FOODLEVERS

Leverage Points for Organic and Sustainable Food Systems

Transnational Research Project

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FOODLEVERS – Basic Facts

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- „Leverage Points for Organic and Sustainable Food Systems“
- One of 12 research projects funded under the **joint call of ERA-NET SUSFOOD2 and CORE Organic „Towards Sustainable and Organic Food Systems“**
- Project Duration: **3 years** (December 2020- Nov. 2023)
- Transnational: 9 Partners, 7 countries
- The authors acknowledge the **financial support** for this project provided by transnational funding bodies, **partners of the H2020 ERA-NETs SUSFOOD2 and CORE Organic Cofund**, under the Joint SUSFOOD2/CORE Organic Call 2019.

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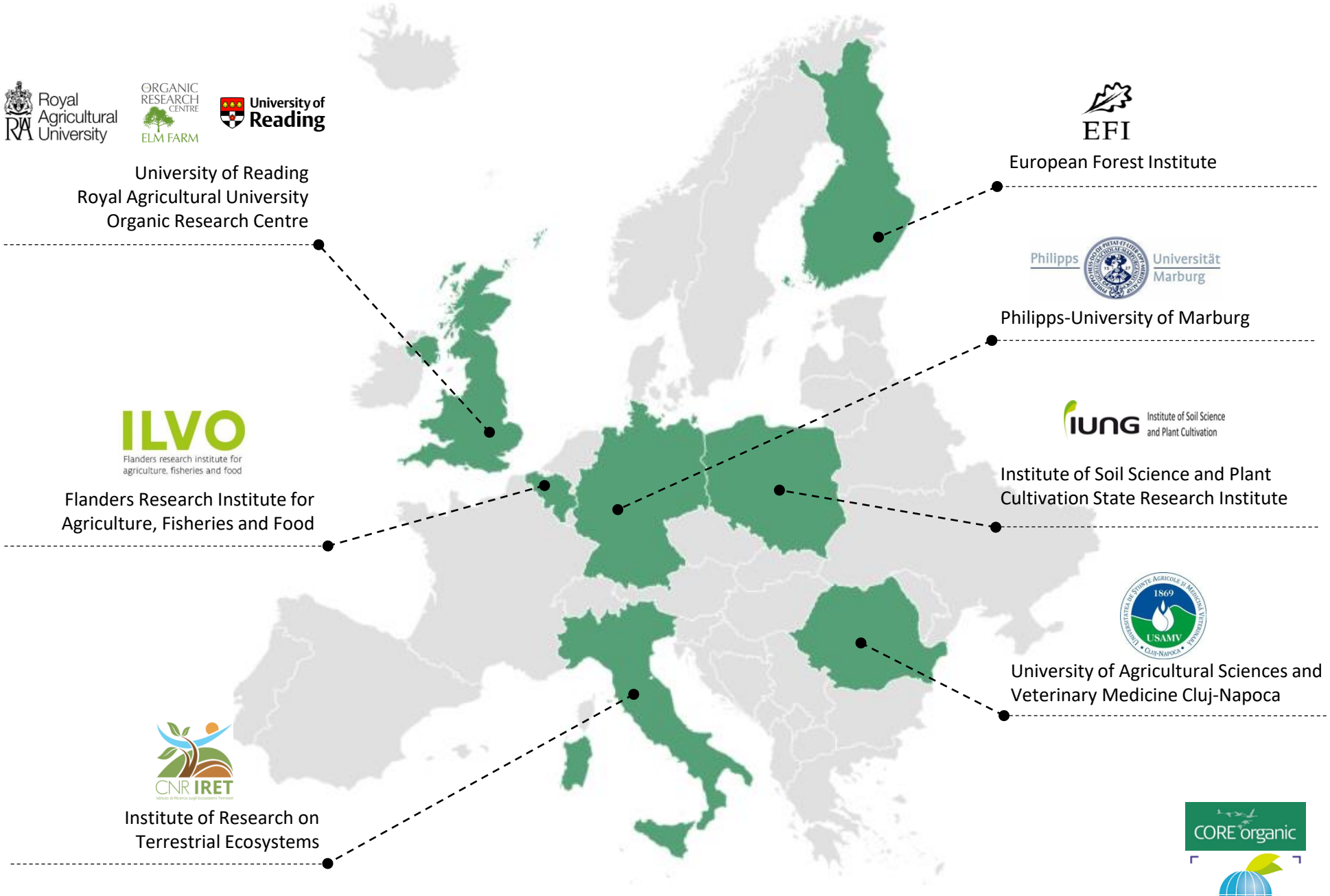
Project Consortium



