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INNOVATION AND GOVERNANCE IN FOOD SYSTEMS

WP1 setting the stage

Dr Vassilis Litskas, Researcher, VL Sustainability Metrics LTD

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21-23 MARCH 2025
BUCHAREST

Clubul Fermierilor Români
pentru agricultură performantă

bilbor

Overview

WP1 tasks and activities

- **Anchoring the project**

Literature review

Communities' needs assessment

Existing initiatives

Key findings

Environmental footprint

1. **Soil Testing and Monitoring**: Regular soil testing is essential for identifying contamination hotspots. Advanced geospatial mapping techniques and portable testing kits are increasingly being used to facilitate this process(Louiella Samaniego and Gallego, 2024).
2. **Phytoremediation**: This approach uses plants to extract or stabilize contaminants in the soil. For example, species like Indian mustard and sunflower are effective in removing heavy metals from soils (Otunola et al., 2022).
3. **Raised Beds and Imported Soil**: To avoid direct contact with contaminated soils, urban farmers often use raised beds filled with clean, imported soil. This practice is particularly effective for reducing exposure to contaminants like lead and arsenic (Salomon and Cavagnaro, 2022).
4. **Organic Matter Additions**: Compost and biochar amendments can reduce the bioavailability of heavy metals by binding contaminants to soil particles, thereby lowering the risk of plant uptake (Cataldo et al., 2021).

Challenges

1. Energy use (controlled env. systems)
2. Soil contamination
3. Water resources
4. Inputs

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Key findings – Literature review on UF

Governance and challenges for urban farming

- **Governance and policy frameworks.** Coordination between sectors like health, agriculture, and urban planning is often fragmented, resulting in inconsistent mandates that hinder cohesive urban farming strategies.

- **Socially, urban farming initiatives often strive to include vulnerable groups** such as migrants, women, youth, and the elderly. Interest in projects like community gardens may decline over time.

- **Urban farms frequently grapple with achieving financial sustainability,** especially when competing with conventional food systems. Developing viable business models that are specifically tailored to urban agriculture remains critical.

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Key findings

Governance and challenges for urban farming

- A itial and ongoing **investments in i** poses a significant barrier to s

- S robust policy support to promote p **ntegration into local markets**, which a

