Bin2Bean

Toolbox to set up and run a City-Region Living Lab

Zoom on the Preparation phase

Disclaimer: this document is still waiting for the Project Officer's approval

BIN2BEAN project

Toolbox to set up and run a City-Region Living Lab - Preparation phase

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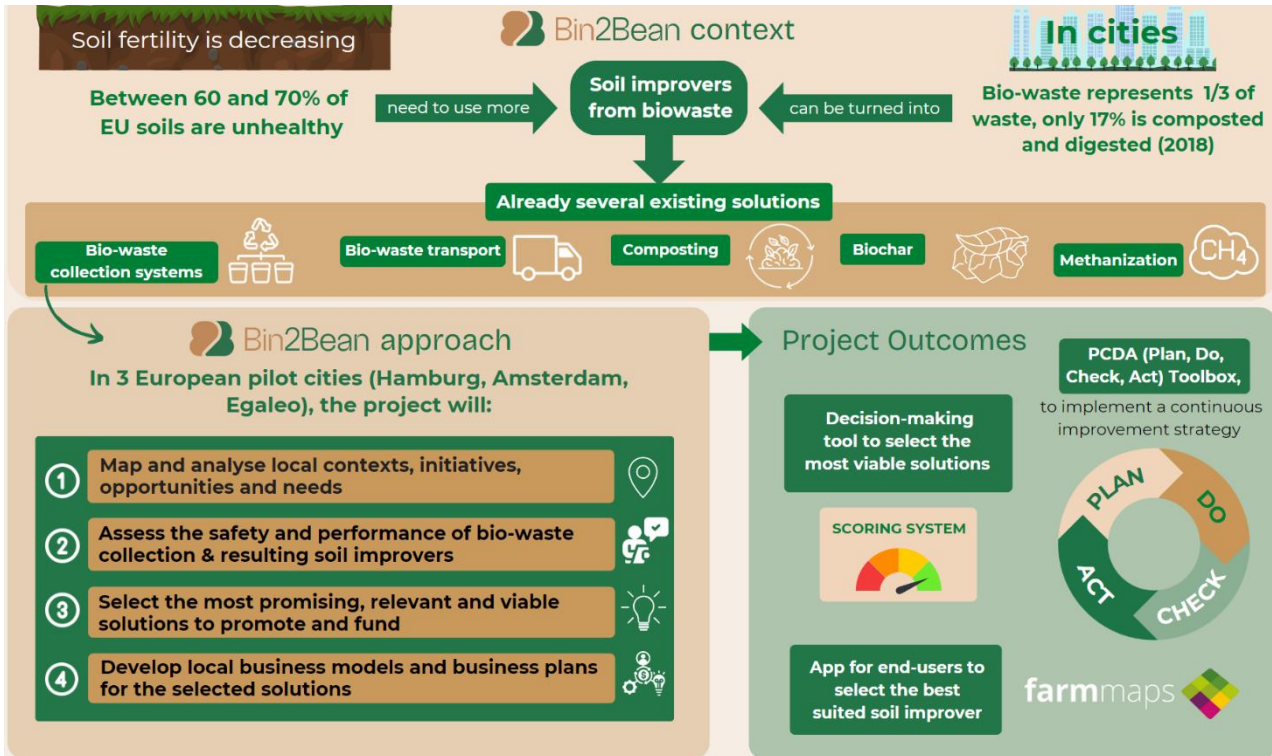# What is Bin2Bean?

Bin2Bean is a research-action project, co-funded by the European Commission under the Mission Soil, which aims to optimise the performance of bio-waste collection and transformation into soil improvers. It started in September 2023 and will last 3 years.

Bin2Bean collaborates with 3 City-Region Living Labs (*Amsterdam, Egaleo, Hamburg*), which have different states of progress and levels of experience on the topic, to implement a series of activities:

1. **Map local contexts**, in terms of state-of-progress, existing initiatives, needs, material and monetary flows.

2. **Design a tailored evaluation framework** to demonstrate the safety, environmental and socio-economic performance of bio-waste collection systems and soil improvers.

3. **Develop a scoring system**, fed by data from the evaluation framework, to help cities select the most effective and market-ready solutions adapted to their context.

4. **Develop tailored and viable business and/or community models** for the highest scored solutions, according to stakeholders' willingness-to-adopt.

5. **Draft local, national and EU policy roadmaps**, including waste charging policies and citizen awareness campaigns.

All this will feed into a **PDCA (Plan, Do, Check, Act) toolbox**, enabling any city-region to create a continuous improvement loop towards effective bio-waste recycling and regenerative soil systems.

What is in this toolbox?

This Toolbox aims at introducing a general step-by-step methodology with examples of tools, to set up and implement a City-Region Living Lab. It is based on a mix of existing methodologies, toolkits, tips and good practices, combined with feedback on experience and reflections from Bin2Bean partners and Living Labs:

- ENOLL, The Living Lab Methodology Handbook
- UNALAB Tools for Co-Creation
- IHS Making Cities Work
- Cities Alliance - City development strategies 2.0
- DRIFT - Transition management in the urban context
- HOOP - How to Biowaste Club PlayBook
- Soil Mission Support - Actor engagement guide, Prioritization of actor needs
- SCALIBUR, ALL-Ready and NATI00NS projects

This toolbox is directly targeted at **any emerging or running City-Region Living Lab (LL)** to support in maximizing stakeholder engagement and optimising the creation and effectiveness of a LL process.

The parts adjusted to the topic and approach of Bin2Bean (*soil improvement from bio-waste – Mission Soil*) are highlighted with the project logo or in *green*. However, this toolbox can also be used for any topic.

Naturally, each Living Lab is free to follow its own path and methodology – there is no single LL approach – but one should not reinvent the wheel! This toolbox compiles existing recommendations, tools and possible steps that could be applied by any City-Region LL, in the order they deem most appropriate, according to their state of progress (*see a sneak peek of these steps below*). The current deliverable (March 24) focused on the Preparation phase.

2 Where are we going?
- Vision, Ambition
- Objectives

1 Where are we now?
- Baseline and context analysis
- Understanding the needs of stakeholders and end-users

3 How are we going to get there?
- Co-creating transition pathways
- Ideation – co-creation of ideas and options
- Prioritisation of solutions

6 Getting into action
Short-term and long-term actions (*at political, economical, societal and technological levels*)

4 Solutions Testing phase
In pilot areas or experimental sites

5 How to know we are on track?
Evaluation and monitoring

What is a Living Lab?

" Living labs are <u>partnerships</u> between different relevant actors, such as researchers, farmers, citizens, public authorities, who come together to co-create innovations for a <u>jointly agreed objective</u>. Living Labs can be established at territorial, landscape or regional scale, with several experimental sites covered underneath. In a Living Lab, experimentations happen in real-life conditions." (*Mission Soil*)

"Living Labs provide a flexible and adaptable innovation approach that can help create positive change in society by addressing wicked problems through collaborative and participatory processes." (*ENOLL*)

In short, Living Labs are ecosystems of innovations that gather all the different actors on which a local societal or environmental transition depends. They embrace a collaborative approach to co-create knowledge and innovations and to run tests in real life environments. Their key words are: **user-centered** and **place-based**.

Living Lab criteria[1]

	Scale *(Mission Soil criteria)*	Multiple experimenting or test sites, at regional/ landscape scale. Number and exact character not predefined (e.g. can be a field in a farm or the entire farm).	Sites can be neighbourhoods, composting plants, parks, farms, etc.
		Lighthouse: Site which demonstrates high performance in terms of soil health and related ecosystem services, acts as an example, place where people can learn from.	
	Aims	- Transition and change making - Achieving <u>societal and environmental impacts</u>, *notably achieve soil health, battle pressures on soil, boost sustainable soil and land management*	
	Activities	- Co-creation, co-design or co-development of innovations - Experimentation of solutions - Monitoring/evaluation of the technical, economic and social performance, *notably of achieved soil health and ecosystem services performance* - Networking and knowledge exchange	
	Participants	Public-private-people partnership including **real users** (*see next section <u>Who can join a LL?</u>*)	
	Context	<u>Familiar</u> context to the users, Physical environment where the challenge occurs or the transition / innovation is needed.	

" Innovation for soil health is farmer driven, place driven, it's ongoing, if we really want to act on soil health we really need to think how we are going to <u>take our research from the labs to the fields</u>, that's how we can really make a change."

Anna Krywoszynska, Food 2030 event, December 2023

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[1] <u>Soil Mission Support - Criteria for Living Lab / Lighthouse identification (Table 4-3 p. 56)</u>

Who can join a Living Lab?

The 4 following categories should be represented in your LL (*Quadruple Helix*):

- **Academia & Research:** schools, universities, research institutes
- **Government & Public Sector:** national, regional and local governments, government entities (like ministries and agencies), public administrations.
- **Citizens, civil society and end-users:** citizens, NGOs, associations, foundations, trade unions, social entrepreneurs (non-profit), interest groups and movements, *land managers, land users, farmers*.
- **Industry & Business:** entrepreneurs, SMEs, companies, other for-profit organisations.

In the case of Bin2Bean, the following stakeholder groups were identified:

Living Lab stakeholder groups

Public authorities, City council

Universities, research institutes, schools, NGOs

Funding bodies

Bio-waste producers (food industries, retailers, caterers, citizens, parks and gardens)

Bio-waste management and processing actors Solution providers (entrepreneurs, SMEs, large companies)

End-users of soil improvers (farmers, parks, green areas, grove managers)

Testing labs (to assess the safety and quality of bio-waste, compost and soil improvers)

Recommendation: prioritise your targeted end-users and involve them as early as possible in the LL process, notably to better understand their needs. The latter should form the basis to define a common vision and shared goals, and to co-create tailored solutions (*see section Understand end-users' needs*).
"Real soil managers should be at the centre of the innovation process." [2]

Tip: try to include researchers / experts in stakeholder engagement and/or moderators who could help you adapt the LL methodology to your local context and facilitate workshops and meetings.

> *More information about LL governance and business models are introduced in the step: Initial set up.*

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[2] Soil Mission Support - Report on prioritization of actor needs

I/ How to engage stakeholders?

Stakeholder engagement is a key factor of success for Living Labs. It is an ongoing, iterative and long-term process that must be updated and refined as many times as necessary throughout your LL lifetime. It starts with stakeholder mapping which usually follows four main steps that can be run in parallel: stakeholder identification, stakeholder analysis, definition of tailored value propositions and definition of tailored engagement strategies (engagement ladder). These steps and tools should be continuously implemented throughout the LL activities (*see section 2/ How to set up and run a LL*) and in-person events (such as Bio-waste Club meetings). Participation and engagement should be monitored to adjust the approach, update the information and refine the tools gradually.
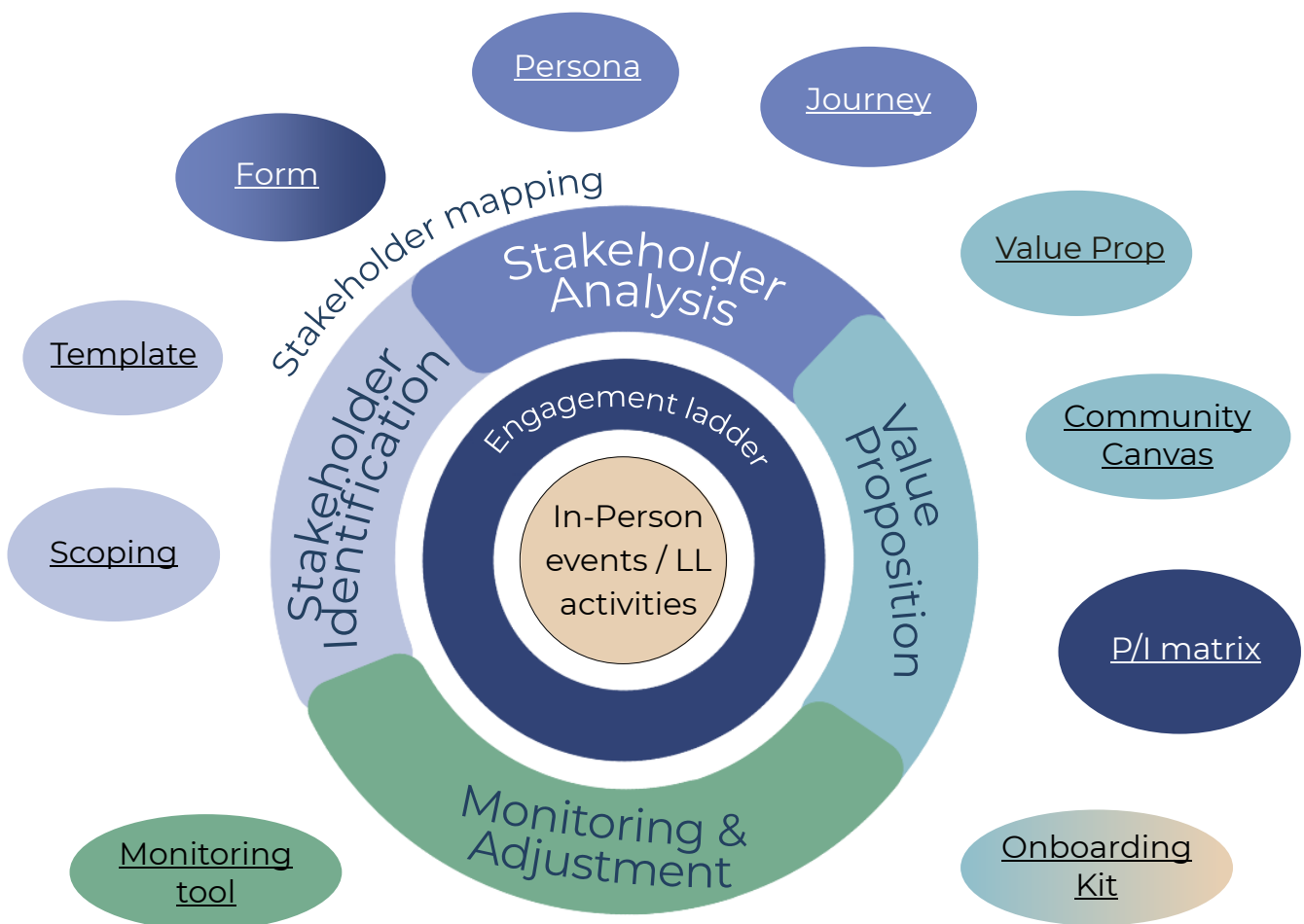
Living Labs can be **pivotal** when they make full use of their sustainable nucleus for stakeholder engagement. They will be **impactful drivers of transition** when they build on the trust they have co-created with their respective communities and align their activities towards their users' needs."

Sven Fahrner - ALL-Ready

Stakeholder identification

There are several possible complementary methods to identify your LL stakeholders. Below, you will find some tips, good practices and examples of tools:

1/ Generate a long list of potential members

→ List more actors than necessary. It has been demonstrated that involving a large network of stakeholders is key for the successful implementation of the LL. *This list can be completed gradually throughout the LL process, notably once the LLs [problems and opportunities are better framed](#) and the pilot activities are defined.*[3]

→ Base on your **existing network,** and connect with existing networks / LLs in your city, region or even country (*see for example the [PREPSOIL Map of Soil LLs and Lighthouses](#))*.

→ *This step can be done in parallel of a [preliminary context analysis](#).*

Example of methodology   **Scoping**

2/ Define a set of criteria to assess their relevance and to prioritise them

→ **Pre-analyse and prioritise** the actors to contact, further analyse and invite according to their relevance and impact on the LL. You do not have to gather all your members at once, you can implement several rounds of stakeholder mapping according to your priorities.

For example, in Bin2Bean, stakeholder groups were prioritised according to the planning of project activities and according to the "user-centered" logic. End-users were prioritised before solution providers, in order to pre-select solution providers able to match end-users' needs. Our LL Amsterdam also used other prioritisation criteria, such as potential access to data.

→ Start from the **influence of your city**, e.g. if the city directly contacts a target stakeholder, it might be more effective.

3/ Adopt the "snowball-method"

→ Continue stakeholder mapping with your first members on board, through "**snowball sampling**"[4] (by asking which actors from their networks could be considered).

The LL Amsterdam admission form had the option to write down missing types of stakeholders or specific stakeholders. The LL Hamburg incorporated stakeholder mapping as one of the activities of their first in-person event.

