# DIVINFOOD

**Co-constructing interactive short and mid-tier food chains
to value agrobiodiversity in healthy plant-based food**

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## Deliverable D5.1

## *Framework for LL facilitation and data production*

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# Summary

The Deliverable 5.1 "Framework for LL facilitation and data production" is intended for all Living Labs and all DIVINFOOD project partners. This document provides a framework to situate LLs' definition and contribution to the overall aim of the DIVINFOOD project. It orients LL coordinators throughout the setting up and development of living lab interactions, experiments and data collection. It also suggests tools to support LL facilitation and interactions at local level.

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# 1. Introduction

The design of the DIVINFOOD project entails different types of activities which are meant to be carried out by each Living Lab (LL):

- **Activities foreseen by the project Description of Action** (DoA) which include collaborating with WP and task leaders, and LL coordinators to facilitate the data collection, participatory evaluations, concrete experiments, and trials within each LL, in and across the different work packages.

- **Activities related to each LL context**: fostering sharing, taking advantage of collaboration and innovation opportunities, reflection and learning in and across the LL.

This guideline has multiple purposes:

- It provides a framework to situate LLs' definition and contribution to the overall aim of the DIVINFOOD project.

- It orients LL coordinators in developing the activities foreseen by the DIVINFOOD project, including experiments and data collection. This document also contains a preliminary summary about the structure of the GXE database.

- It suggests which tools for LL facilitation can be used to support interactions at local level. These tools can be used autonomously by the different LLs in their own context (references are provided for each tool).

In view of the breadth and multiplicity of tasks to be carried out by and in the LLs, the scope of the deliverable was amplified from the initial one aimed at preparing a framework for LL facilitation and data production, as the title of the deliverable indicates, to one that more meticulously guides LLs and their stakeholders, as well as WP and task leaders, in navigating the complexities of their work in the next years of the project.

It is important to note that the process that led to the development of the Guidelines was as inclusive as possible. After a round of exchanges with Work Package leaders and Living Lab coordinators, a first draft was circulated to all LLs and WP partners, presented and discussed during an informal workshop. After a further round of comments, it was finalized by the UNIPI team.

This document entails four main sections: Section 2 provides a definition of what Living Labs are based on the literature, their evolution and a specific definition of Living Labs developed by DIVINFOOD partners. Section 3 explains how Living Labs contribute to the overall aim of the DIVINFOOD project, through co-learning and co-creation activities, across the work packages' different foci. Section 4 specifies Living Labs setting up, processes and activities, and a preliminary idea on how Living Labs can monitor, reflect, and ultimately learn from their processes and outcomes.

The Annex section is structured as follows:
- Annex 1 contains a Glossary of Terms to help align knowledge and mutual understanding among the project partners within the consortium but also beyond.
- Annex 2 contains the list of Facilitation Tools with references.
- Annex 3 contains the Template for Living Lab coordinators to prepare their configuration and plans for the coming years. This can be used in preparation of Milestone 3 of the project ("LLs' configurations and programs", to be validated by the Partners of the project, based on a webinar presentation to be delivered on the 25th of October 2022).

# 2. What is a Living Lab?
## 2.1. Living Labs evolution & definitions

Living Labs (LLs) have been amply used in various contexts since the 1990s, when the EU began to provide funds for a variety of large-scale living lab projects. It is only since 2006, in conjunction with the creation of the European Network of Living Labs (ENoLL) by the European Commission, that they have also begun to receive an increasing amount of attention aimed at better understanding their nature, aims and effectiveness. Historically speaking, the term "living lab" has been mainly used in disciplines related to computer science and new information and communication technology, with an emphasis on artificial intelligence and digital technology and, to a lesser extent, on innovation management and business. This is reflected in the scholarly attention, that only recently has been giving a greater emphasis to agroecological issues (Gamache et al, 2020).

Being born in commercial business-to-consumer settings, the main aim of LLs has been that of supporting research and development innovation processes. Many authors have defined LLs (e.g. Folstad, 2008; Leminen and Westerlund, 2012) and their definitions resemble that developed by the ENoLL in 2015 that defines LLs as: **"user-centred, open innovation ecosystems based on a systematic user co-creation approach, integrating research and innovation processes in real life communities and settings".** *Users* can be intended as the citizens or end customers who participate in the LL, but also those who benefit from the result of the work. *Open innovation* suggests that firms, who initially used this tool, cannot rely entirely on their own R&D and therefore use external sources to do so, while by *co-creation* the definition refers to the process of stakeholders coming together to collaborate and innovate jointly (Hossain et al, 2019).

Albeit the vast diversity of experiences, a recent systematic review of LL literature highlights certain commonalities that better describe LL objectives and nature (Hossain et al, 2019):

- the aim of LLs is that of fostering innovation through a co-creation process that involves a wide range of stakeholders. Key characteristics of LLs are the context, the actors, the activities, the methods used and the outcomes.
- In terms of context, LLs differ from conventional lab settings insofar as their activities take place in real life settings, whose boundaries change depending on

the nature of the LLs, ranging from closely bounded places, like homes, to larger areas such as cities and regions (Nystrom et al, 2014).

- Due to their interdisciplinary and transdisciplinary nature, LLs are made up of multiple stakeholders. The variety of stakeholders again depends on the nature of LLs: technology-based LLs include fewer stakeholders involved in public-private partnerships, while citizen-based LLs, include a wider variety of actors, including civil society and citizens.

- Co-creation is a key aspect of LLs, especially open LLs, that distinguishes them from other forms of innovation such as lab settings where actors' involvement is more passive, and where stakeholders are kept at a distance from the analysis and results (Hossain et al, 2019). The approaches and methods employed are used to foster an active involvement of participants aimed at ensuring a collaborative contextual innovation. They include tools such as journals or diaries, questionnaires, focus groups and observation.

- LLs produce several tangible and intangible outcomes. Learning, knowledge, and transfer are intangible outcomes of many LLs, and for some scholars, they are the main rationale for setting up a LL (Leminen and Westerlund, 2012). Also, with an aim to spread innovation and inspire others (that are not directly involved), LLs should be open structures which involve all the above-mentioned stakeholders, serving as "lighthouses" showing the way for innovative practices. While tangible outcomes include developing new products and designs, knowledge – including tacit knowledge – as well as systemic innovations, are additional important outcomes of a LL.

LLs face several challenges in fostering pathways of collaborative change, such as managing stakeholder engagement as well as the co-creation process itself. LLs can mean different things to different stakeholders and bringing different stakeholders together can lead to a clash of ideas (Leminen and Westerlund, 2012). Yet, collaboration between stakeholders is crucial for the development of innovations, and "creating networks and engaging users are key to a successful LL" (Hossain et al, 2019: 986). For this reason, ensuring a good management and facilitation of the LLs is important to help the different stakeholders to stay focused in the main objective of the project, in spite of their different perspectives, to create common values, as well as a space for collective reflection and "learning as you go along" (Gamache et al, 2020).

From a conceptual perspective, ENoLL identifies 4 'types' of living labs. Most living labs combine several types:

- Urban & Rural Living Labs: opening the city/region as a site for experimentation, co- creation, active user engagement, real-life settings experimentation, multi-stakeholders, multi- method.
- Living Labs as a service (for SME's & start-ups): offering general LL tools & methodologies to companies to help them accelerate their innovation funnels.
- Research-driven living lab (research focused): with different topics of research, this type of living labs deals with co-creating models for solving problems.
- Living testbed (provider focused): this type of Living lab focuses on the development of new technologies and their acceptance by society via demonstration projects (e.g. House/Farm of the future, Industry 4.0 labs).

## 2.2. A Transdisciplinary Approach

Living labs involve several disciplines and research backgrounds, from agricultural engineers to social scientists, who find a common ground for cooperation through interdisciplinary work. The collaboration between scientific disciplines along with the integration of non-academic partners into the research process (practitioners, policy makers, citizens, etc..) leads to making a further step, which we call a "transdisciplinary approach".

> **Transdisciplinary research aims at finding solutions to 'real world' problems and challenges, and at increasing the relevance of the 'academy' for 'the real world', by cultivating a research practice which has a high potential for meaningful impact. In this way, it often takes an action-research orientation to create change, and thus relies on the involvement of 'real world' actors.**

Coordination between disciplines and any effort beyond their boundaries (which should be considered permeable, expandable, and transferable) are fundamental for knowledge to expand beyond any restrictive disciplinary boundaries. Trans-disciplinarity is an epistemological approach, but above all it is a cultural space where links between various domains of knowledge are explored to bridge existing gaps in this very knowledge.

Now, more than ever, the complexity of reality cannot be described using only one language. Trans-disciplinarity helps and supports overcoming the complexity of reality, it opens mindsets and broadens perspectives as well within research, but most importantly it allows multiple knowledge domains to build new scenarios and creative solutions.

Working in a transdisciplinary way means:

- Building a collaborative research team that includes stakeholders and establishing an organizational structure in which the objectives of the joint work, responsibilities, competencies, and decision rules are clearly defined; and where all team members can feel they can contribute
- Creating a joint understanding and definition of the problem to be addressed, in order to ensure that any subsequent research task departs from a common reference point.
- Generating targeted 'products' for all parties involved, whether they are activities, strategies, or less tangible but nevertheless highly valuable outcomes, such as empowerment or learning (Lang et al. quoted in Kaufmann et al., 2013: 118).

Participatory methodologies are required, not only for identifying stakeholders and understanding their relationships, but also for effectively integrating them in a transdisciplinary research process, for example via stakeholder meetings, feedback seminars, 'platforms' for facilitated discussion, and collaborative learning processes.

The process should thus lead to outcomes that support change and transformation, which here means that people who establish and maintain a system through their actions, or who create a particular situation, are enabled to alter these actions. The outcomes of a transdisciplinary research process include not only new knowledge, but also practical activities or products that help improve the problematic situation the project focuses on.

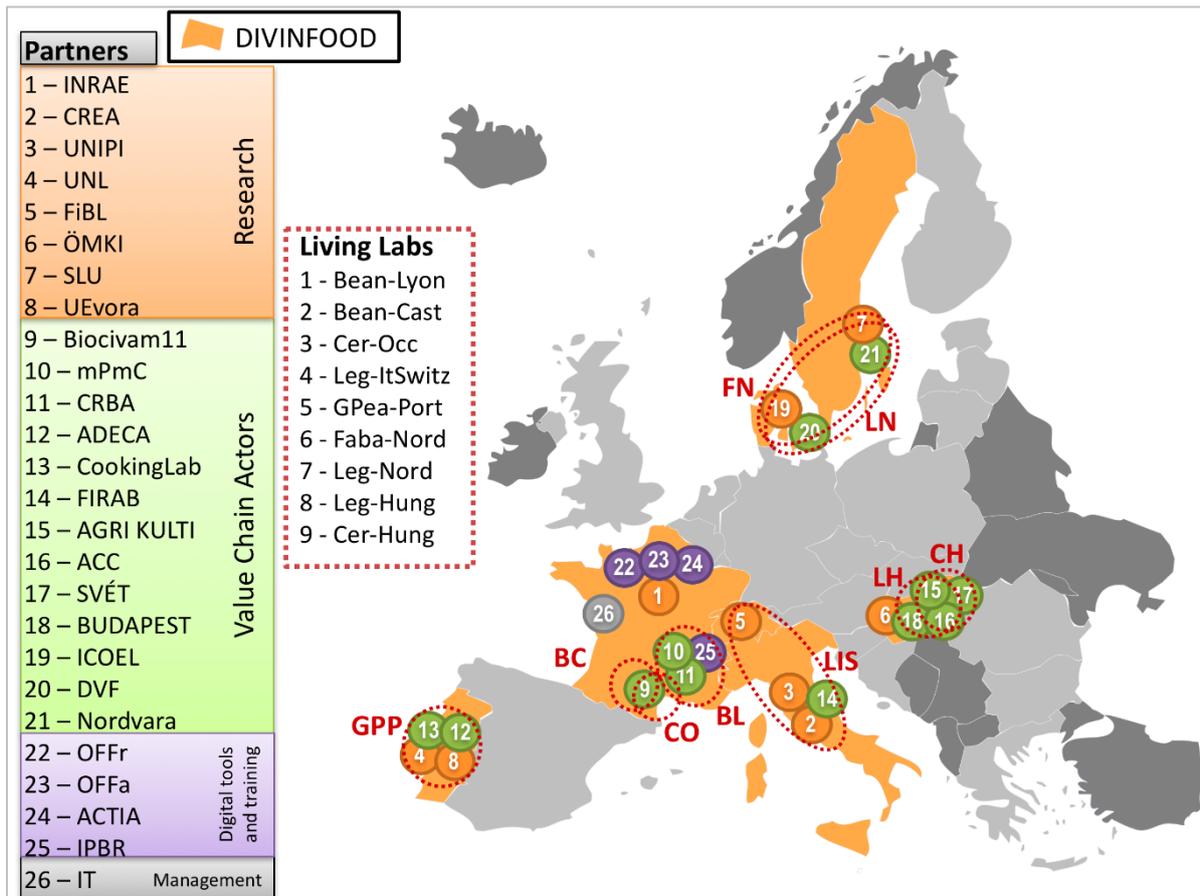## 2.3. The nine Living Labs in DIVINFOOD

The 9 LLs involve a context specific combination of actors collaborating to – fully or partially – develop a set of activities (i.e. spanning across breeding, multiplying seeds, cultivation, processing and cooking, selling, training) with implications in terms of innovative business models, local cooperation and effective policy for agrobiodiversity preservation and valorization. Such diversity will allow a dynamic approach of the technical, technological, organizational and institutional innovations that will facilitate NUCs use (see glossary).

Table 1 was created by gathering information from the presentations of the LL coordinators during the kick-off meeting (Lyon, March 2022) and highlights the long-term goals that the LL individually wants to achieve.

The 9 LLs are central in the project. They will foster the co-construction with farmers, small-scale processors, food SMEs, breeders and other stakeholders in the regional context. Some tasks of the project will be more specific to certain LLs according to local conditions and opportunities. The LLs have therefore a territorial dimension and will be stabilized into territorial multi-actor networks over the course of the project. They will be laboratories and demonstration sites on how to proceed in setting up territorial networks, managing and valuing agrobiodiversity and how to collectively address specific challenges/opportunities regarding this agrobiodiversity.

The combination of the results obtained in each LL, including internal organizational and governance aspects, will demonstrate how co-learning and co-creation are part of the same process, overlap, interact, and feed each other, and they can contribute to new models of action and innovation in diverse territorial networks.

