MS4.4_

Design PLLS- Description of PLLS in the portal_M18

BACKGROUND

This MS delivered in M18 disseminates the **tool on Practices Living Labs Systems** (PLLS) through Portal, after being developed and designed in T4.3. The environment this tool was tested is Living Labs organized by EcoDaLLi on different topics: water system (Tulcea/Oo on 14 May), biodiversity (Tulcea/RO on 16 May), climate (Osijek/HR on 11 June).

LIVING LAB CONCEPT

There are several definitions on Living Labs. For instance, a Living Lab is an open-innovation methodology where diverse stakeholders participate collaboratively to co-create solutions to real-world problems. It involves learning processes at both individual and community levels, generating new knowledge, and transferring it to other regions, scientific communities, and policymakers. Living Labs address ecological, social, and political aspects of sustainability challenges such as climate change, water, and soil issues. Living Labs are used to develop and refine innovative ideas, technologies, or solutions in collaboration with end-users, customers, or stakeholders.

The primary goal of a Living Lab is to bridge the gap between research and practical implementation by creating an environment where new concepts can be tested to be validated in real life situation. Iterative feedback processes are employed to create sustainable impact. Engagement is conducted in many ways, including Tools like PSLLS.

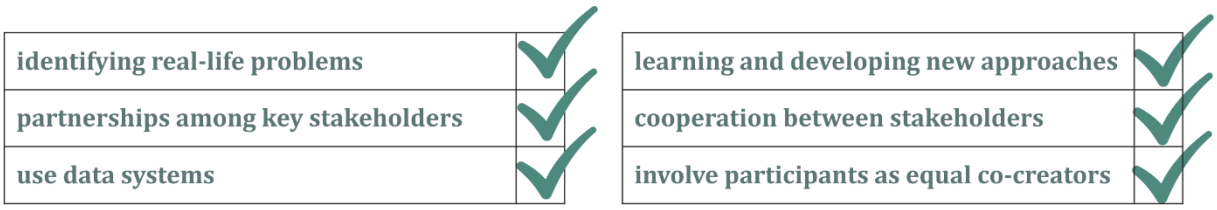

Fig1. aspects taken into account in the creation of PLLS

PRACTICE LIVING LAB SISTEM (PLLS)

Practices Living Labs System (PLLS) is a tool created by Smarter Mobility Solutions Ltd in 2020, (prior to EcoDaLLi) and it is used as a variant in this project, to capture stakeholders' engagement & views on different topics related to Mission Ocean's objectives, particularly wetlands restoration.

In EcoDaLLi this tool is acting like a framework, that will be used to involve with several stakeholders to portray the existing knowledge and identify the engagement with several projects and activities in the Danube River Basin (DRB). The development of, and engagement with this tool is part of *T4.3 The Danube Practices Living Labs System* led by Smarter Mobility Solutions (SMS).

Thus, an important objective of the EcoDaLLi project illustrated in WP4 is to develop and test a Practices LL System (PLLS) on 4 sectors of the Danube River: upper, middle, lower

and Danube Delta, which illustrates location of main stakeholders of the Danube Region Basin. However, PLLS is also engaging with the selected topics of: water, biodiversity, climate and innovations.

Through series of engagements, Smarter Mobility Solutions and partners in T4.3 have started to assess the potential of using the PLL System to illustrate & strengthen the Mission Ocean objectives.

The concept, the approach to design and build this Framework are based on selected archetypes, used to categorise the organisations involved. Gaining commitment of/from partners, funding organisations, and collaborators was essential at the start of the work on adjusting the initial SMS tool to involve stakeholders from DRB (Danube River Basin), as part of EcoDaLLi.

The proposed Framework is based on 8 pillars which interact to gather relevant data on major stakeholders and their actions, initiatives and projects in DRB. This is further complemented by data on pollution, restauration and biodiversity aspects, and illustrated in several projects and plans. The current policies, governance and human resources are the engine supporting the information flow between different pillars.
A complex approach to PLLS is illustrated in Figure 2 below:

