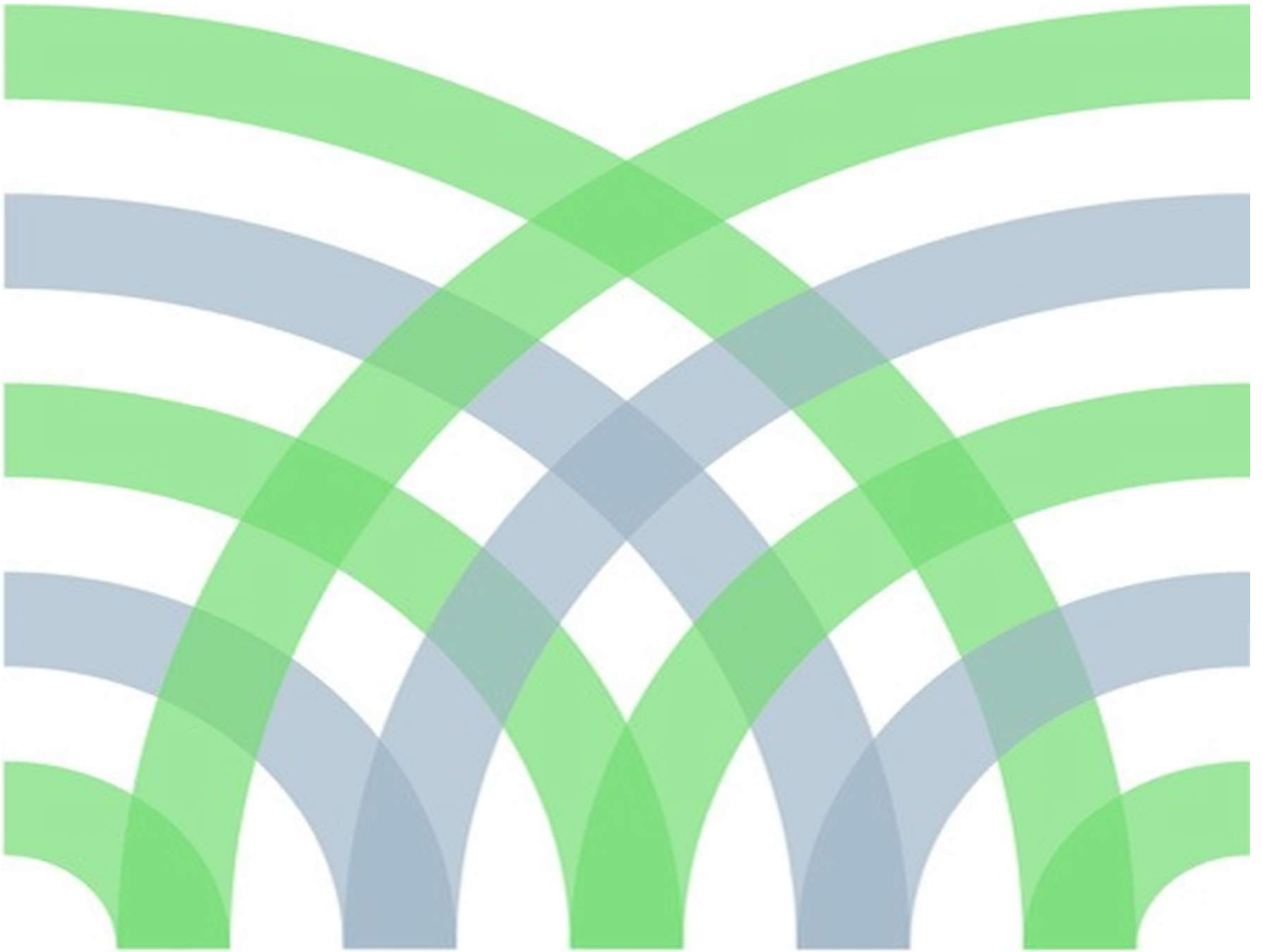
Teaching and learning guidance

capacity building for sustainable food planning

draft for consultation



AESOP4FOOD

AESOP4FOOD
Action for Education Spatial Organisation and Planning For Sustainable Food

Title

AESOP4Food teacher's guidance

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Erasmus+ **Co-funded by the European Union Erasmus+ programme**

Published by	**Stichting LE:NOTRE Institute, Wageningen, the Netherlands**
Project co-ordinators	**Jeroen de Vries and Roxana Maria Triboi**
Status:	**Draft for comments: June 15, 2024**

Citation

AESOP4Food. 2024. Teacher's Guidance for Sustainable Food Planning Report 2 of the Erasmus+ Collaboration Project AESOP4Food.

ACRONYMS

AESOP	Association of European Schools of Planning
AESOP4Food	Erasmus plus Collaboration Project Action for Education, Spatial Organisation and Planning for Sustainable Food
PALAR	Participatory Action Learning and Action Research
IP	Intensive Programme
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

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 aim 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 chapter 4. Then make use of the phases and content of the AESOP4Food seminar in chapter 3. 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, 6, and 7 are most relevant. Chapter 3 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.

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 one 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. 3Keel

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 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 JL (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 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.

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 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.