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Key findings

Literature review focusing on the project cities

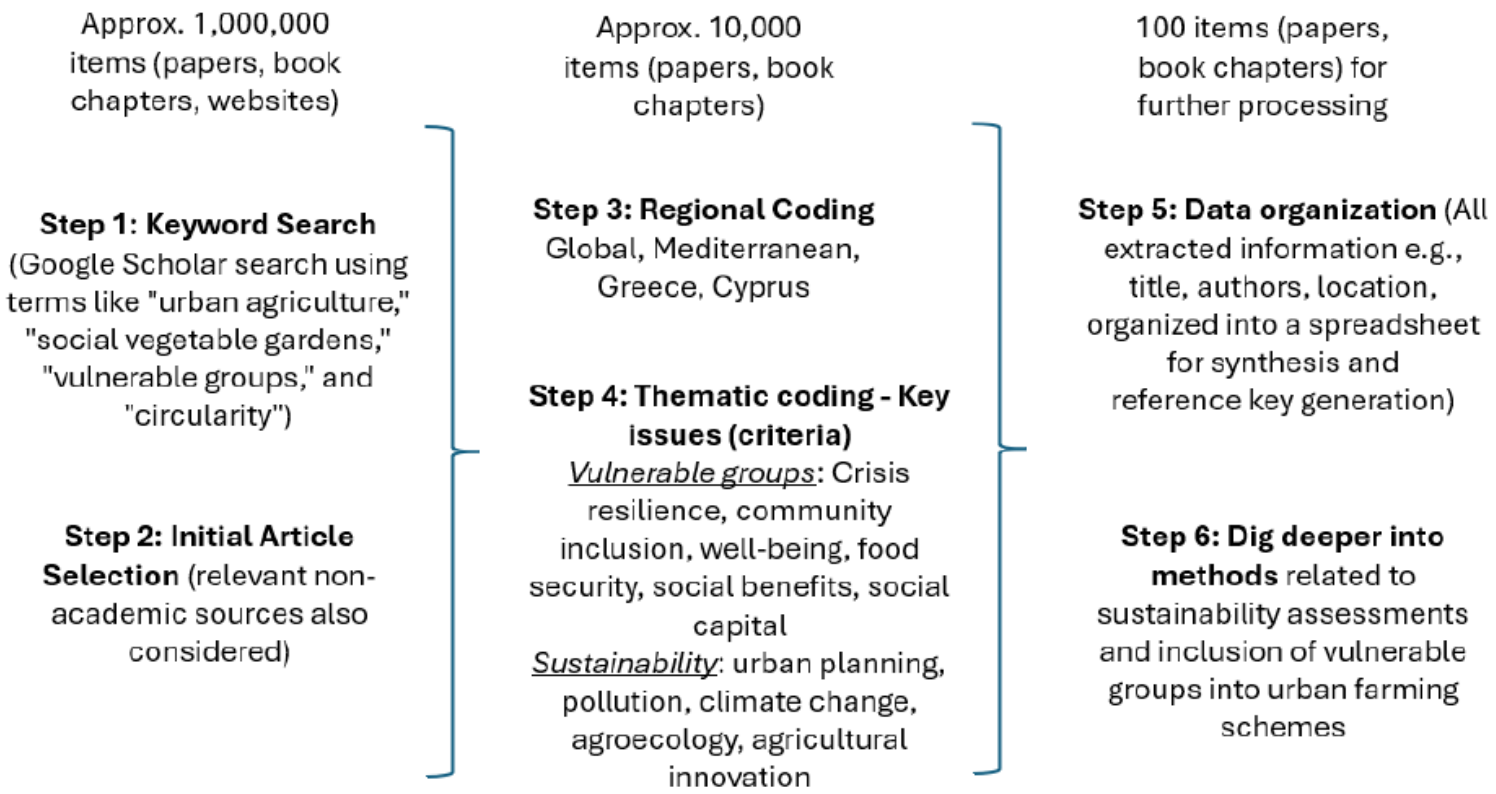

Figure 1. Steps related to the literature review

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Bibliometric study

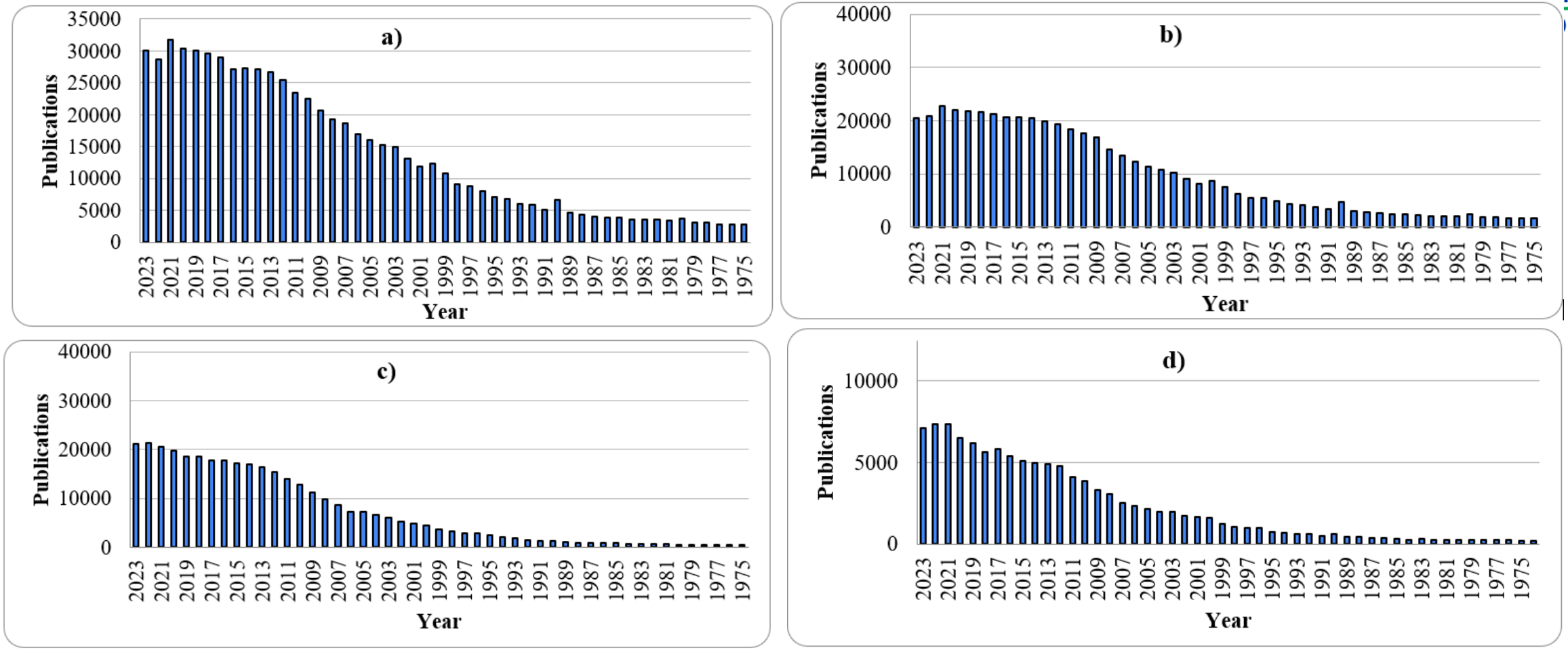

Figure 2. Number of publications for the keywords a) "vegetable garden", b) "social vegetable garden", c) "vegetable garden and sustainability" and d) "vegetable garden and Mediterranean"