**Figure 1 – Listing and location of DIVININFOOD's LLs**



| Partners | | Living Labs |
|---|---|---|
| 1 – INRAE | Research | 1 - Bean-Lyon |
| 2 – CREA | | 2 - Bean-Cast |
| 3 – UNIPI | | 3 - Cer-Occ |
| 4 – UNL | | 4 - Leg-ItSwitz |
| 5 – FiBL | | 5 - GPea-Port |
| 6 – ÖMKI | | 6 - Faba-Nord |
| 7 – SLU | | 7 - Leg-Nord |
| 8 – UEvora | | 8 - Leg-Hung |
| 9 – Biocivam11 | Value Chain Actors | 9 - Cer-Hung |
| 10 – mPmC | | |
| 11 – CRBA | | |
| 12 – ADECA | | |
| 13 – CookingLab | | |
| 14 – FIRAB | | |
| 15 – AGRI KULTI | | |
| 16 – ACC | | |
| 17 – SVÉT | | |
| 18 – BUDAPEST | | |
| 19 – ICOEL | | |
| 20 – DVF | | |
| 21 – Nordvara | | |
| 22 – OFFr | Digital tools and training | |
| 23 – OFFa | | |
| 24 – ACTIA | | |
| 25 – IPBR | | |
| 26 – IT | Management | |

**Table 1 - Living Labs in DIVINFOO: names, geography, goals, Partners, NUCs considered**

| Name and geography | Living Lab motto | Goals to achieve in the next 5 years | Partners involved | Stage and NUCs |
|---|---|---|---|---|
| **LL Bean Lyon-AURA Region (France)** | The "meat" bean revival for Lyon's Region | 1) The "meat" bean as a main dish<br>2) A proof that organic & cultivated biodiversity is a solution for food resilience<br>3) Efficient short food supply chain | MPmC, CRBA, INRAE + ACTIA, OFFr, OFFa | **Emerging** Bean of Bresse 'Meat bean' |
| **LL Bean Cast (France)** | Make a traditional local dish driving the agro ecological transition of the territory | 1) White organic bean produced in the territory adapted to climate change and consumers behaviors<br>2) A popular festival to celebrate an organic cassoulet<br>3) A local network of stakeholders, citizens, local authorities and researcher used to work tougher within the objective of biodiversity and sustainability | Biocivam11, IPBR, INRAE + ACTIA, OFFr, OFFa | **Emerging** Lingot bean |
| **LL Cer OCC (France)** | Collective dynamics in Occitanie to discover minor cereals and increase their use | 1) A lot of small-scale processors using organic minor cereals<br>2) A large range of minor cereal, local produced, in the respect to the soil and the biodiversity and adapted to consumer behaviors<br>3) A local network of stakeholders, citizens, local authorities and researchers used to work together within the objective of biodiversity and sustainability | Biocivam11, IPBR, INRAE + ACTIA, OFFr, OFFa | **Advanced** Einkorn Rivet wheat |
| **LL Leg_It Switz (Switzerland, Italy)** | Lupinus (and Pisum) in fabula: making legume-based foods a fairy tale for farmers up to consumers | 1) Facilitate a functional dialogue between food system's actors around the topic of plant-based diets<br>2) Promote the cultivation of white lupin and pea in the LL regions<br>3) Support the set-up of a strong network of all actors interested in underutilised grain legumes | CREA, FIRAB (Cereal Docks), FiBL/ECO-PB + ACTIA, OFFr, OFFa | **Emerging** White lupine Pea |
| **LL GPEAPort (Portugal)** | A white grass pea here, a blue grass pea there, an attractive grass pea for everybody everywhere. | 1) A bigger number of happy grass pea farmers<br>2) A diversity of attractive grass pea varieties and production systems in the fields<br>3) Healthy and tasty innovative food products grass pea based at the market | UNL, UEvora, ADECA, CookingLab + ACTIA, OFFr, OFFa | **Advanced** Grass Pea |
| **LL Leg HUNG (Hungary)** | To (re)introduce less-known and/or | 1) Decrease of the consumption of legumes stops (after 10 years of drop) | AGRIKULTI, Budapest Municipality, | **Advanced** |

| | | | | |
|---|---|---|---|---|
| | traditional legume species into Hungarian gastronomy- from School catering to premium kitchens. | 2) Visible number of chefs and small-scale producers cooperate in grow-on-demand system <br> 3) Concept of sustainable gastronomy/restaurant become well/known – similar to "organic". | ACC, SVET + ACTIA, OFFr, OFFa | Local landraces of chickpea Cowpea <br><br> Common bean |
| **LL Cer HUNG (Hungary)** | Healthy and locally produced food for everyone. (Re)introduce ancient cereal species into Hungarian gastronomy via traditional and innovative products | 1) Up-scaling <br> 2) Out-scaling <br> 3) Trust-building | OMKI, ACC, SVET+ ACTIA, OFFr, OFFa | **Emerging** Einkorn |
| **LL Faba Nord (Denmark Sweden)** | N/A | 1) expanding market of plant-based products <br> 2) adapting varieties sourcing industrials with Nordic quality raw materials <br> 3) increasing awareness of the benefits of faba bean as a good raw material for good production | SEGES, SLU, DVF + ACTIA, OFFr, OFFa | **Emerging** Faba Bean |
| **LL Leg-Nord (Denmark Sweden)** | N/A | 1) breeding for intercropping, short growing season and low temperature <br> 2) cultural heritage of landraces ( esp. grey pea) <br> 3) new products and recipes, nudging in restaurants | Nordvara, SEGES, SLU, DVF + ACTIA, OFFr, OFFa | **Emerging** Blue Lupine Grey Pea Lentils |
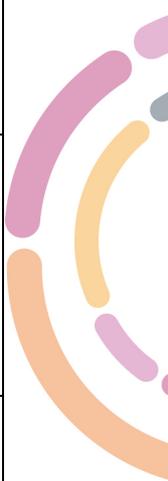
# 2.4. What is a Living Lab in DIVINFOOD? A tailored definition

DIVINFOOD Living Labs aim to create the conditions for multi-actor experiments in different geographical contexts and in a limited time. Therefore "time" is a precious resource: in a short time, it is necessary to compare and then align the various actors involved in the ecosystem of the LL and the project partners. The first step to test the feasibility of the LL and explore its usefulness for users, consumers and various interested stakeholders is to start from shared definitions and terms, as well as priorities and project objectives. The collaborative exercise is made up of two steps, which are here briefly summarized:

**STEP 1 - "If the Living Labs in DIVINFOOD project were animals, what animals would they be?"**
During the kick-off meeting a collaborative exercise was done involving all DIVINFOOD partners. Everyone was asked to think concretely about their idea of Living Lab, without trying to give a standard and optimal definition to express it. Instead, each partner was asked to answer the following question: "If the Living Labs in DIVINFOOD project were animals, what animals would they be?". All the animals were displayed on a wall. The facilitator asked partners to motivate their choice of the animal, providing a brief explanation, by using post-its, such as: "In my opinion the LL is a chameleon because he adapts continuously and physically to the external environment ....". The co-participatory technique used during the kick-off was useful to collect the opinions and contributions of all the partners in a few minutes, but above all it helped to provide a set of thirteen characteristics considered to be the most important to define the LLs in the DIVINFOOD project. Through a simple and iconographic language, the LL was described by the partners in a concrete and shared way. Table 2 is a summary of the results of the collaborative exercise proposed during the kick-off.
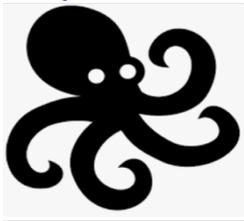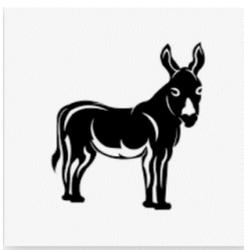
This kind of activity can help a project team to share and exchange views and definitions of difficult concepts such as Sustainability, Agroecology, Food Environments or Eco-system Services and to discuss them fruitfully by using real and concrete elements "borrowed from" other contexts (in this case the "reification process" took place with the world of the animals).
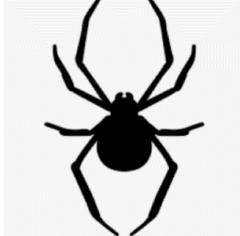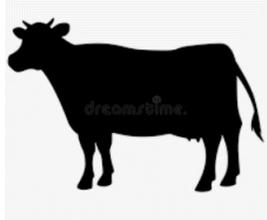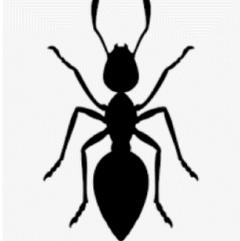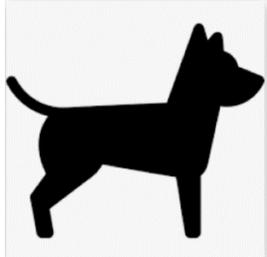
This short and fast activity aimed to concretely show how simple applied design thinking techniques can help people with different cultural backgrounds and skills to communicate easily and faster, and to compare and discuss definitions. Why is this so important in the DIVINFOOD project? Because it is necessary to provide partners and LL members with tools to create a shared meaning and language for cross-disciplinary activities. This was a good example of a collaborative brainstorming method to tailor definitions and to find a common language with colleagues / partners, without having a prevailing disciplinary lexicon or scientific / academic, high-level jargon.

This approach was interesting not only to define the characteristics of the LLs in the DIVINFOOD project, but also to develop a team building moment and to support a collaborative mindset, showing how it is not about "my opinions" versus "your opinions" but rather "how are my opinions related to yours, and how do our concerns paint a broader picture of our challenge?".

In other words, it was a simple and seemingly playful activity, but helped DIVINFOOD partners to start from something concrete and real to "construct" something abstract together (such as a common definition, an idea, a practice, an interaction or a social relationship). This is fundamental to help build a common vision and a mission inside and outside the DIVINFOOD project. This technique allows in a short time to discuss characteristics, strengths, weaknesses, but also limitations, challenges and opportunities of the abstract concept of LL.

**Table 2 - Results of the exercise "If the Living Labs in DIVINFOOD project were animals, what animals would they be?"**

| If DIVINFOOD LLs were an animal: | main characteristics: | If DIVINFOOD LLs were an animal: | main characteristics: |
|---|---|---|---|
| **Jellyfish**  | **SENTINELS** <br> **DIVINFOOD LLs are growing and floating everywhere** and are a sign of an ecosystem breakdown. Climate change, biodiversity issues and pollution are promoting the proliferation of similar LL. | **Octopus**  | **SMART AND FLEXIBLE** <br> **DIVINFOOD LL are smart and flexible**, are forced to change their behaviors and choices according to the variables of the context. They implement unexpected adaptive behaviors. |
| **Earthworm**  | **INVISIBLE AND NECESSARY** <br> **DIVINFOOD LLs are "natural" collaborators of the farmers.** LLs actors and dynamics are mostly invisible, but very active and paramount for the biodiversity on the Planet. | **Mule**  | **ROBUST** <br> **DIVINFOOD LLs are hybrid, both resistant and resilient.** <br> (Resistant: patient, courageous and perseverant, firm, static on its own position; Resilient: flexible, adaptable and imaginative) |
| **Common midwife toad**  | **DEFENSIVE** <br> **DIVINFOOD LLs are essential components of a great variety of natural ecosystems** in Europe. From an ecological perspective, LL is a good ecological indicator since it responds (with defence tools)  to very slight changes in its environment. | **Bean cockroach**  | **PERSISTENT** <br> **DIVINFOOD LLs have the ability to resist the external forces.** LLs can widespread everywhere, persisting in pursuing challenging goals to achieve results. |
| **Platypus**  | **SPECIAL AND UNUSUAL** <br> **DIVINFOOD LLs are special and unusual**: they could be a bit strange, genetically mixed, but they work. | **Chamaleon**  | **ADAPTIVE** <br> **DIVINFOOD LLs possess a host of physical adaptations** which help them to survive. |

| Spider | CONNECTORS AND COLLECTORS | Cow | PRODUCTIVE |
|---|---|---|---|
|  | **DIVINFOOD LLs are collectors and connectors:** collect and connect data, create links and nets; meet and attracts other similar "animals". |  | **DIVINFOOD LLs are useful** and they must be kept healthy. In addition, they have an intense, but not common and visible, social life. |
| Ant | SMALL AND OPERATIVE | Dog | RELIABLE |
|  | **DIVINFOOD LL are small, but strong,** social and community-based, full of tireless and hard workers. |  | **DIVINFOOD LL are based on trust.** They learn by doing and practicing routines, and gradually learn how to trust internal and external actors. |
| Bees | SYSTEMIC | | |
|  | **DIVINFOOD LLs constitute a sort of collective and collaborative intelligence** to achieve complex goals. They can't survive without a social structure: the roles of each component should be hierarchically established and each task must be carried out with the highest level of efficiency to ensure the survival of the LL and its regeneration. | | |

**STEP 2 – Discussing Living Labs characteristics**

Often in transdisciplinary projects such as DIVINFOOD, there are people from different backgrounds involved and the discussions may have unexpected dynamics, leaders may take over, and some may not enjoy the process or simply not participate. This activity aimed to encourage collaborative and proactive energy, but also transparency for a more dynamic and collaborative learning environment between participants.

DIVINFOOD 13 LL characteristics, represented by 13 animals, were then discussed with the participants in an online meeting. From the discussion it emerged that:

- DIVINFOOD's 9 LLs are different both in the degree of maturity and in their internal configuration;
- often the LLs, although well established in the territorial context, are not visible to external users and they still struggle to interact with local consumers;
- some LLs are not physically defined, and have to face the challenge of involving more regions than only one, therefore also including/engaging diverse cultures and languages;
- tenacity and flexibility are characteristics common to many of the DIVINFOOD LLs;
- changing often, adapting, being contaminated and contaminating the surrounding area is an added value and high strength;
- even if the LLs have different objectives and goals to achieve during the DIVINFOOD project, there is a common need to identify a structured and impactful collaboration strategy to work together;
- the LL model is considered to be an optimal solution to refashion food systems and create new business models;
- upscaling is one of the most difficult challenges for the different LLs.

The 13 characteristics identified in the first step and then discussed in depth in the second activity, will be used in the various phases of the project to help the LLs to identify any changes to the objectives of the single LL, and monitor their progress. For example, the 13 animals / characteristics were used as one of the means of reflection for the preparation of Milestone 3 of the project: "LLs' configurations and programs" template.

The exercise proposed during the Kick-off will be repeated in 5 years, at the end of the project, to all members of the DIVINFOOD project, to define whether the initial characteristics will remain the same or will have changed.

# 3. How Living Labs contribute to the overall objective of the project

The overall goal of the project is to "facilitate the use and increase the value of Neglected and Underutilized Crops (NUCs) in food chains" (Grant Agreement, Part B). Its novelty lies in aiming to develop not only short but also mid-tier value chains, and in including retail and consumer expectations and preferences strongly in developing value chains upstream. For this reason, the project includes an ample variety of actors and emphasis is placed on its participatory nature to avoid working in technical "silos", and to maximize interactions between actors aimed at increasing effectiveness.

## 3.1 Co-learning and Co-creation in DIVINFOOD Living Labs

Co-learning and co-creation are key approaches of the project, closely tied, which we attempt in this paragraph to briefly situate and illustrate.

- **Co-learning, or collaborative learning (or collective learning),** as opposed to individual learning, takes place where two or more people learn or attempt to learn something together (Dillenbourg, 1999). Factors that stimulate collaborative learning have been identified in a series of studies, which generally agree that collaborative learning requires active and engaging social interactions.

Collaborative learning process requires an explicit team building process, a process that needs to be carefully designed and facilitated and for which It is necessary to establish a growing relationship of trust. It also requires that the different types of knowledge of those involved are made clear and considered at a similar level of relevance – otherwise, when researchers are involved, there is a tendency for others to consider researchers' knowledge as more relevant than their own. The equal level in the co-construction process is fundamental. Box 1 provides an example of co-learning.

**Box 1 - "Co-learning for collaborative creation": The FIT4FOOD2030 project**

The project ran from 2017 to 2020. By the end of it, 11 Research & Innovation (R&I) policy labs were established across Europe. The aim of these policy labs is to increase the impact of R&I on the transformation towards a future-proof food system. Co-learning was a key aspect of the project. In the Dutch policy lab for example, participants used the sand pit model to work together and learn from each other in a series of interactive workshops with the aim of writing a proposal on future food systems for the country. The sandpits had a highly multidisciplinary mix of participants, some active researchers and others potential users of research outcomes, that drove lateral thinking and radical approaches to address research challenges. The participants of the sandpit formed a consortium that wrote (created) a proposal about how to work towards a future-proof food system.

