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Data Article

Data on the scope of the literature on participatory sustainability science 2000–2018: Bibliography and meta-analysis of selected studies

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ABSTRACT

The data presented in this DiB article offers an insight into scientific literature on conceptual and empirical approaches on participatory sustainability science from 2000 to 2018. It consists of articles retrieved from the Scopus and Web of Science as well as Google Scholar that feature “transitions”, “sustainability”, “case study”, “transdisciplinary” and “participation” in varying combinations in title, abstract or author keywords. Information on bibliography is recorded. Metadata on how the articles were analysed is provided in the dataset. On the basis of 207 relevant articles, 31 case studies were selected and criteria applied to distinguish four approaches to participation that have been planned and practiced in the participation process of the studies. The data is related to the research article entitled “(Un)intended effects of participation in sustainability science: A criteria-guided comparative case study”. The information shows which approach to participation was implemented in the analysed studies.

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Specifications Table

Subject	Renewable Energy, Sustainability and the Environment
Specific subject area	Transdisciplinary research, natural resource management, transition management
Type of data	Table Graphs
How data were acquired	Systematic search in Scopus, Web of Science databases and Google Scholar
Data format	Raw data
Parameters for data collection	The terms “transitions”, “sustainability”, “case study”, “transdisciplinary” and “participation” were searched in varying combinations in title, abstract or author keywords until December 31, 2018. The searches on SCOPUS and WOS were limited to the field of environmental sciences, energy and social sciences. An additional search was processed on Google Scholar, using the same parameters.
Description of data collection	First step: Collection of potentially relevant publications that were published in scientific journals according to their citations. Second step: a content related selection of studies was carried out. By this process, 31 studies were selected for an in-depth analysis from 207 potentially relevant studies.
Data source location	Global data
Data accessibility	The dataset is provided in an Excel file with the article
Related research article	Annika-Kathrin Musch, Anne von Streit **(Un)intended effects of participation in sustainability science: A criteria-guided comparative case study** Environmental Science and Policy

Value of the Data

- The dataset provides an overview of scientific literature in the area of participatory sustainability research with a focus on transdisciplinary studies. The dataset is useful in better illustrating the material used and data analysed in the related research article.
- Researchers that plan to design a participatory process can benefit from this dataset by (i) gaining an overview of relevant existing studies in the fields of environmental sciences, energy and social sciences and, in particular, studies that follow approaches of transition management, natural resource management or transdisciplinary research, (ii) comparing practiced approaches to participation, (iii) learning from mentioned shortcomings and possible limitations.
- The dataset builds a structured baseline for further in-depth analyses of used participatory approaches and occurring shortcomings for studies on different geographical levels.
- The dataset contains graphs that show the different implemented approaches to participation.

1. Data

The dataset (see Excel file with this article) describes relevant existing studies covering different fields of sustainability science that follow approaches of transition management, natural resource management or transdisciplinary research. It contains five Excel spreadsheets.

The first spreadsheet shows the metadata for each article which includes bibliographic information such as authorship, title, year of publication, journal and number of citations. Additionally, the geographic area(s) that the article focuses on is/are included. Supplementary to the bibliographic information, additional metadata is provided to identify the approach to participation, i.e. the main criteria distinguishing the four approaches to participation as well as shortcomings related to participation processes mentioned in the publications.

The second spreadsheet provides the raw database. The number of included articles in the dataset is 207 covering the years from 2000 to 2018.

Fig. 1 shows the distribution of included publications in the database per year. This figure can also be found on the third spreadsheet.

Fig. 2 shows the distribution of analysed publications in the database per year. This figure can also be found in the dataset on the fourth spreadsheet.

The fifth spreadsheet contains the analysis of the selected studies. 31 cases were selected and the criteria listed in the metadata were applied to distinguish four approaches to participation that had

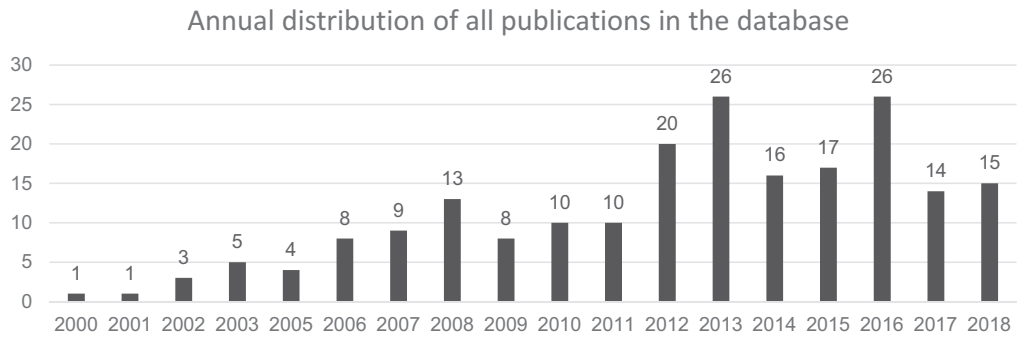

Fig. 1. Annual distribution of all publication included in the database.