→ Build on the **value chain of the 1st actors** you gather
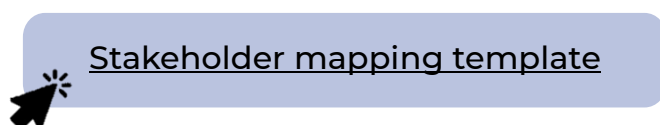
For example, if you have a bio-waste collection actor on board, ask them to invite - or link you with - their bio-waste suppliers, their processing partner and/or their end-users.

Example of tool   **Stakeholder mapping template**

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[3] [SCALIBUR – Stakeholder engagement concepts and methodology](#)
[4] [DRIFT - Transition management in the urban context](#)

Stakeholder analysis

Once you have identified your stakeholders, you should further analyse who they are, their needs, motivations, concerns, interests, barriers, as well as the potential influence they could have on your LL and the impact your LL could have on them. All this will enable to define tailored engagement strategies for each member (*see step "Engagement ladder"*).
To achieve this, you can:
→ either directly gather information from your identified stakeholders, for instance through desk research, a survey, an interview, a one-to-one informal discussion or a participative analysis workshop.
→ or estimate these information - based on existing knowledge, results from previous projects and/or on the expertise of your project partners - for instance by brainstorming on **Stakeholder Personas** (fictional characters).

Some recommendations and good practices:
- **Take time to build trust[5]:** do not hesitate to have first informal discussions with your stakeholder before officially inviting them to your LL. Avoid delaying contacts, contact them early enough (according to your planning of activities), notably to have the time to send reminders if needed.
- **Investigate your stakeholder:** understand their needs, stakes, budget/time, deadlines, decision makers, actively listen to their answers, make sure everything is clear, ask further questions if needed, note everything down.[7]
- **Approach stakeholders as individuals** and not as representatives of their employer or organisation.[4]
- **Don't forget the role of the context in your analysis[5]** (*analysis to run in parallel of the Situation analysis*) and that the stakeholders' roles, influence and impact can evolve throughout the LL process according to external and internal factors.[3]

Take the time needed to build relations, to learn to know each other's perspective and visions and learn to be very good listeners."

Merete Studnitz – ROADMAP - ALL-Ready

Examples of tools

Stakeholder analysis template   Persona   Journey
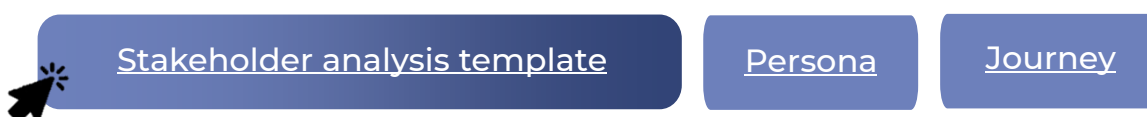
Value proposition

Each stakeholder has different values and will therefore consider the value of your LL differently[6]. Stakeholder identification and analysis will feed and be fed by the definition of tailored value propositions per stakeholder contacted. The goal is to identify how your Living Lab and project can create value for your members and users, fit into their current agenda and lifestyle, and meet their expectations. However, it is key to cultivate a mutual interest in this LL collaboration. Stakeholders should not feel that they are doing you a favour in joining your LL; they should be aware of the benefits it represents for them and for their community.

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[5] UNALAB – Common pitfalls in setting up a Living Lab (page 18)
[6] ALL-Ready – Stakeholder engagement plan

When contacting stakeholders, you should be intimately convinced of the value you bring.[7] You should adjust your arguments and adapt your approach according to the person you are inviting and the results of its stakeholder analysis.

Examples of tools

Value Proposition Canvas

Community Canvas

Onboarding Kit
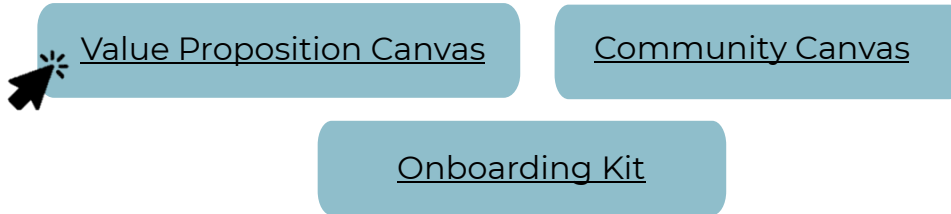
The Value Proposition Canvas can be completed as the second step of the Stakeholder Persona. It will enable to identify the gain creators and pain relievers that your LL will bring to each stakeholder. The Community Canvas can support in creating meaningful, long-lasting relationships. Finally, designing a tailored Onboarding kit or welcoming pack, with incentives / team building objects can boost intrinsic motivation, the sense of ownership and good team spirit.

IDEAS OF INCENTIVES[8]

Stimulate intrinsic motivation

Most effective method to engage stakeholders for the project duration and beyond, despite the lack of financial compensation. Your LL should echo the key principles and values of the stakeholders you invite.

Print communication materials

Roll-up, leaflet, posters, flag, etc.

Provide Bin2Bean goodies

Tote bag, pen, notebook, bio-bucket...

Organise field visits

Stimulate curiosity

Provide vouchers

Or discount/gift cards, e.g. for food from local businesses, museums, cinema, local activities..

Provide food

Through catering during LL meetings, or by offering fruit and vegetable baskets for instance.

Free training/classes

Partnership with universities, course credits, free courses, e-books

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[7] Active listening method: Needs, Challenges, Budget, Deadlines, Decision-makers *(BEBEDC in French)*
[8] Plan'Eat project – Living Lab Toolbox

Engagement ladder

Positioning your stakeholders on an engagement ladder will enable you to scale what you will ask from them, the interactions you will have with them and their role and type of involvement in the LL based on their interest, influence and motivation.
The levels can go from "Inform" to "Empower".

Source: Plan'Eat project
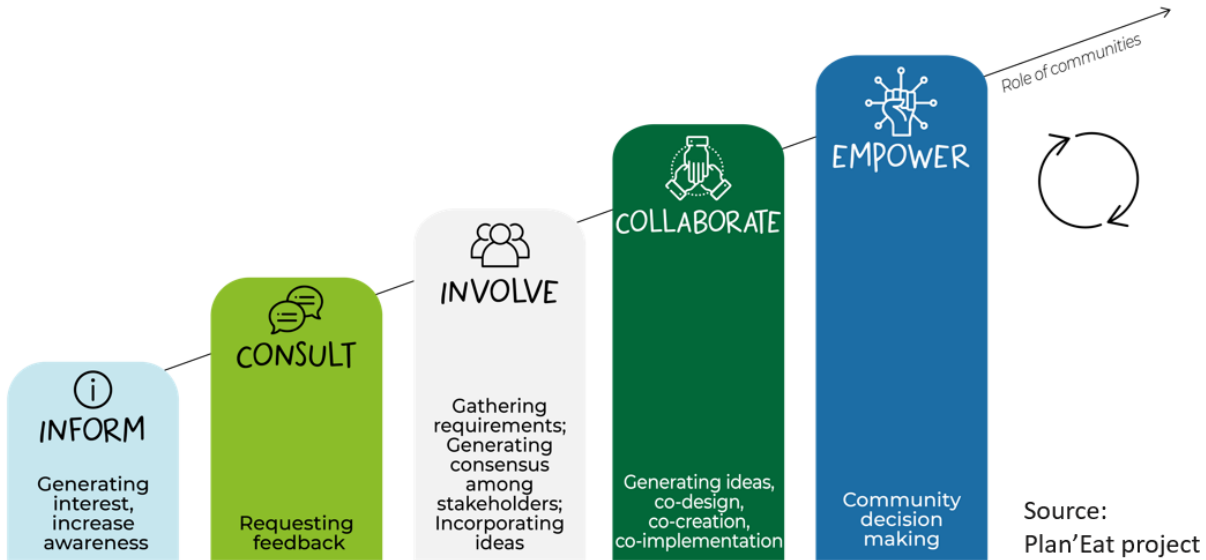
Inform: informing stakeholders about the ongoing process without giving them the opportunity to intervene.

Consult: offering options to stakeholders to participate, listening to their feedback, but not allowing new ideas.

Involve: encouraging additional options and ideas, and providing opportunities for joint decision making.

Collaborate: not only different stakeholders co-creating and deciding together, but also forming a partnership.

Empower: delegate power or promote self-management, e.g. by offering funds, advice or other support to stakeholders to develop their own agendas within guidelines." [6]

NB: stakeholders engagement levels might change throughout the LL process, and vary across activities. [6, 9]

This step can also enable you to visualise your group of members on different circles, that can be proportional to the number of members they represent, and identify who is missing.

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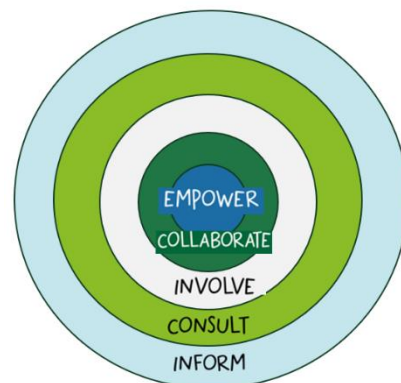
[9] Cities Alliance - City development strategies 2.0

This exercise allows to not over-solicit stakeholders with low interest, or who do not have much time, and involve and collaborate with the most motivated. It will help you better target the stakeholders to invite to your events and consultations, and focus your approach according to the actor targeted.

If in the early stages of your LL creation you identify highly motivated and relevant stakeholders to collaborate with or empower, feel free to invite them to your first internal brainstorming, discussions and preliminary analyses, and to include them in your first governance model.

Example of tool **Power/Interest matrix**

The concept of "Bio-waste Club Meetings" (HOOP, SCALIBUR)

The "Bio-waste Club Meetings (BCMs)"[10] are a concept created and implemented by the SCALIBUR and HOOP projects.

- The goal is to gather LL members in-person at least twice a year. Remote meetings can also be considered, as they are easier to join and save both time and money. But in-person should be favoured as informal moments are very important to build trust, confidence and reinforce connections. [6]

Ask to your stakeholders their preferences! Make them vote on the frequency, format and length of these meetings, to avoid stakeholder fatigue and maximize motivation.

- The participants of each meeting have to be selected each time through stakeholder mapping and according to their stakeholder engagement level.

While it is recommended to invite people from most stakeholder groups, and from each category of the quadruple helix, it is not always necessary to invite everyone. It is also possible to organise targeted meetings with only one or two stakeholder groups or with just a small group of people. [8, 11]

- The first timeline and agenda should build on the results of a preliminary baseline analysis. The conclusions and outcomes of a meeting should be the basis to define the goal & agenda of the next meeting. [4]

- These BCMs represent a key opportunity to implement both stakeholder engagement activities and LL activities with stakeholders, they can for instance aim to:
  - o *identify barriers, challenges, opportunities along the value chain,*
  - o *identify the needs and interests of stakeholders.*

For more practical guidelines, feel free to check the "How to Biowaste Club Playbook (HOOP, CSCP)" (key steps, toolbox and templates).

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[10] HOOP - How to Biowaste Club PlayBook
[11] HOOP – Examples of engagement activities and Biowaste Clubs planning

Recommendations from hoop *(Elisa Gambuzzi – CETENMA)*

Invite twice as many people as the desired number of participants
The usual engagement rate to in person events is 50%.

Offer content of interest to them
Specify in the invitation personalised takeaways. People will want something in exchange (e.g. relevant technical information or the awareness that you will bring their opinion to a higher policy level).
Actors will only engage if they recognize benefits in engagement, if they see "what's in it for them".

Optimise the time of the event
Especially for private actors
The amount of time to spend for the involved actors should be realistic.

Carefully select the time and day
For example, a slot just before lunch followed by a lunch works well, Fridays should be avoided.

To maximize participation, make sure that the **moderator** is well prepared, notably to build trust and balance the competing interests and power dynamics within the group(s). The equality of speaking time should be ensured, as well as the empowerment of marginalised groups [8, 9] (e.g. with ice-breaking activities).

Monitoring and adjustment

The engagement of stakeholders in the different LL activities and in-person events (*such as Bio-waste Club Meetings*) should be monitored. Below are some examples of questions to consider[12]:
- Which actors were the easiest to gather and which ones were the most challenging?
- What motivated different stakeholder groups to join your LL?
- Which are the most active stakeholders?
- What do they like the most/least?
- Which useful insights can be extracted for the future?
- Which problems did you run into?

You can also directly ask to your meeting participants their feedback on experience.

Example of tool **Monitoring tool**

Any potential shift in the stakeholders needs, interests and engagement ladder should be updated in the Stakeholder mapping tool (by keeping an history).

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[12] ENOLL – Living Lab Panel Management Methodology – presented in the Plan'Eat project

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Hard to reach stakeholders

Some stakeholders are harder to reach than others, for many possible reasons (e.g. they are not part of an easy to reach network, or are not part of any network, have a lack of trust in EU related processes, have a lack of time, don't see the added value, etc.). In that case, it is key to persevere and try out new methods, activate other networks, contact other people, because gathering only the "easy-to-reach" stakeholders might cause a bias in the LL process. A wide range of opinions, problems, wishes and values should be considered to maximize the success of the Living Lab. [6]

Examples from Bin2Bean LLs

The Amsterdam LL struggled at first to reach big bio-waste companies, but managed in the end to gather them in their LL from the first event, their feedback: "I think the idea of reverse engineering a soil improver is very stimulating to people. We shifted the focus from waste management to waste valorization. Also, we included a presentation showing the "space" that will become available in Dutch agriculture for more soil improvers when the future livestock legislation will be finalized (max. cows per m2)."

Farmers were also hard to engage. A representative of the farmers trade union joined the event but was reluctant to engage in the LL because he did not see a role yet for him as a representative beside giving initial input. In that case, he was invited to be included at the "Informed" level, until his planning opens and his interest increases.

In the Egaleo LL, the regional bio-waste management plant was rigid to have someone engaged in the LL on a regular basis, while they are a key actor for this topic and actively participated to the LL first event. A mitigation strategy could be to try and find other practical solutions, such as organising a meeting at the composting plant.

To know more on stakeholder engagement

💡	**Living Lab certification**	ENOLL Membership Application Guidelines.
	Key principles of actor engagement	Soil Mission Support – Actor engagement guide (page 17-19)
	Examples of stakeholder engagement plans and processes	• SCALIBUR – Stakeholder engagement plan per pilot municipality and identification of current promising practices • ALL-Ready – Stakeholder engagement plan • HOOP – Report on the engagement activities implemented through the Biowaste Clubs in the Lighthouse Cities and Regions
	Stakeholders' needs (Mission Soil)	Soil Mission Support – Report on prioritization of actor needs (pages 24-48)
	Examples of Value Propositions	Soil Mission Support – Actor engagement guide (page 35-41)
	Citizen engagement in Urban Living Labs (good practices and examples)	• UNALAB – Living Lab Handbook for urban LLs developing nature-based solutions • HOOP – Engaging stakeholders for the urban bioeconomy
	Encouraging citizens' behaviour change	SCALIBUR – Engaging and Encouraging Stakeholders (from page 17)
	Bio-waste Clubs	HOOP - How to Biowaste Club Playbook

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II/ How to set up and run a Living Lab: example of step-by-step methodology

Finding balance

The smooth functioning of your Living Lab will depend on finding balance between three key aspects:

→ **IDENTITY**: your LL context, vision and goals
→ **COMMUNITY**: the actors you gather and their different levels of engagement
→ **ACTIVITY**: tailored LL activities, in person meetings (such as BCMs) coupled with the different activities planned in the project.
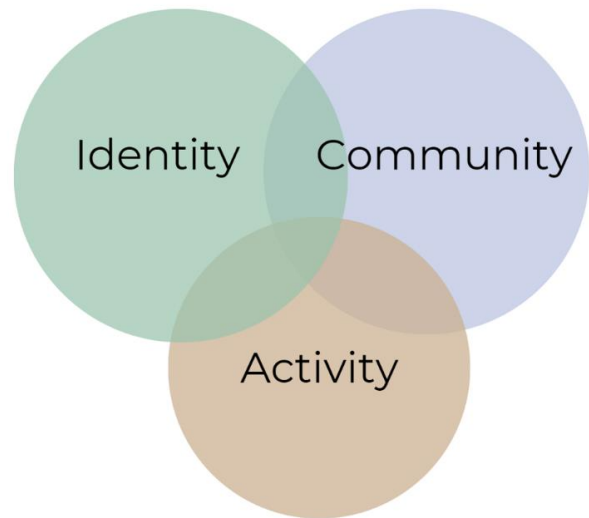
Main steps

To find that balance, there are several steps to follow, that must be combined with stakeholder engagement activities presented in . The suggested sequence[13] below can help better understand the City-Region LL process and guide its implementation. These steps can partly overlap and their order are not set in stone. This structure and methodology must be adapted by each LL based on their specific context and the inputs arising throughout the process.