Trust and collaboration will be the important keys to promote the exchange of knowledge and achieve the expected outcomes of DIVINFOOD project. The co-learning process strengthens LL's awareness of their role in the process of change and innovation. Undoubtedly, in co-learning processes all participants acquire something meaningful, not only knowledge, but also new relationships and skills.

- **Co-creation, or Collaborative (collective) Creation,** can be defined as "the enactment of creation through interactions" (Ramaswamy and Ozcan, 2018). Co-creation directs innovation processes and allows a wide range of voices that would normally never get involved to collaborate. Co-creators can be a wide range of players, from different backgrounds, each bringing something special to the table. The final outcomes are products (e.g. new food products, new varieties, etc.) that satisfy both the internal and external needs of the LLs, and that could solve problems, favouring the co-development of new opportunities. It has been associated with many research areas, including co-design and participatory design of new products or services, co-production of content and co-creation with citizens in public innovation.

In the collaboration processes, it is not only essential to apply different methods and disciplines, but above all to make processes of exchange of information and data work, to collect and exchange inputs, comments, feedbacks on new solutions. During co-constructive processes, all the actors recognize that they do not have all the answers

internally (neither in the research centers or in the LLs) and enable others to provide the answers.

Co-learning and co-creation take place both within the LL, between the LLs and the WPs, as well as among the 9 LLs (Figure 2).



Figure 2 - Co-learning and co-creation take place in all Living Labs
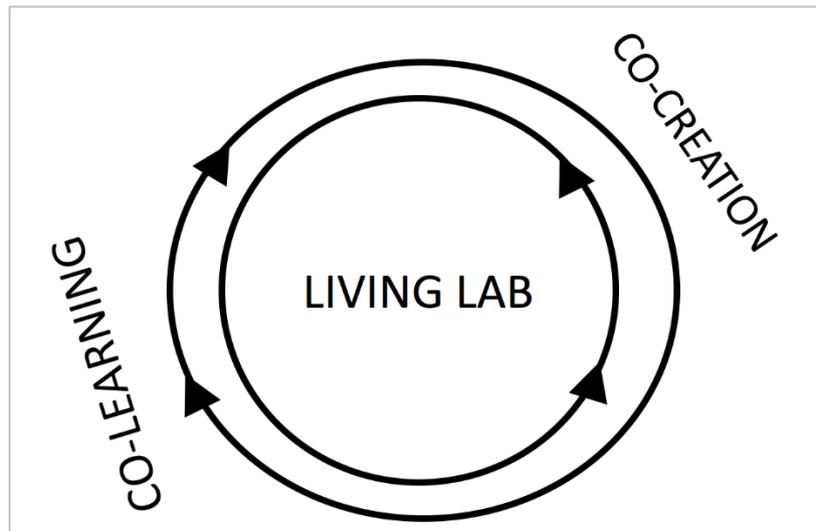
The relationship between the two concepts is bidirectional: co-creation aims to be one of the means of co-learning and effective co-learning is the result of co-creation activities. Co-learning and co-creation evolve in parallel in DIVINFOOD, they are interconnected concepts, which both propose the idea of researchers and LLs as interactive partners and co-creators of their learning. In fact, in DIVINFOOD co-creation is not just two or more actors and stakeholders who come together in the activities, but involves various types of interactions between actors, economic systems, technological production and social and cultural environments.

As specified in the next sections, the project entails co-learning activities (e.g. data collection and sharing, participatory assessments) and co-creation (e.g. field experiments and trials). Living Labs' main challenge is to integrate both co-learning and co-creation activities at the same time, balancing the local dynamics with the project tasks.

A key element of the DIVINFOOD project is the involvement of citizens, not only as consumers/buyers or "eaters" of NUCs, but also as important stakeholders in the collaboration process described above.

# 3.2 Living labs working across Work Packages

The following Figure (3) highlights the basic structure of the project in Work Packages and the link between each Work Package.

**Figure 3 - Living Labs running through Work Packages along the project timeline**
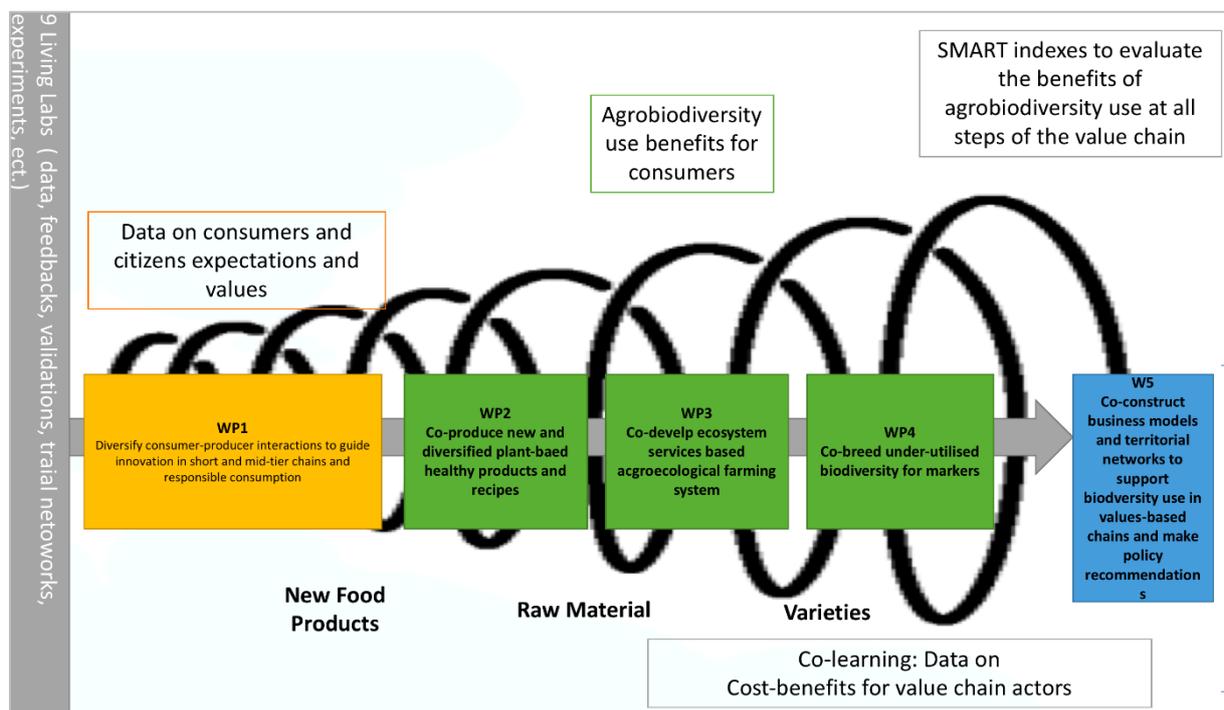


Below is a summary of the five WPs where most of the work of the LLs will focus.

- Under **WP 1**, LLs' work will focus on working on the end users of the value chains, i.e. consumers first considered as citizens. Their work will focus on understanding consumer expectations and experience around agrobiodiversity and NUCs to better co-design products, transformation and marketing processes that will be valued and appreciated by consumers. They will also work with consumers to develop tools that better transmit the value of NUCs from producers to consumers, such as digital tools, and interactive and transparent marketing channels to increase and stabilize the sales of NUCs.

- Under **WP 2**, LLs' work will concentrate on co-producing food products and recipes from minor cereals and grain legumes. The LLs will evaluate the quality and safety of the raw material produced under WP3 and WP4, they will renew traditional dishes where relevant, and will optimize innovative mild processing techniques specifically

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suited to short and mid-tier chains. It will work closely with key actors, such as farmers-processors, small-scale food companies and chefs to enhance their capacity to innovate with the new products, always in interaction with consumers.

- Under **WP 3**, the bulk of LLs' work will be to identify and/or co-develop agroecological farming systems that improve NUC's performance and their delivery of ecosystem services. LLs will work to assess and benchmark the performance of various GxE combinations, where G are the NUC genotypes and E are the different types of ecological and socio-economical environments. The LLs will focus on a participatory assessment of the services that the combinations create and will facilitate and improve NUC crops pre-processing.

- Under **WP 4**, the focus of the LLs will be to co-develop improved varieties of NUCs. This will involve the participatory identification of available genetic resources, the development of locally adapted/improved varieties of NUCs and the multiplication of seeds. This will also include a foresight exercise on "future seeds" in each LL.

- Under **WP 5**, the Living Labs will focus on three levels. At the farm/food business level, Living Labs will be involved in data collection on benefits and costs related to cultivating and processing NUCs, to identify the (more or less successful) business models. At the territorial level, Living Labs will identify the organizational and institutional mechanisms for effective valorization of NUCs. Lastly, on a broader level, Living Labs will provide input for policy analysis and recommendations.

# 4. DIVINFOOD Living Labs' process of development

Living Labs are the concrete settings where co-learning and co-creation blend and nourish each other, in an iterative, nonlinear, process of interaction. Moreover, what the project has planned for/with the Living Labs integrates with territorial/context specific processes and dynamics.

The figure below visualizes the Living Lab main processes, further described in the next paragraphs:

• The Living Labs' main phases of development (horizontal axis): after the start-up phase, the Living Lab over time will develop and grow, until it stabilizes, and if possible, consolidates in a maturation phase.

• The co-learning and co-creation processes (nonlinear and recursive) take place along the development phases of the LLs (vertical axis). The process starts through stakeholder identification and engagement, definition of the common vision/aims and action planning (for co-creation). This initial phase is followed by analysis (which may entail data collection) self-assessment and reflection (for co-learning). Hence the redefinition of actions, revisions of aims and plans may take place. Then the process iterates continues.

**Figure 4 - Living Labs iterative processes of co-creation and co-learning**



11
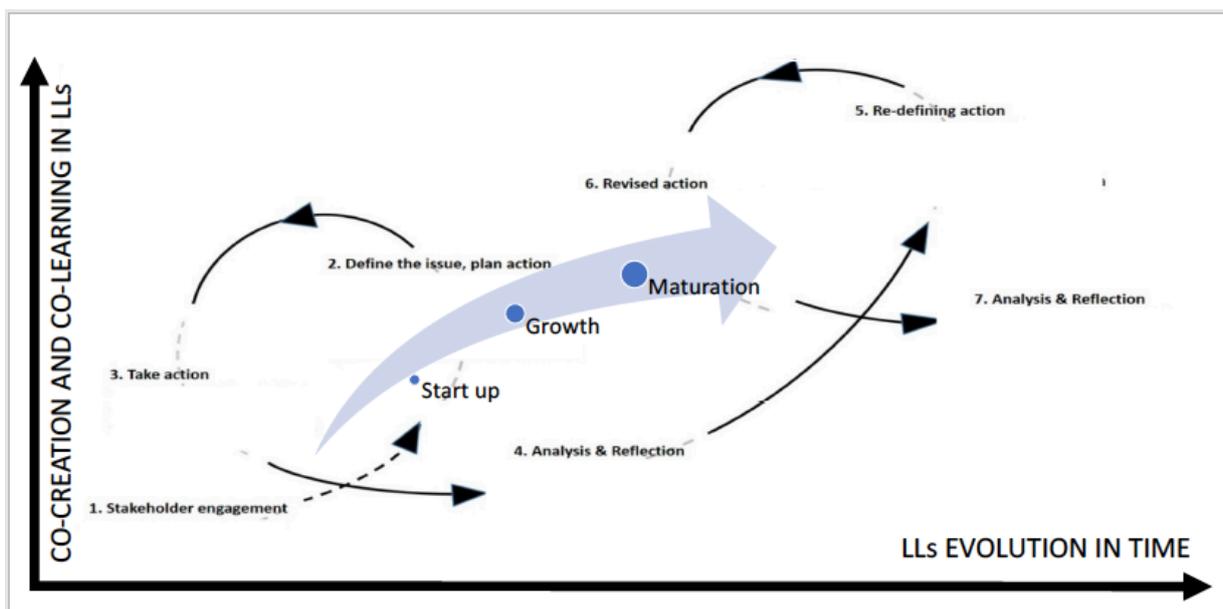
# 4.1. Setting up Living Labs

**What is the starting point of the Living Labs in DIVINFOOD?**

As presented in Table 1, most of the DIVINFOOD LLs are "emerging", i.e. they have been recently set up or are set up for the purpose of the project, and their composition, scope and internal governance structure has not been yet finalized. Bearing in mind that a LL is a "living" entity – whose composition, scope and governance are not set in stone, but may change during the course of its life - the aim of this sub-section is to give some guidance and tips on how best to set up a LL from the onset. Below are some guiding questions for stakeholders to consider as they go about setting up a LL or adjusting the set-up of an existing LL.

LLs must ask themselves and should clarify, from the start:



- **Why** they exist, their ultimate purpose. The "WHY" is the vision, aim or belief that drives the LL. This may be more relevant for some LLs and not for others, but is it ultimately important for all.

- **How** they want to achieve their aims. This will be extensively addressed below.

- **What** they aim at, in terms of concrete outcomes. It is quite well known and tangible "WHAT is done" within the LL: the products created and sold, services offered, the activities carried out. Knowledge for action, or operational knowledge is also a tangible outcome (to go beyond open-innovation developed by enterprises to better sell their products at the end).
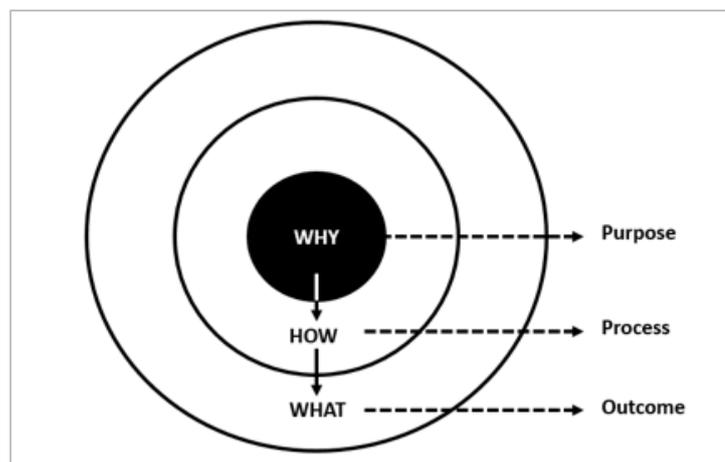
**Starting from the "Why" of Living Labs**

The most important question a LL should answer in the initial set-up phase is "WHY has the Living Lab been created?". Regardless of when the LL was set up (i.e. before or during the course of the project), the important aspect here is that the LL develops a vision statement that summarizes the purpose of the LL in one or two sentences and helps all the actors (coordinator, facilitator, stakeholders, partners...) work towards a common goal.

This vision provides clear direction to the whole team so that they know WHY they are doing what they want to do (and, consequently, how they want to do it, fitting into the broader DIVINFOOD project vision). It is the value, which inspires to act, which encourages others to spread and share ideas, translating how the common goal can benefit the individual goal and vice versa (in line with Actor - Network Theory[1] perspective).

The WHY statement of the LL should be:
- simple and clear
- attainable
- focused on how everyone can contribute to achieving it
- expressed in an affirmative and positive language.

