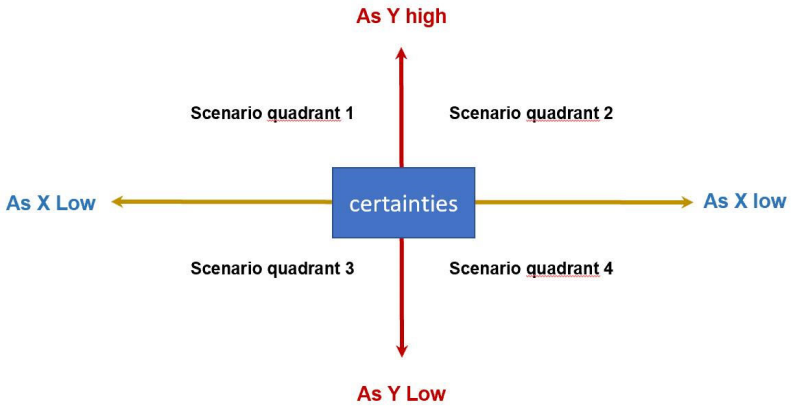



*Figure 3. Structure of a scenario with two axes and four quadrants.*

The development of such quadrants may then be used to engage in back casting exercises. The quadrants make it possible to think about robust policy choices that can be made considering widely diverging possible futures.

#### *Prototyping*

A second tradition to deal with irreducible uncertainty in policy making is to engage in forms of experimental codesign, aimed at testing specific problem solution combinations that may lead to changes in the food system. Prototypes are concretely worked out propositions that may be subsequently discussed with stakeholders to understand how groups, institutions or individuals that are differently positioned may see their goals realised or may question or oppose certain propositions. Prototyping may be translated into actual experiments with temporary settings to learn in the field how specific policy proposals may turn out and how engagement may

be built around specific policy actions. Prototypes help to understand barriers and thresholds in policy action and help to devise ways and opportunities for overcoming them.

### Recommended reading

Brand C. et al., Eds (2019) *Designing Urban Food Policies. Urban Agriculture*. Springer, Cham.

Kingdon, J. W. and Thurber, J.A.(2011) *Agendas, alternatives, and public policies*. Longman Classics in Political Science. ISBN 9780205000869

Scoones et al. (2015) *The politics of Green Transformation* (Chapter 1). New York, Routledge.

Vaarst, Mette, Arthur Getz Escudero, M. Jahi Chappell, Catherine Brinkley, Ravic Nijbroek, Nilson A.M. Arraes, Lise Andreasen, Andreas Gattinger, Gustavo Fonseca De Almeida, Deborah Bossio & Niels Halberg (2018) Exploring the concept of agroecological food systems in a city-region context. *Agroecology and Sustainable Food Systems, 42:6*, 686-711, DOI: 10.1080/21683565.2017.1365321

Wissmann, A et.al. (2022) *The Policy Environment for Sustainable City Region Food Systems,* 2022. FoodE_The-Policy-Environment-for-Sustainable-CRFS_Factsheets.pdf (ils-forschung.de)

## 3.6 Monitoring and Evaluation

The fifth phase of the AESOP4Food online seminar is dedicated to monitoring and evaluation. During this stage, learners are expected to achieve specific learning objectives:

- To be capable of critically reflecting on personal values, competences, and especially the role of planners in a pluralistic society (expert vs. facilitator) in the development of a more resilient food system.
- To define their own position and values regarding sustainable food planning.
- To reflect on their own progress, using feedback from others and considering cultural, social, and economic differences.

The primary focus of this phase is to encourage students to look back and reflect on what has transpired over the past months during the course implementation. The participants are engaged in collaborative monitoring and evaluation of the Living Lab groups, working together to share findings. With a comprehensive understanding of the seminar, the Living Lab, and the challenges of Sustainable Food Planning, the learners are encouraged to introduce their stories and make statements about the seminar, living lab / case study. team, themselves, and a future agenda.

The Monitoring and Evaluation phase is divided into theoretical and practical parts. The first part involved presenting the theoretical and practical background of monitoring and evaluation, with a case study on monitoring city-region food systems. For instance, the development of Territorial Food Strategies in France and the way this was monitored in the region of Clermont Ferrand and the impact studies of the Territorial Food Project of Mouans-Sartoux's municipalities. The second part is dedicated to the students working in groups, allowing them to summarize their overall feelings about the entire AESOP4FOOD course and prepare ideas for the final presentation.

The collaborative monitoring and evaluation of the Living Lab groups focused on addressing the following:

- What have the students learned as a group in terms of addressing a sustainable food planning challenge?
- introduction of one lesson learned.
- Indication of the most important next step or action for their Living Lab.
- Providing personal reflections on the process and results, including self-reflection on the process, the outcomes, their own values, and positions.

### References

UNICEF (2005) *Useful Tools for Engaging Young People in Participatory Evaluation*. UNICEF CEE/CIS Regional Office.

The website on better evaluation presents a toolkit for collaborative evaluation, with methods and phases for monitoring and evaluation.

The Rainbow Framework can help you plan an M&E activity by prompting you to think about each of these tasks in turn and select a combination of methods and processes that cover all tasks involved. You might also choose an approach, which is a pre-packaged combination of methods. The range of tasks are organised into seven colour-coded clusters that aim to make it easy for you to find what you need: Manage, Define, Frame, Describe, Understand Causes, Synthesise, and Report & Support Use.

# PART III

## course organisation,

## learning concepts,
## integrating the online seminar
## and living labs into teaching

AESOP4FOOD

# 4. How to organise a transdisciplinary food planning course?

## 4.1 Our concepts

The whole course is based on the concept of **Participatory Action Learning and Research.** It stems from the principle that participants are active seekers of knowledge and negotiate meaning through dialogue, and that all people are capable of producing useful and relevant knowledge.

This vision, in which knowledge can best be validated by the people who create and use it, is in contrast that knowledge is created by validated experts, must be based on scientific facts and represented in text.

Although the course relies on the contributions from renowned professionals, it also builds on the contribution of all participants, students and stakeholders related to the course. It brings us into a process of **co-creation of knowledge**, rooted in the principles of agroecology.

Another key concept to develop the course is **flexibility.** The course provides digital learning material, web-based seminars and case study assignments that enable learners to participate in the course and work on the programme in a flexible way. We have applied different pedagogical methods to facilitate different life conditions and rhythms of learning. The entire study process is reinforced by additional academic seminars (online) and stationary activities scheduled in local living labs.

Sustainable food planning is a thriving **transdisciplinary research and policy field**. Working together with students, researchers or practitioners from a wide range of disciplines is enriching, but not obvious. For that reason, the course is aimed to generate a **common vocabulary** to clarify concepts and facilitate communication between fields of knowledge.

For those activities to be developed by teams, the distribution of participants should be done taking into consideration their complementarity, to conform diverse working groups.

## 4.3 Preparing the course

The preparation of the course varies greatly depending on whether it is integrated into a formal subject or whether it is a stand-alone course. The organisation also depends on whether the course is face-to-face or online.

When preparing the course, it should always be borne in mind that the organisation of the course should make it easier for participants to follow the content in the best possible way, with the proposed dynamics: self-study, classroom sessions with peers/experts and, where appropriate, virtual teamwork with international fellow students. The three editions of the Erasmus+ course, online with a large number of remote participants, have shown that it is very complex and difficult to maintain student continuity over time. The materials of each seminar are available and can be used for more local courses that facilitate interaction between participants.

To prepare the course properly, the audience, objectives, teachers' roles, the venue and the timing needs to be considered.

### *Audience*

Clarify the audience and format and define carefully the calendar (see next section).

### *Objectives*

Set the objectives, adapted to the target audience. And according to that, Select and organise the content. Depending on these objectives, the activities and assessments are defined, and the appropriate resources and technological tools are selected.

### *Teachers' roles*

It is important to agree on the division of roles and responsibilities of the trainers in order to create a good learning environment. It is also important to take time to build a cohesive teaching team with a common understanding of the approach and flow of the course. If the teaching team has not worked together before, it is advisable to carry out a process of team building, getting to know each other and the type of team player each is, in order to identify complementarities.

### *Roles during the organisation of an online seminar*

Online lecturing, exercises and co-learning call for various roles of the people who carry out the learning process. Interaction is not always too easy as in an onsite context.

We can discern lecturers, moderators, reviewers and assessors.

The moderator also asks the lecturer beforehand if there can be interactive moments planned, either as a poll or prompts for short discussions in smaller groups.

The moderator has a central role by placing the lecture in its context, maybe giving a recap of the previous session and closing it with an outlook to the next session or activities. While the lecturer presents the content, he/she keeps the time, warns the lecturer if time is almost up. In the meantime, the moderator surveys the chat for questions and comments and decides if these should be answered during the lecture (mostly of informative questions) or at the end, where he/she moderates the discussion, makes sure that questions are clear for all, and check if the answers address the questions.

When the participants do exercises in small groups (for instance in break out rooms), each group needs to have a timekeeper and moderator who tutors if the questions are answered and/or instructions are followed. The moderator also makes sure that all voices are heard, and participants contribute. In advance a task can be given to one of the participants to report back to the plenary session.

### *Workshops and living lab process*

The approach of participatory action learning requires a shift from the traditional roles of teacher, tutor, participant and learner.

The process is organised in the form of co-learning and co-creation, which needs a facilitator to support the group. The facilitator has the main tasks to make sure that all group members can actively take part and contribute to the tasks. For this time, it needed at the beginning of each session for checking in: who are the member, how do they feel in relation to the tasks. The facilitator also ask who can take up certain roles for timekeeping, summarising, reporting. For the process it is important the participants take turns for various responsibilities. If the facilitator notices that the process gets stuck, some voices are not heard, certain dilemmas are not solved, he or she can propose ways or methods to solve this. For instance, by allocating time for speaking for each participant, by pointing out the main dilemma, or a role play. The facilitator can propose methods for brainstorming, the application of the Nominal Group Technique to support the process.

Facilitators may also take part just like the other participants, but this is only feasible if the process is not too complex, and the groups is small.

### *Venue*

Choice of venue and -if applicable- rooms. It is important to be aware of how these may affect the participants' ability to learn. In the case of physical classes, the seating arrangements will affect the way the group interacts.

Logistical arrangements must also be considered. In the case of virtual environments, it is essential that teachers are familiar with the different technologies available and the online teaching tools to be used.

### *Timing*

The ability to maintain sustained concentration is limited, so it is advisable to think about the pace and content of sessions with blocks of no more than 15 minutes, interspersed with activities or some element of participation in theoretical presentations. This is particularly important for online sessions.

For each topic, in addition to the learning objectives, specify the activities involved (lecture, guided practice, forum, homework, etc.), the physical or digital media used, the estimated time and the type of learning.

It is advisable for the teaching team to choose the schedule that might better suit the local context. The original AESOP4Food online course was designed for four months with one evening session per week. Other formats can also be used, i.e. concentrating the lessons in a more intensive way.

## 4.4 Admission of participants

The admission decision will be communicated personally. Together with the confirmation of admission, it is recommendable to send a form with basic questions about the student's knowledge and experience in the fields covered by the course. This information will be very helpful in assessing each student's progress, organising the multidisciplinary courses and facilitating the student's contribution to the course.

## 4.5 Modes of participation

In online courses, there can be different modes of participation:

### *Lecture mode*

Participants, who receive regular invitations to the seminar lectures and actively participate in the interactive parts of the sessions. Prior to each session, Lecture mode participants will receive preparatory reading and practical information on communication channels for Q&A These participants are not entitled to a certificate.

### *Assignment mode*

This includes receiving regular invitations to the seminar lectures, receiving support materials for each session (presentations and video recordings), additional information (assignment instructions, compulsory reading list and documents, background reading and video materials), active participation in the interactive parts of the sessions, participation in the seminar assignment as an external (remote) or internal (from partner universities) participant, completion of a survey to select 3 research questions related to the Living Lab proposals. Upon successful completion of the assignment, these participants will receive a certificate.

## 4.6 Online and on-site learning

The online course allows for the participation of a wide audience, bringing in different cultural backgrounds. At the same time, if you choose a lingua franca, be aware that this will undermine the participation of part of the (potential) audience who are not fluent in the selected language.

An on-site course requires solid preparation in advance, with dialogue with local stakeholders and clear definition and specification of objectives. Expectations should be managed carefully and respectfully.

The AESOP4Food course has been conceived as a hybrid formula, combining online participants with on-site teams. It is challenging and presents additional difficulties. Therefore, make sure that the team devotes time and energy to coordination.

## 4.7 The seminar

In addition to the regular lecture sessions, the seminar consists of key elements that enrich the learning process: assignments, the living labs, and a process of assessment and feedback.

### *Assignments*.

The teaching team defines Participants that want to participate more actively in the course. The assignment can be related to an existing Living Lab, a studio setting of a university, or can be suggested by a learner or team of participants. The assignments can be carried out in two ways:

- Working within the context of a living lab or a community project on a defined challenge for that lab that implies an analysis, mapping part of the food system, defining goals, developing a strategy, and proposing interventions.
- Answering to a specific task or research question of a living lab or a community project by reference study, case study, interviewing, testing prototypes or another way that is suitable for addressing the research question.

Those carrying out the assignment will benefit from additional tutoring/ feedback sessions and present their results in intermediary and final sessions. Teams can be flexible in the timing of their work.

The assignment will finally result in a compact paper, with this indicative structure: Short intro on the living lab and its main research aim, research questions, The main challenges, Result of the analysis and mapping (power map, stakeholder map, food system map), Research approach and method (case study, reference study, interview, participation action, ….), Goal, vision, activities, Conclusion, Self-reflection on process, the results, own values and position; Main references.

### *The living labs*

Section 6 explains in detail how to organise the Living Labs. According to the approach developed by the European Network of Living Labs (ENoLL), LLs are open innovation ecosystems that provide real-life experimentation environments for finding context-specific solutions through co-creating with multiple stakeholders, integrating knowledge not only from academy and industry, but also society. They are gaining prominence, especially in European funded programs.

### *Assessment and feedback*

Iti is important to set conditions for a collaborative monitoring and evaluation of the Living Lab groups

- What have you learned as a group in terms of addressing a sustainable food planning challenge?
- Mention one lesson learnt for each individual team member.
- What might be the most important next step or action for your Living Lab?
- What is the personal reflection of each team member on the process and result?
- When you look back on your activities for carrying out this assignment, how did the process work out?
- What would you do differently for a future mapping assignment?
- Did your perceptions and values change in the process?).

NOTE: when working in a team, each team member is asked to add his/her/their personal reflection

# 5. What is our learning and knowledge development approach?

### *Learning concepts*

The course is based on the concept of Participatory Action Learning and Research. It stems from the principle that participants are active seekers of knowledge and negotiate meaning through dialogue, and that all people can produce useful and relevant knowledge.

This vision, in which knowledge can best be validated by the people who create and use it, is in contrast that knowledge is created by validated experts, must be based on scientific facts and represented in text.

Although the course relies on the contributions from renowned professionals, it also builds on the contribution of all participants, students and stakeholders related to the course. It brings us into a process of co-creation of knowledge, rooted in the principles of agroecology.

Another key concept to develop the course is flexibility. The course provides digital learning material, web-based seminars and case study assignments that enable learners to participate in the course and work on the programme in a flexible way. We have applied different pedagogical methods to facilitate different life conditions and rhythms of learning. The entire study process is reinforced by additional academic seminars (online) and stationary on-site activities scheduled in local living labs.

### *A field in development*

Food planning is about the application of planning principles to food. The renewal of planning by placing the food question central in the development of cities and regions it is essential to apply a food lens in all aspects of spatial and social planning.

The course treats the food question as one that cannot be taken at face value. How to approach the food question needs to be co-constructed within any planning assignment on food. This is the reason why the course starts with the introduction of a series of frameworks that aid the students in seeing the food question.

Three frameworks are operative in the food planning course, which all need attention:

- a rights-based perspective - understanding how access to food is unevenly distributed and how the right to grow (as part of the right to the city) has been heavily compromised through planning and urbanisation.
- a city region food systems approach - understanding how food is inscribed in a series of systemic relations that are governed within different policy silos and how these operate within various territorial scales and might be rescaled and reterritorialized within city-regions.
- an urban agroecological approach - which tries to reground production and consumption within the principles of agroecological soil care and sets up a dialogue between urban food movements and agroecological farmers movements.

### *Knowledge and learning*

The course is grounded in an approach to knowledge and learning that looks at knowledge as:

- situated within specific context and constructed and reproduced within positioned communities.
- value based, hence contested and subject to disagreement.
- distributed within various communities of practice and occurring in many forms (expertise, skills, local and indigenous knowledge, etc.)

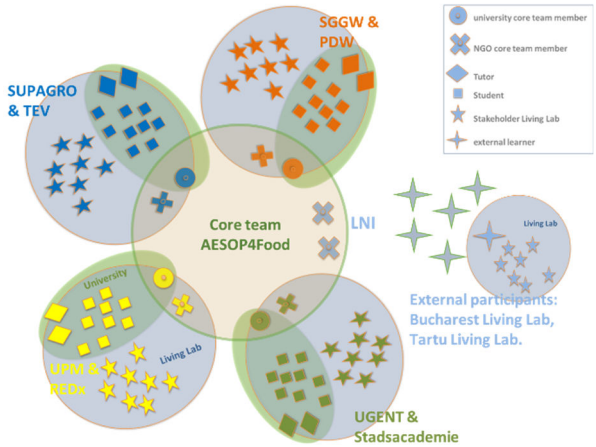



*Figure 4: AESOP4Food Action Learning Collaboration*

Participatory action learning is a form of co-operative enquiry where knowledge is created through dialogue and the development of critical subjectivity. In this context subjectivity refers to the development of an awareness of self and others as entities with agency, identity, perspectives, feelings, beliefs and desires.

For this AESOP4Food set up an Action Learning Collaboration (Figure 4). This is a group that includes teachers, researchers and students who are collaborating towards a shared vision, giving mutual support, enabling all to learn with and from each otherwhere ideas are evaluated, rather than people.

The action learning takes places in each group of AESOP4Food. There is a core team of partners developing the outputs and a group of teachers, NGO partners, and students of the seminar. Each of the living labs has its community members, students, teachers and researchers working on the central questions of the living lab. In addition, there are some remote students who support the living lab by addressing specific research questions.

# 6. How to link a living lab to learning and teaching?

A living lab (LL) is a user-focused, open-innovation environment (ecosystem) that frequently operates within a specific geographical area (such as a neighbourhood, city, region, or campus). It combines simultaneous research and innovation activities through a partnership involving public, private, and community stakeholders over the medium to long term (Compagnucci et al., 2021). Thus, a living lab is a type of an innovation platform (Homann-Kee Tui et al., 2013). Additionally, living labs are dynamic collaborative platforms where co-creation and experimentation occur iteratively, aimed at tackling real-world transition challenges (Bouwma et al., 2022). The key tasks of higher education are contributing to society, developing transformative science and competences (Schneidewind et al., 2016). The role of the living labs is precisely to carry out these tasks. Therefore, living labs can establish a direct link with the participative function of science in society.

## 6.1 Organisation of living labs

A Living lab is a living entity, hence the analogy to an ecosystem, which is created in and for a process. This process may or may not be linear; it can also be, for example, circular or leaping. Although processes in living labs should be iterative. This means that different living labs will have various dynamics, depending on many external factors, specific setup, goals, the scale at which they operate and an inherent group process itself. Therefore, the strategy for organising each LL as well as the phases of its development and the detailed timetable is an individual matter, largely determined by the resources at one's disposal. Nevertheless, the general issues discussed below might be helpful in each living lab organisation.

First, it is necessary to consider for what purpose we are setting up LL, what kind of transition aim it is intended to serve, what problems and actors it concerns, and finally, how it will be organised. Therefore, one must ask about: the LL motivation, design, setup, interactions, actions, products and services, outcomes and impact, as well as LL positioning and reputation (Bouwma et al., 2022). The general motivation of the LL should be being responsive. This concerns the beginnings of the living lab and how its inspiration arises from a strong desire to address pressing transition challenges towards sustainability. In terms of design and setup each LL needs secure resources (time, funds, knowledge, networks, etc.) Moreover, the LL ought to hold significance considering transition hurdles, and be pertinent to stakeholders dealing with challenges due to policies and regulations linked to the transition. The key issue in LL operation are interactions it creates. Thus, the living lab needs to establish connections with additional actors (external interactions), and the members of the living lab should experience a sense of collective ownership over goals, procedures, and results (internal interactions). Next, the LL actions must be practical enough to keep participants motivated to get involved. Hence, small-scale and feasible actions and experiments might be good for a start. Furthermore, concrete and motivational should be the living lab products and services. Finally, the LL results and impact need to be effective and adaptive in terms of sustainable transition. Equally important is the dissemination of the living lab, which must be well known and acknowledged locally (ibid).

When forming and running a living lab, it is important to remember that the LL should be able to (1) facilitate collaborative research and learning, and (2) contribute to sustainable transition challenges. Living lab participants collaborate within interdisciplinary groups to address real-world issues, taking on the role of engaged stakeholders in minor transformation processes, thereby engaging in valuable learning encounters (Schneidewind et al., 2016; Wiek and Kay 2015). The learning activity and its real-world impact could be organised twofold:

- research-oriented learning: recognizing an intricate problem within the food system and conducting a minor research endeavour to address it.
- project-oriented learning: practical solution to a specific problem concerning the food system within a defined local setting.

Though these two approaches will differ according to suitable methods, still similar specific steps need to be taken to set up a LL. The different stages of LL organisation are described in the following section - Phases of the living labs.

## 6.2 Phases of the living labs

There are three main phases of the living labs: establishing, operating and evaluating. Although these stages do not necessarily occur one after the other in linear order. For example, an assessment involves an ongoing comparison of overarching conceptual work with the practical implementation within the living lab. Therefore, it could be carried out in any moment of the LL presence. After all, the LL evaluation could be ex ante and during operations - to consider next steps), and ex post (after operations) (Bouwma et al., 2022; Williams and Robinson, 2020; Williams, 2019). In a process of setting-up, running and evaluating living labs a crucial element is maintaining a significant level of reflexivity and transparency, facilitating reciprocal learning (Schneidewind et al., 2016; Scholz 2000). The above can be fostered by iterative generic assessments. Hence, steps of the three main phases might be implemented in a different order - tailored to the specific case. That also means, some elements are repeated at various stages (Figure 5).

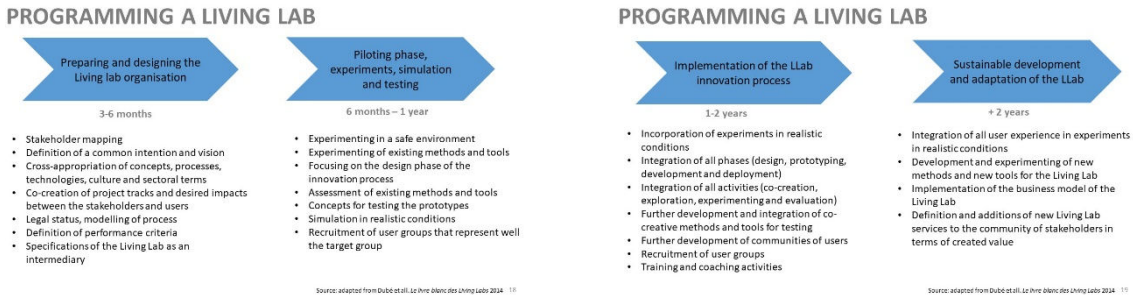



*Figure 5. Phases of a living lab. elaboration based on AESOP4food living labs experience and literature review (Bouwma et al., 2022; Homann-Kee Tui et al., 2013; Schut et al., 2017).*

A detailed overview of the phases of living labs is presented in Appendix A. The actual aims and activities of the AESOP4Food living labs can be found in Chapter 6 and in the wiki.

## 6.3 Teaching elements related to LL

Living labs were established to practise transformative science which is focused on three aspects: (i) research and knowledge production, (ii) education and teaching; and (iii) institutional change of the science system. The education and teaching dimension is for transformative learning in student-centred didactic settings (Schneidewind et al., 2016). Moreover, learning should be the result of continuous reflection in dialogue with scientists, not by just accepting scientific knowledge provided by scientists (ibid.). Finally, living labs support acquiring and fostering five key competencies essential according to sustainability transformation: (1) systems thinking, (2) anticipatory competence, (3) normative competence, (4) strategic competence and (5) interpersonal competence (Wiek et al., 2011). Eventually, the living lab approach meets the objectives of Education for Sustainable Development (ESD).

The key elements of living labs in terms of teaching and learning are as follows:

- learning is learner-led.
- learning occurs in small student groups facilitated by tutors.
- problem-based learning: research-oriented or project-oriented learning.
- problems serve as the central point of organisation and stimulation for the learning process.
- problems are a vehicle for the development of problem-solving skills (Barrows, 1996).
- a participatory and pro-active way of learning - acquiring a thorough comprehension of issues, exploring strategies to address them, and fostering the transition towards sustainability.
- knowledge is gained through self-directed learning.

- experimenting and learning-by-doing.
- combining practical activities with theoretical reflection.
- co-learning - organising workshops, training and courses.
- increasing social awareness - establishing an environment for learning and teaching that fosters the growth of political attitudes, lifestyles, and future involvement in transformative system changes.
- negotiating - learning through the deliberation processes between different actors.

The living labs serve as an open platform in an educational environment that aims to prepare students for the period after graduation, and therefore their future roles. This concept offers opportunities for higher education to work closely with professional practice and communities with the emphasis on innovation research in "real life". Changing the scientific paradigm by opening traditional educational processes through introducing LeLa concepts and methods into the education of landscape architects is theoretically based on transformational sciences. (Wilson, 2020) It promotes the principles of Participatory Action Learning and Action Research  Taking into account that mentioned research and educational practices are well elaborated in different disciplines it is easy to incorporate them into the curriculum and courses.
Linking an online seminar to existing university programmes and local living labs posed various challenges for the project. The sustainable food planning project combined a seminar with a series of local living labs in 5 countries. Participants could follow the course in lecture mode or also take up an assignment. The assignments for local students were connected to the living labs, and students who worked remotely could support the lab by answering a research question.

Changes in higher education programmes take a long time, and programmes are not tailored to include thematic courses on current needs of society, such as sustainable food planning, renewable energy, climate adaption. This is because programmes are already densely packed and need to meet educational requirements for broader competences. However, there are some free elective modules in each programme. The project met challenges for integrating the assignments into existing university courses, such as the timing of the lectures, intermediate and final presentations of the assignments, the difference with academic calendars, the difference in goals of local participants.

The organisation of a living lab generally takes a longer period than an educational course and to have impact run over a period of at least some years. This meant that the online seminar had to connect to living labs which were in various stages of development: from the starting phase to a current process.

### *Connecting the seminar to an educational programme*

AESOP4Food aimed to integrate the course into existing curricula, either into an existing course or as an elective subject. The integration into existing courses was sometimes hindered by strict regulations on study content and objectives, which were not compatible with our learning aims. Many universities do not offer elective courses, and in these cases the seminar students had to follow the course as an extra task. Also, the timing of semesters and holidays varies in different countries.
For this the easiest combination was when learners followed the seminar in lecture mode. Then they could use the lectures, references and methods as background and supporting material. For this we made all the presentations and recordings of the lectures available in the wiki. Learners can skip a live session, review later and use the material when it is suitable in their progress.
Since the seminar follows the phases of design thinking it is best suited to a planning or design studio or project. Other types of teaching and learning modes could also be linked or could use the course material as is shown in Table 2.

| Table 2. Linking teaching modes to phases of the seminar | | | | | | |
|---|---|---|---|---|---|---|
| **Type of educational mode** | **comments** | **(1) exploring the field of play** | **(2) analysing your local foodscape** | **(3) collaborative goals and vision,** | **(4) strategy and interventions** | **(5) evaluation & monitoring.** |
| Planning or design studio and project | Food planning can be part of an integrated planning studio by applying the concept of the 5 step studio | X | X | X | X | X |
| Bachelor / master thesis | Phases 1, 2 are most relevant for the problem definition and analysis. Phase 5 serves as background for whole process. | X | X | Depending on the discipline | Depending on the discipline | X |
| Research assignment | Phases 1, 2 are most relevant for the problem definition and analysis. If it is a participatory action research collaborative goal setting (Phase 3) and monitoring and evaluation (Phase 5) | X | X | X | | X |
| Internship supporting a living lab | Depending on the stage of the living lab. | X | X | X | Depending on the stage of development of the lab | X |
| Learner defined elective subject | It depends completely on the aim of the module which phases are relevant. Anyhow the first two phases and the final phase are relevant. | X | X | Depending on the task | Depending on the task | X |

For all the first, second and five phases are the most relevant. It is for all relevant to have an overview of the system, it challenges and current developments. For learners who are active within the context of a living lab the introduction on living labs characteristics, phases and roles or the actors are relevant. For those who carry out research the introduction on participatory action research is informative. Phase 2 present various tools for mapping the food system, its actors and power mapping, which can be carried out in various levels. The principles for monitoring and evaluation are relevant, even if learners do not carry this out in a collaborative way. These can be applied for process reports and reflection on the process and the results.