1	**Where are we now?**	Baseline and context analysis, understanding current needs of end-users and stakeholders *Pre-measurement before intervention*
2	**Where are we going?**	Visioning, shared purpose, setting SMART objectives
3	**How are we going to get there?**	Defining transition pathways and agenda Co-creating "future state" ideas and options Prioritising and selecting solutions
4	**Solutions Testing**	Experimentation in pilot areas/experimental sites
5	**How do we know we are on track?**	Evaluation and monitoring, *Scoring system*
6	**Getting into action**	Boost the application of final solutions, implement short-term and long-term actions (*at political, economical, social and technological levels*).

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[13] Those steps were defined by merging 5 methodologies:

→ The Bin2Bean Plan-Do-Check-Act and solution prioritisation approaches
→ The open innovation principles and innovation development phases: Exploration, Experimentation, Evaluation (oPEN Lab, ENOLL)
→ The cycle of Strategic Planning (Cities Alliance)
→ The transition management process (DRIFT)
→ The Bio-waste Club Meetings (HOOP, Scalibur)

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1 Where are we now?

- Baseline and context analysis
- System analysis: exploring local dynamics (*to go further*)
  → *Material Flow Analysis workshop*
- Understanding the current state and needs of stakeholders and end-users
  → *Survey*
- Framing the challenge
  → *SWOT, Mental modelling workshops*

2 Where are we going?

- Visioning
- SMART objectives

3 How are we going to get there?

- Co-creating transition pathways and a transition agenda
- Reconnecting long term and short term
- Possible « future state » ideation, co-creation of ideas and options
- Prioritisation and selection of solutions
  → Up to 10

4 Solutions Testing phase

- Developing and experimenting a prototype
- Test in pilot areas / experimental sites

→ *Test of different solutions (including guidelines to optimise bio-waste collection and processing, communication and awareness raising strategies, behavioural change strategies, application of soil improvers on experimental sites, etc.)*

5 How do we know we are on track?

Scoring system   Evaluation framework

→ *Assessment of the safety, environmental and socio-economic performance of solutions tested*
→ *Selection of deployment-ready solutions (highest scores)*

6 Getting into action

- Decision-making tools
- Strategic actions
- Business models
- Policy instruments
- Funding opportunities
- Training

→ *FarmMaps, Scoring system*
→ *Awareness raising & communication*
→ *Business models and business plans*
→ *Policy roadmap and guidelines*
→ *Waste charging policies*
→ *Training programmes for entrepreneurs*

Central diagram labels: PLAN, DO, CHECK, ACT, TEAM & BUDGET, Preparation, Exploration, Deployment, Evaluation, Engagement ladder, Experimentation, Stakeholder identification, analysis, value proposition

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> **_NB_**: This toolbox will focus more on the Preparation phase (Steps 1 and 2), given that our LLs have not yet begun the subsequent phases and that other toolboxes on co-creation are under development (e.g. by the SOILL project). Our "Replication and transfer roadmap" (available end of 2026) will reflect on all phases.

0/ Initial set up

Assemble the team

The first step is to **assemble a LL management team**, consisting of 3 to 5 employees from the initiating organisation and of key municipal staff. Indeed, the process must be developed in line with political priorities. The city's commitment and leadership must be ensured. This can be achieved through initial discussions of the objectives and benefits of the LL, the LL process and the expectations and concerns of elected representatives and key decision-makers. It may be useful to share success stories, in particular from mayors and cities that have had similar successful experiences.

> ### _Examples from Bin2Bean LLs_
>
> The Amsterdam LL (led by the AMS Institute) has mobilized the commitment of the City, which has collaborated in the creation of the LL from the earliest discussions.
>
> The Egaleo LL (led by the Municipality) has invited 3 other Municipalities from Attica (Vari/Voula/Vouliagmeni, Vrilissia, and Vyronas) to present good bio-waste management practices at their first in-person event.

This core group will be in charge of adapting and leading the LL process. Given the challenging nature of the LL process, it is key to assemble a motivated team with a good mix of skills (e.g. analytical, communication, networking and lobbying skills).

Consultants, experts and process facilitators may be invited to complement the skills of the LL management team, for instance to analyse the baseline and context of the LL (**initial team** – _see next step_) but also to provide training on the topic. Indeed, it is essential for the LL management team to be up to date with all the knowledge linked to the LL issue and to be able to take ownership of the topic. It is also possible to call on university students and researchers to help gather first information.

> ### _Examples from Bin2Bean LLs_
>
> As a first step, the Egaleo LL learned more about the topic, and notably the actual value of biowaste, the regulatory context and the procedures applied in the Attica region.
> Then, they plan to implement a "train the trainers" process, by being trained by the regional bio-waste management plant, to be able to train other employees of the municipality as well as teachers on this topic, who can then teach students.

> **LL Hamburg** received support from 2 master students on studies targeting citizens' bio-waste sorting behaviour.

Governance model

As clear coordination is a key factor of success, roles and responsibilities must be clarified within the LL management team (and later on with the most involved / motivated stakeholders). Example of **governance model**:

Role	Responsibilities
Living Lab Manager	• Manages everyday activities • Initiator and keeper of the LL strategy • Maintaining LL effectively & sustainably
Panel Manager	• Recruiting & interacting with stakeholders' panel • Identifying users • Responsible for stakeholder engagement • Plan and coordinate interactions
Pilot Manager	• Facilitate implementation and test of the innovation co-designed • Plans, coordinates and implements real world experimentations centred on users
Human Interaction Specialist	• User-centred interactions • Analyse results from human interaction methods • Responsible for testing solutions before implementation
Communication Specialist	• In charge of communication of LL activities, for example, in social networks or through the LL website. • Manage internal and external communication, prepares and executes strategic communication plans. • Goal: to provide an effective flow of information between the LL and different stakeholder groups.

*Images and content from D1.4 Capacity Building Handbook and Mentoring report – oPEN Lab and NATIOONS / ENOLL webinar "Living Lab Essentials & How to Set Up a Living Lab"

Business model

€ Resources available for the process (time commitment, financial resources, etc.) should also be thoroughly assessed and aligned.

To ensure the LL's long-term viability, it is highly advised to consider different funding sources and possible business models. EC funding and other national or local funding schemes can be complementary: e.g., the EC funds the LL setting up and its first 3-5 years of implementation, national funds support the LL continuation. This continuation strategy can be defined throughout the first years of implementation of the LL process, based on the LL value proposition, purpose, activities and impacts.[2]

In the case of *Soil Health*, LLs should ideally last >3-5 years as soil is a slow medium.

> **Setting up and running a LL is a process that takes time. Long-term funding of LL should be explored and should go beyond short time project funding."**
> *Lieve de Cock – LLAEBIO – ALL-Ready*

Defining viable and relevant business models for a LL highly depends on stakeholders' needs (*why should actors engage with soil health / soil and land management*).

Other mechanisms can be considered:
- Education can be strong incentive: the LL can be integrated in the educational setup, where policymakers contribute in kind.[2]
- Once the LL vision and objectives are clearly defined, the municipal team should elaborate a multi-year budget, associated to the municipal and national budgeting system. From that step, discussions and negociations can start with national governments and funding agencies to include more local investment programmes, on the LL priority topic(s), in the national budgets.[9]

To know more: NATI00NS Webinar: Governance and Business Models for LLs (slides 21-43)

Communication (internal and external)

It is key to rely on a **mix of communication channels** such as: social media, advertisements, video clips, live streaming of events, visual instruments (roll-ups, posters), local news and media, etc. It is also possible to build your own communication platform or group to communicate (e.g. Slack or more featured platforms such as the Engagement Hub).

Each stakeholder's preferred communication channels should be asked in the initial contacts, for instance in a participation form. The latter can also ask the preferred ways of consultation, for the stakeholders who selected the consultation levels (e.g. survey, email, one-to-one meeting/interview, group meeting/workshop).

Each LL is free to find a specific and impactful **name**, not necessarily linked to the name of the project in which they are embedded. It should be short, easy to understand, easy to remember while illustrating the main topics of the LL. It can be found through a brainstorming workshop with all LL members.

1/ Where are we now? – Situation Analysis

The following steps are about setting the ground. It is key to ensure that you are progressing in a common direction, from a common baseline. Do not hesitate to reiterate or complement this phase as many times as necessary.

1.1/ BASELINE AND CONTEXT ANALYSIS

Preliminary analysis

Analyse with your **initial team** your baseline: examine local issues and data sources, review existing statistics, publications, studies (e.g. from universities and consultants) on your priority topic(s).

→ Assess key data on bio-waste management, soil improvers from bio-waste

Analyse the city's strategic context, the external factors that influence it. Be aware of your city's sphere of influence -> the team should focus on the factors that the city controls and can influence (even if indirectly, e.g. through lobbying / requests for grants from central government).

First stakeholder identification and analysis

- Brainstorm with your team on a first long list of local stakeholders who could be members in your LL (*see section 1*).
- Select the most relevant ones for context analysis.
- Approach them as individuals, organise first interviews, identify their skills and interests.

⭐ Invite the most motivated ones to your preliminary discussions, to consider their perspective.

Send to all selected stakeholders a personalised invitation to the event, with some preliminary materials if needed.

Event / "Bio-waste club" – refining your first context analysis

Example of agenda:
- presentations of the preliminary context analysis (from LL managers, members of the initial team or from relevant guests)
- presentation of the project (e.g. Bin2Bean) and of the Living Lab
- brainstorming session to go deeper in the context analysis

Examples of tools

Local context Canvas

PESTEL Analysis

SWOT analysis

To go further: *SYSTEM ANALYSIS – Exploring local dynamics*

This step will enable you to go deeper in your urban context analysis, according to the focus and priority topics of your LL. The level of detail depends on your first context analysis and on how you intend to use the outcomes of this deeper system analysis. These outputs can range from a presentation at a LL meeting to a formal political document, incorporating in-depth knowledge and a broad range of perspectives.

The following steps are recommended (extracted from DRIFT report):

" **Delineate** the system boundaries in space, time and themes (e.g. CO2 emissions from energy use and mobility in the wider city region, looking at the past 40 years).
Structure the system by defining the relevant stocks covering the social, environmental and economic domains (e.g. labour force, air quality, housing). Define their characteristics and indicators, as well as their relationships.
Collect data required to evaluate the state of the system. This involves qualitative and quantitative data from studies, policy documents and statistical databases. Personal interviews with potential LL members, experts and stakeholders bring diverse perspectives into the analysis.
Analyse the data. The transition team does this and, where appropriate, external advisors or colleagues from other departments can be involved through stakeholder meetings or expert sessions."

Other examples of topics that can be assessed (from CDS report):
- demographic and spatial status (e.g. maps, planning documentation)
- land use, ownership and markets, as well as municipal assets
- natural resources, environmental issues and climate change vulnerability
- key social issues, appraisal of poverty context and situation
- other locally chosen priority topics and sectors (such as infrastructure, basic services, housing, health, education, safety, heritage and cultural assets).

The information generated must be relevant and reflect the 'real' situation in the city. The results must be easily understandable and identifiable for the city's residents.

Example in the case of Bin2Bean - Material Flow Analysis (MFA)

What is MFA?
Material Flow Analysis (MFA) is an analytical method to assess the urban metabolism and quantify flows and stocks of materials or substances in a well-defined system (factory, industry, city, region, etc.). System definition is the starting point of every MFA study.

In Bin2Bean, MFA will include the assessment of:
- biowaste availability/ soil improver potential
- biowaste processing into soil improvers
- city performance in nutrient recycling

1) First, estimations will be made based on existing data, statistics, literature and surveys.
2) Then, the material flows will be refined and adapted during participatory workshops (LL meetings) with target stakeholders.

Preliminary work
→ *Carried out by a specialised partner in collaboration with the LL management team*

1) Definition of the urban biowaste system (*relevant boundaries*)
2) Identify relevant system elements (*such as the urban land footprint*)
3) Estimation of input material flows (e.g. food waste)
4) Estimation of green waste supply
5) Calculation of output material flows
6) Calculation of substance flows (N - Nitrogen, P - Phosphorus, C - Carbon)

Stakeholder mapping

Personalised invitations

Event / "Bio-waste club" – *Participatory MFA refining*

Example of agenda:
- presentations of the outcomes of the preliminary work / MFA estimations (from the specialised partner)
- Participatory workshop - refining and adapting material flows (based on stakeholder knowledge)
- Interactive & accessible urban biowaste MFA: creating ownership of and developing skills for participatory urban biowaste flow analysis, updating, scenario modelling.

Example of methodology

Activity Abstract

1.2/ UNDERSTANDING THE CURRENT STATE AND NEEDS OF STAKEHOLDERS AND END-USERS

The situation analysis should not only analyse the needs of your Living Lab (e.g. in terms of context) but also, and most importantly, the needs of your stakeholders on your LL topic. Your LL should build on stakeholders' experiences, knowledge and motivation.[6]

WHAT
Benchmark of stakeholders' and end-users' current state, baseline for the next steps (vision and objectives definition, co-creation).
In Mission Soil projects, it is also key to identify the needs of the soils considered.

WHY[14]
- Get an overview of the current habits and practices of target users
- Understand:
  o the current solutions people are using
  o the current context in which people use these solutions and have developed these habits
- Focus on the current problems they are still facing, taking into account the specific contexts in which these problems occur

HOW
Observation, participation, in-depth interviews, surveys, discussions
→ iterative process

To run in parallel of Stakeholder Analysis

---

[14] Content extracted from The Living Lab Methodology Handbook (page 7)

![Bin2Bean logo]

Event / "Bio-waste club" – *End-users' needs*

Tool

Example of workshop:
- Divide the participants in several groups of 4 people
- Assign each group to a type of stakeholder (e.g. farmers)
- Each group fills in a Persona template, to visualise the needs of a fictional character
- Feedback session with all groups, further completion of each Persona

The hypothetical needs of each persona should be validated and confronted with real stakeholders, for instance through interviews.

Persona

Surveys were prepared on stakeholders' needs and current states on the topic -> *see Deliverable D2.1 – Handbook on the status quo of soil improvement from bio-waste in Europe (state-of-the-art and good practices).*

1.3/ FRAMING THE CHALLENGE

This final stage aims to discuss and clarify all the results of the situation analysis with all LL stakeholders in order to create a common understanding and collective framing of the LL challenges, barriers and opportunities. This is the starting point for the following phases: developing a vision and co-developing a strategy and tailored solutions. It also serves as a basis to decide on the most adapted stakeholder engagement activities in each pilot.[3]

A more detailed SWOT analysis can be carried out at this stage, first by the LL management team and then with stakeholders, resulting into a consensus. The city council should be engaged in these discussions and could even be asked to sign the final SWOT before proceeding to the next phase.

SWOT analysis

In order to solve a problem you have to be part of the problem definition"

Participant, Aberdeen city, DRIFT

Example in Bin2Bean – Participatory modelling workshops

What is participatory modelling?

The method of participatory modelling assumes that individuals and groups of individuals have constructed internal versions of external reality in their minds. This approach will be used to model how stakeholders understand *regenerative soil systems*, to identify causal relationships and interdependencies between components such as *bio-waste quality, collection quantities and soil enhancer quality*. It enables to identify problems and their causes from a system perspective. Discussions with stakeholders will not only support the LL in identifying leverage points and barriers to change the system, but will also reveal the different perspectives of stakeholders.

What is the outcome?

The result of the process are fuzzy cognitive maps (FCM) for each LL. FCMs are semi-quantitative causal maps that visualize and describe how the LLs understand their system.

Example by Joana Wensing (partner in BIN2BEAN) →
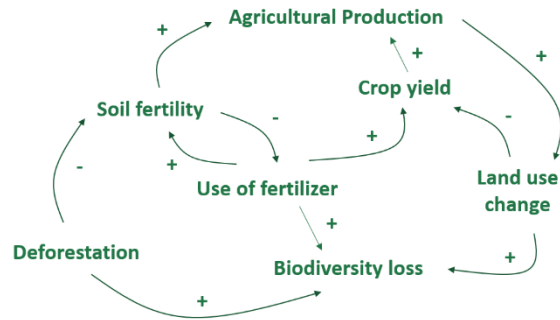
Preliminary work

→ *Carried out by a specialised partner in collaboration with the LL management team*

Problem definition (set system boundaries)

Stakeholder identification
Personalised invitations

Event / "Bio-waste club" – Participatory modelling workshop

Example of agenda:
- General introduction and establishment of ground rules (Moderated by the specialised partner)
- Introduction to systems thinking, methodology (Presented by the partner)
- Participants work in small groups to develop causal maps capturing the key drivers and issues on creating a regenerative soil system with urban bio-waste in their region (e.g. biophysical/environmental group; societal/citizen group, economic/ policy group)

Intermediary work

→ *Carried out by a specialised partner in collaboration with the LL management team*

Digitising and merging causal maps into fuzzy cognitive maps
- Digitising causal maps from subgroups
- Combine causal maps to form one complete integrated model

Stakeholder identification
People can join whether they participated to the 1st workshop or not.