**Who is part of the Living Lab?**

A key feature of LL is that of involving a wide array of stakeholders. In DIVINFOOD, it is important not to limit oneself to researchers and agriculture professionals. Involvement should reach consumers, citizens and local actors in an agro-socio-ecosystem perspective. In DIVINFOOD it is essential to involve the actors of the food sector who are usually less involved and above all the local actors outside the value chains that are often neglected. Key questions to be addressed by Living Lab focal points can be divided into two main areas: stakeholder identification and stakeholder engagement.

**Stakeholder identification**

Who (else) should be part of the LL? Here you should think of stakeholders belonging to all the stages of the NUCs value chain – from breeding to consumption. You should also think of the complementary and different roles in these areas: policy makers, private sector actors, associations, etc.

Stakeholder identification discussions can be planned with people inside the LL or with representatives outside the LL. For example, the discussion on stakeholders could then begin with the identification of the missing ones. Looking at the lists or maps, questions such as "Who is missing?" or "Who should be added?".

A useful tool to use is the "stakeholder map" that was proposed during the kick-off meeting (available in the Living Labs initial presentations).

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[1] Latour, B., 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford UP.

A few tips on stakeholder identification:

> • it is important to use a broad approach when identifying actors and stakeholders, as transdisciplinary research could lead to new opportunities for those who are currently distant, disconnected, or transversal actors.
>
> • Any change in the research process could lead to a redefinition of the actors.
>
> • It is also important to reflect on how social differences (in matter of gender, educational level, profession, etc.) should be integrated and considered in the setup of an LL, both during the initial and subsequent phases.

**Stakeholder engagement**

*How to engage*

The Living Lab focal point not only has to be able to identify relevant stakeholders, but also to interest them, i.e. to convince them to be part of the lab and to invest time in the lab and to make sure that they are kept engaged. In this light it is important to think about the perspective of the stakeholders that are being identified.

Which groups are already very active around NUCs thinking and/or within the research and innovation fields? Which groups could 'make or break' the initiative? And which groups are almost never represented? With respect to this last point, and with an aim to maximize opportunities for co-learning, it would be advisable to engage as a wide variety of stakeholders as possible, i.e. to include participants that come from different sectors and with different roles, as mentioned above.

Engagement activities are also important, demonstrating and making visible, the reason why NUCs are important, and the NUCs treated in each specific LLs, for the regional context. Engagement activities can be open discussions, dialogues, video showing, field trips, show cooking, activities with children, etc.

Once you have identified and engaged the stakeholders, and depending on the size of the LL, you may consider setting up a core group of stakeholders, responsible for the LL's day-to-day work, and an "outer" group, that is called upon for specific moments/phases of the project. Relevant questions here would be: who would be part of which group and based on which criteria? The stakeholder identification and engagement tools can help to identify those actors that are more likely to end up forming part of the core group and those who are less involved/engaged and would form part of the outer group.

Note that not all participants will have the same level of preparation and knowledge on the different topics/aspects that the LL will touch upon. For this reason, and to avoid lack of interest/engagement, it will be important to take note of this, and ensure that when discussing the different topics that will be brought to the fore, due attention be given to making sure that everyone has a basic understanding of the key facts and assumptions to be able to learn and meaningfully interact, without taking up too much time of the other participants. In other words, a good balance between time and engagement needs to be struck. Particular attention and methods are needed to secure engagement, such as by understanding each other's motives and interest in the project, and to ensure that open discussions and dialogues on best solutions are kept throughout the project.

*How to maintain engagement*

An important point concerns how to keep stakeholders engaged. It is important also that stakeholders feel they benefit from each time they participate – and benefit can be if various types (new knowledge, social networking with others, new partners for specific partnership, etc...).

There will inevitably be moments of "fatigue" or cases where people drop out maybe because they change jobs or priorities. It is important to be ready for this and to understand that stakeholder engagement is a continuous process: you may have to reassess how to engage a person or organisation along the way. Also, when trying to involve different stakeholders, be aware that the reason why you would like them to take part in the network might not necessarily be an incentive for them to join. It is therefore important to think in advance about the interests of the stakeholder; why would they engage in your LL, what's in it for them? Try to constantly connect to the goals of the stakeholder.

Finally, a word on citizen engagement. Above, we referred to the importance of involving citizens in LLs. In doing so, it would be advisable, if possible, to build on existing efforts and traditions of doing so. In addition, it is important to make use of existing networks and key actors and key issues in each regional context – to be sure we are not creating something besides what exists already and to create best conditions for the stakeholders to find relevance in our collaboration. Involving citizens throughout the project is necessary to go beyond approaches based on the 'acceptability of innovations': DIVINFOOD promotes

the co-construction of innovations and not their acceptance after their realisation by experts.

In a number of countries, for example, we have the experience of Third-Places, that is territorially defined places – usually in cities - that bring together a mix of civil society, citizens and local authorities (Oldenburg, 1989), or FabLabs, spaces centered on the notion of open-source and that empower individuals to create smart devices for themselves.

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BOX 2 – Key suggestions to be kept in mind for LL stakeholder identification and engagement

- *Identify one or more stakeholders* for the LL, it may be useful to use the stakeholders map (see Annex 2).
- *Identify multipliers:* community groups, professional organizations, student groups and local public, private, institutional and civil society networks. LL should ask these people to invite other people they know to get involved and to amplify the potential audience. The goal is to include a wide variety and diversity of people, not just those who work on NUCs, agriculture, or agroecology. These may be easier to recruit, but they will affect your sample of "citizens" and will not reach the people who could most benefit from engaging with these topics.
- *Identify Opinion leader or "Influencers":* it can be useful for LLs to identify some opinion leader or "influencers" within their community to disseminate information about an event or consultation. Who are the interesting opinion leaders/ influencers for the LL? They could include local politicians, local businesses, famous chefs, artists, or prominent community figures. Therefore, it helps to share information with them in a simple format that can be easily re-shared (e.g. an email template, a Twitter post or an image).
- *Encourage citizens to participate*: LL may need to think creatively about the type of incentives. Stakeholders in the LL area may be able to help to find creative incentives. It might be helpful to point out that there are "interesting and transversal incentives" such as "learning something" or organize exchange between LLs etc.
- *Map local events, initiatives and connections*: identification and contact with existing initiatives and projects where the collaboration can link to, contact with local associations of leisure, sports, culture, etc.
- *Use a mix of communication tools:* Local newspapers, Newsletter of the city or local universities, Social media (Facebook, Twitter, LinkedIn, various online forums etc. Create a hashtag (#) not only for your living lab, but also specifically for events).

---

**Where does the Living Lab take place? And how does it exchange internally?**

As mentioned, the 9 LLs in DIVINFOOD will have a strong territorial focus. They will be set up as regional or inter-regional clusters of food system actors and will serve as the core space of co-learning and co-creation for the project.

Due to their spatial configurations, questions need to be answered as to the practicalities of coming together to co-learn and co-produce as a team:

- Given the physical distance between some of the actors (city-region), how often should we physically meet? Where?
- How can we work online?
- Which platforms/tools do we use to communicate and collaborate?

**Participatory off-line and virtual communication tools**

De facto, due to the distances that separate the LL participants, especially when LLs have a regional/inter-regional base, many of you may end up working digitally and virtually most of the time. In this context, knowledge sharing can be developed with many tools. Tools that include online interaction, such as wikis and blogs, collective spaces to interact or instant messaging, are becoming increasingly important in the context of LLs as the Internet becomes more accessible in some rural areas. They can be used to integrate known approaches to sharing knowledge within and between LLs groups. An email list – also sometimes called a reflector or listserv – for example, can be helpful to LLs because it is a group of people who communicate by email with one another through one single address. In Annex 3, you will find a list of suggestions of platforms and tools, they can be used both in person and virtually. In WP6, Open Food France will develop some of these tools, and propose other interactive tools to support local community engagement and coordination.

**Focus on LL coordinators**

Once set up, it is important to decide how the LL will be run, i.e. who will do what, when etc. We have hinted at some of these points above, and in this paragraph we would like you to reflect on the role of the LL coordinator on how to maintain good channels of communication between academic and practice partners, on decision-making and on conflict resolution.

LL coordinators play a key role in the management of the lab, e.g. organizing and designing key processes, timelines and activities for the progress of the lab, which will take the form of a work plan (see below). The coordinator will help build and maintain relations with and between stakeholders, and to maintain a connection to other partners of DIVINFOOD that may not be part of the LL, but that are engaged in key WPs during the course of DIVINFOOD. During multi-stakeholder dialogues, the lab coordinator could function as a

facilitator (or moderator), though he/she can of course also enlist the help of colleagues or hire a facilitator.

As per DoA (p.42), the Coordinators are supposed to:
• Provide additional (re. the ExCom) coordination of the tasks of the project
• Ensure coherence among WPs of the work done within their LL
• Support WP leaders in finding relevant subjects for cross-comparison between LLs
• Identify and communicate any possible risks
• Ensure the active involvement of all LL actors
• Set up the moderation group in charge of organizing the data processing for the database.

LL coordinators can be assisted by facilitators, who have the ability to fine-tune and adapt the facilitation to balance the needs of LL members and researchers involved in WPs. The person who plays the role of facilitator could be a DIVINFOOD member or a LL stakeholder, but it can also be someone else, external, who entered the LL specifically for this role. The facilitator is an important figure from the initial phase, because he/she can help the LL define the ground rules for communication, the creation of an agenda, the pre-meeting communication with the participants, as well as the processes to improve dialogue and decision making. Targeted facilitation is also needed to exploit the full potential of stakeholder dialogues; it can have a big impact on the success or failure of the LL.

**Collective decision-making in LLs**

How do we make collective decisions in an LL? What kind of decisions should we make together? There can be different types of decisions to make:
• Decisions on how we work together, our processes and the evolution of those processes
• Decisions on priorities on which we will work
• Decisions on which actors and stakeholders to involve
• Decisions on the projects that the LL would like to build together.

When it is necessary to make remote decisions, online tools will be useful: such as community forums to make a proposal to evolve a process, or for a new project or idea for the future, so that people can contribute and react; for instance, the Slack platform can be very functional when the team is small and quite active online (see more info about Slack in Annex 2 and information about digital tools for communication).

Other tools for making collective decisions in person are suggested in Annex 2.

Conflicts are inevitable, both internally and externally to the LL. This often happens when a diverse array of stakeholders have different expectations, and when they do occur, even if tenuous, they can create damage if left un-managed. This makes conflict management critical (and should be driven in the DIVINFOOD team), whether it is discussions, disputes, lasting conflicts or, ultimately, litigation. Conflict can often be avoided if steps are taken early in a discussion to facilitate communication, and it can be resolved by facilitating a series of thoughtfully applied steps. Some tools are suggested in Annex 2 to avoid and resolve disputes in the early stages, before they become full-blown conflicts.

Lastly, a few tips on how to manage unexpected problems and hiccups. Bear in mind that most probably something will not go as expected! Indeed, as mentioned above, processes and dynamics can change, and it will be important to adjust your course of action as you go along. One aspect that could "go wrong" relates to possible dropouts and "stakeholder fatigue", and above we have given you some mitigation tips. Table 3 with potential risks and suggestions on how to avoid/mitigate these.

**Table 3 - Risks and suggestions for mitigation actions**

| Identify risks | Suggestions to identify mitigation actions |
|---|---|
| **Decreased involvement by citizens and stakeholders: the link between DIVINFOOD and the citizen and stakeholder engagement are unclear** | Ask yourself questions: 1) Is DIVINFOOD's objective clear to citizens or stakeholders? 2) What are the elements to communicate more clearly? 3) Is the progress achieved communicated well and on time to the stakeholders? |
| | **Using creativity can be helpful**. It can be helpful to think creatively about how to engage citizens and stakeholders in a relevant and meaningful way. |
| | **Make LL activity more meaningful to people's daily lives**. Engage with people on an emotional level. Connect with topics that interest citizens and stakeholders. Translate how the LL can achieve their expectations. Take into consideration the existing community of practice. |
| | **The effect of the DIVINFOOD research project must be visible to people and stakeholders.** Bringing interventions closer to people and integrating them into local communities will help people connect with them on a deeper level and foster a sense of ownership. |
| | **Take ethical issues into account** when working with certain targets: for example, if you work with schools, children, students, social groups, etc. |
| **Lack of experience with living lab methodology** | **Dedicated training.** Citizens or stakeholders may need more and improved training in these methods. Who can take care of it? Does the LL have partners who can handle this issue? |
| | **Creative tools and facilitation exercises.** LL can search for creative solutions for sharing knowledge of living lab methodology |
| **Lack of time and resources for the living lab (many reasons: stakeholder fatigue, stressful timetable and hard deadlines, missing days or stakeholder abandonment)** | The LL coordinator can find ways **to provide incentives to stakeholders or build new connections:** Are there organizations in the LL area that would be interested in the subject and therefore happy to be involved? Is there a community group in the LL area with similar interests that the LL could involve? |
| | **There could be key opinion leaders** - influential people within the community, e.g. community group leaders, peer mentors, etc. If they attend an event or take part in the activities of the LL, others may follow it. |
| | The LL coordinator could also think about how to involve other people who could help. Perhaps there are students from a **local university** who would be interested in helping to get the chance to receive an internship certificate or extra credits for their studies? Incentive methods for students are likely to be simpler than for other user groups. |
| **Lack of time management with stakeholders** | **Planning** helps the LL coordinator identify where there is a lack of time or resources. When LL coordinator makes a plan, it should be long-term, with realistic timelines that can be achieved. Once the plan is defined, agreeing with the LL stakeholders about it and keeping them updated regularly is essential. |

| | |
|---|---|
| | Remember to consider annual leave, public holidays or holidays in people's calendar, e.g. during the summer vacation period it could be difficult to involve citizens and stakeholders in the activities. |
| | **Questions for the LL coordinator:**<br>• at DIVINFOOD do we carry out separate engagement activities for each of the interventions / data collection or should we schedule the stakeholder engagement activities to coincide with each other?<br>• Should each intervention have a different target group to prevent participants from getting fatigued with this topic? Or better a parallel work, to support and encourage process co-learning?<br>How can the different interventions learn from each other? |
| **Lack of visibility of the LL activity** | LL coordinator will have to think of **creative ways to communicate** DIVINFOOD and its effects, e.g. also involve people / stakeholders even outside the physical space using social media. |
| | **Engage policy makers** in living labs at early stage. They may want to participate as it will give them great insights into the NUCs topic. It is important that the LL coordinator communicate with them regularly at fixed times. The coordinator must explain to them what is in their advantage. |
| | **Communication must be planned from different angles**: communication to the public, timing of communication using clear methods and visualizations, verbal communication, for instance, LL can use visual language:  stories, videos, etc. will help explain the complex topic of NUCs in more easily digestible ways.<br>LL coordinator should check that LL's activities are communicated in an understandable way.<br>Whenever possible, LL can use the local language. When (as in the case of some LLs) it is not possible to use only 1 language, it is better to proceed with the translation into the languages most used in the LL area.<br>• **Visual communication:** besides using still photos, maps or infographics you can also use videos to explain complex topics or film your pilot studies and post them on YouTube.  • **Media: u**sing social media • **Events:** LL coordinator should plan to utilise other local events and use public spaces to promote the living lab activities. |
| **Poor Prioritization** | Sometimes the LL does not make decisions on prioritizing because there are no guidelines on how to prioritize.<br>The risk is that the LL will start an activity and not finalize it. In this case: 1) Review the plan. 2) Iterate the plan. 3) Share doubts and ideas with the WP leaders |

# 4.2. Living Labs monitoring and reflection

It is very important that during the five years of the project, the Living Labs keep track of their activities and periodically reflect on the directions taken and choices made, on the internal dynamics and processes, also in view of anticipating and correcting possible undesired criticisms. Most importantly, reflection will steer the co-learning process and ultimately support the Living Labs in achieving their ambitions.

