



Towards a new COST proposal...

Phosphorus accounting and resolving the threat to food security in Europe

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Special Thanks to Chantal GASCUEL (INRA, Rennes, France)!

Final meeting of COST Action 869



Context and Rationale

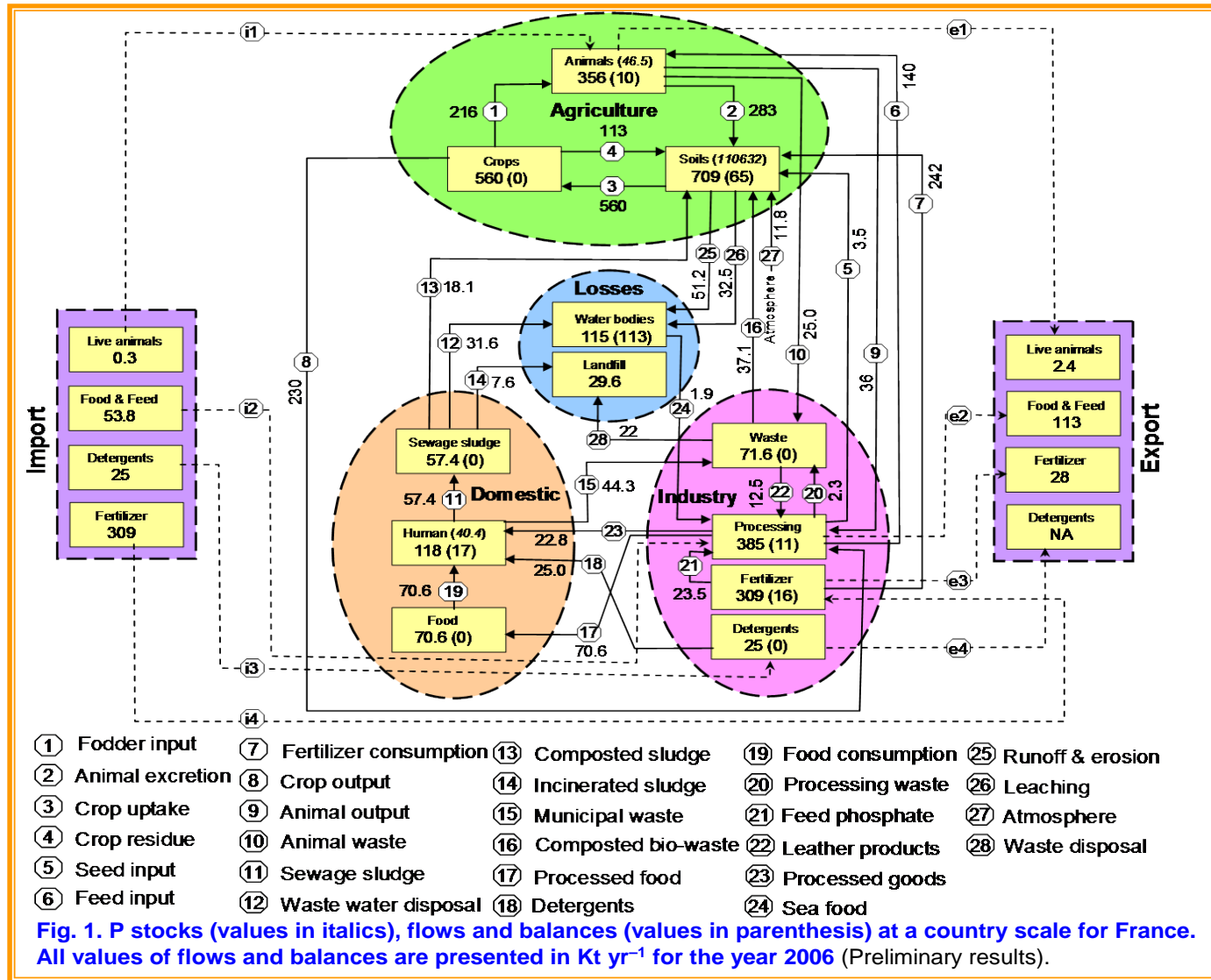
- **A bleak future for P resource availability?**
 - Limited global reserve stocks
 - Increasing global demand for food, feed, non-food production
 - Decreasing quality (e.g. Cadmium content)
 - ... Resulting in increasing cost of P fertilisers



Context and Rationale

- Reducing dependency of Europe on fossil P imports is necessary to ensure competitive and sustainable agriculture, to secure food production and to protect our environment
- Using P in a more sustainable way requires a clear picture of P flows and stocks within food/feed/non-food chain. A close cooperation among disciplines is needed (agronomy, waste and water management, economy and social sciences)
- Large scales (e.g. regional, national, global) studies are especially needed to identify possible leakages and recycling opportunities

Systemic approach of P flows



Objectives

1. Development of a **common conceptual framework** for P accounting at European, national and regional scales
2. **Sharing data and references** (e.g. on material P concentrations, animal P requirements, food waste, etc)
3. **Comparisons between European countries:** effect of geographical differences, public regulations, food habits, trade organisation... on P flows?
4. **A picture of P cycle at the EU level**
5. **Assessment of strategies** for reducing fossil P resource use and increasing P recovery and recycling with respect to wanted and unwanted side-effects

