

Chapter 2

Research Method

2.1 Research Output: Type, Region and Engagement with Sustainability

Our research methods drew from a combination of quantitative and qualitative techniques within two stages and a number of phases. The research process was a negotiated one. Each stage began with the development of protocols by the three authors. Continued discussions throughout the research enabled us to further align conceptions.

The first stage of the research investigated trends relating to quantity and content of research output. It was underpinned by four hypotheses:

- The number of English-language publications on rural development increased significantly over the last three decades.
- The types of publications on rural development shifted from measurement research to descriptive research to intervention research over time, as per Bailey et al. (2009) and Sanson-Fisher et al. (2006).
- The majority of publications on rural development originated from developing regions.
- Engagement with sustainability in the field of rural development increased significantly over the last three decades and the majority of sustainability intervention studies employed best practice principles to engage communities in development initiatives (AusAID 2007; Bowen 2005; Cavaye 2001).

2.1.1 Data Sources

Rural development is a broad field of research that traverses various discipline areas (Summers 1986). We were cognisant that relevant publications could well appear in a number of different journals indexed in different databases. In order to identify suitable databases, we began by searching the university's database sets to compile a list of those that appeared most relevant. Next, we consulted the university's social sciences liaison librarian, who provided feedback so as to refine our list of databases and proposed search strategies. Based on this advice, we selected Scopus, Wiley Online and CAB Direct databases to locate rural development publications during the periods, 1 January 1988 to 31 December 1989, 1 January 1998 to 31 December 1999, and 1 January 2008 to 31 December 2009.

Citations were selected that included the following terms in the title, abstract, paper or keywords: rural development, community development, communit* develop* AND rural, rural community development. Abstracts were used to select and classify publications that were written in English and were related to the theory and practice of rural development around the world. Abstracts relating to issues other than rural development or those not written in English were excluded.

2.1.2 Classification of Publications

In a first phase of Stage 1, we classified publication abstracts (1,036 in total) according to: (a) research type; (b) continental region; and (c) engagement with sustainability. In a second phase, we identified those publication abstracts (31 in total) that had been classified as intervention and engaged with socioecological issues or sustainability principles. We then further classified these publications according to the learning strategy employed in the intervention (Fig. 2.1). All three authors undertook a preliminary classification exercise involving randomly selected abstracts—10 by research type, 10 by engagement with sustainability and 10 by learning strategy. This process enabled the three authors to begin to clarify and align their understanding of the various classification categories. Originally, we planned that the lead author would code the remainder of the publications and the second author would assess for inter-rater reliability through selection of a random sample of 10 % of the publications from each category. However, the classification process developed in a much more organic manner. What first appeared to be a mechanical process turned out to be an interpretive one based on conceptual reasoning and continuous exchange between all authors until there was greater than 90 % agreement for classifications by research type, engagement with sustainability and learning strategy.

