An assessment of the societal impacts of French soil databases

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An assessment of the societal impacts of French soil databases

M. Bardy, A. Gaunand, N. Saby, D. Arrouays,
L. Colinet, N. Munier-Jolain

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Context

- French soil data
  - Collection coordinated by the French Soil Interest Group since 2001

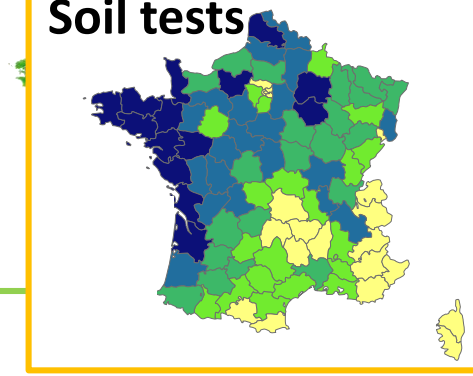
GisSol

National Soil Information System

Soil inventories

Monitoring network

Soil tests



Erosion hazard Languedoc-Roussillon

SOC evolution (g/kg

1990-1994

Benzo(b)fluoranthene

0.035 0.030 0.025 0.020 0.015 0.010 0.005

0 100 km

Villaneau et al. 2013, Environ.Chem.Lett

Saby et al. 2008, Soil Use and Management

Multiple uses

Which societal impacts?

The Asirpa method (1/2)

Research Evaluation Advance Access published July 25, 2015

Research Evaluation (2015) pp. 1–14 doi:10.1093/reseval/rvv015

ASIRPA: A comprehensive theory-based approach to assessing the societal impacts of a research organization

Pierre-Benoît Joly[1,*], Ariane Gaunand[2,3], Laurence Colinet[4], Philippe Larédo[5], Stéphane Lemarié[2,3], Mireille Matt[2,3]

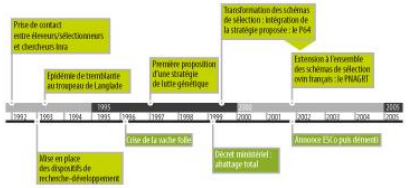
- **Based on case studies**
- **Standardized description**
- **Scaling-up to the organization level**

ASIRPA = Socio-economic analysis of the diversity of Impacts of Public Research for Agriculture

The Asirpa method (2/2)

