KBBE.2011.1.4-06

Towards land management of tomorrow - Innovative forms of mixed farming for optimized use of energy and nutrients

THE CANTOGETHER PROJECT

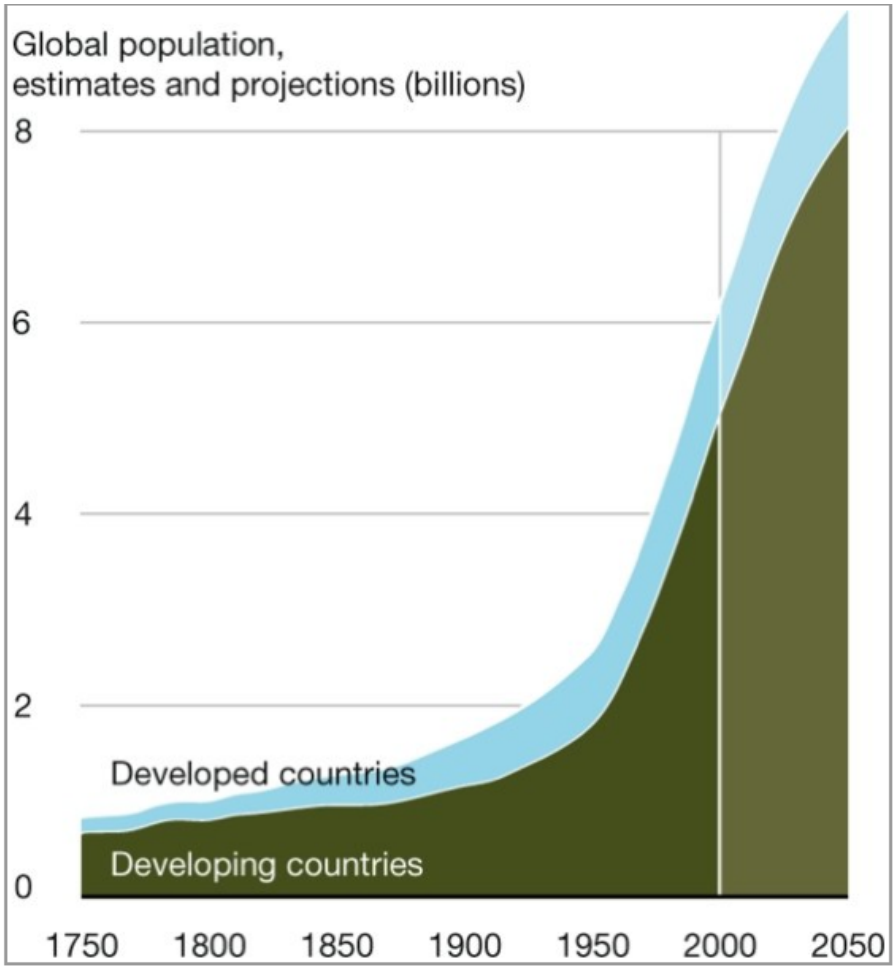
http://www.fp7cantogether.eu/

P LETERME
Project Coordinator

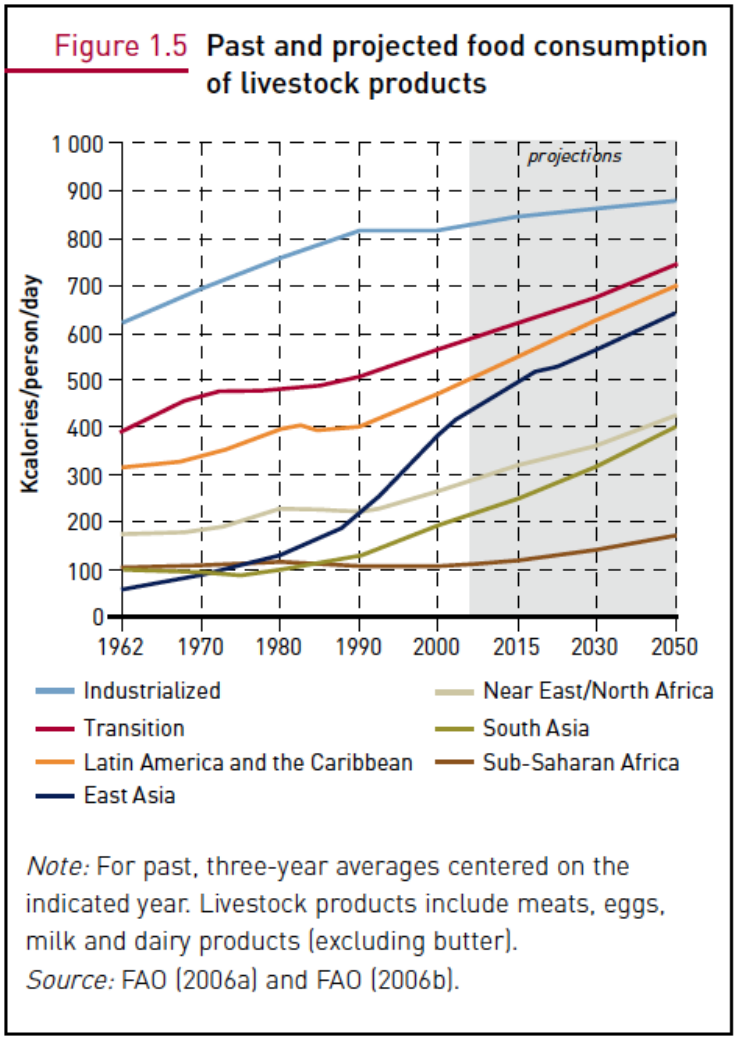
INEMAD Kick-off meeting, Gent April 12th