For this purpose, under Work Package 7 the GA specifies activities aimed at monitoring the activities of the LLs with a view to following the LLs' progress and, in case of problems, provide support for its resolution.

There will be two main components of the monitoring process:
    • A regular follow-up of the LL's activities. Here LLs will be asked to note down the activities carried out during the months, including a short description and stakeholders involved. This could be done in the form of self-reporting (through a Journal or Diary for example).
    • Periodic (every 6 months or yearly) in-depth interviews by Task 7.2 team with Living Lab coordinators (based on a predefined questionnaire).

More guidance will be provided under WP 7 on the format of the Journal and guidance for filling it out, as well as on a draft timetable for the regular and periodic monitoring activities.

# 5. DIVINFOOD Living Labs' work plans

Section 5 aims to support LLs in orienting through the experiments, trials and data collection activities already foreseen by the DoA. Sub-section 5.1 provides a summary of the project activities and can be used as a support to plan LLs work for the next years of the project, thus helping to design Milestone 3 entitled "The LLs' configurations and programmes". Sub-section 5.2 provides preliminary information on data collection activity linked to the GxE database. The suggested work plan is accompanied by a series of useful questions that Living Lab coordinators can ask themselves as they fill out the plan.

## 5.1. Living Lab experiments, trials and data collection

As per the Grant Agreement (GA), LLs will focus on co-producing several outcomes together with task leaders and relevant partners:

- new marketing channels in short and mid-tier chains,
- new/renewed healthy food products/recipes;
- guidelines for agroecological farming systems enhancing NUCs performance and the delivery of agro-socio-ecosystem services;
- improved/adapted varieties of legumes and minor cereals.

LLs need to be seen in their multiple functions:

- as a space of data co-production (led by task leaders and implemented by task partners, with or without the facilitation of the LL coordinator but with the participation of actors - it could be farmers, consumers, etc.), and
- as a community of stakeholders managed by the LL coordinator who will be in charge of interaction at the local level (a number of workshops and local dissemination events, etc.).

The LL will take on different roles depending on the nature of the Task it has to work on. **Table 4** below lays out the Tasks as spelt out in the GA (**Column 1 and 2**) and for each one it specifies who is the Task Leader (**Column 3**) and the relevant WP partners (academic or non-academic) to work with (**Column 4**).

**Column 5** specifies which Living Labs are involved in each task.

In organizing their work by tasks, LLs will be face d by two scenarios:

1. There is a WP partner for the Task - in most cases there is at least one WP partner per LL for each task who will be responsible for guiding data co-production in the LL with the facilitation of the LL coordinator. The partner will provide guidance in the form of co-constructed templates that will be clear and easy to use.
2. There is no WP partner for the Task - in this case, 3 options will be available:
   - data will not be produced in that specific LL,
   - the LL coordinator will organize data collection, or
   - the task leader can give guidance on other solutions (such as recruiting a student from the country of the LL, for example).

**Column 6** of the Table describes the experiment and or the data collection activity and **Column 7** the links between the work of the LL and some of the key WPs in the project.

Table 4 can be used as a **template for LL workplans,** that can be taken by each LL and modified based on the specific activities and rhythms of the LL's work. Below are some key questions that LL coordinators can ask themselves in the process of adapting the table to the specific needs of their LL.

In relation to tasks and activities (Columns 1 and 2):

- Are any LL-specific activities missing? You will need to ask yourself this question 1) when you start the project, and 2) during the project in case you develop an activity during the course of your work.

In relation to who is involved at local level (i.e. in each Living Lab) (Columns 2 and 3):

- Are there other key people that I need to contact to make sure the activity is delivered? Please liaise with the Task Leader to come to an agreement on the key people to involve in order to fulfill this activity. Should the activities include focus groups and/or workshops, you will find some useful tools in Annex 2.

In relation to experiments and data collection (Column 6):

- We have begun to fill in this column, but it will be up to each LL to continue filling it in based on the specificities of its work.
- Does the LL have all the material it needs to fulfill this task? Who do I and/or the Task Leader need to liaise with to obtain it?

- Is there a product that the LL needs from WP partners, e.g. Interactive catalogue of varieties from Biocivam11 for on-farm trials.

In relation with data use (Column 7):

- When the Task Leader produces a deliverable, who do I, as LL coordinator, need to give it to? e.g. Task 1.1's product on consumer expectations to be provided to partners and LL members involved in seed breeding work.

You may also need to **add a timeline** to the table. For many tasks the GA indicates a broad time frame (e.g. for Task 2.1, LLs can develop the activities anytime between M 3 and M 60, with the latter being the final deadline). It is therefore up to the LL Coordinator, the LL and the WP/task partners to decide upon key steps that will lead up to the final deadline. This column can thus be filled in based on your internal discussions and specificities.

In adapting the table to your own needs, it is important to coordinate and interact with relevant WPs to ensure that your timelines are aligned, and with the Executive Committee that has the overall oversight of the project's work.

**Table 4 - LL experiments, trials and data collection foreseen and supported by Work Packages**

| Task | Activities | Task leader | Partners | Living Labs involved | Description of the data collection/experiment | Who will use the data produced? |
|------|-----------|-------------|----------|---------------------|-----------------------------------------------|--------------------------------|
| 1.1 | Online surveys and focus groups in LLs on consumers' knowledge, expectations and aversions | ACC | INRAE, Firab, UEvora, Agrikulti, DVF | ALL | Qualitative data collected by consumers through: i) an online survey in the 7 countries of the project: Denmark, France, Hungary, Italy, Portugal, Sweden, Switzerland, ii) a focus group in all LL regions. | Use by INRAE and ACC to write the 'white paper' (D1.1) and for WP6 deliverables |
| 1.2 | Analysing NUC-based products values in food environments | INRAE | Agrikulti, ACC, DVF, SLU, Nordvara, OMKI, Firab, UEvora, IPBR | ALL | Qualitative data collected by chefs, retailers, bloggers, through interviews and workshops | Use by AgriKulti and INRAE to design food environments and chains in favour of NUCs (D1.4) and for WP6 deliverables |
| 1.3 | Workshops with consumers to rank Biodiversity Use indicators – input from all LLs. Creation of a Valuation Toolbox. | SLU | Agrikulti, INRAE, ACC, DVF, OFFa, OFFr, SVET, Biocivam11 | ALL *Activities for specific LLs:* Action-research on PGS in Cer-Occ and Leg-Hung | Qualitative data collected through multi-actor workshops and interviews | Use by SLU, AgriKulti, OFFa, DVF, INRAE to elaborate or edit valuation tools, participatory guarantee systems, apps, information platforms (D1.6; D1.7) and for WP6 deliverables |
| 1.4 | Prototype mobile interactive app developed for each LL region | OFFr | OFFa, Agrikulti, DVF, IPBR, mPmC, ACC, SVET, Nrdvara. | ALL *Activities for specific LLs:* Information and Sales platform developed in Bean-Lyon and Bean-Bud Choice architecture methodologies experimented in Leg-Nord | | Use by OFFa, AgriKulti and DVF for updating their tools with DIVINFOOD data (D1.7) |

| 2.1. | Co-creation of innovative/renew and diversified plant based healthy and tasty food products and recipes | BioCivam11 | MpmC, CookingLab, UNL, ADECA, Nordvara, CREA, IPBR, Firab. | *Activities for specific LLs:*<br>• Fermented dairy like products from white lupin in Leg-ItSwitz<br>• Grass pea in GPea-Port<br>• Mixed legume-cereal products in Leg-ItSwitz<br>• Mixed legume-cereal products in GPea-Port<br>• Mixed legume products in LL Cer-Occ<br>• New cereal-based products tested in LL Cer-Occ<br>New legume-based recipes:<br>• 10 in LL Bean Lyon<br>• 3 vegetarian in LL Bean-cast<br>New recipes in Leg-Nord | Lab experiments and data and new products and recipes described | Use by UNL, mPmC, BioCivam, IPBR, SVET, CookLab to provide new products/recipes (D2.1-2) and feed the GxE database (D5.2) |
| 2.2 | Food and raw material quality evaluations | UNL | INRAE, SLU, CREA ACTIA | ALL | Food products and raw materials analysed Sensorial analysis | Used by UNL, ACTIA to provide guidelines (D5.3) and feed the GxE database (D5.2) |
| 2.3 | Evaluation tools for quality traits valuable by consumers | UNL and CREA | | *Activities for specific LLs:*<br>Low cost and easy-to-apply tools to evaluate quality concerns in GPea-Port and Leg-ItSwitz | Development of spectroscopic predictive model | |
| 2.4 | Setting up of a Community of Practice around mild processing of legumes and | DVF | INRAE, SLU, Biocivam11, MpmC, CookingLab, UNL, ADECA, Nordvara, | ALL | Qualitative data on professionals' knowledge concerning mild-processing | Use by DVF, UNL and mPmC to elaborate guides and training courses (WP6) |

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| | cereals – cross LL events | | CREA, IPBR, Firab, ACTIA, ACC, SVET. | | | |
| 3.1 | Compiling experiences and data on NUCs performances | OMKI | ICOEL, FiBL, BioCivam11, Agrikulti, Nordvara, UEvora, INRAE, Firab, SLU, UNL, ADECA, CREA | ALL | Farmers in LLs provide data on agronomic performances of genotypes used in specific environments<br>Qualitative and quantitative data on existing NUCs production/pre-processing in farms | Use by OMKI and BioCivam11 to feed the GxE database (D5.2) and a repertoire of solutions (D3.6) and for WP6 deliverables |
| 3.2 | Testing and assessing agrobiodiversity under diverse agroecological farming systems | OMKI | ICOEL, FiBL, BioCivam11, Agrikulti, Nordvara, UEvora, INRAE, Firab, SLU, UNL, ADECA, CREA | ALL | Participatory on-farm trials with volunteer farmers: contribution to GxE excel sheet<br>Qualitative and quantitative data on farming management practices using NUCs in a trial network | Use by OMKI to provide references/guidelines (D3.2-3) and feed the GxE database (D5.2) |
| 3.3 | Participatory assessment of ecosystem services of agrobiodiversity in use | UEvora | ICOEL, FiBL, BioCivam11, Agrikulti, Nordvara, UEvora, INRAE, Firab, SLU, UNL, ADECA, CREA | ALL | Qualitative data from multi-actor workshops | Use by UEvora to feed the GxE database (D5.2) and for WP6 deliverables |
| 3.4 | On-farm storage and pre-processing | BioCivam11 | OMKI, ICOEL, FiBL, Agrikulti, Nordvara, Uevora, INRAE, Firab, SLU, UNL | *Activities for specific LLs:* Experiment equipment co-development and mutualization in Faba-Nord, Leg-Nord and Cer-Occ | Qualitative and quantitative data on existing NUCs production/pre-processing in farms | Use by OMKI and BioCivam11 to feed the GxE database (D5.2) and a repertoire of solutions (D3.6) and for WP6 deliverables |
| 4.1 | Developing an interactive catalog of underutilized | BioCivam 11 | INRAE, CRBA | | Qualitative and quantitative data for the catalogue on varieties and landraces used/preserved in France, | Use by INRAE and BioCivam11 to elaborate a repertoire (D3.1) and feed the GxE database (D5.2) and for WP6 deliverables |

| | | | | | Italy, Portugal from workshops and online survey | |
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| 4.2 | Participatory breeding | OMKI | BioCivam11 CRBA OMKI UNL/ADECA ICOEL, SLU, Nordvara | *Activities for specific LLs:*<br>• Source and co-evaluate Lingot bean in LL Bean-Cast<br>• Source and co-evaluate einkorn in LL Cer-Occ<br>• Multi-actor variety selection – bean – in LL Bean-Lyon<br>• Multi-actor breeding programme in LL Cer-Hung<br>• Improve grass pea population in LL Gpea-Port<br>• Evaluate suitability of existing varieties of blue lupine and faba bean in LL Faba-Nord and Leg-Nord | Qualitative and quantitative data on varieties and landraces tested in DIVINFOOD from multi-actor workshops and online survey | Use by INRAE, FiBL, CREA to select adapted varieties (D4.2) and feed the GxE database (D5.2) and for WP6 deliverables |
| 4.3 | Lab breeding | CREA, FIRAB, FiBL | BioCivam11, FiBL, CREA, Firab, UNL, ADECA, Nordvara, SLU, ICOEL | *Specific to LL Leg-ItSwitz*<br>Co-evaluate on farm new varieties of white lupine and pea<br>Develop breeding tools and breeding strategies for white lupin and pea | Qualitative and quantitative data on white lupine and pea from lab and in situ tests | Use by FiBL, CREA and FIRAB to provide guidelines for breeding (D4.4) and feed the GxE database (D5.2) |
| 4.4 | 6 workshops on priorities for future plant breeding | INRAE | BioCivam11, FiBL, CREA, Firab, UNL, ADECA, Nordvara, SLU, ICOEL | ALL | Qualitative data from multi-actor workshops | Use by INRAE, FiBL and FIRAB to feed policy recommendations (D5.6) and for WP6 deliverables |

| 5.2 | New business models for farmers and small scale processors | INRAE | WP leaders and all LL coordinators | ALL | Quantitative and qualitative data on farms and small-scale businesses using NUCs | Use by INRAE to feed the GxE database (D5.2), by UEvora for 5.3, and for WP6 deliverables |
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| 5.3 | Territorial networks and governance arrangements | UEvora | UNIPI, FiBL, OFFr, all LL coordinators | ALL *Activities for specific LLs:* Test the organization of NUCs seed preservation, selection and multiplication in LL Cer-Occ | Qualitative data on NUCs/natural resources local governance from case studies | Use by UEvora, Unipi and INRAE to produce guidelines for NUCs territorial management (D5.5) and for WP6 deliverables |
| 5.4 | Produce a policy brief on added value for all value chain actors to use NUCs | FIRAB | UNIPI, Budapest Municipality, INRAE, FiBL, WP leaders, LL coordinators | ALL | Qualitative data on political supports and obstacles to NUCs use in the 7 countries | Use by FIRAB to design policy recommendations (D5.6) and for WP6 deliverables |

# 5.2 Building the GxE database

One of the main outputs of the project to which LLs contribute in a fundamental way is to capture the diversity of Ecosystem Services (ES) and of other benefits (B) provided by specific Genotype-Environment (GxE) combinations at certain Costs (C). The overall equation that illustrates this is: GxE=ES+B+C. **The role of the LLs will thus be that of facilitating/introducing data that will help set up a database to capture and show this diversity.**

With respect to the **E** in the equation, the novelty in DIVINFOOD is that the Environment is no longer limited to the Biophysical environment (Be) (soil, climate), but enlarged to agricultural Management practices (M), processing/cooking technologies (T), marketing Channels (Ch), Social organisations (S) and regulations (R). In other words:

$$E = Be + M + T + Ch + S + R$$

B and C both refer to both a classical costs-benefits analysis and i) to benefits not included in ecosystem services and cited by stakeholders and local actors during surveys and workshops; ii) to human Costs, in production, processing and/or marketing, and all other costs according to participants. In sum:

$$GxE = ES \text{ (Ecosystem services)} + B \text{ (Other benefits)} + C \text{ (Costs)}$$

Each LL will collect data relevant to E, ES, B and C based on a list of indicators for each variable. The indicators are currently being drafted and discussed among partners. The structure and principles of the database will be validated by the ExCom in MS4.

