

Developing a Documentation System for Evaluating the Societal Impact of Science

U N I K A S S E L
V E R S I T Ä T



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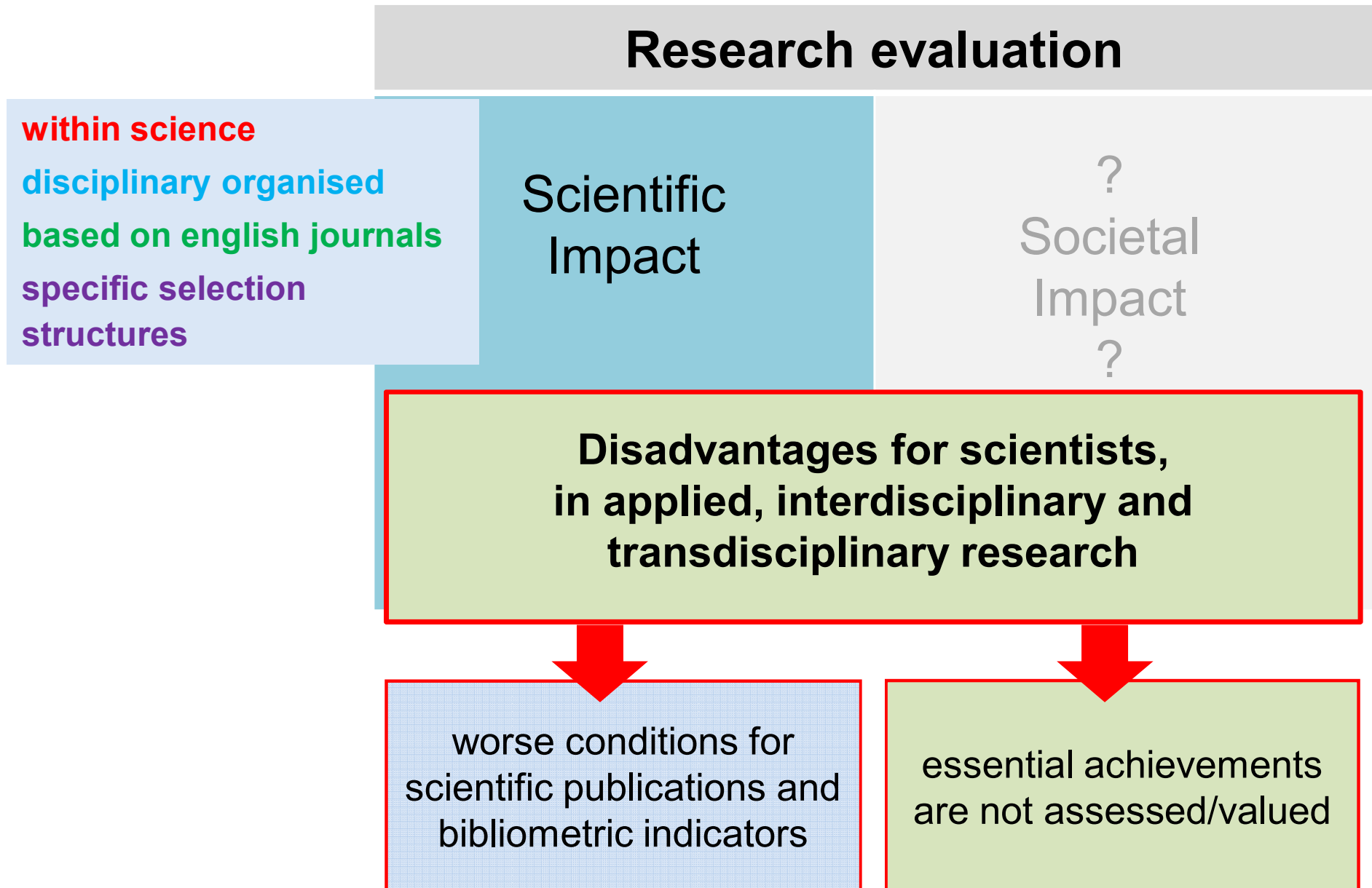
BÖLN

Bundesprogramm Ökologischer Landbau
und andere Formen nachhaltiger
Landwirtschaft

