Compatibility of **A**gricultural Management Practices and **T**ypes of Farming in the EU to enhance **C**limate Change Mitigation and Soil **H**ealth

Catch-C

22-23 October 2012, Hein ten Berge

Photographs by Horst Steinmann and Luca Bechini

General project info

- **KBBE-2011-1.2-01. Sustainable management of agricultural soils in Europe for enhancing food and feed production and contributing to climate change mitigation**

- **January 1st 2012 – December 31st 2014**

- **12 partners in 8 countries**

- **Total cost 3.66 M€; EC contribution 2.96 M€**

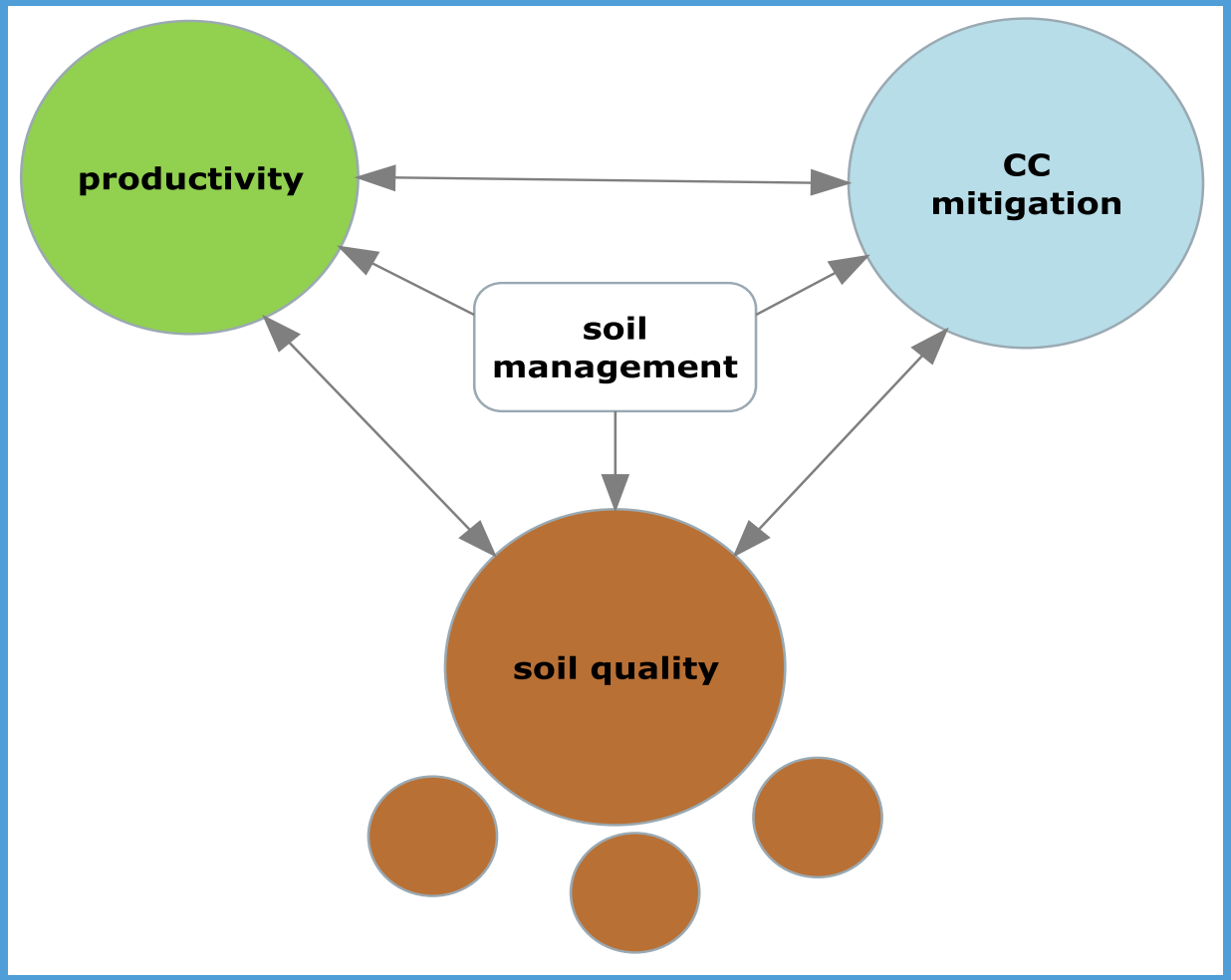
Overall aim:

*to **assess** and **improve farm compatibility***

of sustainable soil management practices

for productivity, CC-mitigation, and soil quality.

