

The use of synergies between research funding and CRIS systems for the documentation and evaluation of the societal impact of applied agricultural research

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Problem Description

Our work deals with the divergence between societal demands on publicly funded applied research and scientific incentive systems (Fig. 1). Specifically, we focus on how an evaluation of the societal impact of agricultural research may be introduced in Germany. In relation to existing challenges and concepts of societal impact evaluation, the following relevant aspects were identified:

- federalist structures → low viability of national approaches as in UK or NL
- time gap, temporality of impact, impact evidence, multi-causality of impact → necessity of a broad criteria set focusing on contribution and plausibility instead of attribution and evidence of real impact as in REF2014
- no incentives via performance-based funding allocation of institutes → timeframe of evaluation that is relevant for acknowledgement
- no easy-to-use data available → synergies with other processes needed

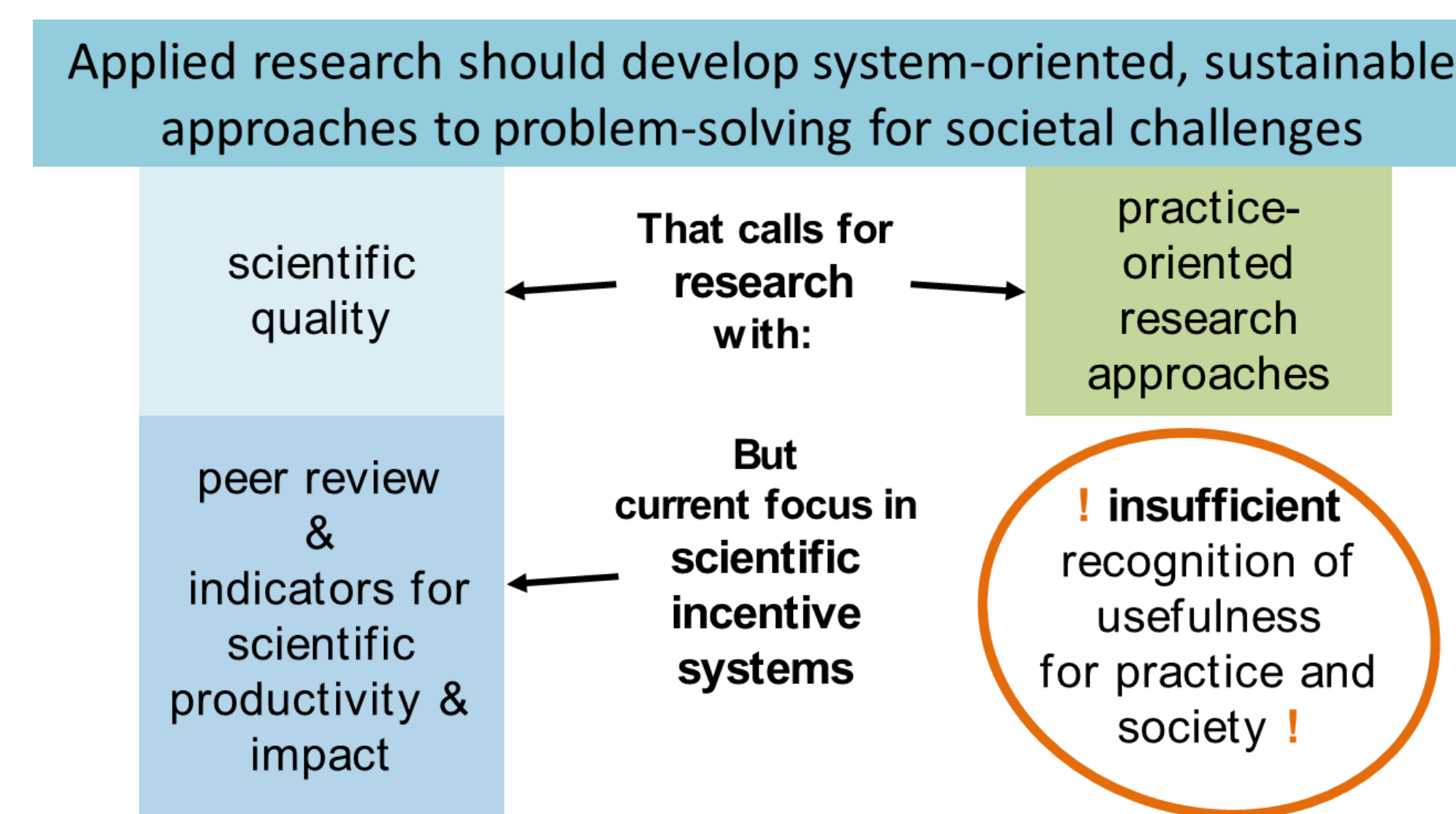


Fig. 1: Current scientific incentive systems do not encourage commitment related to societal impact

Material and Methods

- literature review: evaluation concepts, documentation approaches, requirements for project application and reporting
- iterative development of documentation structure and evaluation questions
- testing of the documentation with 12 projects: self-test + external users (think-aloud method), protocols of problems and needed improvements

- three workshops with the funding agency
- testing of the evaluation with 3 projects along the evaluation questions (reflective interview with reviewers)
- records of all tests used to develop measures for adaptation of documentation and evaluation questions

Results