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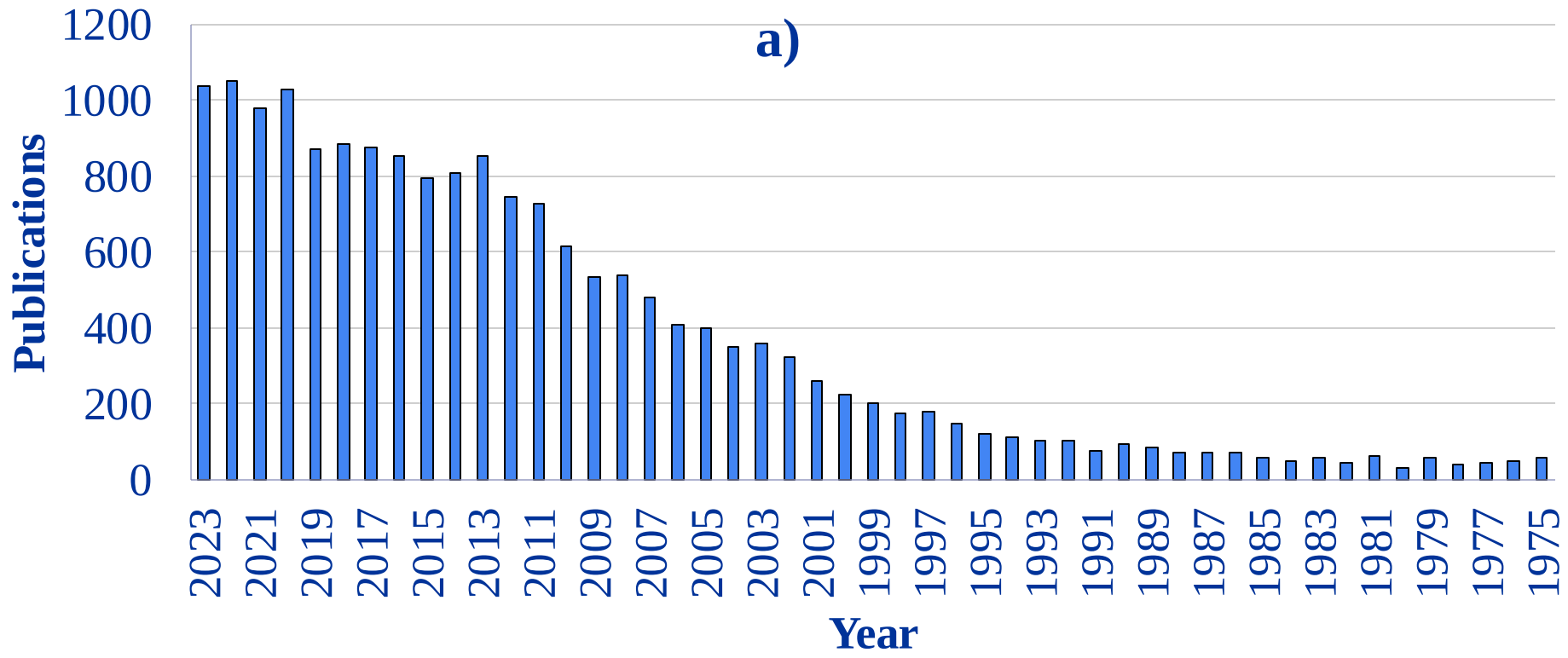
Vegetable gardens and Cyprus



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… Cyprus

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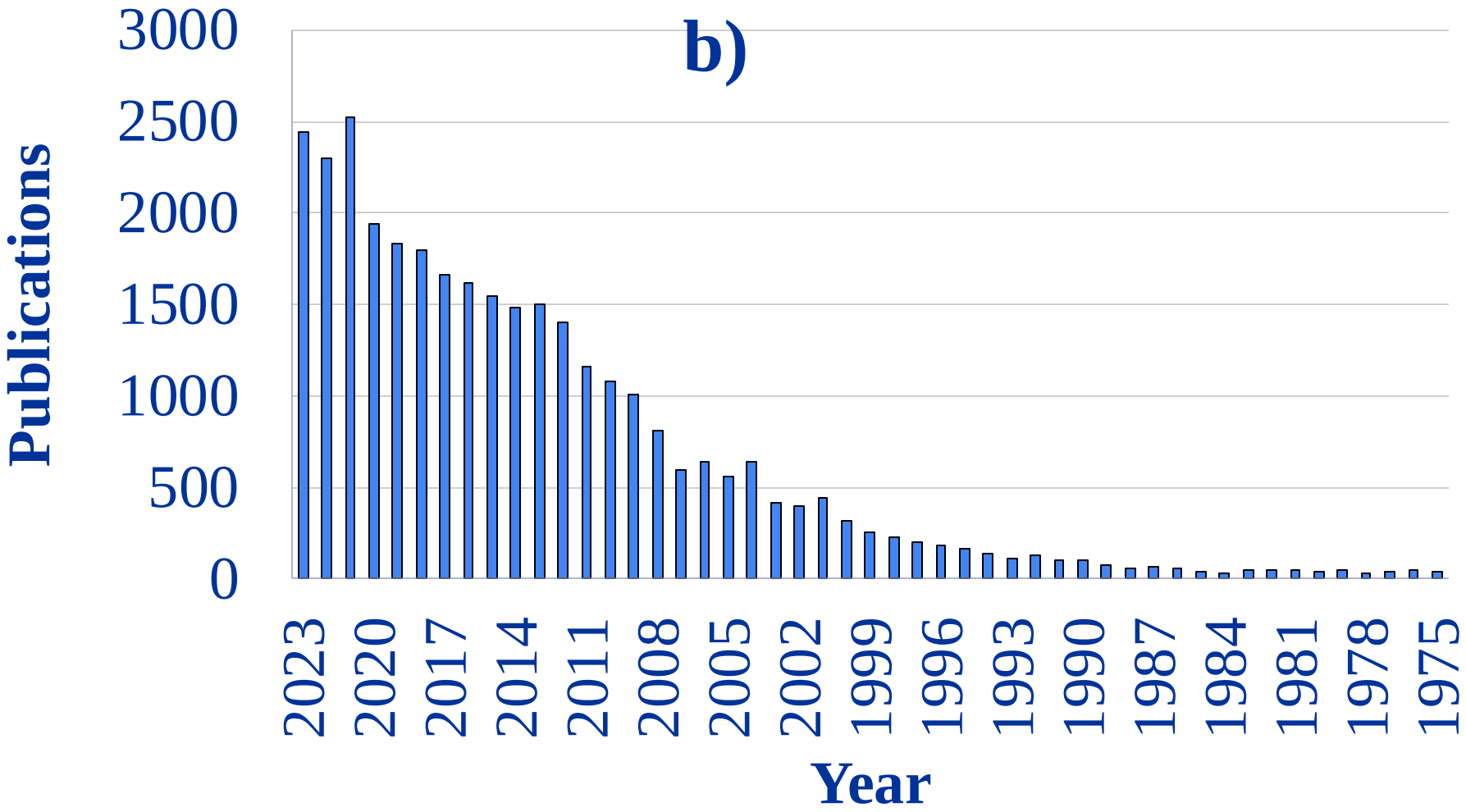
- In Cyprus, sustainability efforts have focused on **leveraging technology and improving agricultural resilience to climate change**.
- Studies on smart farming techniques using IoT technologies highlighted significant improvements in water and pesticide efficiency, reducing **irrigation needs** by up to 22% (Adamides et al., 2020). These advancements demonstrate the potential for technological innovation to transform traditional farming practices, particularly in water-scarce regions.
- Another key finding in Cyprus was the emphasis on **community-driven initiatives**, such as the "Gardens of the Future," which empower youth and marginalized groups through agro-entrepreneurship and environmental education.
- These projects integrate **sustainability goals with social inclusion**, fostering communal and educational spaces that inspire long-term resilience.