### *Collaborating online and onsite*

For intercultural and interdisciplinary exchange collaborating with remote students of other countries is valuable. These took place in the exercises during the seminar and while working on the assignments. Mixing participants in the breakout rooms was mainly appreciated during the first sessions of getting to know each other, sharing experiences and motivation for the course. In the latter stage of the course, it worked better if the meeting rooms were allocated to learners who worked on the same living lab or local assignments. Mixing learners with local actors in the living labs was not productive. The local actors are focused on their own challenges and goals, hardly interested in the theoretical background. Wat worked best for the students were the Mural boards for collaborative goal setting and visioning using the nominal group technique. This experience could be used in an onsite setting with local actors using flip overs.

### *Linking the assignments to the living labs*

The living labs serve as an open platform in an educational environment that aims to prepare students for the period after graduation, and therefore their future roles. This concept offers opportunities for higher education to work closely with professional practice and communities with the emphasis on innovation research in "real life". Changing the scientific paradigm by opening traditional educational processes through introducing sustainable food planning concepts and methods into the education of landscape architects is theoretically based on transformational sciences (Wilson, 2020). It promotes the principles of Participatory Action Learning and Action Research. Considering that mentioned research and educational practices are well elaborated in different disciplines it is feasible to incorporate them into the curriculum and courses.

Living labs develop over a longer period than a seminar. Often it takes several months to start up the lab, involve the actors, define the needs and challenges. In the first year we structured the assignments according to the phases, with several moments of presentations. This provided a too strict harness for what was going on locally. In the following years we offered the assignment, while learners could choose their own pace. We also made a distinction between local learners and remote learners. For the latter each living lab provided several research questions of which they could select one.

### *Linking education to living labs*

During the lab process students can contribute to the different phases in the lab, ranging from the first definition and analysis to power mapping, goal setting, visioning, co-design and prototyping. Various types of educational modes can be integrated in the lab, either for long term contributions or short interventions. Immediate link between Living Labs and higher education can be established in students' MA thesis. They can use experiences from the participation in Living Labs to propose a problem they will address as well as use PALAR for solving it. Another possibility is to incorporate methods of Living Lab in case study courses (such as workshops and studios). More general link would be transformation of the theoretical approach to landscape toward adoption of the transformative science paradigm.

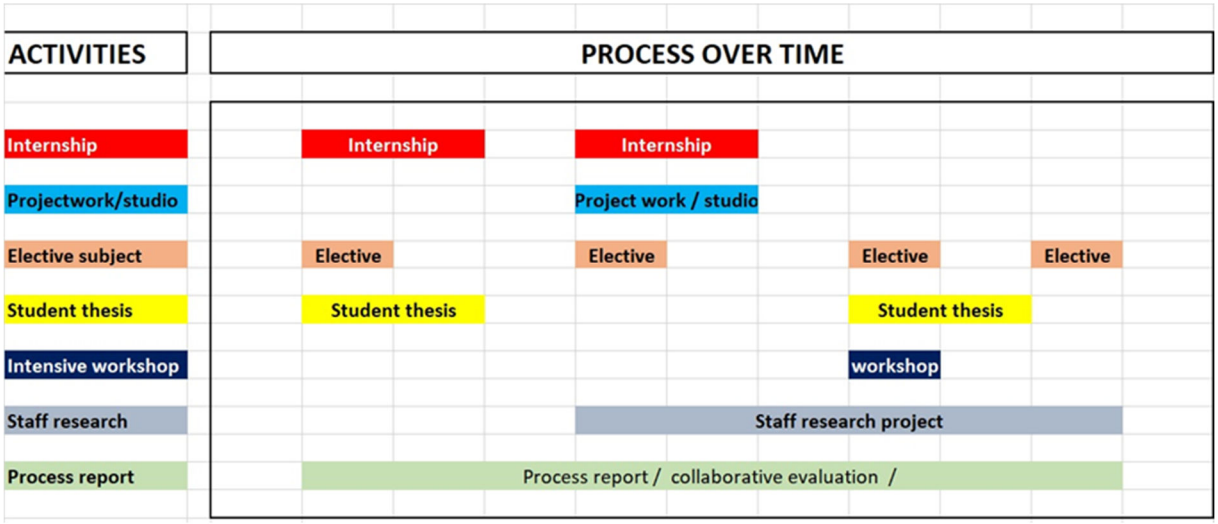



*Figure 6. Linking education and research processes to a living lab process.*

### *Integrating sustainable food planning in planning and design studios*

To address current societal challenges, such as food security, food democracy and sustainable food systems it is necessary that these are integrated into planning and design education. However, including specific modules on themes takes a long time and programmes must make choices to allocated time to a wide range of subjects: flooding, sea level rise, urban sprawl, disaster management, sustainable mobility, renewable energy, etcetera. Furthermore, planning for sustainable food planning should not be done in a sectoral way, and calls for an integrated spatial approach, where social, economic and environmental factors are considered.

To include sustainable food planning into an existing curriculum can be done by making use of the concept of the five-step approach in a studio or atelier (De Waal et al, 2012) that is planning for a city region.

In the following section an example is given of how sustainable food planning can be part of a 3-month studio of 15-18 ECTS in which students of different disciplines can take part. The studio is structured in three phases, regardless of the area. To enable students to draw up plans that are both within the framework of the planning studio and provide the opportunity to focus on food planning the study comprises five steps: (1) analysis of the current city region landscape, including its historical developments and the main driving forces. Some students can opt for the aspect of city region food systems, others may focus on other issues, such as sustainable mobility or energy; (2) inventory of the near-future developments that have to be considered; (3) exploration of possible far-futures in the form of scenarios; (4) formulating goals and visioning and illustrating a set of desired futures with a focus on the thematic of each group; (5) identification and elaboration of a plan with a number of interventions for transformative actions for making the food system more sustainable.

There are three phases proposed for these steps. Students work in phase 1 and 2 in interdisciplinary groups, which are remixed after phase 1 to make knowledge that is acquired by the groups in phase 1 available to other groups. Students commence with an analysis phase that is followed by a phase of scenario making and/or visioning on the city regional scale. During these two phases students work in interdisciplinary teams and for sustainable food planning a combination of students in the fields of spatial plannings, landscape architecture, agriculture, consumer science, environmental science is well suited. To train students in the individual competences that are relevant to their field of study the third phase consists of an individual project, for which the students must formulate their own assignment, based on the results of the previous two phases. Students who opt for sustainable food planning can develop their work based on the city region scale and elaborate local plans and interventions.

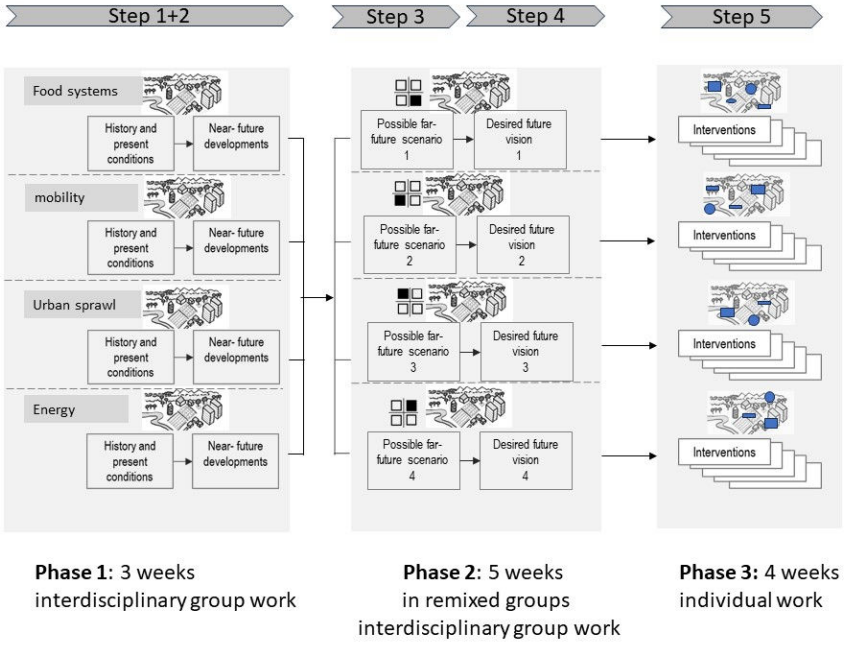



*Figure 7. Proposed structure of an integral regional planning studio or atelier in which the subject of city region food planning is incorporated. Adapted from De Waal et al, 2012, figure 20.6.*

In the first phase the scope of the study can be defined, while stakeholders and decision-makers can be interviewed and/or asked to give their feedback during the intermediate presentation at the end of phases 1 and 2.

## 6.4 The role of academics, learners and community members

What makes living labs special is the synthesis of many different approaches. By bringing together academics, learners (students), and broader community members (community organisations, activists, social entrepreneurs, etc.), it is possible to set new challenges and find new solutions to go beyond previous limitations.
Living labs constitute a form of experimental governance (Steen, K., et al., 2017). Differences between participants in terms of experience, profession or positions held recede into the background. In the first place, everyone is equal to the challenge they face. The work is based on a horizontal model that provides an opportunity for teamwork. Hierarchies are suspended and all elements of action should be discussed together, gain approval or be modified through deliberation involving all LL members. These assumptions open the way for truly collaborative work. But despite the suspension of hierarchies, each of the three core groups has slightly different potentials, sensitivities and resulting tasks.

**Academics** primarily bring knowledge and academic skills as well as experience in teaching. But their role can be very diverse, they can be facilitators, advisors, service providers or data collectors. Given the aspect of learning and teaching, it seems that a natural task for academics should be to engage in the co-creation of the didactic process, i.e. to work out both the general formula of work and specific tasks. This can be helped by the phases of LL activity described in the table above. With such an ordering, learners, mainly students (and all other LL members) will have a clear sense of how the process will proceed, what their role is and how their work will be reviewed.
It seems important to leave as much space as possible for the group to self-organize. But at the same time, be vigilant and where the group is not able to self-organize introduce the missing elements that structure the process. Creative chaos is important and necessary, but this applies mainly to the initial stages of living labs. Care should be taken not to use scientific jargon instead use commonly understood terminology. The diversity of LL participants translates into a diversity of knowledge systems. For some people, scientific knowledge may not be the main basis for action and decision-making. From the point of view of academics, it seems important to be aware of this (Schut, M., et al, 2017), to confront actions with scientific knowledge but not to impose it as the only valid basis for decision-making.
LL is a formula for learning by doing but fundamentally different from an internship or practicum. JPI Urban Europe defines it as a forum for innovating (Europe, JPI Urban. "Urban Europe: Creating attractive, sustainable and economically viable urban areas." Joint call for proposals (2013).

The essential potential that **students** bring to LL is a fresh outlook and creativity. It is important not to block creativity with too much information. Here, the task is not to impart complete knowledge of the problem area, but to impart enough knowledge relating to the specific task. The lack of knowledge of all the details and limitations gives students the opportunity to invent, to propose solutions out of the box. A fresh perspective seems to be a key potential of students.
Students are confronted with a specific task to be solved arising from the needs of the real world. They work on them in multidisciplinary teams, where they work together to find new solutions. This gives them the opportunity to get out of the hermetic bubble they work in daily. Therefore, the work should not take place in student groups and the teams should be divided in such a way that in each of them there are representatives of different stakeholders.
It is important not to treat student work here as an exercise but as a real contribution. It should be avoided that the community (community members) are put in the role of an audience before which hypothetical student solutions are presented. Here it is about developing real and not potential solutions, from which some can possibly be selected for later implementation. It puts students in a new situation, in which they are aware that their work is not an exercise. The assumption should be that the solutions they develop will be implemented.

**Community members** are a complex, diverse group of stakeholders who may represent different interests and have different competencies. They can range from representatives of specialised organisations, entrepreneurs, civil servants, people from formal (NGO) and informal organisations to individuals acting on their own.
The common starting point is a problem that is on everyone's mind. The point of arrival, on the other hand, is to work out a solution that is satisfactory to all. The specific role of the community member is first to share the baseline knowledge, so that it is clear to everyone what the specific problem is and what the trajectory of the solution is. It is usually this group that has the greatest knowledge of the details - local conditions, diverse interests and actors. Community members therefore need to provide specific, detailed information, and the more specific the better. Only on this basis can solutions be worked on.

When working with a community member, attention should be paid to the informal nature of LL's work. It is very important to suspend hierarchy for a while and open to collaborative innovation. The second thing is to take care and have a low entry threshold. This means making it relatively easy to join and work within LL and not requiring special competencies. This involves, among other things, what we have already written about academic language.
It also involves keeping an eye on the topic to make sure it doesn't become too confusing and unreadable. Keep things simple. It is also necessary, especially for this group, to take care of morale. Pay attention to the vision, to the dream, to what can work, and thus minimize the negativity and lack of confidence in the cause or the frustration that often accompanies this group of participants.

## References


Dubé et al. (2014) *Le livre blanc des Living Labs*

Lupp et al, S. (2021) Living Labs—A Concept for Co-Designing Nature-Based Solutions. *Sustainability Science*

Stremke, S., J. Koh, K. Neven, and A. Boekel (2011) Integrated Visions (Part II): Envisioning Sustainable Energy Landscapes. In: *European Planning Studies Vol. 20*, No. 4, April 2012, Routledge.

Waal, R. de, S. Stremke, R. van Etteger, and A. van de Brink. (2012) Designing Sustainable Energy Islands: applying the Five step approach in a graduate student's studio in the Netherlands. Chapter in: *Sustainable Energy Landscapes*, Edition1st Edition, 2012, CRC Press.

***Website***
Mediawiki of the AESOP4Food project with the presentations, recordings, reading material, tools, glossary: https://wiki.landscape-portal.org/index.php/AESOP4FOOD

# PART IV

## the AESOP4Food living labs in Ghent, Madrid, Warsaw, and Montpellier

AESOP4FOOD

# 7. AESOP4food living labs

## 7.1 Ghent approach – public land as a leverage for food planning

The Living Lab in Ghent is embedded within 'De Stadsacademie' (urban academy), a collaboratorium for transdisciplinary research and teaching on complex and urgent sustainability issues of the city of Ghent and Ghent University. 'De Stadsacademie' is funded by the university of Ghent as an incubator for transdisciplinary research. The focus in 'De Stadsacademie' is on complex urban sustainability questions. Groups engage around shared matters of concern that are established in open dialogue. The Living Labs within 'De Stadsacademie' focus on shared strategizing work. The focus is often socio-spatial and seeks to create joint platforms of local stakeholders and public policy actors.
One of the key working forms are the Master Thesis Ateliers. This is a lean format through which master thesis students from various programmes work within their own study programmes on related questions. They are guided by a mixed group of thesis advisors, civil servants and other relevant urban actors. Master thesis Ateliers typically meet 4 to 6 times a year. The master thesis ateliers typically run over several years (see also Block et al. 2022).
Since 2018 a master thesis atelier has been running around public land management for sustainable food planning, with a special focus on the controversy surrounding the public ownership of Land by the Public Center for Social Welfare (PCSW). The land ownership in the province of Eastern Flanders was documented in detail as part of the doctoral research of Hans Vandermaelen. Within the Stadsacademie specific strategies regarding the way in which the public ownership of Farmland could be leveraged to accelerate the agroecological transformation of the regional food system.
The question of the public ownership of farmland has enjoyed considerable public attention following the sale of over 400 ha of farmland in one transaction to the Katoen Natie. Two farmers took the city of Ghent to court as they felt they were not given the chance to buy part of that land, as all this land was sold in one lot. They eventually won the case as the court ruled that the land was sold below the market price, as there was no market competition as evidenced by the sale under market rates per hectare.

In the academic year 2022-23 students explored a shared agenda for agroecological public land management departing from the exploration of four positions in particular:

- the shared use of farmland for the harvesting of drinking water and the production of food.
- the development of an integrated land policy by municipal care institutes to produce food for consumption by their clientele.
- the development of shared infrastructure for nutrient cycling at landscape level
- the construction of new solidarities between old and new forms of decommodified food provisioning at the neighbourhood level and peri -urban farmers.

These positions were used to enter in conversation with stakeholders in the city of Ghent. These conversations were bundled in a video which is available online: : Video Portraits Living Lab Ghent

In parallel students in the Aesop4Food online course worked around questions of peri urban farmland management in their own context. They were asked to explore the question under A. and B.

***A. Literature review on public land management for an Agroecological Urbanism.***

- What are the main areas of connection between municipal food policies and public farmland management?
- What are the key challenges or obstacles to integrate public farmland management within urban food policy?
- What are the key points of connection or areas of policy making that have been identified by local or regional authorities to forge a better connection between farmland management and food system transition objectives?

### *B. Documentation, discussion of existing practices connecting food policy and public land management*

- Examples of projects, plans or initiatives operating within the intersection between strategies of environmental land management (considering nature conservation, green blue infrastructure, water management, etc) and food policy initiatives. We are particularly interested in strategies focussed on the harvesting of drinking water in farming areas (i.e. initiatives by 'eau de Paris').
- Examples around public catering within public institutes (schools, hospitals, care facilities…) that make a direct connection between public food provisioning, agroecological farmers and land management.
- Examples of neighbourhood-based initiatives around food support and place-based solidarity in connection with agroecological farmers. We are particularly interested in community kitchen initiatives building a food sovereignty agenda together with agroecological producers.
- Examples of investment in land readjustment and development of (new) collective farmers operating infrastructure considering an agroecological transition and the activation of peri urban farmland. We are particularly interested in initiatives working on nutrient cycling, biomass harvesting considering composting and soil remediation initiatives (on and off farm).

In July 2023 'De Stadacademie' hosted the 2nd AESOP4F00d Intensive Programme. A detailed programme of the IP can be found here: Programme IP Ghent - Future Heritage  Agroecological Urbanism
In 2024 the Living Lab in Ghent pursues a narrower focus and elaborate one of the 4 hypotheses of last year. The living lab will focus on neighbourhood food infrastructure and its possible relationship to questions of public land management.

### *Starting with the Kitchen. Rethinking neighbourhood food systems from an agroecological perspective.*

To rethink and transform urban local food systems, the kitchen is a good place to start. Even in the highly commodified urban food system of a city like Ghent, the kitchen entertains a strong relation of proximity to the places of eating. That is true for the individual kitchens at home but is true for collective kitchen infrastructure. The kitchen is not only the place where food is prepared, but also a place in which logics of consumption and production meet. This also makes the kitchen a place of potential solidarity between producers and consumers.

In this living lab we explore the agroecological transformation of neighbourhood food systems through the perspective of the community kitchen in the Bloemekenswijk in Ghent. While the Bloemekenswijk is historically part of the periphery of Ghent, it is today subject to new dynamics of urbanization that reposition the neighbourhood within the urban agglomeration and set up a new dialogue between local and supra local relations. This gives opportunity to think the role of neighbourhood infrastructure in general and food infrastructure in particular. The neighbourhood contains an array of existing food initiatives that can be the starting point of an agroecological transformation of the food system. The focus will be on the Bloemekenswijk, however, will include the documentation of initiatives in other neighbourhoods as well.

We will be exploring different transformative pathways together with actors within the neighbourhood.

- the possible connection of neighbourhood initiatives to farmland owned by the Public Center for Social Welfare (OCMW)
- the possible coproduction between the existing social economy cluster (VZW Ateljee & Balenmagazijn) with social economy initiatives active in food production (De Loods in Aalst)
- the possible creation of a food hub, supplying food to existing neighbourhood restaurants, institutional canteens, school kitchens, etc.
- the transformation of the existing market (Van Beverenplein) as a public site of local food supply in cocreation with neighbourhood food initiatives
- -the reactivation of the bakery on the psychiatric campus Dr. Guislain

***Questions for remote students***

***A. Literature review on neighbourhood food systems and what makes them transformative.***

- What are the main drivers behind the creation of neighbourhood food systems?
- How can place based initiatives be used to define solidarities that don't remain limited to the local (and move beyond the local trap.
- How do local initiatives cope with the tension between ecological and social goals?
- How can neighbourhood infrastructure be retooled to link up with local producers? What are the organizational and infrastructural implications to rely on direct supply?
- How dependent are food support initiatives on surplus food and how do they seek to break that dependency?

***B. Documentation, discussion of existing practices connecting neighbourhood food networks and infrastructures to local suppliers and questions of access to land?***

Examples around public catering within public institutes (schools, hospitals, care facilities…) that make a direct connection between public food provisioning, agroecological farmers and land management.

Examples of neighbourhood-based initiatives around food support and place-based solidarity in connection with agroecological farmers. We are particularly interested in community kitchen initiatives building a food sovereignty agenda together with agroecological producers.

### References

Block, T., Prové, C., Dehaene, M. et al. (2022) Understanding urban sustainability from Mode 2 Science and transdisciplinary education: how Master Thesis Ateliers of the Ghent Stadsacademie tackle wicked issues. *Environ Dev Sustain* (2022). https://doi.org/10.1007/s10668-022-02657-0

## 7.2 Madrid approach – food security, solidarity and circular economy

The Living Labs in Madrid were planned in connection with Madrid Agroecologico (MAE), an umbrella platform conceived to push an agroecological transition in the Madrid region. It brings together a wide range of actors from both the rural and the urban actors. As a social movement, MAE aims to move "from protest to program," in order to put existing precarious alternative practices on a more stable footing. Collective intelligence is needed to find appealing and transformative proposals to engage a wider part of the population. The Living Lab was aimed to support the regional social movement Madrid Agroecologico, moving from production to distribution and, finally, the retail sector: In the first year (2022) it focused on finding farmland in the city; in the second year (2023), it explored ways to tackle the logistics bottleneck, and in the third year (2024), it looked at circularity in small food retail.

***2022: City Farmland. Exploring the potential of Barrios Productores, Productive Neighbourhoods***

In recent years Madrid Agroecologico has presented several demands to Madrid City council, such as the need for an Urban Agriculture Plan for Madrid, professional training in agroecology, and support to solidarity food pantries. The Living Lab linked these demands to an emerging municipal project Barrios Productores (Productive Neighbourhoods).

Barrios Productores leaded by the Municipal Department of Urban Regeneration, aims to promote the bioeconomy and employment through urban agriculture in its neighbourhoods, reducing the city's ecological footprint through a "zero km approach" linked to short supply chains, mitigating the effects of climate change and the heat island effect, while supporting entrepreneurship and local development in the bioeconomy.

Students explored how underused spaces within Madrid could be integrated in a strategy for Climate mitigation and regeneration of vulnerable neighbourhoods. and in particular:

- How to identify abandoned spaces with good potential to become productive and neighbourhood meeting place?
- What spatial qualities qualify these areas to act as incubators for new farmers, providing access to land, skills, infrastructure and marketing opportunities?
- Could the objectives of Madrid Agroecologico of agricultural land linked to solidarity food pantries, and community kitchens be supported by Barrios Productores?

***Research questions for remote students were:***

- Examples of good practices to enhance circular loops in the food chain, focussing on the production-distribution linkages.
- Which are the key factors to replicate practices of regenerative food production embedded in closed loops?

Students worked on mixed-method and interdisciplinary research, including field data collection, statistical and probabilistic analysis and related quantitative and qualitative methods. This involved multi-criteria analysis and coordinating different specialities.

### *2023: Agroecological short food supply chains*

In 2023 the project focused on local farmers who face great uncertainty as their position is very vulnerable. The approach was based on the concept of Biodistrict, which was born in Italy, in 2009. According to FAO, “a bio-district is a geographical area where farmers, citizens, tourism operators, associations and public authorities enter into an agreement for the sustainable management of local resources, based on ecologic principles and practices, aiming at the fulfilment of the economic and sociocultural potential of the territory”.

MAE asked for support (and for applied knowledge) to examine the possibilities to adapting the concept of "agroecological bio-district", revisiting the current nodes of production and consumption with a view to expanding them, integrating more stakeholders and consolidating their position as effective transformative practices.

The Association of Agroecological Horticultural projects in Madrid (UHAM) and its needs for logistics improvement was the basis for the students' work. They took into consideration logistics, food hubs and coordinated delivery systems.

Today's farmers need appropriate solutions to improve their performance. For a long time, they have been calling for collective storage centres. More recently, the concept has evolved into more complex facilities for the aggregation, storage, processing, distribution and/or marketing of local/regional food.

Their practices do not fit well into the economic system, which favours large-scale production and distribution. In this sense, horticultural enterprises are paradigmatic.

They are scattered throughout the region, on very small farms, and deliver their production in very small quantities to a number of locations. Their economic viability is at risk, as is their sustainability if the carbon footprint of the short supply chain is considered (it can be short but not efficient). In the last assembly, Madrid Agroecológico and UHAM identified the need to optimise food flows (and transport) to improve the feasibility of farmers. This was set as a priority action for 2023, and support was requested to carry out a detailed analysis of food flows and an eco-balance in order to redefine distribution and logistics processes.

During the course, students received input from activists and farmers.

***The questions for the distance students were:***

- What can be learned from the development of agro-food clusters that can be applied to small and dispersed agro-ecological farms?
- Examples and good practices of food hubs or collective facilities adapted to small farmers.
- Examples and good practices for upscaling agroecology from the farm to the landscape? Are alternative food networks linked to agroecological farmers visible in the landscape? and in the urban scene?
- Comparison of an alternative food network with the "standard" food chain, in what ways do AFNs perform better?
- Which planning tools can be activated to address the needs of small agroecological farmers ?

### *2024. LA OSA circular economy. Food Retail*

LA OSA, one of the members of Madrid Agroecologico, is a cooperative supermarket, engaged in Social and solidarity economy (also in the Madrid Social Market network). The Cooperative supermarket was launched in 2020. Currently there are over 1.400 members. It is mandatory to participate in the daily operations (voluntary work of 3 hours every 4 weeks). There are some 700 people actively engaged in the supermarket, with monthly sales of around 100.000 euros. An important motivation of members is to be part of a more sustainable food system.

The Living Lab assumed that with shorter food chains and more direct relationships between production and consumption, a shift into a circularity paradigm would be more feasible.

The Living Lab was conceived as a space of co-generation of applied knowledge. The main goal was to boost mechanisms of circular economy, to reduce both packaging and food waste, but also to enhance the recovery and reuse of packaging. The Living Lab responds to an interest expressed by the cooperative and their members, some of which tried to set up a working group on these matters.

The living lab should help the Cooperative Supermarket to have a diagnosis of the situation and to envision ways to transform and improve it, with the support of the CIEC which in turn, provide coaching and support to create innovative ecosystems.

### *Research questions:*

- Is the cooperative supermarket better positioned to reduce the use of plastics in the commercialization of food?
- What has been the impact of the measures adopted to reduce food waste and packaging waste?
- Which are the bottlenecks of a transition into a (close to) zero plastic and zero waste model?

## 7.3 Warsaw approach -a cooperative urban farm

***The theme of the living lab***

The MOST farm is designed to play a role in supporting the transition to agroecology in the Warsaw region. It also gives a theoretical reflection of the practical experience.

The Warsaw Urban Farm initiative was born out of the need to prepare the city for the upcoming effects of the environmental and food crises. Our goal is to create a local centre for agro-ecological education and food production, and to develop and network future leaders in the field of sustainable food planning to contribute locally to food security and a healthier environment.

To strengthen the city's resilience, we want to establish Warsaw's first farm (MOST), which will also be an incubator for further initiatives in this area of sustainable food system of Warsaw and surrounding suburban and rural areas.

*Figure 8. View of the MOST farm along the main rood (source: adapted from Google Earth)l*

***Idea***

MOST is an urban farm where organic fruits and vegetables are grown together with city residents and for residents. MOST is a place where everyone can get involved and have access to healthy, local food. MOST is a place that produces food in an innovative way using the latest environmentally oriented farming techniques. MOST is part of the transformation of the city's food system in a time of climate crisis. MOST bridges different realities: urban and rural, urban entrepreneurship and agricultural practice, production spaces and education, volunteerism and economic participation. MOST is oriented toward a biocentric future - a close and harmonious relationship between the city and nature.

***What do we want to do?***

We want to create the first Warsaw cooperative urban farm operating in the following areas:

- food cultivation.
- food hub (distribution point for local farmers).
- recreation space.
- education and innovation.
- economic participation.
- green jobs.