CONTEXT AND CHALLENGES

An increasing and changing food demand



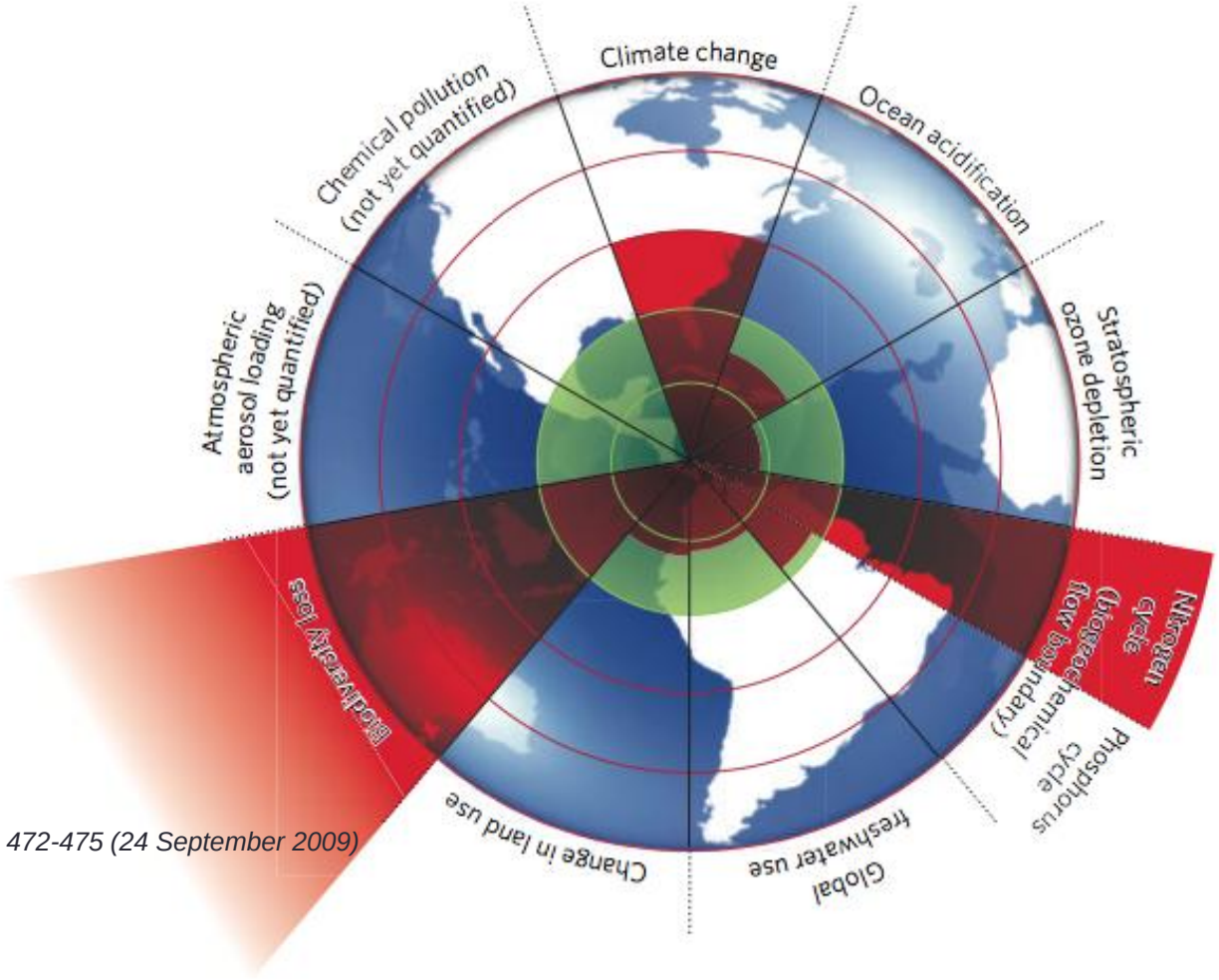
http://maps.grida.no/go/graphic/trends-in-population-developed-and-developing-countries-1750-2050-estimates-and-projections