The crucial aspect is that **the choice and assessment of indicators and data needs to be carried out in a participatory manner.** The project document states clearly that a diversity of stakeholders will be invited, in LLs, to share their experience and express their expectations regarding these services. Farmers' and farmer associations' knowledge, especially, will be valued in this process as they are the first users of biodiversity. As the work of developing indicators for the database is ongoing under a number of WPs, this chapter will be updated accordingly as the indicators and the relevant protocols become available.

## 5.3. Next steps

This framework will be disseminated to all LL coordinators and stakeholders with a view to enabling their further development of the LL and as a tool for internal reflection, co-learning and co-creation. Of course, given the "living" nature of the document, we expect it to be updated and adjusted based on LL's experiences and feedback, and to be thus re-distributed and shared regularly as its contents evolve. The immediate next step will be the development of Milestone 3 aimed at supporting LL's in developing their internal configuration and at validating their work plan by all partners involved in the LL itself.

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Oldenburg R., 1989, The Great Good Place: Cafes, Coffee Shops, Community Centers, Beauty Parlors, General Stores, Bars, Hangouts, and How They Get You Through the Day, New York: Paragon House, 338 p.

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# Annexes

## Annex 1 – Glossary

| TERM | SOME BIBLIOGRAPHIC REFERENCES |
|---|---|
| **AGROBIODIVERSITY:** Agrobiodiversity is a vital sub-set of biodiversity. It includes the variety and variability of animals, plants and micro-organisms that are used directly or indirectly for food and agriculture, including crops, livestock, forestry and fisheries, as well as the diversity of genetic resources (varieties, breeds) and species used for food, fodder, fibre, fuel and pharmaceuticals. Agrobiodiversity is the result of natural selection processes and the careful selection and inventive developments of farmers, herders and fishers over millennia. | Bélanger, J., & Pilling, D. (2019). *The state of the world's biodiversity for food and agriculture.* Food and Agriculture Organization of the United Nations (FAO). Zimmerer, K. S., de Haan, S., Jones, A. D., Creed-Kanashiro, H., Tello, M., Carrasco, M., ... & Olivencia, Y. J. (2019). The biodiversity of food and agriculture (Agrobiodiversity) in the anthropocene: Research advances and conceptual framework. *Anthropocene*, 25, 100192. |
| **AGROECOLOGY:** Ecology is the study of relationships between plants, animals, people, and their environment - and the balance between these relationships. Agroecology is the application of ecological concepts and principles in farming. Agroecology promotes farming practices that: 1) mitigate climate change by reducing emissions, recycling resources and prioritizing local supply chains, 2) work with wildlife by managing the impact of farming on wildlife and harnessing nature to do the hard work for us, such as pollinating crops and controlling pests, and 3) put farmers and communities in the driving seat - they give power to approaches led by local people and adapt agricultural techniques to suit the local area - and its specific social, environmental and economic conditions. It is important to also appreciate the governance dimensions of agroecology, widely understood to be not only a science and a practice, but also a movement, as exemplified by the numerous social movements that in the past decades have called for an uptake of agroecological methods worldwide. | Wezel, A., Bellon, S., Doré, T., Francis, C., Vallod, D., & David, C. (2009). Agroecology as a science, a movement and a practice. A review. *Agronomy for sustainable development,* 29(4), 503-515. |
| **BRAINSTORMING:** Brainstorming is a group problem-solving method that involves the spontaneous contribution of creative ideas and solutions. This technique requires intensive, freewheeling discussion in which every member of the group is encouraged to think aloud and suggest as many ideas as possible based on their diverse knowledge. | https://www.designkit.org/ |
| **CO-CREATION:** Co-creation can be understood as a collaborative development of new value (concepts, solutions, products and services) together with various stakeholders | Kambil, A; Friesen G.B; and Sundaram A. Co-creation: A New Source of Value. Accenture Outlook, 2 (1999) at |

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| (such as organized customers, industry, research, civil society organisations and policymakers). Co-creation is a form of collaborative innovation: ideas are shared and improved together. A co-creation process:<br><br>• Aims to include a diverse group of actors from research, industry and policy to civil society organisations and citizens,<br>• Is adapted to take into account gender, cultural values and differences in communication traditions<br>• Is open and transparent, and where participants can continuously follow the steps of the co-creation process as well as see how their input is used in the co-creation process,<br>• Is interactive both in its methods but also in the tools it utilises for participants and the project to stay connected in an ongoing dialogue. | http://kambil.com/wp-content/uploads/PDF/accenture/cocreation2.pdf<br><br>Ramaswamy, V. & Gouillart, F. (2010). The Power of Co-Creation: Build It with Them To Boost Growth, Productivity, and Profits. New York: Free Press<br><br>Akhilesh, K. B. (2017), "Co-Creation and Learning", Briefs in Business, Springer India, pp. 45–54, doi:10.1007/978-81-322-3679-5_2 |
| **CO-LEARNING** aims at the collaborative construction of knowledge, in which co-learners are able to expand their social networks, integrate open learning with collective research and co-author collaborative productions. | Restrepo Rodríguez, María & Lelea, Margareta & Kaufmann, Brigitte. (2018). Evaluating knowledge integration and co-production in a 2-year collaborative learning process with smallholder dairy farmer groups. *Sustainability Science.* 13. 10.1007/s11625-018-0553-6. |
| **COMMUNITY OF PRACTICE:** Communities of practice are formed by people who engage in a process of collective learning in a shared domain of human endeavour. In other words, communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. Communities of Practice are groups of peers who share a concern or a passion for something they do and learn how to do it better as they interact regularly. Research suggests that learning is the main reason Communities of Practices are established. Social learning and thinking together are key concepts in a CoP. The collaborative learning process of 'thinking together' is one of the most meaningful elements of a CoP and what makes it work. Thinking together is conceptualised as people sharing knowledge through mutually guiding each other through their understandings of the same problems in their area of shared interest. Three key elements are required to ensure a Community of Practice exists: 1). Domain: a shared area of interest 2) Community: members interact and learn together 3) Practice: members are practitioners who develop a shared repertoire of resources | Barwick, M. A., Peters, J., & Boydell, K. (2009). Getting to uptake: do communities of practice support the implementation of evidence-based practice?. *Journal of the Canadian Academy of Child and Adolescent Psychiatry,* 18(1), 16.<br><br>Ranmuthugala, G., Plumb, J.J., Cunningham, F.C. et al. How and why are communities of practice established in the healthcare sector? A systematic review of the literature. *BMC Health Serv Res* 11, 273 (2011). https://doi.org/10.1186/1472-6963-11-273<br><br>Wenger-Trayner & Wenger-Trayner (2015) Introduction to communities of practice; A brief overview of the concept and its uses. Retrieved from https://wenger-trayner.com/introduction-to-communities-of-practice/<br><br>Pyrko, I., Dörfler, V., & Eden, C. (2017). Thinking together: what makes communities of practice work? *Human relations*, 70(4), 389-409. |

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| **COVER CROP:** A cover crop is established between the harvest of a main crop and the sowing of the next main crop. Cover crops are intended to go back to the soil and not to be exported from the field. They are sown to avoid bare soil between two main crops and to provide multiple services (the term used is Multi-Service Cover Crop). These Multi-Service Cover Crops contribute to improve, among others, soil structure, to reduce soil erosion, and to maintain associated biodiversity. | More info at https://dicoagroecologie.fr/en/dictionnaire/cover-crop/ |
| **DEFINITION PHASE:** It is a convergence phase. This is the phase where the facilitator takes the group through a process to hone down the ideas and select those that are most likely to solve the problem or best address the opportunity. | https://movallecreative.com/2021/03/12/divergent-and-convergent-thinking-in-the-design-process/<br><br>Thoring, Katja & Mueller, Roland. (2011). Understanding the Creative Mechanisms of Design Thinking: An Evolutionary Approach. Proceedings of the DESIRE'11 Conference on Creativity and Innovation in Design. 10.1145/2079216.2079236. |
| **DESIGN THINKING:** Design Thinking is a creative process that helps LLs design meaningful solutions to problems. Design thinking is a non-linear, iterative process that teams use to understand scenarios and users, challenge assumptions, redefine problems and create innovative solutions to prototype and test. Involving five phases—Empathize, Define, Ideate, Prototype and Test—it is most useful to tackle problems that are ill-defined or unknown.<br><br>The Design Thinking canvas and templates are repeatable framework to identify the right project brief, support collaboration and facilitation with team members and stakeholders, and maximize LLs resources and knowledge. | More info at:<br><br>https://www.designkit.org/<br><br>https://dschool.stanford.edu/ |
| **ECOSYSTEM SERVICE:** Ecosystem services (ES) are the direct and indirect contributions of ecosystems to human well-being. There are various definitions of ES, and DIVINFOOD uses the one developed by European Environment Agency (EEA) called CICES: Common International Classification of Ecosystem Services which defines three macro categories of ecosystem services that contribute to human well-being, each underpinned by biodiversity. These are:<br>• the provisioning of material and energy needs,<br>• regulation and maintenance of the environment for humans, or<br>• the non-material characteristics of ecosystems that affect physical and mental states of people, that is their cultural significance. | More info at https://cices.eu/revision-highlights/ |

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| **FOCUS GROUP:** A focus group is a small-group discussion guided by a trained facilitator. It is used to learn about opinions on a designated topic, and to guide future actions. | https://www.designkit.org/<br><br>https://www.interaction-design.org/literature/article/how-to-conduct-focus-groups |
| **FOOD ENVIRONMENTS:** It is widely acknowledged that diets are determined not only by personal factors, such as preference, taste, income and tradition, but also by the availability, affordability and desirability of food that individuals find in their surroundings. These make up the food environment that influences the food choices individuals make. Specifically, food environments are made up of various "components": the relative price of foods, the way food is formulated, the quality of the food sold in schools and other public venues, food promotion and marketing, labelling and food retailing. Recent policy makers' efforts have focused on changing each of these components with an aim to make it easier for people to choose healthier and more sustainable food items. | GLOPAN (2017). *Food systems and diets: facing the challenges of the 21st century*.<br><br>Sacks, G., Kwon, J., Vandevijvere, S., & Swinburn, B. (2021). Benchmarking as a public health strategy for creating healthy food environments: an evaluation of the INFORMAS initiative (2012–2020). *Annual review of public health*, 42, 345-362.<br><br>Swinburn, B., Kraak, V., Rutter, H., Vandevijvere, S., Lobstein, T., Sacks, G., ... & Magnusson, R. (2015). Strengthening of accountability systems to create healthy food environments and reduce global obesity. *The Lancet*, 385(9986), 2534-2545. |
| **INTERCROPPING:** Intercropping is an agricultural practice whereby at least two species are cropped together during a significant period of their growth. Intercropping aims at using more efficiently the available resources by promoting complementarity between species in order to increase the products' production on a given surface of land and quality (e.g. level of proteins of a cereal), but also to limit diseases, pests and weeds pressure. Intercropping is used to produce grain (for example wheat-peas or triticale-faba beans) or forage (for example a forage mixture of vetch and oat). In some cases only one of the species is harvested (rapeseed when associated with a frost-susceptible legume or corn sown under a forage cover, that could be harvested later). Finally, intercropping can be used for the production of services as in the case of multi-species intermediate crops to fulfil the cumulative functions of green manure and nitrate trap. | More info at https://dicoagroecologie.fr/en/dictionnaire/intercropping/ |
| **MID-TIER CHAINS:** The term "mid-tier value chain" means local and regional supply networks – as opposed to chains that are prevalently vertically integrated in the global economy - that link independent producers with local or regional businesses and cooperatives that market value-added agricultural products. In this case, it would be intermediaries and retailers that give value to NUCs. They are different from short supply chains that are often characterized by a direct consumer-producer relation (where there may be one | Chiffoleau Y. and Dourian T. (2020) Sustainable food supply chains: is shortening the answer? A literature review for a research and innovation agenda. *Sustainability* 12, no. 23: 9831. |

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| intermediary) and occur in very geographically close areas (e.g. peri-urban agriculture and urban consumers). | |
| **MILD PROCESSING:** Mild processing methods extend product shelf life and food safety by, partly or totally, inhibiting spoilage and pathogenic microorganisms and/or enzymes while affecting organoleptic attributes, nutritional content, and product characteristics as little as possible. Examples are fermentation. | Barba, F. J., Koubaa, M., do Prado-Silva, L., Orlien, V., & de Souza Sant'Ana, A. (2017). Mild processing applied to the inactivation of the main foodborne bacterial pathogens: A review. *Trends in Food Science & Technology*, 66, 20-35.<br><br>Morales-de la Peña, M., Welti-Chanes, J., & Martín-Belloso, O. (2019). Novel technologies to improve food safety and quality. *Current opinion in food science*, 30, 1-7. |
| **NUCS:** Agricultural species that are not among the major staple crops often come under the heading of 'neglected and underutilized crops (NUCs) and are sometimes called 'orphan' crops. The NUCs concept applies to useful plant species which are marginalized, if not entirely ignored, by researchers, breeders and policy makers. They are non-commodity crops and belong to a large, biodiverse group of thousands of domesticated, semi-domesticated or wild species. They may be locally adapted minor crops as well as non-timber forest species. It is important to note that a species can we widely used in a region, but be considered as underutilized in another, such as teff, which is common in Ethiopia, but underutilized in Europe. | Padulosi, S., Eyzaquirre, P., & Hodgkin, T. (1999). Challenges and strategies in promoting conservation and use of neglected and underutilized crop species. *Perspectives on new crops and new uses*, 140-145.<br><br>Hunter, D., Borelli, T., Beltrame, D. M., Oliveira, C. N., Coradin, L., Wasike, V. W., ... & Tartanac, F. (2019). The potential of neglected and underutilized species for improving diets and nutrition. *Planta*, 250(3), 709-729. |
| **ON-FARM TRIALS:** On-farm trials are an easy way for farmers to learn how practices, products and equipment will work in their cropping systems. They are used to evaluate production practices under realistic growing conditions. Ultimately, properly designed on-farm trials are used to predict responses to products, practices and technologies when used in the same environments. | FAO (2018) *The Grower's Guide to Conducting On-farm Variety Trials*, FAO.<br><br>Richardson, M., Coe, R., Descheemaeker, K., Haussmann, B., Wellard, K., Moore, M., ... & Nelson, R. (2022). Farmer research networks in principle and practice. *International Journal of Agricultural Sustainability,* 20(3), 247-264. |
| **PARTICIPATORY APPROACH:** A participatory approach means that the person in charge of solving a problem or designing an innovation involves people who are directly concerned by the result of his or her work. Different tools can be used to implement a participatory approach. They all share the same philosophy which is to facilitate the expression and the participation of different and diverse actors. This includes covering a wide range of forms of expression: oral communication, written communication and schematic representation (participatory modelling/mapping, mind map, rich pictures, cognitive maps …). These different modes of expression facilitate the transition from a passive attitude of learning to an active and creative attitude. Engaging actors in | Egal, F., Ngom, A., & Ndione, P. D. (2000). Integration of food security and nutrition in forestry planning: the role of participatory approaches. *Unasylva* (English ed.), 51(202), 19-23.<br><br>Hebinck, A., Vervoort, J. M., Hebinck, P., Rutting, L., & Galli, F. (2018). Imagining transformative futures: participatory foresight for food systems change. *Ecology and Society* 23(2):16 |

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| such a process of co-construction promotes the ownership of results and the involvement of participants in their implementation. | |
| **PARTICIPATORY PLANT BREEDING:** Although plant breeding programs differ from each other depending on the crop, on the facilities and on the breeder, they all have in common some major stages: ''generation of variability,'' ''selection,'' and 'testing of experimental cultivars.'' A decentralized-participatory plant breeding (PPB) program is exactly the same process with three differences: (1) most of the process takes place in farmers' fields, (2) the decisions are taken jointly by the farmers and the breeder, and (3) the process can be implemented at a number of locations involving a large number of farmers evaluating different breeding materials. | More info at Ceccarelli, S., & Grando, S. (2007). Decentralized-participatory plant breeding: an example of demand driven research. *Euphytica*, 155(3), 349-360. |
| **SMART INDEXES:** The SMART framework is a useful way to identify quality indicators. It stands for Specific, Measurable, Achievable, Relevant and Time-bound. The first criterion, Specific, means that the indicator needs to be narrowly defined and accurately describe what needs to be measured. Measurable means that the indicator has the capacity to be counted, observed, analyzed, tested, or challenged. Regardless of who uses the indicator it would be measured in the same way. Achievable (or attainable) means that collecting the data should be straightforward and cost-effective. Relevant requires that the indicator be closely linked to the relevant outcome. Finally, Time-bound means that there should be a timeframe linked to the indicator (such as the frequency with which it is collected or measured). | Day, T., & Tosey, P. (2011). Beyond SMART? A new framework for goal-setting. *The Curriculum Journal*, 22 (4): 515-534. doi: 1080/09585176.2011.627213 |
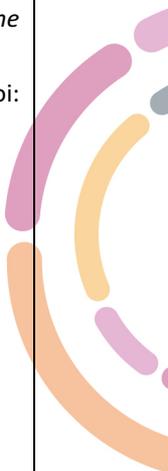
# Annex 2 – Suggested tools for Living Labs setting up and facilitation[2]

### A. Setting up Living Labs

Tools on facilitation and communication help to **ensure a solid team process** that fosters inclusive, creative and convergent thinking and results. LLs project teams are usually time-limited teams formed to complete a particular task or activity. When the LL team completes its task, it disbands. Teams that bring together members from different disciplines and sectors or functions are called cross-functional or transdisciplinary teams.