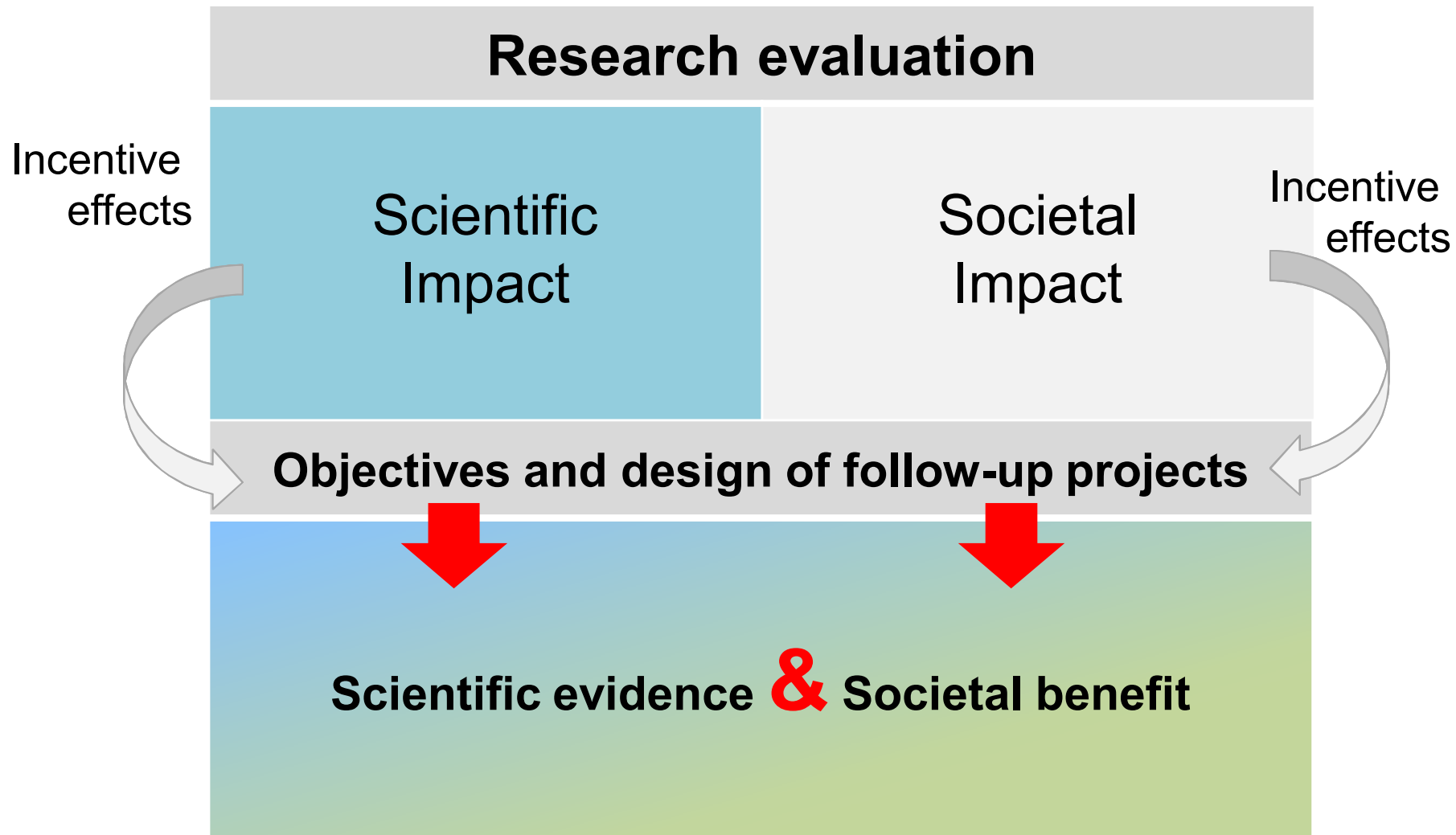
Why assessing the societal impact of science?

- **“grand challenges”**
(climate change, food safety, ...)
 - examine problems, contribute to solutions
 - respond on side-effects and risks of innovation
- **public funding of research implies social responsibility**
- **scientific impact does not include societal benefit**
 - measures impact of science on itself
 - is not a proxy for „broader impact“ (e.g. Wooding et al. 2011)

Effects of current impact assessment



Effects of balanced impact assessment



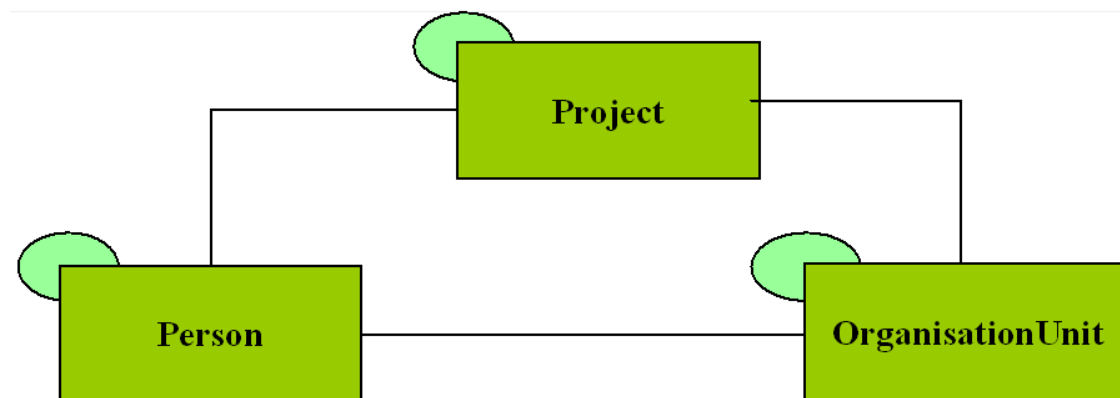
Challenges for societal impact evaluation