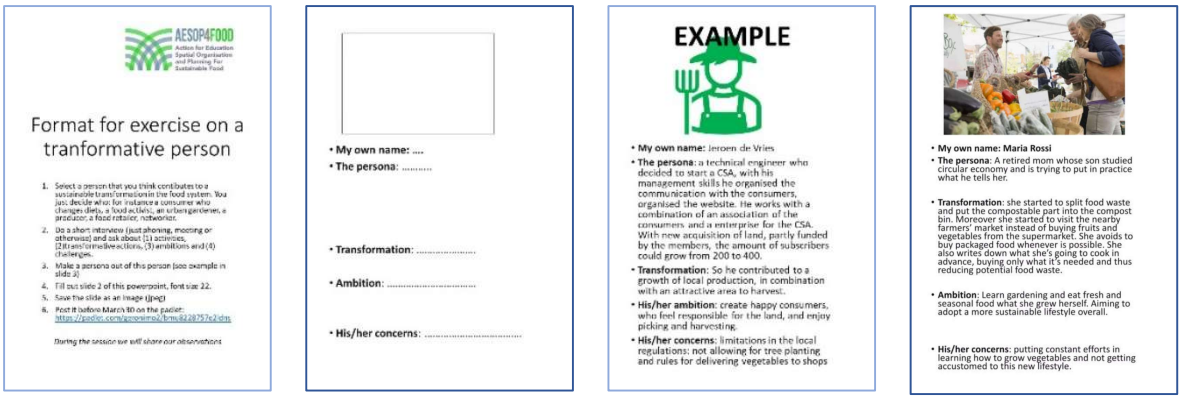

Figure 1. Exercise of a transformative person with the format, an example and contribution by a participant.

Which part of the assignment is relevant for this phase?

For the phase focusing on learners with varied knowledge levels in sustainable food planning, resources from Carolyn Steel, 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. For learners who need to start from the beginning the material of Carolyn Steel, author of Hungry City and Sitopia is very informative, which are available in the preparatory reading.

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.

3.2 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 (Millgrom et a., 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.

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.

3.3 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.

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« 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

3.4 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.

3.4.1 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 Either about to or already exceed many planetary limits, urgency and crisis. Emphasis on population; Malthusian models of scarcity and conflict. Highlighting the role of technology as magic bullets . but also, potentials of alternative technologies.	Technologies as global public goods to tackle environmental crisis Low-carbon transitions: new energy technologies Including 'technical fixes', from geoengineering to genetically modified crops, but also bottom-up, grassroots innovation Top-down governance arrangements in favour of 'the planet'
Marketized Crisis results from market failures, externalities. Primacy of (green) growth. Corporations as agents of change.	Technological entrepreneurs, green capitalists and consumers to lead Prices will reflect scarcity of resources and demand to protect them, and reward ecosystem service providers Need to allocate and enforce property rights and use institutions to this end Economic investments and market incentives to achieve green growth and a green economy
State-led Need for state involvement in steering transformation and re-embedding markets. State-backed R&D and wider finance central to a 'developmental state'. 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 At the international level, modifying and reforming existing institutions or creating new ones (World Environment Organisation) Strengthening global architectures (Earth System Governance)
Citizen-led Change comes from below, cumulative actions of multiple, networked initiatives Linking niches, experiments and demonstrations through movements. 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) Radical system change required (e.g. arguments for eco-socialism, eco-feminism, Third World environmentalism, post- developmentalism) 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 knew municipalism.

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.

3.4.2 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 dimension: "(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.

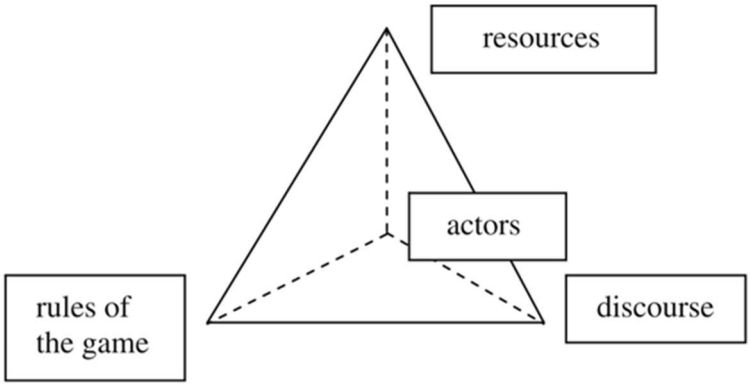

Figure 2. The tetrahedron as symbol for the connections between the dimensions of an arrangement [source: Arts, B., Leroy, P. & van Tatenhove, J. Political Modernisation and Policy Arrangements: A Framework for Understanding Environmental Policy Change. Public Organiz Rev 6, 93–106 (2006). https://doi.org/10.1007/s11115-006-0001-4]

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.

3.4.3 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).

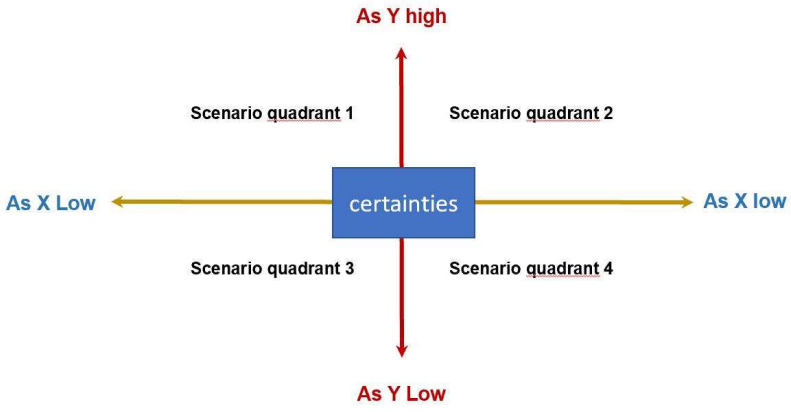

Figure 3. Structure of a scenario with two axes and four quadrants.

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

3.5 Evaluation and Monitoring

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

learning concepts and integration of the online seminar and living labs into teaching

AESOP4FOOD

4. 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. And, about the renewal of planning by placing the food question central in the development of cities and regions. For this It applies a food lens in 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 course:

- -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.
- -a 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. (Dewey, Harraway).
- 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.)