MOST's main activity is cultivation. First, cultivation in a formula social and public, under the guidance of gardeners and farmers, in the form of workshops and other activities aimed at people who want to work, learn about and maintain contact with nature. Here we see a wide field of cooperation with residents of the nearest neighbourhood but also public institutions - kindergartens, schools, senior citizen clubs, community centres.

Secondly, cultivation oriented to the production and distribution of crops. MOST is to provide fresh, organic and local vegetables to the residents of Warsaw. Support in developing the production part of the farm is ready to be undertaken by WULS's company Innotech4Life, which is engaged in the transfer of knowledge and inventions developed at the university.

MOST is intended to serve as a food hub, a distribution centre for producers operating around the metropolitan area and, in some cases still within its borders. This local agriculture, referred to as an urban food zone, are becoming increasingly important to the city. MOST is expected to support them and promote their development into agroecological, environmentally and human friendly crops - following the slogan: healthy food, healthy people, healthy nature.

MOST is intended to be an open space, open to the public, giving its visitors an opportunity for active and passive participation. Amidst the cultivated areas there will be places for leisurely strolling, leisure and admiration of fauna and flora. MOST is a cultivation site and a park at the same time.
MOST is meant to educate. In the first place through example, practical activities, but also through its own educational programs. From the very beginning it has been an initiative related to educational and research activities and the involvement of higher education institutions (WULS). This cooperation is developed in the spirit of participatory action learning and action research.
This creates the conditions for innovation. Collaboration between researchers and social entrepreneurs serves development and implementation of new urban solutions in both the agrotechnological and social spheres.

MOST will be based on economic participation. Residents will have the opportunity to share ownership as well as gain access to local products and jointly decide on the further development of the initiative. The application of the community investment mechanism will allow expand the community around the initiative, include new people and at the same time raise additional funds. MOST is intended to function as a common good, accessible to everyone, inclusive, which at the same time requires own contribution, in the form of work or financial commitment.
MOST is expected to generate green jobs in the city, contributing to the development and promotion of a new profession - urban farmer. A profession that is based on technical and social innovation. Ultimately, the success of MOST will be measured by financial self-sufficiency, which guarantees employment.

### *The aim of the LL is to establish the urban farm in Warsaw (MOST)*

The overall scope of research and activities includes:

- a review of the current state of the art on urban farms as an element of food system.
- mapping stakeholders (municipality, neighbour community, involved institutions, farmers).
- searching for local farmers and interviewing them about their needs - what their expectations are and what they can give from themselves?
- a plan of food production.
- developing a cooperative management model
- urban farm design.

### *The first idea about partners / participants?*

- The Commons Lab Foundation.
- Warsaw University of Life Science (researchers, students and Innotech4Life company.
- Agropermalab Foundation.
- Cooptech Hub.
- people involved in the establishment and development of the Food Cooperative Dobrze.
- municipal authorities.
- local farmers from Warsaw food zone

### *The focus areas of the living lab*

The proposed site by representatives of the Warsaw Municipality is located between Gwintowa Street and the Siekierkowski Bridge. The land has mostly primarily high-quality soil. It is of the third quality class - Vistula silts. Soil that is excellent for all kinds of crops.
The land has been maintained for many years in horticultural culture (allotment gardens) and previously agricultural. This guarantees clean soil - uncontaminated by heavy metals, fertilizers and herbicides.

The area has a great number of valuable trees and shrubs, which still produce abundant crops (especially apple trees). Between them the invasive plant grows (Canadian goldenrod). The whole area has the charm of informal urban nature, “a wild grove“ - a landscape of high preference aesthetic.

The proximity of the river can be felt in the humid and clean air. This proximity also guarantees low water levels groundwater, which has a positive effect on vegetation. In the neighbourhood are allotment gardens and single-family houses. A little further away begin new housing estates, the inhabitants of which, certainly will need social spaces with an interesting program. The area is quite well connected with the rest of the city. There is a bicycle path and a bus stop, with a connecting bus to the subway line.

The downside of the indicated site is a noise pollution. The proximity of the route Siekierkowski Bridge, where the speed limit is 90 km/h, and the roadway runs on an overpass several meters high. It makes noise omnipresent and difficult to eliminate. On about a third length of the roadway is equipped with noise barriers. There, the level of loudness is tolerable. However, on the other two-thirds, where there are no screens, the noise is so intense that it causes discomfort, makes conversation difficult, and is not favourable to recreation and public use. Measurements of loudness there have indicated more than 50 db. In this situation, it is worth considering setting up additional noise barriers. The second disadvantage of the plot is the lack of any outbuildings and utilities. The entire infrastructure must be made from the beginning.

***Involvement of students***

- workshops (e.g. composting workshops - involvement of a group of students in composting (distribution of household waste bins, construction of composters).
- open events in the venues, e.g. cooking day; Green Day; bioblitz

***How do you plan to link it to education / teaching?***

- Working on the course assignments
- Participating in the Living Lab process as an elective course
- Public dialogue / panel/ debate/ workshop.
- Experiential education - Case Studies elective.
- Involvement of student research group.

***Assignment questions for the local students***

1. In addition to financial, what are the potential benefits of establishing the MOST farm in the selected location?
   (methods: literature review on relevant examples of urban farms and food hubs in other cities; analysis of spatial planning documents; field trip; spatial analysis; identifying key partners and stakeholders; identifying main problems and challenges faced by farmers operating in the selected area; SWOT analysis for the Warsaw agriculture of the upper Vistula
2. What should be an economic model of the MOST farm?
   methods: literature review on relevant examples of urban farms and food hubs in other cities; academic papers review; field trip; identifying main problems and challenges faced by farmers operating in the selected area; SWOT analysis for the Warsaw agriculture of the upper Vistula, developing an economic model
3. Who are stakeholders (municipality, neighbour community, involved institutions, and farmers) and what are their needs and influence?
   methods: field trip; analysis of land ownership; identifying key partners and stakeholders; mapping all actors and their needs and power; define potential partnerships and alliances
4. What is the attitude of local farmers towards urban agriculture initiatives, particularly MOST?
   methods: field trip; mapping local farmers; interviews and questionnaires; designing a food hub
5. What edible plants are the best to cultivate in MOST farm? Considering climate factors and socio-economic factors (production feasibility, retail)
   methods: literature review; field trip; consultation with an expert
6. What is the Warsaw municipality's attitude toward biodiversity? Is it only a cost of maintaining vacant lands or a food production opportunity?
   methods: analysis of Municipality planning documents; interviews and questionnaires
7. What are the regional rituals associated with agriculture and how to transfer them to urban context? -
   methods: literature review; field trip; mapping local farmers; interviews and questionnaires; developing a proposal for an urban harvest celebration

***Assignment questions for the remote students:***

1. What should the coop urban farm include in its programme? What are the potential benefits (social, economic, environmental, others) and how to increase them?
   methods: literature review on relevant examples of urban farms and food hubs in other cities; academic papers review; field trips

2. What are the models of coop urban farms around the world? (Economic models, inner organization structures).
   methods: literature review on relevant examples of urban farms and food hubs in other cities; academic papers review; field trips
3. What are the city's policies towards vacant lands considering its biodiversity and food production opportunities?
   methods: literature review on relevant examples of urban farms and food hubs in other cities; academic papers review; analysis of Municipality planning documents; interviews and questionnaires

## 7.4 Montpellier approach - development of agriparks

An Agripark is an agricultural park included in the urban space, combining different functions around agriculture. It is a landscaped place of production, marketing in short circuit, a refuge for fauna and flora, but also a place of green leisure open to all.

*Figure 9. View of area of Les Bouisses*

Subjected to intense urbanization and heavy automobile traffic, the inhabitants of the western sector of Montpellier have suffered a degradation of their quality of life and their environment. With the Agriparc des Bouisses project, the ambition is both to create a new place of attraction for the entire sector, and to offer the inhabitants a quality landscape and natural area.
An innovative participatory approach has been launched with the inhabitants so that they can contribute to the Agriparc project (on which the teams of landscape designers, urban planners and urban agriculture specialists will work).

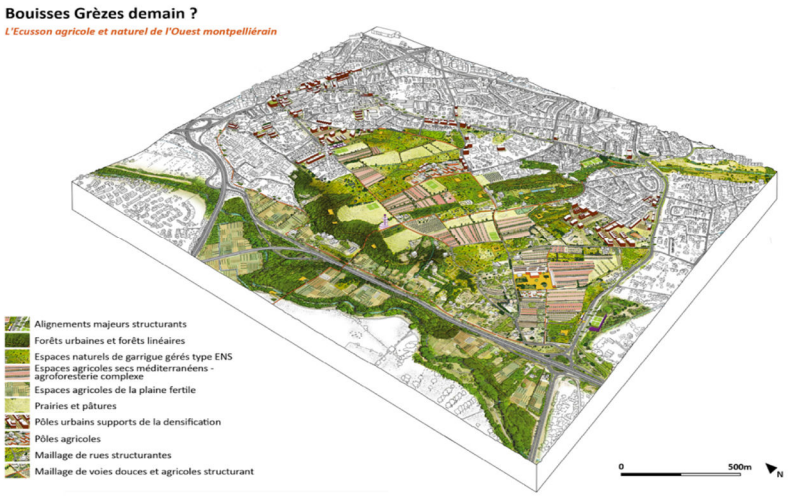



*Figure 10. Prize winning proposal for the new agriparc Les Bouisses*

***Assignment questions for the local students:***

*1. Governance/public consultation*

- What lessons can be learned from the public consultation process?
- What recommendations to make for the next process?
- How to ensure that the public's opinions are considered during the project?

*2. Management of the Agriparc*

- How to connect this agriparc to the city, ensuring that it is inclusive for all groups of people?
- How to reconcile leisure, recreational, environmental/biodiversity preservation, commercial and productive activities?

*3. Connections*

- How to make this agriparc an urban-rural connection point?
- How to relate this agriparc to a network of various Agriparcs on the territory of the metropolitan area? around which type of activities?

***Assignment questions for the remote students:***

- How to reconcile leisure, recreational, environmental/biodiversity preservation, commercial and productive activities?
- How to make this Agriparc an urban-rural connection point?
  (answering those two questions with inputs from other experiences elsewhere - that you know, by inquiring on local case studies, or by literature)
- Building a typology of urban Agriparcs based on literature.

## References


Barrows, Howard S. (1996): Problem-based learning in medicine and beyond. In: Wilkerson, LuAnn; Gijselaers, Wim H. (Hrsg.): Bringing Problem-Based Learning to Higher Education. Jossey-Bass: San-Francisco, S. 3-12.

Bronson, K.; Devkota, R.; Nguyen, V. (2021) Moving toward Generalizability? A Scoping Review on Measuring the Impact of Living Labs. *Sustainability 2021, 13*, 502. https://doi.org/10.3390/su13020502

Bouwma, I., Wigboldus, S.; Potters, J.; Selnes, T.; van Rooij, S.; Westerink, J. (2022) Sustainability Transitions and the Contribution of Living Labs: A Framework to Assess Collective Capabilities and Contextual Performance. *Sustainability 2022, 14*, 15628. https://doi.org/10.3390/su142315628

Compagnucci L., Spigarelli F., Coelho J., Duarte, C. (2021) Living Labs and user engagement for innovation and sustainability. *Journal of Cleaner Production, 2021*, Vol. 289, https://doi.org/10.1016/j.jclepro.2020.125721

Homann-Kee Tui, S., Adekunle, A., Lundy, M., Tucker, J., Birachi, E., Schut, M., Klerkx, L., Ballantyne, P.G., Duncan, A.J., Cadilhon, J.J. and Mundy, P. (2013). *What are innovation platforms?* Innovation Platforms Practice Brief 1. Nairobi, Kenya: ILRI.

Schneidewind , et al. (2016). *Pledge for a Transformative Science. A conceptual framework*. 191_Wuppertal Paper |Wuppertal.

Scholz, R.W. (2000) Mutual learning as a basic principle of transdisciplinarity. In *Scholz, R.W.; Häberli, R.; Bill, A.;Welti, M. (Eds): Transdisciplinarity: Joint Problem-solving among Science, Technology and Society. Proceedings of the International Transdisciplinarity 2000 Conference*. Workbook II: Mutual Learning Sessions. Haffman, Zürich, pp. 13-7.

Schut, M., Andersson, J.A., Dror, I., Kamanda, J., Sartas, M., Mur, R. .& Lundy, M. (2017). *Guidelines for innovation platforms in agricultural research for development: decision support for research, development and funding agencies on how to design, budget and implement impactful innovation platforms* (p. 46). Ibada: IITA and WUR

Vries, J. de. et al. (2024) *New Agricultural Parks regenerating city-region landscapes.* Conference paper in: Conference proceedings of the 11th AESOP Sustainable Food Planning Conference — 19-21 June, 2024 — Brussels & Ghent. Available at

https://www.researchgate.net/publication/381302650_New_Agricultural_Parks_regenerating_city-region_landscapes

WBGU (German Advisory Council on Global Change) (2016): *Humanity on the move: Unlocking the transformative power of cities: Summary*. Berlin: WBGU. Available at: http://www.wbgu.de/en/flagship-reports/fr-2016-urbanization/

Wiek, A.; Kay, B. (2015): Learning while transforming: Solution-oriented learning for urban sustainability in Phoenix, Arizona, In: *Current Opinion in Environmental Sustainability 16*:29-36.

Wiek A.; Withycombe, L.; Redman, C. L. (2011) Key competencies in sustainability: a reference framework for academic program development. In: *Sustainability Science 6 (2),* S. 203-218. DOI: 10.1007/s11625-011-0132-6

Williams, S.; Robinson, J. Measuring sustainability: An evaluation framework for sustainability transition experiments. *Environ. Sci. Policy 2020, 103*, 58–66. [CrossRef]

Williams, S. (2019) *The Splash and the Ripples: Assessing Sustainability Transition Experiments;* University of British Columbia: Vancouver, BC, Canada.

# PART V

## methods, tools, monitoring and evaluation

# 8. What tools, methods and platforms can be used?

The AESOP4Food program's integration of online tools, methods, and platforms was instrumental in creating an inclusive, dynamic, and collaborative learning environment, enabling participants to develop transformational competencies in sustainable food planning.

## 8.1 Online Tools

***Padlet***

Padlet served as an interactive digital whiteboard, allowing participants to brainstorm ideas, share resources, and collaborate on projects in a visually engaging manner. During the project we used it for the participants to introduce themselves, for exercises, organising the living labs, monitoring and evaluation.


*Figure 11. Padlet that was used for evaluation by each team of the AESOP4$Food seminar in 2022*

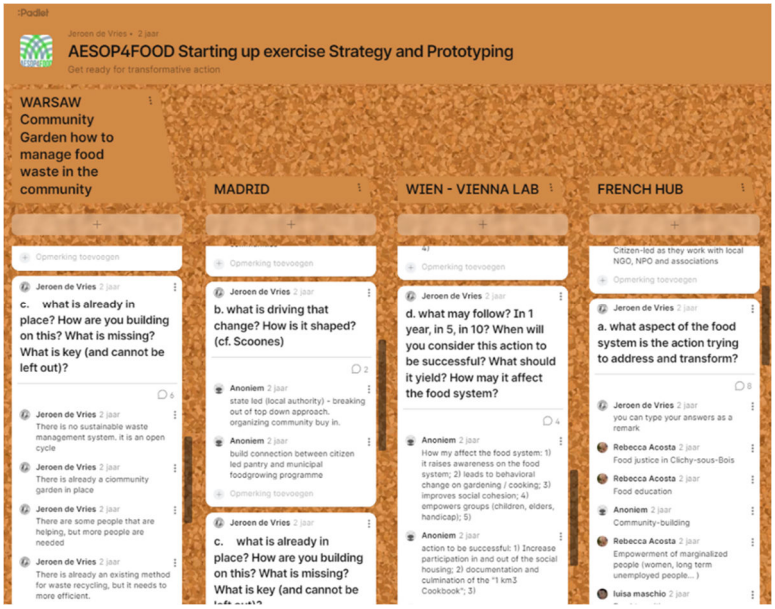



*Figure 12. Padlet that was used in a breakout room as an exercise for Phase IV Strategy and Interventions*

On this padlet the participants were able to ask questions on the content of the lectures of phases 1 and 2, the reading material, the assignments, the living labs, etcetera. Answers that cannot be handled during the online session had been collected and later presented to the participants.

Participants find Padlet easy to access and handle. The answers can be anonymous or personalised.

### *Mural*

Mural provided a versatile platform for participants to collaborate, ideate, and work on group projects using virtual canvases and sticky notes.

In our course we used Mural tool at several times, but the most important in Phase III for building collaborative goal setting for each Living Lab. A short video on how to work with Mural using the steps of the Nominal Group Technique is presented in the wiki.

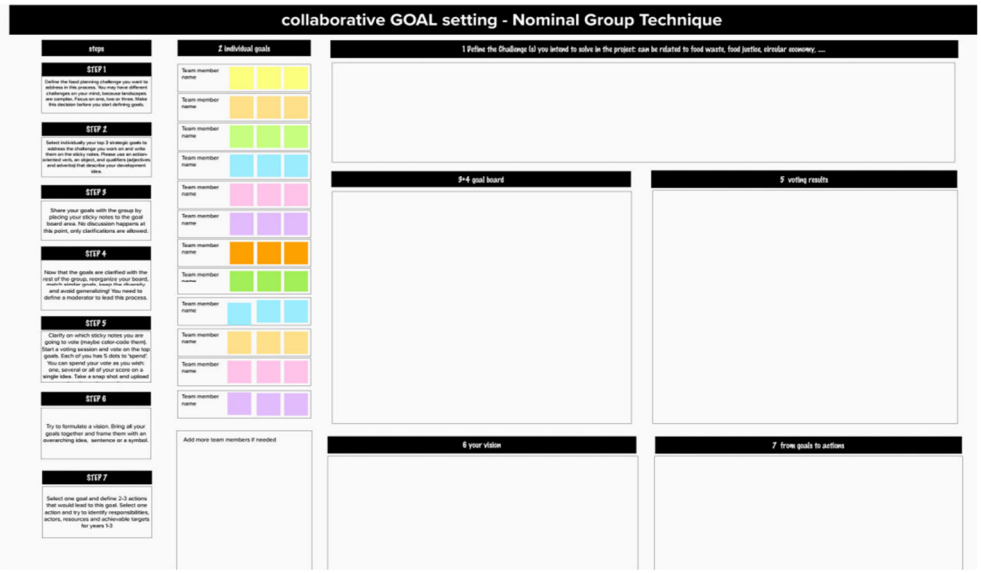



*Figure 13. Format in Mural.co that was used for collaborative goal setting.*

### *Miro*

For visual collaboration, enabling participants to co-create and share concepts, strategies, and visualisations. A few polls (word could) were used for activating online participants to interact and express their ideas. In our first session, we conducted a Q&A, reviewed communication tools, and assignments, and introduced the concept of food planning. We used Miro and Zoom polls to engage students with questions like: Why are food strategies often omitted from urban planning processes?

### Zoom Breakout Rooms

We utilised Zoom's breakout rooms for living labs, allowing students to get to know each other and interact better. Separate rooms were also used for those participating in lecture mode, doing short exercises during the sessions.

## 8.2 Methods

***Design Thinking***

Originally it was developed as a process to understand customers' or beneficiaries' wishes, needs, and visions. AESOP4Food adapted the method for sustainable food planning and applied it in the seminar and explicitly in the intensive workshop in Montpellier. It relies on observing, with empathy, how people interact with their environments and employs an iterative, hands-on approach to create innovative solutions. It is a human-centred interdisciplinary approach to innovation that draws from the designer's toolkit to integrate the needs of people (desirability), the feasibility of the technology, and the requirements (viability) for business success. AESOP4Food adapted the method for sustainable food planning.

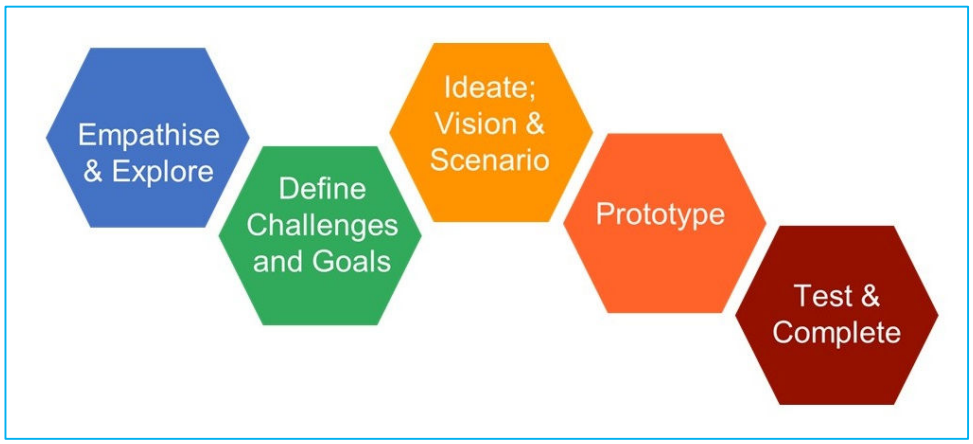



*Figure 14 Steps of Design Thinking adapted by AESOP4Food*

*Step 1. Empathise and Explore*

*In this step you start to u*nderstand the problems, needs and desires of actors, stakeholders, users to address best the challenges. By understanding the qualities, challenges, opportunities of the local landscape you will come up with good ideas.

For this you can use the following questions: Who are the actors? What are their problems, needs and desires? What does the local landscape look like? What are the needs and opportunities of this landscape?

**Methods to be used are** Interviewing / photo voicing / tiny demonstration office; using the empathy maps of the design thinking method, creating personas; performing landscape walks, make overviews by using the transect method, map the landscape mapping with photos, sketches, and notes.

*Figure 15. empathy mapping using preprinted empathy maps – photo Caroline de Vries*

*Step 2. Defining Challenges and Goals*

Here you make a synthesis of the observations about actors, stakeholders and the landscape. The team can collaboratively define the main challenges you need to address and the opportunities you can build on. It can help to visualize these on a map of the area or in a scheme of the food system.

**Methods to be used are** Nominal Group Technique for collecting challenges, brainstorming for generating ideas, Power mapping for your main idea / challenge, Nominal Group Technique for collecting goals and setting priorities.

You can use the 'how might we?' questions: How might the agriparc serve best the needs of those who are more vulnerable? How might farmers benefit from the park for a fair income? How might the landscape look like when agroecology is applied?

*Step 3. Ideate: Vision and Scenario*

The vision builds upon the defined goals and selected scenario. It describes the way the food system and how the landscape may look like in the long term. It can be a written statement, where the main concepts are preferably illustrated with icons, images, sketches.

Scenarios can be explored using the quadrant method see section 3.4 and the lecture Michiel Dehaene: April 25 and May 16, 2024).

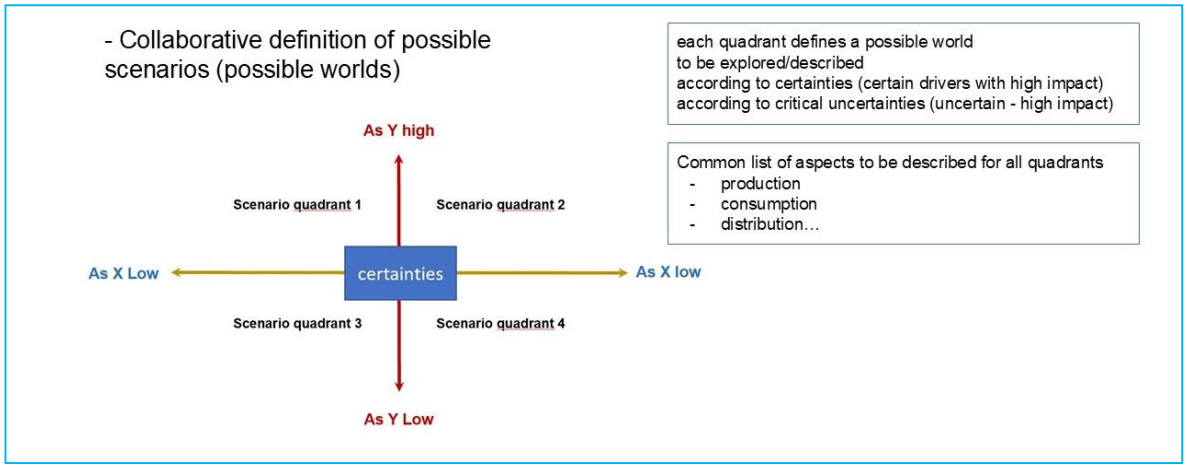
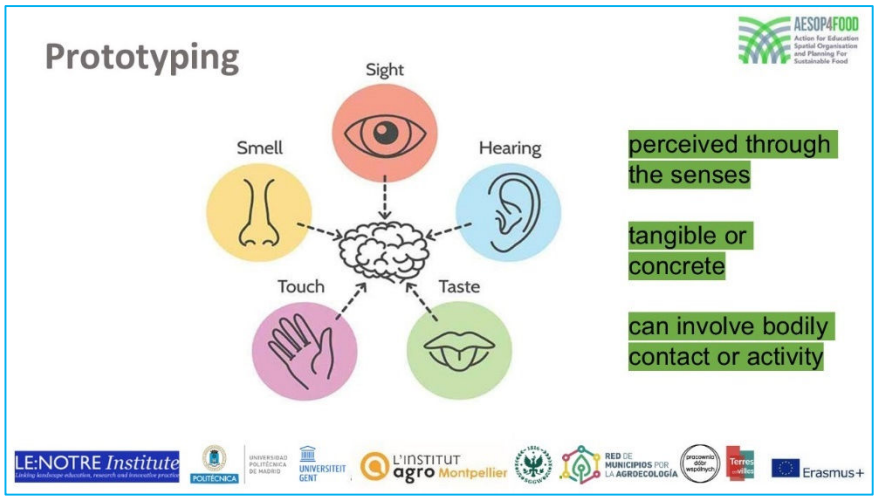



*Figure 16 Scenario Building source lecture Michiel Dehaene 2024*

*Step 4. Prototyping*

A prototype is the early physical representation of your idea that allows people to test and explore your idea's spatial, functional and social feasibility

You use the prototype to prove the value of your idea, get feedback, catch potential failures, learn from failures, integrate lessons into design and it helps to evolve ideas quickly.




Important aspects of a prototype. Slide presentation Jeroen de Vries at the IP in Montpellier, 2024.

Prototypes may have various forms: mind maps, games, AR/VR experience, Performative prototypes (role play), storyboards, comic books, modifiable digital models (street mix or Minecraft), drawings (section drawings, floor plan), or analogue models.

Figure 17. Protype of a food hub made by the Foodscape Thematic Group during the workshop in Antalya for the TELOS Erasmus project. Photo: Jeroen de Vries.

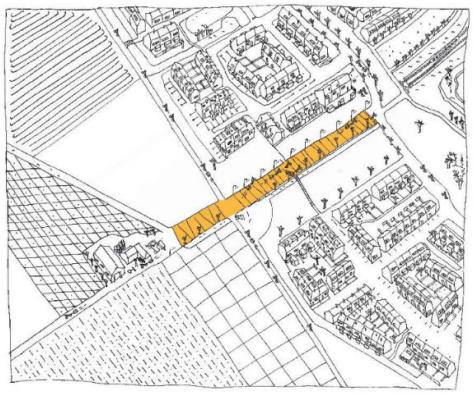


Figure 18. Prototype of a Foodgate: The transition between city and rural area is activated by creating Foodgates on specific sites. With public spaces connecting producers, processors and consumers.
Source: lecture Bram Vandemoortel of the Architecture Workroom Brussels, Open Space Platform. May 16, 2024

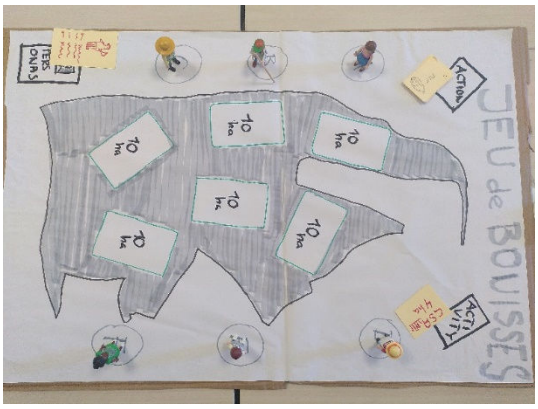



Figure 19. Prototype: a game for Agriparc Les Bouisses, developed by one of the teams, IP Montpellier. Photos: Jeroen de Vries.

### *Step 5. Testing and concluding*

The prototypes are tested by actors, users, stakeholders who give feedback. You can understand better the actors. The prototypes should not be a draft design, but a concept for a focused interaction with users.