University of Reading
Royal Agricultural University
Organic Research Centre

European Forest Institute

Philipps-University of Marburg

Flanders Research Institute for Agriculture, Fisheries and Food

Institute of Soil Science and Plant Cultivation State Research Institute

University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca

Institute of Research on Terrestrial Ecosystems

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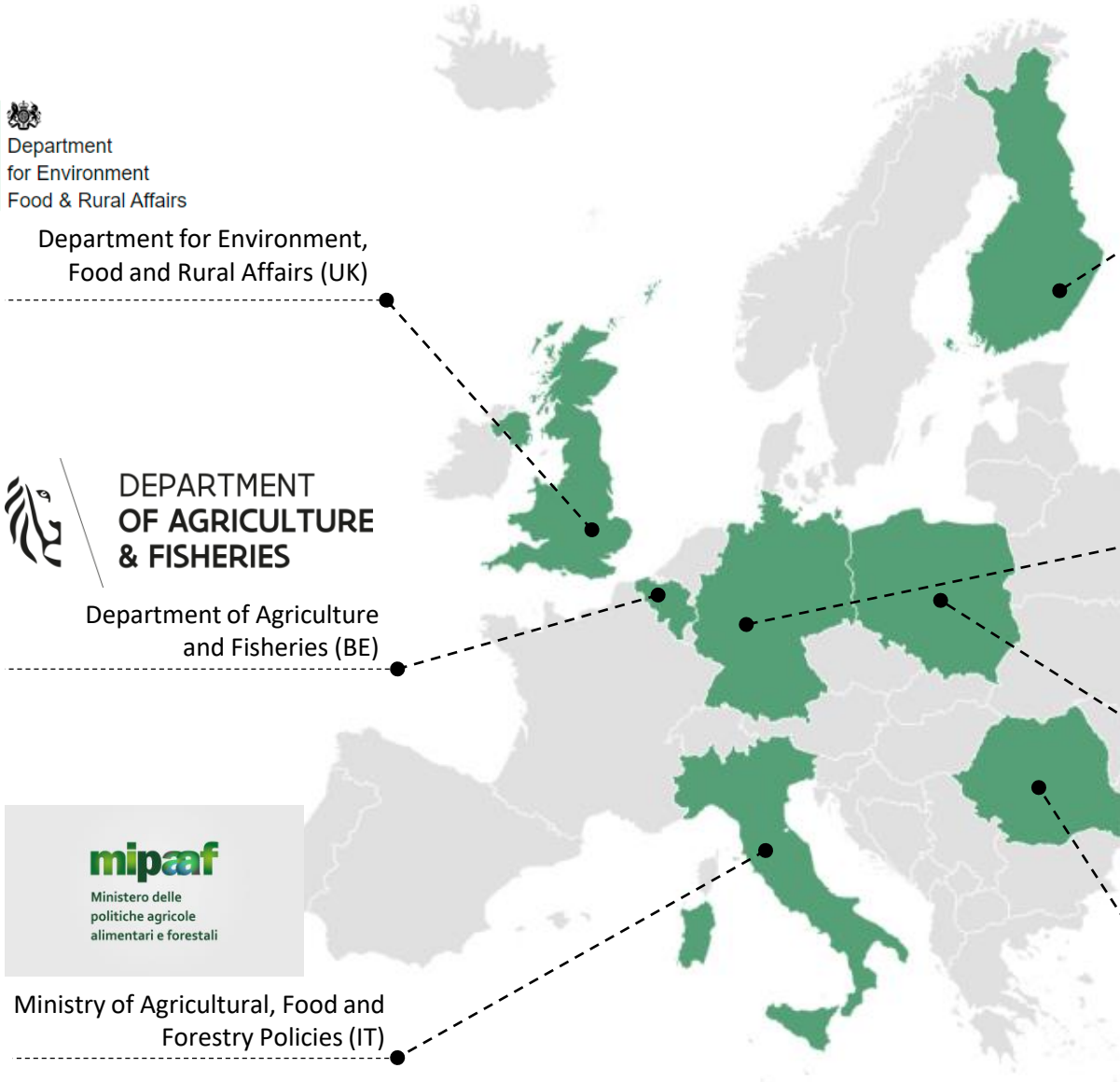
National Funding Bodies