In the literature review we identify crucial synergies between a) the state of the art of evaluation concepts that focus increasingly on complex innovation systems (instead of linear transfer), b) CRIS and other current documentation systems and c) the interests of research funders in maximising and demonstrating their societal impact (Fig. 2).

With a broad set of criteria we look at the diverse impact pathways in agricultural research, which may include linear transfer as well as transdisciplinary approaches. We clustered the criteria into three guiding questions for evaluation (Fig. 3). Our approach assumes that a contribution to societal impact requires researchers to make a commitment to applicability for non-academic actors and to (potential) societal benefits (in terms of sustainable development) that are associated with an application. Thus, the third question covers numerous criteria that record applicability and includes the description of framework conditions (e.g. market development, state support, public awareness).

Based on these criteria and funders' requirements for proposals and reports, we developed a concept for project evaluation and a documentation structure that can be used to extend a CRIS (Fig. 4).

To reduce documentation redundancies, contributions to societal impact can be described in a structured way to outline aims, attainment and exploitation plans. Furthermore, funders and researchers propose functionalities for project planning. The evaluation concept includes the triangulation of perspectives to examine complex innovation processes and increase plausibility, also for cases in which it is hard to produce evidence.

Conclusion

Our funder endorses the concept due to its synergies with funding processes, knowledge transfer and incentive to achieve and demonstrate societal impact. Moreover, award-winning projects may also be an easy-to-use indicator in the evaluation of institutes or scientists, to provide incentives in the scientific system. We intend to further test and develop the concept.