Personalised invitations

Event / "Bio-waste club" – Evaluation workshop

Example of agenda:
- Presentation of complete integrated model and what-if scenarios to LL participants (by the specialised partner)
- Participatory analysis and identification of feedback loops
- Evaluation surveys (by participants)

Example of methodology

[Activity Abstract]

2/ Where are we going? – Common vision, ambition & goals

Once you have analysed the context, needs and opportunities of your LL, you must extract your common purpose: What are your ambition and vision for the future? What are your LL specific objectives (based on your project objectives)?

It is key to consult your LL members for this step to ensure that they take ownership of the LL and share a common vision (*HOOP*). It also enables to ensure that you are doing something valuable for end-users (*ENOLL, based on the step Understanding needs*).

Enhancing the sense of ownership is key for the long-term success of the LL.[6]

NB: first visions and goals can be defined in parallel of the Baseline analysis, but they should be further refined and discussed once the final challenges are collectively reframed (*see step Framing the challenge*).

2.1/ ENVISIONING

" Visioning is a process by which a community envisions the future it wants. It brings people together to develop a shared image of what they want their community to become."

UN-Habitat – "Visioning as Participatory Planning Tool"

What characterises a 'vision'? (*extracted from DRIFT and CDS reports*)

- A **coherent storyline** that sketches a future perspective
- **Unites** people and their interests
- Highlights what is unique about the city and its identity
- **Audacious**: A dream that is beyond what you think is possible; take it beyond the city's present reality.
- **Capitalises on core assets**: Builds on your city's core assets, on history, citizens, strengths, unique capabilities, resources and assets.
- **Future-casting**: Provide a picture of what your city looks like in the future.
- **Inspiring**: Use language that inspires. Provoke emotion and excitement. Create enthusiasm and pose a challenge.
- **Purpose-driven**: Give a larger sense of purpose"

Working with multi-actor networks requires a process of **building trust** between different actors and needs the creation of a **common vision** and language."

Lieve de Cock – LLAEBIO – ALL-Ready

> ***Example of common vision – Forestry LL – « Humans and trees »***
> "Trees are an essential asset of our territory, in the city, in the forest and in the countryside. Understand, preserve and develop the services they provide is a source of well-being, innovation, prosperity and ecological transformation."
> *Reference: Mission Soil Week slides*

> Visioning requires participation, consultation, sharing, fine-tuning, consolidation, implementation and reviewing. It is a good opportunity to engage stakeholders in a stimulating, participatory event. Stakeholder mapping and analysis is important for this subphase, because it ensures that all vulnerable groups, the poor and women and children are included in this exercise." [9]

Examples of methodology and tool

Envisioning   **Collage**

2.2/ SETTING SMART OBJECTIVES

> ✓ Unclear aims and expectations can frustrate the LL actors
> ✓ A clear scope is of key importance to future success and necessary to set a framework to monitor results.
> At the same time, it should be possible to change set aims and results, in a reasoned way, (being able to be adaptive)."

What characterises strategic objectives? *(extracted from the CDS report)*

> Strategic objectives
> - Translate the **vision** into clear statements on what a city wants to achieve
> - Link existing variables to expectations and resources in different urban areas
> - **Coordinate** the issues, problems and opportunities identified in the Situation Analysis with the subsequent stages.
> - Come with **indicators** to measure performance, based on the data collected in the Situation Analysis.

SMART objectives

S   **Specific** in terms of place.

M   **Measurable** in terms of what is to be achieved (not how to achieve it).

A   **Acceptable**, that is, an objective should be accepted by key stakeholders. The process to set and agree on the objective should be participatory to maximise acceptance.

R   **Realistic**, in that, it should be possible to reach the objective with regard to resources including finance and organizational capacity.

T   **Time bound**, in that, it is critical that objectives are related to a meaningful time frame, which should be linked to political and social realities, as well as to physical development aspects.

How to define strategic objectives?

A list of objectives should not be confused with a simple 'wish list'. Formulating relevant objectives and prioritising them requires a great deal of collective effort, and is one of the most important ingredients of a sound strategy.

They can be defined for instance through **brainstorming**: by gathering a large number of ideas, comparing them and choosing the most adapted to achieve the vision. An event (*Bio-waste club*) can be organised to discuss, brainstorm, gather feedback and reach a consensus with stakeholders on the LL objectives and directions. LL objectives must be defined according to the objectives of the project in which they are embedded (*e.g. Bin2Bean's objectives*).

<div align="center">

⚙️ **SMART process**

</div>

Recommendation: Do not forget the food waste hierarchy when defining your goals: recycling bio-waste should come as a last resort to valorise inevitable food waste, and should not replace prevention and reuse strategies.

The vision and strategic objectives obtained can be compiled in a document and communicated on the city or LL's web page.

> **In the case of Soil Health Living Labs (Mission Soil)**
> "LLs should contribute to at least one of the eight specific objectives of the Mission and work together on thematically related soil health challenges. LLs should seek to improve soil health without moving problems elsewhere or generating negative impacts in other spheres.
>
> 1. Reduce desertification
> 2. Conserve soil organic carbon stocks
> 3. Stop soil sealing and increase re-use of urban soils
> 4. Reduce soil pollution and enhance restoration
> 5. Prevent erosion
> 6. Improve soil structure to enhance soil biodiversity
> 7. Reduce the EU global footprint on soils
> 8. Improve soil literacy in society"
>
> *Reference: Mission Soil Week slides*

Conclusion and next steps

This toolbox is meant to be a living document, continuously completed with methodologies, tools and good practices. It will eventually result in a "Living Lab Replication and transfer roadmap" at the end of Bin2Bean (end of 2026), which will reflect on all phases of the LL cycle. For now, it can be used as a manual on how to create, launch and organise a City-Region Living Lab, while visualising the road ahead.
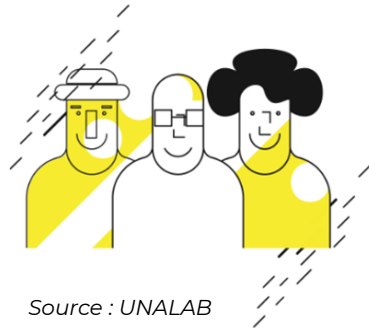
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This report has been designed using images from Flaticon.com, Canva.com and Unalab.enoll.org.

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Annex 1 – Tools for stakeholder mapping and engagement

Scoping

Source : UNALAB

SCOPING

Source: Citizen Sensing - A Toolkit - Making Sense (p. 26-27)

Making Sense

Step	STAKEHOLDER MAPPING - IDENTIFICATION
Tool	SCOPING BEFORE RECRUITMENT
Definition/ Goal	Building your community is a key element for your project, but the way you reach out to the multiple relevant communities and how you bring them on board is even more essential. A number of recruitment tools may help you save time and recruit more efficiently. There is no one 'recipe' that works without fail when it comes to building local communities: it all depends on the context (cultural, political, social and economic) and the type of community you wish to build. It is up to you to decide whether the recruitment tools below fit your needs, or whether you need to tweak, adapt or reappropriate them for your own purposes.
Key question	**What are the skillsets and backgrounds of people you need to recruit into the project, and in which communities can you find them?**
Instructions	1. Map out the skillsets and backgrounds of people you need to recruit into the project. Keep your scope broad, and consider the rich variety of skillsets and backgrounds that will give added value to the project. 2. Once you have identified the types of skills and background experiences you need from the community, it is time to consider where you can find these people, and in what environments they are likely to be found: for example, if you are looking for young tech programmers, you may consider looking at local hackerspaces; or if you need legal support, consider law students, who usually are keen to put their knowledge into practice. 3. By now, you should have clear idea of the skills you need in the community, as well as the environments where the identified skills can be found. At this point, time to prepare your recruitment strategy and find the best tools to bring in the relevant people who can help make your project a success (e.g. attend local events, use multi-media channels, bring people together).
Template	No template, see example below if needed.

Bin2Bean

METHOD IN ACTION
PRISHTINA
KOSOVO

Kosovo is the youngest country in Europe, with under-25s making up over 50% of the population. Therefore, it seemed natural to harness the potential of youth by getting its young people involved in tackling air pollution in Kosovo's capital city, Prishtina.

Prishtina is the main hub in Kosovo for all major national and international organisations, as well as all major universities. This being so, it is not easy to attract young people due to the high number of new events, activities and initiatives in the city. But when the team mapped out the skills needed for the implementation of a grassroots citizen science project, we identified a requirement for a broad range of profiles. These profiles included students who study environmental science; young educators; community leaders; political activists; and artists, among others.

Thanks to a mapping exercise, the team came up with a number of recruitment tools. Below are four core ideas that helped the team to recruit young activists in Prishtina

1. BE WHERE THE YOUTH IS
Every youth-related event organised by local associations, international organisations and other institutions was identified so the team could be present to recruit young people.

2. USE MIXED-MEDIA CHANNELS
This approach helped us reach out to all the young people in Prishtina, whether they had access to the internet or not. As a result, we used social media channels to recruit young people by issuing periodical calls for committee members, roles that were made to be filled by young activists. Equally, we also used the mainstream media, reaching out via radio, newspapers and TV.

3. BRING THEM TOGETHER
It is important to offer citizens a platform where they can develop existing competences, learn new things, get to know each other, and be part of the project. In Prishtina, we organised a three-day workshop where newly-recruited young activists were trained on citizen science, data collection, and campaigning, and were familiarised with the project.

4. ENSURE THEY HAVE OWNERSHIP
It is essential that young people feel central to the project. To avoid our activists becoming alienated, we ensured they had ownership of the project. Thus empowered, they were the ones who decided what the public campaign against air pollution in Prishtina would look like and what actions should be taken on the ground; they also decided which locations of the city should be measured, and which times of the day these measurements should take place.

Stakeholder mapping template (example Bin2Bean)

Advice: prepare one sheet per stakeholder group to easily visualise whether you have mapped all groups equally or not (i.e. whether you have about the same number of identified actors per group). This excel will be downloadable on Bin2Bean's website.

Stakeholder Group	Organisation name	Sub-group	Type	Short Description	Person Name	Email address	Gender	Skills and backgrounds
Bio-waste management & processing actors (collecting, managing, transporting and transforming bio-waste into soil improvers), ideally already linked to your city		Bio-waste collection and transport / Bio-waste processing into soil improvers / Bio-waste collection, management and processing	Public SME / Public Company / Public Industry / Private SME / Private Industry / Private Company / Non-profit actor / Other	Feel free to copy paste here any relevant information on the organisation (which you can find on their website, Linkedin, reports...), starting with a short introduction. *Please specifiy here which methods and processes do they use (e.g. composting), add any relevant figures (e.g. tonnes of compost produced per year)*		Make sure to respect **GDPR**. Aim for gender balance overall in your LL		To complete based on the Scoping exercise

The following columns can be completed in parallel of stakeholder analysis.

Stakeholder Group	Organisation name	Topics of interest	Potential barriers	Influence they can have on your LL	Impact the project can have on them	Engagement strategy	Needs	Priorities	Preferred communication channels	Other contacts?	Status
Bio-waste management & processing actor (collecting, managing, transporting and transforming bio-wa... into soil improvers... ideally already linked... your city	Please try to answer here the following questions (based on assumptions/ideas or on what you read on the stakeholder): - Why would they be interested in joining your LL? - What are their potential interests linked to Bin2Bean? - What is important to them? - What are their needs? - What are their greatest concerns? You can also have a first informal discussion with them to ask these questions and complete the whole line.		Why would they be reluctant to join? *See Persona exercise*	Positive, neutral, negative? High, Medium, Low? *See Power-Interest Matrix exercise*	Which impact will joining your LL have on these stakeholders? Which level of impact (High, Medium or Low)? *See Value Proposition exercise.*	To defined based on the Power-Interest Matrix / Engagement ladder					To contact / Contacted / Call scheduled / Interested / On board / X-Not interested

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Stakeholder mapping template (example SCALIBUR)

STAKEHOLDER MAPPING (SCALIBUR WP2, Task 2.1.1): NAME PILOT CITY (DATE of last update)

Organisation name	website	Contact person(s)			Country	city
		full name as contact person(s) preferably chose those people that - are highly motivated - you have already experienced as reliable partners - have influence in their organisation to implement SCALIBUR activities	his/her role in the organisation	contact details (e-mail + phone)		

Type of organisation		Description of the organisation/ main fields of work
	2. if several apply or you can define the organisation type further, then please specify further	
1. chose from list		

consumer and citizens intiatives/ neighboorhood initiative/ community leaders
non-governmental organisations
HoReCa sector (hotel, restaurant, catering)
service providers, focus waste (e.g. waste collectors, tretament plants, waste management)
other service providers (e.g. energy)
industry (large-scale), e.g. corporations
industry experts/ sector professionals
business (medium- to small-scale): SMEs and/or local business owners
business (small-scale): entrepreneurs/ start-ups
investors
research & development

Previous exchange with this organisation	
If you have already been in touch, please give a few key words of the past cooperation	links to the most relevant previous shared projects etc. (website links can be in English, Spanish, Italian or Greek)

Envisioned role in SCALIBUR project	INFLUENCE OF the stakeholder on the success of SCALIBUR	
please rank if we should involve this organisation 1) in the local biowaste club OR 2) in other SCALIBUR activities (e.g. online stakeholder platform) OR 3) only relevant for outreach/ to keep them informed about SCALIBUR activities	INFLUENCE 1: please rank how much influence will this stakeholder have ON the success of SCALIBUR in your pilot city. Or in other words: how crucial is it to involve this stakeholder successfully in SCALIBUR activities?	INFLUENCE 2: WHY is this stakeholder useful for SCALIBUR in general (and if applicable: for the biowaste clubs in particular)? WHAT can they contribute to the success of SCALIBUR (and the Biowaste Club) in your pilot city?

INTEREST of the stakeholder in SCALIBUR	
INTEREST 1: please rank how interesting the SCALIBUR project will be FOR the stakeholder. Or in other words: how high can be SCALIBUR's impact on the stakeholder?	INTEREST 2: How do we win them for SCALIBUR? Or in other words: why do you think the SCALIBUR project is relevant and beneficial TO THEM? (Also helpful to consider: What is the stakeholder's wish with regard to bio-waste)

Source : UNALAB

Stakeholder analysis template (example)

(one per stakeholder/person to contact)

Goal: Summarize all the results you obtained during Stakeholder Mapping and Analysis per stakeholder you want to invite in your LL. This will then help you define a tailored approach/strategy to invite and engage them.

Method: Complete one template per person/stakeholder you are considering <u>in parallel of running the Stakeholder Analysis exercises</u>. You can base on what you have read during Stakeholder Mapping (e.g. on the organisation's website, annual reports, on the contact LinkedIn's page, etc.) and/or you can make assumptions. You can also plan a first informal discussion with them (or with other contacts who know your "targets") to ask these questions or verify your facts and assumptions. Reminder as well that some of the activities (notably to Define your vision and mission and for Value Proposition) can be done with first motivated stakeholders, or stakeholders who are willing to first participate to one discussion/workshop before engaging.

Feel free to gradually update each document (e.g. in case one of your assumptions were wrong) and to save several versions if needed.