Do not reduce your "testing" work to asking whether or not people like your solution. Instead, continue to ask "Why?", and focus on what you can learn about the person and the problem as well as your potential solutions. When you cannot interact with the local community, you may use personas who do a role play while testing. The prototype could also be a game where participants can explore if the proposal fulfills their needs, answers to their desires.

If it is a 1:1 model, or a scale model participants may also experience how it works.

### *Conclusions*

During the AESOP4Food project we used the phases of Design Thinking for the different phase of the course. During the IPs we used parts of the approach and in the third IP we made a skip where we clearly explained all steps to the participants.

| AESOP4Food Intensive Course- Montpellier - July 4 - 13, 2024 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **05.07** | **06.07** | **07.07** | **08.07** | **09.07** | **10.07** | **11.07** | **12.07** |
| **Friday** | **Saturday** | **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| **Design Thinking Theme Empathising & Exploring** | **Design Thinking Theme Empathising & Exploring** | **Design Thinking Theme Empathising & Exploring** | **Design Thinking Theme Define challenges & goals** | **Design Thinking Theme Ideation: Vision&Scenario , start Protyping** | **Design Thinking Theme Empathising & Exploring** | **Design Thinking Theme Prototyping** | **Design Thinking Theme Testing and concluding** |
| **from 8:00 coffee/tea/vienn** | | | **from 8:00 coffee/tea/vienn** | **from 8:00 coffee/tea/vienn** | **from 8:00 coffee/tea/vienn** | **from 8:00 coffee/tea/vienn** | **from 8:00 coffee/tea/vienn** |
| **09:00 - 12:30** | **09:00 - 12:30** | **10:00 - 12:00** | **09:00 - 12:30** | **09:00 - 12:30** | **09:00 - 12:30** | **09:30 - 12:30** | **09:00 - 12:30** |
| ice Breaking, introductions. | Exploratory walk in the Agriparc des Bouisses<br>mapping | city tour Montpellier starting at 10h00 until 12h00 | Formation of groups, short intro on Design Thinking process, Organised work with plenary flash presentations of 3 minutes of the progress. | Clara Zamour « The Agro-Urban areas in the the metropolose of France and Europe<br>Working groups continue with Ideating | introduction and study trip agriparcs around Montpellier | Working groups prototyping session<br>11h30 Justine Labarre (Montpellier Métropole) - Food environments: the Montpellier case | Final presentations of the working groups (in different formats : mapping, etc.) With Pierre Janin, élu.e.s de la ville et de la métropole, services techniques, etc. - Final wrap up |
| **Lunch** | **Lunch** | **Self organised lunch** | **Lunch at canteen** | **Lunch at anteen** | **lunch on the road** | **Lunch at canteen** | **Good bye lunch** |
| Introductions at the Hotel de Ville | intro Suzie Bernard / Jeroen de Vries | 14:00 - 17:00 study trip to the coastal landsdcape of Montpellier | working groups continue<br>Organised work with plenary flash presentations of 3 minutes of the progress. | Self organised work and flash presenations of 3 minutes on the progress | Study trip continues | After lunch presenations of 10 minutes on the prototypes with feedback by all participants<br>Self organised work, preparation of presentations and documentations | short evaluation<br>&<br>Free afternoon |
| **Welcoming dinner @ La Panacee** | **17:00 Free evening** | **17:00 Free evening** | **17:00 Free evening** | **17:00 Free evening** | **17:00 Free evening** | **17:30 Free evening** | **Free evening** |
| **Outcome of the day**<br>Team building, understanding of the policy context, initial landscape system knowledge of the study area, first hypothesises | **Outcome of the day**<br>an understanding of the landscape of the agripark, needs and ideas of the actors, and the concept of agriparks. Collection of the main challenges and first ideas | **Outcome of the day**<br>a deeper understanding of the relation with the city and the coastal area | **Outcome of the day** for each theme a set of goals and first ideas | **Outcome of the day**<br>Vision for the theme of the working group with scenario, first concept of prototype | **Outcome of the day**<br>a deeper understanding of the position/function of Bouisses in the system of agriparks | **Outcome of the day**<br>Teams know what to produce for the final presentation and have started producing outputs. | **Outcome of the day,**<br>dissemination of AESOP4Food Living Lab Montpelliers, collection of documentation materials.<br>public presentation and post-evaluation |
| **Methods**<br>***Ice Breaking, lectures, discussion, brainstorm*** | **Methods**<br>***Exploratory walk, transect walk, landscape mapping, discussion, brainstorm*** | **Methods**<br>***Exploratory walk, deep immersion in the landscape and interaction with locals*** | **Methods**<br>***Nominal Group Technique, Power mapping, Brainstorming*** | **Methods**<br>***Selection of ideation methods: illustrated concepts with icons, images, sketches, mock-*** | **Methods**<br>***Lecture - Study trip - Landscape System Mapping*** | **Methods**<br>***Creating prototypes that can be experienced, feedback by post its from each participant*** | **Methods**<br>***Presentations, discussions, round table, flash light*** |

*Figure 20. The steps of Design Thinking as a basis for the international workshop in Montpellier, 2024.*

In the workshop, and in a living lab and in real life the steps are never linear. You go back and forth using the step, reflecting, redefining, talking again with the actors. So, the process look more like it is presented in figure 21.


*Figure 21. The steps of design thinking as an iterative process.*

### *Nominal Group Technique*

The Nominal Group Technique was employed as a structured method for generating ideas and making decisions within group settings, ensuring all participants' voices were heard and considered. It is an efficient and easy method for collaborative work within your team of learners, with a project team, with a community to make sure all voices can be heard. One can use it for defining challenges, collaborative goal setting, selecting a preferred alternative, or deciding on actions.

It is a structured method for group brainstorming encouraging contributions from everyone, which facilitates quick agreement on the relative importance of issues, problems, or solutions. Team members begin by writing down their ideas, then selecting which idea they feel is best. Everyone presents their favourite idea(s); the suggestions are then discussed and prioritised by the entire group using a point system. The ratings of individual group members are combined into the final weighted priorities of the group. The presentation on using the method for collaborative goal setting can be found here.

### *Collaborative Goal Setting*

Participants engaged in collaborative goal setting to define objectives and desired outcomes, fostering a sense of ownership and commitment to achieving shared goals. In the online sessions we used Mural.co for this, and onsite it can easily be done using flip over sheets, and stickers.
Important is that:

- Each group member writes down individual his/her goals
- Only place one goal on a sticker
- Collect the goals while the participants explain these
- Similar goals can be grouped by a moderator
- Goals can be reformulated into common goals with the approval of the group.

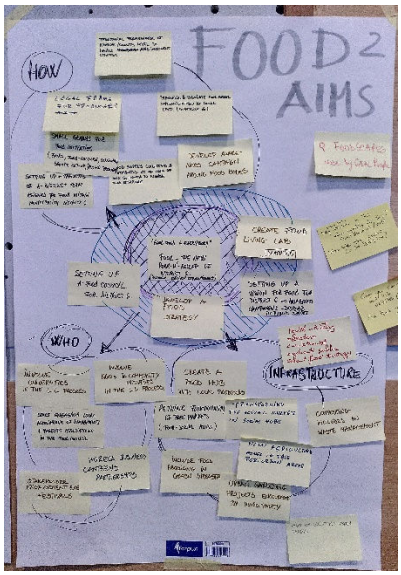



*Figure 22. Collection of goals for a food strategy for sector 6 in Bucharest, presented during an onsite workshop, April 2024*

### *Power mapping*

The objective of power mapping is to create a visual representation of the relationships and influences among different stakeholders in a food system, focusing on their positions relative to a collaborative goal. The process consists of three phases:
Community and Landscape Analysis:

- Identify your community by analysing the environmental, social, and political context.
- Use methods like autobiographical narration, theatre, and play to gather genuine insights.
- Map traditional social groups, individuals, local and external stakeholders to understand the broader community dynamics.

Creating the Power Map:

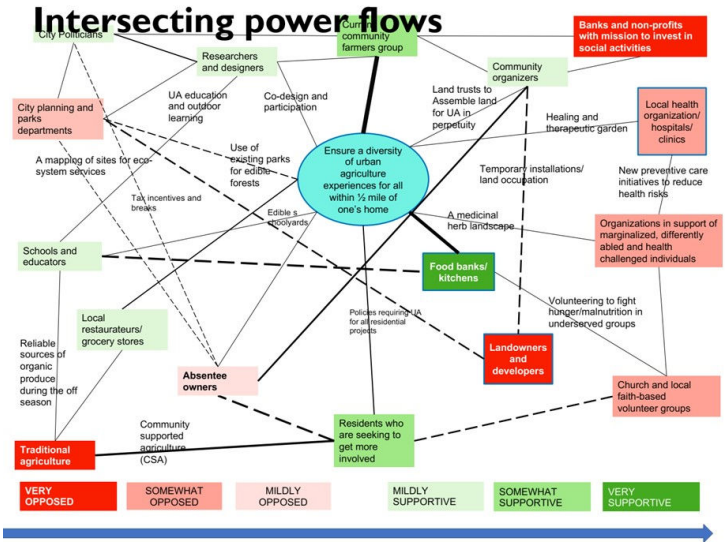
- Start with a central collaborative goal.
- Position stakeholders based on their influence and relationship to this goal.
- Use digital tools like Padlet and Miro for interactive and evolving maps.

Democratic Participation Analysis:

- Ensure the community becomes self-aware through the participatory process.

- Involve all affected parties to gather a comprehensive understanding of needs and desires.

Composing power maps helps participants/students to enhance understanding of complex stakeholder dynamics, develops skills in data collection, analysis, and collaborative planning, and encourages active participation and engagement with real-world challenges.




Source: Deni Ruggeri, presentation landscap democracy, LE:NOTRE Landscape Forum 2022, student work

*Figure 23.Power map with the central question of ensuring a diversity of urban agriculture experiences for all within a quarter mile of one's home. (source: Deni Ruggeri, presentation LE:NOTRE Landscape Forum 2022.*

### *Food system mapping*

Food mapping is a crucial methodology in understanding and analysing food systems within various contexts. Mapping can serve to:

- To map and evaluate local food systems.
- To identify stakeholders, power structures, and the dynamics of food production, distribution, and consumption.
- To facilitate targeted interventions and policy development.

Presentations on different types of food system mapping can be found in Phase II Analysing the local food system. Marian Simón Rojo of UPM introduces the relevance of mapping for starting transformative actions and presents an overview of the types of mapping. Katrin Bohn, of Bohn&Viljoen Architects & the School of Architecture & Design of the University of Brighton, presents several projects and how mapping played a role in them.

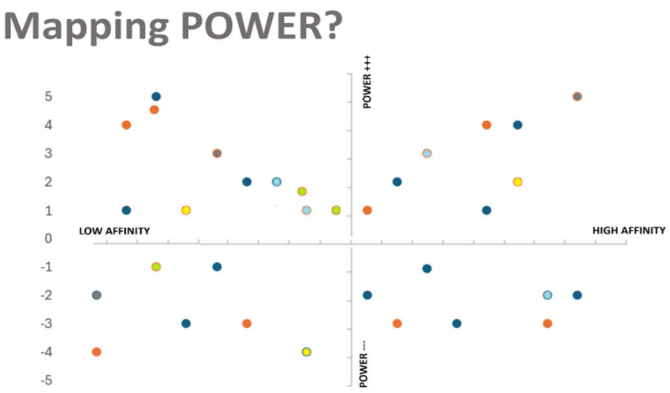



*Figure 24 Exercise and method for making a power map by Marian Simón Rogo.*

### *Food System Mapping Method*

In AESOP4Food, a method was applied for the Living Lab assignment 2024 to map Bucharest District 6's foodscape, involving detailed mapping and stakeholder workshops to identify challenges. The method consists of the following steps:

a. **Define Scope and Objectives:** Clearly outline geographic and thematic focus. Ensures targeted and relevant mapping efforts.
b. **Stakeholder Identification**: Use power mapping to identify key players. Engages all relevant stakeholders and ensures comprehensive understanding of the food system.
c. **Data Collection:** Collect quantitative and qualitative data.
d. **Mapping the Food System:** Create visual maps of food system elements. Visualises complex relationships and flows within the food system.
e. **SWOT Analysis:** Conduct collaborative SWOT analysis. Identifies strengths, weaknesses, opportunities, and threats, facilitating strategic planning.
f. **Analysis and Interpretation:** Analyse data to identify trends and issues.
g. **Developing Interventions:** Co-design solutions with stakeholders. Ensures practical and accepted solutions through stakeholder involvement.
h. **Reporting and Dissemination:** Share findings and strategies.
i. **Monitoring and Evaluation:** Establish metrics for ongoing evaluation. Ensures continuous improvement and adaptation of interventions.

## 8.3 Platforms for AESOP4Food

### *Website page*

The AESOP4Food website serves as a central hub for all course-related materials, program information, and resources. This platform ensures easy access for participants, enabling them to retrieve necessary documents, updates, and tools essential for their learning journey. The structured organisation of the website allows for efficient navigation and resource management, which enhances the overall learning experience.

### *Wiki pages AESOP4Food*

The AESOP4Food Wiki acts as a centralised repository for learning outcomes, exercises, assignments, and references. This platform allows participants to delve deeper into course content and track their progress. The wiki's structured format helps in organising information in an easily accessible manner, which aids in better understanding and engagement with the program content. The platform can monitor access metrics to gauge participant engagement and resource utilisation.

### *Communication Channels in Slack*

The AESOP4Food Slack workspace was employed as a primary communication channel, facilitating real-time messaging, file sharing, and collaboration among participants, instructors, and project teams. The structured organisation of channels ensures focused discussions on specific topics, such as course structure, living labs, assignments, and phase-specific questions. This allows for efficient communication and resource sharing. Slack supports direct messaging for one-on-one communication and integrates with other tools, providing a seamless workflow for the AESOP4Food program.

The channel is used for Direct Messaging: Allows for private, one-on-one communication between participants and instructors; and file Sharing: Supports the sharing of documents, presentations, and other resources directly within channels.

### *Content and Structure of the Slack Communication*

General Information Channels:

- #0-info-and-general-questions-on-the-course-organisation serves as a central hub for course-related announcements, updates, and broad inquiries, ensuring that all participants stay informed about the latest developments and important dates.
- #compulsory-reading: Dedicated to sharing essential reading materials and resources that participants are required to review.

Living Lab Specific Channels:

- Each living lab has its own dedicated channel (e.g., #4a-madrid-living-lab, #4b-ghent-living-lab, #4c-warsaw-living-lab, #4d-montpellier-living-lab, #4e-bucharest-living-lab, #4f-tartu-living-lab) facilitate focused discussions, coordination, and sharing of resources specific to each living lab's activities.

Phase and Topic-Specific Channels:

- #a-questions-on-phase-1-exploring-the-field: For discussions and queries related to the initial phase of the program.
- #b-questions-on-phase-2-mapping-the-foodscape: Dedicated to the second phase, focusing on food system mapping.
- #c-questions-on-phase-3: For queries and discussions related to the third phase of the program.

Assignments and Reference Channels:

- #2-info-and-questions-on-the-assignments: A channel for assignment-related discussions, clarifications, and support.
- #3-info-and-questions-on-the-references: Dedicated to questions about references and supplementary materials.

Additional Channels:

- #9-intensive-study-programme-montpellier: Focused on the intensive study program conducted in Montpellier, including schedules, assignments, and outcomes.
- #possibilities-for-networking-exchanging-ideas: A space for participants to network and exchange ideas beyond the structured curriculum.

### *Advice on Tools*

Initially, we communicated through Slack and weekly informative emails via Mailchimp, which sometimes led to confusion among students about which channel to follow. The overlap between Slack messages and email updates, including follow-ups on previous sessions and agendas for upcoming ones, created uncertainty, especially for those using Slack for the first time. We refined our approach to be more coherent, simplifying communication and enhancing tool usage. Training videos for using different online tools are now provided before sessions, and students are informed in advance about exercises to ensure better outcomes.

Main advice for the communication tools is:

- **Simplify Communication**: Use one primary channel for updates to avoid confusion.
- **Training and Preparation**: Provide training videos and clear instructions on using tools before.
- **Feedback and Adaptation:** Regularly collect feedback and adapt your approach to improve coherence and efficiency.
- **Monitoring Engagement:** Use tools like Mailchimp to track email interactions and ensure important information reaches all participants effectively.

# 9. How to organise collaborative monitoring and evaluation and peer review?

## 9.1. Definitions, purpose and key questions

Monitoring and evaluation (M&E) are complementary processes that work together to provide a comprehensive understanding of program performance and impact. It is a continuous process that provides feedback to program implementers and managers. It allows for ongoing learning and adaptation by providing timely information on program performance and the need for adjustments or improvements. Monitoring data helps inform decision-making, identify best practices, and address emerging challenges throughout the implementation period.

Monitoring involves comparing the actual progress and performance against the planned targets, indicators, and milestones established during program design. By assessing the gaps between actual and planned outcomes, monitoring helps identify areas that need attention and informs decision-making on resource allocation and program adjustments.

Monitoring should involve engagement with relevant stakeholders, including program staff, beneficiaries, partners, and other key actors. Stakeholder involvement helps ensure that diverse perspectives are considered, fosters ownership, and allows for the collection of meaningful and accurate data.

Evaluation is performed for different purposes (1) formatively, to make improvements, and (2) summatively, to inform decisions about whether to start, continue, expand or stop an intervention.

**Table 3. Evaluation types in relation to specific purposes.**

| Type | Formative evaluation | Summative evaluation |
|---|---|---|
| **Process evaluation** | Focused on processes: intended to inform decisions about improving (primarily implementation) | Focused on processes: intended to inform decisions about stop/go |
| **Impact evaluation** | Focused on impact: intended to inform decisions about improving (primarily design characteristics) | Focused on impact: intended to inform decisions about stop/go |

Five key questions of evaluation according to Campilan (2000):

1. Why evaluate? (i.e. learning for the program/project),
2. How to evaluate? (i.e. as a common process, adaptive, semi-structured),
3. Who evaluates? (i.e. representatives of the community, internal staff, external evaluators, a hybrid team),
4. What to evaluate? (i.e. criteria discussed focusing on the goals, process and outcomes),
5. For whom evaluation is being done? (i.e. for the community to learn, stakeholder groups).

## 9.2. Interconnections between Monitoring and Evaluation

M&E and should be implemented strategically and collaboratively to achieve the best results. There are several aspects highlighting their interconnections and complementary significance (Kusek and Rist, 2004):

**Data for Evaluation:** Monitoring provides the necessary data and information that serve as inputs for evaluation. Monitoring systems collect data on program activities, outputs, and outcomes on an ongoing basis, which can be used to assess the effectiveness and efficiency of interventions during evaluation.

**Progress Tracking:** Monitoring allows for the regular tracking of progress and performance against planned targets, indicators, and milestones. Monitoring data helps establish a baseline for evaluation and provides a reference point for measuring change and impact.

**Feedback and Adaptation:** Monitoring data provides feedback about the strengths and weaknesses of the program. It helps identify areas where adjustments or improvements are needed, allowing for timely corrective measures.

**Evidence Generation**: Monitoring data, when combined with evaluation data, contributes to the generation of evidence about program effectiveness, efficiency, and impact. The continuous collection of data through monitoring allows for the accumulation of a dataset over time, which can be analysed and synthesized during evaluation.

**Accountability and Learning**: Monitoring and evaluation support accountability by providing evidence-based information about the performance and results of programs. Monitoring data helps identify program strengths and weaknesses, allowing for accountability to stakeholders, including funders, beneficiaries, and policymakers. Evaluation, on the other hand, helps draw lessons learned and facilitates organizational and programmatic learning by identifying best practices, and areas for improvement.

## 9.3. Result and chain concept

In monitoring and evaluation, the result and chain concept is a crucial framework for analysing and understanding the logical connections between program activities, outputs, outcomes, and impacts (Figure 25). This approach provides a systematic method to track progress and assess the effectiveness of interventions or projects (Margoluis et al., 2013). Also known as the results framework or logic model, the result chain is a visual representation of the cause-and-effect relationships within a program (McLaughlin & Jordan, 2004).

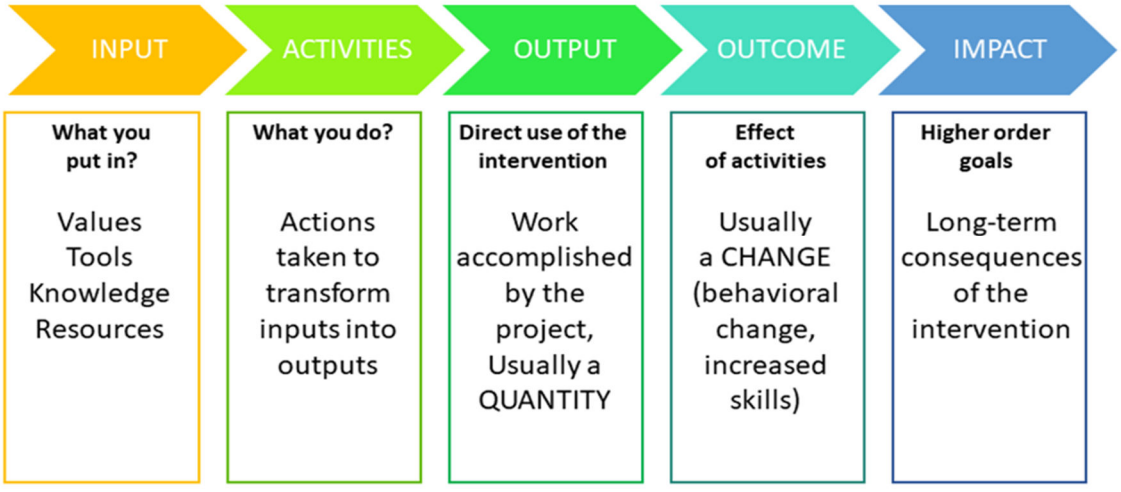



*Figure 25: The result chain. Source Erasmus Impact Tool*

The result chain concept is outlined in the Erasmus+ Impact Tool, which can be accessed at https://www.erasmusplus.nl/en/impacttool-mobility. The framework comprises the following key components: inputs, activities, outputs, outcomes and impacts. Below these components are highlighted with this sustainable food planning course as an example.

| Table 4. Key components of the results and chain concept. | |
|---|---|
| **Component** | **Description** |
| **Input** | The resources invested in the program, including financial, human resources, as well as the technical infrastructure.<br><br>For development and organisation of an online seminar these may consist of experts, tutors, students, and technical support staff. The technological infrastructure includes learning management systems, video tools, and multimedia resources. The curriculum materials can be the textbooks, reading lists and assignments and research questions. |
| **Activities** | The specific actions or interventions undertaken to achieve the desired outcomes.<br><br>These include course design and development, which involves setting learning objectives, creating teaching materials, and formulating assessment concepts. Additionally, activities encompass online content creation, such as producing video lectures, interactive modules, and discussion forums. Online teaching and facilitation are also critical, involving live or recorded lectures and online discussions. Finally, activities include assessment and feedback processes, such as assignments, presentations, and feedback mechanisms. |
| **Output** | The direct products or deliverables resulting from the activities.<br><br>These include the availability and accessibility of the online teaching course to the target audience, the completion of the course and intellectual property (IP) by participants, the active participation and engagement of learners in online activities, and the provision of timely feedback and support to learners. |
| **Outcome** | Short, medium, and long-term changes or effects expected to result from the outputs. Immediate (short-term), intermediate (medium-term), and ultimate (long-term) outcomes.<br><br>These include knowledge acquisition and understanding of the course content by participants, skill development related to teaching methodologies, instructional design, and online facilitation, improvement in participants' ability to design and deliver effective online teaching, and increased confidence and self-efficacy in participants' online teaching abilities. |
| **Impact** | Broader, long-term effects or changes at the societal, environmental, or systemic level resulting from the program's outcomes.<br><br>These include enhanced quality of online teaching practices among participants, improved student learning outcomes and academic performance, increased satisfaction and engagement of students in the online learning environment, and institutional changes such as the increased adoption of online teaching methodologies and improved online course offerings. |

By systematically applying the result chain concept, educators and program administrators can effectively monitor and evaluate their initiatives, ensuring that their efforts lead to meaningful and sustainable impacts.

## 9.4. Time requirements for monitoring performance

It is important to note that monitoring is not a one-time activity but an ongoing process that runs parallel to program implementation (Romasz et al., 2004). It provides real-time information and feedback to support effective management, decision-making, and adaptive programming throughout the life of a program.

| Table 5. Concept of monitoring performance. | |
|---|---|
| **Time** | **Description** |
| **During Implementation** | Monitoring starts from the beginning of program implementation and continues throughout the entire duration. It involves regularly collecting data on activities, outputs, and outcomes to track the progress and performance of the program. Monitoring helps ensure that activities are on track, resources are being used effectively, and outputs are being produced as intended. |
| **On a Regular Basis** | Monitoring is conducted on a regular basis, often following a predetermined schedule or frequency. It can be daily, weekly, monthly, quarterly, or at other intervals depending on the nature and scope of the program. Regular monitoring allows for timely identification of issues or challenges, enabling prompt corrective action. |
| **Concurrently with Data Collection** | Monitoring involves the collection of data and information to assess program performance and progress. This can include quantitative data (e.g., surveys, indicators, tracking systems) and qualitative data (e.g., interviews, observations, focus group discussions). The data collected during monitoring helps establish a baseline, track changes, and provide feedback on the implementation process. |

## 9.5. Time requirements for evaluation performance

Evaluation typically takes place at specific points during or after the completion of a program, project, or intervention. It involves the systematic and objective assessment of the program's (Picciotto, 2020): **Effectiveness** (To what extent will the objectives be achieved?), **Efficiency** (Are there any alternatives for achieving the same results with less inputs/funds?), **Relevance** (How important is the intervention for the target groups, and to what extent does it address their needs and interests?), **Sustainability** (To what extent does the intervention take into account economic, ecological, social and cultural aspects?), **Impact** (What was as a result of the project?).

| Table 6. Concept of evaluation performance. | |
|---|---|
| **Time** | **Description** |
| **Ex-ante evaluation** | Conducted before a project, program, policy, or decision is implemented. Its primary purpose is to assess the potential impacts, risks, and feasibility of the proposed initiative to inform decision-making and planning. |
| **Periodic Evaluation** | Conducted at predetermined intervals, even if the program is ongoing. It provides regular assessments of program performance and allow for adjustments. |
| **Ad Hoc Evaluation** | Conducted in response to specific needs or circumstances. May be due to emerging issues, changes in the program context, or the need to assess specific components or |

| Table 6. Concept of evaluation performance. | |
|---|---|
| **Time** | **Description** |
| **Ad Hoc Evaluation** | aspects of the program. It can provide targeted insights and recommendations to address specific challenges or opportunities. |
| **Mid-term Evaluation** | Conducted during the implementation phase of a program, typically around the midpoint of its planned duration. Helpful in assessing progress, identifying strengths and weaknesses, and providing recommendations for improving program performance. |
| **Ex-post evaluation** | Conducted after a project, program, policy, or decision has been implemented. Its purpose is to assess the actual outcomes, impacts, and performance of the initiative to determine whether it has achieved its intended objectives and to identify lessons learned for future decision-making and planning. |

## 9.6. Conventional versus. Participatory Evaluation

According to Guijt & Gaventa (1998) the characteristics of conventional evaluation and participatory evaluation are:

| Table 7. Conventional vs. Participatory Evaluation | |
|---|---|
| **Conventional Evaluation** | **Participatory Evaluation** |
| - Often conducted by an external evaluator to ensure objectivity.<br>- The evaluators have more control and authority over the evaluation process. Stakeholders are often seen as sources of information rather than active participants.<br>- Evaluation techniques include surveys, questionnaires, interviews, and focus group discussions.<br>- Extract information from a variety of sources and produce a report that stimulates management responses from the organization or programme evaluated.<br>- The success is measured by externally defined, mainly quantitative indicators.<br>- The approach is predetermined. | - Engage project stakeholders more actively in the evaluation process: in the design stage, in carrying out field research, analysing, interpreting, and documenting the results.<br>- Aims to democratize the evaluation process by sharing power and decision-making authority with stakeholders, ensuring their perspectives and experiences are central to the evaluation.<br>- Rely on a range of methods that encourage reflection, creativity and discussion.<br>- The success is measured by internally defined indicators, including more qualitative judgements.<br>- Results-based, and like other evaluations, relies on triangulation and verification of results.<br>- Solution-oriented – focus on learning lessons from both success and failures.<br>- The approach is adaptive. |

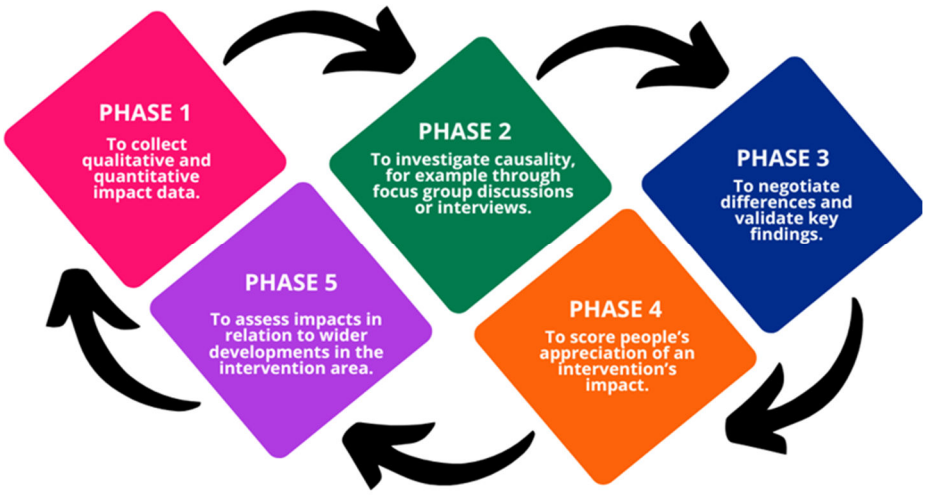



*Figure 26. Several ways to use participatory methods.*

### *Indicators*

One can use quantitative or qualitative indicators. These can tell us: (1) To what extent our goals are met. (2) What progress is made, (3) The extent to which our targets have been met, and (4) That a change we are interested in is happening.