Goal variables



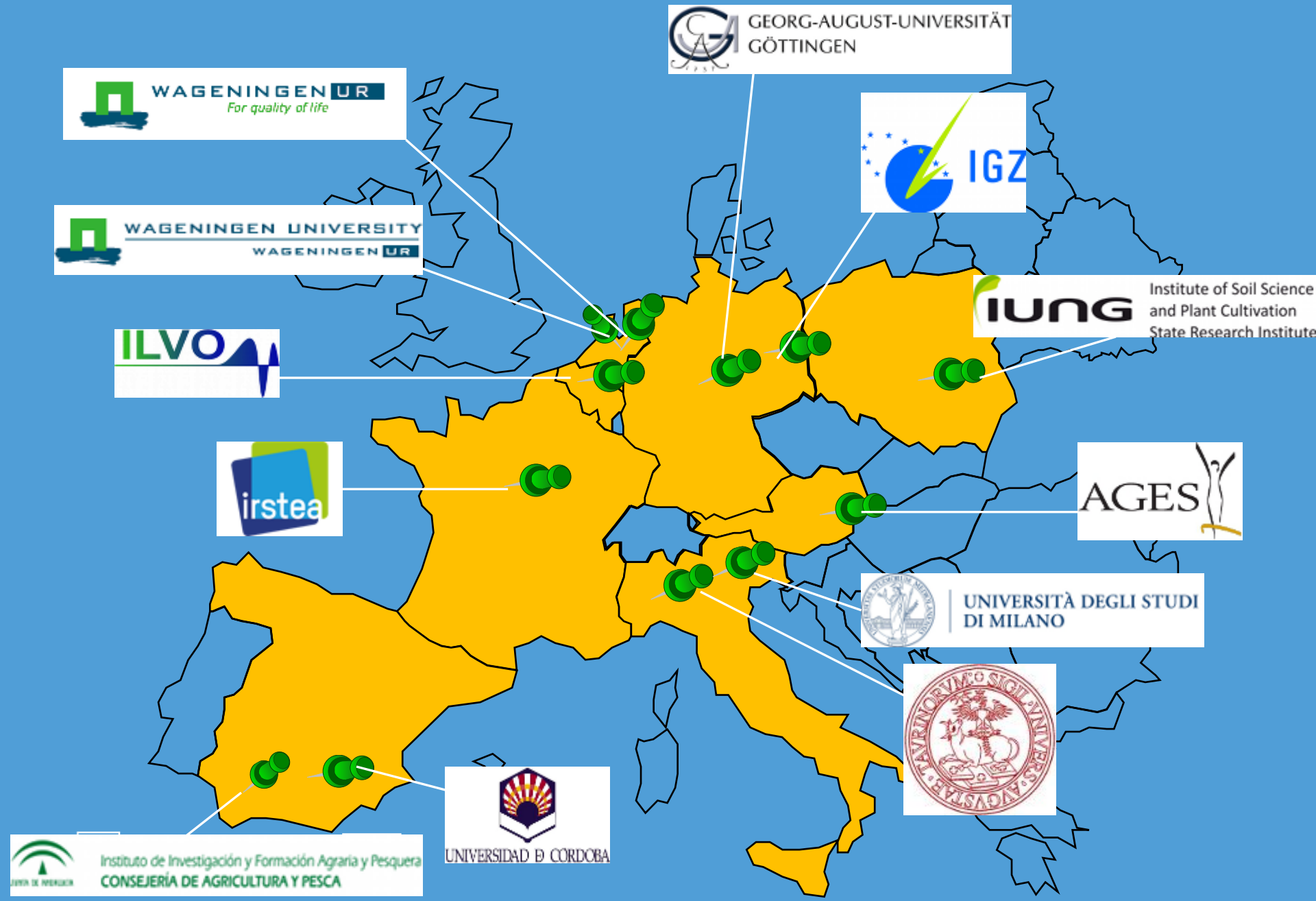
Specific Objectives

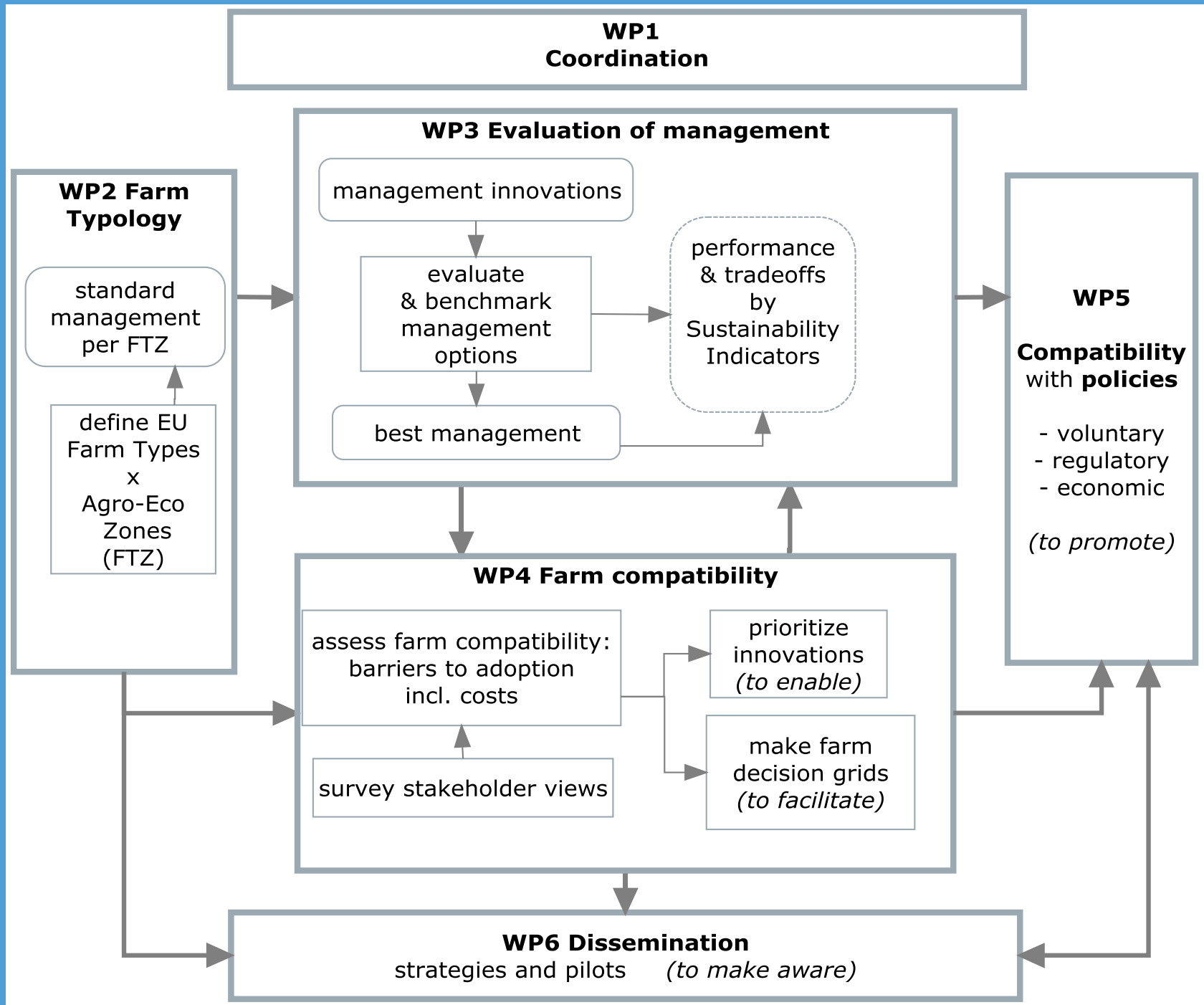
- identify **major farm types and agro-environmental zones** in partner countries
- assess **Current Management Practices** (CMPs) per farm type (as benchmark)
- assess shortlists of **Best Management Practices** per farm type
- consolidate **proof of benefits** that BMPs can bring
- estimate economic **costs of BMPs**
- **identify barriers** that prevent adoption of BMPs, given different contexts across Europe (soils, climate, farming systems, socio-eco conditions)

Specific Objectives (contd.)