… Romania



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… Romania

- Research on Bucharest's pastoral practices demonstrated the contribution of urban agriculture to **short food supply chains**, **cultural heritage preservation, and land resource management**.

- **Food security and small farming.**

- However, conflicts with urban residents regarding health and aesthetics underline the need for adaptive measures (Grădinaru et al., 2018).

- Additionally, the **rapid conversion of agricultural land** into urban environments in Romania raises concerns about regulatory gaps that undermine sustainable land use and local food systems (Toma et al., 2021).

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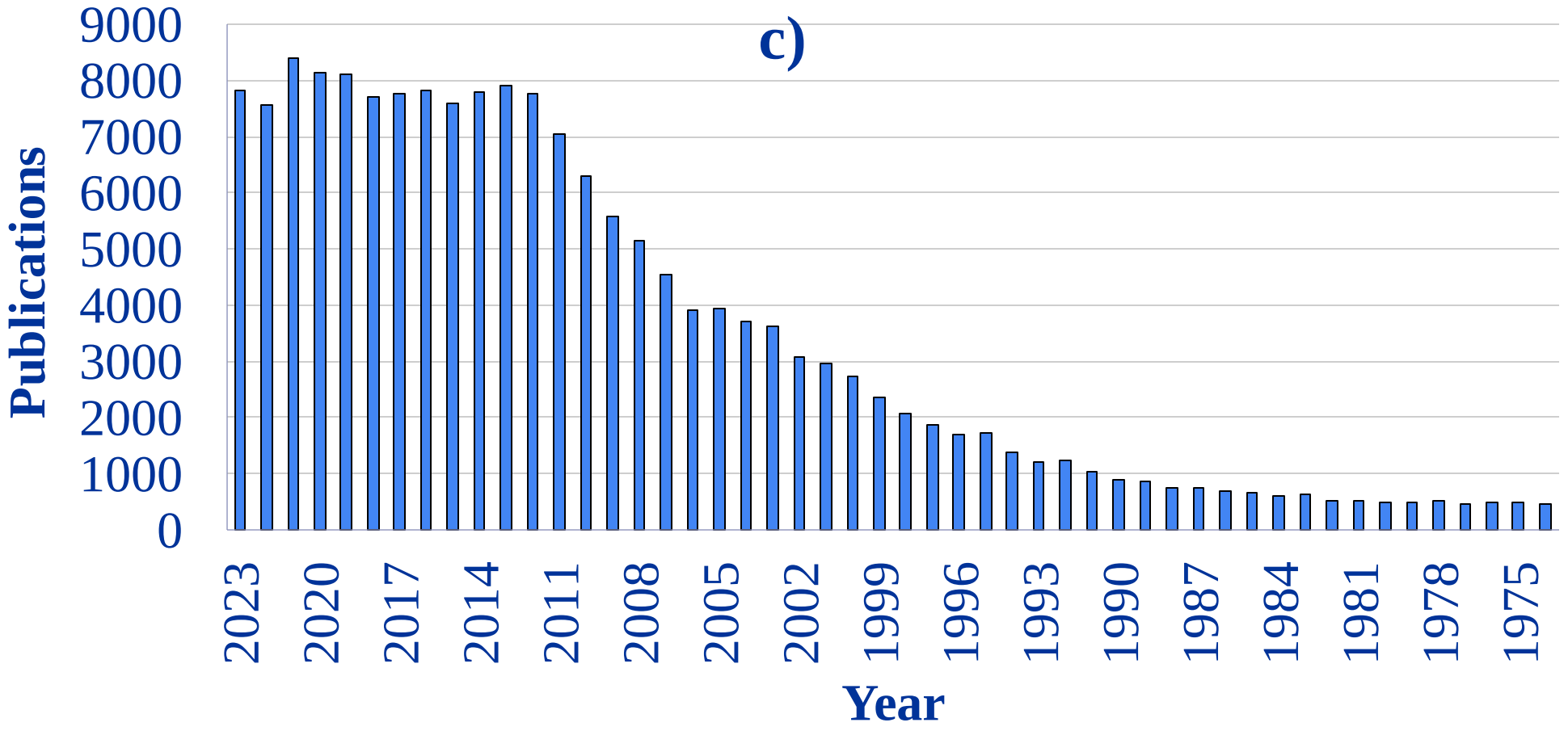
… Greece



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Greece

- In Greece, urban gardening has become a powerful tool **to address socio-economic challenges**, particularly following the 2008 economic crisis.

- Studies on urban allotment gardens revealed that these spaces **provide food security, alleviate urban poverty, and foster community resilience**.

- For instance, initiatives like **municipal vegetable gardens** helped vulnerable groups by combining social and ecological benefits while addressing food insecurity (Anthopoulou et al., 2017).

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Cross-Country Observations

The integration of vulnerable groups—such as

low-income families,

migrants, and

marginalized populations

was a recurring theme.