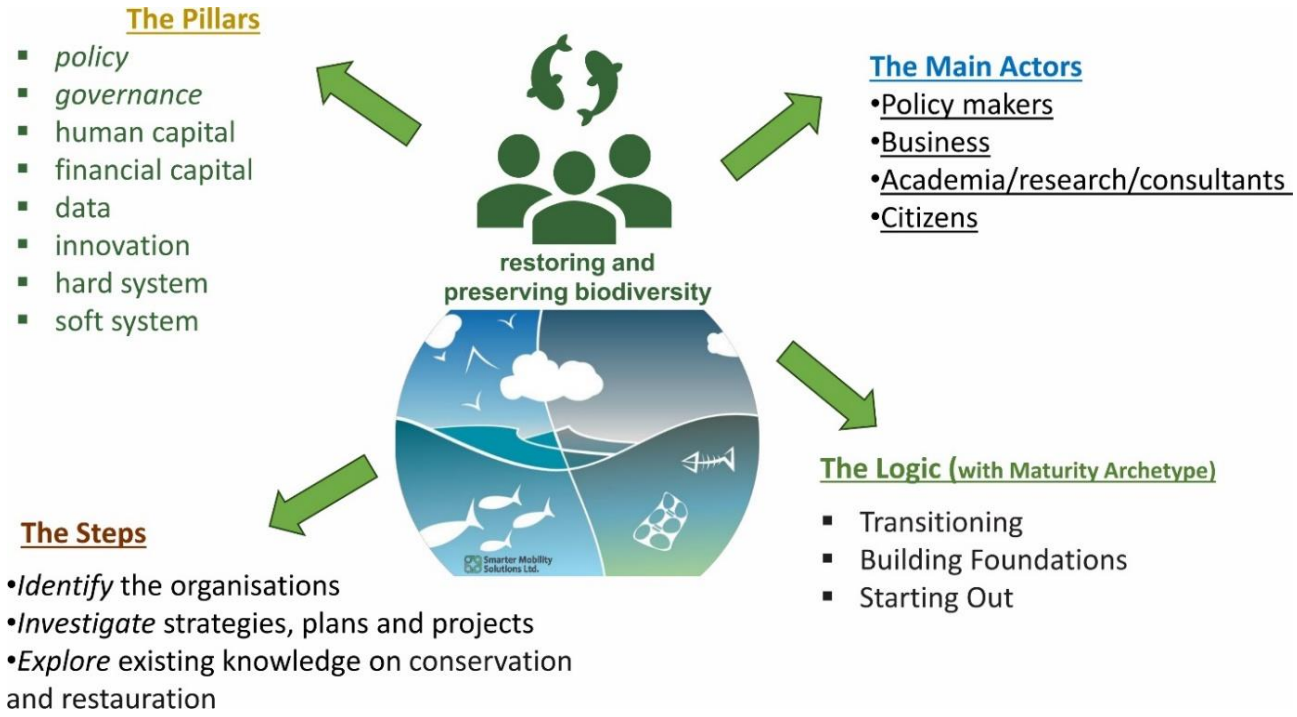

Fig.2- PLLS Concept & acting environment (Source, SMS Ltd, Feb 2024)

The methodology to gather information via PLLS includes proper selection of the actors and *targeted questions* to extract the relevant knowledge. Further, the information is used to design actions and engagement processes. Some relevant examples are illustrated below, per each pillar:

