How to address sustainability in your research project

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This document is meant to be a guide to health researchers for how to address sustainability in all the three research project phases: 1) Planning and proposal; 2) Implementation; and 3) Exploitation of results.

Background

Sustainable development has three core elements[1]:

1. Environmental protection
2. Economic growth
3. Social inclusion

Sustainable development is found in the intersection between these three core elements.

Science lies at the heart of sustainable development[2]. It establishes the factual basis, anticipates future consequences, and contributes to finding pathways to sustainability transformations.

High quality research constitutes the foundation in science. Centre for Research quality and policy impact (R-QUEST) found by summarizing scholarly and empirical studies of research quality three basic aspects of the concept[3]:

1. Plausibility/solidity, methodological soundness (and feasibility)
2. Originality/novelty
3. Scientific and/or societal value/significance

How to define/identify the sustainability dimension of your research project

The UN's sustainability goals are our most important tool for creating a sustainable world and all 17 goals are equally important[1]. This means that it may be unclear what to prioritize if different considerations are up against each other and dilemmas may arise. Health is an important dimension in almost all Sustainability research and Sustainability is an important dimension of all Health research[2]. Thus, your project's results will most probably benefit one particular goal while simultaneously harming one or several others. The sustainability dimension of your research project should involve identifying and describing any such dilemmas by analyzing how the implementation of your project and the subsequent use of your project's results may positively or negatively affect the sustainability goals.

Basic research of high quality as defined by the three basic aspects above will be considered to be sustainable research even though it is not always apparent how this research will advance sustainable development. Furthermore, we as an University have a special responsibility for basic

research within our research fields as declared in the Act relating to Universities and University Colleges[4]:

> *Universitets- og høyskoleloven § 1-4 punkt (1): Universiteter og høyskoler har et særskilt ansvar for grunnforskning og forskerutdanning innenfor de områder der de tildeler doktorgrad. / Universities and university colleges have a special responsibility for basic research and research training in the fields in which they award doctorates.*

How to address sustainability in the three project phases

Phase 1: Planning & proposal

In the idea development phase:

- What has already been done to address the problem / challenge this project deals with and how will this project contribute to a solution?
    - What has been done already to address the problem and what are the limitations with that?
    - How is this project's solution to address this problem different from what has been done previously and why is this better?
    - Can the expected results be broken down and used separately?
    - Are the expected results relevant for future projects?
- Identify how the expected project results will positively affect the sustainability development goals nationally and / or globally?
    - Improved quality of life?
    - Improvement of health?
    - Reduce social inequality?
    - Socio-economic consequences?
    - Other?
- Dilemmas: Identify how the expected project results will negatively affect the sustainability development goals nationally and / or globally (same keywords as above)?

In the proposal phase:

- Formulate the research questions / objectives to address how the expected project results will positively and negatively affect the sustainability development goals.
- The sustainability dimension in the project should be clearly described and visible in the Title, Summary, Introduction, and Impact section.

Phase 2: Implementation

- How will you carry out the project while minimizing climate footprint and resource use but maintaining high quality results?
    - Choose sustainable disposable laboratory equipment if possible. E.g. personal protective equipment, pipette tips, tubes etc
    - Travels, meetings, conferences, workshops, etc
    - Use/follow open science practices[5].

Phase 3: Exploitation of results

- Scientific publications
- Dissemination of the results
- Outreach to decision-makers and other key stakeholders
- Implementation of the results

References

[1]UN "Sustainable development", Link: https://www.un.org/sustainabledevelopment/development-agenda/

[2]UNESCO report (2019) «The future is now», Link: https://sustainabledevelopment.un.org/content/documents/24797GSDR_report_2019.pdf

[3]Identifying and facilitating high quality research. Centre for Research Quality and Policy Impact Studies (R-QUEST) Policy brief no. 1 (2026), Link: https://www.r-quest.no/wp-content/uploads/2017/12/R-QUEST-Policy-Brief1-2016-final.pdf

[4]Universitets- og høyskoleloven, Link: https://lovdata.no/dokument/NL/lov/2005-04-01-15

[5]Policy for Open Science at NTNU, Link: https://www.ntnu.edu/policy-for-open-science

Useful/helpful documents

- The Research Council's strategy for 2020-2024, Link: https://www.forskningsradet.no/en/Adviser-research-policy/strategies-and-plans/
- Stortingsmelding 40 (2020-2021) «Mål med mening – Norges handlingsplan for å nå bærekraftsmålene innen 2030», Lenke: https://www.regjeringen.no/no/dokumenter/meld.-st.-40-20202021/id2862554/