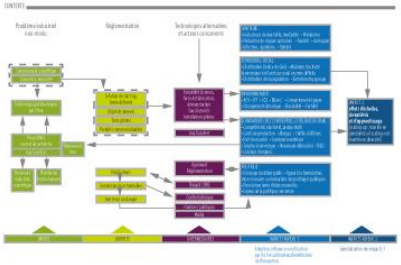
- Three main deliverables

Case studies



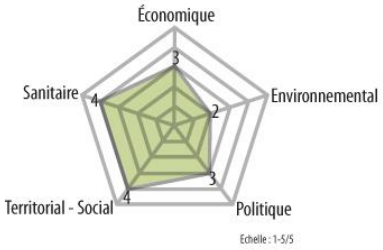
1. Chronology

- Long term investments
- Capacity building
- Key events



2. Impact pathway

- From research to impact
- Contributions of various actors
- External context

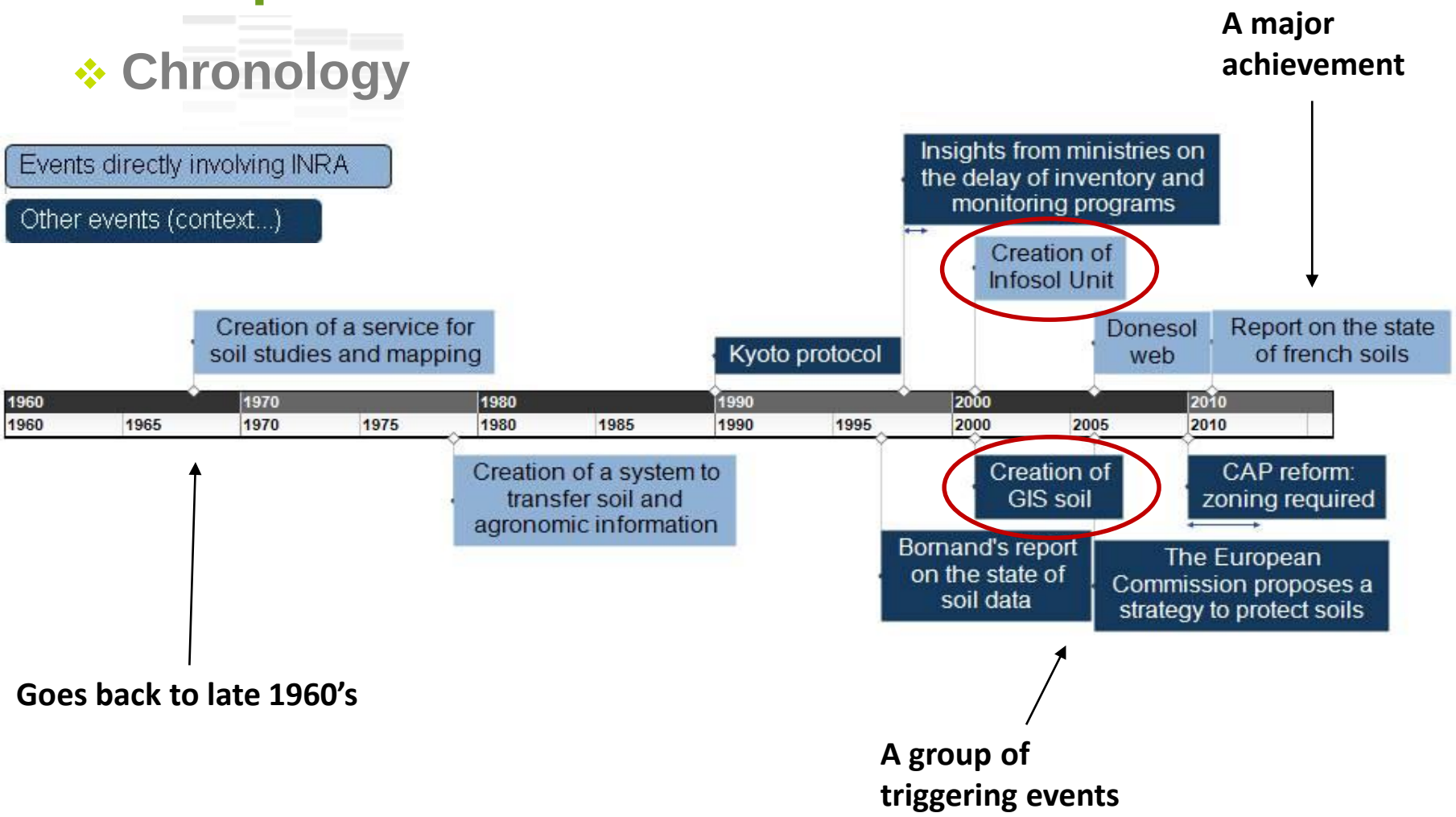


3. Impact assessement

- Various dimensions of impact:
  - ✓ Economy
  - ✓ Public health
  - ✓ Environmental
  - ✓ Territorial – social
  - ✓ Public policies

Impact of French soil databases

Chronology



Impact of French soil databases

- **Selected case studies**
  - **Identification of potential impacts:**
    - Direct relationship with end-user
    - Direct relationship with intermediary organisations (provision of data + regular surveys)
    - « By chance »: spontaneous feedback
  - **Description of confirmed impacts:**
    - Series of interviews… sometimes many intermediaries before reaching THE end-user
    - Impact confirmed (and described)… or not

Impact of French soil databases

Selected case studies

Territorial impact

Set-up of the bypassing of built-up areas around Lyon for high-speed rail

Public policies

- Zoning habitats to implement biodiversity conservation measures
- Revision of the delineation of less favoured areas

Environment

Calculation of the recharge of the Beauce groundwater table as an element of negotiation for the allocation of irrigation quotas