Department for Environment, Food and Rural Affairs (UK)

Department of Agriculture and Fisheries (BE)

Ministry of Agricultural, Food and Forestry Policies (IT)

Finnish Ministry of Agriculture and Forestry (FI)

German Federal Ministry of Food and Agriculture, Federal Office for Agriculture and Food (DE)

National Centre for Research and Development (PL)

Executive Agency for Higher Education, Research, Development and Innovation Funding (RO)

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FOODLEVERS – What, How & Why?

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» **WHAT?** **identify "deep" leverage points to further develop and scale up organic and sustainable food systems** (referring to products, technologies and marketing practices) in order to promote higher resource-efficiency, highlight inefficiencies and specify the reasons for decision-making processes that led to the configuration of the food systems.

» **HOW?** by **applying a system's approach** and by **learning from innovation** through the analysis of several European case studies of innovative organic and sustainable food systems and the identification of best practice processes **from multiple perspectives of resource efficiency**: environment, economy, social and governance.

» **WHY?** food systems **continue** to move on **unsustainable trajectories** -> **need for transition** from the current linear food systems to **more circular systems**

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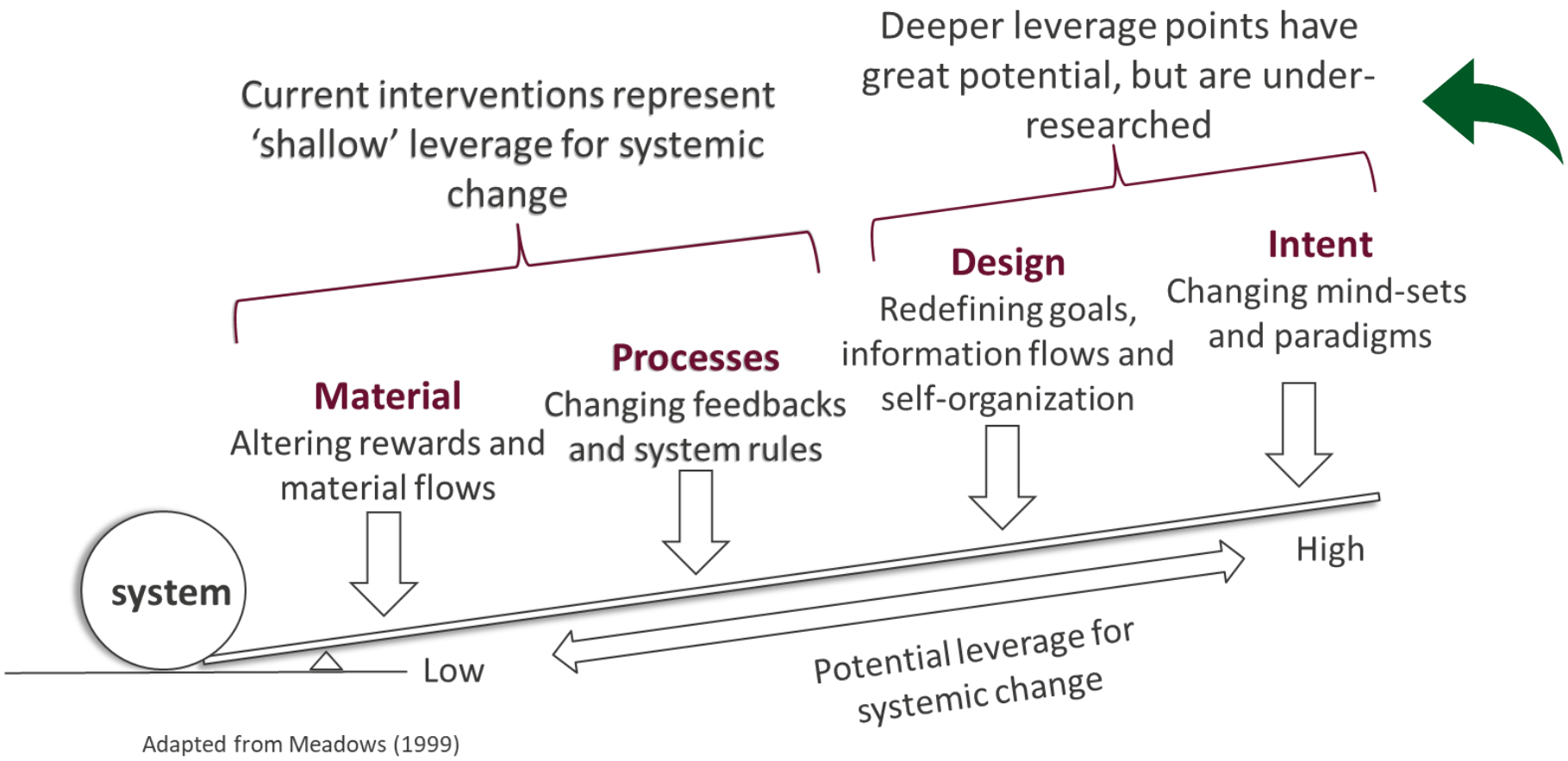
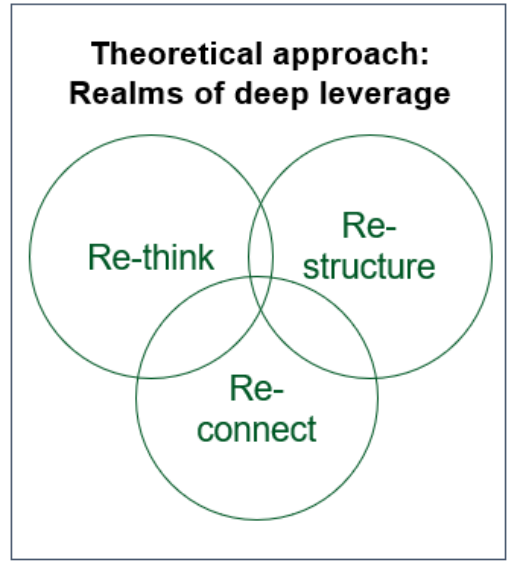
FOODLEVERS – Conceptual background