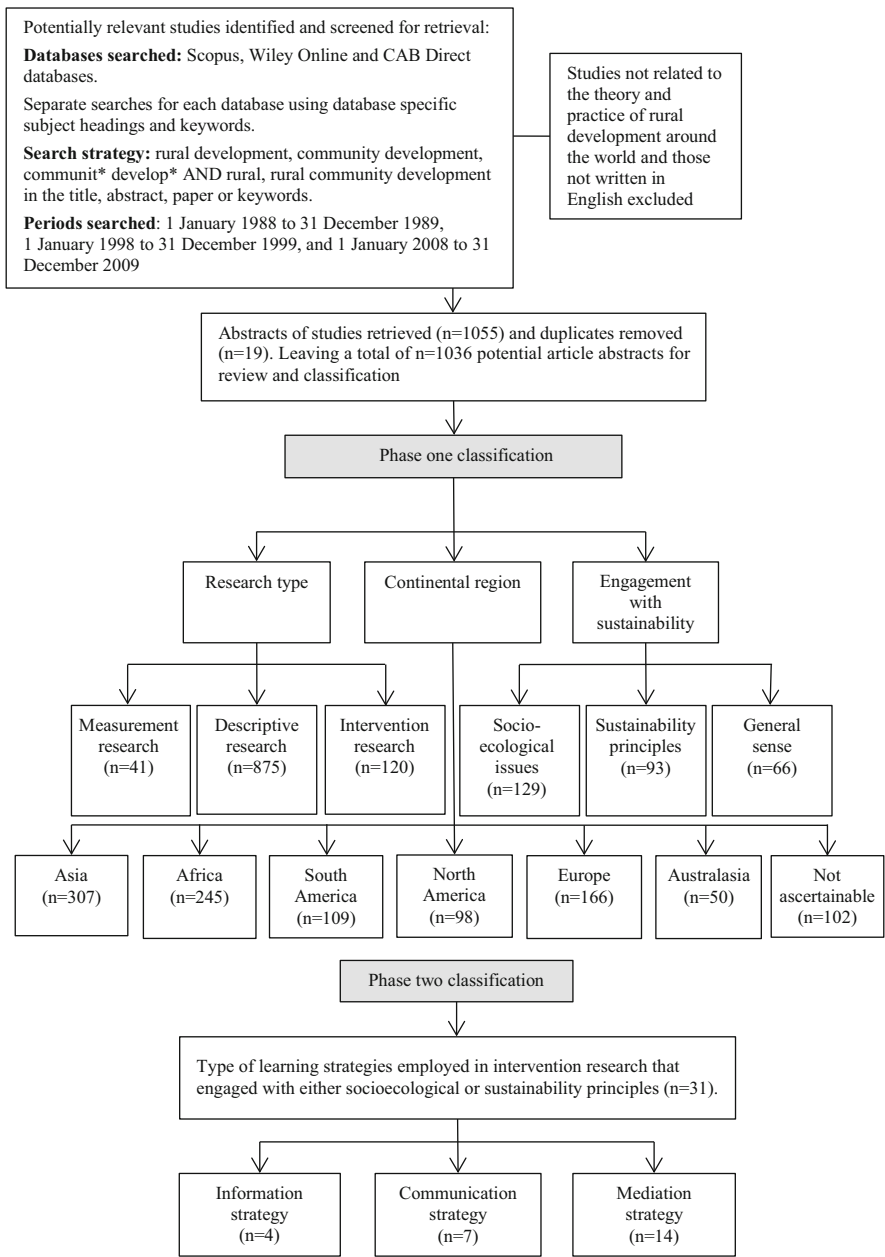


Fig. 2.1 Search strategy and classification

2.1.3 *Research Type*

Research type involved classifying publications according to Sanson-Fisher et al. (2006) and Bailey et al. (2009), as follows:

- *Measurement research*: This type examined the development, evaluation of quality or testing of a measure for a defined aspect of rural development and included an assessment tool, measurement tool or indicator system.
- *Descriptive research*: This type described a rural development issue and/or applied theory to frame the problem/issue.
- *Intervention research*: This type included a programme, initiative or strategy implemented to address a rural development issue.

If a publication was both descriptive and intervention by type, it was classified as intervention research. If it was both descriptive and measurement, it was classified as measurement research.

2.1.4 *Continental Region*

Articles were classified according to the continental region wherein the research was undertaken or the rural development context was situated, as follows: Asia, Africa, South America, Europe, North America and Australasia. A total of 102 abstracts were not classifiable by region. These abstracts were left unclassified. In a small number of publications, research was conducted across regions. In these cases, each region was counted.

2.1.5 *Engagement with Sustainability*

Following our fourth hypothesis, the initial intention was to quantify the number of publications that engaged with sustainability. However, we soon began to discern differences in ways that rural development researchers engaged with sustainability. These differences are reflected in the following classifications:

- *General sense*: Publications in this category referred to the term sustainable or sustainability in a general sense (i.e., simply to mean ‘to keep going’), without linking it with socioecological issues or sustainability principles.
- *Socioecological issues*: Publications in this category discussed socioecological issues such as climate change, land degradation or soil desertification in the context of rural development, however, did not refer to the term sustainable or sustainability.
- *Sustainability principles*: Publications in this category included the term sustainable or sustainability and linked it to socioecological issues and/or

sustainability principles. Examples included publications that referred to sustainability policies, development goals or frameworks.

All categories were mutually exclusive.