Stakeholder	**Name of the Organisation**
Name	Person Name
Topics of Interest (with regards to bio-waste collection and transformation into soil improvers, and the use of these soil improvers)	What is important to them? *Check Stakeholder Persona*
	What are their needs? *Check Stakeholder Persona*
	What are their greatest concerns? *Check Stakeholder Persona*
	What are their potential interests linked to Bin2Bean activities/approach /results? *Check Value Proposition, Stakeholder Journey*

	Why would they be interested in joining your LL/community? *Check Community Canvas*
Potential barriers	**Why would they be reluctant to join?** *Check Stakeholder Persona*
Influence they can have on your LL	**What influence would they have on your LL? Positive, neutral, negative? Low, Medium, High?** *Check Power-Interest Matrix.* **Ideally, identify some concrete ideas/examples on how they would influence your LL throughout the project.** *Check Stakeholder Journey*
Impact the project can have on them	**Which impact will joining your LL have on these stakeholders? (e.g. in the short term, medium term, long term)** *Check Impact section of the* *Project Description, Check Value Proposition.* **If you have no ideas of specific impacts, please estimate the level of impact (High, Medium or Low).**
Engagement strategy	**Please add the result of the** *Power-Interest Matrix* **as a first engagement strategy.**
	☐ Actively engage (manage closely) ☐ Keep satisfied ☐ Keep informed ☐ Monitor (minimum effort)
	Already first ideas on how/where to engage this stakeholder? *Check end of Scoping and its example.*

Stakeholder Persona

STAKEHOLDER PERSONA

Source : UNALAB

Step	STAKEHOLDER ANALYSIS
Tool	STAKEHOLDER PERSONA
Definition/ Goal	Personas are fictional characters who embody the archetype of your stakeholders. They are created through exhaustive observation of the stakeholder segment and the drawing together of their shared characteristics, behaviors, motivations, interests, etc. It is a useful tool to really focus on getting to know who you are designing for. The goal of the activity is to make the persona as accurate as possible and hence as detailed and nuanced as can be.
Instructions	1) Start by selecting a stakeholder group (prioritise the first ones to gather: cities, bio-waste management and processing actors, solution providers and certification labs) and a type of individual (prioritise decision makers). Then, give your persona a name. 2) Then move on to describe who s/he is: age, personal background, education level, profession, etc. You can consider an average person of the group selected. Now, make a sketch of your persona (remember you can always take a picture and use photos to sketch if you can't draw). 3) Move on to the other sections in any order you would like and feel free to add more details. This can be completed either first individually by each person participating or in group, through discussions and post-its. 4) Identify what you don't know and need to find out about your persona, for example during problem validation interviews. 5) Keep all the templates you've completed (for each type of stakeholder / persona), it will help you define strategies afterwards.
Template	**Persona Template** (word to complete) *-> Mix of 2 templates (SISCODE and Board of Innovation) + elements from the Value Proposition canvas* Miro online version *-> for online workshops, to adjust to the word above, as this is just based on the Board of Innovation version (or use the word as a guide)->* To use the Miro template, click on the board name (top left) and click 'Duplicate' (+ create an account if you do not have one)
Required materials	• Template printed or online (Miro board) • If in person: markers, pens, post-its

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Persona Template – <Type of Stakeholder>

About this Persona	
Drawing/picture *What does he/she look like?*	**Name, Background** *+ Interests, personality, skills, social/working environment, context*

1 / Pains	2 / Gains
Fears, frustrations, anxieties Negative emotions, undesired costs, undesired situations, risks, etc. *+ Potential objections in joining B2B, "3 reasons for me NOT to engage in LL"*	**Hope and dreams** Outcomes or benefits your stakeholder expects, desires or would be surprised by *+ Engagement on the topic "3 reasons for me to engage in a B2B LL"*

3/ Jobs to be done	4/ Reality
What are they trying to do and why is it important for them? - Jobs/tasks stakeholders are trying to perform/complete. - Problems they are trying to solve. - Needs they are trying to satisfy. *+ State of progress on our topic*	**How do they achieve these goals today? Any barriers in their way?**

If you want to go beyond & if you have ideas... (or maybe once you know better the stakeholder and progress in your situation analysis)

5/ Stories and observations	6/ Context
Write down quotes or observations that best describe their experience	Are there other factors that we should take in consideration?

The next step of this exercise is to complete the left part of the Value Proposition template (Pain relievers, Gain creators and Product & Services), based on this Persona -> see Value Proposition Canvas.

Stakeholder Journey

Source: Siscode Project (page 40-41), UNALAB, IHS

Source : UNALAB

Step	STAKEHOLDER ANALYSIS
Tool	STAKEHOLDER JOURNEY
Definition/ Goal	This tool can help you map the steps that will be taken with a specific stakeholder or group of stakeholders and, at the same time, identify the needs and gaps of the stakeholders that you will be closing with the proposed activity. While the story is told from the stakeholder's point of view, it also highlights important moments where stakeholder's expectations intersect with the Living Lab's offer and activities. It is a useful, strategic tool that keeps the stakeholders at the center of design decisions, highlighting difficulties (the pain points) and opportunities for the Living Lab to create a better stakeholder experience and an effective service.
Instructions	6) First, individualise the stakeholder you will be designing for and map out the main phases of their journey within your LL, i.e. the different activities they will participate to (see LL Roadmap). 7) Then draw sketches of the phases in the boxes or take pictures and use drawing technology to convert them into sketches. For instance, you can use pictures or character images ("vectors") or icons from these websites: Freepik, Adobe Stock, Flaticon. 8) Afterwards, provide explanations of the phases to create a story of the stakeholder's journey. 9) At each step along the way, identify and map the stakeholders needs related to each activity and the channel or "touchpoint" through which they are met. Touchpoints pinpoint the intersection between stakeholders and the Living Lab and thus how the stakeholder interacts with the lab itself. Even if the canvas shows 5 spaces for activities and needs, you can map more than that if needed.
Template	Stakeholder journey template
Required materials	• Template printed or online (Miro board) • If in person: markers, pens, post-its

STAKEHOLDER JOURNEY

C9 S9CODE TOOLBOX FOR CO-CREATION PROJECTS

STAKEHOLDER STORYBOARD

Draw the key steps from the stakeholder's perspective.

Explain the key steps to create a story.

NEEDS

At each key step, define the main need of the stakeholder.

TOUCHPOINTS

Identify or design the touchpoints according to the need.

Bin2Bean

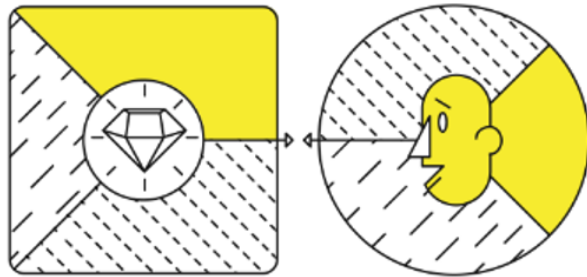## Value Proposition Canvas

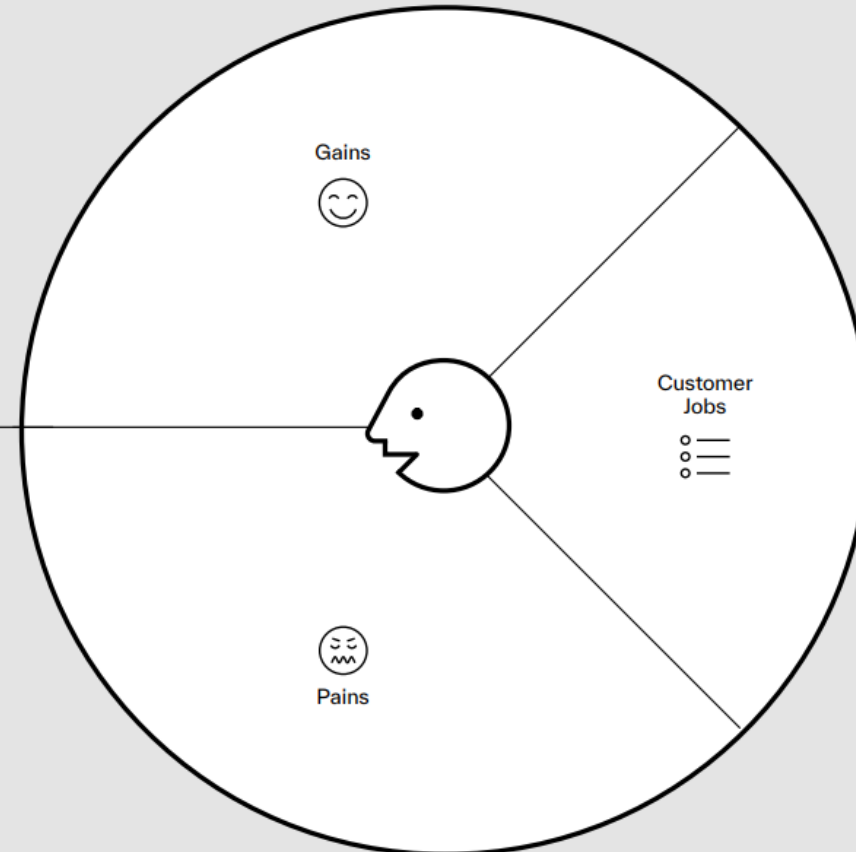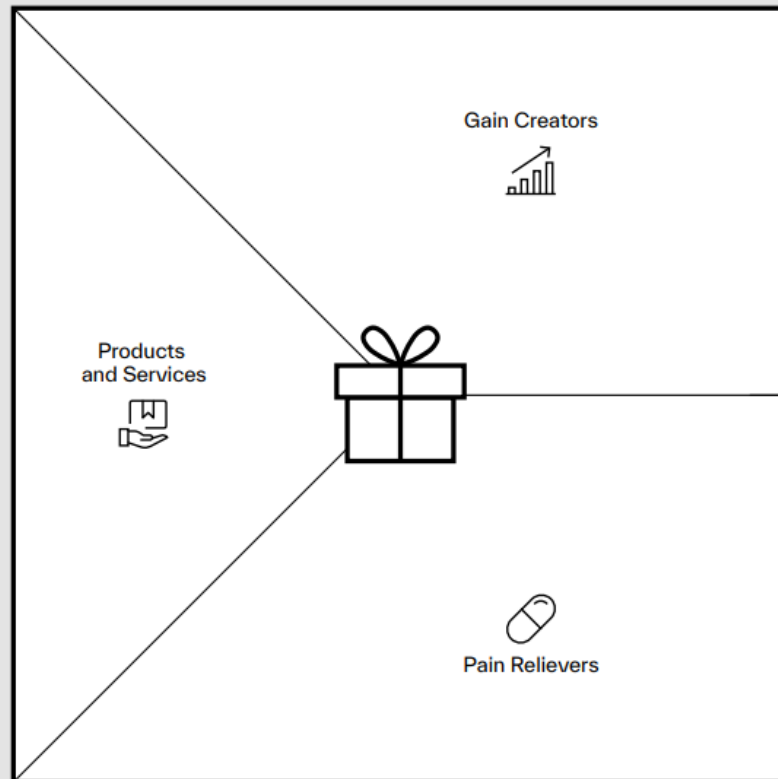VALUE PROPOSITION CANVAS

Source : UNALAB

Step	DEFINE YOUR VALUE PROPOSITION
Definition/ Goal	This tool is used to understand your user's (stakeholders') needs (Customer Profile section) and how your product/service (Living Lab and Bin2Bean results) can create value for your users and meet their expectations (Value Proposition section). The different elements forming the Customer Segment and the Value Proposition are explained here and below (page 3 to 5).
Instructions	1. The canvas is composed of two different sections: the Customer Segment and the Value Proposition. It is important to always start with the users. Users should be first identified and an individual canvas should be done for each of them. 2. Users are asked to reflect on (1) the Jobs/tasks they would like/have to accomplish in their work (2) the Pains/costs/difficult situations that prevent users from getting their jobs done (3) the Gains/benefits/ positive results users aspire to obtain. 3. Once the Customer Segment part of the canvas is completed, the exercise moves to the Value Proposition section of the canvas. Here the products or services that could be developed should be listed. 4. Users are asked to identify in what ways the different products and services are Gain Creators and Pain relievers to their previously identified Pains and Gains. 5. Achieve the fit by creating a clear connection between what matters to users and how your product/service creates gains and relieves pains. **Tips**: • One canvas should address a unique combination of the customer segment and service/product. • It is important to ask enough "Why's" during the brainstorming in order to obtain as much information as possible (check the 5 Whys method). Also important is to reach a high level of empathy with the customer in order to truly understand their motivations and needs. • Use the tool to design, test, and iterate your value proposition until you figure out what resonates with customers.
Template	Value Proposition Canvas

The Value Proposition Canvas

Value Proposition:

Customer Segment:

Gain Creators

Products and Services

Pain Relievers

Gains

Customer Jobs

Pains

Strategyzer

strategyzer.com

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1

GAINS: Outcome or benefits your customer expects, desires or would be surprised by.
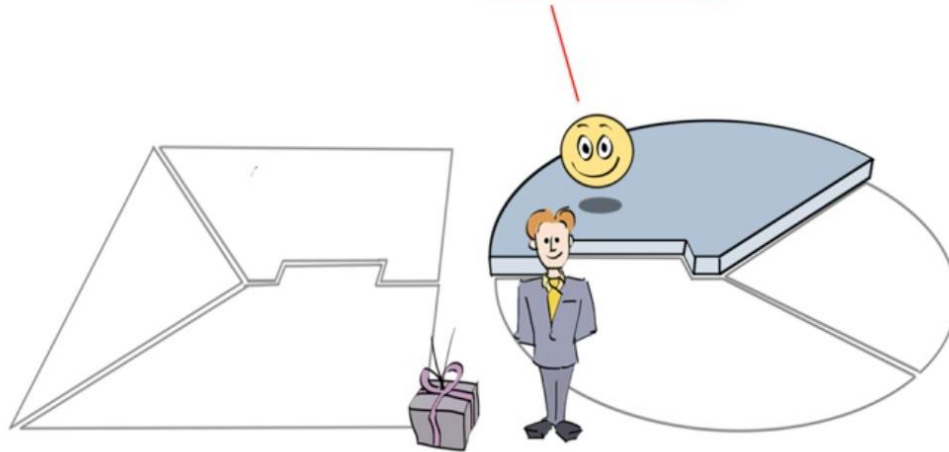
GAINS: Outcome or benefits your customer expects, desires or would be surprised by.

2

PAINS: Negative emotions. undesired costs, undesired situations, risks etc.

GAINS: Outcome or benefits your customer expects, desires or would be surprised by.

CUSTOMER JOB(S): Jobs/tasks customers are trying to perform/ complete. Problems they are trying to solve. Needs they are trying to satisfy

3

45

4

GAINS: Outcome or benefits your customer expects, desires or would be surprised by.

CUSTOMER JOB(S): Jobs/tasks customers are trying to perform/complete. Problems they are trying to solve. Needs they are trying to satisfy

PAIN RELIEVER(S): How your products and services relieve customer pains before, during, and after getting the job done. What should you do to stop your customers 'complaining'?

5

GAIN CREATORS: How your product/services create customer gains. What will your customers brag about?

GAINS: Outcome or benefits your customer expects, desires or would be surprised by.

CUSTOMER JOB(S): Jobs/tasks customers are trying to perform/complete. Problems they are trying to solve. Needs they are trying to satisfy

PAINS: Negative emotions. undesired costs, undesired situations, risks etc.

6

PRODUCT & SERVICES: This is what your value proposition is built around.

GAIN CREATORS: How your product/services create customer gains. What will your customers brag about?

GAINS: Outcome or benefits your customer expects, desires or would be surprised by.

CUSTOMER JOB(S): Jobs/tasks customers are trying to perform/complete. Problems they are trying to solve. Needs they are trying to satisfy

PRODUCT & SERVICES: This is what your value proposition is built around.