**The indicators** can be expressed as:

- Number of: people involved, participants, meeting held, tools used, feedback received
- Percentage of groups/tools and methods/positive feedback received
- Type or level of people involved/participants/meetings held/elements/tools used/satisfaction
- Proportion or type of groups/tools and methods/feedback received

Examples of key performance indicators (KPIs) that can be used for monitoring and evaluating an educational project:

**Table 8. Examples of key performance indicators (KPIs)**

| KPI | Description |
|---|---|
| **Student Attendance Rate** | Measure the percentage of students attending the course regularly. |
| **Student Achievement** | Assessments to determine the level of knowledge and skills acquired during the project. |
| **Dropout Rate** | Track the percentage of students who drop out of the educational project. A low dropout rate indicates the project's ability to retain students and keep them engaged. |
| **Graduation Rate** | Measure the percentage of students who complete the entire educational project or program. |
| **Participant Feedback** | Feedback from students, teachers, and other stakeholders involved in the project. |
| **Community Engagement:** | Measure the level of community involvement and support for the project. This can include participation in community events, partnerships with local organizations, or support from community. |

## 9.7. Monitoring and Evaluation – Key steps and recommendations

The monitoring and evaluation process should include the following activities:


*Figure 27. Activities of monitoring and evaluation process.*

## 9.8. Monitoring and Evaluation Tools and Techniques

There are several techniques available, and the selection of the appropriate technique depends on the objectives, the nature of the program, the available resources, and the stakeholders' needs. It is important to select techniques that are appropriate for the evaluation objectives, data availability, and the context of the program being evaluated. Often, a combination of different techniques is applied to gather comprehensive and reliable data for evaluation purposes. Measuring impacts in education can be complex, and it is essential to use a combination of **quantitative and qualitative methods**. The monitoring and evaluation tools and techniques may include:


*Figure 28. Tools and techniques of monitoring and evaluation.*

For participatory monitoring and evaluation, the Nominal Group Technique (NGT) may be adopted. It is a structured group discussion method used to generate and prioritise ideas or make decisions. Nominal Group Technique can be applied for:

- **Brainstorming and Idea Generation:** Use NGT to generate a list of ideas or solutions for a specific problem or challenge. This technique helps to foster creativity, encourage participation, and generate a comprehensive list of ideas.
- **Ranking or Prioritising Options:** If there are multiple options or alternatives that need to be evaluated and ranked, NGT can be used. Participants individually rank the options based on specific

criteria, and the rankings are then compiled and discussed as a group. This technique allows for a systematic and structured approach to prioritising options.

- **Decision Making:** NGT can be used to make group decisions. Participants individually generate their preferred options or solutions, and then each option is discussed and evaluated by the group.
- **Problem Solving:** NGT can be used to systematically identify and analyse a problem, gather relevant information, and develop potential solutions. The group can then prioritise the ideas and develop an action plan to address the problem.
- **Needs Assessment:** NGT can be utilised to gather input from stakeholders or participants regarding their needs, preferences, or priorities. This technique can provide valuable insights for program or project planning.

As part of the monitoring and evaluation process, self-evaluation should be also included. It refers to:

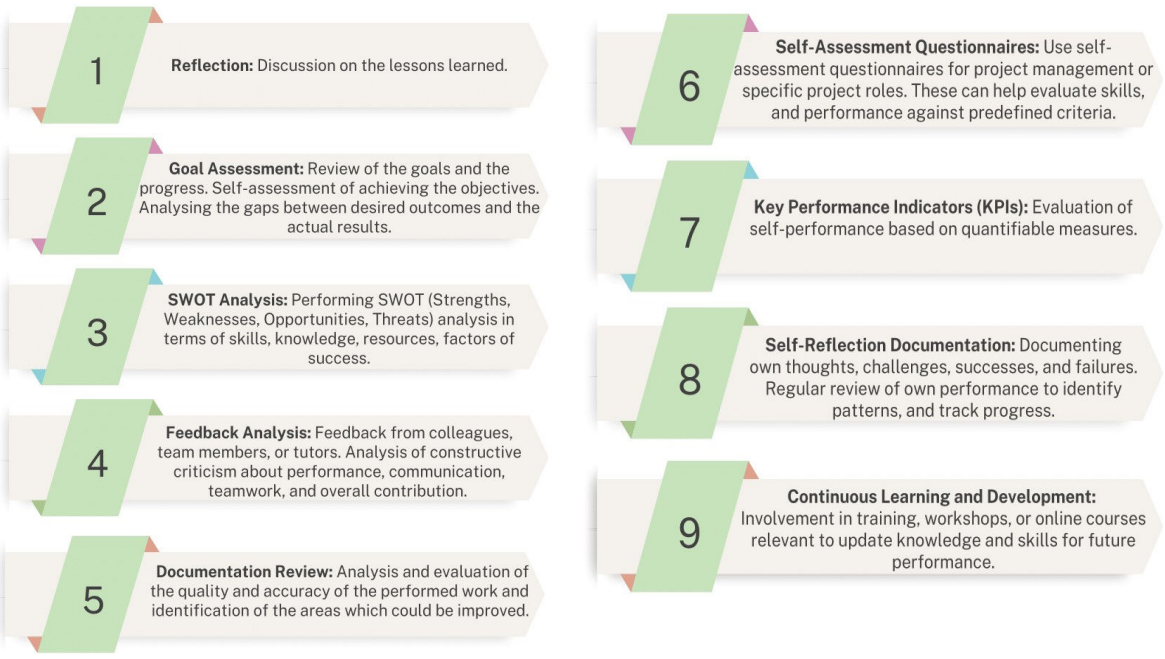



*Figure 29. The steps of the monitoring and evaluation process with tools.*

## References


Campilan, D. (2000). Participatory Evaluation of Participatory Research. Forum on Evaluation of International Cooperation Projects: Centering on Development of Human Resources in the Field of Agriculture. Nagoya, Japan, International Potato Center.

Erasmus+ Impact Tool: https://www.erasmusplus.nl/en/impacttool-mobility

Guijt, I., & Gaventa, J. (1998). Participatory Monitoring & Evaluation: Learning From Change. IDS Policy Briefing. Available from: https://www.ids.ac.uk/download.php?file=files/dmfile/PB12.pdf

Kusek, J. Z., & Rist, R. C. (2004). Ten steps to a results-based monitoring and evaluation system: a handbook for development practitioners. World Bank Publications.

Margoluis, R., Stem, C., Swaminathan, V., Brown, M., Johnson, A., Placci, G., Salafsky, N., & Tilders, I. (2013). Results chains: a tool for conservation action design, management, and evaluation. Ecology and Society, 18(3).

McLaughlin, J. A., & Jordan, G. B. (2004). Using logic models. In J. S. Wholey, H. P. Hatry, & K. E. Newcomer (Eds.), Handbook of practical program evaluation (2nd ed., pp. 7-32). San Francisco: Jossey-Bass

OECD (2002) *Glossary of Key Terms in Evaluating and Results-based Management*. OECD/DAC, Paris. Available from: http://www.oecd.org/development/peer-reviews/2754804.pdf

Picciotto, R. (2020). Towards a 'New Project Management' movement? An international development perspective*. International Journal of Project Management, 38(8*), 474-485.

Romasz, T. E., Kantor, J. H., & Elias, M. J. (2004). Implementation and evaluation of urban school-wide social–emotional learning programs*. Evaluation and Program Planning, 27(1*), 89-103.

UNICEF (2005) *Useful Tools for Engaging Young People in Participatory Evaluation.* UNICEF CEE/CIS Regional Office. Available from: http://issuu.com/learneasy/docs/tools-for-participatory-evaluation

# Glossary

# Glossary

For the dynamic version of the glossary, you can consult the AESOP4Food wiki, that version also includes the references.

**Agribusiness** || The system, dominated by corporate business that serves consumers globally and locally through innovation and management of multiple value chains that deliver valued goods and services derived from sustainable orchestration of food, fibre and natural resources. Please note that in this document we do not use the term in the wider sense.

**Agricultural park** || Agricultural parks are designed for multiple uses that accommodate small farms, public areas and natural habitats. They allow small farmers access to secure land and local markets; they provide fresh food, and are an educational, environmental, and aesthetic amenity for nearby communities. Agricultural parks facilitate the continuity of agriculture as the practice of cultivating the land in urbanised landscapes. The naming of the concept as a 'park' is intended to convey its role for open space preservation. While the term suggests the permanent land conservation and recreational use exemplified by the public park, it also evokes the traditional model of a business park, where multiple tenants operate under a common management structure. Agricultural parks are suitable for metropolitan areas and regions that want activated and permanently protected edges to contain cities; viable agriculture as an integral part of community and regional health; access to fresh food, parks and green spaces (Sustainable Agriculture Education, 2005). Agricultural parks represent a specific component of Urban Agriculture (UA) that plays a key role in two global challenges: urbanisation and food security. UA can provide an important contribution to sustainable, resilient urban development and the creation and maintenance of multifunctional urban landscape.

**Agroecology** || The application of ecological principles to the study, design and management of agroecosystems that are both productive and natural resource conserving, culturally sensitive, socially just and economically viable. Agroecology is the application of ecological science to the study, design, and management of food systems. It also represents a social movement promoting the transition to fair, just, and sovereign food systems as defined in the Nyéleni Declaration of 2015. A practice, agroecology is also defined as “a way of life”, centred around communities, grounded in spiritual and ancestral connections with the land. It is a science and a social movement that has been embraced by the international food sovereignty movement through the Declaration of the International Forum for Agroecology.

**Allotment garden** || An area subdivided into small plots which are rented under a tenancy agreement. The owner can be a municipality or a private owner, and the complex can be targeted at a specific social aim. Tenants may be organised as members of an association.

**Aquaponics** || Aquaponics is a food production system that couples aquaculture (raising aquatic animals such as fish, crayfish, snails or prawns in tanks) with hydroponics (cultivating plants in water) whereby the nutrient-rich aquaculture water is fed to hydroponically grown plants.

**Biodynamic agriculture** || Biodynamic agriculture is a form of alternative agriculture based on phenomenological and esoteric concepts initially developed in 1924 by Rudolf Steiner (1861–1925). It was the first of the organic farming movements. It treats soil fertility, plant growth, and livestock care as ecologically interrelated factors, integrating this with spiritual and mystical perspectives.

**CAP** || Common Agriculture Policy of the EU in 2023 focusing on ten objectives: to ensure a fair income for farmers; to increase competitiveness; to improve the position of farmers in the food chain; climate change action; environmental care; to preserve landscapes and biodiversity; to support generational renewal; vibrant rural areas; to protect food and health quality; and fostering knowledge and innovation.

**City Region Food System (CFRS**) || A system that provides better connections among cities and towns and between them and their rural surroundings for the activities and relationships in the food cycle: growing, producing, processing, distributing, marketing, retailing, storing, preparing, consuming and disposing. An ideal CRFS fosters four interconnected elements throughout the food chain: food security and nutrition; livelihoods and economic development; sustainable natural resources management; social inclusion and equity.

**Community garden** || Community gardening is the cultivation of edible and ornamental plants commonly, although not exclusively, by groups of non-professional gardeners in urban or peri-urban areas In Europe a garden, mainly organised in a bottom-up process, focusing on growing vegetables, herbs and flowers, and composting, while building social networks, building meeting places and establishing a sense of community. Educational and cultural activities are an essential part of their programme. In other countries, for instance in the US is also has the meaning of allotment gardens.

**Community supported agriculture (CSA)** || A partnership between farmers and consumers in which the responsibilities, risks and rewards of farming are shared. CSA helps to address increasing concerns about the lack of transparency, sustainability and resilience of our food system. In this system, the consumers commit to share the cost of running the farm, by committing to purchase one or half share, which will give access to a weekly amount of produce (to be collected directly from the farm). The produce will be seasonal, and vary in quality and quantity. It is one of the most radical ways that we can re-take control and ownership of our food system. The main principle of CSA is the community supports the farmer through a direct connection. There are no 'middlemen,' what is produced on the farm goes directly to the consumer. (https://communitysupportedagriculture.org.uk/what-is-a-csa)

**Ecological farm** || Ecological farming ensures healthy farming and healthy food for today and tomorrow, by protecting soil, water and climate. It promotes biodiversity and does not contaminate the environment with chemical inputs or genetically engineered plant varieties. Ecological farming encompasses a wide range of crop and livestock management systems that seek to: (1) Increase yields and incomes (2) Maximize the sustainable use of local natural resources and (3) Minimize the need for external inputs.

**Edible forest** || See: food forest

**Educational farm** || A farm that offers a teaching tool, addressing the production, processing, and consumption of foods and their environmental impact, with a high potential for raising public awareness and spreading environmentally and climate-resilient growing ideas and practices.

**Effectiveness** || The extent to which the development intervention's objectives were achieved, or are expected to be achieved, considering their relative importance.

**Efficiency** || A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.

**ELC** || Council of Europe landscape convention, 2000. (www.coe.int/en/web/landscape)

**Evaluation** || The systematic and objective assessment of an on-going or completed project, programme or policy, its design, implementation and results. The aim is to determine the relevance and fulfilment of objectives, development efficiency, effectiveness, impact and sustainability. An evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision–making process of both recipients and donors.

**Ex-ante evaluation** || An evaluation that is performed before implementation of a development intervention

**Ex-post evaluation** || Evaluation of a development intervention after it has been completed. It may be undertaken directly after or long after completion. The intention is to identify the factors of success or failure, to assess the sustainability of results and impacts, and to draw conclusions that may inform other interventions

**F2F** || Farm to Fork Strategy of the EU which aims to accelerate the transition to a sustainable food system that should: (1) have a neutral or positive environmental impact, (2) help to mitigate climate change and adapt to its

impacts, (3) reverse the loss of biodiversity, (4) ensure food security, nutrition and public health, making sure that everyone has access to sufficient, safe, nutritious, sustainable food, and (5) preserve affordability of food while generating fairer economic returns, fostering competitiveness of the EU supply sector and promoting fair trade.

**Food democracy** || The process in which actors regain democratic control over the food system - control of seeds, biodiversity, land and territories, waters, knowledge, culture, and the commons, for its sustainable transformation. This was defined in the Nyeleni Declaration in 2015.

**Food deserts** || Geographic areas in which residents' access to affordable, healthy food options (especially fresh fruits and vegetables) is restricted or non-existent due to the absence of grocery stores within convenient travelling distance.

**Food forest** || A permaculture-designed forest that imitates natural ecosystems by combining trees, crops and (sometimes) livestock. Where a monoculture uses only one layer for food production, a food forest is a polyculture with many layers. The top layer is the canopy or tall tree layer with trees around nine meters high, mostly nut and fruit trees or nitrogen-fixing trees. The second layer is the low tree layer, with trees between three and five meters in height, mostly fruit trees. Layer three contains shrubs, between the small trees. These are mainly berries, fruit, nut and currant shrubs, but can also be medicinal and flowering shrubs. In the herbaceous layer underneath, one finds perennial plants without woody stems, such as medicinal herbs and bee-forage plants. The fifth layer is the rhizosphere, consisting of root crops like potatoes or carrots.

**Food hub** || A food hub is a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to satisfy wholesale, retail, and institutional demand. It presents an opportunity for communities to make healthy and local food sourcing a viable enterprise for producers, distributors, retailers, and other business types (e.g., worker-owned co-ops) and aim to better connect local food producers to distributors and/or consumers.

**Food regime** || The historically determined geopolitical relations and agreements that shape national and international food systems, food trade and food prices.

**Food security** || The oldest definition is: "A situation that exists when all people, always, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life". Based on this definition, four food security dimensions can be identified: food availability, economic and physical access to food, food utilization, and stability over time. The definition has changed over time, because this first definition fails to acknowledge that food should be culturally appropriate and sustainably produced.

**Food system** || Food systems encompass the entire range of activities involved in the production, processing, marketing, consumption and disposal of goods that originate from farming, forestry or fisheries, including the inputs needed and the outputs generated at each of these steps. Food systems also involve the people and institutions that initiate or inhibit change in the systems as well as the sociopolitical, economic and technological environment in which these activities take place.

**Foodscape** || Foodscapes are understood as all those areas that contribute to food production such as arable land and farms, orchards, allotments, and vegetable gardens in combination with the social capital they build.

**Forest garden** || See: food forest

**Impact** || Positive and negative, primary and secondary long-term effect produced by a development intervention, directly or indirectly, intended or unintended.

**Inclusive landscapes** || A landscape can be called 'inclusive' when it provides a communicative space in which different perspectives, values, identities, preferences and conflicts interest of citizens, inhabitants and organizing actors come together.

**Landscape** || The Council of Europe Landscape Convention defines landscape as an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.

**Landscape approach** ||A landscape approach could be defined as a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. Principles are to connect spatial planning and multi-stakeholder objectives, to perform climate-smart practices at a landscape level, to diversity the land use across the landscape, to manage the land use interactions at a landscape scale. Ecosystem services must be in consideration for each step of developing a landscape approach for any context, as well as the impact of human activities from a multi-sectoral perspective.

**Living Lab** || A living lab (LL) is a user-focused, open-innovation environment (ecosystem) that frequently operates within a specific geographical area (such as a neighbourhood, city, region, or campus). It combines simultaneous research and innovation activities through a partnership involving public, private, and community stakeholders over the medium to long term (Compagnucci et al., 2021). Thus, a living lab is a type of an innovation platform (Homann-Kee Tui et al., 2013). Additionally, living labs are dynamic collaborative platforms where co-creation and experimentation occur iteratively, aimed at tackling real-world transition challenges.

**Local food** || Food commodities that are produced and processed within a defined geographic area in which the distribution chain will be short between producer and consumer.

**Monitoring** || A continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds.

**MUFPP** || Milan Urban Food Policy Pact: an international agreement among cities from all over the world, committed "to develop sustainable food systems that are inclusive, resilient, safe and diverse, that provide healthy and affordable food to all people in a human rights-based framework, that minimize waste and conserve biodiversity while adapting to and mitigating impacts of climate change".

**Multi-functional farm** || A farm that offers in addition to food production services for pedagogy, education, recreation and can include besides the productive plots also family gardens, community gardens, sites for recreation and leisure.

**Organic farming** || A mode of farming that includes a sustainable management system that is based on the principles for respect for nature's systems and cycles and the sustainment and enhancement of the state of the soil, the water and the air, of the health of plants and animals, and of the balance between them; the preservation of natural landscape elements, such as natural heritage sites; the responsible use of energy and natural resources, such as water, soil, organic matter and air; the production of a wide variety of high-quality food and other agricultural and aquaculture products that respond to consumers' demand for goods that are produced by the use of processes that do not harm the environment, human health, plant health or animal health and welfare; ensuring the integrity of organic production at all stages of the production, processing and distribution of food and feed; the appropriate design and management of biological processes, based on ecological systems and using natural resources which are internal to the management system, using methods that: use living organisms and mechanical production methods; practice soil-related crop cultivation and land-related livestock production, or practice aquaculture which complies with the principle of the sustainable exploitation of aquatic resources; exclude the use of GMOs, products produced from GMOs, and products produced by GMOs, other than veterinary medicinal products; are based on risk assessment and the use of precautionary measures and preventive measures, where appropriate; the restriction of the use of external inputs; where external inputs are required or the appropriate management practices and methods referred to in point (f) do not exist, the external inputs shall be limited to: inputs from organic production; in the case of plant reproductive material, priority shall be given to varieties selected for their ability to meet the specific needs and objectives of organic agriculture; natural or naturally-derived substances; low solubility mineral fertilisers; the adaptation of the production process, where necessary and within the framework of this Regulation, to take account of the sanitary status, regional differences in the ecological balance, climatic and local conditions, stages of development and specific husbandry practices; the exclusion from the whole organic

food chain of animal cloning, of rearing artificially induced polyploid animals and of ionising radiation; the observance of a high level of animal welfare respecting species-specific needs.

**Paludi culture** || Wet agriculture and forestry on peatlands, which combines the reduction of greenhouse gas emissions from drained peatlands through rewetting with continued land use and biomass production under wet conditions. The concept was developed at Greifswald University.

**Permaculture (farm)** || An approach to land management and settlement design that adopts arrangements observed in flourishing natural ecosystems. It includes a set of design principles derived using whole systems thinking. It applies these principles in fields such as regenerative agriculture, town planning, rewilding, and community resilience. Permaculture originally came from "permanent agriculture" but was later adjusted to mean "permanent culture", incorporating social aspects. The term was coined in 1978 by Bill Mollison and David Holmgren, who formulated the concept in opposition to modern industrialized methods instead adopting a more traditional or "natural" approach to agriculture.

**Pick your own farms** || A farm where one can pick fruit or harvest vegetables oneself and then paying for the amount you have picked.

**Regional branding** || A way to promote rural regions and support development of socially, culturally and environmentally oriented economies in areas that are interesting due to their natural and cultural heritage.

**Relevance** || The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies.

**Short food chains** || The food supply chain has four components namely food production, food storage and distribution, food processing and packaging and retails and markets The chain can consist of multiple actors in each of the components.

**Sustainability** || The continuation of benefits from a development intervention after major development assistance has been completed. The probability of continued long-term benefits. The resilience to risk of the net benefit flows over time.

**Sustainable agriculture** || Is a very broad definition of farming in sustainable ways meeting society's present food and textile needs, without compromising the ability for current or future generations to meet their needs. It can be based on an understanding of ecosystem services. There are many methods to increase the sustainability of agriculture. When developing agriculture within sustainable food systems, it is important to develop flexible business process and farming practices.

**Therapeutic gardens and farms** || Sites meant to provide healing effects of gardening and agriculture for the treatment of mental disorders, autism, Alzheimer's disease, cerebral paralysis, addition to drugs, alcohol, etcetera.

**Urban agriculture** || Spans all actors, communities, activities, places and economies that focus on biological production in a spatial context, which – according to local standards, is categorized as 'urban'. UA takes place in intra- and peri-urban areas and one of its key characteristics is that is more deeply integrated in the urban system compared to other agriculture.The growing of plants and the raising of animals within and around cities for both commercial and non-commercial purposes. The most striking feature of urban agriculture, which distinguishes it from rural agriculture, is that it is integrated into the urban economic and ecological system: urban agriculture is embedded in -and interacts with- the urban ecosystem. Such linkages include the use of urban residents as labourers, use of typical urban resources (like organic waste as compost and urban wastewater for irrigation), direct links with urban consumers, direct impacts on urban ecology (positive and negative), being part of the urban food system, competing for land with other urban functions, being influenced by urban policies and plans, etcetera.

**Urban farm** || Multifunctional farms, operating in the urban context, providing and processing food, and meeting additional demands for recreation and tourism, also providing services and goods such as landscape

management, environmental measures, land rental and direct marketing. There are several types, some focusing more social and educational services, others focusing on food and circularity (material flows).

**Urban gardening** || The practice of growing vegetables, fruit and plants in urban areas, such as schools, backyards or apartment balconies.

**Urban pastoralism** || As a practice: an extensive system of animal husbandry that involves transhumance and/or seasonal grazing of urban and peri-urban, mostly 'unenclosed' areas dominated by semi-natural vegetation. A specific phenomenon of the beginning of the 21st century that evokes pastoral activity in urban interstices (predestined to other functions) in a planned or spontaneous way depending on the context.