FAO 2006 Livestock's long shadow

→ **World has to produce more... and Europe has to participate to this effort...but not in just any old way!**

State of the environment

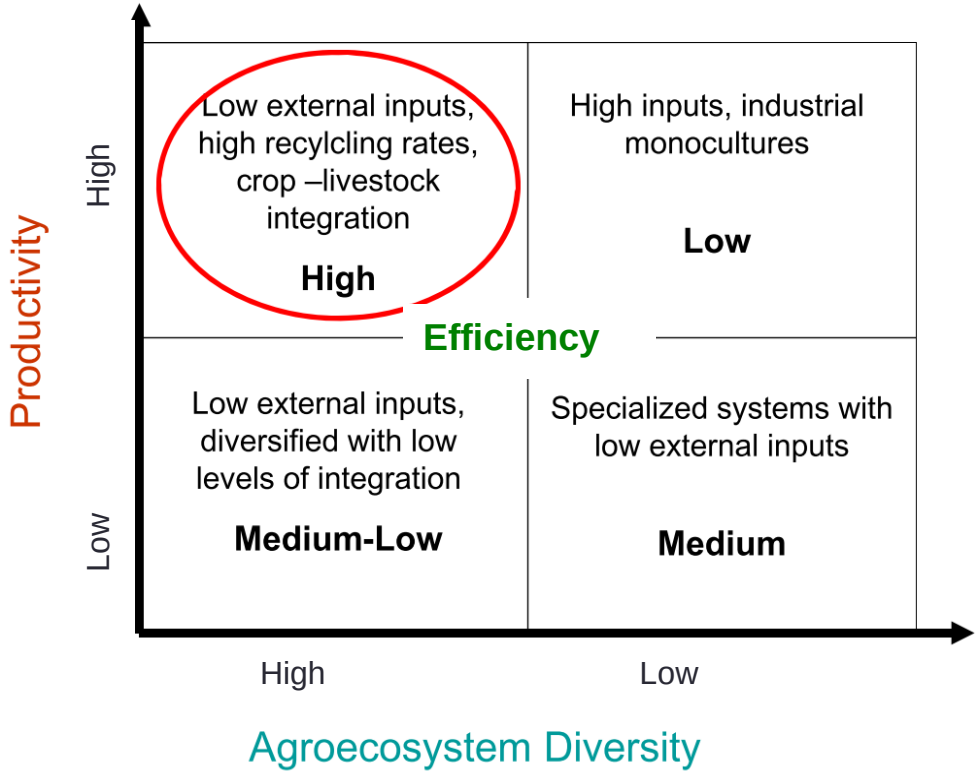


*Rockström et al. Nature **461**, 472-475 (24 September 2009)*

Figure 1 | Beyond the boundary. The inner green shading represents the proposed safe operating space for nine planetary systems. The red wedges represent an estimate of the current position for each variable. The boundaries in three systems (rate of biodiversity loss, climate change and human interference with the nitrogen cycle), have already been exceeded.

➔ Agriculture must change... How ?

Towards more diversity



ALTIERI MA, 2012 - Agroecology, resilience and food sovereignity. (conf INRA)

The diversity of agricultural systems is a potential asset, **in particular systems mixing livestock and crops**

CANTOGETHER

MAIN GOAL

- conceive, evaluate and promote new **mixed-crop livestock systems** (MFS) at farm, district, and landscape levels to optimise energy, carbon and nutrient flows, to conserve natural resources and to maximise production.

- associate **all the concerned actors** in Europe: farmers and extension services, policy-makers, feed industry, supply chains, consumers, researchers, nature conservation groups etc.