- develop a **tool for farmers** to help select the BMPs for their specific case
- test and promote **innovations** to overcome barriers
- design strategies to **promote awareness** of the benefits from BMPs
- provide **guidelines** for soil-oriented **policies** (voluntary, regulatory and financial measures), consistent and compatible with policy instruments already effective at regional, national and EU level.

Partner countries




WP1
Coordination
WP3 Evaluation of management
management innovations
evaluate
& benchmark
management
options
best management
performance
& tradeoffs
by
Sustainability
Indicators
WP2 Farm
Typology
standard
management
per FTZ
define EU
Farm Types
x
Agro-Eco
Zones
(FTZ)
WP5
Compatibility
with policies
- voluntary
- regulatory
- economic
(to promote)
WP4 Farm compatibility
assess farm compatibility:
barriers to adoption
incl. costs
survey stakeholder views
prioritize
innovations
(to enable)
make farm
decision grids
(to facilitate)
WP6 Dissemination
strategies and pilots
(to make aware)

Some results

- Farm types x Agro-ecological zones (FTZ units)
- Inventory of Long Term Experiments (LTEs)
- Inventory of indicators to express management effects
- Preparations farmers surveys

Farm Typology * Agro-ecological zones

Climate zones ENZ 1-13, e.g.

- ENZ1 Alpine North
- ENZ2 Boreal
- ENZ4 Atlantic North
- ENZ12 Mediterranean North
- ENZ13 Mediterranean South