- **Assess interactions causing impact or making impact probable**
 - regard various attainments and value them qualitatively
 - attribution-gap:
 - apply it as contribution because of multicausal „systems of innovation“
 - use interactions to estimate contribution
 - time-gap: enable documentation of impacts on the long term
- **Involve non-scientific actors in evaluation**
 - Integrate different views
- **Find synergies for documentation processes**

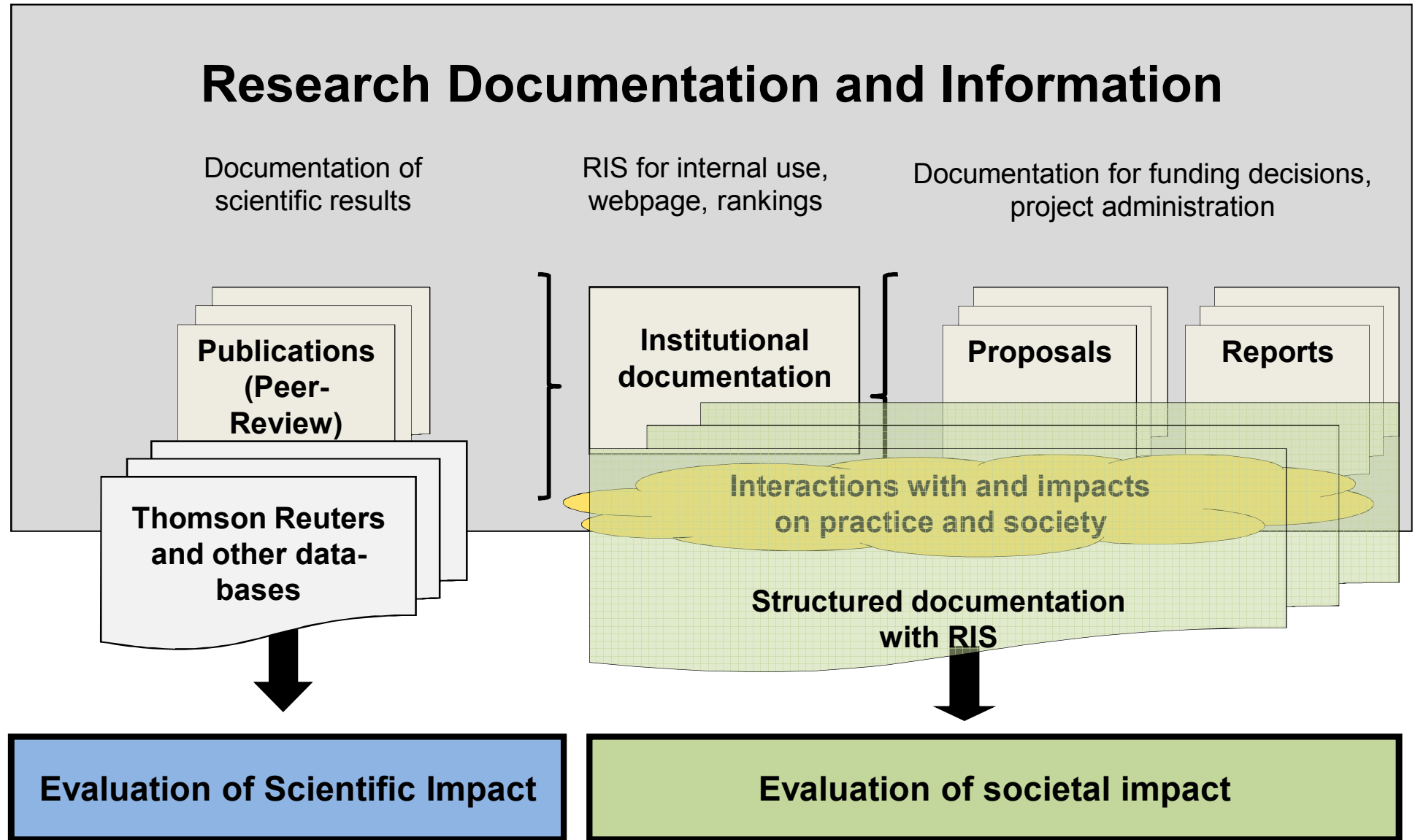
Why developing a documentation system ?