These studies highlighted the **socio-economic and psychological benefits** of urban and rural food initiatives.

Additionally, the importance of policy support and governance frameworks emerged as a shared need.

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Key features of the LLs

Strovolos - Cyprus

Social-economic information

- 16,7% of the population or 150.000 persons were At Risk Of Poverty or social Exclusion (AROPE indicator, the main indicator to monitor the EU 2030 target on poverty and social exclusion).

Health indicators

- Eurostat shows that 47.3% of the population in Cyprus over 16 years is listed as overweight (Eurostat, 2024).

Agriculture

- Agriculture's contribution to Cyprus's GDP is around 2.1% (2.8% of total employment), with a strong emphasis on niche, high-value crops and traditional products (e.g., potatoes, olives, grapes, carobs, citrus). The sector has seen recovery and growth post-economic crises, particularly with exports of specialized products like halloumi cheese, olive oil, and early-harvest potatoes.
- >90% small farms (<2ha) family-managed.

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Key features of the LLs

Strovolos - Cyprus

Policies

- **EU related** (These policies promote urban greenery, ecological paths, and green neighbourhoods, as well as public engagement in environmental practices).
- Allotment gardens and community gardening projects, particularly to counteract urbanization and support food security and social cohesion are not a priority.

Target groups

- Elderly (Open School of Strovolos)
- Migrants
- Mentally and physically challenged

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Work related to WP2 Strovolos

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Key features of the LLs

Bucharest

- **Peri-urban agriculture (Ilfov county)**
- **Undernourishment (Roma and poor) and obesity (bad food choices)** are of concern for a small part of the population (young children)
- Public Health issues related to water and food diseases
- Rapid decline (-20%) of the contribution of agriculture to the GDP during the last 20 yrs (approx. 4.7% on 2017)
- Urban farming initiatives in Romania are limited due to the presence of field agriculture near large cities.

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Key features of the LLs

Bucharest

- **Target groups**

Migrants (Arab countries, Moldova)

Elderly

Roma (67% in Ilfov County)

Poor population (Roma)

Unemployed

Mentally and physically challenged

Ukranians (they get financial support)

- **Key stakeholders**

- Agricultural Service Cooperatives (ASCs): In 2018, there were 1,425 registered agricultural cooperatives in Romania, although a significant portion did not submit financial statements, indicating potential issues with sustainability and activity levels.

- Public Funding Agencies (APIA and AFIR): The Agency for Payments and Intervention in Agriculture (APIA) and the Agency for Rural Investment Financing (AFIR) are two key public institutions providing financial support to the agricultural sector. These agencies play a vital role in increasing the number of new farmers and boosting agricultural entrepreneurial revenue.

- Research Institutions: Academy of Agricultural Sciences and other universities

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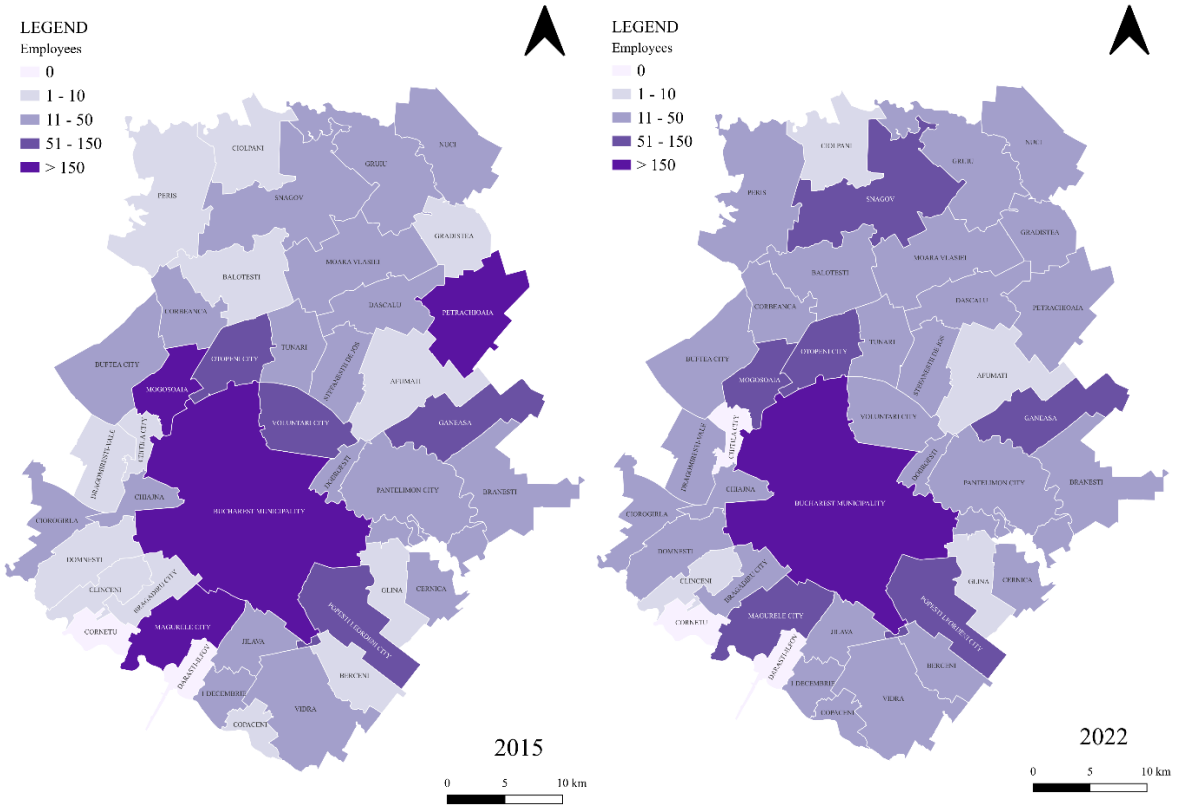
Key features for the LLs

