

Impact in the agro-food and bio-economy domain

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Impact of R&I Policy at the Crossroads of Policy Design, Implementation and Evaluation

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Focus of presentation

The issue of “**impact**” of R&I in the **agro-food and bio-economy domain** – fields that have a long tradition for such concerns.

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Challenges are changing

due to e.g.

- Technical developments,
- Globalization and related changes
- Preferences in society at large



features of impacts –

and indicators to assess them –

have to find new forms as well.

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Assessing R&I in applied research

- **Innovation capacity** – development of new technologies
- **Integrating technologies** developed in other fields in an innovative way
- **Structural innovations** (e.g. institutional and organizational) - to increase efficiency and competitiveness in a given sector

R&I - after WW II

The **central concern** was to **secure food production and availability** in Europe
by **optimizing *production systems***,
and **their relationship to varying conditions.**

➔ identified and targeted research and innovation objects

Results used in practice

Many of these types of results of R&I efforts have been **brought into farm practice** through specifically designed agricultural knowledge and innovation structures organized at national and regional levels.

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New types of R&I emerged

- **Maintenance of system resilience** facing changing climate conditions, water availability, pest infestations and diseases
- **Connectivity of sector with other domains** e.g. with energy, land-use, food and health
- **Agricultural activities and their societal embedding** i.e. trade, socio-economic aspects, consumer behavior, urban-rural connections



Grand Challenges – emerging interest arenas

Focus on webs of phenomena such as:

- climate change (see e.g. IPCC, 2018);
- energy, water and food;
- public health
- pandemics



Sustainability and bio-economy

- New **links between food-forestry and marine** domains
- **Systemic recycling** from one domain to another
- New challenges in **regional development** when re-connecting **urban-rural** relations
- Innovations due to **digitalization** for example “precision farming” and evolving artificial intelligence practices



The R&I policy balance

- A. Specific, strictly targeted research and innovation objects**

- B. Exploration about the**
 - 1. Contexts,
 - 2. Drivers
 - 3. Transformative features of broad sets of phenomena

Impact identification

- a) Efficiency driven research targets
- b) Ex-ante versus ex-post
- c) Ex-ante and foresight efforts
 - What are the core issues?
 - What are the major drivers?
 - Who are the key actors?
- a) Ex-post issues with regard to aggregates



SDGs – impacts within a global context

- Core concept of European and national funding strategies
- Bio-economy and the agro, food, aqua, and forest sector(s) are key means to reach goals
- But the sector provides simultaneously challenges to some of the SDGs
- SDGs are
 - interlinked,
 - to be implemented at different levels
 - involve a multitude of actors



Principal questions to be addressed

- How to integrate an **increased reflexivity capacity** into the overall research system?
- How to **mobilize** a sufficiently broad set of relevant actors?
- How to understand the **different roles of actors**?
- How could we create **relevant frameworks** of exploration of these issues?
- How to provide mechanisms for **societal experimentation**?



Conclusions

- New forms of systemic based policy targets are calling for attention
- Connected research approaches, programs and platforms have to be further developed
- Calls for emergence of new methodologies
- Calls for new indicators of “impact”



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