- **data on societal impact not available**
 - in sufficient quantities
 - suitable form
- **provoke no additional documentation efforts**
 - integration in funding procedures (application/reporting)
 - make project administration easier for funders/researchers
 - interoperability – provide data for other RIS-purposes
- **provide data for the evaluation of**
 - scientists
 - organisations
 - projects/programms

CERIF Base Entities



Synergies in research documentation

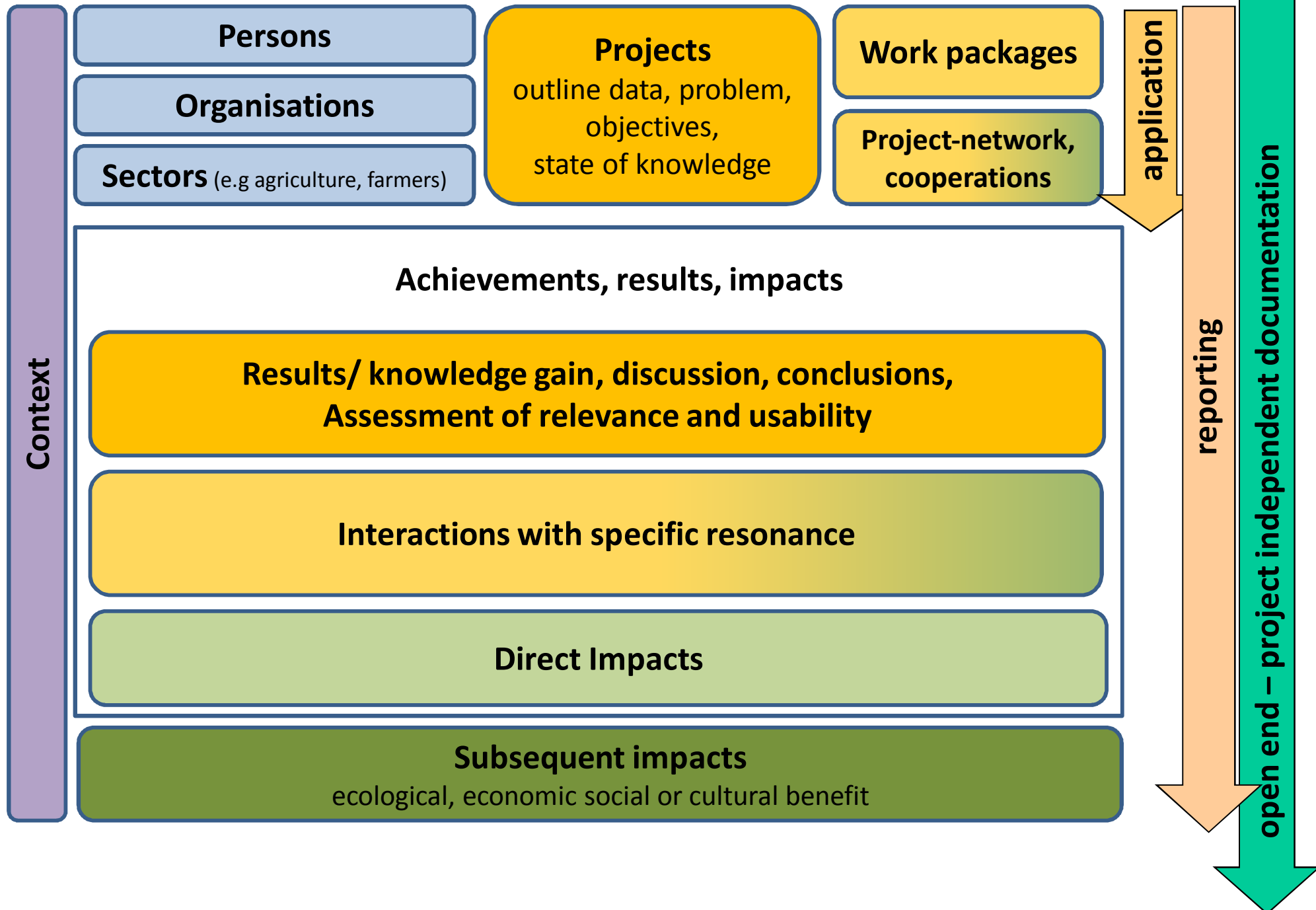


Focus of our project

- ✓ **Which criteria and indicators exist?**
(Inter- and transdisciplinary research, social/societal/broader impact assessment; Development cooperation)
 - **Which information is needed to apply existing criteria?**
 - **How can this information be structured and standardised?**
(refer to existing documentation tools/standards and develop structures)
 - **Develop data model and prototype for testing**
 - **Testing of usability**
 - Data input and use by scientists
 - Data use by research funding
 - Data use for evaluation
 - **Adaptation of data model**
- 