Data rich report for the current situation in Bucharest and Ilfov (Annex)



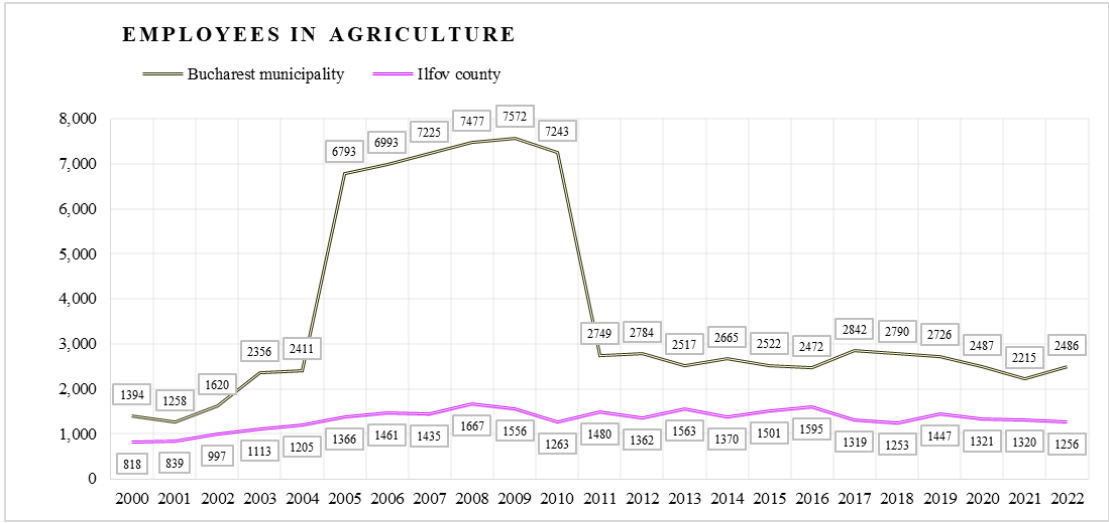


Figure S7. Distribution of the number of employees in agriculture in Ilfov County and Bucharest Municipality. Data source: UB project 1365

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Key features of the LLs

Drama

- For the city of Drama the range of unemployment during 2021 was 12.7 to 17.3 %.
- Low income population
- Agricultural products in the area (grapes, wine, potato)
- Urbanization and abandoning rural areas
- CAP (young generation farmers)

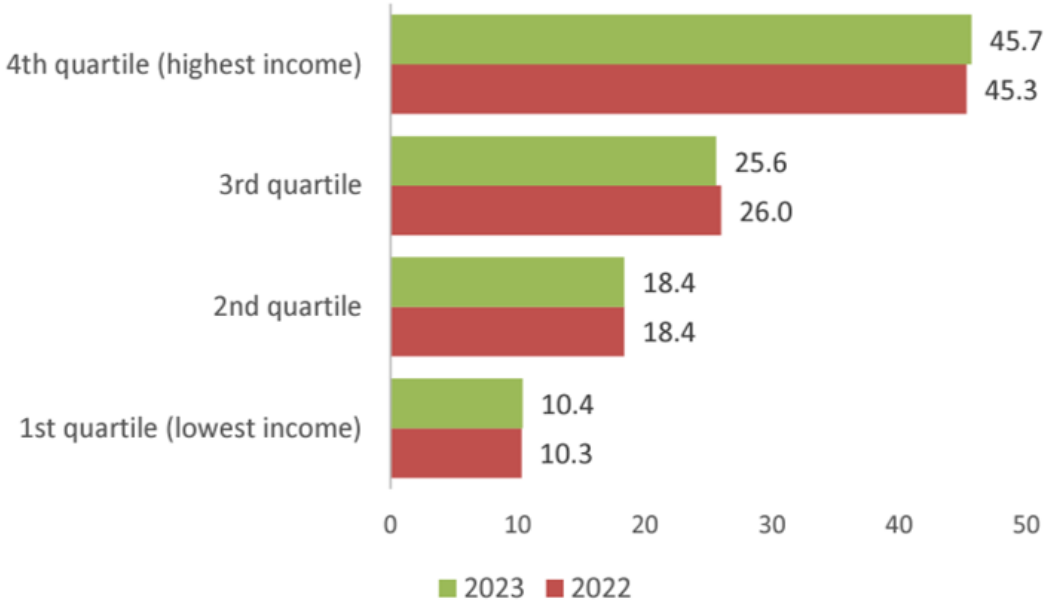

Figure 11. Distribution of income (%) by quartiles: 2022-2023

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Key features of the LLs

Drama

- Target groups
- Women and unemployed

- A focus on education and training

- Food supply chains (mainly Municipal Markets and Supermarkets)

The role of policy makers to optimize land and space for Living Labs for further implementing urban farming should:

- provide better access to municipality owned terrains and rooftops.
- mainstream application and rental procedures.
- provide incentives to urban gardeners such as free of charge or preferential prices to rent the land or the rooftop space; provide long-term rental contracts; better access to farmers' markets, etc.
- collaborate with innovators for the design of vertical gardens, hydro-and aquaponics in line with the lean and circular economy principles.
- communicate with citizens and work with schools, universities, hospitals, supermarkets and other stakeholders to promote multifunctional use of urban sites.