**Some general tips to ensure a solid team process.** There are several factors identified as key to a LL team's success. They include:

- Shared understanding of the LL team's mission
- Commitment to the LL team's goals
- Clearly defined roles and responsibilities inside and outside LL
- Creating an established decision-making model
- Effective LL group process including commitment to transparent communication, and appropriate self-evaluation and monitoring.

*Note:* A basic tenet of meeting design and facilitation is the idea that the meeting process is distinct from the content of the meeting. Content is what gets talked about and decided. Process is how the discussion happens and how decisions are made. It's important to pay attention to both.

More info on how to ensure a solid team process at https://hr.mit.edu/learning-topics/meetings/resources

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**Basic information on facilitation and communication tools and approaches.**

- What are *converging and diverging tools* of creative thinking and facilitation?
Some examples of divergent tools include brainstorming, keeping a journal, freewriting and mind or subject mapping. Convergent tools on the other hand, implies that we take several ideas and put them together in a way they can be related ( focus group, defining mapping, focus group canvas, ...).
-What is *an exploration phase?*
The exploration phase, also referred to as the divergent thinking phase, is where the facilitator helps the group explore lots of territory where ideas might be uncovered. The goal of this phase is to generate lots of comments, reflections, ideas around a clearly articulated problem or opportunity.
-What is a *definition phase?*
It is a convergence phase. This is the phase where the facilitator takes the group through a process to hone down the ideas and select those that are most likely to solve the problem or best address the opportunity.

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[2] please note, more tools on facilitation and communication will be provided by WP6.

-What are *the Design Thinking (DT) Canvas?*
The Design Thinking canvas and templates are a repeatable framework to identify the right project brief, support collaboration and facilitation with team members and stakeholders, and maximize LLs resources and knowledge.
More definitions are provided in the Glossary, Annex I

### B. LL composition and development

Each stage of LL development has its own recognizable feelings and behaviors; understanding *why* things are happening in certain ways on your LL team can be an important part of the self-evaluation process.

And just as human development is not always linear, LL team development is not always a linear process. Having a way to identify and understand causes for changes in the LL team behaviors can help the team maximize its process and its productivity.

1) Set up roles and tasks in LL team.

- **Team Canvas** (Basic and advanced) is a strategic framework that helps team members to kick off projects and align on common vision;
- **The empathy map** is a collaborative tool that allows shared exploration of LL members. The map is a tool that induces participants to empathize with the experience of others;
- **The Conflict Management Canvas** is a tool to help teams address conflict by reflecting on past issues and identifying learnings to better prepare to solve current tensions. (more info at Thomas-Kilmann Instrument (TKI assessment tool Thomas Kilmann Conflict Mode Instrument).

2) LL stakeholder identification and stakeholder engagement.

- **The stakeholder mapping** tool helps LLs to better understand their stakeholders' perspectives and manage their expectations. They can visualize the ecosystem of NUCs or services and identify interconnections.  (used during DIVINFOOD kickoff meeting to present the 9 LLs);
- **The engagement canvas** and **stakeholder engagement matrix** can be both helpful to tie back to your LL's goals and engage LL stakeholders.
- Tools like **Mural** and **Miro** have **good templates** although Miro can become expensive if there too many people defined as editors, basically there are ways to do the exercises in less expensive ways (although still much cheaper than meetings in person).

Templates and tools (ready to be used) can be found online at
**https://enoll.org/toolkits/**
**https://www.designkit.org/**

**A short guide for team-conversations with essential four practices for LL:**

Listen respectfully and respond with positive interest to ideas from LL team members. If an idea is confusing or seems unconventional or odd to you, ask for more information to understand the idea better. (Saying, *"Can you tell me more?"* is a great way to continue a conversation.)

Help create an environment that encourages LL team members to share all ideas - even the "half-baked" ones. Most great ideas are built by teams building on an initial thought. Sometimes it's the "crazy" ideas that really spark the team's creativity. Treating every idea as important keeps team members from holding back some "half-baked" thought that could be just what the team needed.

Don't hide conflicts; try to surface differences and use them to create better results that all team members can support.

Adopt the right facilitation techniques to capture individual contributions and groupthink and group work.

## C. Scope and interactive communication

1) Participatory online and virtual communication tools

The following tools will be very helpful for working with people who are not members of DIVINFOOD project. The members of the DIVINFOOD project use a dedicated **Sharepoint Platform** which includes many functionalities and tools.
In addition, in accordance with the EU's wishes, open-source tools are preferred.

### A) Collective spaces
**Potential functions:**
a) To enable conversations and discussions among the partners;
b) They can initially be set on an overall DIVINFOOD account, with set channels (eg. WP-1, WP-2, WP-3, WP-4, WP-5..., ALL LLs, etc...) but then allowing the partners to create their paths of communication channels as they see fit (e.g. connecting partners in one country; engaging with local authorities, etc.);
c) These spaces and tools allow for some channels to be closed (maybe useful to have channels for project partners only; or only ExCOM) and other channels open (if we really want to open conversations for any type of stakeholder). They are easy to share files and even to create short votes (collective reactions) to a proposal;
d) DIVINFOOD members can also just message each other by using these tools;
e) They are all available online, and can be used on a computer desktop and on a mobile phone.
f) Notifications can be very well adapted (have them activated or not, on the email and on the phone, or for particular slots in time to avoid overload of messages);

g) Collective spaces can be used also for quick routine chats, such as updates, requests for help with tasks, or even quick votes (e.g.: shall we meet at the village market today?)

**Suggested collective spaces for DIVINFOOD.**
a) For a community forum to publish+comment+vote proposals for debate, you can use **Discourse.**
b) **Loomio** is a community forum+decison making tool. Although Loomio is a much more complete tool it might be good for LL with more expertise in using these kind of digital tools.
c) Quick chat(s)+updates and further LL communication can be done on **Slack.**
d) **twist** is an interesting tool for a quick chat+information sharing and organization of conversations tool. It can also be connected to member phone. Both Slack and Twist can be connected with the mobile and have quite useful mechanisms to control how the notifications are given.
e) **Collective Tools** provides tools for collaborative working (it is very similar to G-Drive but with actual Data protection) and also **Notion** can be an interesting tool for DIVINFOOD LLs because it is great for project management.
f) There are other simpler apps such as **Signal** and **Telegram** for quick individual and/or group mobile messaging and with very good Data Protection policies.
g) Simple messaging app(s) and **WhatsApp** can be used to create groups and having fast communication. But if there are concerns about data protection**, Signal** and **Telegram** are better solutions.

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**Some tips for a good online/virtual participation:**
- Present from a quiet place, where noise is minimal;
- Test beforehand if your audio settings (both speakers and microphone) work better with or without headphones: sometimes headphones have better audio quality than the microphones of phones or computers;
- Make sure you are well lit. Look for a place near a window and turn on some diffuse light at face level. Avoid having light sources such as windows or lamps behind you;
- If you connect from a phone, place it horizontally;
- Take care of your background: make sure it is tidy and clean, and that no personal motifs, photographs or sensitive information are displayed.

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**B) Emailing list and WhatsApp list.**
An email list – also sometimes called a reflector or listserv – is a group of people who communicate by email with one another through one single address. When people subscribe to (sign up for) a list, their email addresses are added and then, when anyone who is subscribed sends a message to the main email address, a copy of that message goes out to each person on the list. People can respond to the list address, entering into a group discussion, or they may wish to respond off-list or privately by emailing another list member directly without using that mailing list address.

**Potential functions**

    a) Create a forum for discussion of ideas and issues: For example, you could use an email list to brainstorm online for LL ideas.

    b) Disseminate a survey (to consumers, to citizens, to farmers, etc.)

    c) Encourage people interested in your LL to offer each other support and assistance

    d) Monitor the interests of your list subscribers. For example, you can start a discussion on your list to see what preference people have.

**Suggested emailing list tools for DIVINFOOD**

Mailing lists vary in size; some are very small, with only a dozen people or so, while others have thousands of subscribers. Sometimes large mailing lists are connected to Usenet newsgroups, so that postings to those mailing lists also show up on the corresponding newsgroups and vice versa. Email lists are run through mailing list management software; some of the more commonly-used programs are **ListProc** and **Listserv** (which is so common that sometimes people refer to an email list as a "listserv" ). These list management programs allow the list owner or administrator – the person in charge of running the list – to easily add and remove subscribers and change various settings. For emailing some instances Roundcube can be useful.

*More info at* https://ctb.ku.edu/en/table-of-contents/participation/promoting-interest/e-mail/main

    C) **Calls and virtual meeting**

Zoom, Teams or Meet can be used  for online meetings and calls, but also the **Socialcoop** app (link here)

    D) **Scheduling a meeting**

Create a poll to find the best *meeting* time for your LL group. Make it pretty with a theme. Find the best possible time for your event based on input from everybody.

Deciding and scheduling meetings can be done with **lettucemeet** (link here)

You can easily use **Doodle's meeting scheduler** to schedule your meetings in minutes. Create a poll and send it off to your participants to let them choose the best time to meet.

    E) **Share files and documents**

Collective tools (link here), a reasonably priced tool that has most that any instance will need and with very good data protection.

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**Collaborative writing** is the shared writing of an online document.

1. Invest time in organizing the initial stages of the process (e.g. finding a suitable platform, identifying the structure of the document, dividing tasks, agreeing on the process etc)
2. Set deadlines for each step in the process
3. If possible, organize face-to-face meetings to discuss written material and    to oversee the work
4. Do not delete content but rather add comments to sections that might    need to be removed
5. Identify a moderator to capture the edits/comments and finalize the    document, if you decide to publish the final document

> A couple of different strategies to collaborative writing exist, see for further description:
> http://en.wikipedia.org/wiki/Collaborative_writing.
>
> One strategy could be:
> -The group decides on a structure of the collaborative document
> -The group divides the document into separate parts and all members work on their assigned part in parallel
> -Members give comments to each other's draft texts
> -Members make adjustments to their text based on these comments
> -One person compiles and revises the document into a final product
> -The group discusses the final product
> See: http://www.kstoolkit.org/Wikis

2) *Participatory strategies and facilitation tools for sharing knowledge:*

How do you want people to interact during the meeting? Is there value in having people connect with others who don't happen to be sitting at the table they chose when they walked in the room? At what point in the activity would it be helpful to bring together people of different experiences? Who should come together and when? Having a plan for the meeting which describes and indicates times for each activity and gives directions to all those facilitating helps to make the best use of scarce meeting time. Meetings that provide opportunities for creating new insights and knowledge, that get people talking and exchanging ideas, and that engage people in problem-solving tend to be more highly valued than meetings where participants are mainly just listening. Meetings can better achieve such engagement and learning goals if they are purposefully designed to do so.
Read more on **Tips for Working with Groups** at
https://www.fsnnetwork.org/sites/default/files/Facilitation%20Workshop%20Handout.pdf

A) Here is a **selection of divergent and convergent** tools for sharing knowledge during 4 phases in LL:
- Co-Exploration phase
- Co-Definition phase
- Co-Ideation phase
- Co-Test and Check phase

| Tools for Co-Exploration phase: <br><br> where LLs gain real insight into users and their needs, need to explore the scenarios, or collect | **Mind map** is a graphical way to represent ideas and concepts. It is a visual thinking tool, which consists of a central word or concept (preferably a picture), around which ideas that relate to that image are drawn. In a mind map links are usually "passive", not representing anything more than association. <br> More info at: <br> Fuzzy Cognitive Mapping – Eisenwurzen <br> http://www.umweltbundesamt.at/umweltschutz/oekosystem/lter_allgemein/mfrp_ eisenwurzen/projekte_eisenw/soz_oek_forsch/fcm/ <br> Decision Explorer webpage: <br> http://www.banxia.com/dexplore/resources/whats-in- a-name/ |

| | |
|---|---|
| information from different people, sectors, disciplines, actors and stakeholders. The following tools help to manage divergent processes. | http://omni.bus.ed.ac.uk/opsman/oakland/inst18.htm<br>Buzan, Tony (2006) The Mind Map Book", BBC Active. Wikipedia:<br>http://en.wikipedia.org/wiki/Mind_map |
| | **Concept mapping** is a structured process, focused on a topic or construct of interest, involving input from one or more participants, that produces an interpretable pictorial view, a concept map, of their ideas and concepts and how these are interrelated.<br>More info at:<br>Concept mapping fuels<br>http://www.energyeducation.tx.gov/pdf/223_inv.pdf<br>Concept map 'Peak oil'<br>http://skat.ihmc.us/servlet/SBReadResourceServlet?rid=11163550 73336_16653369 47_   1059&partName=htmltext<br>Diet, Food and Health Concept Map<br>https://lh5.googleusercontent.com/-zlbbFAt2KsI/TX7oJSwx9ZI/AAAAAAAADCI/AzFZY-QFaPo/s1600/health_diet_food_concept_map2.jpg |
| | **AEIOU**<br>This kind of workshop can be used to do guide field observations and visualization techniques. Individual worksheets for Activities, Environments, Interactions, Objects and Users are used to document research, and then converged onto a larger team worksheet by synthesis and design ideation.<br>www.ethnohub.com > search for AEIOU framework |
| | **Fly-on-the Wall Observation:** *Fly* on the *wall* research is an *observational* technique that allows a researcher to collect data by seeing and listening<br>More info at https://www.luma-institute.com/fly-on-the-wall-observation/ |
| | **Bodystorming** is a technique used in the first stage of the design process that takes the customer viewpoint into account. Instead of trying to visualize or imagine how a product might be used, bodystorming requires the design team to, in essence, act it out as though the product or process already exists.<br>More info at https://think.design/user-design-research/bodystorming/ |
| **Tools for co-definition phase:**<br>when LLs need to organize the information they have gathered during the | **A Knowledge café** brings together a group of people to have an open, creative conversation on a topic of mutual interest to surface their collective knowledge, to share ideas and insights and to gain a deeper understanding of the subject and the issues involved.<br>More info at http://knowledge.cafe/knowledge-cafe-concept/ |
| | **Critical Moments Reflection (CMR)** (or timeline or learning histories) help people reflect on past experiences. This methodology |