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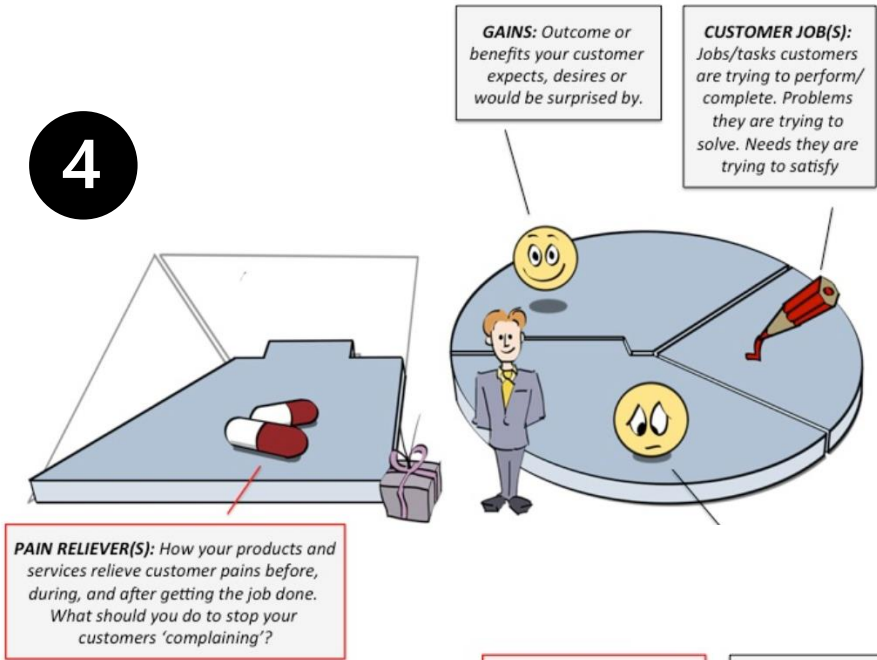**CUSTOMER JOB(S):** Jobs/tasks customers are trying to perform/complete. Problems they are trying to solve. Needs they are trying to satisfy

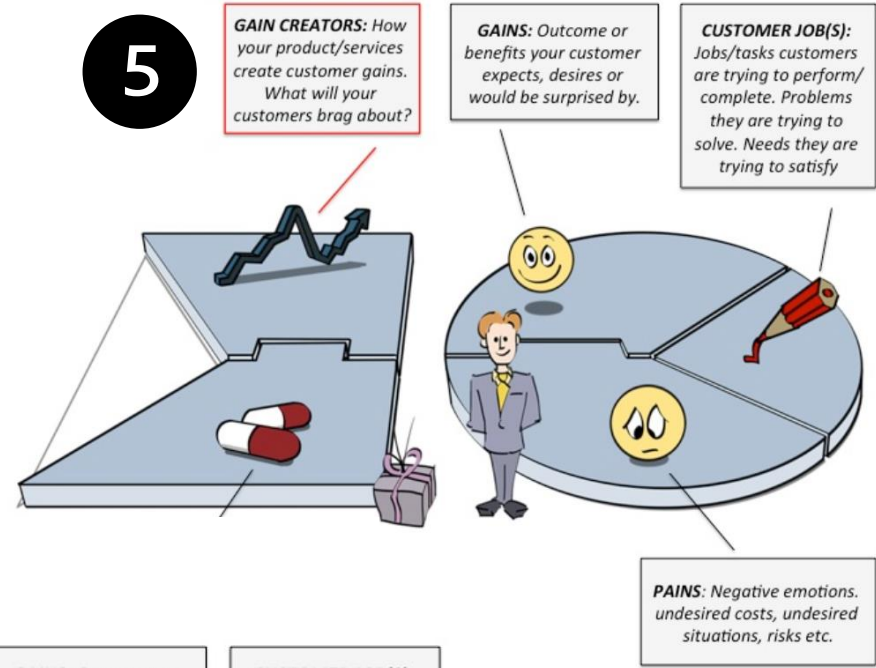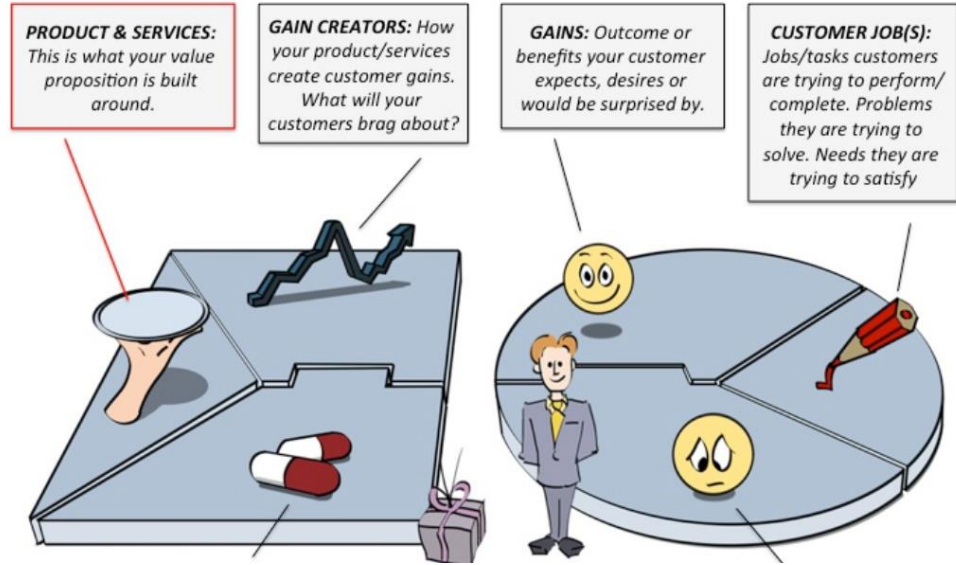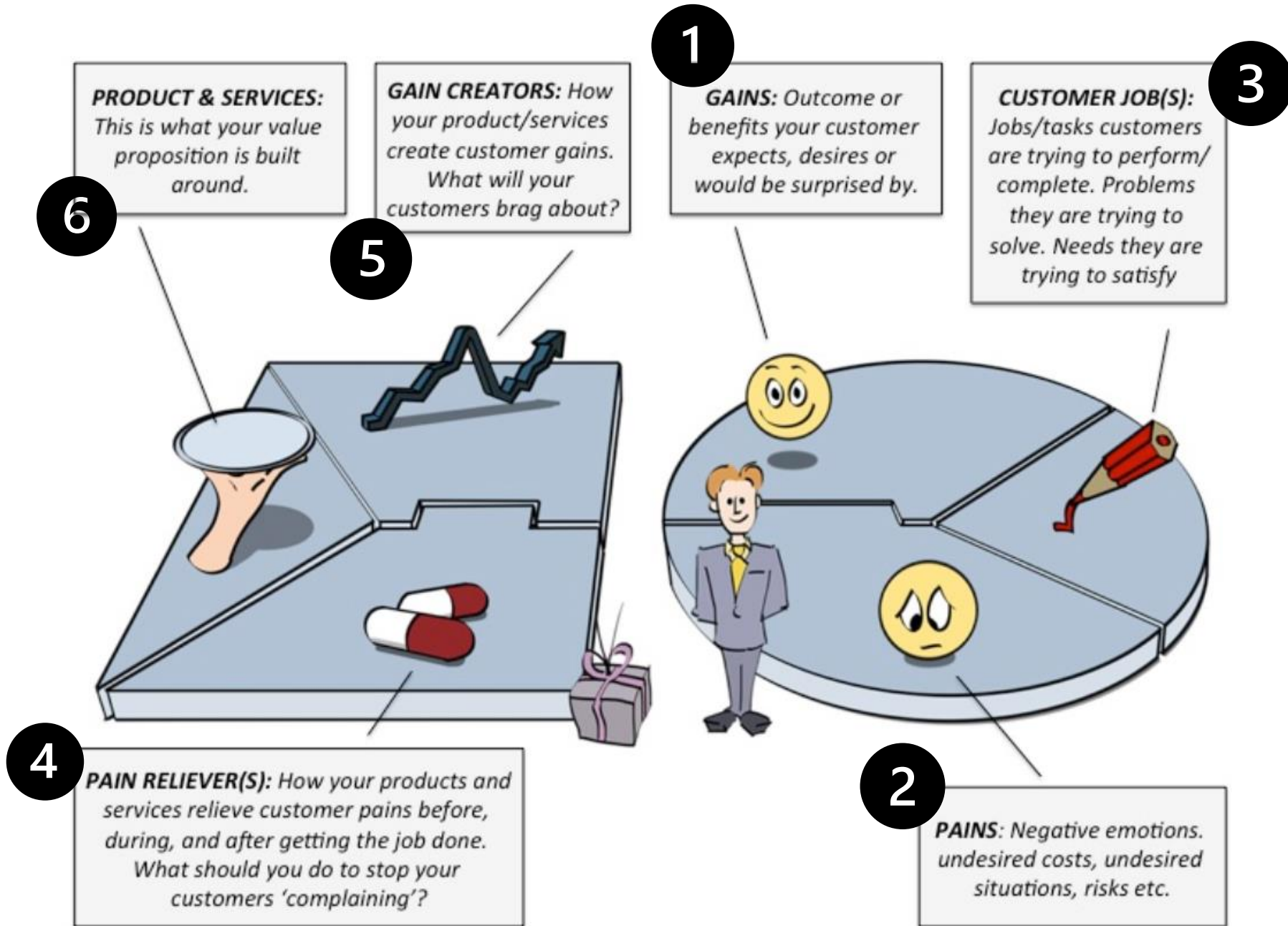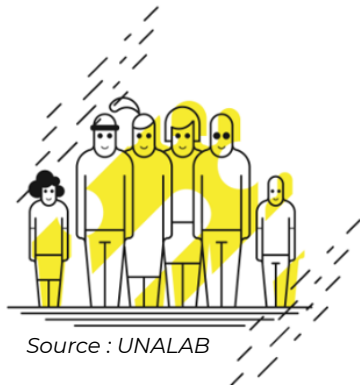**PAIN RELIEVER(S):** How your products and services relieve customer pains before, during, and after getting the job done. What should you do to stop your customers 'complaining'?

PAINS: Negative emotions. undesired costs, undesired situations, risks etc.

Community Canvas

Source: UNALAB, Community Canvas

COMMUNITY CANVAS

Source : UNALAB

Step	STAKEHOLDER MAPPING/ENGAGEMENT – VALUE PROPOSITION
Tool	COMMUNITY CANVAS
Definition/ Goal	The Community Canvas is a framework that will help you build and run a new community, or analyse and improve an existing community. It identifies the fundamental themes to cover and helps you ask the right questions. This tool is designed for practitioners who are building communities in their daily life and to provide a space for an interactive conversation to meet peers and learn from each other. Benefits: • Creating meaningful, long-lasting relationships. • Building and running communities. • Bringing people together and developing a sense of ownership and belonging
Instructions	**Identity**. The first part of the Canvas focuses on questions of belief. Strong communities have a clear and explicit sense of who they are, why they exist and what they stand for. The Identity section itself is layered like an onion. At its core are two elements: the community's purpose and the identity of its members. The questions why and who are essential and then inform the other elements of identity: the LL's values, its definition of success and its "brand". **Experience**. The second part of the Canvas explores the community from the perspective of the members: what does actually happen in the community and how does it translate its purpose into activities that create tangible value for the members? A significant part of the Canvas is dedicated to two elements: Shared Experiences bring members together and fundamentally deepen the bonds among them. Rituals and traditions are individual and recurring experiences that have a strong symbolic character.

	Structure. The third part of the Canvas focuses on the operational elements of running a community. While many communities evolve organically over time, only a few survive in the long-term. Organizational aspects are often neglected, and the necessary structures aren't in place to deal with challenging situations, as they eventually and often suddenly come up. This area goes beyond good management and processes, but presents a tremendous opportunity: most communities become more valuable the longer they exist, as trust both among the members and into the overall brand increases. However, consistency is the key. Visionary communities will put structures in place that will optimize for long-term stability. **Tips:** - Bring not only the canvases, but also the 'guidebook' and 'summary' for participants (available on the template link). Host a brief presentation to introduce participants to the three elements in the canvas: identity, experience & structure. - The Minimum Viable Community Canvas is good for the blue and pink sections: identity & experience. However, the green section (structure) is especially important for more advanced/later stage community stages and should be explored further than what is presented in the template. - There is also a 28-page worksheet document that can be used to make a much more detailed planning than what you are likely to have time for in a workshop setting. Set the stage using the compressed templates (Minimum Viable Community and Worksheet Summary) during the workshop, and provide the worksheet document for participants to explore the topics further in more detail after the workshop.
Template	Community Canvas (available in several languages)
Required materials	- Template printed or online (Miro board) - If in person: markers, pens, post-its

YourCommunityName **Minimal Viable Community**

Community Canvas

community-canvas.org

Check out the full Community Canvas here

1. Purpose Why does the community exist?

3. Values Which 3 principles are important to us?

5. Experience What happens in our community on a recurring basis that helps us achieve our goals and expresses our values in action? Also consider **onboarding**: how does the experience in the community start?

2. Audience Who is this for and what is our selection process?

4. Goals In the next 12 months, what are 3 metrics that will define success for us?

6. Roles What different roles can members play in our community? What's the give/get relationship?
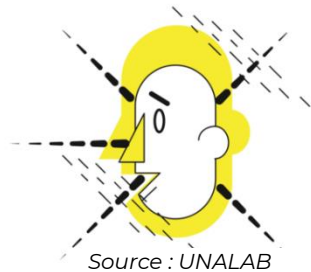
7. Rules What guidelines and boundaries help us achieve our purpose and represent our values?

8. Governance How do we make decisions? Who gets to decide what?

9. Communication What are the simplest channels for us to communicate with each other? What is a healthy rhythm?
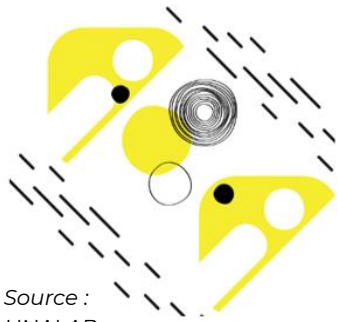
50

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Onboarding kit

ONBOARDING KIT

Source : UNALAB

Making Sense

Step	STAKEHOLDER ENGAGEMENT – VALUE PROPOSITION
Tool	ONBARDING KIT
Definition/ Goal	Social interaction and good team spirit are integral to a healthy community of participants. A wellthought-out onboarding kit welcomes and guides a new participant into the project and the team. It is composed of both informative resources as well as community-building tools.
Key Question	Why are we here, and how can we work together?
Instructions	1. **Issue**: The first part of your onboarding kit should deal with bringing the participants up to speed on the issue. Put together some information on the topic, such as effects, possible causes and findings to date. This not only raises awareness, but also imparts an urgency. In here, a basic overview of the project, team, and any need-to-know information is also a great way for people to understand exactly what they are getting involved in from the outset. 2. **Community:** This might be the most obvious, but it has two parts. First of all, there is a very real, physical side to community building, which can take the shape of simple introductions, chats and discovery exercises, as well as team-building objects (such as T-shirts, tote bags, pins and stickers), all of which create a sense of team belonging. Secondly, there is the digital component, which becomes the forum where the community can congregate when not meeting physically. The platform used will vary from community to community, with some preferring social media, others email, and so on. Find what works best with your community, and then cocreate a safe space for discussion. 3. **Technology**: This is often the reason participants get involved with the project. It often helps to create a mini-guide so participants can become acquainted with the technology. 4. **Action**: Finally, a tool to encourage contribution is an excellent addition to your welcome pack. The sensing journals are a great option, or even a basic notebook. Whatever you choose as your method of recording actions, this could be a useful inclusion when new participants join a later iteration of the campaign.