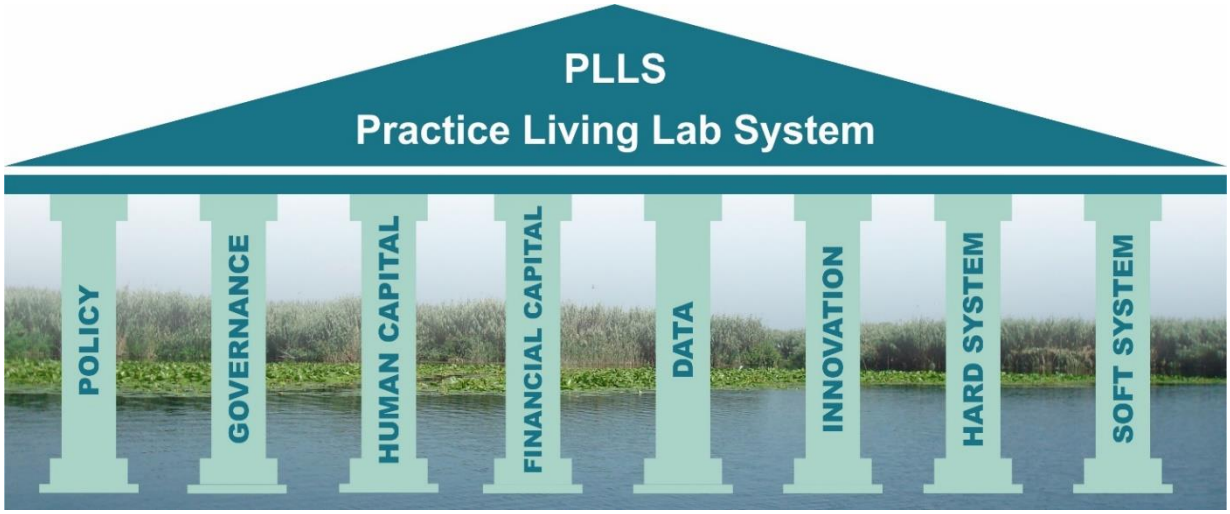

Fig. 3 – The 8 Pillars of the PLLS Framework (Source: SMS Ltd, Feb 2024)

1. *Policy:* - Evaluate progress of current ecological restoration, protection & preservation action plan. - Implement biodiversity conservation requirement in planning policy. - Develop a sustainability action plan, looking at projects across key systems. - Implement circular economy policies and legislations to maximize resource use efficiency.	✓
2. *Governance:* - Monitor Water Systems and Biodiversity conservation. -Trial new community engagement methods such as Citizen Assembly, co- design, etc. - Audit existing community engagement methods and processes.	✓
3. Human Capital: - Develop and launch a skills audit across organization. - Include sustainability training and options into formal personal development process of organizations. - Engage with leadership to understand barriers to culture of continual learning.	✓
4. Financial Capital: - Determine socio-economic benefits for specific low-carbon & restoration projects/climate actions. - Share best practice with local authorities & other stakeholders on finance instruments. - Upskill teams in developing business cases.	✓
5. Data: - Set clear KPIs for ecological restoration, protection & preservation projects. - Select best reporting and monitoring tool. - Implement automated systems and/or digital technologies to collect and report on climate, water and biodiversity related data.	✓
6. Innovation: - Encourage & promote innovations on restoration. - Create communal platform for innovation network to work together. - Map innovation network at the local and regional level.	✓

7. Hard System/Nature Based Infrastructure: - Conservation and restauration through best practices. - Asses existing infrastructure for wetlands: habitat fragmentation. - Deployment of solutions for fisheries. - Use of waste as a productive resource, and design out waste and pollution	
8. Soft System: - Work on behavioral change towards wetlands perception within communities. - Create an Advice Hub to signpost relevant information on climate change and ecological protection. - Create themed campaigns working with existing community-led organizations. - Develop communication plans to influence local communities in adopting eco-responsible behaviors.	

PLLS in action has started to engage with a methodology based on several designed questions showing a maturity self-assessment exercise which will be later adjusted, according to local knowledge. Additional data will be collected through technical reports consultation, expert meeting & interviews.

The main selected themes (Danube innovation ecosystem, water systems, climate change, biodiversity) will be illustrated in the 4 categories exemplified by resources, skills, data and tools, contributing to the 8 pillars explained earlier. These pillars are built around knowledge on policy, governance, human capital, financial investment, data, innovation, hard system and flexible (soft) system.

The tool will identify the existing situation & priorities of main stakeholders that can influence the implementation of Mission Ocean's objectives, EcoDaLLi & existing projects / innovation actions in Danube River Basin.

The identified procedures will take account of general and local needs, defining from the above what actions are required, and develop a plan which will explain *who does what, when, where,* and *how* in different tasks of the project.

Actions in the implementation plan will include:

- Information on State of the Art;
- Design the right strategic questions;
- Engagement with stakeholders from local authorities, businesses, SMEs. communities and researchers.
- Data gathering and management.

The identification of needs, local potential, existing initiatives, and ambitions in the Danube River Basin will define the actions to be taken, according to EcoDaLLi's objectives, but also going beyond this project, so further proposals may be issued based on local and regional needs.

Additionally, knowing that a Living Lab typically goes through different phases, these will help testing the PLLS in a proper environment. The LL phases are: initiation, plan development, co-creative design, implementation, evaluation, refinement, dissemination, and replication.

These elements together create a system that supports sustainable innovation through participatory methods.