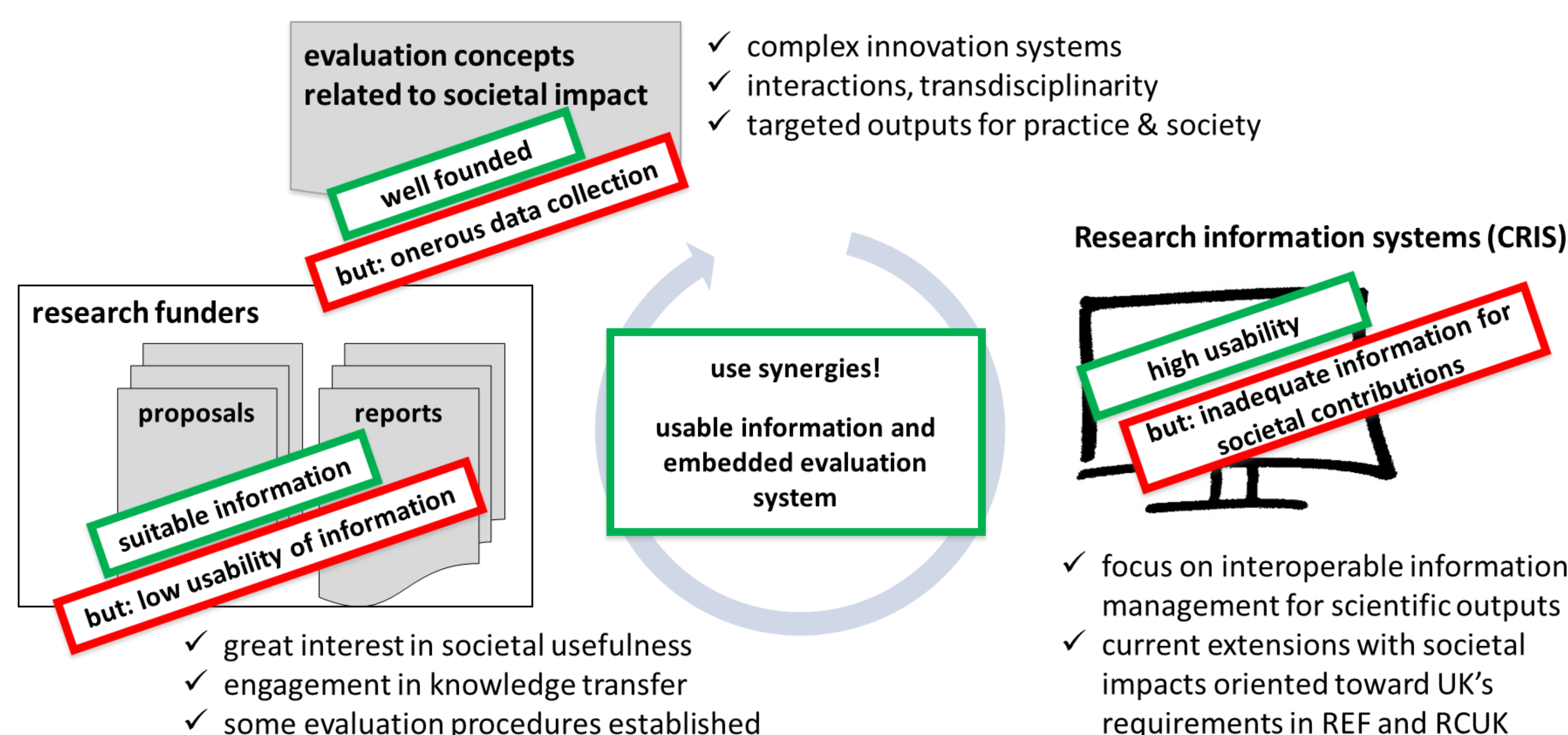


Fig. 2: Synergies for the implementation of documentation and evaluation related to societal impact