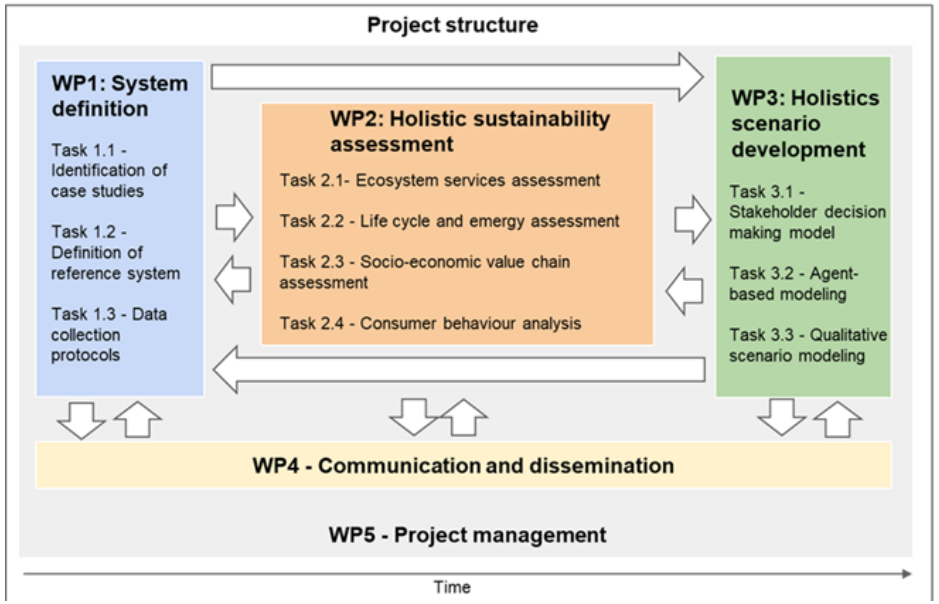
Adapted from Meadows (1999)