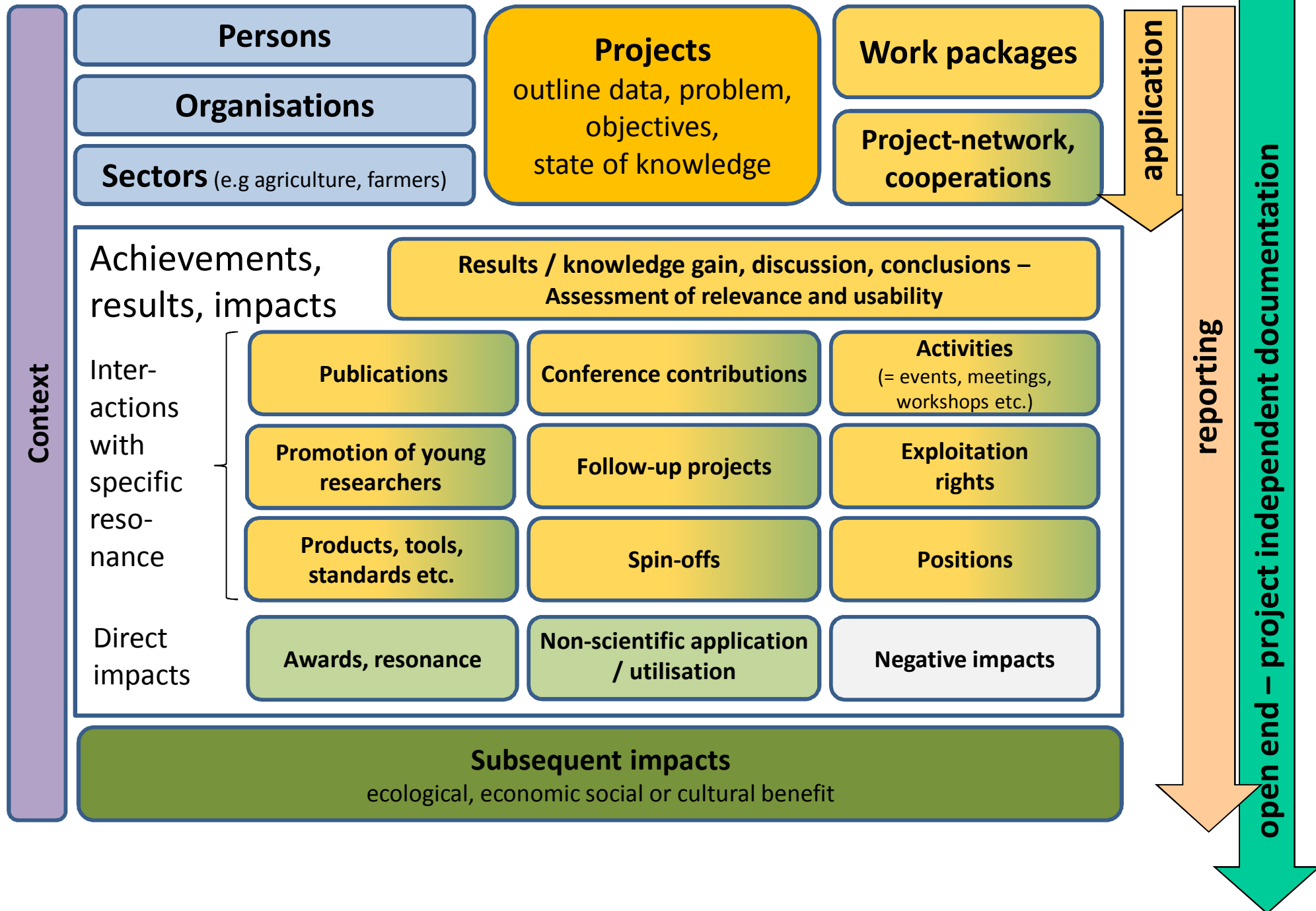
Which information is needed?