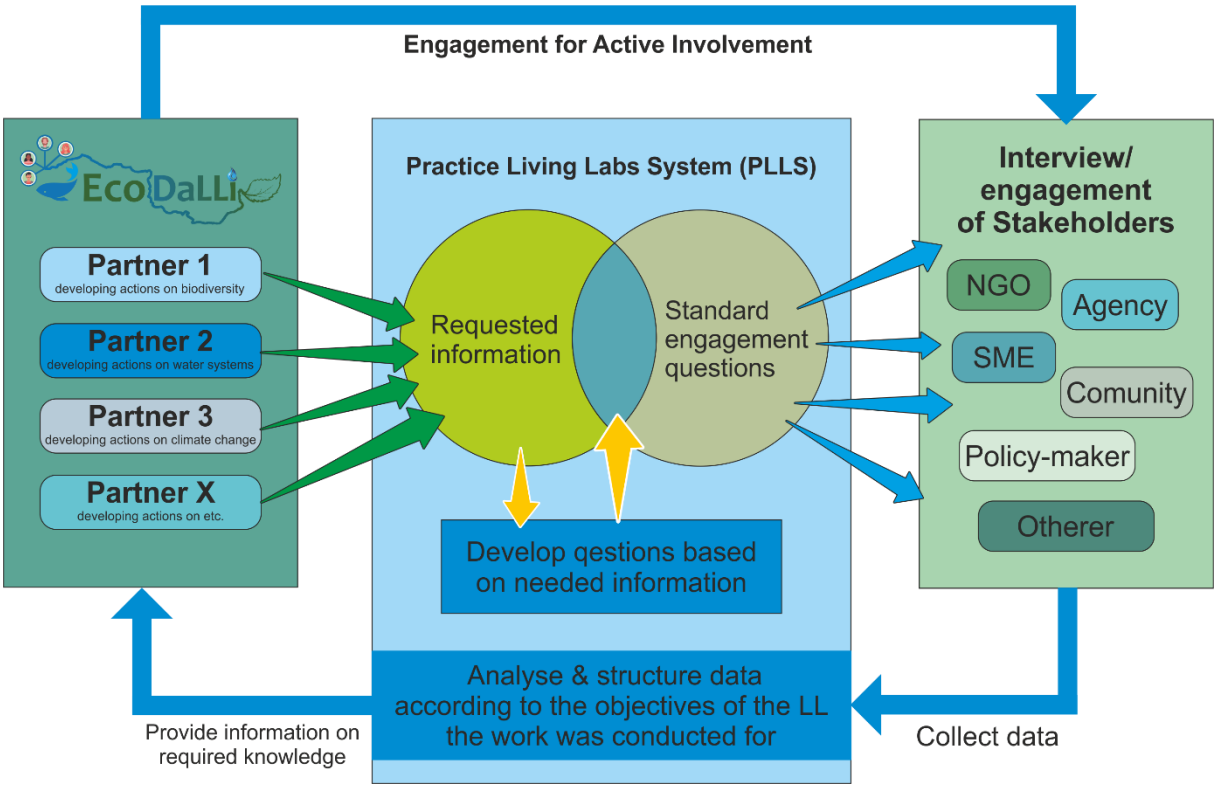

Fig.4 -The process on data collection (Source, SMS, June 2024)

Most of the data from the stakeholders will be collected using a questionnaire that can be completed online or in person (interview).

The form is part of an information system that uses a set of interrelated components that collects, processes, stores and distributers information to support in decision making, stakeholder assessment/ engagement, data dissemination and knowledge transfer. It will also facilitate the identification of programs & projects as enablers to strengthen the Danube governance.

This information system is based on 3 main activities that produce needed information for the project.

The 3 main activities are:

- **Inputting data**- this step captures and collects data organizations and communities from the external environment
- **The processing/analysis phase**- that will convert this raw input into a meaningful form
- **Output stage-** this is where the processed information gets transferred to the people using it in the project and also to support activities for which this data will be used and will include information on activities, programs & projects linked to the Mission's Objectives

A standard version of the questionnaire can be found by accessing the link below:

https://docs.google.com/forms/d/e/1FAIpQLScA9bWuV7jN3Po9issgf4LOQemid6fPxYD0Fcgog3Tv-7uGtw/viewform?usp=sharing

However, the questionnaire will be developed & updated depending on the type of stakeholder/ specific information required by the partners and the field of activity.