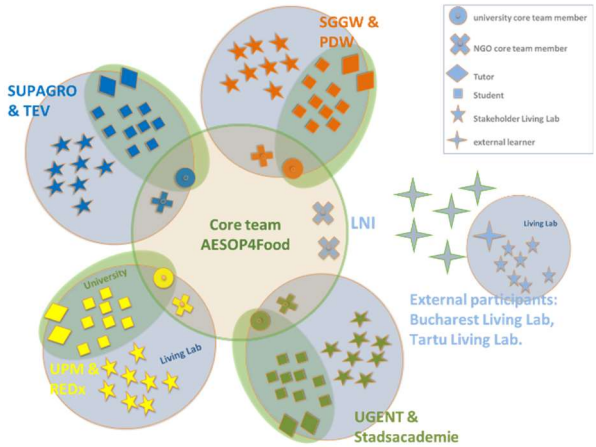

Figure 4: AESOP4Food Action Learning Collaboration

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.

5. 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.

5.1 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.

5.2 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).

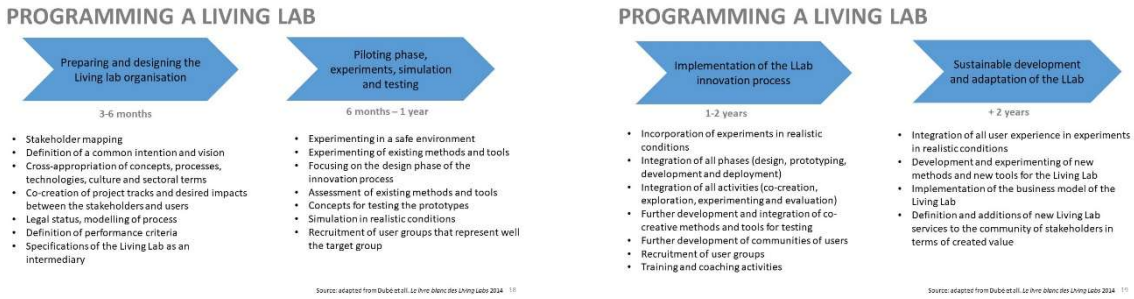

Figure 5. Phases of a living lab. elaboration based on AESOP4food living labs experience and literature review (Bouwma et al., 2022; Homann-Kee Tui et al., 2013; Schut et al., 2017).

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.

5.3 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 back ground 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 best 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.

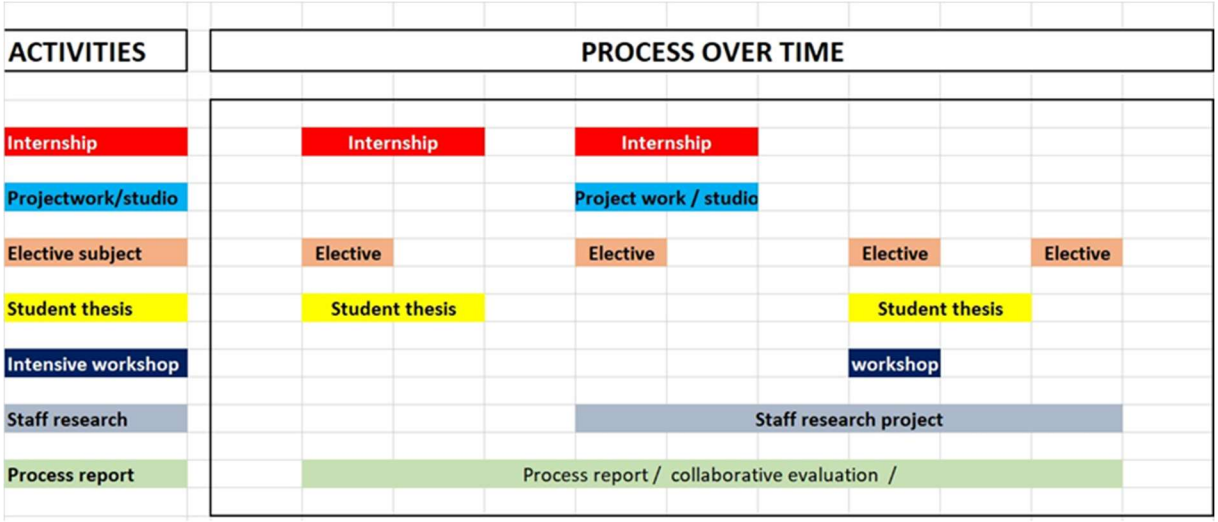

Figure 6. Linking education and research processes to a living lab process.

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.

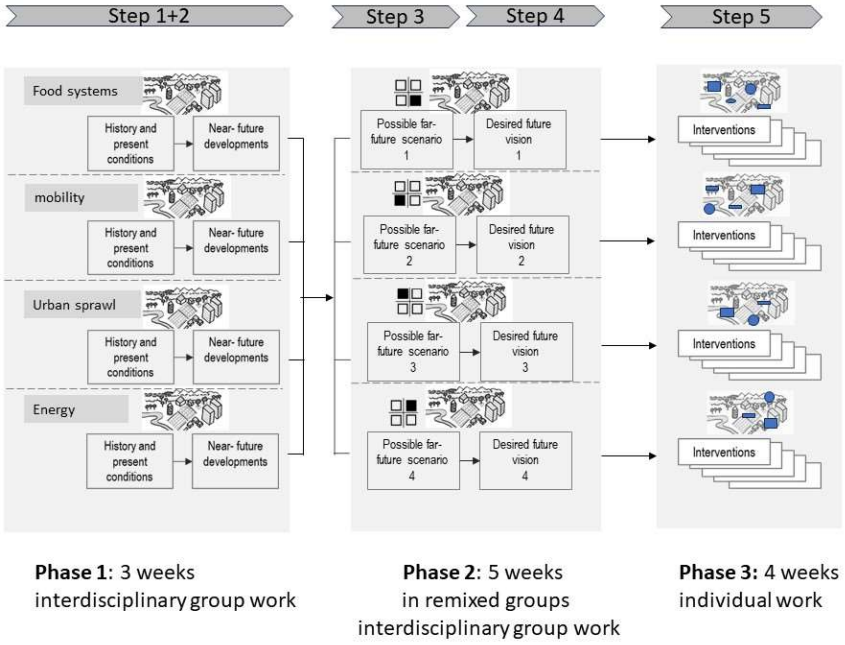

Figure 7. Proposed structure of an integral regional planning studio or atelier in which the subject of city region food planning is incorporated. Adapted from De Waal et al, 2012, figure 20.6.