# ANNEXES

# ANNEX A

## Phases of living labs

AESOP4FOOD

# Annex A. Phases of Living Labs

Phases of the living labs - elaboration based on AESOP4Food living labs experience and literature review (Bouwma et al., 2022; Homann-Kee Tui et al., 2013; Schut et al., 2017).

| I. LL ESTABLISHING | | |
|---|---|---|
| **steps to do** | **questions to answer** | **annotations** |
| Initiate the LL | Why set up the LL?<br>What is the general theme of the LL?<br>Who might be interested to participate in the LL?<br>Is already a similar LL locally you could contribute to? | Recognise the various actors interested in the topic, gather them, and initiate the first few meetings. |
| Decide on focus | What is the particular focus of the LL?<br>What is the field of play?<br>Where is the LL located?<br>Which areas does it concern?<br>What is the goal of the LL?<br>What might be the problems and opportunities? | Visit the field.<br>Collect data from diverse sources, encompassing research discoveries, prevailing methods, community insights, and policy directives. |
| Find partners and build a team | Who should participate in the living lab and what approaches can be utilised to encourage their active engagement?<br>How can a group of representatives embodying a 'system' be assembled to prioritize solutions that hold considerable relevance for all parties?<br>Among the stakeholders, who possess genuine interest in tackling a challenge, which ones might experience direct or indirect impacts, and which ones wield the authority and capability to endorse solutions?<br>Which stakeholders can contribute to enhancing the environment to facilitate the adoption of solutions or innovations by a broad populace?<br>Which stakeholders can provide resources without posing a threat of taking control over the initiative?<br>Which stakeholders hold significant influence and require updates, without a necessity for continuous involvement?<br>Are the pertinent stakeholders enlisted to ensure a comprehensive inclusion of diverse viewpoints and expertise? | Uniting a range of individuals and groups holds promise for fostering innovation, as it creates chances for experiential learning and collaborative initiatives. Nevertheless, the composition of different actors can also give rise to friction and disagreements, all of which may impede collective endeavours. Collaboration is crucial, yet it demands time investments in horizontal organization. Therefore, choose your partners carefully. |
| Meet and integrate the LL participants | What is each other's point of view on the LL focus and goal?<br>What role each partner could play in the living lab?<br>What are the different partners' expectations for the timeline for the emergence of outcomes from the living labs? | Find time to getting to know each other.<br>Identify the directions of sustainability and find a common ground on a topic.<br>Create joint understanding of the problem and pinpoint potential starting avenues.<br>Decide on internal communication.<br>Develop strategies for internal processes and external communication. |
| Recognise the resources at hand | What resources does the LL have at the very beginning? | The resources can vary, such as: funds, time, network contacts, knowledge.<br>Each LL participant brings some resources. |
| Design the LL | What are the objectives of the LL?<br>What are the research questions or/and problems to be solved? | Articulate a theory of change. |

| I. LL ESTABLISHING | | |
|---|---|---|
| **steps to do** | **questions to answer** | **annotations** |
| | What are fields of application?<br>At what level or levels can a challenge be addressed most efficiently?<br>What methods are appropriate for the tasks given?<br>What activities do you plan?<br>When are you going to implement these activities? | Decide on the LL approach: research-oriented learning, project-oriented learning or combine both.<br>Develop research questions with the support of academic partners.<br>Assess capacity of the LL.<br>Anticipate: input, output, outcome, impact.<br>Estimate potential risks.<br>Elaborate the LL plan and schedule.<br>Decide on the monitoring (before, during design). |

| II. LL OPERATING | | |
|---|---|---|
| **steps to do** | **questions to answer** | **annotations** |
| Develop capacity | What is missing from the LL and how can these gaps be filled?<br>Whether the participants need some training or courses?<br>Do you have access to all the needed resources? | Fill the gaps in terms of resources.<br>Initiate collaborative learning on a specific subject.<br>Organise training or courses.<br>Set up a collective library.<br>Organise consultations with experts. |
| Verify and gradually implement the LL plan and schedule | What appeared to be an obstacle during implementation?<br>How to bypass the backlash to overcome these obstacles?<br>What has proven to be a success that can be repeated? | Start with pilot activities and assess their results.<br>Organise meetings of small and targeted working groups if needed.<br>Test and refine solutions.<br>Implement and scale up, if succeeded.<br>Evaluate the LL (during operations and consider next steps.<br>Validate entry points, plan and schedule. |
| Disseminate the LL | Who should find out about the LL?<br>What means can be used to spread the information about the LL?<br>How to present the results of the LL actions? | Undertake outreach activities such as:<br>organise open side events to disseminate the LL; publish press releases or/and run a website; publish the results. |
| Enhance the collaborative capacities | Whether there is a need for engaging with more stakeholders? | The makeup of a living lab frequently evolves over its duration. Individuals might depart from the living lab, while new participants might also become involved.<br>Gain support and connections. |

| III. LL EVALUATING | | |
|---|---|---|
| **steps to do** | **questions to answer** | **annotations** |
| Evaluate design and setup of LL | Do participants have a common understanding of the transition challenges that the LL is dealing with?<br>Which goals does the LL have for overcoming these transition challenges?<br>Has the LL gained access to resources (finance, networks, knowledge, time, etc.)?<br>What resources were allocated to the LL?<br>How capable is the LL in gathering and ensuring resources for its operations?<br>To what degree is the LL effective in arranging and guiding its fundamental processes?<br>Whether the stakeholders pertinent to the transition challenge participate in the LL? | Use developed LL evaluation frameworks, e.g. Bouwma et al., 2022.<br>The evaluation is feedback to LL participants so they can identify further changes to be made.<br>Recognize suitable and achievable ways to address relevant transition obstacles, emphasising the most important aspects for stakeholders. |
| Evaluate LL interactions | Is the LL adequately linked to other endeavours that tackle transition challenges?<br>How is the LL integrated into broader networks?<br>How did the LL leverage its network to advance its undertakings?<br>Is the LL suitably engaged with stakeholders who are relevant for the aspirations of the LL?<br>What are the relationships among participants and stakeholders?<br>To what extent are decisions made jointly? | Connect to initiatives that aim to make contributions to identical transition challenges.<br>Balance diversity of stakeholders.<br>Foster a sense of ownership for the LL among participants and essential stakeholders.<br>Assess support in the network and organizational aspects and learning.<br>LL holds importance through its contribution to fostering social interactions and social resources, which support larger movements towards sustainability. |
| Evaluate LL actions | Have the planned actions been implemented?<br>To what degree do actions correspond with the desired goals?<br>How do important stakeholders view the suggested actions as achievable and valuable? | Assessment is a continuous confrontation of the general, conceptual work with the practice of the living lab.<br>Anticipate (long-term) implications of the actions. |
| Evaluate LL dissemination | Is the LL well known and acknowledged?<br>To what extent are relevant stakeholders informed about the intentions of the LL? | Effectively engage with intended audiences through communication.<br>Convey the role of the LL in a trustworthy way and command esteem. |
| Evaluate LL results and impact | To what extent is the LL able to implement activities that lead to results?<br>What services and products has LL provided and created?<br>Are the products and services produced and offered by the LL relevant and useful?<br>Did the LL succeed in augmenting the resources?<br>Is the LL effective in generating tangible outcomes that align with its goals?<br>To what degree is the LL impacting and motivating alterations in the behaviours among its participants?<br>Are the actions of the LL inspiring sustainable transition?<br>What are the social, economic and environmental impacts of the LL?<br>Is upscaling possible? | Implement activities that lead to sustainable transition.<br>Engage and inspire the local community.<br>Assess the real impact of undertaken activities (Bronson et al. 2021).<br>The participants of the LL should decide how they want to monitor and assess the related performance.<br>Modify and revise plans according to the monitoring of outcomes and impacts. |

# ANNEX B

## Modules for sustainable food planning

AESOP4FOOD

# Annex B Modules for Sustainable Food Planning

**Introduction to the modules**

For each of the phases of the AESOP4Food course a module description is made, that can be used in combination with the description of the phases in Chapter 3. The modules can be used as building block for integration into existing courses or as a complete elective course. For each module a card is developed. The type of information provided in the card is shown in the scheme below.

All modules are both suitable for bachelor and master level. Teachers and learners must consider that there are differences in depth of understanding, knowledge and skills, which also must be included in the assessment of learners. Table B.4 provides insight in the different levels.

| **Table B 1 .Structure of the Modules** | | |
|---|---|---|
| ***Aspect*** | | ***Explanation*** |
| | **Module title** | The title that reflects the main contents of the module. For AESOP4Food these are the names of the phases. |
| **1** | **Competence(s) developed** | A short overview of the subject-specific competences and maybe the related transversal competences, such as: Systems thinking competency, Anticipatory competency, Normative competency, Strategic competency, Collaboration competency, Critical thinking competency, Self-awareness competency, and Integrated problem-solving competency. Added can be some generic competences if applicable. (see Table 2 and 3) |
| **2** | **ECTS credits and learning activities** | The amount of ECTS that are needed to obtain the competences of this module. It can be a range but also a differentiation depending on the assignment or other module (for instance a studio) that is linked to it.)<br>The core of the module mainly consists of lectures, an (interactive) exercise, study of reference, and working on an assignment. For each mode there is an indication of the hours that are allocated. |
| **3** | **Annotation** | Description of the subject of the module |
| **4** | **Aim of the module** | Description of the aim |
| **5** | **Learning outcomes** | A description of the learning outcomes of the module in the form of the acquired competence. Statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of a process of learning.<br>Learning outcomes are distinct from the aims of learning, because they concern the achievements of the learner rather than the overall intentions of the teacher. Learning outcomes must be accompanied by appropriate assessment criteria which can be used to judge that the expected learning outcomes have been achieved. Learning outcomes, together with assessment criteria, specify the minimum requirements for the award of credits, while marking is based on attainment above or below the minimum requirements for the award of credit. |
| **6** | **Actions by the learner** | A list of activities for producing the result mainly focusing on the steps that should be undertaken and the way they should be carried out. |
| **7** | **Criteria for actions** | Criteria for the process of how the learner should work on the results. These may be used for assessing the process. |
| **8** | **Lectures** | An overview of the subjects and content of the lectures. The location of the lectures can be found under the heading resources. |
| **9** | **Exercises** | (examples) of exercise that can be included in this module |
| **10** | **Assignment(s)** | Example of the assignments to be carried out. There are various types of assignments depending on the mode of participation of the learner. |
| **11** | **Results** | The results of completing the tasks that are related to the competence |
| **12** | **Criteria for results** | A set of criteria to assess the quality of the result. |
| **13** | **Assessment mode** | An indication of the way to assess the competence |
| **14** | **References** | Main literature and additional references |
| **15** | **Resources** | Recordings of lectures, presentation slides, websites |

In each module description the main competences are defined as well as the transversal competences for sustainable development.

The transversal competences are described in the UNESCO report on Education for Sustainable Development Goals: Learning Objectives (2017). An overview is presented in Table B.2.

| **Table B.2 Transversal competences for sustainable food planning. The abilities to:** | |
|---|---|
| **Systems thinking competency** | Recognize and understand relationships; to analyse complex systems; to think of how systems are embedded within different domains and different scales; and to deal with uncertainty. |
| **Anticipatory competency** | Understand and evaluate multiple futures – possible, probable, and desirable; to create one's own visions for the future; to apply the precautionary principle; to assess the consequences of actions; and to deal with risks and changes. |
| **Normative competency** | Understand and reflect on the norms and values that underlie one's actions; and to negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions. |
| **Strategic competency** | Collectively develop and implement innovative actions that further sustainability at the local level and further afield. |
| **Collaboration competency** | Learn from others; to understand and respect the needs, perspectives, and actions of others (empathy); to understand, relate to and be sensitive to others (empathic leadership); to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving. |
| **Critical thinking competency** | Question norms, practices, and opinions; to reflect on own one's values, perceptions, and actions; and to take a position in the sustainability discourse. |
| **Self-awareness competency** | Reflect on one's own role in the local community and (global) society; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires. |
| **Integrated problem-solving competency** | Apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive, and equitable solution options that promote sustainable development, integrating the abovementioned competences. |
| *Source: UNESCO, 2017. Education for Sustainable Development Goals: Learning Objectives* | |

Depending on the content of each module one or more of the transversal competences are applicable and need to be part of the assessment. The relation between the transversal competences en the modules is presented in Table B.3.

| **Table B.3. The relation between the transversal competences and the modules** | | | | | |
|---|---|---|---|---|---|
| | **1. Exploring the field of play** | **2. Analysing your local foodscape** | **3. Collaborative goals & vision** | **4. Strategy & interventions** | **5.Evaluation & monitoring** |
| **Systems thinking competency** | | **X** | | **X** | |
| **Anticipatory competency** | | | **X** | **X** | |
| **Normative competency** | **X** | | | | **X** |
| **Strategic competency** | | | **X** | **X** | |
| **Collaboration competency** | | | **X** | | |
| **Critical thinking competency** | **X** | | | | **X** |
| **Self-awareness competency** | **X** | | | | **X** |
| **Integrated problem-solving competency** | | | **X** | **X** | |

The modules are developed according to the principle of bridging the Zone of Proximal Development, so each learner can build upon his/her existing competences and develop these making use of the learning process and resources. The learning goals and the related assessment can be interpreted on the level of advanced bachelor or master level. The levels are differentiated in role, products, actions, context, complexity, support, orientation towards the profession, and relation to the subject-specific competences (Table B.4).

**Table B.4. Description of the levels for EQF level 6 and 7**

| Level -> Aspect | Advanced 1st Cycle, bachelor | 2nd Cycle Master |
|---|---|---|
| **EQF level** | **6** | **7** |
| ***Example of role*** | Self-managing junior practitioner; team member that can co-ordinate a project. | Self-managing practitioner; team member that can co-ordinate a project and a team |
| ***Type of actions*** | Mastering the whole range of professional activities | Mastering the whole range of professional activities including strategic and co-ordination |
| ***Context*** | The learner explores and defines the context him-/herself | The learner explores and defines the context him-/herself and can support others in this |
| ***Complexity*** | Learners define assignments themselves based on a problem field or a general description by a commissioner or group of stakeholders. | Learners define problems fields and assignments themselves on and advise commissioners or group of stakeholders in defining these. |
| ***Support*** | Learners study and work as professionals seeking feedback from peers and experts. | Learners study and work as professionals seeking feedback from peers and experts. |
| ***Orientation towards the course and the profession*** | Learners have an excellent overview of the professional field and can define their position in it. They contribute to developing the methods and approaches of the discipline. | Learners have an excellent overview of the professional field and can define their position in it. They innovate methods and approaches of the discipline. |
| ***Relation to subject-specific competences*** | The module relates to all planning competences. | The module relates to all planning competences. |

| Module 1. Exploring the field of play | | | |
|---|---|---|---|
| ***Aspect*** | | | |
| **1** | **Competence(s) developed** | **Subject-specific competences**<br>Critical reflection on personal values, competences, and especially the role of the planner in a pluralistic society (expert vs facilitator) in developing a more resilient food system<br>General understanding of concepts such as City-Region food systems, theory of change, transition thinking and prototyping<br><br>**Transversal competences**<br>Critical thinking competency: Question norms, practices, and opinions; to reflect on own one's values, perceptions, and actions; and to take a position in the sustainability discourse.<br>Self-awareness competency: Reflect on one's own role in the local community and (global) society; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.<br>Normative competency: Understand and reflect on the norms and values that underlie one's actions; and to negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions. | |
| **2** | **ECTS credits (without a larger studio assignment)** | **2 to 4 ECTS**<br>Preparing for and participating in six lectures<br>Compulsory reading<br>Background reading<br>Assignment type 2<br>Presentation (own & with colleagues): including preparation<br>Exercises<br>TOTAL: 2 ECTS<br><br>This module can be extended in two ways:<br>- Learners organising a seminar, for which they choose readings on current challenges of the food system, present a synopsis of what they have read and organise a structured discussion with a report (16 hours)<br>- Choose a study or project area and analyse what the main challenges in this area are, what the role of the learners as planners could be, present and discuss the outcomes (16 hours)<br>This module can also be integrated as a theoretical part of a design and planning studio or project, or a background knowledge for a living lab process. | 6 hours<br>8 hours<br>12 hours<br>20 hours<br>4 hours<br>4 hours<br>54 hrs |
| **3** | **Annotation** | The lectures present an overview of current challenges faced in sustainable food planning as these are made explicit by IPES-Food, NOVIB, Oxfam and the FAO. Firstly IPES-Food focused on the policy aspect in the report "Towards a Common Food Policy for the European Union" (IPES-Food, 2019). One of the primary challenges identified based on this report is the necessity for an integrated vision that seeks to address the interconnectedness of various food-related issues, considering their impacts on social, environmental, and economic aspects. The introduction aims to familiarize learners with the diverse range of options within food systems and their significant impacts. A key focus is on addressing access and resource security issues. Through discussions, learners explore the complex nature of food systems problems and gain an understanding of the diverse challenges that arise from specific regional contexts. | |
| **4** | **Aim of the module** | This module focuses on the main challenges of the current food system, discusses theoretical frameworks and approaches and methods to address these challenges. Because participatory action research (PAR) is essential for transformative change, the PAR method in combination with the organisation of living labs is introduced. We expect that in this phase the learners will become | |

| Module 1. Exploring the field of play | | |
|---|---|---|
| ***Aspect*** | | |
| | | better aware of their values regarding sustainable food planning and can define their own position in the planning process.<br>The learning objectives encompass developing a broader understanding of sustainable food planning challenges, raising awareness of social, environmental, economic, and spatial dimensions in food systems, encouraging self-reflection on personal values and competencies, and fostering a general understanding of key concepts such as City-Region food systems, agroecological urbanism, food justice and democracy and transitions thinking. |
| **5** | **Learning outcomes** | The learner:<br>- Understands the concept of food systems in their cultural, local and regional setting.<br>- Can explain the main concepts related to participatory learning and research and the role of living labs.<br>- Can explain the main concepts related to sustainable food planning.<br>- Is aware of contemporary challenges to sustainable food systems in the context of spatial planning.<br>- Develops an understanding of the multiple dimensions of food systems: social, environmental, economic and spatial.<br>- Can define her/his own position and values regarding sustainable food planning. |
| **6** | **Actions by the learner** | - Reading the preparatory, compulsory and background materials<br>- Reflecting on the content of the material<br>- Participating in the lectures, the interactive sessions<br>- Carrying out the exercise<br>- Reflecting on their own position in addressing the challenges as a planner.<br>- Completing the assignment and presenting it to colleagues and tutors. |
| **7** | **Criteria for actions** | - Working in a systematic, verifiable and transparent way<br>- Having independent judgment, critical analysis of references<br>- Actively taking part in discussions<br>- Asking for feedback<br>- Making presentations of results on an adequate level of abstraction |
| **8** | **Lectures** | The lectures present the following subjects:<br>- The historical context and the field of play with the main sustainable food challenges.<br>- The main concepts for sustainable food planning: food democracy, food justice, food security, etcetera.<br>- Challenges and background in governance<br>- Agroecological Urbanism and the difference with traditional planning approaches.<br>- Foundational visions and contemporary concepts of productive urban landscapes.<br>- Theoretical frameworks of Participatory Action Research |
| **9** | **Exercises** | Exercise 1: Getting to know each other: present yourself, your field of study / work, your ambition for sustainable food planning.<br>Exercise 2: Landscape on your plate. Selecting a dinner plate, analyse where the ingredients come from and what kind of landscapes these result in.<br>Exercise 3 Presenting an exemplary person or persona who contributed to a sustainable transition of the food system. |
| **10** | **Assignment** | **Assignment 1: Field of Play**<br>The scope of the food system and the concepts and methods you use<br>Answer the following questions:<br>- *Who* are *in your team?*<br>- What is your given (provided by your university) or self-selected task (a local case study or living lab relating to a community). |

| Module 1. Exploring the field of play | | |
|---|---|---|
| ***Aspect*** | | |
| | | - What is the main theme you address for this task: access to land, circular economy/metabolism, food deserts, food justice, access to land,<br>- circular economy/metabolism, agroecological land use development, community agriculture<br>- What skills and methods do you already have before the course started to address the assignment (methods of your discipline, personal skills)?<br>- Which methods and concepts that were presented in the first three sessions are suitable for addressing your task?<br>Reflection: What has changed in your perception by the lectures and exercises on the development of food systems and current challenges? |
| **11** | **Results** | Presentation of the assignment (10 minutes presenting + 10 minutes answering questions/discussion) to your colleagues and tutors using with the following slides(1) main theme with a short explanation, (2) your task, (3) skills an methods that your team will apply such as methods from your discipline, personal skills and experience, concepts/methods that were presented in the lectures (4) reflection on what has changed in your perception of the food system by the first lectures. |
| **12** | **Criteria for results** | - The presentation is well structured and results in a clear vision on subject<br>- Result can be integrated in further analysis<br>- Conclusions are based on the analysis of the reading material<br>- There is a correct interpretation of the concepts of sustainable food planning.<br>-The presentation is clear, transparent and tailored to the audience |
| **13** | **Assessment mode** | Feedback on the content of the presentation and the way of presenting<br>The quality of answers to the questions of the tutor and colleagues. |
| **14** | **References (see also** https://wiki.landscape-portal.org/index.php/Reading_list | **Preparatory reading**<br>Short presentation on Participatory Action Learning and Action Research (PALAR) & Longer presentation on PALAR with criteria and activities.<br>Triboi, R. 2022 AESOP4FOOD presentation on Living Labs.<br>**Compulsory reading**<br>FAO Report: "Integrating food into urban planning" page 18 - 32.<br>Tornaghi, Chiara. (2016). Urban Agriculture in the Food-Disabling City: (Re)defining Urban Food Justice, Reimagining a Politics of Empowerment. Antipode. 49. 10.1111/anti.12291.<br>Deh-Tor, C.M. . 2017 From Agriculture in the City to an Agroecological Urbanism: The transformative pathway of urban (political) agroecology, in: Urban Agriculture Magazine no. 33 – Urban Agroecology<br>Nasr, J.and M. Potteiger. Spaces, Systems, and Infrastructures: From Founding Visions to Emerging Approaches for the Productive Urban Landscape<br>**Background reading**<br>Deh-Tor, C.M. 2021. Food as an urban question, and the foundations of a reproductive, agroecological, urbanism, Chapter 1 in: Tornaghi, Ch. and Dehaene, M. 2021. Resourcing an Agroecological Urbanism: Political, Transformational and Territorial Dimensions.<br>FAO. 2019. FAO framework for the Urban Food Agenda. Rome. https://doi.org/10.4060/ca3151en<br>IDS & IPES-Food, 2022. Agroecology, regenerative agriculture, and nature-based solutions: Competing framings of food system sustainability in global policy and funding spaces.<br>FAO publication 2021 |

| Module 1. Exploring the field of play | | |
|---|---|---|
| ***Aspect*** | | |
| | | https://openknowledge.fao.org/server/api/core/bitstreams/d01579b2-e8db-425a-9dcb-666a377669e5/content |
| **15** | **Resources** | *AESOP4Food Lectures on the field of play*<br><br>*https://wiki.landscape-portal.org/index.php/AESOP4Food_seminar_2024#Phase_1_-_exploring_the_field_of_play*<br><br>*https://wiki.landscape-portal.org/index.php/Seminar_schedule_2023#Phase_1_Exploring_the_Field_of_Play*<br><br>*https://wiki.landscape-portal.org/index.php/Seminar_schedule#PHASE_1_Exploring_the_field_of_play*<br><br>**Website with online exposition on history of agriculture and architecture**<br>*Sebastien Marot (Marne-la-Vallée School of Architecture/ EPFL) gave on rear view mirror and scenarios of agriculture and architecture, based on the architectural Triennale in Lisbon 2019 and the exhibition that has been developed from that.* |

| Module 2. Analysing your local foodscape | | | |
|---|---|---|---|
| ***Aspect*** | | | |
| **1** | **Competence(s) developed** | **Subject-specific competences**<br>– Awareness of main contemporary challenges to sustainable food systems, its multiple dimensions (social, environmental, economic and spatial) and setting (cultural, local and regional) in the context of spatial planning<br>– Analysing a part of a food system or a specific food initiative<br>– Mapping and evaluating the power structures and the role of main stakeholders in the food system.<br><br>**Transversal competences**<br>– Systems thinking competency: Recognize and understand relationships; to analyse complex systems; to think of how systems are embedded within different domains and different scales; and to deal with uncertainty. | |
| **2** | **ECTS credits** | ***2-4 ECTS***<br>*Preparing and following six lectures*<br>*Compulsory reading*<br>*Background reading*<br>*Assignment type 2*<br>*Presentation (own & with colleagues): including preparation*<br>*Exercises*<br>*TOTAL: 2 ECTS*<br><br>This module can be extended in two ways:<br>- Learners organising a seminar, for which they choose readings on various ways of analysing and mapping of food systems. For this they can use the overview in the lecture of Katrin Bohn, where she presents the main components of the book on food mapping. Learners present a synopsis of what they have read and organise a structured discussion with a report (20 hours)<br>- Choose a study or project area and compose a food system map and / or a power map of this area, they present to each other and discuss the outcomes (20 hours)<br>This module can also be integrated as a theoretical part of a design and planning studio or project, or a background knowledge for a living lab process. | *6 hours*<br>*16 hours*<br>*12 hours*<br>*20 hours*<br>*4 hours*<br>*2 hours*<br>*60 hrs* |
| **3** | **Annotation** | *Themes: Mapping a food system; Mapping the stakeholders, consumers, and policymakers (power mapping); SWOT analysis*<br><br>Food maps are powerful tools for transformative process. Food maps show patterns, and help to recognise different situations, gaps, and opportunities. By reading, producing and interpreting maps, one can get a better understanding of the foodscape; maps unfold a world of opportunities for envisioning desirable futures. There is a growing number of available geo-referenced data, which is an opportunity for intentionally driven spatial analysis. Maps are a powerful tool, but no more than a tool. They are not a substitute for planning, decision making or intentional and critical thinking. One can be tempted to map the WHOLE food system which is barely assumable or learn about the situation and the opportunities by mapping only a part of the food chain, only a (significant) product. Important guidance for mapping is to (a) narrow down the purpose of mapping. (b) narrow down the "object" to be mapped, and (c) Mapping to identify "the missing links". Learners can use the maps for further analysis, for instance by making a SWOT-analysis. | |

| Module 2. Analysing your local foodscape | | |
|---|---|---|
| ***Aspect*** | | |
| **4** | **Aim of the module** | This modules aims to provide learners insight into the relevance of using various ways of mapping to analyse a food system, since it can be an important part of the sustainable food planning process. Within the urban realm, most maps represent areas by showing the location of buildings, open spaces, infrastructures, building, as well as land uses. And maps can also be conceptual depicting diagrams or power maps.<br>The aim is that learners are aware of various types of maps and mapping, the way to select a suitable way of mapping and apply a chosen type to a study or project area. |
| **5** | **Learning outcomes** | The learner can:<br>– Can map and evaluate a concrete situation of a food system.<br>– Can select the most adequate methods and tools to be applied for analysis and evaluation.<br>– Can identify actors, stakeholders and power structures in a new and unknown context.<br>– Can map a local or a city/region food system.<br>– Can define the most relevant challenges in a collaborative way. |
| **6** | **Actions by the learner** | - Reading the preparatory, compulsory and background materials<br>- Reflecting on the content of the material<br>- Participating in the lectures, the interactive sessions<br>- Carrying out the exercise to compose a power map for a given situation<br>- Reflecting on their own position in addressing the challenges as a planner.<br>- Completing the assignment and presenting it to colleagues and tutors. |
| **7** | **Criteria for actions** | - Working in a systematic, verifiable and transparent way<br>- Having independent judgment, critical analysis of references<br>- Actively taking part in discussions<br>- Asking for feedback<br>- Making presentations of results on an adequate level of abstraction |
| **8** | **Lectures** | – Introduction lecture on food systems mapping<br>– The relevance of mapping for starting transformative actions and an overview of the types of mapping.<br>– Examples of food planning projects and how mapping played a role in them<br>– Mapping the Short Food Supply Chains.<br>– Use of maps for various aspects of the food system and for different goals: analysing, presenting the needs, and the assets or linking up to policies and be used as a basis to develop strategies.<br>– Collaborative mapping to help communities to formulate common goals. |
| **9** | **Exercises** | Exercise in power mapping. For a given situation and challenge a group of actors is presented. Learners have the task to define their influence and possible position towards addressing this challenge. They formulate a goal that is placed in the centre of the powermap. Based on the results they compose a simple power map. |
| **10** | **Assignment(s)** | This assignment relates mainly to the spatial and organisational aspects of food systems and its communities. Your task is either given by the teacher at your home university or if you are an independent learner it can relate to your local food system or the living lab you are working with.<br>When building upon available data of the mapping of your food system you can make use of these, on the condition that you clearly refer to the data you use.<br><br>Answer the following questions and use the slides that are prepared:<br>– Which part of the food system you study and why do you have selected this? |

| Module 2. Analysing your local foodscape | | |
|---|---|---|
| ***Aspect*** | | |
| | | – What does the food system look like, with its elements, relations and stakeholders (governors, NGOs consumers, retailers, processors, producers)?<br>– What is the role and position of the stakeholders in terms of power and impact?<br>– What are the main challenges in the food system to contribute to the common good?<br><br>Reflection: How did your work process go? Were the methods and tools you used adequate? |
| **11** | **Results** | A map with the location and a geographical representation of your food system.<br>A PowerPoint presentation of some five slides for instance (1) Our part of the food system and reasons for selecting this, (2) Food system with elements, relations and actors/stakeholders, (3) Role and position of the actors/stakeholders in terms of power and impact, (4) Main challenges in the food system in relation to the common good, (5) Reflection on work process, methods and tools , with contributions by each individual team member.<br>A text explaining the steps you undertook, how you worked together and what were the contributions by each team member.<br>Present your assignment in 15 minutes using the PowerPoint format to your colleagues and tutors. |
| **12** | **Criteria for results** | - The purpose of the map is well explained, the map is clearly to understand, has a legend explaining the used symbols.<br>- The map has the right level of detailing considering the main purpose.<br>- The main challenges follow in a logical way from the result of mapping.<br>- The process and the contribution by individual team members is well explained.<br>– The presentation is clear, transparent and tailored to the audience |
| **13** | **Assessment mode** | Feedback on the content of the presentation and the way of presenting<br>The quality of answers to the questions of the tutor and colleagues. |
| **14** | **References** | FAO. (2018) City Region Food System Toolkit, Assessing and planning sustainable city region food systems, publication of FAO, RUAF and Wilfrid Laurier University. http://www.fao.org/in-action/food-for-cities-programme/toolkit/introduction/en/ - please read the introduction (page 1-3) and go over the questions and schemes of page 133 until 144 (please note these are the pages in the pdf 138-149).<br><br>Jensen, P. D., & Orfila, C. (2021). Mapping the production-consumption gap of an urban food system: An empirical case study of food security and resilience. Food Security, 13, 551- 570.<br><br>Mette Vaarst, Arthur Getz Escudero, M. Jahi Chappell, Catherine Brinkley, Ravic Nijbroek, Nilson A.M. Arraes, Lise Andreasen, Andreas Gattinger, Gustavo Fonseca De Almeida, Deborah Bossio & Niels Halberg (2018) Exploring the concept of agroecological food systems in a city-region context, Agroecology and Sustainable Food Systems, 42:6, 686-711, DOI: 10.1080/21683565.2017.1365321<br><br>Virginia Polytechnic Institute and State University. (2011) Community-Based Food System Assessment and Planning - Facilitator's Guidebook, publication 3108-9029.- please read the introduction and then continue until page 18.<br><br>Countryside Charity (CPRE – UK) https://www.cpre.org.uk/resources/mapping-local-food-webs-toolkit-2/ - just read the 7 pages that explain the toolkit. |

| Module 2. Analysing your local foodscape | | |
|---|---|---|
| ***Aspect*** | | |
| | | **Background reading**<br>Bohn, K. and M. Tomkins (eds). 2004. Urban Food Mapping. Making Visible the Edible City. Routledge, London.<br><br>Bortoletti, M., and J. Lomax. "Collaborative framework for food systems transformation." A multistakeholder pathway for sustainable food systems. UN environment. ISBN (2019): 978-92.<br><br>Corcoran, M. P. 2021. Beyond 'food apartheid': Civil society and the politicization of hunger in New Haven, Connecticut. In: Urban Agric Region Food Syst. 2021;6:e20013. https://doi.org/10.1002/uar2.20013<br><br>FAO (2019),TOOL FOR AGROECOLOGY PERFORMANCE EVALUATION PROCESS OF DEVELOPMENT AND GUIDELINES FOR APPLICATION. Chapter 3.<br><br>Viljoen, A. and Bohn, K. (eds) (2014) Second Nature Urban Agriculture: Designing productive cities, Routledge: London and New York.<br><br>Viljoen, A., Bohn, K. and Howe, J. (eds and co-authors) (2005) CPULs Continuous Productive Urban Landscapes: Designing Urban Agriculture for sustainable cities, Oxford: Architectural Press.<br><br>Wiskerke, Johannes SC. "On places lost and places regained: Reflections on the alternative food geography and sustainable regional development." International planning studies 14.4 (2009): 369-387. |
| **15** | **Resources** | *Power mapping*<br>*https://wiki.landscape-portal.org/index.php/AESOP4Food_Methods_and_tools#Power_mapping*<br><br>*Food system mapping*<br>*https://wiki.landscape-portal.org/index.php/AESOP4Food_Methods_and_tools#Food_system_mapping*<br><br>*AESOP4Food Lectures on food mapping*<br>*https://wiki.landscape-portal.org/index.php/AESOP4Food_seminar_2024#Phase_2%3A_Food_mapping%3A_analysing_your_local_foodscape*<br><br>*https://wiki.landscape-portal.org/index.php/Seminar_schedule_2023#Phase_2_Mapping_your_local_food_system*<br><br>*https://wiki.landscape-portal.org/index.php/Seminar_schedule#PHASE_2_Analysing_your_local_foodscape* |