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Annexes

Database

Annex 1. Key research work

Reference: The DOI or web link is provided for easy access.
Objective/Research Focus: Briefly outlines what the study investigates, focusing on sustainable practices or systems relevant to urban or community food networks.
Methodology: The research methods used, such as case studies, qualitative interviews, surveys, or participatory action research.
Sustainability Themes: Core sustainability components, like circular economy, climate resilience, or community food systems.
Focus on Vulnerable Groups: Records whether the study specifically addresses marginalized populations (e.g., low-income, migrant groups).
Governance/Policy Implications: Captures any governance models or policy suggestions from the study.
Relevance to FEED4FOOD Goals: Documents any connections to FEED4FOOD's goals, such as community impact, empowerment, or best practices for Living Labs.

Reference +DOI	*Title*	*Country /Region*	*Objective/ Research Focus*	*Methodology*	*Key Findings*	*Sustainability Themes*	*Focus on Vulnerable Groups*	*Governance/ Policy Implications*	*Relevance to FEED4FOOD Goals*
Pascual & Guerra (2024) https://doi.org/10.3389/fsufs.2024.1359515	Territory in Urban Food Policies: The Case of Spain	Spain	Analyzes food policies in Spanish cities to understand their contributions to sustainable urban food systems	A systematic review of urban food policies across six cities	Found that territorial characteristics and local actor networks are essential for sustainable food strategies	Localized food systems, relational capital, and food network integration	Local food producers, low-income groups, and urban residents in need of sustainable food access	Highlights the need for local governance structures that integrate food and urban policies	Supports FEED4FOOD's goal to build localized food systems and engage community actors in urban food labs
Derviş Ali Özersoy & Fuller, Ö. Ö. (2016) https://www.researchgate.net	The Comparative Value of Edible Plants in Home Gardens of a Cypriot Rural	Cyprus	Examines the role of courtyard gardens in rural Mediterranean villages in	Explores traditional gardens in Karmi, Cyprus, identifying 16 herb species	Key herbs include rosemary, sage, and thyme, showcasing the importance of	Home gardens, Cultural heritage, Biodiversity, Sustainability as tradition,	Local production, diversity and integration, interdependent social culture.	Emphasizes the importance of local production for populations' sustainability consciousness	The subject of Home Gardens Supports Feed4Food's goal of sustainability

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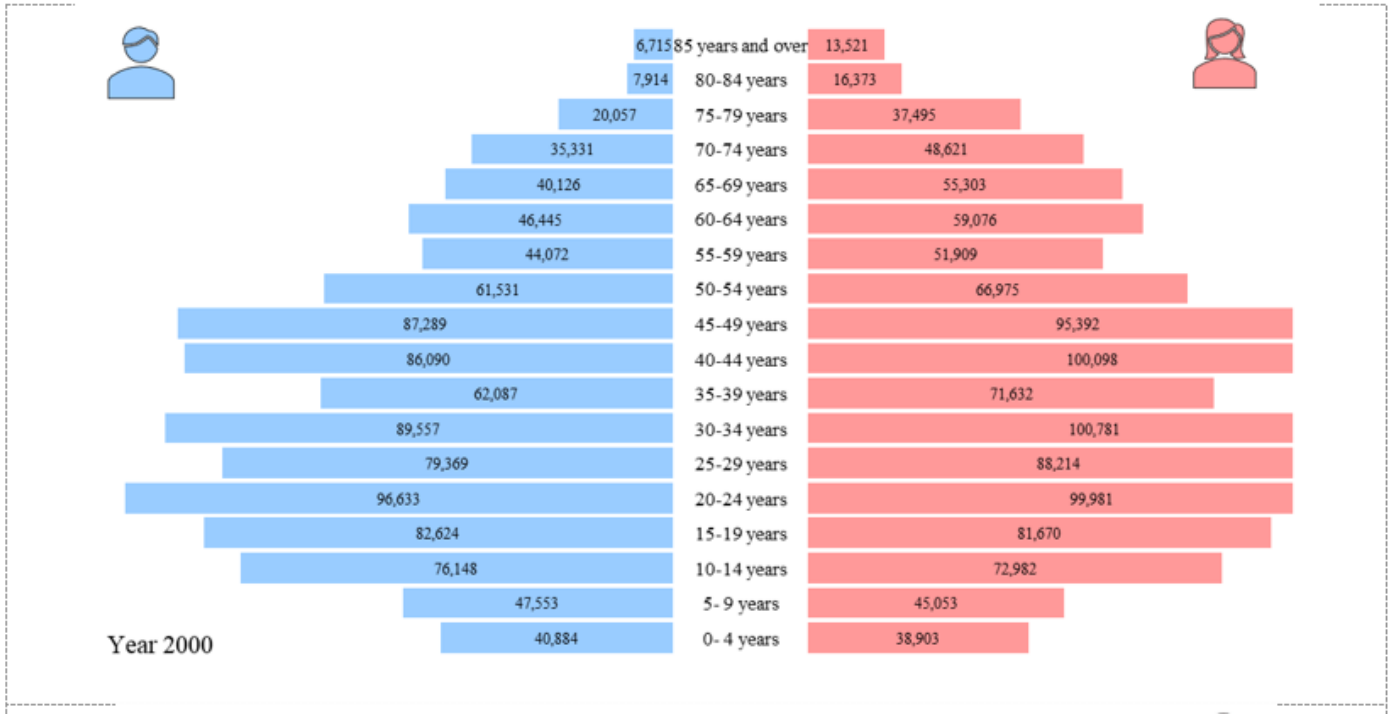
Annex 2. Supporting data for the LL in Bucharest

Annex 2. Supporting data for the LL in Bucharest

- ***Socioeconomic data***



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Deliverable

Setting the stage guidebook (v2.1)