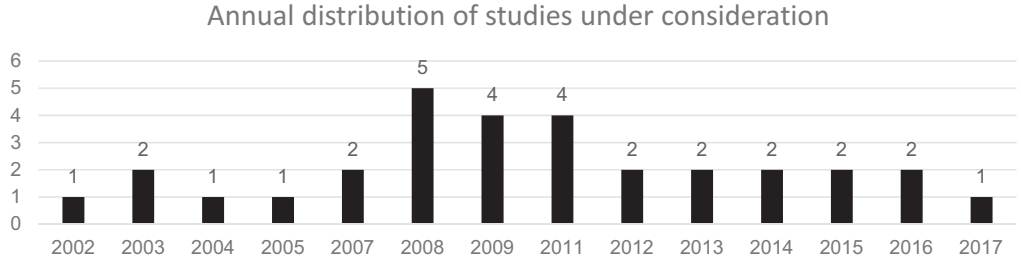

Fig. 2. Annual distribution of studies under consideration.

been planned and practiced in the participation process of the studies. The summary and interpretation of analysis is included in the research article entitled "(Un)intended effects of participation in sustainability science: A criteria-guided comparative case study" (Musch and von Streit, 2019).

2. Experimental design, materials, and methods

The Scopus (https://www.scopus.com/) and the Web of Science (https://apps.webofknowledge.com/) databases were used to collect relevant articles. They represent the two main collections of academic literature [1]. Additionally, for reasons of comparison the search was also carried out on Google Scholar (https://scholar.google.de/).

The search terms "transitions", "sustainability", "case study", "transdisciplinary" and "participation" were used in varying combinations. The searches on SCOPUS and WOS were limited to the field of environmental sciences, energy and social sciences. The additional search on Google Scholar was valuable as it much more reflected the search term combination without focusing too much on citation counts. Studies carried out prior to 2000 are not included. The summary and table of search terms used for the systematic literature review can be found in the original research article.

Following data screening and cleaning [2] for each search term combination, the 30 most relevant publications were selected from the years 2000–2018. The selection was based on the number of citations. Overlapping findings, meaning the same publications from these selected studies, were then excluded. In a second filtering round, the abstracts were scanned for relevance (207 publications). The dataset is with this article, see second Excel spreadsheet.

Highly cited publications on detailed case studies were selected for analysis, such as Larsen and Gunnarson-Östling [3] (110 citations) which use a Transition Management (TM) approach or Fraser et al. (2006) [4] (652 citations), which provide examples from Natural Resource Management (NRM)

approaches. The main selection criterion for the sample of the dataset was the completeness of information on implemented participatory processes provided in the case reports. For this reason, a significant amount of publications with a small number of citations were selected, typically describing detailed case studies. The final dataset for analysis consists of 31 studies.

The research design reflects the idea that a comparative case study approach with a small to medium number of cases can provide insights that are more informative and also more stringent than single case-studies [2]. Most of the studies answered concrete research questions, presenting project outputs, and placed the participatory process in the method section. Four studies represent evaluation documents that include structured, detailed analysis and comparison for 13 projects. As this provided valuable and transparent information, we conducted a comparative analysis and incorporated these projects in our investigation, keeping in mind that these publications already represent interpretations by the authors who published the study.

3. Method of data analysis

First, publications were scanned to identify the project goals and the planned participatory process. For example [4], planned to engage a wide range of stakeholders and empower a rural community in Botswana using local knowledge and western scientific tools such as interviews and focus groups. This project goal reflects emancipatory aspects. In contrast, the main objective of the participatory scenario process in Ref. [5] was the collaborative knowledge-production phase aimed at involving all relevant stakeholders and the broad public to enhance perspectives, foster deliberative discussion, leading to new knowledge and mutual learning. This approach reflects a deliberative understanding to participation and was coded accordingly.

Secondly, the different criteria that distinguish implemented participatory process were applied – to see what had been practiced and if the planned approach to participation was translated into practice. Detailed information concerning the criteria is included in the metadata file of the provided dataset. Depending on the depth and accuracy of the published material, some criteria could be traced more clearly than others.

Each criterion in the table has an abbreviation, such as E1 (an emancipatory process was initiated by the research team and was ideally then self-managed) in contrast to C1 (a competitive process was initiated by the research team to display preferences regarding a sustainability issue). In the dataset the criteria from F1 (…), C1 (…), D1 (…) to E1 (…) are attributed to the projects using a 1 = “yes” and 0 = “no” coding. This allows to compare how often a certain element was practiced in the different projects. As each approach consists of four elements (e.g. F1, F2, F3, F4) a project could have also practiced partly a functional approach and partly a competitive approach. Distinguishing the single criteria allows to trace differences in planning and implementation and possible emerging contradictions.

Each publication was coded independently and then all publications were compared. Additionally, to learn something about divergences between planning and implementation the limitations/shortcomings mentioned in the publications were traced and included in the database, using again a 1 = “yes” and 0 = “no” coding. Depending on the depth and accuracy of the published material, some characteristics could be traced and distinguished more clearly than others. Categorisations follow the authors’ interpretation.

An overview of the studies used for the criteria-guided comparative analysis is included as an appendix in the original research article.

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Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.dib.2019.105065.

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