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.

5.4 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.

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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

6. AESOP4food living labs

6.1 Ghent approach

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, and. They eventually one the case as the court rule 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 following questions:

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
-

Research 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 initiative 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.

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6.2 Madrid approach

Circular Economy in Food Retail

It is easier to imagine an apple being integrated into a circular system than most of the consumer goods that surround us. It might be easier, but we are still far away from achieving circular loops in the food sector. The reasons are multiple, some of them are related to the global chains in which our current food system is embedded. We propose a Living Lab based on the assumption 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 Is conceived as a space for the co-generation of applied knowledge together with the cooperative supermarket LA OSA and with the support of the International Center for Circular Economy (CIEC) of the Municipality of Madrid. The main goal is 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 its members, some of whom tried to set up a working group on these matters. We assume that short food supply chains are better positioned to adopt circularity, and 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?
- What are the bottlenecks of a transition into a (close to) zero plastic and zero waste model? For which part of the food consumer goods would that be easier?
- Do agroecological projects and short supply chains perform better in terms of circularity? What are their potentials to achieve circularity and how can they be enhanced?
- What are the implications in terms of spatial requirements and organizational operations associated with a shorter change embedded in circularity?

- Research questions for remote students
- What are 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?

6.3 Warsaw approach - research & demonstration coop 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

6.4 Montpellier approach: “Les Bouisses” Agriparc

An Agriparc 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).

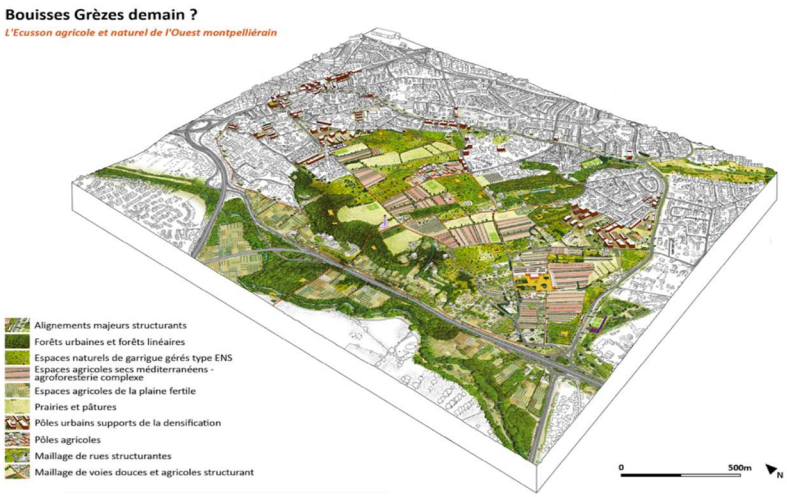

Figure 10. Prize winning proposal for the new agriparc Les Bouisses

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.

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PART V

methods, tools, monitoring and evaluation

glossary

AESOP4FOOD

7. 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.

7.1 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.

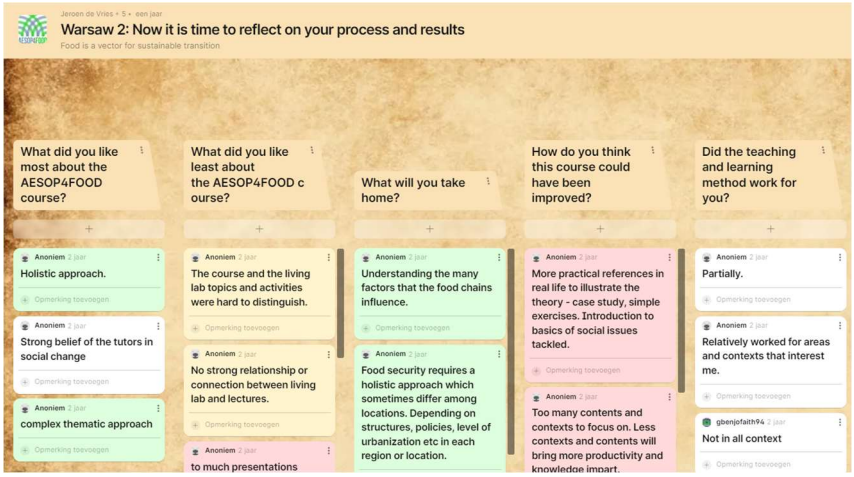


Figure 11. Padlet that was used for evaluation by each team of the AESOP4$Food seminar in 2022

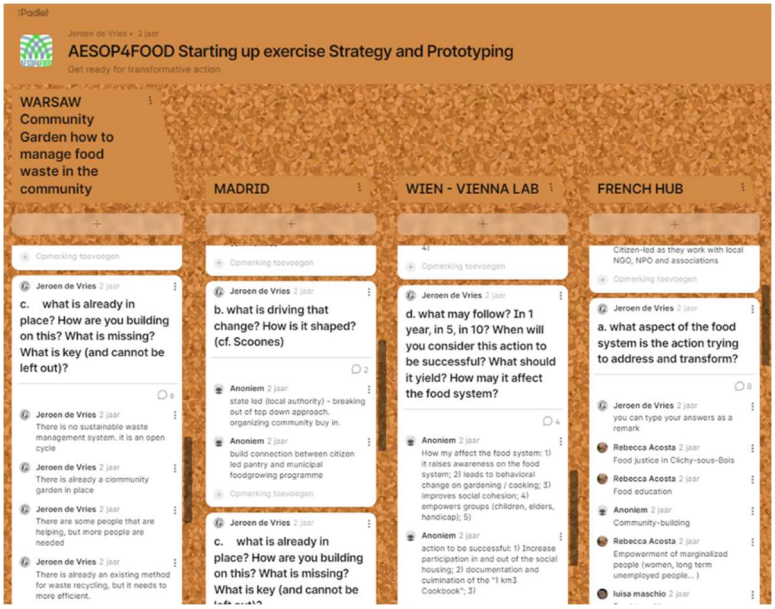


Figure 12. Padlet that was used in a breakout room as an exercise for Phase IV Strategy and Interventions

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.