Contents

Introduction to urban agriculture

Literature review on urban farming

- Focusing on the LL areas

The LL cities in detail

- Strovolos
- Bucharest
- Drama

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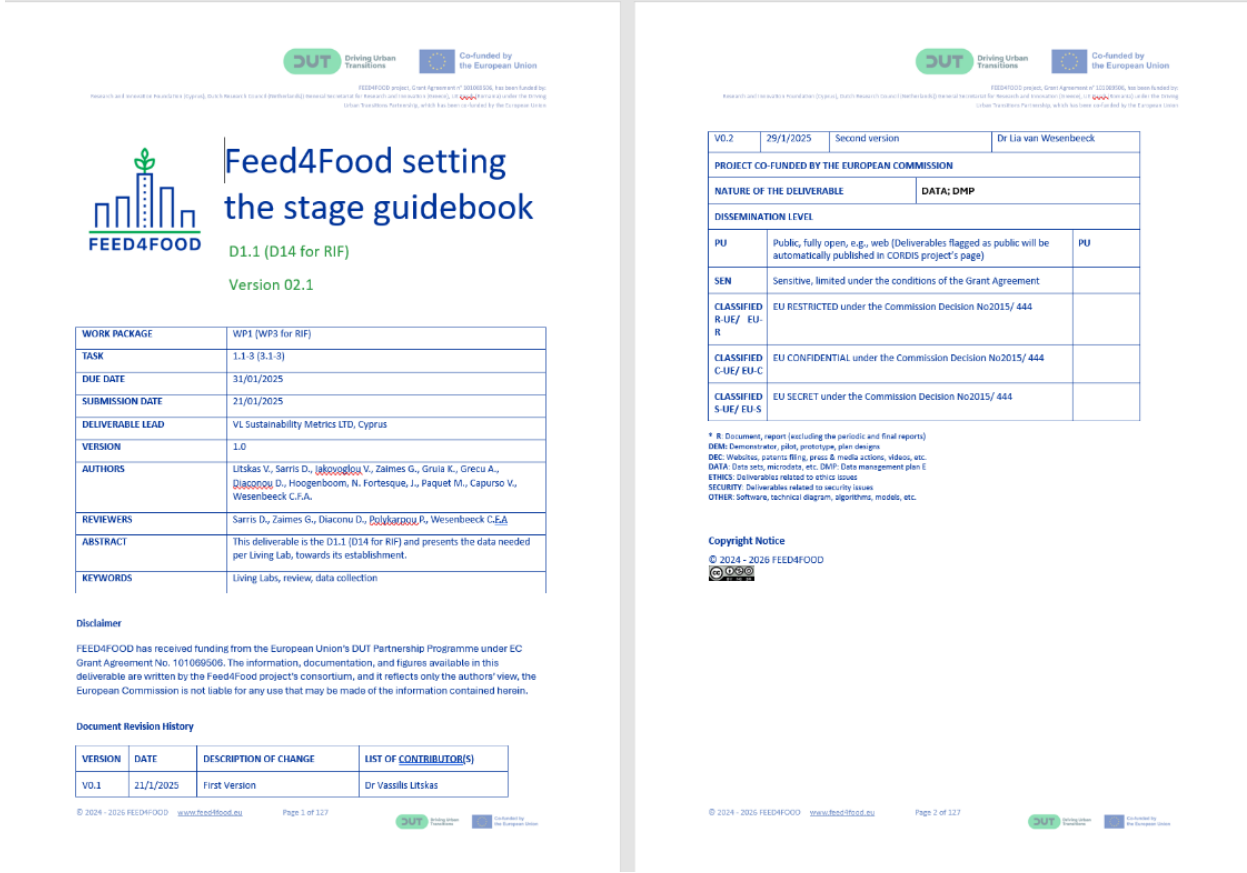
Annexes



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Feed4Food setting the stage guidebook

D1.1 (D14 for RIF)

Version 02.1

WORK PACKAGE	WP1 (WP3 for RIF)
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SUBMISSION DATE	21/01/2025
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AUTHORS	Litskas V., Sarris D., Iakovoglou V., Zaimes G., Gruia K., Grecu A., Diaconou D., Hoogenboom, N. Fortesque, J., Paquet M., Capurso V., Wesenbeeck C.F.A.
REVIEWERS	Sarris D., Zaimes G., Diaconu D., Polykarpou P., Wesenbeeck C.F.A
ABSTRACT	This deliverable is the D1.1 (D14 for RIF) and presents the data needed per Living Lab, towards its establishment.
KEYWORDS	Living Labs, review, data collection

Disclaimer

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Document Revision History

VERSION	DATE	DESCRIPTION OF CHANGE	LIST OF CONTRIBUTOR(S)
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V0.2	29/1/2025	Second version	Dr Lia van Wesenbeeck

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NATURE OF THE DELIVERABLE	DATA; DMP	
DISSEMINATION LEVEL		
PU	Public, fully open, e.g., web (Deliverables flagged as public will be automatically published in CORDIS project's page)	PU
SEN	Sensitive, limited under the conditions of the Grant Agreement	
CLASSIFIED R-UE/ EU-R	EU RESTRICTED under the Commission Decision No2015/ 444	
CLASSIFIED C-UE/ EU-C	EU CONFIDENTIAL under the Commission Decision No2015/ 444	
CLASSIFIED S-UE/ EU-S	EU SECRET under the Commission Decision No2015/ 444	

* R: Document, report (excluding the periodic and final reports)
DEM: Demonstrator, pilot, prototype, plan designs
DEC: Websites, patents filing, press & media actions, videos, etc.
DATA: Data sets, microdata, etc. DMP: Data management plan E
ETHICS: Deliverables related to ethics issues
SECURITY: Deliverables related to security issues
OTHER: Software, technical diagram, algorithms, models, etc.

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