Stages of documentation

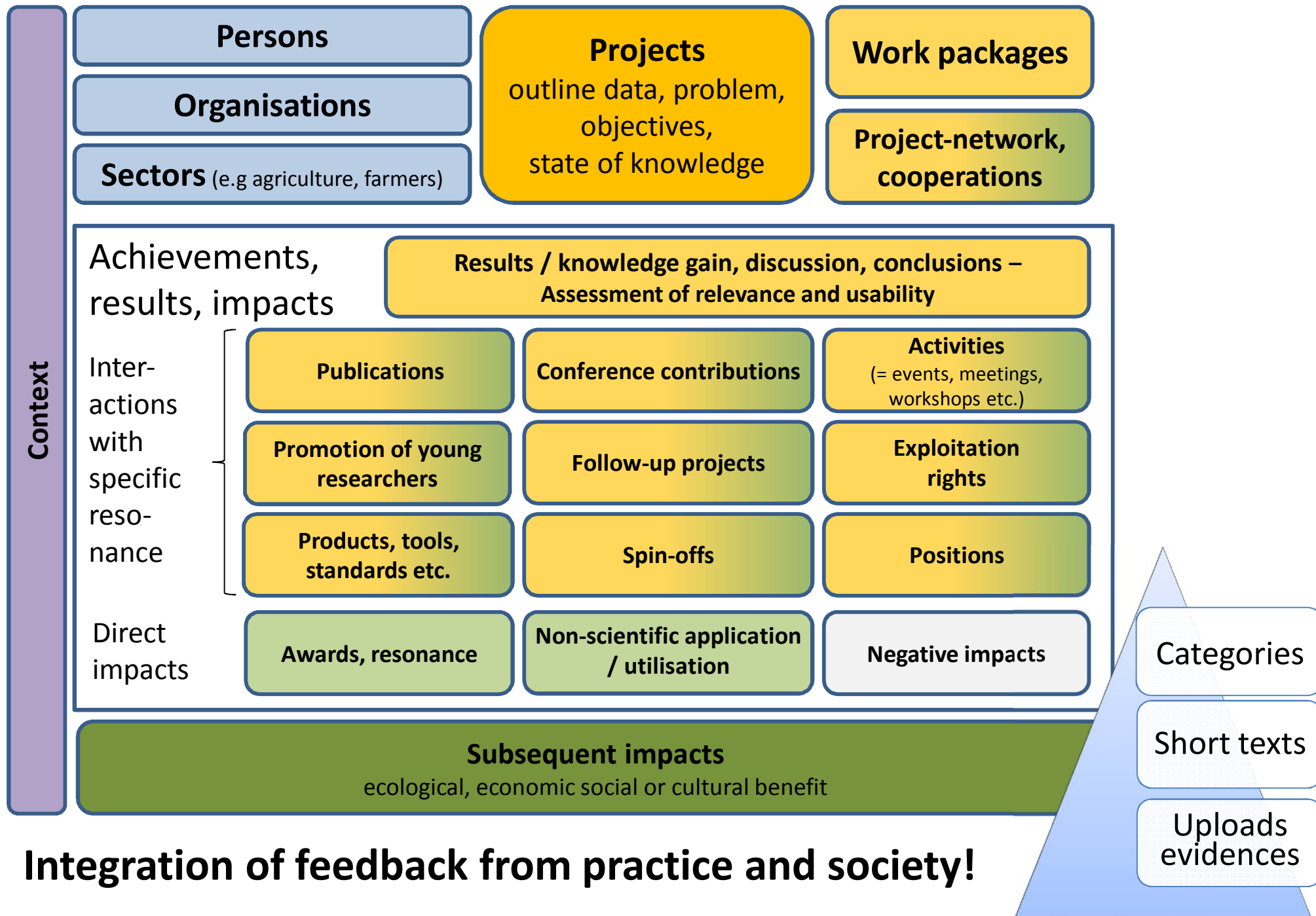


Which information is needed?

Stages of documentation



Which quality of information is needed?



Attribution of achievements

- **Who has rendered the achievement or who was involved?**
- **Who has been reached, who has a benefit?**
- **In which project / work package has the achievement been rendered?**
- **Clustering of projects which contribute to impacts**
 - **innovation networks become more transparent**

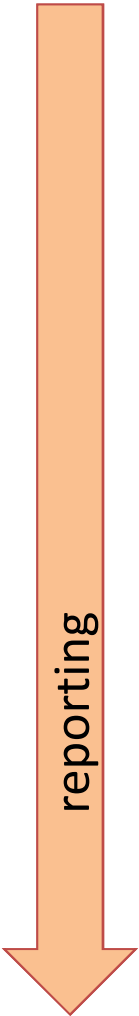
Knowledge gain + potential relevance for Practice

Results / knowledge gain , discussion, conclusions –
Assessment of the relevance and usability