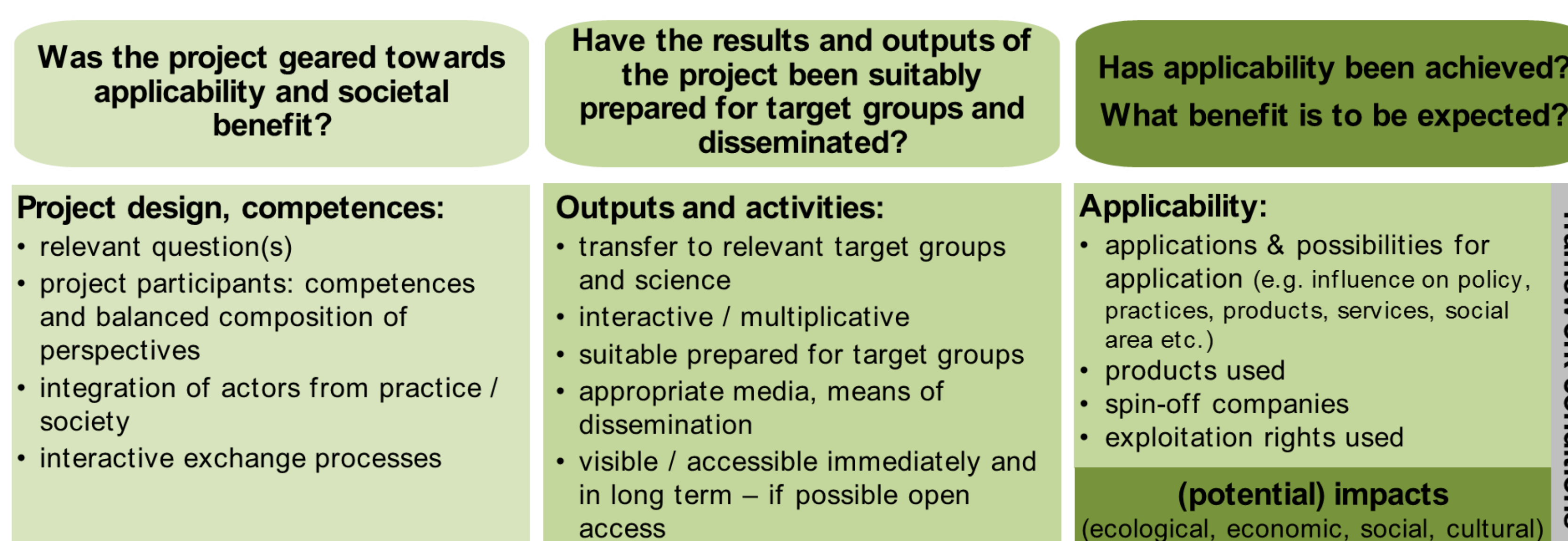


Fig. 3: Broad set of criteria to acknowledge different impact pathways

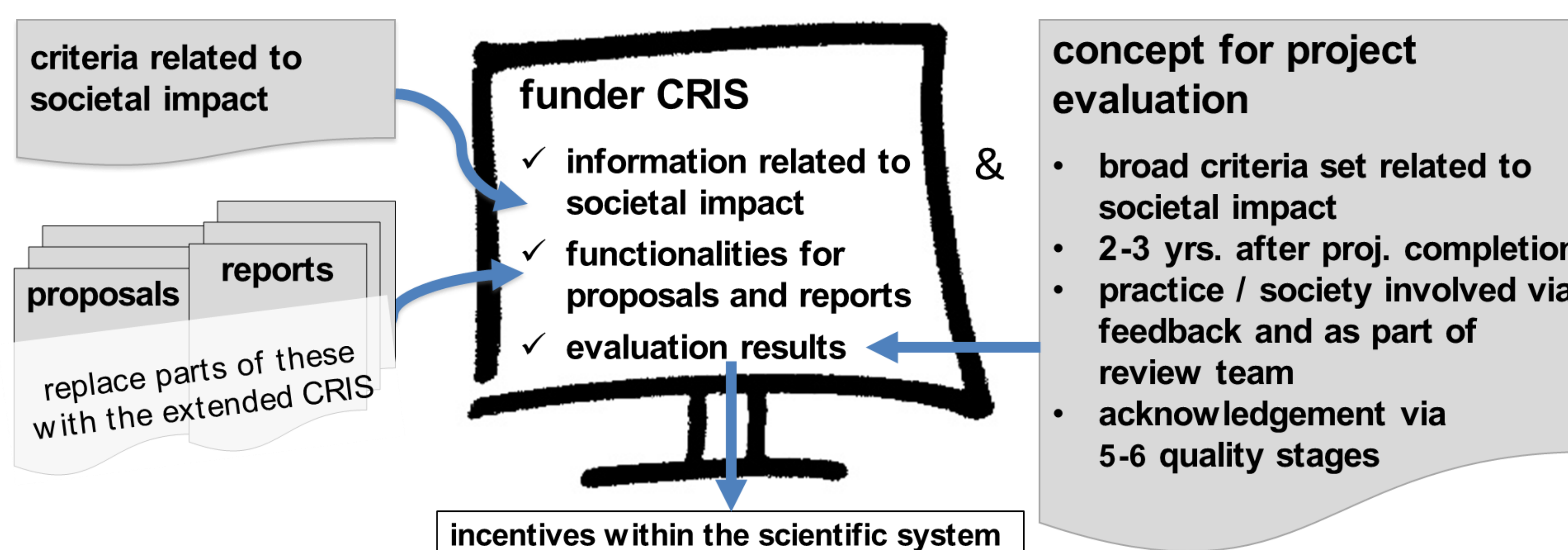


Fig. 4: The project develops a documentation structure that may be used to extend a CRIS and a concept for project evaluation