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|---|---|
| exploration/colle ction stage. LLs need to analyze their observations to define the core problems, challenges, and strengths | is based on the idea that learning begins with the examination of actual experiences and perspectives on those experiences. More info at  http://www.kstoolkit.org/Critical+Moments http://www.transitiepraktijk.nl/en/experiment/method/learning-history-timeline- method |
| | **Six Thinking Hats**  enables groups to look at a decision from several points of view. This forces participants to move outside a habitual thinking style and helps achieve a more rounded view of a situation. It was created by Edward de Bono in his book Six Thinking Hats. Source: http://www.odi.org.uk/resources/download/153.pdf |
| | The **World Café** is an easy-to-use method for fostering a creative process for collaborative dialogue and the sharing of knowledge and ideas, particularly in large groups. It is, simultaneously, a provocative metaphor enabling us to notice the often invisible webs of conversation and social learning which lie at the heart of our capacity to share knowledge and shape the future together. More info at The World Café website: http://www.theworldcafe.com Participatory methods Toolkit: A practitioner's manual http://www.kbs-frb.be/uploadedFiles/KBS-FRB/Files/EN/PUB_1540_Participatoty_toolkit_New_edition.pdf Brown, J. (2002) The World Café: A Resource Guide for Hosting Conversations That Matter. Mill Valley, CA: Whole Systems Associates. Brown, J., Isaacs, D. and the World Café Community (2005) The World Café: Shaping Our Futures Through Conversations That Matter. Berrett-Koehler. |
| | **Affinity Diagram** is a process used to externalize and meaninfully cluster observations and insight from research, keeping teams grounded in data as they co-create together. More info at https://www.interaction-design.org/literature/article/affinity-diagrams-learn-how-to-cluster-and-bundle-ideas-and-facts |
| **Tools for Co-Ideation phase:** when LLs need to gather with open minds to produce as many | **Collage:** Getting the people you're designing for to make things can help you understand how they think, what they value, and may surface unexpected themes and needs. Collages are an easy, low-fidelity way to push people to make something tangible and then to explain what it means to them. More info at https://www.designkit.org/methods/collage |

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|---|---|
| ideas, opinions and feedback as they can to address a problem statement in a facilitated, judgment-free environment | **CREATIVE MATRIX:** If you want to generate many wide-ranging ideas in a short amount of time, the structure of a Creative Matrix is useful because it stimulates cross-pollination by providing a template for generating new ideas where topics intersect. More info at **https://www.luma-institute.com/creative-matrix/** |
| | **Bull's Eye Diagramming for** making better decisions by sorting items into a priority matrix. Improve productivity and ensure your LL team meet's its deadlines using a bull's eye chart. More info at **https://miro.com/templates/bulls-eye-diagram/** |
| | **SCOPING CANVAS:** The scoping canvas will help your LL team **align on the scope of your innovation project**. More info at https://www.boardofinnovation.com/tools/scoping-canvas/ |
| | **How might we:** "How might we" (HMW) questions are **short questions that launch brainstorms**. HMWs fall out of your point-of-view statement or design principles as seeds for your ideation. More info at **https://www.designkit.org/methods/3** |
| **Tools for Co-test and check phase**: when LL need to test/check ideas or solutions on a full scale basis. The ideas that seem the best according to the feedback of the customers, end users or stakeholders in the co-creation phase will be executed and co-tested. | **Future scan:** 150+ predictions and future trends to use in your brainstorms and ideation sessions More info at https://www.boardofinnovation.com/tools/future-scan/ |
| | **Consequence Wheel:** A consequence wheel is a diagram that shows the relationship between causes and effects (achievements in short term, and their consequences in long term). Consequence wheel is a useful tool for looking through effects of actions. Consequence wheels can be simple or complex. It can be from 2 levels to six levels ( please note, LL "consequence wheel" is one of the tool used for the Milestone 3 " LLs' configurations and programmes validated by Partners of the project") More info at https://prod-media.coolaustralia.org/wp-content/uploads/2016/01/06193245/Consequence-wheel.pdf |
| | **Cognitive biases poster:** 16 cognitive biases to look out for that impact creativity and innovation process. They can originate from personal biases to group dynamics and politics and more. |

| | More info at  https://www.boardofinnovation.com/tools/cognitive-biases-poster/ |
| --- | --- |
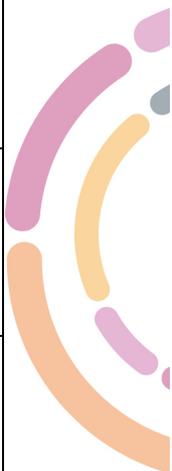
**B. Co-design a LL event**

**How to proceed?** Ideation and development**:**
1) **Exploration**: Participants get to know each other and share their wishes, needs and values. The key is to together understand the problem and open up and empathize with the issue
2) **Ideation:** Imagine and co-create responses to these wishes, needs and values, building on the varied expertise around the table.
3) **Prototyping**: Generate an action plan that visualizes in discrete steps how the wishes, needs and values will be integrated in product suggestions
4) **Reflection**: Consider broader reflective questions about the feasibility of the action plan and the overall outcomes.
5) **Prepare an evaluation moment** for your participants: Did their experiences match their expectations (process, content)? What have they learned? Do they want to stay informed?

**When** establishing the dates for an event:
- Consider community activities.
- Try to avoid conflicts with major school, sport, church and other community activities.
- Avoid holidays.
- Weekdays are generally better than weekend sessions.

**Who** will participate in your LL event?
The relevant 'target' (audience, public, users) will vary with the issue, as the interest and capability of various groups to contribute to a participatory process will depend upon the topic at hand. In addition, the (geographic) scope, budget and timing of the task will have to be taken into consideration in order to decide the number and geographic distribution of participants. The main groups to consider involving, include:
- Citizens on an individual basis;
- Stakeholders, whereby citizens are represented by organisations, such as: non-governmental organisations (NGOs), private industry, interest groups (advocacy groups, clubs, etc.);
- Experts on a particular topic, issue or problem;
- Politicians/Policy makers who will take up the outcome of the process. The involvement of policy-makers from the very beginning of the process will increase the likelihood of their support of both the process and the outcome.

**Structural considerations include:**
- identification and recruitment of the participants
- preparation of any introductory material
- promotion
- event management
- evaluation
- final report, printing and dissemination

# Annex 3 – DIVINFOOD LL template (in ppt)

## DIVINFOOD

*Co-constructing interactive short and mid-tier food chains to value agrobioDIVersity IN healthy plant-based FOOD*

**Presentation of Living Labs status and plans**

**LL
presentation**

Name
(country)

DIVINFOOD Milestone 3 – 25th October 2022

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DIVINFOOD : *Co-constructing interactive short and mid-tier food chains to value agrobioDIVersity IN healthy plant-based FOOD*

**Choose and post here a photo here that best represents your Living Lab TODAY**

**describe the Living Lab with a tweet (a short text message, with a maximum of 140 characters): …………………………**

DIVINFOOD Milestone 3 – 25th October 2022

DIVINFOOD : *Co-constructing interactive short and mid-tier food chains to value agrobioDIVersity IN healthy plant-based FOOD*

**In our LL we have TODAY  (e.g.: 1 coordinator, 2 facilitators, 1 manager? 1 officer?……)**

| Who is part of your LL | Main role |
| --- | --- |
| 1 LL coordinator | |
| | |
| | |
| | |
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| | |

DIVINFOOD Milestone 3 – 25th October 2022

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DIVINFOOD : *Co-constructing interactive short and mid-tier food chains to value agrobioDIVersity IN healthy plant-based FOOD*

**Indicate WHO is part of your LL today based on their affiliation. Fill in the coloured rectangles and place them in the central grid…**
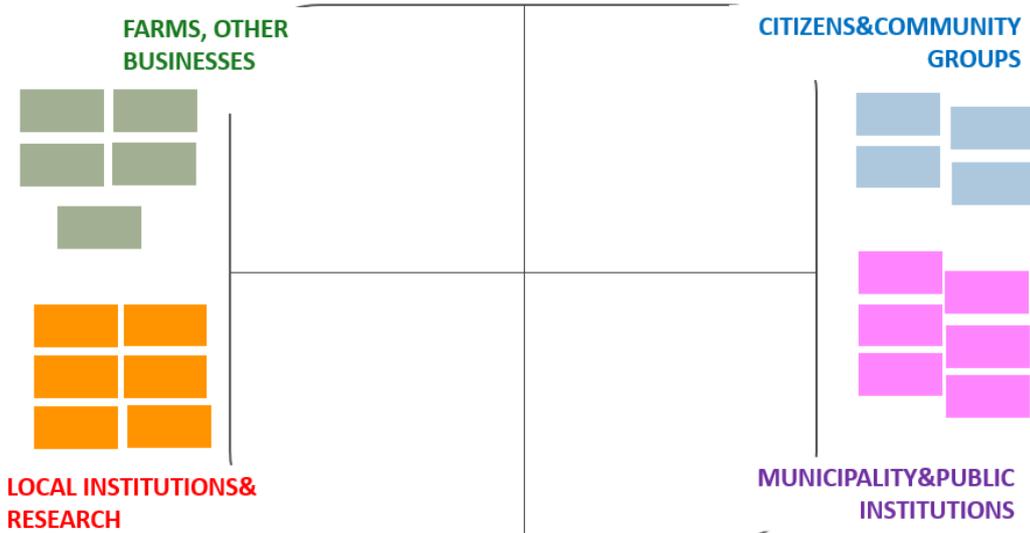
**FARMS, OTHER BUSINESSES**

**CITIZENS&COMMUNITY GROUPS**

**LOCAL INSTITUTIONS& RESEARCH**

**MUNICIPALITY&PUBLIC INSTITUTIONS**

DIVINFOOD Milestone 3 – 25th October 2022

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## DIVINFOOD : Co-constructing interactive short and mid-tier food chains to value agrobioDIVersity IN healthy plant-based FOOD

### Define your Living Lab



**What animal is your LL at present?**

*Circle the animals(max 3) you find your LL familiar with*

**And Why? (answer with 140 characters max):**

---

## DIVINFOOD : Co-constructing interactive short and mid-tier food chains to value agrobioDIVersity IN healthy plant-based FOOD

### YOUR LL ASPIRATIONS FOR THE FUTURE
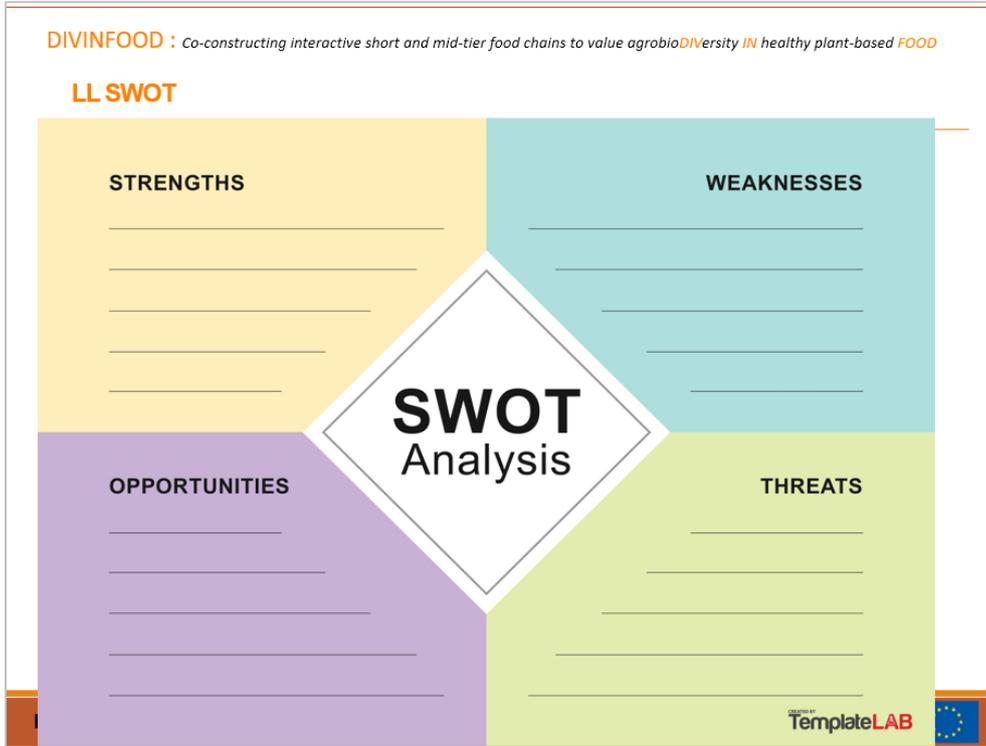


**What animal does your LL aspire to be in 5 years?**
*Circle the animals (max 3) you find your LL familiar with*

**And Why?describe the LL statement with a tweet (a short text message, with a maximum of 140 characters):**
...............................

Lyon, France

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## LL SWOT

| STRENGTHS | WEAKNESSES |
|---|---|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

**SWOT** Analysis

| OPPORTUNITIES | THREATS |
|---|---|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

CREATED BY: TemplateLAB

## Living Lab

| WP | Your LL main role | Your LL main actitivities | Your role as LL coordinator |
|---|---|---|---|
| WP1 | | | |
| WP2 | | | |
| WP3 | | | |
| WP4 | | | |
| WP5 | | | |
| WP6 | | | |

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DIVINFOOD
Co-constructing interactive short and mid-tier food chains
to value agrobioDIVersity IN healthy plant-based FOOD

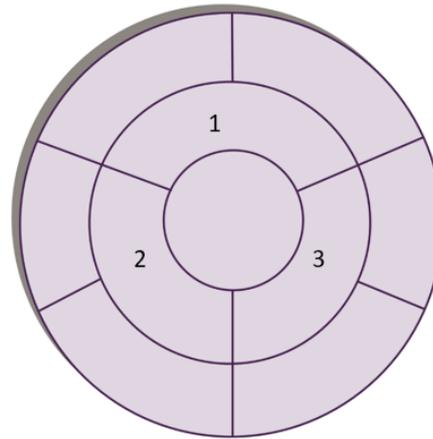DIVINFOOD : *Co-constructing interactive short and mid-tier food chains to value agrobioDIVersity IN healthy plant-based FOOD*

## List 3 main achievements during the 5 Years of the Project

- Achievement 1:
- *Explain briefly*

- Achievement 2:
- *Explain briefly*

- Achievement 3:
- *Explain briefly*

## Thinking of the achievements you just indicated, please list the expected/desired consequences in the long term (i.e. in 10 years)

TANGIBLE OUTCOMES

- .........................
- .........................
- .........................
- .........................
- .........................
- .........................

INTANGIBLE OUTCOMES

- .........................
- .........................
- .........................
- .........................
- .........................