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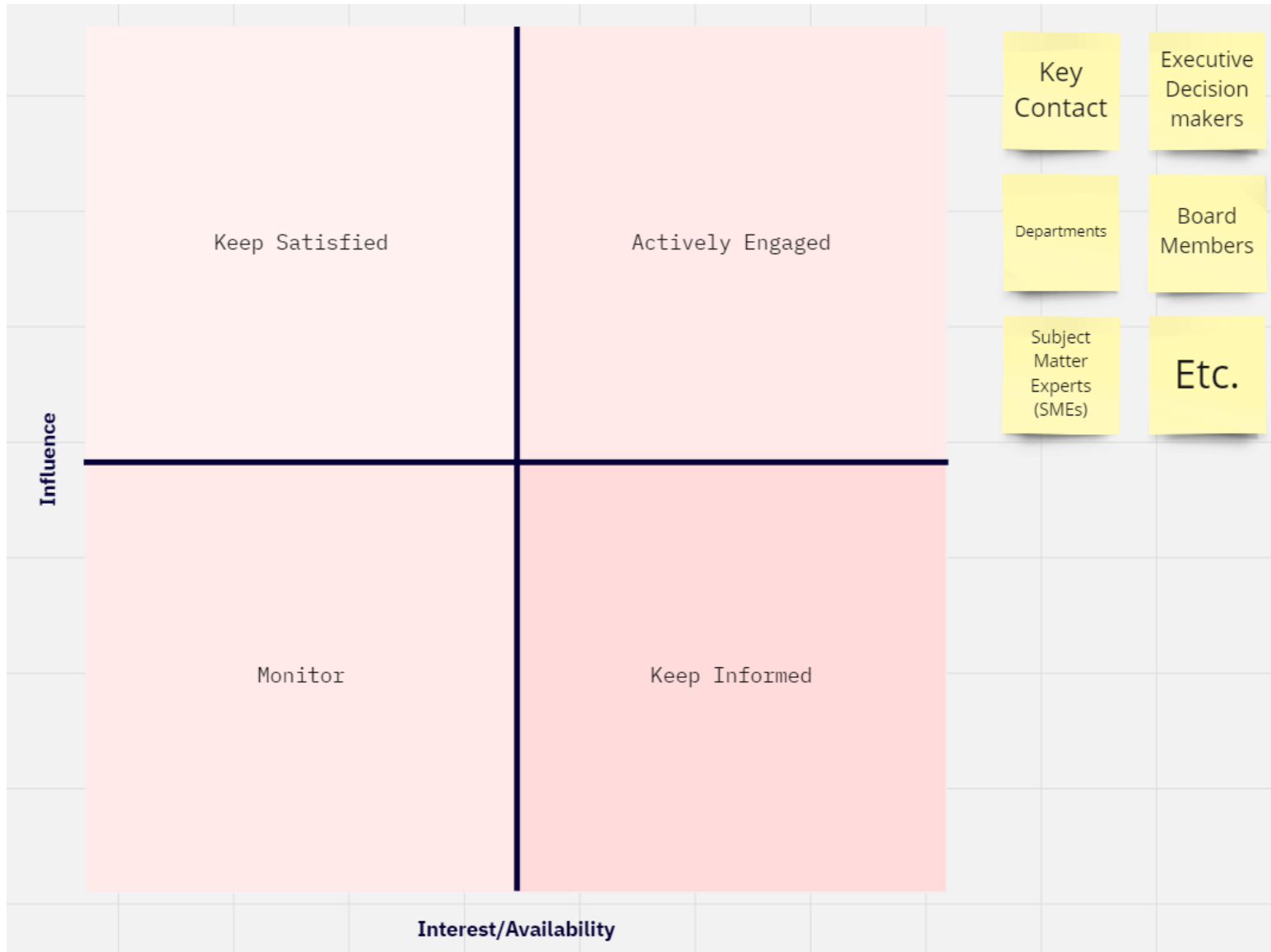## Power / Interest Matrix

POWER/INTEREST MATRIX
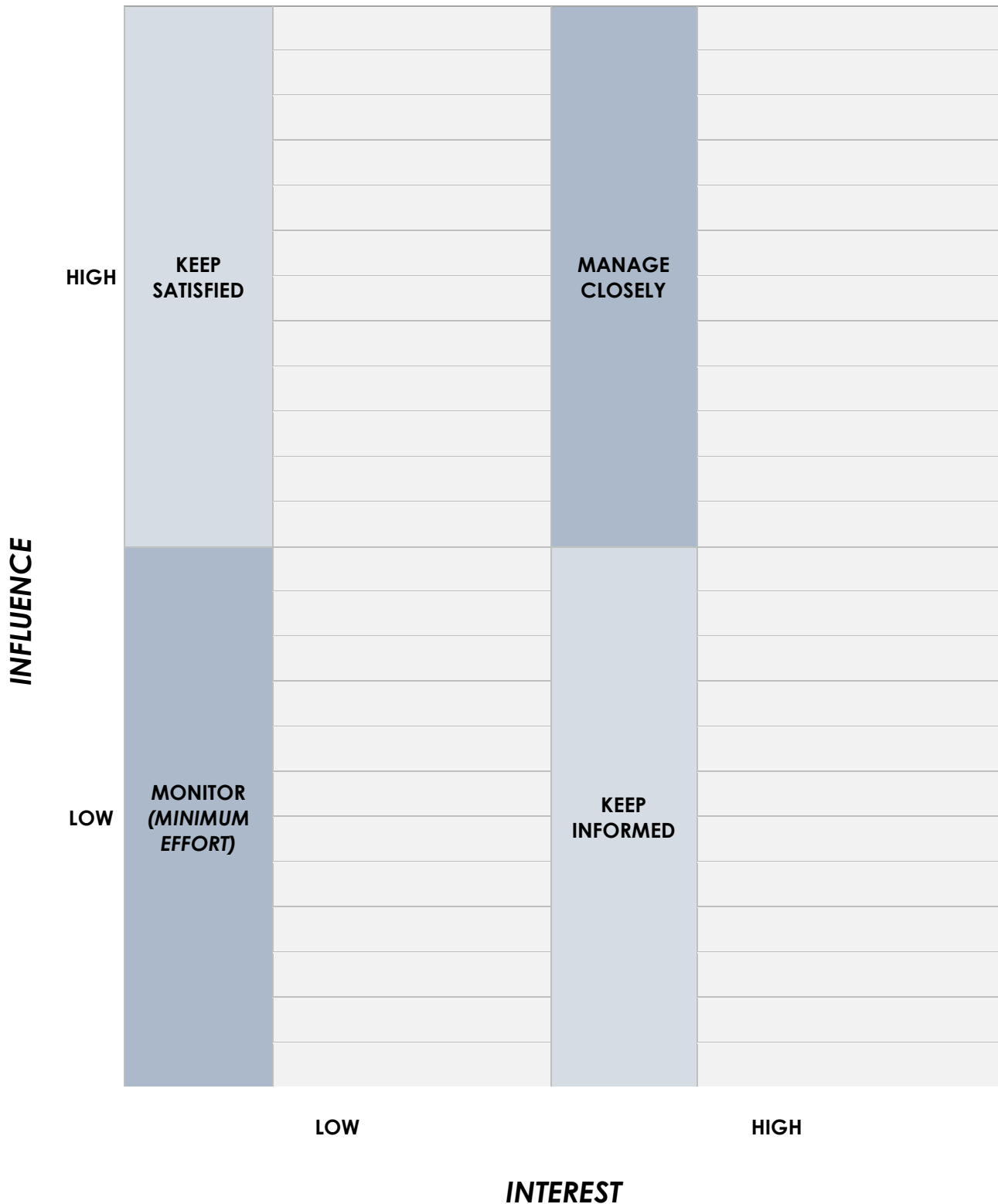
Source : UNALAB

Step	STAKEHOLDER ANALYSIS / ENGAGEMENT LADDER
Tool	POWER / INTEREST MATRIX
Definition/ Goal	In this matrix, power refers to how much influence the stakeholder can have on the project, while interest refers to their interest in the issue. This tool can help map the stakeholders' relations (power and interest) to your project to proceed in the best way. Furthermore, it can contribute to understanding what is needed to motivate the stakeholder. Stakeholders may have power in a variety of ways. It is crucial to view every stakeholder from different perspectives.
Instructions	After identifying all the relevant stakeholders and noting them in post-its (one stakeholder per post-it), the participants are asked to place the 'post-its' in the grid, taking into account their importance and interest. The position that participants allocate to a stakeholder on the grid shows the actions that are needed to be taken with them. E.g. High power, highly interested people (Manage Closely): you must fully engage these people and make the greatest efforts to satisfy them.
Template	Influence / Interest Matrix Miro Template **Power and interest Table Word Template**
Required materials	• Template printed or online (Miro board) • If in person: markers, pens, post-its

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Influence (vertical axis)

Interest/Availability (horizontal axis)

Keep Satisfied

Actively Engaged

Monitor

Keep Informed

Key Contact

Executive Decision makers

Departments

Board Members

Subject Matter Experts (SMEs)

Etc.

POWER AND INTEREST MATRIX

Position your different stakeholders in the grey cells, according to their influence and interest

INFLUENCE

HIGH

KEEP SATISFIED		MANAGE CLOSELY	

LOW

MONITOR (MINIMUM EFFORT)		KEEP INFORMED	

LOW　　　　　　　　　　　**HIGH**

INTEREST

Monitoring stakeholder engagement (example BIN2BEAN)

TRACKING THE NUMBER OF PARTICIPANTS			Total N° of participants				Number of participants per stakeholder group										N° per engagement level				
LL Activities			Needed	Informed	Confirmed	Present	Public authorities	BW mngt actors	Citizens	Researchers	Farmers	Parks / Green areas	Other end-users	Testing labs	Schools	BW producers	Informed	Consulted	Involved	Collaborate	Empowered
Name	Description / Objectives	Date																			
Kick-Off-Meeting	Discuss the preliminary baseline and local context analyses																				

LL Activity / Meeting		
Name	Description / Objectives	Date
Kick-Off-Meeting	Discuss the preliminary baseline and local context analyses	
Stakeholder groups	**People (add 1 line per person)**	
Public authorities		
BW mngt actors		
Citizens		
Researchers		
Farmers		
Parks / Green areas		
Other end-users		
Testing labs		
Schools		
BW producers		

MONITORING ENGAGEMENT PER STAKEHOLDER GROUP, PER PERSON AND PER MEETING

Easy or challenging to gather?	Motivations?	Select the most active stakeholders	What did they like the most / the least ?

Annex 2 – Tools to analyse the context, and define your vision and goals

Local context canvas

LOCAL CONTEXT CANVASES: CHALLENGE, LAB, POLICY

Source : UNALAB

Step	BASELINE AND CONTEXT ANALYSIS
Tool	LOCAL CONTEXT CANVASES
Definition/ Goal	Analysing the Context is a preliminary step designed to understand the challenge, initial network of stakeholders, and the infrastructures of the SISCODE co-creation laboratories.
Instructions	Each canvas will support you to create a rich picture of your challenge gaining knowledge on the local context. Use them individually or simultaneously and try to answer to the questions offered in each canvas. Do not hesitate to find new way to collect and gather data to provide relevant contents. These canvases can be completed during the processes, gathering new elements from the contexts to co-create the solutions.
Required materials	• Template (see below) printed or online (Miro board) • If in person: markers, pens, post-its

LOCAL CONTEXT : DEFINING THE CHALLENGE

Bin2Bean

NEEDS

What is the key social need that you are addressing?

Explain the reasons why the need is important and for who it is relevant.

CHALLENGE

What is the local challenge?

Describe the local challenge (problem) that the Lab will address, elaborate a question you would like to answer by working on this challenge.

FACTORS

What social & cultural factors shape / generate this challenge?

Sociocultural factors are customs, lifestyles and values that characterize a community. Think about esthetics, education, language, law and politics, religion, social organizations, technology and material culture, values and attitudes.

EVIDENCES

What evidences do you have that this is a significant challenge?

Describe what you know and your experience about the topic. Identify the possible effects of working on this challenge.

LOCAL CONTEXT: DEFINING THE LAB CAPABILITIES

TECHNOLOGY & RESOURCES

What are the technologies and resources available?

Describe the different technologies and resources available in the Lab for addressing the challenge.

KNOWLEDGE & COMPETENCIES

What are the knowledge and competencies available?

Describe the knowledge, experience and competencies available in the Lab for addressing the challenge.

APPROACH

What is the co-creation approach adopted in the Co-creation Lab?

Describe and illustrate the approach that the Lab has on co-creating initiatives with different stakeholders.

LOCAL CONTEXT: DEFINING THE POLICY ENVIRONMENT

EXISTING POLICIES

What are the existing policies
related to the challenge?

List the policies that already address tematics related
to the challenge. Describe how existing policies could
limit/block or support/encourage the development of the
challenge.

INFLUENCING POLICIES

What are the threats on
addressing existing policies?

Describe the ease and difficulties about influencing
policies in the local context.

FUTURE POLICIES

Pitch your idea about how
the challenge could influence
future policies

Describe how addressing this challenge could inspire
policy making and discussion.

PESTEL Analysis

Step	BASELINE AND CONTEXT ANALYSIS
Tool	PESTEL Analysis
Goal	PESTEL analysis helps to identify and assess the external factors that may have an impact on an organization, a plan or a situation.
Instructions	There are five main steps in the PESTEL analysis: 1. Brainstorm and list key issues that are outside of the organization's control. 2. Identify the implications of each of these key issues. 3. Rate the relative importance of each of the key issues to the organization, using a scale. For example, the scale might include the following levels: critical; extensive; important; significant; moderate; and minor significance. 4. Rate the likelihood of the impacts occurring, using a scale. This scale may include the following categories: certain; very likely; likely; possible; unlikely; extremely unlikely to occur. 5. List the implications if the issues identified in step 1 do indeed occur (first four categories in the scale in Step 4). Issues to consider as part of the six PESTEL factors include, but are not limited to, the following: • **Political** issues include changes in government policy, changes in personalities within government (at all levels), other factors affecting legislation or new legislation, bureaucracy, and corruption. • **Economic** factors comprise the following: overall macro-economic (in)stability and trends; macro-economic factors such as employment; inflation; and interest rates; energy sources; the quality of infrastructure; the price of goods and commodities; taxes, levies and duties; exchange rates; cost of living; ease of doing business; and availability of credit. • **Social** factors include the following: cultural and social conventions, traditions and beliefs; social (in)stability and trends; patterns of (in)equality; and education levels. • **Technological** issues comprise the following: the pace of change in technology; new technologies and innovations; manufacturing and data infrastructure including network coverage; and user/consumer patterns and behaviours. • **Environmental** factors include the following: topography; geographical location; weather and climate; quality of environmental resources; natural disasters; extent of susceptibility to disasters; and resilience. • **Legal** factors to consider include existing and new legislation, regulations and regulatory bodies, the performance of courts, and the overall legislative climate. In addition to these general factors outlined above, every individual country, city or environment has its own specific PESTLE issues that need to be considered as part of the analysis.

	Political	Economic	Social	Technology	Legal	Environment
Brainstorming key external issues						
Implications						
Importance of implication						
Likelihood of occurrence						
Implications of occurrence						

Example of the PESTEL Analysis of BIN2BEAN

P	Political factors
⊕	Both at EU level, with the Green Deal, Farm-to-Fork strategies and MISSION SOIL, and at national levels, developing the use of soil improvers made from bio-waste is high on the political agenda.
⊖	Reducing the bio-waste landfill and put in place soil improvement approaches is a politically sensitive topic in EU and national politics. This may make cities less receptive to BIN2BEAN recommendations.
→	Mitigation measures: Cities, through precise definition of their problematics, will be involved in the research process from the beginning. Moreover, researchers will be continuously reflecting on how scientific insights can be used to reach political goals related to the food system transition.

E	Economic factors

➕ Waste treatment by public bodies is an important burden. Moreover, considering the current geopolitical situation and resource depletion, costs of organic fertilizers are expected to considerably increase.

➖ Prices of solutions might be higher than synthetic fertilizers, as production and approval costs will be higher.

⟶ Mitigation measures: BIN2BEAN will inform cities about these adverse conditions, notably through the result of its socio-economic analysis. Coping to local specificities will enable to consider current infrastructures so that investment costs will be lowered. Innovative business models developed will include relevant strategies, including incentives, to meet end-users' willingness to pay.

S	Societal factors

➕ Both farmers and all the food production chain are encouraged to adopt more sustainable practices, and one long term outcome from BIN2BEAN will be to reduce mineral fertilization and enhance organic matter recycling as soil improvers, through improved risk assessment.

➖ Farmers may be reluctant to change their practices, as urban citizens, and they, as well as general public, may show a lack of confidence in new generation soil improvers and their potential impact on biodiversity.

⟶ Mitigation measures: BIN2BEAN strong communication and dissemination strategy of and the popularization of soil improvers as part of circular economy and bioeconomy, and their risk assessment frameworks through the online website for example will raise the awareness of consumers and farmers on this matter.

T	Technological factors

➕ Emergence of new tools, methods, and approaches which will support and lead to innovative solutions and technologies on the soil improvers market.

➖ Even though many solutions are now close to the market and have already proven their effectiveness and limited health risks, their productions is not yet ensured by optimised collection, transport and recovery chains, which reduces the quality and quantity and therefore the availability of these solutions

⟶ Mitigation measures: a global approach, not only focused on the production of soil improvers but on the whole upstream value chain, from collection to recovery of bio-waste and by involving the associated actors, will be implemented in order to ensure the production flows.

E	Environmental factors

➕ Climate change is leading to major modifications of EU landscapes, resulting in the definition of new uses of lands and soil protection programmes. In that sense, farming systems and soil gestion need to evolve. Moreover, soil improvers enhance the concentration of humic acids which contributes to carbon sequestration.

L	Legal factors

➕ Regulations related to reducing the use of mineral fertilization and bio-waste gestion may support the uptake of the project results. This is foreseen in various parts of the EU Green Deal and MISSION SOIL and SMART-CITIES.

➖ However, the addition of new solutions to enrich soils will obviously be studied according to risk assessment and environmental and human health approaches, which may take time and limit the number of solutions available in the medium and long term. In addition, the legal aspects associated with waste management and recovery are still being developed and will need to be addressed together to fit the European problem.