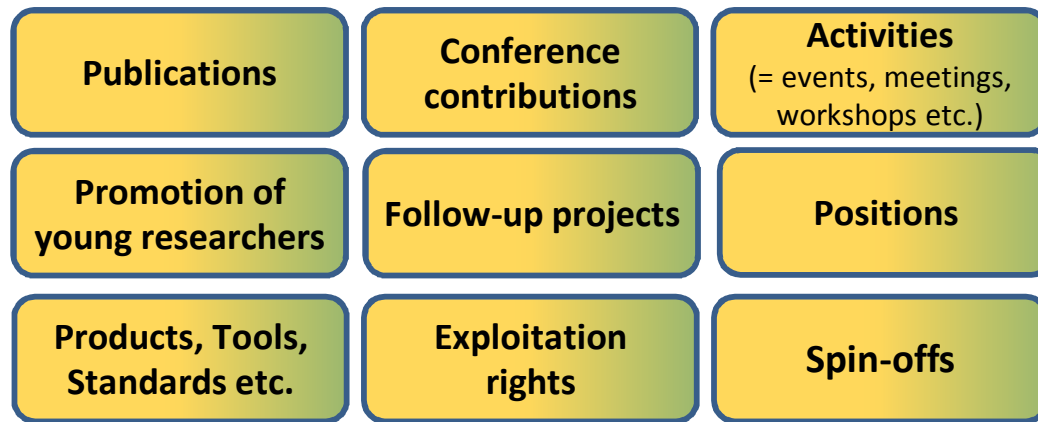
Increase in knowledge = abstract of the results

Potential of innovation for practical application

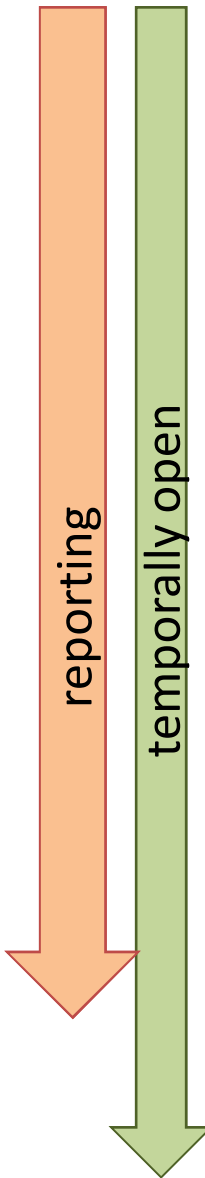
- Contribution to problem solving
- Relative advantage /
connectivity to existing practices
- Complexity, trialability
- Observability of innovation in practice
- Acceptance of innovation
- Risks, which are connected with innovation



Interactions with „specific“ Resonance



- **Specific Resonance = quantification of use**
 - Publications □ edition, citation
 - Brochures □ demand, downloads
 - Spin-offs □ number of employees, revenue
- **Who was involved?**
- **For which target group?**
- **What did the interaction contribute to the project?**



Resonance and application – direct impact

Awards / Resonance

Non-scientific application
/ utilisation

Negative Impacts

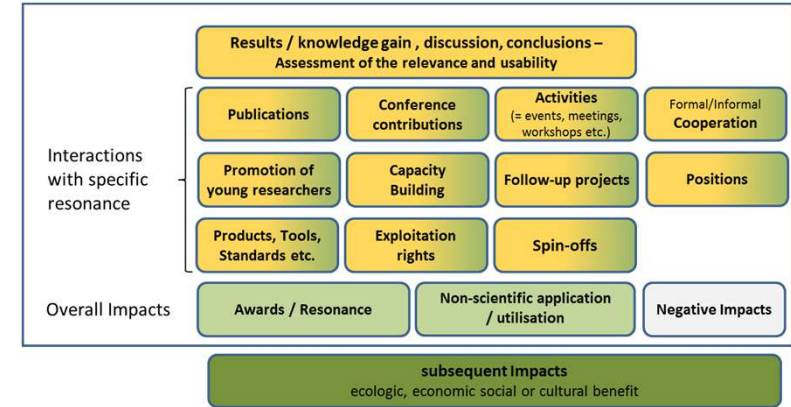
- **Resonance**
 - Feedback / Assessment through the chosen target group (e.g. through survey /feedback workshops /evaluation)
 - Awards
- **Non-scientific applications**
 - Kind of Impact
 - Change in perceptions (regarding problems or solutions)
 - Actions, practices, management, services
 - Products, techniques
 - Regulations /Policy (incl. Standardisation)
 - Maturity
 - Extent / scale