## Module 3. Collaborative goals and vision

| *Aspect* | | |
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| 1 | **Competence(s) developed** | **Subject-specific competences**<br>– Engaging local community through participatory problem-solving techniques<br>– Exploring the techniques of collaborative challenges and goal setting<br><br>**Transversal competences**<br>– Anticipatory competency: Understand and evaluate multiple futures – possible, probable, and desirable; to create one's own visions for the future; to apply the precautionary principle; to assess the consequences of actions; and to deal with risks and changes.<br>– Strategic competency: Collectively develop and implement innovative actions that further sustainability at the local level and further afield.<br>– Collaboration competence: Learn from others: to understand and respect the needs, perspectives, and actions of others (empathy); to understand, relate to and be sensitive to others (empathic leadership); to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving.<br>– Integrated problem-solving competency: Apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive, and equitable solution options that promote sustainable development, integrating the abovementioned competences. |
| 2 | **ECTS credits** | ***ECTS 2-4***<br>*Preparing and following six lectures* — *6 hours*<br>*Compulsory reading* — *10 hours*<br>*Background reading* — *20 hours*<br>*Assignment type 2* — *8 hours*<br>*Presentation (own & with colleagues): including preparation* — *4 hour*<br>*Exercises* — *2 hours*<br>*TOTAL: 2 ECTS* — *50 hrs*<br><br>This module can be extended in two ways:<br>- Choose a study or project area of which the challenges are already defined. Instruct the team that takes part on the area, the food system, the and the main challenges. Apply the method of the Nominal Group Technique for collaborative goal setting and visioning. Collect goals, organise them, set collective priorities. Based on this formulate a vision. Write a short report on the process and its outcomes that can be used by the actors in the area. (16 hours)<br><br>This module can also be integrated as a theoretical part of a design and planning studio or project, or a background knowledge for a living lab process. The results can be used as a basis for the strategy and the plan. |
| 3 | **Annotation** | *Themes: Collaborative goal setting; Selecting the challenges to address, Visioning.*<br><br>The module concerns the terms of shaping the context in which an urban food policy is governed., and the role over various forms of governance.<br>The way the goal setting and visioning work is conducted shall be a process of organising the future governance of the food policy: may it be reinforcing or establishing a food policy council-like group; creating institutional bodies; creating a new directorate (or an intersectoral one) in local authorities; may it build a holistic territorial approach. |

| Module 3. Collaborative goals and vision | | |
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| | | Collaborative goal setting is a strategy to decide on and set goals as a collective. Visioning is basically a process by which a community envisions the future it wants and plans how to achieve it. It brings people together to develop a shared image of what they want their community to become. (UN-Habitat, 2012) it wants to look at some point in the future. The vision statement and design are the first steps for the creation and implementation of strategic action plans. |
| **4** | **Aim of the module** | This module is aimed at understanding the goal setting and visioning process. Learners need to be aware of the form of the process and important aspects that they should consider while organising such a process and applying the techniques. An understanding is created that facilitators of a goal setting process must identify stakeholders needs, prioritise and allocate available resources, and assess and evaluate goal performance over time. For the visioning they need to consider the following principles: (1) Accepting different agendas / allowing all kind of expressions.(2) Building local capacity. (3) involving people is at the beginning of any planning process, and (4) Recording, documenting and following up. |
| **5** | **Learning outcomes** | The learner is aware of important principles that need to be considered while organising collaborative processes.<br><br>The learner can:<br>– Apply techniques of collaborative goal setting, , i.e. how the visioning process is taking place?<br>– Formulate an approach and/or a possible solution for a selected challenge that is related to his/her own competences and role in the system, i.e. how this vision will translate into an implementation strategy?<br>– Facilitate collaborative and participatory goal setting, and problem solving |
| **6** | **Actions by the learner** | – Reading the preparatory, compulsory and background materials<br>– Reflecting on the content of the material<br>– Participating in the lectures, the interactive sessions<br>– Carrying out the exercise of collaborative goal setting and visioning using the Nominal Group Technique for a given situation. The exercise can be carried out online (for instance using mural.co) or on-site using flipcharts and post its.<br>– Reflecting on the role of facilitator of collaborative processes.<br>– Completing the assignment and presenting it to colleagues and tutors. |
| **7** | **Criteria for actions** | - Working in a systematic, verifiable and transparent way<br>- Having independent judgment, critical analysis of references<br>- Actively taking part in collaborative activities.<br>- Asking for feedback<br>- Communicating clearly and organising contributions of other participants.<br>- Showing empathy for and being sensitive to others,<br>- Addressing conflicts in a group in a correct way |
| **8** | **Lectures** | – The method of Design Thinking<br>– Methods of and tools for collaborative goal setting and visioning, e.g. the Nominal Group Technique<br>– Case studies designing and implementing a local food strategy (2x)<br>– The relation between challenges, goals, visions, and activities related to the goals.<br>– Inclusive multi-stakeholder platforms and food policy councils – from visioning to action planning. |
| **9** | **Exercise** | Exercise for the Nominal Group Technique in groups of 6-8 persons.<br>The main challenge for an area or project is already defined. The team appoints a moderator. |

| Module 3. Collaborative goals and vision | | |
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| | | Each person writes on separate sticky notes 3 goals for the area: about for the site itself, for the active communities, for possible actors, the environment, food consumption and production, etc…<br>The group takes the following steps: 5 minutes individual writing, 10 minutes collecting with short explanation but no questions, 10 minutes organising with questions moderated by the facilitator, 5 minutes voting. Then the group formulates a vision that is based on the chosen goals. |
| **10** | **Assignment(s)** | *The assignment is based on an existing understanding of the local issues, the problems, potentials and the sustainability challenges.*<br>Now you need to carry out the following steps, for which you can organise your own process selecting the relevant actors.<br>- What are your shared goals?<br>- How do/did you agree on shared goals?<br>- What is your collaborative vision?<br>- How do/did you formulate a vision based on our goals?<br>- What would be a possible strategy to implement (the main parts) of this vision?<br>You can use for instance as a reference: UN Habitat, 2012: Visioning as a Participatory Planning Tool:<br>https://issuu.com/unhabitat/docs/visioning_as_participatory_planning_tool<br><br>For the presentation:<br>- Describe your sustainable food planning challenge<br>- Make a problem-statement based on the food systems evaluation and assessment<br>- Explain who is involved in the visioning process and why<br>- Explain how the visioning process took or is taking place<br>Answer also two reflection questions:<br>- What do you think needs to be considered when formulating goals?<br>- What do you think are the characteristics of a 'good' vision? |
| **11** | **Results** | A presentation of the assignment choosing your own format or making use of the PowerPoint format to your colleagues, tutors, and/or community members. Each slide should contain the answer to the questions. If you work in a team there should be one slide explaining how the team worked together, with also individual reflections on the work process, methods and tools , and the member's contributions. |
| **12** | **Criteria for results** | - The presentation is clear, transparent and tailored to the audience<br>- The steps of the collaborative process are well explained, the vision has a clear relation to the preferred goals.<br>- The contribution by individual team members is transparent and well balanced. |
| **13** | **Assessment mode** | Feedback on the content of the presentation and the way of presenting<br>The quality of answers to the questions of the tutor and colleagues. |
| **14** | **References** | **Compulsory reading**<br>UN Habitat, 2012: Visioning as a Participatory Planning Tool<br><br>The City Region Handbook<br>https://openknowledge.fao.org/server/api/core/bitstreams/ede3abbf-b676-43d9-a9a3-3af04ee32bff/content<br><br>website of FAO on City Regions Food Systems |

| Module 3. Collaborative goals and vision | | |
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| ***Aspect*** | | |
| | | **Background reading**<br><br>Candel J.J.L. (2019): What's on the menu? A global assessment of MUFPP signatory cities' food strategies, Agroecology and Sustainable Food Systems<br><br>Cohen and Ilieva (2021). Expanding the boundaries of food policy: The turn to equity in New York City. Food Policy, 103. Not open access.<br><br>Griend, J., van der, Duncan, J., & Wiskerke, J. (2019). How Civil Servants Frame Participation: Balancing Municipal Responsibility With Citizen Initiative in Ede's Food Policy. Politics and Governance, 7(4), 59-67<br><br>Landert, J.; Schader, C.; Moschitz, H.; Stolze, M. A Holistic Sustainability Assessment Method for Urban Food System Governance. Sustainability 2017, 9, 490<br><br>Manganelli, A. (2020): Realising local food policies: a comparison between Toronto and the Brussels-Capital Region's stories through the lenses of reflexivity and colearning, Journal of Environmental Policy & Planning – Not open access.<br><br>RUAF, Urban Agriculture Magazin no. 36, Food Policy Councils.<br><br>Sonnino, R. Tegoni, C. De Cunto, A. , (2019) The challenge of systemic food change: Insights from cities, Cities, Vol. 85, pp. 110-116 – not open access. |
| **15** | **Resources** | *A presentation on applying the Nominal Group Technique:*<br>*https://wiki.landscape-portal.org/index.php/AESOP4Food_Methods_and_tools#Nominal_Group_Technique*<br><br>*The AESOP4Food lectures in the wiki*<br><br>*https://wiki.landscape-portal.org/index.php/AESOP4Food_seminar_2024#Phase_3._Objectives:_Collaborative_goals_and_vision*<br><br>*https://wiki.landscape-portal.org/index.php/Seminar_schedule_2023#Phase_3_Collaborative_Goal_Setting*<br><br>*https://wiki.landscape-portal.org/index.php/Seminar_schedule#PHASE_3_Collaborative_goals_and_vision* |

| Module 4. Strategy and interventions | | | |
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| ***Aspect*** | | | |
| **1** | **Competence(s) developed** | **Subject-specific competence**<br>- Developing a joint vision and strategy based on suitable methods and tools for prototyping and transformative action<br><br>**Transversal competences**<br>- Systems thinking competency: Recognize and understand relationships; to analyse complex systems; to think of how systems are embedded within different domains and different scales; and to deal with uncertainty.<br>- Anticipatory competency: Understand and evaluate multiple futures – possible, probable, and desirable; to create one's own visions for the future; to apply the precautionary principle; to assess the consequences of actions; and to deal with risks and changes.<br>- Strategic competency: Collectively develop and implement innovative actions that further sustainability at the local level and further afield.<br>- Integrated problem-solving competency: Apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive, and equitable solution options that promote sustainable development, integrating the abovementioned competences. | |
| **2** | **ECTS credits** | **2 - 4 ECTS**<br>Preparing and following four lectures<br>Compulsory reading<br>Background reading<br>Assignment type 2<br>Presentation (own & with colleagues): including preparation<br>Exercises<br>TOTAL: 1 ECTS<br><br>This module can be extended in the following way.<br>- Choose a study or project area of which the goals and vision are already defined. Instruct the team that takes part on the area, the food system, the and the vision. Develop various scenarios for future development. Based on this formulate a strategy with a timeline for short-term, midterm and long-term interventions and activities Write a short report on the process and its outcomes that can be used by the actors in the area. (16 hours)<br><br>This module can also be integrated as a theoretical part of a design and planning studio or project, or a background knowledge for a living lab process. The results can be used for future development. | <br>6 hours<br>12 hours<br>10 hours<br>8 hours<br>4 hours<br>2 hours<br>42 hrs |
| **3** | **Annotation** | *Themes: Scenarios, alternatives, strategy, prototyping, testing*<br><br>Sustainable food planning is a broad and pluralistic practice. This makes the discussion on questions of strategy development and intervention difficult. Food planning does typically not belong to one policy field and implementation of strategies aimed at food systems transformation are not just singular 'projects. This module is therefore centred around thinking what interventions might deliver transformative change, not looking at the implementation of a singular project as the change itself or the delivery of a policy in and of itself. Its focus is the way in which specific interventions are grounded in different concepts of change. It uses this as the basis to strategize around change agency and ways of linking a systems perspective to possible ways of intervening in the | |

| Module 4. Strategy and interventions | | |
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| | | food system. The focus, in other words, is less on the effective implementation of concrete policy actions or projects but rather on the strategic formulation of where action could be directed. |
| **4** | **Aim of the module** | More the course focuses on three things:(1) food planning and the politics of green transformation, (2) the role of policy navigation, policy windows and policy entrepreneurship, and (3) co-creation and experimentation in policy development: foresight approaches & prototyping. |
| **5** | **Learning outcomes** | The learner can:<br>– develop a strategy based on a joint vision making use of methods of scenario planning of alternatives.<br>– select and apply methods and tools for prototyping.<br>– develop a prototype based on the strategy and present it to/ discuss it with others for testing and evaluating. |
| **6** | **Actions by the learner** | – Reading the preparatory, compulsory and background materials<br>– Reflecting on the content of the material<br>– Participating in the lectures, the interactive sessions<br>– Carrying out the exercise of building scenarios. The exercise can be carried out online (for instance using mural.co) or on-site using flipcharts and post its. For defining the scope, the Nominal Group Technique can be used.<br><br>Completing the assignment and presenting it to colleagues and tutors. |
| **7** | **Criteria for actions** | - Working in a systematic, verifiable and transparent way<br>- Having independent judgment, critical analysis of references<br>- Creative in developing ideas and proposals for the futures<br>- Clear analysis of driving factors in complex processes<br>- Actively taking part in collaborative activities.<br>- Asking for feedback<br>- Communicating clearly and organising contributions of other participants.<br>Addressing conflicts in a group in a correct way |
| **8** | **Lectures** | - Approaches for strategy and visioning regarding<br>- Guidance for governance of sustainable city region food systems.<br>- Prototyping and problem-solution combinations.<br>- Case studies: examples of cities, e.g. the Brussels Case (with focus on BoerenBruxselPaysan trajectory) |
| **9** | ***Exercises*** | *Exercise 1 Explorative scenarios*<br>Explorative scenario's help to (1) -foster strategic discussions considering long-term evolutions, (2) -strengthen the learning capacity of organizations and their ability to cope with unexpected changes. (3) -detect opportunities - avoiding unwanted evolutions, (4) integrate policies by thinking about multiple questions at the same time). First view the presentation on scenarios.<br><br>Step 1 – Define the scope of the exercise<br>- Which question to explore. (i.e. which policy objective - exploring futures against the backdrop of which these policy objectives may have to be realized).<br>- Establish the time horizon (i.e. 2050)<br>Result: a clear and shared objective for all actors involved in the exercise<br><br>Step 2 – Driving factors - Identify driving factors that may determine the future of the question you are exploring<br>Result: list of factors that may have an impact (divided over multiple clusters)<br><br>Step 3 – Assess uncertainty and impact of the driving factors<br>- scoring both the uncertainty (high-low) and impact (high-low) of driving factors |

| Module 4. Strategy and interventions | | |
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| | | Goal: identifying factors with high uncertainty and high impact*!*<br><br>Step 4 – Scenario building - Collaborative definition of possible scenarios (possible worlds)<br>Step 5 - Present and discuss the scenario and reflect on the (normative) choices you made and what it means for addressing a sustainable food challenge. |
| **10** | **Assignment** | As the assignments are being carried out in the living labs, the leap from collaborative goal setting to the exploration of possible actions (e.g. by means of prototypical propositions) is happening a bit in reverse. Many of you are already working within the context of a living lab where the engagement in 'prototyping' and 'design experimentation' is already under way.<br>Hence, the main aim of the exercise is to engage in the further definition of the action within the living lab considering the analysis of both the analysis of the food system that has been conducted as well as the collaborative goal setting exercise.<br>The lead question for this assignment is: 'in which way can the actions taken within the context of the living lab be considered transformative?' and 'Building on what is already in place, how can this action be further expanded and defined to reinforce its transformative dimension?'.<br>The idea is that you define possible transformation pathways to subsequently identify existing or missing components of the action developed within the living lab that are key to maintain the connection between a 'systems' perspective and the definition of a concrete action or intervention.<br>For the assignment we want you to address four issues in particular:<br><br>1. what aspect of the food system is the action trying to address and transform?<br>2. what is driving that change? How is it shaped? (cf. Scoones)<br>3. what is already in place? How are you building on this? What is missing? What is key (and cannot be left out)?<br>4. what may follow? In 1 year, in 5, in 10? When will you consider this action to be successful? What should it yield? How may it affect the food system?<br><br>For the presentation build a strong narrative regarding the transformation your proposed action is trying to produce by connecting the four questions. |
| **11** | **Results** | A presentation of the assignment choosing your own format to your colleagues, tutors, and/or community members.<br>Each slide should contain the answer to the questions. If you work in a team there should be one slide explaining how the team worked together, with also individual reflections on the work process, methods and tools , and the member's contributions. |
| **12** | **Criteria for results** | - The presentation is clear, transparent and tailored to the audience<br>- The steps of the development of the scenario are well explained.<br>The contribution by individual team members is transparent and well balanced. |
| **13** | **Assessment mode** | Feedback on the content of the presentation and the way of presenting<br>The quality of answers to the questions of the tutor and colleagues. |
| **14** | **References** | **Compulsory reading**<br>Mette Vaarst, Arthur Getz Escudero, M. Jahi Chappell, Catherine Brinkley, Ravic Nijbroek, Nilson A.M. Arraes, Lise Andreasen, Andreas Gattinger, Gustavo Fonseca De Almeida, Deborah Bossio & Niels Halberg (2018) Exploring the concept of agroecological food systems in a city-region context, Agroecology and Sustainable Food Systems, 42:6, 686-711 |

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| | | Scoones et al. (2015) The politics of Green Transformation (Chapter 1). Oxon/New York: Routledge. Only Chapter 1 is compulsory reading: page 1-24.<br><br>Wissmann, A et.al, The Policy Environment for Sustainable City Region Food Systems, 2022. FoodE_The-Policy-Environment-for-Sustainable-CRFS_Factsheets.pdf (ils-forschung.de)<br><br>**Background reading**<br>Reference on prototyping on Publicatie Open Ruimte Platform This booklet in Dutch refers to strategy and prototyping, it presents 10 years of work within the 'open space platform' in Flandres. The publication is in Dutch but is visually appealing. You can view the 10 approaches, page 19-74, and then scroll through the document. Some of the prototyping methodologies have also been tested in the context of the Brabantstad Atelier of the Rotterdam Biennale. This publication is available in English.<br><br>Brand C. et al. (eds) 2019 Designing Urban Food Policies. Urban Agriculture. Springer, Cham.<br><br>David Holmgren's text "Descent scenarios" chapter 4 of Future Scenario (2008) Not open access.<br><br>Kingdon, J. W. and Thurber, J.A.(2011), Agendas, alternatives, and public policies. Longman Classics in Political Science. ISBN 9780205000869. Not open access. |
| **15** | **Resources** | *The AESOP4Food lectures in the wiki*<br><br>https://wiki.landscape-portal.org/index.php/AESOP4Food_seminar_2024#Phase_4:_Strategy_and_interventions<br><br>https://wiki.landscape-portal.org/index.php/Seminar_schedule_2023#Phase_4_Strategy_and_Visioning<br><br>https://wiki.landscape-portal.org/index.php/Seminar_schedule#PHASE_4_Strategy_and_interventions |

| Module 5.Monitoring and Evaluation | | | |
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| ***Aspect*** | | | |
| **1** | **Competence(s) developed** | **Subject-specific competence**<br>Can monitor and evaluate a process, project, activity, result in a collaborative way.<br><br>**Transversal competence**<br>Normative competency: Understand and reflect on the norms and values that underlie one's actions; and to negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions.<br>Critical thinking competency: Question norms, practices, and opinions; to reflect on own one's values, perceptions, and actions; and to take a position in the sustainability discourse.<br>Self-awareness competency: Reflect on one's own role in the local community and (global) society; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires. | |
| **2** | **ECTS credits** | ***1 to 3 ECTS***<br>Preparing and following four lectures<br>Compulsory reading<br>Background reading<br>Assignment type 2<br>Presentation (own & with colleagues): including preparation<br>Exercises<br>TOTAL: 1 ECTS<br><br>This module can be extended in the following way.<br>- Choose a study or project area of which the goals and vision are already defined. Instruct the team that takes part on the area, the food system, the and the vision. Then answer the following questions:<br>- which quantitative indicators can be used to assess the whether the goals are achieved?<br>- which qualitative indicators can be used to assess whether the goals are achieved?<br>- how would you organise a collaborative evaluation of the project? Who would you involve, what method would you apply?<br>- in which way do you propose the report of the evaluation? (16 hours)<br><br>This module can also be integrated into a design and planning studio or project or living lab process. Then the monitoring and evaluation part should start at the beginning of the process, with an introductory lecture. The questions that are mentioned above can be used as guidance. Learners can also use the references and resources of this module. | <br>4 hours<br>2 hours<br>2 hours<br>8 hours<br>4 hour<br>6 hours<br>26 hrs |
| **3** | **Annotation** | *Themes: collaborative evaluation; self-reflection*<br><br>This module has a theoretical and practical part. The first part involves the theoretical and practical background of monitoring and evaluation, with a case study on monitoring city-region food systems. For instance, the development of Territorial Food Strategies in France and the way this was monitored in the region of Clermont Ferrand and the impact studies of the Territorial Food Project of Mouans-Sartoux's municipalities. The second part is dedicated to the learners working in groups, allowing them to summarize their overall feelings about their study/work and prepare a summary for its evaluation. | |

| Module 5.Monitoring and Evaluation | | |
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| **4** | **Aim of the module** | The primary focus of module is to encourage learners to look back and reflect on what has transpired over the past time. The participants engage in collaborative monitoring and evaluation of the Living Lab groups, working together to share findings. The learners are encouraged to introduce their stories and make statements about their study/work activities and a future agenda. |
| **5** | **Learning outcomes** | The learner can:<br>– critically reflect on personal values, competences, and especially the role of planners in a pluralistic society (expert vs. facilitator) in the development of a more resilient food system.<br>– define their own position and values regarding sustainable food planning.<br>– reflect on their own progress, using feedback from others and considering cultural, social, and economic differences. |
| **6** | **Actions by the learner** | The collaborative monitoring and evaluation of the Living Lab groups, or team focused on addressing the following:<br>– What have the learners learned as a group and as an individual in terms of addressing a sustainable food planning challenge?<br>– Indication of the most important next step or action for their Living Lab or project.<br>– Providing personal reflections on the process and results, including self-reflection on the process, the outcomes, their own values, and positions. |
| **7** | **Criteria for actions** | – Having an independent judgment, critical analysis of team, process and role.<br>– Reflecting on one's own work.<br>– Awareness of cultural and professional context. |
| **8** | **Lectures** | – Introduction to the theoretical and practical background of Monitoring & Evaluation and its methods.<br>– An introduction to food systems evaluation, including the evaluation frameworks for City Region Food Systems and the Milano Urban Food Policy Pact.<br>– Case study: Territorial Food Strategies in France are monitored, with the example of the region of Clermont Ferrand.<br>– Case study: The Food Project and the impact studies of the Territorial Food Project of Mouans-Sartoux's municipalities |
| **9** | **Exercises** | *Exercise 1*<br>Exercise in four steps for small groups on monitoring and evaluation on a selected or given subject. Appoint a moderator for each group.<br>Step 1: Define the main subject: the module, a project, a plan for transforming the food system.<br>Step 2: Each team member writes down answers on sticky notes or an online board for the following questions:<br>– What did you like most about the subject?<br>– What did you like least about the subject?<br>– What will you take home?<br>– How do you think this could have been improved?<br>– What have you learned as a group in terms of addressing a sustainable food planning challenge?<br>Mention one lesson learnt for each individual team member.<br><br>Step 3: The moderator organises the answers with the help of the group. Where necessary explanations are given.<br><br>Step 4. The team has an open discussion in which the moderator helps to draw conclusions.<br>Time for the exercise: around 30 minutes |

| Module 5.Monitoring and Evaluation | | |
|---|---|---|
| ***Aspect*** | | |
| | | *Exercise 2*<br>Choose a study or project area of which the goals and vision are already defined. Instruct the team that takes part on the area, the food system, the goals and the vision. Then answer the following questions:<br>– which quantitative indicators can be used to assess the whether the goals are achieved?<br>– which qualitative indicators can be used to assess whether the goals are achieved?<br>– how would you organise a collaborative evaluation of the project? Who would you involve, what method would you apply?<br>– - in which way do you propose the report of the evaluation.<br><br>*You can think of the following type of indicators:*<br>– *Spatial:* % of access to land for farmers, access to land for recreation, and connectivity of the land affected by communal regulations and use.<br>– *Legal framework and policies*: Regulations of land ownership and agricultural land reserve, establishment of a food strategy for city region.<br>– *Economic*: % of the farmers who receive a fair income, % of land use by community supported agriculture (CSA), economic activity developed within communal structures (social economy, cooperatives, etcetera) and value of the products that are regulated and managed in a communal way.<br>– *Social:* % people benefiting or participating in social aspects of food production (urban agriculture, community gardens, care farms, allotment gardens), % of people who have access to healthy food (not living in food deserts).<br>– *Environmental*: Contribution of agriculture and the farmers to the preservation and improvement of environmental values and assets (carbon sequestration, water retention, ecological connectivity, biodiversity, etcetera, % of land use surface for organic farming; % of land use by circular or nature inclusive farming. |
| **10** | **Assignment(s)** | *Assignment 1 for learners working on a specific assignment in a small team*<br>Now it is the time to look back and reflect on what has happened when you studied/worked on sustainable food planning. We ask you to engage in a collaborative monitoring and evaluation of the process with your team and share findings. You now have a better understanding of Sustainable Food Planning challenges. The monitoring and evaluation should consist of statements about the following: (1) the lectures and exercises (2), your subject, (3) your team, (4) yourself, and (5) your future agenda.<br>For this assignment you can make use of the questions of Assignment 2 (see below), but you can add others if applicable to your work or process.<br><br>*Assignment 2 for learners taking part in a living lab or community process*<br>Now it is the time to look back and reflect on what has happened in the past period. We ask you to engage in a collaborative monitoring and evaluation of the Living Lab group and share findings.<br>You now have a better understanding of the module, the Living Lab and Sustainable Food Planning challenges.<br>The monitoring and evaluation should consist of statements about the following: (1) the lectures and exercises (2), your Living Lab / case study, (3) your team / members of the community, (4) yourself, and (5) your future agenda.<br><br>For this assignment you and your team can make use of the following questions, but you can add others if applicable to the process: |

| Module 5.Monitoring and Evaluation | | |
|---|---|---|
| ***Aspect*** | | |
| | | – Did the teaching and learning method work for you?<br>– Did the content come together coherently and was it applicable for your planning process?<br>– Did the exercises serve the Living Lab activities / process well?<br>– What have you learned as a group in terms of addressing a sustainable food planning challenge?<br>– Mention one lesson learnt for each individual team member.<br>– What might be the most important next step or action for you and your Living Lab? |
| **11** | **Results** | A presentation of the assignment choosing your own format to your colleagues, tutors, and/or community members.<br>Each slide should contain the answer to the questions. If you work in a team there should be one slide for each individual team member explaining one or two lesson(s) learnt. |
| **12** | **Criteria for results** | - The presentation is clear, transparent and tailored to the audience<br>- The steps of the development of the scenario are well explained.<br>The contribution by individual team members is transparent and well balanced. |
| **13** | **Assessment mode** | Feedback on the content of the presentation and the way of presenting<br>The quality of answers to the questions of the tutor and colleagues. |
| **14** | **References** | **Compulsory reading**<br>*UNICEF (2005) Useful Tools for Engaging Young People in Participatory Evaluation. UNICEF CEE/CIS Regional Office.*<br><br>FAO. 2019. The Milan Urban Food Policy Pact Monitoring Framework. FAO, Rome, Italy. Accessed on https://www.fao.org/publications/card/en/c/CA6144EN/.<br><br>Carey, J. and M. Dubbeling, 2017. City Region Food System Indicator Framework. RUAF Foundation, Leusden, The Netherlands. |
| **15** | **Resources** | *The AESOP4Food lectures in the wiki*<br><br>https://wiki.landscape-portal.org/index.php/AESOP4Food_seminar_2024#Phase_5:_Evaluation_&_monitoring<br><br>https://wiki.landscape-portal.org/index.php/Seminar_schedule_2023#Phase_5_Monitoring_and_Evaluation<br><br>https://wiki.landscape-portal.org/index.php/Seminar_schedule#PHASE_5_Evaluation_&_monitoring<br><br>AESOP4Food 2024, Teacher's guidance, Annex D Indicators for monitoring and evaluation of City-Region Food systems.<br><br>**Website Better Evaluation**<br>The website on better evaluation presents a toolkit for collaborative evaluation, with methods and phases for monitoring and evaluation.<br><br>The Rainbow Framework can help you plan an M&E activity by prompting you to think about each of these tasks in turn and select a combination of methods and processes that cover all tasks involved. You might also choose an approach, which is a pre-packaged combination of methods.<br><br>The range of tasks are organised into seven colour-coded clusters that aim to make it easy for you to find what you need: Manage, Define, Frame, Describe, Understand Causes, Synthesise, and Report & Support Use. |

# ANNEX C

## Example of a module for sustainable food planning integrated in a master of landscape architecture at Vilnius Tech

AESOP4FOOD

# Annex C. Example of a food planning module 3ECTS

The modules of the AESOP4Food project (see Annex B of this report) were used to develop a course unit on sustainable food planning for the newly accredited Master in Landscape Architecture at Vilnius Techn in Lithuania.
The course is part of the larger unit Productive Landscapes and Renewable Energy for the academic year 2024-2025, that concerns Renewable Energy and Foodscapes. The course description is both in English and Lithuanian. Here only the English text is presented.