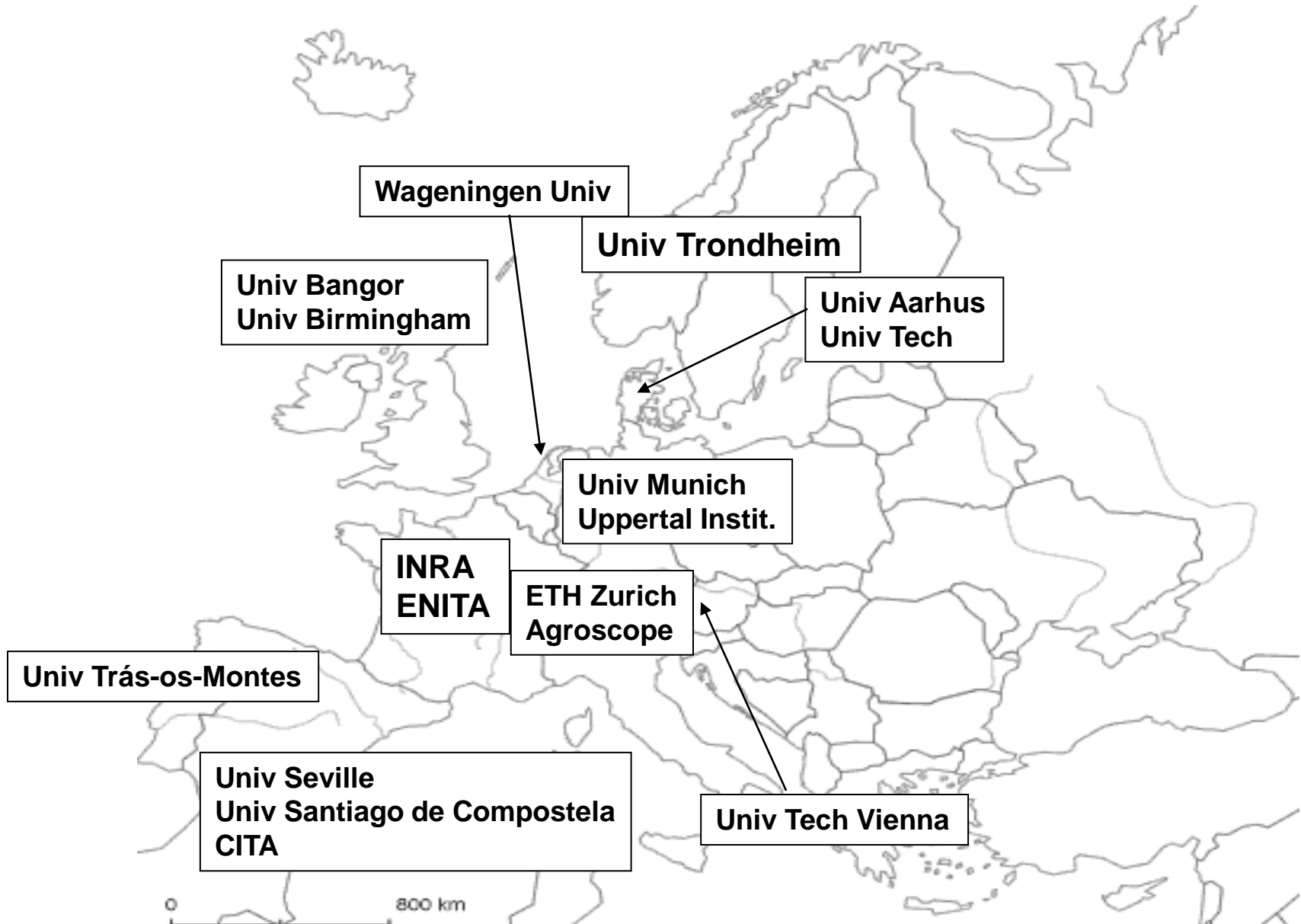
Organisation

- Task 1: Developing a common conceptual framework
 - Common framework (compartments, processes, flows, scales, units, etc...)
 - Options for a mathematical model of P flows
- Task 2: Sharing data and managing uncertainty
 - Stress on data uncertainty
 - Identification of need for new reference, data monitoring and additional research
- Task 3: Comparison among European countries
 - Based on Tasks 1 and 2
 - Focus on driving factors, use-efficiency and environmental losses
- Task 4: Development of a European P budget
- Task 5: Assessment of options for a more sustainable P use
 - Options ranging P reuse to reduced P input
 - Assessment of options at different scales, with respect to P use efficiency and other possible side-effects, e.g. through LCA methods

Coordination with other COST Actions

- Previous COST Actions on P
 - COST 832: Quantifying the agricultural contribution to eutrophication
 - COST 869: Mitigation options for nutrient reduction in surface water and ground waters
- This new Action substantially enlarges the investigation scale
- But it has some connections
 - With COST 832
 - Data on material P concentration, animal excretion, etc → Task 2
 - Quantification of P emissions to water bodies for European countries → Task 3
 - With COST 869
 - Designing options for reduced P leakage and increased recycling → Task 5

Some partners already interested



Timeline and contacts

Timeline

- A European workshop « Designing P budget at country scale » was held in Bordeaux, France, in July 2011 (<http://www.bordeaux-aquitaine.inra.fr/tcem>)
- A preliminary proposal for a new Cost Action « Phosphorus accounting and resolving the threat to food security in Europe” was submitted on September 30th 2011
- If the preliminary proposal is successful a full proposal will be submitted on January 27th 2012

Contacts

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