Subsequent Impacts

subsequent impacts
ecologic, economic social or cultural benefit

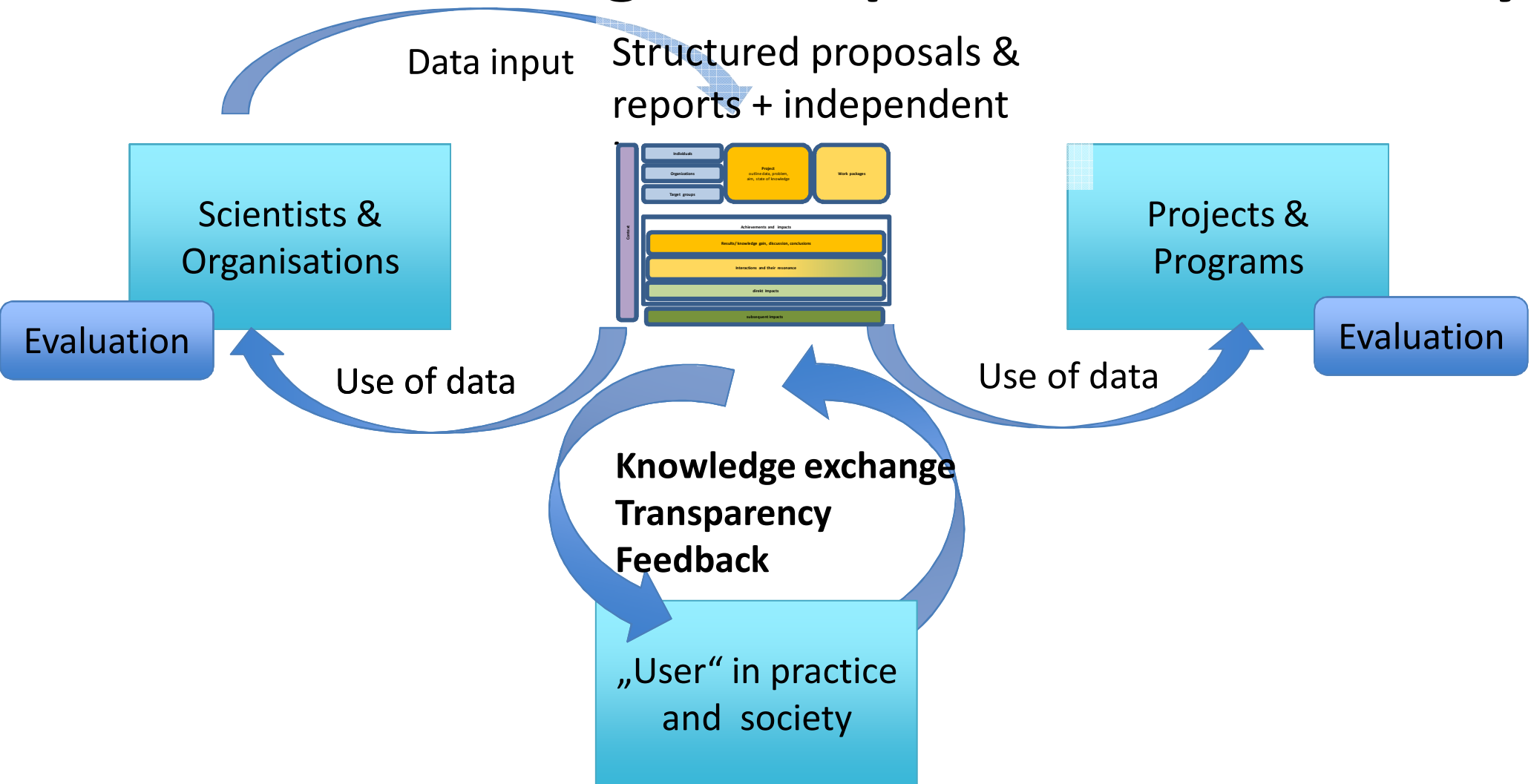
- **Attribution to several projects but also to single work packages or achievements**
- **Categorisation according to the EC „Policy Impact Assessment Guidelines“**
 - ecologic
 - economic
 - social
 - cultural
- **Quantification**
 - regional/national/international
 - Text box

Feedback by practice and society



- **Reference persons**
 - Could be recorded for all interactions and impacts
 - Feedback from reference persons
- **Resonance of the target group**
 - Documentation of (small) Evaluations, reflection workshops etc.
- **Feedback function shall be extended**
 - e.g. mini online questionnaire for project staff, important stakeholders in the sector or participants of an event

Data use - exchange with practice and society



standardisation and interoperability is intended between institutional research information systems (CERIF, CASRAI, DINI, WR) and for research data (e.g. Research Data Alliance)

Thanks for your attention

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Further information

Wolf, Birge; Lindenthal, Thomas; Szerencsits, Manfred; Holbrook, J.

Britt; Heß, Jürgen (2013): Evaluating Research beyond Scientific Impact - How to Include Criteria for Productive Interactions and Impact on Practice and Society. GAIA, Volume 22, Number 2, pp. 104-114(11)

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