Slope classes

SL1 0^0
SL2 1^0
SL3 $2 - 3^0$
SL4 $4 - 7^0$
SL5 $8 - 90^0$

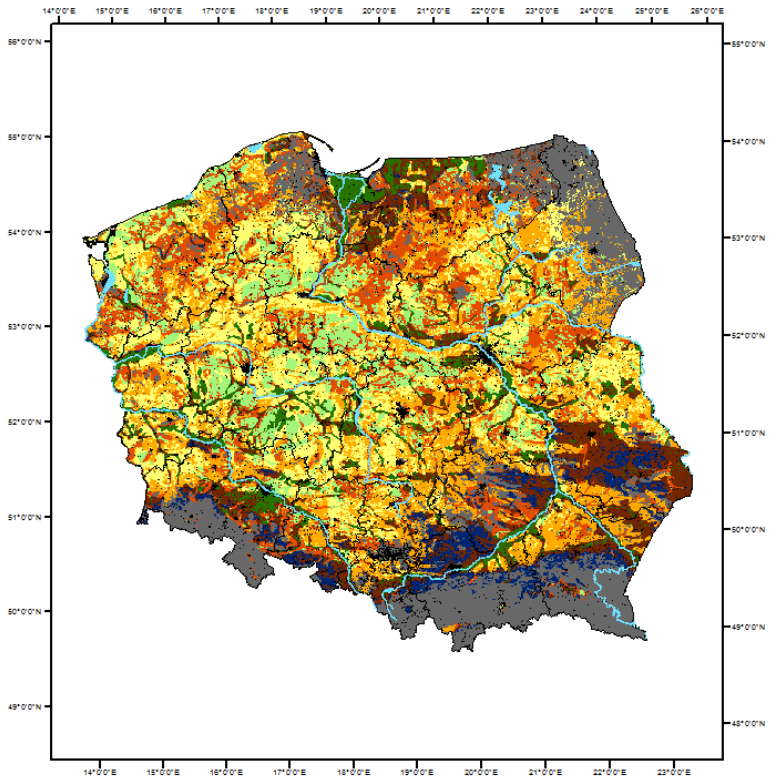
Texture classes

TXT 1-5 Coarse to Very fine

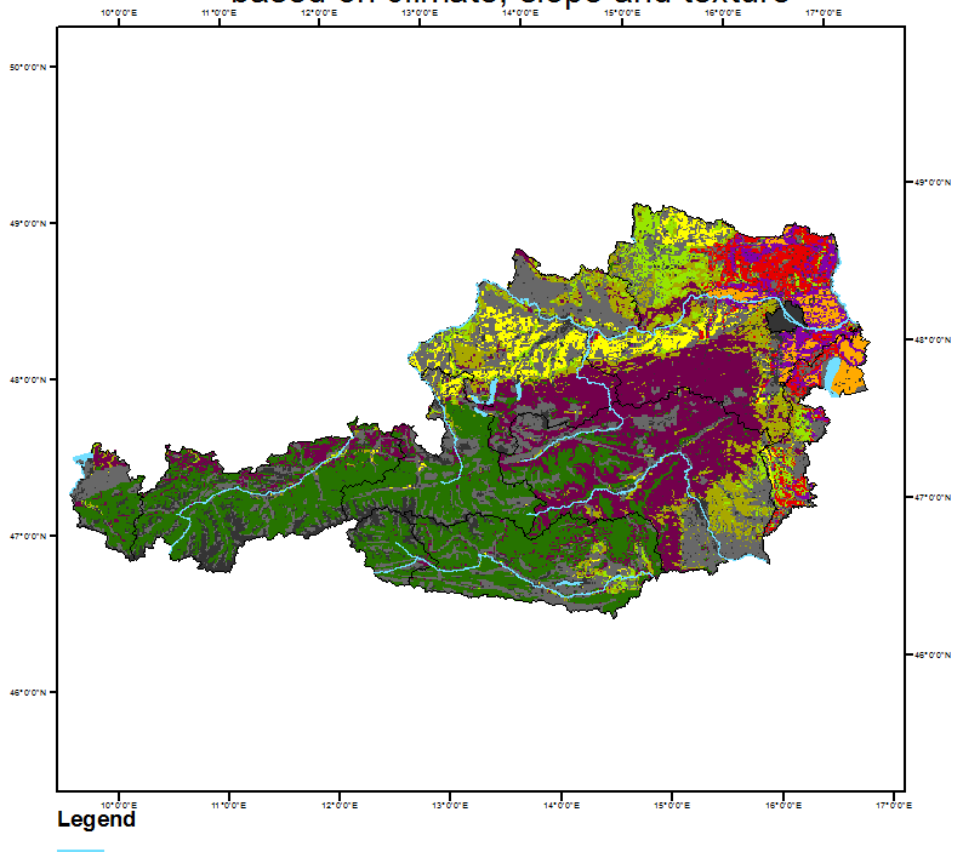
Example maps

of AEZs (unfinished) for superimposing farm types

Poland: Large agri-environmental zones based on climate, slope and texture



Austria: Large agri-environmental zones based on climate, slope and texture



Land use and specialisation

Arable/ cereal

Arable/ fallow
Arable/ specialised crops
Arable/ others
Dairy cattle/ Permanent grass
Dairy cattle/ Temporary grass
Dairy cattle/Land independent
Dairy cattle/ other
Beef and mixed cattle/ Permanent grass
Beef and mixed cattle/ Temporary grass
Beef and mixed cattle/ Land independent
Beef and mixed cattle/ land-based
Sheep and goats/ land independent

Sheep and goats/land-based
Pigs/ Land independent
Pigs/ land-based
Poultry and mixed pigs & poultry
Mixed farms
Mixed livestock
Horticulture
Permanent crops