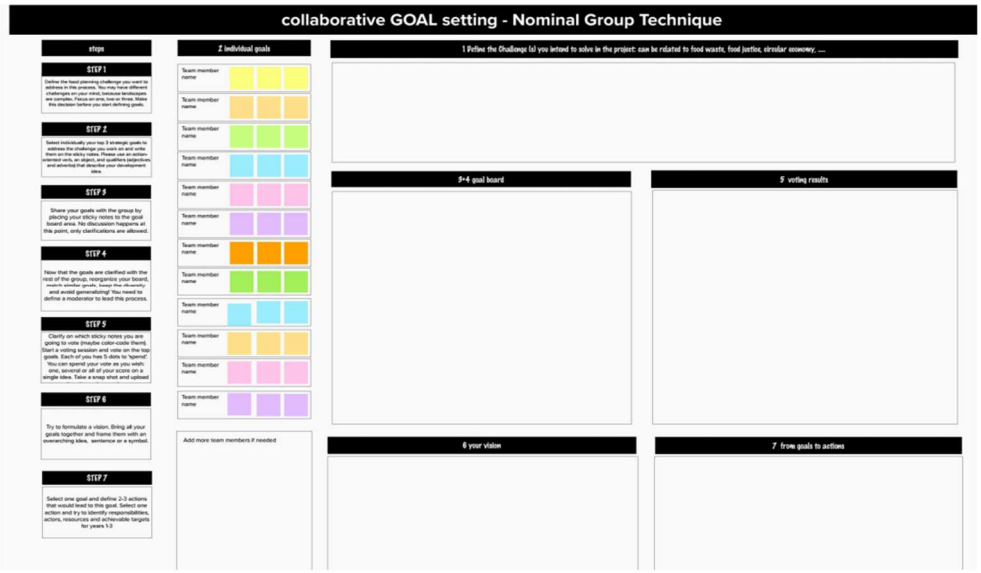


Figure 13. Format in Mural.co that was used for collaborative goal setting.

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.

7.2 Methods

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.

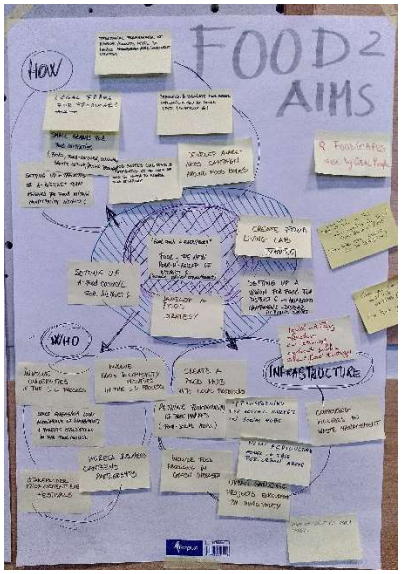


Figure 14. Collection of goals for a food strategy for sector 6 in Bucharest, presented during an onsite workshop, April 2024

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.

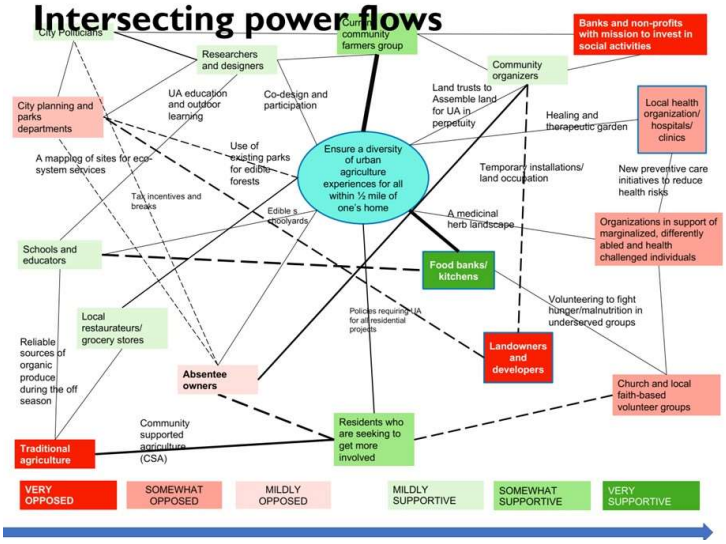
Creating the Power Map:

- 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 15 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.

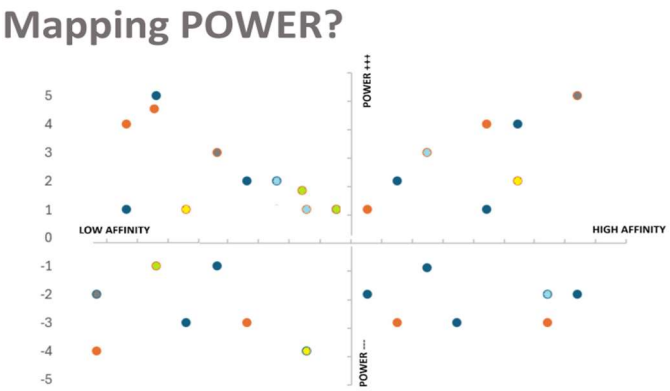


Figure 16 Exercise and method for making a power map by Marian Simón Rogo.

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.

7.3 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.

8. How to organise collaborative monitoring and evaluation and peer review?

8.1. 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).