Economy

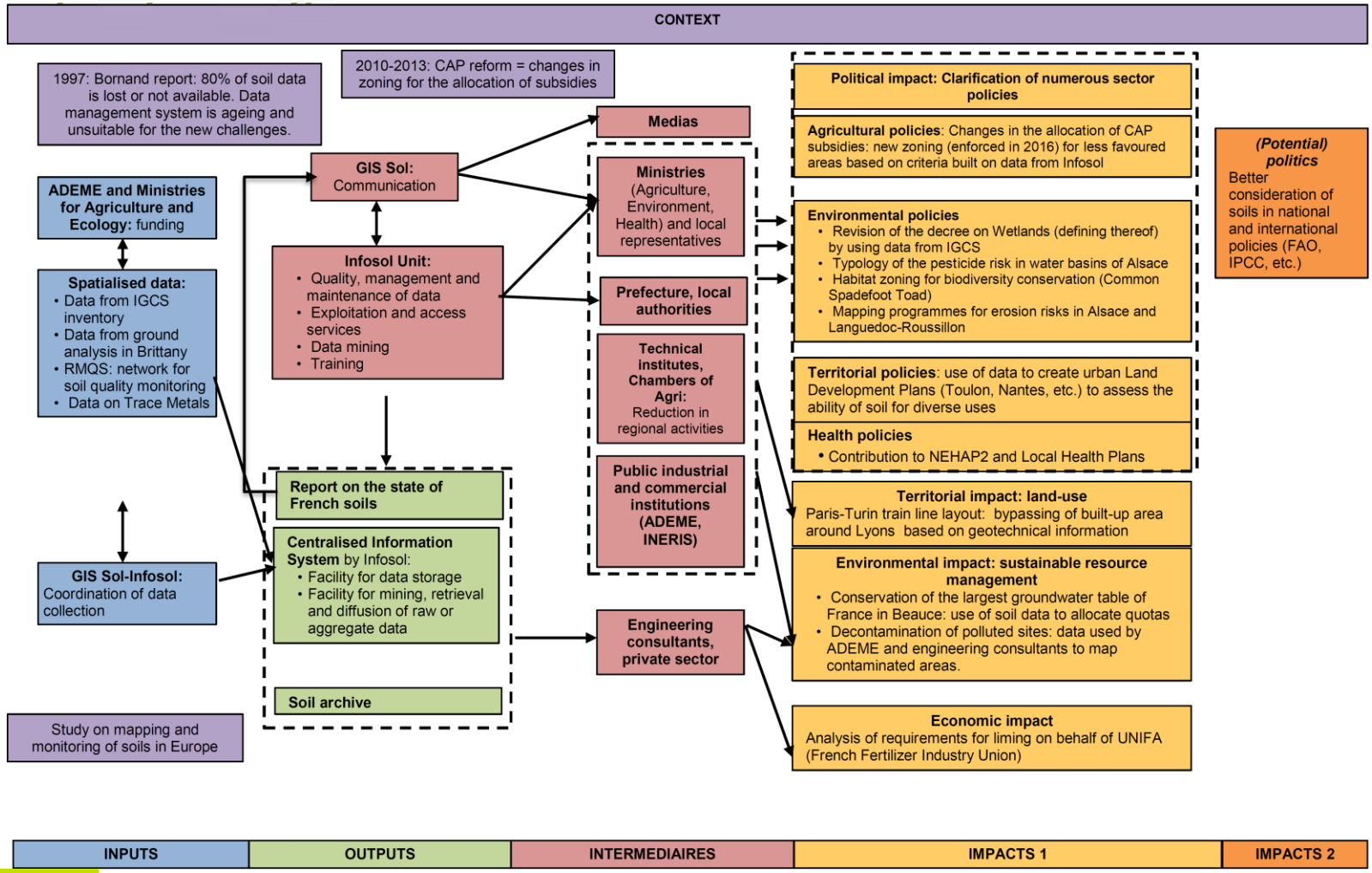
French Fertilizer Industries Union: market research based on national analysis of soil liming requirements

Health

Implementation of environmental inequality characterisation tools, with risk prevention plans including exposure to soil trace elements

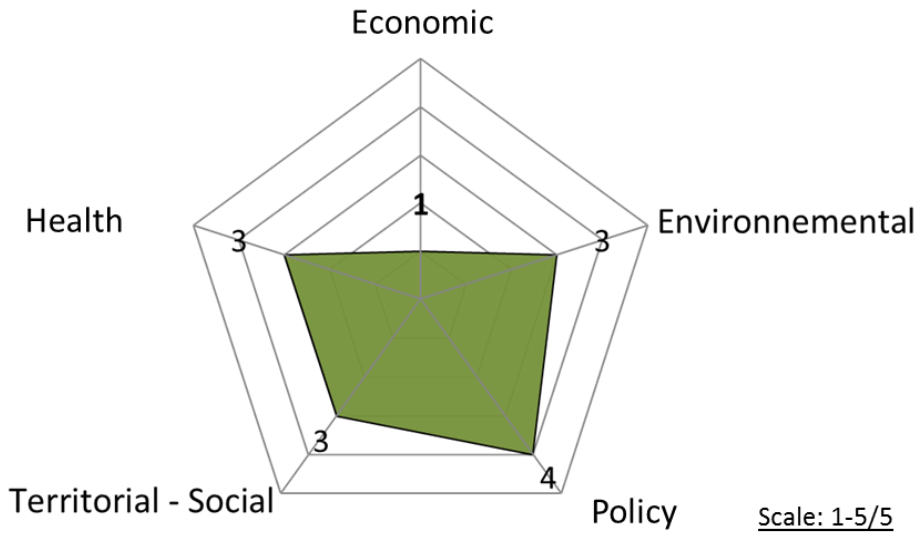
Impact of French soil databases

Impact pathway



Impact of French soil databases

- Impact assessment



- Balanced impacts on the various dimensions
- Economic impact acknowledged but difficult to quantify

Conclusions and perspectives

- 1st assessment of societal impacts of French soil databases
- More than the impacts themselves:
  - Better knowledge of data end-users
  - Enhanced recognition of the usefulness of French soil databases
  - Basis for setting up a new communication strategy regarding soil databases: very successful national conference with testimonies of end-users
- Perspectives :
  - Add new impact descriptions
  - Gather testimonies of end-users in a booklet or a documentary

Thanks for your attention!

For any question regarding :

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- ✓ *The Asirpa methodology: ariane.gaunand@inra.fr*