VILNIUS TECH
Vilniaus Gedimino technikos universitetas

**STUDIJŲ DALYKO (MODULIO) (SD(M)) KORTELĖ ANTROSIOS PAKOPOS BEI VIENTISOSIOMS STUDIJOMS**
**Urbanistikos katedra**
***COURSE CARD FOR THE FIRST AND SECOND CYCLE AND INTEGRATED STUDIES***
***Department of Urban Design***

| **SD(M) pavadinimas** | ***Course title*** |
|---|---|
| **Produktyvus kraštovaizdis ir atsinaujinanti energija** | **Productive landscape and renewable energy** |

| **Productive landscape and renewable energy: part foodscapes** | | |
|---|---|---|
| ***Aspect*** | | ***Explanation*** |
| **1** | **Competence(s) developed** | The learner knows and understands the essence and significance of existing food systems in the landscape.<br>Able to accept critics and learn from mistakes while maintaining own opinion, think spatially working with specialists from related fields in multicultural environment.<br>Able to practically apply knowledge and new ideas in changing social – economic environment, create new ideas and keep learning. |
| **2** | **ECTS credits** | **3 ECTS** |
| **3** | **EM Annotation** | Productive landscape concerns the current problems of foodscapes, food systems, short chains, food security. This module addresses the planning, design and management of sustainable foodscapes, integrating both environmental, social, and economic aspects of the productive landscape. It addresses the main challenges, theoretical frameworks, approaches and methods for sustainable food planning. It relates to the concepts of food security, food safety, food democracy and food justice and the way stakeholders and communities can address the challenges by participatory action research and living labs. It builds upon the work of the International Panel of Experts in Food Planning (IPES) and the Resource centre on Urban Agriculture and Food Security (RUAF). It includes mapping a food system, mapping the stakeholders, consumers, policymakers (power mapping), and carrying out a SWOT analysis. Learners work on collaborative goal setting (applying the nominal group technique for systematic working); proposing transformative actions, developing scenarios, alternatives, and implementation strategies. It may relate to the relevant studio project. |
| **4** | **Aim of the module** | After completing this module, learner should be able to conceive ideas in a collaborative way for the future physical interventions of a part of a local-regional food system in relation to its context. The goal is to develop adequate knowledge, understanding of food systems, to define driving forces, understand the planning process, decide on transformative actions, planning and design proposals. |

| Productive landscape and renewable energy: part foodscapes | | |
|---|---|---|
| ***Aspect*** | | ***Explanation*** |
| **5** | **Learning outcomes** | *General learning outcomes of the course:*<br>The learner knows and understands the essence and significance of existing renewable energy and food systems in the landscape.<br>The learner can:<br>- integrate knowledge from the related science fields and arts into analysis of landscape systems development.<br>- think spatially while working with specialists from related fields.<br>- practically apply knowledge and new ideas in changing social – economic environment.<br><br>*Specific learning objectives for food planning:*<br>a. Understands the concept of food systems in their cultural, local and regional setting.<br>b. Is aware of contemporary challenges to sustainable food systems in context of spatial planning.<br>c. Develops an understanding of the multiple dimensions of food systems: social, environmental, economic and spatial.<br>d. Can map and evaluate a concrete situation of a food system, making use of a transparent method, to define the most relevant challenges.<br>e. Can formulate an approach and/or a possible solution for a selected challenge that is related to his/her own competences and role in the system.<br>f. Can define her/his own position and values regarding sustainable food planning<br>g. Can reflect on his/her own process, using feedback from others reflecting on cultural, social and economic differences. |
| **6** | **Actions by the learner** | - Reading the preparatory material on methods and challenges of the food system<br>- Participating in the lectures and the Q&A sessions<br>- Participating on collaborative actions for defining challenges and goal setting<br>- Critical reading of the compulsory and background materials.<br>- Taking part in the study trip for the study and planning area for the assignment, writing a short report on this.<br>- Carrying out the steps as defined in the assignment: field visit, analysis, food system mapping, goal setting, visioning, reflection.<br>- Uploading the report, presentation and process log<br>- Giving an online presentation of the assignment of 15 minutes to the teacher and another staff member of Vilnius Tech. It is expected that colleague learners are present during the presentation. Someone else of our own choice also can be present. |
| **7** | **Criteria for actions** | - Working in a systematic, verifiable and transparent way<br>- Having independent judgment, critical analysis of references<br>- Actively taking part in discussions and collaborative work<br>- Asking for feedback<br>- Making presentations of results on an adequate level of abstraction |
| **8** | **Lectures** | Current challenges of the food system. Global trends and regional perspective<br>City region food mapping methods and cases on multi-scale levels<br>Food governance: food councils, multi-level governance<br>Agro-ecological urbanism: its concepts, the building blocks<br>Urban agriculture and the commons<br>Food security, food justice and food democracy |
| **9** | **Exercises** | Landscape on your plate, see description after the module scheme. |

| Productive landscape and renewable energy: part foodscapes | | |
|---|---|---|
| ***Aspect*** | | ***Explanation*** |
| **10** | **Assignment(s)** | Sustainable food chains and change scenarios in landscape planning, design and management<br>This assignment relates mainly to the spatial and organisational aspects of food systems. Depending on your role, experience and position the learner can define the scope of the food system they want to evaluate. The first part of the assignment can be carried out in small groups, this will be defined during the course. Learners can jointly collect the available data of the mapping of the food system.<br>The guiding question is: How does your local food system look like: consumers, retailers, processors, producers?<br>The result should contain a map the location and a geographical representation of the selected food system.<br>For the scope of a small region, the City Region Food System Toolkit of FAO, RUAF and Wilfrid Laurier University (FAO,2018) and Community-Based Food System Assessment and Planning - Facilitator's Guidebook of Virginia Tech can be used.<br>The description of the assignment is presented below. |
| **11** | **Results** | Exercise<br>Presentation of the Exercise on a Padlet<br>Assignment:<br>- Uploading a written report of 3-4 pages on the assignment<br>- Uploading a presentation (PowerPoint or other multimedia presentation mode) of the elements of the assignment.<br>- Uploading a short log on your process (can be notes, schedule, schemes) |
| **12** | **Criteria for results** | - The presentation is well structured and results in a clear vision on subject<br>- Result can be integrated in further analysis<br>- Conclusions are based on the analysis of the reading material<br>- There is a correct interpretation of the concepts of sustainable food planning.<br>-The presentation is clear, transparent and tailored to the audience |
| **13** | **Assessment mode** | Homework report of method's application TA1 – 20%.<br>Study trip report TA2 – 20%.<br>Course work GA – 60%.<br>The required minimal attendance is of practical works is 80%. |
| **14** | **References** | Countryside Charity (CPRE – UK) https://www.cpre.org.uk/resources/mapping-local-food-webs-toolkit-2/ - just read the 7 pages that explain the toolkit.<br><br>Deh-Tor, C.M. . 2017 From Agriculture in the City to an Agroecological Urbanism: The transformative pathway of urban (political) agroecology, in: Urban Agriculture Magazine no. 33 – Urban Agroecology<br>Food and agriculture organisation.<br><br>FAO Report : "Integrating food into urban planning" page 18 - 32.<br><br>FAO. (2018) City Region Food System Toolkit, Assessing and planning sustainable city region food systems, publication of FAO, RUAF and Wilfrid Laurier University. http://www.fao.org/in-action/food-for-cities-programme/toolkit/introduction/en/ (introduction page 1-3, schemes page 133-144 (p. 138-149 in pdf).<br><br>Bortoletti, M., and J. Lomax. "Collaborative framework for food systems transformation." A multistakeholder pathway for sustainable food systems. UN environment. ISBN 2019: 978-92. |

| Productive landscape and renewable energy: part foodscapes | | |
|---|---|---|
| ***Aspect*** | | ***Explanation*** |
| | | Corcoran, M. P. 2021. Beyond 'food apartheid': Civil society and the politicization of hunger in New Haven, Connecticut. In: Urban Agric Region Food Syst. 2021;6:e20013. https://doi.org/10.1002/uar2.20013<br><br>Deh-Tor, C.M. 2021. Food as an urban question, and the foundations of a reproductive, agroecological, urbanism, Chapter 1 in: Tornaghi, Ch. and Dehaene, M. 2021. Resourcing an Agroecological Urbanism: Political, Transformational and Territorial Dimensions.<br><br>IPES, 2021. A Long Food Movement: Transforming Food Systems by 2045<br><br>Tornaghi, Chiara. (2016). Urban Agriculture in the Food-Disabling City: (Re)defining Urban Food Justice, Reimagining a Politics of Empowerment. Antipode. 49. 10.1111/anti.12291.<br><br>UN Habitat, 2012: Visioning as a Participatory Planning Tool<br><br>Virginia Polytechnic Institute and State University. (2011) Community-Based Food System Assessment and Planning - Facilitator's Guidebook, publication 3108-9029.- please read the introduction and then continue until page 18.<br><br>Viljoen, A. and Bohn, K. (eds) (2014) Second Nature Urban Agriculture: Designing productive cities, Routledge: London and New York. |
| **15** | **Resources** | AESOP4Food Erasmus plus collaborative project. Online recordings and PowerPoints:<br>https://wiki.landscape-portal.org/index.php?title=AESOP4FOOD |


Exercise 1- Productive landscapes / foodscapes
MLA Vilniustech - 2024
Landscape on your plate
STEP 1
Have a look at your plate for dinner. Take a picture or make a drawing of the content.
Then make notes where the food comes from and what kind of a landscape your food results in.
Add some sketches or images of these landscapes.
STEP 2
Place image(s) and description on the padlet. See QR code below left.
STEP 3
We will present and discuss the results in an online session.
OUR AIM
After our landscape experience we know more about local and global food produce, and are more aware what the impact of food is on the landscape.
QR padlet
Source image: LES PARTICIPANTS À L'AVENTURE GASTRONOMIQUE, FONDATION PRO PATRIMONIO PRO PATRIMONIO FRANCE web : www.propatrimonio.org
1

# Assignment Food System – MLA Vilnius Tech

## Introduction

This assignment is related to module Productive Landscape of MLA Vilnius Tech in the fall semester of 2024
The subject is a local or regional food system. The scope of this food system will be defined during the course and can be related to the area of Energy Landscapes or the study area of the Planning and Design Studio.
An analysis of a local or regional food system can take a lot of time, depending on the scope and level of detail it might take many months. In this light the assignment should be seen as an exercise in mapping, evaluating and future outlook.

## Learning objectives

For the assignment the following learning objectives are formulated, the learner:

a. Understands the concept of food systems in their cultural, local and regional setting.
b. Is aware of contemporary challenges to sustainable food systems in context of spatial planning.
c. Develops an understanding of the multiple dimensions of food systems: social, environmental, economic and spatial.
d. Can map and evaluate a concrete situation of a food system, making use of a transparent method, to define the most relevant challenges.
e. Can formulate an approach and/or a possible solution for a selected challenge that is related to his/her own competences and role in the system.
f. Can define her/his own position and values regarding sustainable food planning
g. Can reflect on his/her own process, using feedback from others reflecting on cultural, social and economic differences.

## Results

1. Uploading a written report of 3-4 pages on the assignment containing the following sections:
    a. Scope and location of the food system,
    b. Own position and role in the system,
    c. Methods of mapping and evaluation,
    d. Result of the mapping,
    e. Evaluation of the system,
    f. Selection of the main challenge to address
    g. Approach for the selected challenge
    h. Self-reflection on process, the results, own values and position.
2. Uploading a presentation of the elements of the assignment.
3. Uploading a short log on your process (can be notes, schedule, schemes)
4. Giving an online presentation of 15 minutes to the teacher and another staff member of Vilnius Tech. It is expected that colleague learners are present during the presentation. Someone else of our own choice also can be present.

## Guiding information and questions for the assignment

### Scope and location of the food system

This assignment relates mainly to the spatial and organisational aspects of food systems. Depending on your role, experience and position you can define the scope of the food system you want to evaluate. The first part of the assignment can be carried out in small groups, this will be defined during the course. Learners can jointly collect the available data of the mapping of your food system.
The guiding question is: How does your local food system look like: consumers, retailers, processors, producers?
We would like to see on a map the location and a geographical representation of your food system.
If you are dealing with the scope of a small region, the City Region Food System Toolkit of FAO, RUAF and Wilfrid Laurier University (FAO,2018) and Community-Based Food System Assessment and Planning - Facilitator's Guidebook of Virginia Tech can help.

### Own position and role in the system

In your local food system, you can have different roles at the same time: consumer, planner, researcher. As a learner you can choose a future role, you may position yourself as a landscape architect, a spatial planner or an urban planner.

### Method of mapping and evaluation

For this assignment we propose that you select qualitative methods from the City Region Food System Toolkit: http://www.fao.org/in-action/food-for-cities-programme/toolkit/introduction/en/ or the toolkit of the Countryside Charity (CPRE – UK) https://www.cpre.org.uk/resources/mapping-local-food-webs-toolkit-2/
It might be a matrix or a graphical scheme with stakeholders, element and their relations in the food system (producers, processors, distributors, retailers, consumers).
For the analysis you can make use of the SWOT method or a comparable method you think is more suitable.

### Result and evaluation of the mapping

Based on your overview of the food system, and your analysis you can define the main challenges.

- What are the strengths, weaknesses, opportunities and threats of the system?
- Which aspects of sustainability are the most important from your position?
- What do you consider as the most important challenge for the sustainability of this system?
- Which challenge do you choose to address from your (future) role or position in the system?

### Approach of the challenge

The challenges can be defined in a (small) group. After this each learner can, depending on his/her ambition select a main challenge and define an approach or strategy to provide a solution of an improvement regarding the selected challenge. Please describe your vision, goals and the general steps for this.

### Self-reflection on process, the results, own values and position.

When you look back on your activities for carrying out this assignment, how did the process work out? What would you do different for a future mapping assignment? Did your perceptions and values change in the process?

## Assessment of the assignment

The teacher will assess the results of your assignment based on the defined learning objectives. Depending on the regulations of Vilnius Tech there will be an oral examination.
The assessment consists of:

- Evaluation of the written and graphic material
- Evaluation of the online presentation.

You will receive a short feedback report and a grading for completing the assignment.

## References

### Reports

FAO. (2018) City Region Food System Toolkit, Assessing and planning sustainable city region food systems, publication of FAO, RUAF and Wilfrid Laurier University.
Virginia Polytechnic Institute and State University. (2011) Community-Based Food System Assessment and Planning - Facilitator's Guidebook, publication 3108-9029.
University of California, Sustainable Agriculture Research and Education Program. What Is a Community Food System? Community Food Systems. Defining Community Food Systems.

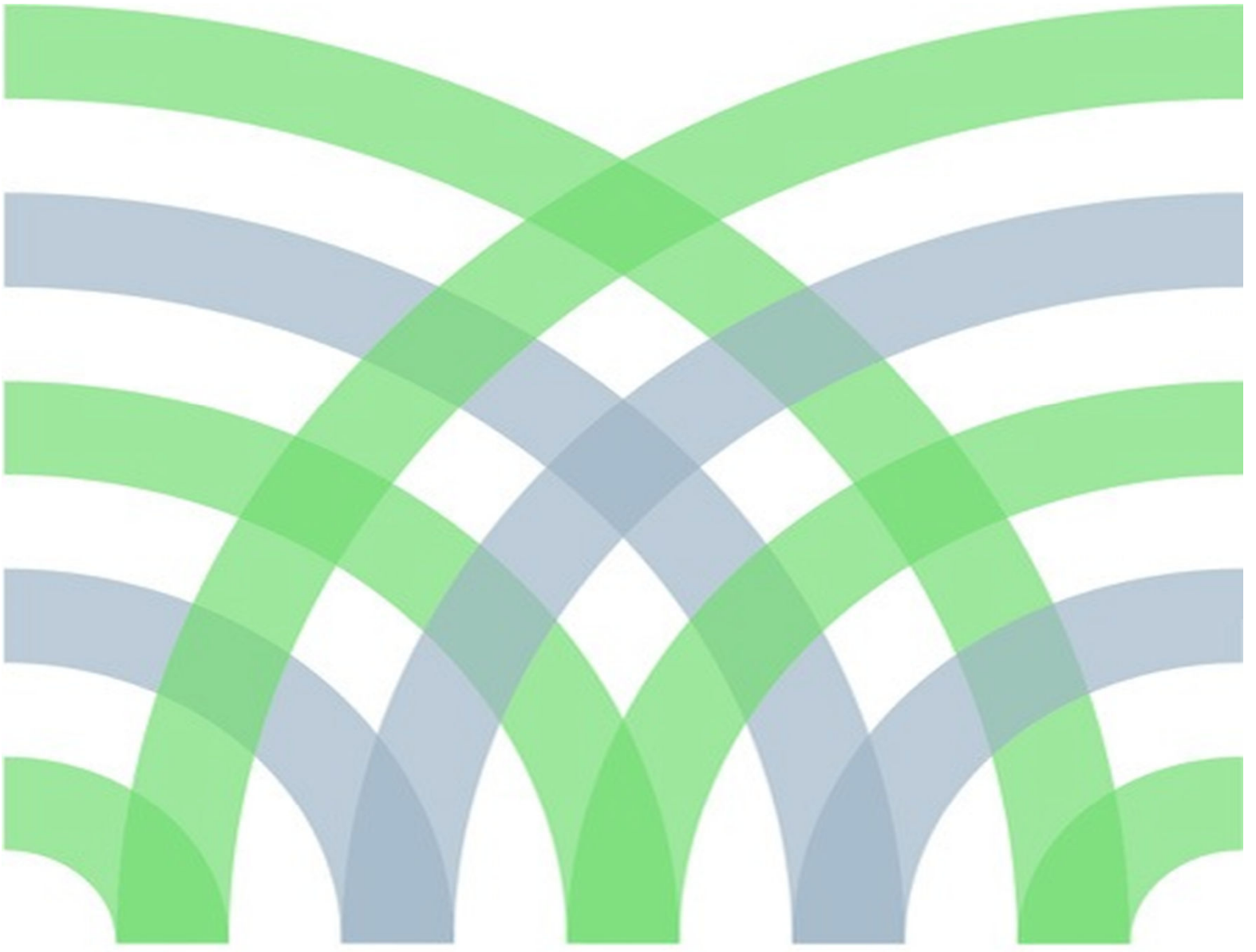
### Websites

FAO. (2018) City Region Food System Toolkit: http://www.fao.org/in-action/food-for-cities-programme/toolkit/introduction/en/

Countryside Charity (CPRE – UK) https://www.cpre.org.uk/resources/mapping-local-food-webs-toolkit-2/

# ANNEX D

## Selection of KPIs for the evaluation of City Region Food Systems



AESOP4FOOD

## A selection of Key Performance Indicators for City Region Food Systems

The development of agriculture that support sustainable transitions in the landscape can be assessed through spatial, legal, economic, social, and environmental indicators. The framework of the  Milan Urban Food Policy Pact(Carey, 2021; FAO 2019),is focused on the performance of urban food systems.

### The Milan Urban Food Policy Pact Monitoring Framework

The purpose of the Monitoring Framework is to serve as an instrument for cities and urban food stakeholders to identify food-related policy and programme priorities. The Framework also serves to illustrate to what extent “desired changes” are happening and/ or how impactful such changes are. If measured periodically, the Framework can be used to evaluate gaps in policy advancement and resource mobilization as well as reveal overall urban food systems improvement.

The 44 indicators relate to governance, sustainable diets and nutrition, social and economic equity, food production including urban-rural linkages, food supply and distribution, and food waste.


Aspects of sustainable food planning of MUFPP (FAO, 2019)

For food planners the following indicators of the MUFPP are most relevant, but their relevance can vary from country to country, from city to city.

| MUFPP # | Indicator | Mesurement |
|---|---|---|
| 21 | Number of formal jobs related to the urban food system that pay at least the national minimum or living wage. | Measures the total number of formal paid jobs that the urban food system provides at (and above) the level of a nationally accepted minimum or living wage.<br>*NB: If it is NOT possible to quantify jobs paid at least the national minimum or living wage, the focus should be to quantify the total number of formal paid jobs in the food system.* |

| MUFPP # | Indicator | Mesurement |
|---|---|---|
| 24 | Number of (types of) opportunities for food-related learning and skill development in food and nutrition literacy, employment training and leadership. | Number of opportunities (courses, classes, etc.) for food system-related learning and skill development in three different categories: food and nutrition literacy; employment training and leadership. This indicator will support gathering baseline data on which to base analysis of gaps, needs, opportunities, and to develop further action |
| 25 | 25. Number of city residents within the municipal boundary with access to an urban (agricultural) garden. | Measures the accessibility of city residents (and specific target groups) to urban agricultural gardens/land. In order to account for geographic, economic and social differences across cities in access to gardens, the indicator will only reflect impact accurately if data is filtered by geospatial location, population density, income levels etc. |
| 26 | Presence of municipal policies and regulations that permit and promote agriculture production and processing within the municipal area. | Assesses the presence of supportive municipal policies and regulation that permit and promote urban agriculture production and processing. It will help define gaps or areas for improvement by revising/ formulating new policies and regulations. |
| 27 | Surface area of (potential) agricultural spaces within the municipal boundary. | Monitors the surface area of land within the municipal boundary used for agriculture, zoned/destined for agriculture (although possibly not used at this moment) as well as open vacant and built up spaces that could potentially be used for agriculture. |
| 28 | Proportion of total agricultural population –within the municipal boundaries – with ownership or secure rights over agricultural land for food production, by gender. | Monitors ownership and rights over agricultural land by specifically promoting data disaggregation by gender. |
| 29 | Proportion of agricultural land in the municipal area under sustainable agriculture. | Measures the total agricultural area in the municipality (also referred to as urban and peri-urban agriculture) under sustainable agriculture (as per the total are of agricultural land in the municipal area). |
| 30 | Number of food producers that benefited from technical training and assistance in the past 12 months. | Tracks the number of food producers (horticultural growers, smallholders and farmers) in and close to the city who have received technical training and assistance over a given time period (e.g. last twelve months). |
| 31 | Number of municipal food processing and distribution infrastructures available to food producers in the municipal area. | Monitors the number (and type of) municipal infrastructure for storage, processing and distribution of food located in the municipal area, including storage buildings, processing plants, transport facilities and (wholesale and consumer) markets. |

| MUFPP # | Indicator | Mesurement |
|---|---|---|
| 32 | Proportion of local/regional food producers that sell their products to public markets in the city. | Monitors the share of local/regional food producers that sell (part of) their products to one or more public market outlets in the city |
| 33 | Annual proportion of urban organic waste collected that is re-used in agricultural production taking place within municipal boundaries. | Measures the percentage of urban organic waste collected and recycled that is re-used in urban and peri-urban agriculture production. |
| 34 | Existence of policies/ programmes that address the reduction of GHG emissions in different parts of the food supply chain (e.g. processing, storage, transport, packaging, retail, cooking, waste disposal etc.). | Assesses the existence of policies/programmes that address the reduction of GHG emissions in different parts of the food supply chain (e.g. processing, storage, transport, packaging, retail, cooking, waste disposal etc.). |
| 35 | Presence of a development plan to strengthen resilience and efficiency of local food supply chains logistics. | Allows for (self)assessment of the presence, functioning and effectiveness of a development plan to strengthen resilience and efficiency of local food supply chains logistics. It also helps to define areas for improvement |
| 36 | Number of fresh fruit and vegetable outlets per 1000 inhabitants (markets and shops) supported by the municipality. | Measures the number of food markets or retail outlets providing fresh fruit and vegetables per 1000 inhabitants that are directly supported by the municipality in some way. |
| 37 | Annual municipal investment in food markets or retail outlets providing fresh food to city residents, as a proportion of total (investment) budget. | Measures annual municipal investment in food markets or retail outlets providing fresh food to city residents, as a proportion of total investment budget (or whichever budget is appropriate for city). |
| 38 | Proportion of food procurement expenditure by public institutions on food from sustainable, ethical sources and shorter (local/regional) supply chains. | Measures the proportion of food procurement expenditure by public institutions on food from sustainable, ethical sources and shorter (local/regional) supply chains. Indicator also measures presence of a set of criteria to drive an increase in the proportion of food procurement expenditure by public institutions on food from sustainable, ethical sources and shorter (local/regional) supply chains. |
| 39 | Presence of food safety legislation and implementation and enforcement procedures | Allows for (self)assessment of the presence, implementation and enforcement procedures for food safety legislation. |
| 40 | Existence of support services for the informal food sector providing business planning, finance, development advice. | Assesses the existence of support services for the informal food sector providing business planning, finance and development advice. The focus here is primarily in relation to sanitation and food safety regulations, but it is important to look at wider support needs and provision – e.g. infrastructure, skills etc. |

## The City Region Food System Framework of RUAF

The City Region Food System (CRFS) indicator framework is a practical assessment and planning tool designed to help cities to:(1) Assess the current status and performance of a city region food system following a whole-system approach, (2) Identify priority areas for action with clear desired outcomes and ways of measuring change, (3) Help with planning strategy and action to achieving the desired outcomes, and (4) Establish baselines and monitor changes resulting from (future) policy and programme implementation.

Taking a 'whole food system' approach, the indicators are based on a matrix of food system dimensions: the sustainability areas that reflect the multifunctional nature of the food system; and ii) the components of the whole food system (from production through to waste, and also food system policy and planning). It measures Social sustainability and equity (Improve health and well-being), Economic sustainability (Increase local economic growth and decent jobs), Environmental sustainability (Improve stewardship of environmental resources), Urban-rural integration (Improve city region food supply), Food governance (Improve governance for sustainable food systems), and Reduce vulnerability and increase resilience.

Since there a so many indicators each city needs to priorotise based on We suggest the approach below to help with prioritisation on what is most relevant locally, which can be defined by a multi-stakeholder identification of key issues. From this a selection can be made for issues which are most potential for change and for which data is available or can be generated.

An example is taken for "Strengthen the city region food production and supply system" which has the indicators for (a) City region food production capacity is optimised, (b) Efficient and diverse agricultural supply and value chains connect the city with food producers in the city region providing access to a wide range of market opportunities, (c) Flows of food, nutrients, energy and other resources and services connect across urban and rural areas. For these aspects the indicators # 110 until 120 are presented and for each indicator there is a guidance on how to measure it, either quantitative or qualitative.

For this guidance the presentation of all 210 CRFS indicators goes to far, and these can be all viewed in the CRFS report (Carey & Dubbeling, 2017).

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