Following our interest in learning processes employed in sustainable rural development, we then applied a finer grained classification to those intervention studies that engaged with socioecological issues or sustainability principles, in accordance with Scott and Gough's (2003) framework, as follows:

- *Learning as one-way information flow from facilitator to learner:* This category refers to learning that occurs through a one-way process of instruction. According to Scott and Gough (2003), when information is straightforward and has a high degree of general consensus, it can become unproblematically useful to the learner and, therefore, does not require extensive negotiation or time-consuming pedagogies. Instruction here is procedural in the form of, for example, a written leaflet, video or instruction manual outlining how to make a wildlife pond.
- *Learning as two-way communication between facilitator and learner:* In this category, learning requires two-way communication. The information can be complex and lack consensus, therefore, learning occurs through a process of negotiation and engagement with the learner/s. Examples are projects that emphasise participatory processes to manage natural resources or resolve local sustainability issues.
- *Learning as mediation between all relevant stakeholders:* This category applies in circumstances where the issue or relevant information is highly complex and contested, often involving entrenched interests and positions. Learning will require multiple exchanges of knowledge, understanding, expertise, skills and interests through processes of stakeholder inclusion, negotiation and conflict mediation. One example may be the implementation of adaptive responses to climate change. In terms of climate change, there are groups of people who dispute the science which, in turn, leads to conflicting interpretations of the issue's significance, risk and urgency. Here, information and communication strategies by themselves are inadequate because they fail to equip learners with the necessary skills to enable them to continue to learn adaptively in response to challenges, as well as feedback loops.

For the statistical analysis, absolute numbers of publications over the observed time intervals (Tables 3.1 and 3.2) as well as comparisons of proportions of publications involving engagement with sustainability (Table 3.3) were compared using suitable exact versions of chi-square tests. For all tests, an alpha level of 5 % was set.

2.2 Research Approaches, Characteristics and Quality

In a second stage of this research we drew from the intervention studies identified in stage one to undertake an appraisal of the research approach (i.e., quantitative, qualitative or mixed methods), characteristics and quality.

2.2.1 Data Sources

For this stage, publications were sourced from the intervention studies as classified in stage one. A qualified statistician recommended a representative sample of 10 % of the 120 intervention research abstracts. We doubled the recommended sample size by proportionally sampling 20 % of the total abstracts across the time periods (Fig. 2.2) as follows:

- 1988–1989: 5 from 24 total publications by selecting every fourth publication.
- 1998–1999: 11 from 57 total publications by selecting every fifth publication.
- 2008–2009: 8 from 39 total publications by selecting every fourth publication.

If a corresponding publication could not be located, the next available publication was selected. In total, 24 intervention publications across the three time periods were collated for further classification and assessment of research quality. It is important to note that in the first stage of the research, publications were classified according to research type on the basis of abstracts alone. However, in order to appraise research quality, full papers were accessed.

To appraise research quality, the Effective Public Health Practice Project (EPHPP) (2009) Quality Assessment Tool for Quantitative Studies and the Critical Appraisal Skills Programme (CASP) (2013) Qualitative Research Checklist were utilised. The tools were selected based on evidence that supports their effectiveness (Armijo-Olivo et al. 2010; Thomas et al. 2004), as well as the third author's prior experience with the tools (Clifford et al. 2013; Jongen et al. 2014). The EPHPP and CASP tools were developed for the purpose of evaluating the trustworthiness, relevance and results of published research in public health.

The EPHPP tool is designed to assess quantitative intervention study designs, such as randomised control trials and before-and-after and case-control studies, according to eight components (A–H): selection bias; study design; confounders; blinding; data collection methods; withdrawals and drop-outs; intervention integrity; and analyses (EPHPP 2009). The tool provides guidelines in the form of a dictionary to clarify components and to support assessor judgement (see EPHPP 2009). Components A to F are assigned a rating of strong (three points), moderate (two points) or weak (one point); component scores are averaged to provide an overall study score. Components G and H require the recording of descriptive information, in line with the dictionary's recommendations. The tool has been reported to have content and construct validity (Armijo-Olivo et al. 2010).