8.2. 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.

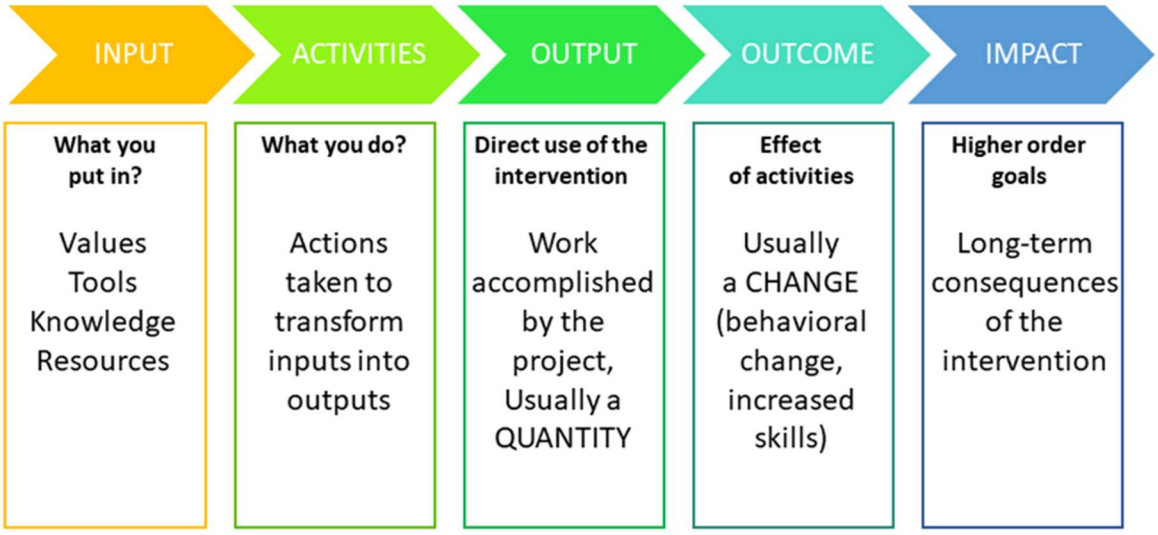
Feedback and Adaptation: Monitoring data provides feedback about the strengths and weaknesses of the program. It helps identify areas where adjustments or improvements are needed, allowing for timely corrective measures.

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.

8.3. 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 x). 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).



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.

Inputs refer to the resources invested in the program, including financial, human resources, as well as the technical infrastructure.

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 are the specific actions or interventions undertaken to achieve the desired outcomes. 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.

Outputs are the direct products or deliverables resulting from the activities.

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.

Outcomes refer to the 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. 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.

Impacts are the broader, long-term effects or changes at the societal, environmental, or systemic level resulting from the program's outcomes.

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.

8.4. 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.

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.

8.5. 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?).

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 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.

8.6. Conventional versus. Participatory Evaluation

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

Conventional Evaluation

- Often conducted by an external evaluator to ensure objectivity.
- Evaluation techniques include surveys, questionnaires, interviewing, focus group discussions.
- Extract information from a variety of sources and produce a report that stimulates management responses from the organization or programme evaluated.
- The success is measured by externally defined, mainly quantitative indicators.
- The approach is predetermined.

Participatory Evaluation

· Engage project stakeholders more actively in the evaluation process: in the design stage, in carrying out field research, analysing, interpreting, documenting the results. The interactive process during the evaluation can contribute to improved communications. Builds mutual responsibility and strengthens commitment to the programme. Is meant to empower people and make a real contribution to the development process.

- Rely on a range of methods that encourage reflection, creativity and discussion.
- The success is measured by internally defined indicators, including more qualitative judgements.
- Results-based, and like other evaluations, relies on triangulation and verification of results.
- Solution-oriented – focus on learning lessons from both success and failures.
- The approach is adaptive.

There are several ways to use participatory methods:

- To collect qualitative and quantitative impact data.
- To investigate causality, for example through focus group discussions or interviews.
- To negotiate differences and to validate key findings.

- To score people's appreciation of an intervention's impact.
- To assess impacts in relation to wider developments in the intervention area.

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:

- **Student Attendance Rate:** Measure the percentage of students attending 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.

8.7. Monitoring and Evaluation – Key steps and recommendations

The monitoring and evaluation process should include the following activities:

Establishment of Project Goals and Objectives: Clear definition of the objectives of the project at the expected outcomes. These should be specific, measurable, achievable, relevant, and time-bound (SMART goals). The objectives will serve as a basis for monitoring and evaluation.

Development of Monitoring and Evaluation Framework: Creation of a framework that outlines the key indicators, data collection methods, and tools to be used for monitoring and evaluation. This framework should align with the project goals and provide a structured approach to track progress and assess outcomes.

Collection of the Baseline Data: Gathering data before the project implementation to establish a starting point against which progress can be measured. Baseline data can include relevant statistics, surveys, assessments, or other indicators that reflect the current situation.

Implementation of Regular Data Collection: Systematic approach to collect data throughout the project implementation. This can involve a combination of qualitative and quantitative methods, such as surveys, interviews, observations, tests, focus groups, or document reviews. Collecting data at various project stages make it possible to capture changes and progress over time.

Analysing and Interpretation of the Data: Analysing the collected data to find out the most important insights and draw conclusions about project performance. It is necessary to use data analysis techniques, such as statistical analysis, to identify patterns, trends, strengths, weaknesses, and areas for improvement.

Assessment of Key Performance Indicators (KPIs): Identify key performance indicators that align with the project goals and objectives. These indicators should be quantifiable and directly related to the desired outcomes of the educational project. Regularly measure and track these indicators to assess progress and success.

Assessment of Stakeholder Feedback: Engagement of project stakeholders, including tutors, students, and community members, to gather their feedback on the project. By using surveys, focus groups, or individual

interviews it is valuable to collect their perspectives, suggestions, and concerns, and provide insights which can help identify areas for improvement.