⟶ Mitigation measures: The BIN2BEAN project aims to produce a series of impact indicators on biodiversity and the various ecosystem compartments in the vicinity of crops as well as on human health. These indicators will make it possible to create a baseline that can be used by legal entities to produce a homogeneous method that can be generalised to all soil improvers wishing to join the market.
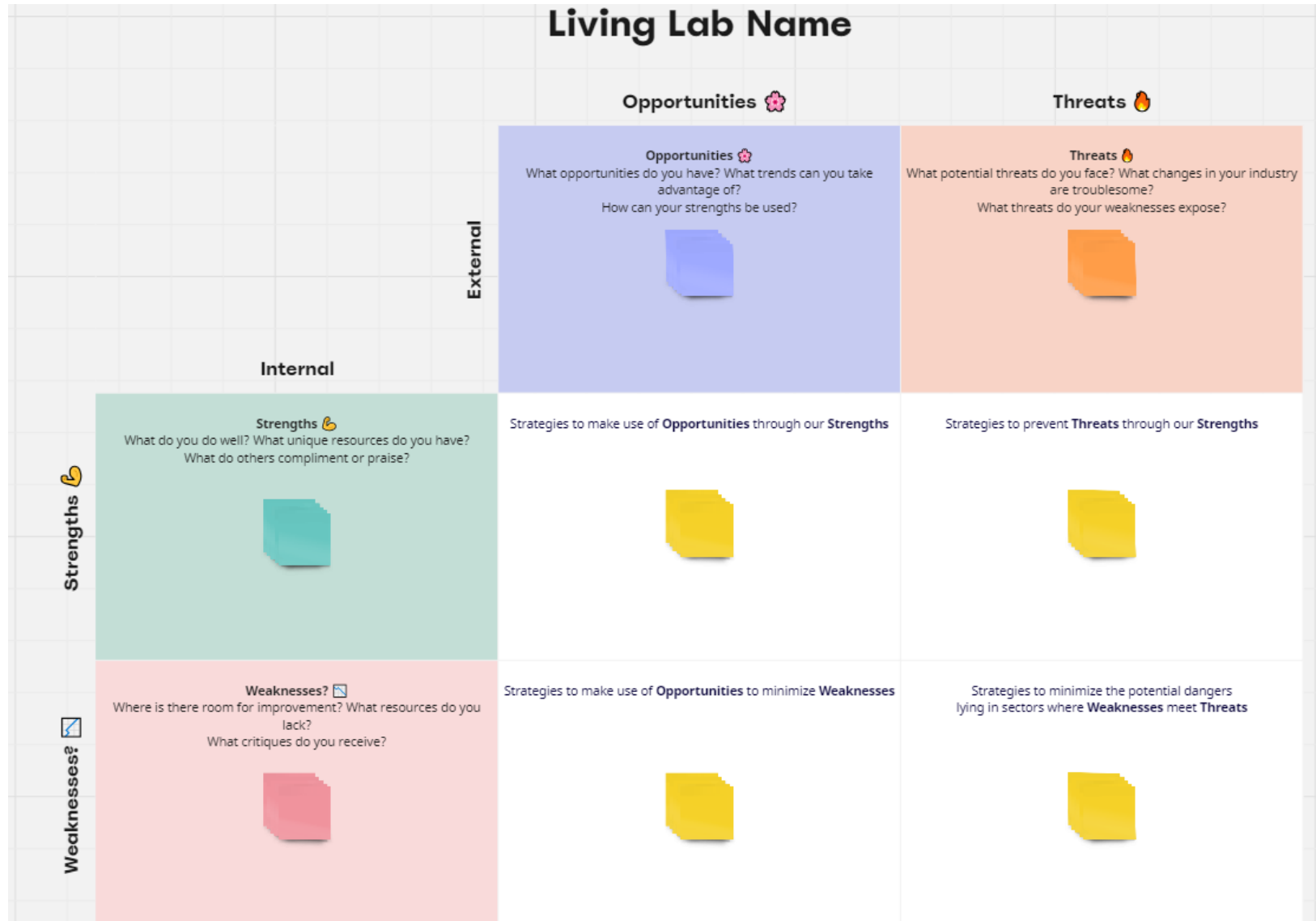
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SWOT Analysis

Source : UNALAB

SWOT ANALYSIS

Step	BASELINE AND CONTEXT ANALYSIS + FRAMING THE CHALLENGE		
Tool	SWOT Analysis		
Definition/ Goal	This method allows to: 1)Identify stakeholder needs and engage them; 2) Increase trust on governmental services; 3) Generate public values; 4) Increase efficiency and effectiveness of services; 5) Provide financial and economical sustainability of services. This workshop can be done with LL stakeholders if possible and relevant (between 5 and 10 people maximum) -> feel free to invite first motivated contacts, this could be a first "informal" discussion (where they are not necessarily engaging yet in the LL if they are not sure).		
Instructions	Collect Strengths, Weaknesses, Opportunities and Threats. You should define both internal and external factors. 1. Starting with the STRENGTHS, define what strengths do you have, what makes you better than other competitions; your unique resources; etc. 2. Thinking about WEAKNESSES, define the obstacles that you face; your competitions; quality standards and changing technology. 3. When defining OPPORTUNITIES, think about the following questions: What good opportunities can you spot? What interesting trends are you aware of? What changes in government policy are related to your field. Are there changes in social patterns, population profiles, lifestyle changes, and so on. Identify local events. When defining the THREATS, think about: What obstacles do you face? What are your competitors doing? Is changing technology threatening your position?.		
Template	SWOT Analysis Template	Required materials	• Template printed or online (Miro board) • If in person: markers, pens, post-its

Living Lab Name

Opportunities 🌸

Threats 🔥

External

Opportunities 🌸
What opportunities do you have? What trends can you take advantage of?
How can your strengths be used?

Threats 🔥
What potential threats do you face? What changes in your industry are troublesome?
What threats do your weaknesses expose?

Internal

Strengths 💪
What do you do well? What unique resources do you have?
What do others compliment or praise?

Strategies to make use of **Opportunities** through our **Strengths**

Strategies to prevent **Threats** through our **Strengths**

Strengths 💪

Weaknesses? 🖼️
Where is there room for improvement? What resources do you lack?
What critiques do you receive?

Strategies to make use of **Opportunities** to minimize **Weaknesses**

Strategies to minimize the potential dangers lying in sectors where **Weaknesses** meet **Threats**

Weaknesses?

Activity abstract – Material Flow Analysis (MFA)

Participatory Material Flow Analysis approach for the estimation and validation of urban biowaste flows
(First version)

Colour code:

Target group	LLs stakeholders except certification labs	
When?	**November 2023 – June 2024**	SPG leader
		WU-UEC
Short description	Implement a participatory approach in each LL in order to quantify urban biowaste flows and their accumulation points among relevant stakeholders groups. Estimations will be based on a hybrid (survey & non-survey) approach, resulting in an input-output based Material Flow Analysis, to be validated with LL stakeholders.	
Purpose/ Goal	Assessment of biowaste availability/ soil improver potential (quantitative assessment) Assessment of biowaste processing into soil improvers (participatory approach) Assessment performance of the city in nutrient recycling (substance flow analysis)	
Main steps	1. **Definition of urban biowaste system** in terms of relevant boundaries with LL manager (e.g. at district level); 2. **Identify relevant system elements**: (1) collection and valorisation activities as sub-systems, (2) key stakeholders and biowaste policies as system attributes, (3) urban land footprint (and embedded N & P use) as environment of the urban biowaste system; 3. **Estimation of input material flows** of at-home and out-of-home food consumption, food industry activities, food retail and biowaste valorisation activities within system boundaries (from available statistics, literature, surveys); 4. **Estimation of green waste supply** and collection within system boundaries; 5. **Calculation of output material flows** from urban biowaste supply and related end-products based on coefficients from literature and surveys from LL managers (output flows); 6. **Calculation of substance flows** (N, P, C) based on literature; 7. **Refining and adapting material flows** as participatory LL activity (based on stakeholder knowledge); 8. **Interactive & accessible urban biowaste MFA**: creating ownership of and developing skills for participatory urban biowaste flow analysis, updating, scenario modelling.	
Timeline	• Oct-Dec 2023: defining system boundaries, review of literature, data collection from secondary sources, identification key stakeholders in LLs • Dec-March 2024: estimation MFA for LL AMS, HAM, EGA • May 2024: participatory MFA workshop AMS • June 2024: Participatory MFA workshop HAM	

	• September 2024: Participatory MFA EGL		
Links to more information	Brunner, P.H. and Rechberger, H., 2016. Practical Handbook of Material Flow Analysis (wordpress.com) Helander, H., Bruckner, M., Leipold, S., Petit-Boix, A. and Bringezu, S., 2021. Eating healthy or wasting less? Reducing resource footprints of food consumption - IOPscience Stelwagen, R. E., Slegers, P. M., de Schutter, L., & van Leeuwen, E. S. (2021). A bottom-up approach to model the environmental impact of the last-mile in an urban food-system - ScienceDirect	*Links to results*	
Feedback on experience from LLs or people completing			
Feedback on experience from SPG leaders	- In cities with outsourced biowaste collection & processing to private processors (AMS) it is difficult to collect empirical information (on actual collection & valorisation flows from the city)		

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Activity abstract – Participatory modelling workshops

(First version)

Colour code:

Information internal to the consortium, for partners/LL leaders/SPG producers	Information that can be shared to the target actor/LL member during recruitment (to vulgarise and make clear, so that it's easily understandable by the actor).

Target group		All LLs stakeholders except certification labs	
When?	**Amsterdam May 2024** **Hamburg (tbc)** **Egaleo (tbc)**	SPG leader	**WU-UEC**
Short description	Participatory modelling workshops will provide a first stakeholders understanding of enablers and barriers for the implementation of a regenerative soil system.		
Purpose/ Goal	The purpose of the workshop is to create a participatory model that visualizes stakeholders' perception of the local regenerative soil system based on bio-waste valorization		

Main steps	1) Problem definition
	    • Identify stakeholders (= living lab participants)
	    • Set system boundaries
	
	2) **Participatory modelling workshop** (with living lab participants – at least 3h)
	    • General introduction and establishment of ground rules (Moderated by WUR-UEC)
	    • Introduction to systems thinking, methodology (Presented by WUR-UEC)
	    • Participants work in small groups to develop causal maps capturing the key drivers and issues on creating a regenerative soil system with urban bio-waste in their region (e.g. biophysical/environmental group; societal/citizen group, economic/ policy group)
	
	3) Digitising and merging causal maps into fuzzy cognitive maps (WUR-UEC – no participation required)
	    • Digitising causal maps from subgroups
	    • Combine causal maps to form one complete integrated model
	
	4) **Evaluation workshop** (with living lab participants – 1.5 h as part of the next living lab workshop that can have another main focus)
	    • Presentation of complete integrated model and what- if scenarios to living lab participants (by WUR-UEC)
	    • Participatory analysis and identification of feedback loops (participatory)
	    • Evaluation surveys (by participants)
	
	5) Analysis of similarities and differences between living labs (WUR-UEC – no participation required)		

	• Comparison of causal maps of different living labs • Analysis of relationships between city contextual factors and their causal maps		
Timeline	• **May – October 2024**: Participatory Modelling Workshop • **October 2024 -February 2025**: Evaluation Workshop/ Survey • **February 2024**: Deadline for internal report • Training sessions need to be scheduled • Ethics approval: application for WUR in progress		
Links to more information	• Video: Causal loop diagrams | OpenLearn - Open University • Article: https://thesystemsthinker.com/causal-loop-construction-the-basics/ • Methodology: 2017_Kotir_et_al_Systemic Modelling causal maps.pdf	*Links to results*	
Feedback on experience from LLs or people completing			
Feedback on experience from SPG leaders			

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Envisioning

ENVISIONING

VISION

DEVELOPMENT

Source : UNALAB

Source: [DRIFT - Transition management in the urban context (pages 27-28)](#), you can also check [Roadmap4Energy (pages 5-7)](#), [UNALAB](#)

Step	ENVISIONING
Definition/ Goal	This phase focuses on the exchange of perspectives on possible futures, and the creation of a shared future perspective. Through a series of meetings, participants are encouraged to think in new and creative ways in order to envision a sustainable future for their city. Visionary images emerge from the discussions: these are guiding ideas for the future, which can be combined in a vision – a coherent storyline that sketches a future perspective. Benefits: • Creating a shared language between stakeholders. • Make the following strategic planning process more focused and specific.
Instructions	Envisioning follows four participatory steps, which, while not necessarily sequential, take place over two or more meetings: ◆ **Exchanging perspectives on the future**: The goal of this step is divergence through the collection of multiple ideas for the future of the city. On the basis of this, more specific images can emerge. A range of inputs can be used for this step, including presentations by participants and external guests, (internet) movies, collages or posters, reflection on existing visions, and insights from the systems analysis. *For this step, feel free to check more information on "The Future Telling" research method, which is an approach to create context-related possible future scenarios in a creative, imaginative way.*

◆ **Formulating guiding sustainability principles**: Key guiding sustainability principles are formulated by reflecting, in plenum or smaller groups, on selected and framed challenges and ideas for the future. These are the underlying principles of the future vision, for example "local companies delivering societal return to the city and its citizens" or "complete independency from fossil fuels".

◆ **Creating visionary images**: In this step, the guiding sustainability principles are enriched and animated by visionary images. These are created through a **discussion guided by open and reflective questions** – for example: what does closing material loops mean for Ghent? What does an Aberdeen optimized for walking and cycling look like? Which surfaces (roofs, roads, etc.) can be utilized for an energy-autonomous Rotterdam? How do people live in an energy-neutral neighbourhood?

◆ **Elaborating the vision**: This step seeks to bring together the divergent ideas that have emerged from the discussions. The arena group critically assesses the visionary images ('Is this a future we want to attain?', 'Who would (not) profit from this development?') and discusses synergy between the ideas. The future vision is compiled by combining visionary images into a coherent storyline, which is based on the guiding sustainability principles.

Facilitation as well as the process setting is important to enable an **open atmosphere and positive group energy**. An inspiring process setting can be achieved by holding the meetings in different places, thereby physically exploring the challenges and opportunities of the city. Between meetings the transition team processes ideas and inputs. Each meeting could start with a presentation that builds on the work of earlier meetings by structuring, recapitulating and enriching it. In parallel to the discussions, the transition team records the ideas in a vision document, possibly supported by a motivated subgroup or an external party that can contribute a visualization. The management team, together with the group, can decide to publish this vision in an attractive manner as an output of this phase; they can also wait until the end of next phase when it will become part of the broader transition agenda (phase "How are we going to get there").

Collage

Source : UNALAB

COLLAGE

IHS
Making cities work

Step	ENVISIONING
Tool	COLLAGE
Definition/ Goal	The tool can aid the ideation & visioning process by creating a visual perspective and representation of the research's objectives and/or concept(s). It contributes to communicating the vision as well as the process of collecting fragments in a sensuous manner. This is an active tool facilitating for the reproduction of multi-layered concepts, ideas, and facts extracted from an elaborate understanding of complex data sets, by creating a visual perspective to exhibit the complete narrative of the research or project.
Instructions	1. Determine the purpose 2. Collect data related to the topic and note down important observations 3. Acquire a collection of imagery for composition and structure 4. Create a storyboard/theme/vision in the way the narrative must be presented 5. Paste the collage on the software art of on a canvas, add text and make it appealing 6. Present the collage to the team and adjust. Consider the collage's contribution to the final communication for the project and with aspect of the narrative it supports.
Required materials	If in person: canvas, markers, pens & pencils, photographs, magazines, glue, scissors For digital collage: Photoshop or Miro

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Step	SETTING SMART OBJECTIVES
Definition of SMART	**S**pecific in terms of place. **M**easurable in terms of what is to be achieved (not how to achieve it). **A**cceptable, that is, an objective should be accepted by key stakeholders. The process to set and agree on the objective should be participatory to maximise acceptance. **R**ealistic, in that, it should be possible to reach the objective with regard to resources including finance and organizational capacity. **T**ime bound, in that, it is critical that objectives are related to a meaningful time frame, which should be linked to political and social realities, as well as to physical development aspects.

Instructions	The process to develop SMART objectives goes through the following steps:
	
	1) Start from the initial or draft objectives defined from the:
	    a. challenge framing (core problems identified can be turned into objectives).
	    b. visioning process and
	    c. SWOT analysis.
	
	2) Make each objective specific by adapting it so that it answers the 5 questions linked to SMART, such as:
	    → Specific: What exactly is to be achieved and where?
	    → Measurable: How will I measure the extent to which the objective has been achieved?
	    → Acceptable: Is the objective motivating and acceptable by key stakeholders?
	    → Realistic: Is the objective achievable?
	    → Time bound: Is it defined in time?
	
	This step can be done by individual participants with suggestions written on cards or sheets of paper (brainstorming).
	If using cards or paper, then pin or stick them on a wall, whiteboard or flip chart.
	
	3) Discuss and refine each objective until:
	    → It meets the SMART criteria.
	    → Group members agree on the objective and its formulation.

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