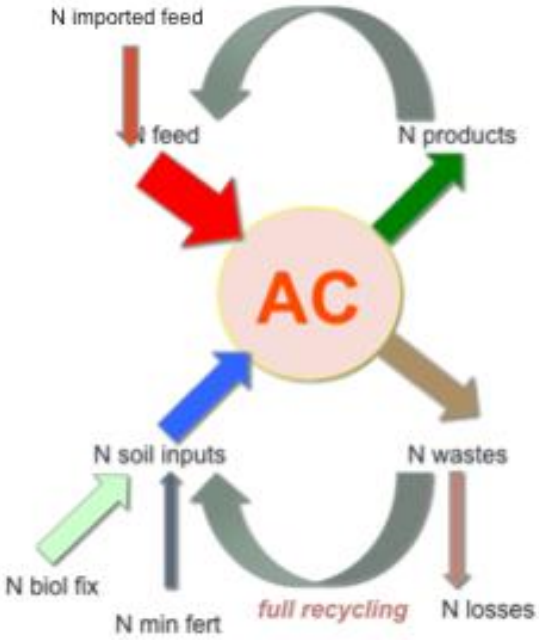
OBJECTIVES

1. **Identify** new combinations of agronomic and livestock practices
2. **Design** innovative MFS for the different European soil and climate zones and socioeconomic contexts
3. **Test** innovative combination of agronomic and livestock practices and new MFS
4. **Assess** the environmental, economic and social viability of the most promising innovative mixed strategies
5. **Promote** the development of MFS
6. **Disseminate** innovations

EXPECTED IMPACTS

Alleviate environmental problems in crop and livestock production

- Minimising reliance on external inputs



- Prepare agriculture for a greenhouse gas mitigation role
- Boost the role of MFS in landscape protection

EXPECTED IMPACTS

Reinforcing agriculture competitiveness and acceptability

Easier implementation of EU policies and initiatives

Principles to elaborate a new CAP

KEY CANTOGETHER FEATURES

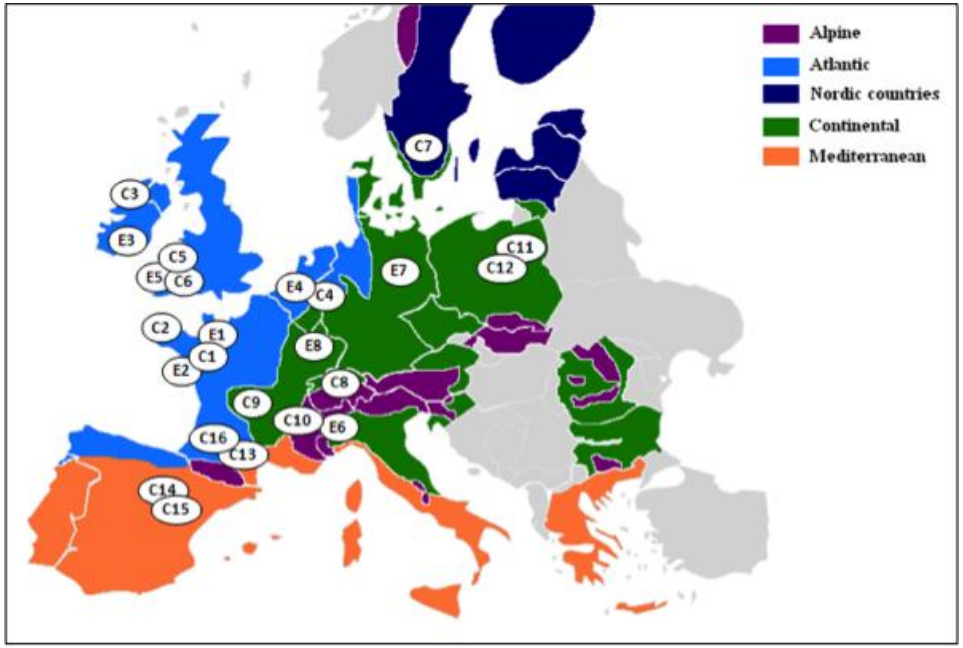
DESIGNING BY PARTICIPATORY APPROACHES

- **Two types of innovations: incremental / radical**
- **A need to build relevant methodology:**
  - Involving stakeholders (focus groups ; 6 SAB)
  - to conceive radical innovations well fitted to contexts (RIO, DEXi)

CASE-STUDIES BASED APPROACHES

CANTOGETHER will use a network of 24 case-studies (farm-level and district-level) to :