Sharing and Reporting Lessons Learned: Documentation of lessons learned throughout the project. This documentation can serve as a valuable resource for future projects and contribute to institutional knowledge.

Review and Reflection: Performing regular reviews and reflection sessions to assess project progress, evaluate the effectiveness of strategies, and identify opportunities for improvement. It involves project team members in the discussions.

Adaptation and Learning: Using the insights gained during the monitoring and evaluation to refine strategies, interventions, and activities to enhance project outcomes and impact. Continuous learning from the monitoring and evaluation process gives a chance to improve future educational projects.

8.8. 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:

Surveys and Questionnaires: Designing surveys or questionnaires to participants, stakeholders, or beneficiaries can gather feedback and assess their perceptions, satisfaction, and outcomes related to the program. Surveys can be conducted online, or in-person.

Interviews: Conducting individual or group interviews with program participants, staff, or stakeholders can provide qualitative data and deeper insights into their experiences, challenges, and achievements within the program.

Focus Groups: Organizing focus group discussions involving a small group of participants to explore specific topics or themes related to the program. This method encourages interaction and captures diverse perspectives and experiences.

Observations: Conducting direct observations of program activities, events, or interactions can provide information on implementation, participant engagement, and the overall quality of program.

Document and Record Review: Reviewing program documents, records, reports, or other relevant materials can provide valuable information about program implementation, progress, and outcomes. These can include attendance records, progress reports, meeting minutes, or program documentation.

Feedback: Encouraging participants, staff, or stakeholders to provide ongoing feedback, suggestions, or recommendations through online platforms, or feedback sessions. This helps to gather real-time input and allows for continuous program improvement.

Testimonials: Personal narratives and subjective feedback that highlight specific aspects of the project's impact and effectiveness. Rely on narratives and experiences shared by project participants, stakeholders, or beneficiaries, and provide subjective insights into the project's value and impact.

Data Analysis: Analysing collected data using statistical methods, content analysis, or thematic analysis can uncover patterns, trends, and insights related to the program's performance, effectiveness, and impact.

Analysis of Performance Indicators: Establishing specific performance indicators and metrics aligned with program goals and objectives. These can include quantitative data such as attendance rates, test scores, completion rates, or qualitative indicators like participant testimonials or success stories.

In the 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:

Reflection: Discussion on the lessons learned.

Goal Assessment: Review of the goals and the progress. Self-assessment of achieving the objectives. Analysing the gaps between desired outcomes and the actual results.

SWOT Analysis: Performing SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis in terms of skills, knowledge, resources, factors of success.

Feedback Analysis: Feedback from colleagues, team members, or tutors involved in the project. Analysis of constructive criticism about performance, communication, teamwork, and overall contribution. It allows to gain insights into areas that require improvement.

Documentation Review: Analysis and evaluation of the quality and accuracy of the performed work and identification of the areas which could be improved.

Self-Assessment Questionnaires: Use self-assessment questionnaires or checklists tailored to project management or specific project roles. These can help you evaluate skills, competencies, and performance against predefined criteria.

Key Performance Indicators (KPIs): Evaluation of self-performance based on quantifiable measures.

Self-Reflection Documentation: Documenting own thoughts, challenges, successes, and failures. Regular review of own performance to identify patterns, and track progress.

Continuous Learning and Development: Involvement in training, workshops, or online courses relevant to update knowledge and skills for future project performance.

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Glossary

For the dynamic version of the glossary, you can consult the AESOP4Food wiki

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 and provide the 'sense of place'; 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 landscapes (COST-Action UAE, 2012).

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 (Altieri and Toledo 2011; Gliessman 2012; Fernandez et al. 2013). 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 (Anderson et al. 2015:3 & Nyéleni Declaration, Mali, 27 February 2015). A practice, 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 (V.E. Méndez, C.M. Bacon, R. Cohen, and S.R. Gliessman, Agroecology: A transdisciplinary, participatory and action-oriented approach)

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.(UAE, p 24)

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. (Wikipedia)

Biodynamic agriculture || Biodynamic agriculture is a form of alternative agriculture based on pseudo-scientific 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 tasks, emphasizing 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. (https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-2023-27_en)

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.(FAO and RUAF 2015)

Community garden || 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. (UAE, p 25)

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. 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.(www.greenpeace.org/international/publication/6923/defining-ecological-farming/)

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. (UAE, p24)

Effectiveness || The extent to which the development intervention's objectives were achieved, or are expected to be achieved, considering their relative importance (OECD, 2002).

Efficiency || A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results (OECD, 2002).

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 (OECD, 2002).

Ex-ante evaluation || An evaluation that is performed before implementation of a development intervention (OECD, 2002).

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 (OECD, 2002).

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. (https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy_en)

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. (Nyeleni Declaration-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 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 (see figure 1). 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. (RUAF, Urban Agriculture magazine, number 33, November 2017, p 35)

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. They present an opportunity for communities to make healthy and local food sourcing a profitable 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. (www.healthyfoodaccess.org)

Food security || 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. (https://a4nh.cgiar.org/2020/01/26/glossary-food-systems)

Food system || Food systems encompass the entire range of activities involved in the production, processing, marketing, consumption and disposal of goods that originate from agriculture, forestry or fisheries, including the inputs needed and the outputs generated at each of these steps. (Source: FAO, 2013). 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 (OECD, 2002).

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. ((Kamplage, 2017).

Landscape || Landscape' means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors (ELC 2000)

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. (LE:NOTRE Forum publication Rimini)

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 (Bouwma et al., 2022).

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 (Kneafsey, M.; Venn, L.; Schmutz, U.; Balázs, B.; Trenchard, L.; Eyden-Wood, T.; Bos, E.; Sutton, G.; Blacket, M. Short Food Supply Chains and Local Food Systems in the EU. A State of Play of their Socio-Economic Characteristics; EU Commission: Brussels, Belgium, 2013)

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 (OECD, 2002).