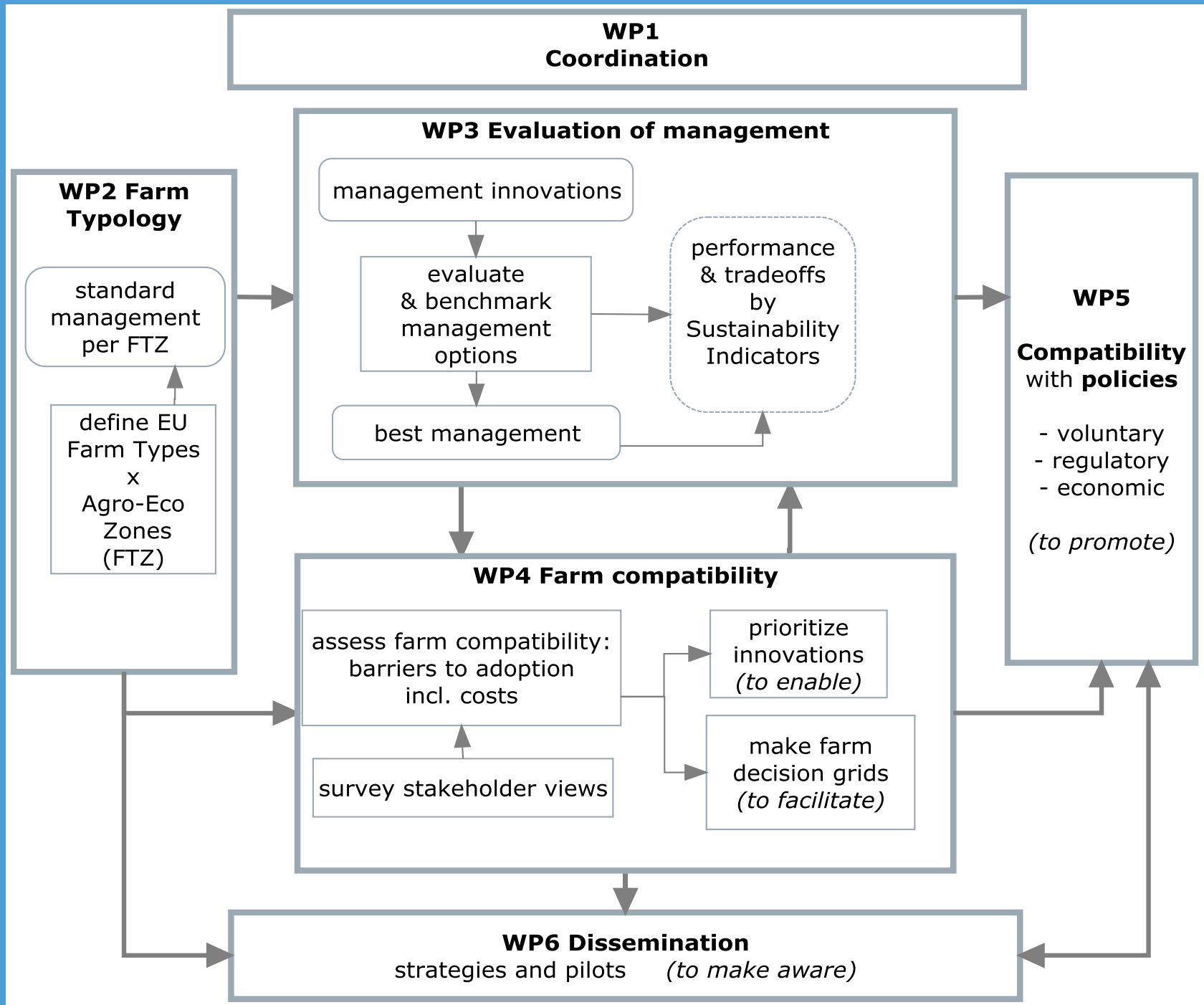
AEZ (Austria)	Land use and specialisation	Percentage of farm area in AEZ
ENZ5_SL5_TXT2	Dairy cattle/Permanent grass	66.4%
	Beef and mixed cattle/Permanent grass	27.3%
total farm area (1000 ha) 364.42	Sheep and goats/Others	3.3%
	Mixed livestock	0.9%
	Dairy cattle/Others	0.6%
	Beef and mixed cattle/Others	0.5%
	Poultry and mixed pigs/poultry	0.4%
ENZ6_SL5_TXT2	Dairy cattle/Permanent grass	57.8%
	Beef and mixed cattle/Permanent grass	21.0%
total farm area (1000 ha) 248.36	Dairy cattle/Others	6.4%
	Mixed farms	3.8%
	Sheep and goats/Others	3.0%
	Beef and mixed cattle/Others	2.8%
	Mixed livestock	2.2%

Effects of management practices

- List of 26 LTE's owned by partners
- List of 74 indicators for productivity, climate change mitigation, and soil quality (biological, chemical, physical & conservation)
- Building literature datase (by region)
- Meta-data on LTE's (own and literature)

Farmer surveys

- All partner countries
- Interviews (qualitative) farmers, advisors
- Questionnaires (quantitative)
- Aiming at 100 respondents per major farm type per country
- Assess farmer views on current and alternative management practices; attitude, perceived likelihood of outcomes (risks); control factors.
- Follow up by Focus groups
- Develop farmer decision-tool and compatibility frame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Thank you for your attention