- collect relevant data about innovative practices and systems (features, outcomes...)
- test feasability of innovations
- determine some parameters for modelling



MODELLING

- **Biogeochemical models**
  - C, N, P cycles and nutrient losses:
  - GHG emissions
- **Whole-farm decision-making modelling**
- **Territorial-level modelling**

ASSESSMENTS

CANTOGETHER has to perform an integrated sustainability assessment of innovative systems combining environmental, economic and sociologic analysis

- **Methods for environmental analysis: LCA**
- **Methods for socio-economic analysis and overall sustainability assessment**

SOCIO-ECONOMIC AND POLITICAL DRIVING FORCES FOR ADOPTION

- **factors driving the choice of MFS**
- **how future policies and regulations** might be developed to promote MFS
- **knowledge transfer and dissemination**

SCIENTIFIC ORGANIZATION

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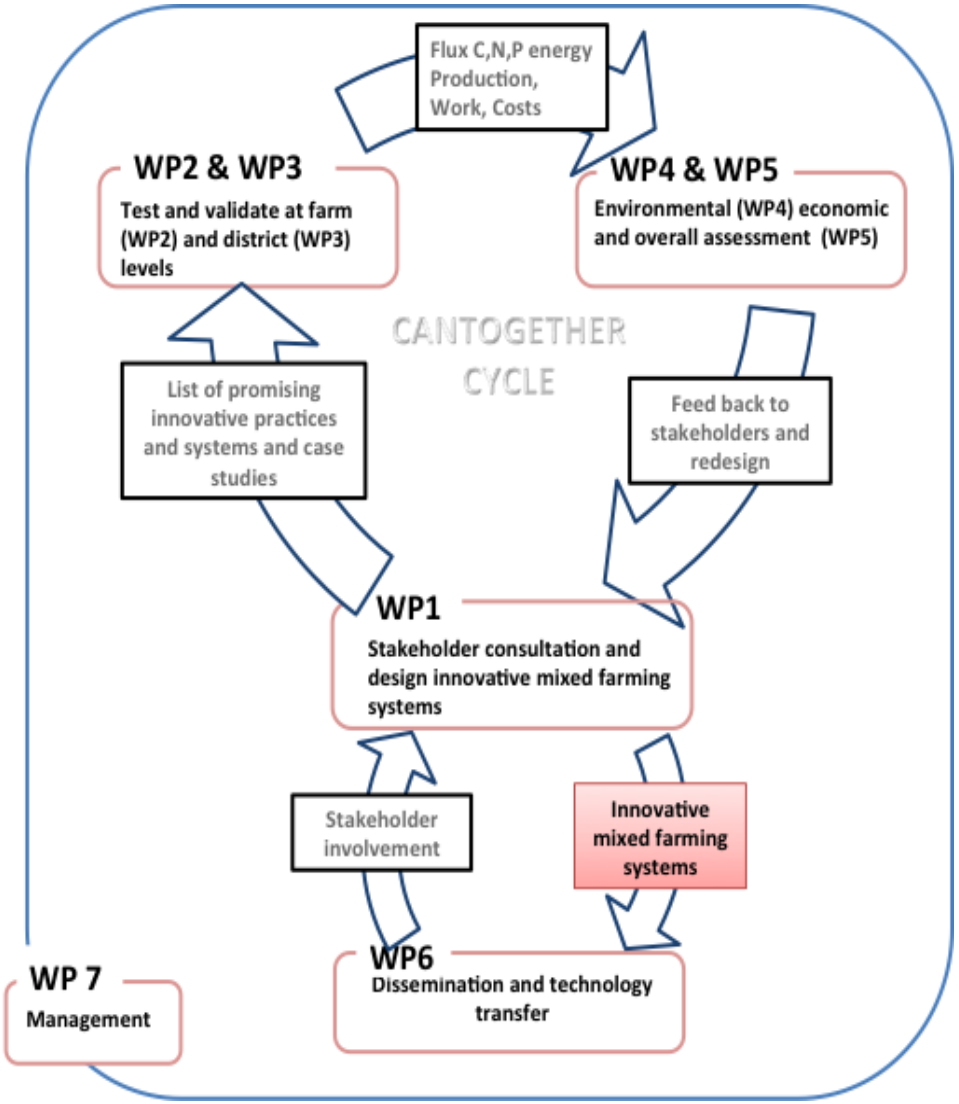

CONSORTIUM

12 academic partners

14 SME

1 consulting company