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". (https://www.milanurbanfoodpolicypact.org)

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. (Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007)

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 (Wikipedia).

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 (OECD, 2002).

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 (HLPE, 2017).

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 (OECD, 2002).

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. (Wikipedia)

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. (UAE, p24)

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 (UA Europe, p 21). 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.

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? What is the general theme of the LL? Who might be interested to participate in the LL? 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? What is the field of play? Where is the LL located? Which areas does it concern? What is the goal of the LL? What might be the problems and opportunities?	Visit the field. 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? How can a group of representatives embodying a 'system' be assembled to prioritize solutions that hold considerable relevance for all parties? 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? Which stakeholders can contribute to enhancing the environment to facilitate the adoption of solutions or innovations by a broad populace? Which stakeholders can provide resources without posing a threat of taking control over the initiative? Which stakeholders hold significant influence and require updates, without a necessity for continuous involvement? 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? What role each partner could play in the living lab? 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. Identify the directions of sustainability and find a common ground on a topic. Create joint understanding of the problem and pinpoint potential starting avenues. Decide on internal communication. 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. Each LL participant brings some resources.
Design the LL	What are the objectives of the LL? What are the research questions or/and problems to be solved? What are fields of application?	Articulate a theory of change. Decide on the LL approach: research-oriented learning, project-oriented learning or combine both.

I. LL ESTABLISHING		
steps to do	**questions to answer**	**annotations**
	At what level or levels can a challenge be addressed most efficiently? What methods are appropriate for the tasks given? What activities do you plan? When are you going to implement these activities?	Develop research questions with the support of academic partners. Assess capacity of the LL. Anticipate: input, output, outcome, impact. Estimate potential risks. Elaborate the LL plan and schedule. 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? Whether the participants need some training or courses? Do you have access to all the needed resources?	Fill the gaps in terms of resources. Initiate collaborative learning on a specific subject. Organise training or courses. Set up a collective library. Organise consultations with experts.
Verify and gradually implement the LL plan and schedule	What appeared to be an obstacle during implementation? How to bypass the backlash to overcome these obstacles? What has proven to be a success that can be repeated?	Start with pilot activities and assess their results. Organise meetings of small and targeted working groups if needed. Test and refine solutions. Implement and scale up, if succeeded. Evaluate the LL (during operations and consider next steps. Validate entry points, plan and schedule.
Disseminate the LL	Who should find out about the LL? What means can be used to spread the information about the LL? How to present the results of the LL actions?	Undertake outreach activities such as: 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. 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? Which goals does the LL have for overcoming these transition challenges? Has the LL gained access to resources (finance, networks, knowledge, time, etc.)? What resources were allocated to the LL? How capable is the LL in gathering and ensuring resources for its operations? To what degree is the LL effective in arranging and guiding its fundamental processes? Whether the stakeholders pertinent to the transition challenge participate in the LL?	Use developed LL evaluation frameworks, e.g. Bouwma et al., 2022. The evaluation is feedback to LL participants so they can identify further changes to be made. 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? How is the LL integrated into broader networks? How did the LL leverage its network to advance its undertakings? Is the LL suitably engaged with stakeholders who are relevant for the aspirations of the LL? What are the relationships among participants and stakeholders? To what extent are decisions made jointly?	Connect to initiatives that aim to make contributions to identical transition challenges. Balance diversity of stakeholders. Foster a sense of ownership for the LL among participants and essential stakeholders. Assess support in the network and organizational aspects and learning. 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? To what degree do actions correspond with the desired goals? 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. Anticipate (long-term) implications of the actions.
Evaluate LL dissemination	Is the LL well known and acknowledged? To what extent are relevant stakeholders informed about the intentions of the LL?	Effectively engage with intended audiences through communication. 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? What services and products has LL provided and created? Are the products and services produced and offered by the LL relevant and useful? Did the LL succeed in augmenting the resources? Is the LL effective in generating tangible outcomes that align with its goals? To what degree is the LL impacting and motivating alterations in the behaviours among its participants? Are the actions of the LL inspiring sustainable transition? What are the social, economic and environmental impacts of the LL? Is upscaling possible?	Implement activities that lead to sustainable transition. Engage and inspire the local community. Assess the real impact of undertaken activities (Bronson et al. 2021). The participants of the LL should decide how they want to monitor and assess the related performance. Modify and revise plans according to the monitoring of outcomes and impacts.

Annex B. Structure of the module descriptions – for checking

B.1 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.

Table 1 Structure of the Modules		
Aspect		***Explanation***
1	**Module title**	*The title that reflects the main contents of the module. For AESOP4Food these are the names of the phases.*
2	**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.*
3	**EQF level**	*6. First cycle bachelor level. 7. Second cycle – master level*
4	**ECTS credits**	*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 (E.g. a studio) that is linked to it.*
5	**EM Annotation**	*Description of the content of the module*
6	**Aim of the module**	*Description of the aim*
7	**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. 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.*
8	**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.*
9	**Criteria for actions**	*Criteria for the process of how the student should work on the results. These may be used for assessing the process.*
10	**Lectures**	*For AESOP4Food this is mainly: a lecture, an interactive exercise, study of reference, working on an assignment. For each mode there is an indication of the % of the time that is allocated and subjects for lectures.*
11	**Exercises**	*(examples) of exercise that can be included in this module*
12	**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.*
13	**Results**	*The results of completing the tasks that are related to the competence*
14	**Criteria for results**	*A set of criteria to assess the quality of the result.*
15	**Assessment mode**	*An indication of the way to assess the competence*
16	**References**	*Main literature and additional references*

17	**Resources**	*Recordings of lectures, presentation slides, websites*

In each description of a module the main competences are defined.

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

Table 2 Transversal competences for landscape architecture. 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	

The set of modules will be added in the final report.