based on Abson et al. 2017

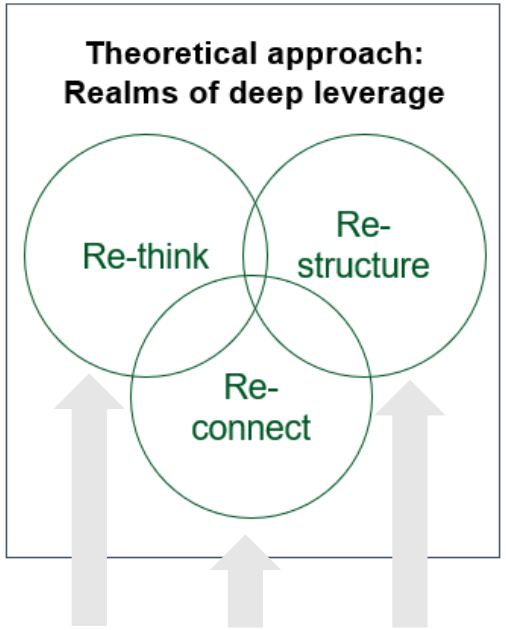
Leuphana University Lüneburg, Leverage Points for Sustainability Transformation

FOODLEVERS – Research approach



Central research question

What are the key leverage points to further develop and scale up existing innovative organic and sustainable food systems?



- **"re-connect"** people to nature to encourage sustainable behaviours
- **"re-structure"** institutions and consider how institutional dynamics can create an enabling environment for sustainability
- **"re-think"** how knowledge is created and used, shared and validated

based on Abson et al. 2017

Analytical dimensions

(A) Sustainability dimension
- Economic (incl. organisational)
- Social (incl. psychological)
- Ecological
- Governance/ institutional

(B) Actor/ stakeholder dimension (incl. relations)
- Farmers
- Processors
- Intermediaries
- Retailers
- Consumers

(C) Geographical dimension
- Scale (local, regional, national, supranational)
- Distance (incl. relational)
- Locus (different places)

(D) Temporal dimension
- Short term
- Medium term
- Long term

WP1: System Definition

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Objectives:

WP1 is aimed to build theoretical framework for the project and characterise organic Farming System (FS).

i) identify innovative organic / sustainable case studies **in all partner areas** (countries)

ii) present the analysis of the state of the knowledge on organic FS in those areas:

- define „typical"/"mainstream" reference organic FS **for each partner country**, based on FADN, and if possible country benchmarking data, data review and surveys in order to construct typical farm structures, practices and supply chains.

ii) develop a protocol for **collection of** quantitative and qualitative **data from innovative organic case studies**.

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WP1: Innovative Case Studies

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» 7 innovative organic and sustainable case studies

Farming systems covered:

- Biodynamic &/or mixed farming
- Silvopastoral systems with walnut & olive grazed by hens (agroforestry)
- Grass-fed organic and silvopastoral systems (agroforestry)
- Mushroom cultivation in forest farming
- Community-Supported Agriculture

Learning from innovations in Products, Production techniques, Marketing, Organisation and governance (OECD innovation categories):

- Methods of distribution (e.g. use of cargo bikes, food hubs, online platforms)
- Circular bioeconomy (using forestry side products for food production instead of bioenergy production)
- Collaboration with social facilities (providing organic meals & „healing garden“ to hospitals, develop cultivation plan in consultation with the hospital)
- …….

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WP2: Holistic sustainability assessment

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Objectives:

WP2 is aimed to develop and implement a methodological approach able to assess the sustainability of innovative food systems.

Since the sustainability assessment comprises different dimensions interlinked with each other, WP2 will adopt a multi-criteria approach:

i) Productive functionality to evaluate ecosystem services;

ii) Energy efficiency and environmental sustainability to assess value chain performances;

iii) Consumer behaviours to understand their decision-making processes.

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WP3: Holistic Scenario Development

Objectives:

Developing holistic scenarios in the identification of leverage points for sustainable Food Systems (FS) transformation.

Cases with the largest leverage potential and impact will be selected for further modelling and scenario evaluation, including

i) a stakeholder decision-making model using Fuzzy Cognitive Maps (FCM). FCM develops a behavioural model of the system exploiting the experience and knowledge of experts. This characterises the actors of the FS, to understand if/how innovations are present and absorbed.

ii) agent-based modelling (ABM) to investigate mechanisms and dynamics leading to a system change. This allows for simulation of different system settings to explore conditions for system state changes.

iii) qualitative scenario modelling (QSM) to develop future qualitative scenarios, through national scenario workshops with different stakeholders of FS and experts, to formulate future scenarios and boundaries for development of FS.

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