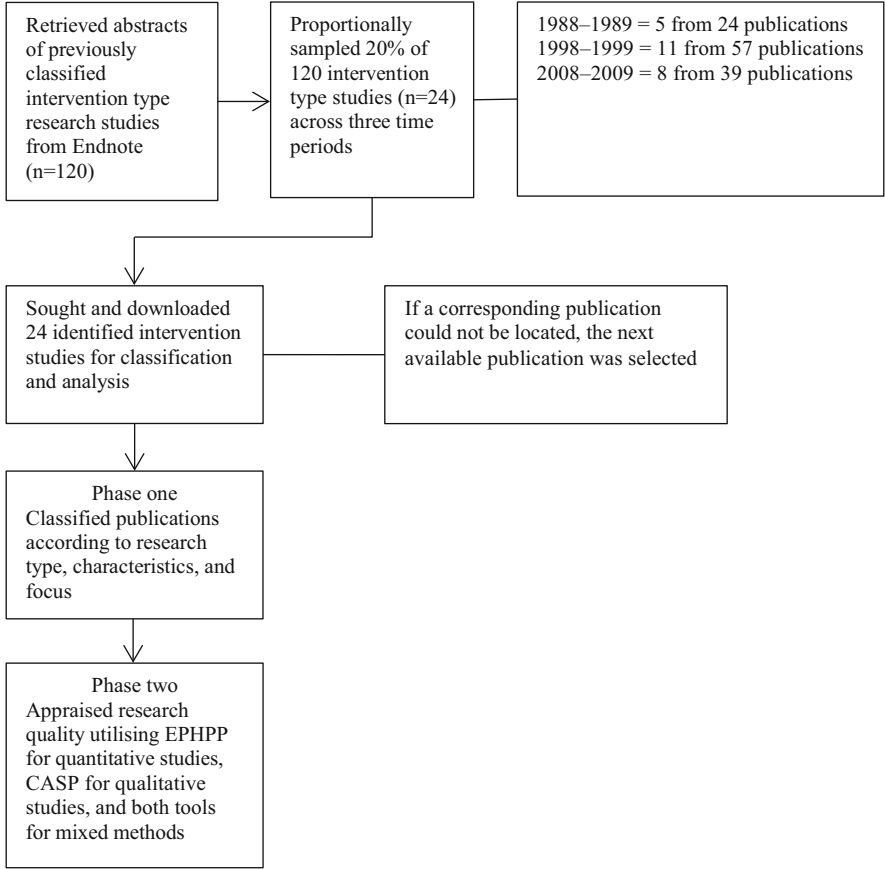


Fig. 2.2 Intervention research classification and quality appraisal processes

The CASP tool provides a checklist of key criteria for assessing the quality of qualitative research studies through a set of ten questions designed to assess internal validity, the results and relevance to practice (Dixon-Woods et al. 2007; National Collaborating Centre for Methods and Tools 2011). Assessors give the ten questions a ‘yes’ or ‘no’ rating based on the clarity of study objectives; the quality of the methodology, research design, data collection and analysis; ethical considerations; whether there is a clear statement of findings; and the value of the research. Guidelines for the tool are provided through a number of prompts, related to each question, to support assessor judgement. Assessors are also encouraged to record descriptive information.

2.2.2 Classification and Appraisal of Publications

Classification and appraisal of publications in this second stage entailed two steps: determining study characteristics; and undertaking a quality appraisal of the publications. To determine study characteristics we classified the 24 intervention studies according to: (a) quantitative, qualitative or mixed methods research approach; (b) evaluation or description of intervention research type; (c) process, outcome or impact evaluation type; and (d) the focus of the research intervention. Study quality appraisal involved assessing quality by utilising the EPHPP tool for those publications that we classified as quantitative research, the CASP tool for qualitative research types, and both EPHPP and CASP tools for the mixed methods research types.

The classification process in the first phase was straightforward. However, the second phase, requiring appraisal of quality, was emergent. Firstly, we met on three occasions to identify and clarify the aim of the appraisal, total publications to appraise, tools to be used and procedures to follow, and to undertake a preliminary appraisal exercise with one randomly selected publication from each time period to clarify and align our understanding of the EPHPP and CASP tools. We determined that the first and second authors would independently appraise each of the 24 publications and that the third author would moderate any differences. Following this exercise we expected that the tools would enable the appraisal process to be a mechanical one. However, as with the first stage of our research involving classification of broad research types and engagement with sustainability, the process developed into an organic, interpretive and iterative one based on conceptual reasoning and requiring continuous comparison, discussion and negotiation between all authors. The negotiation took place over a total of nine meetings, until there was greater than 90 % agreement across all 24 publications. The first and second authors kept summary notes and comments about specific aspects of the methods throughout the independent assessment process. The notes facilitated discussion of different interpretations of the publications and tool items. Differences between the first two authors' assessments, tending to arise due to different interpretations of the tools' components (appraisal questions) and reporting of research, were moderated by the third author.

2.2.3 Research Characteristics

The first step in determining research characteristics required classification of publications according to research methods applied within quantitative, qualitative or mixed methods approaches. As per Burns (2000), quantitative research applies statistical, mathematical or numerical data and analysis methods to establish general laws or principles that explain phenomena. Qualitative research aims to make meaning of the subjective, experiential world through the collection, organisation

and description of textual or pictorial data. Definitions of these broad methodological types in context of the rural development field are as follows:

- *Quantitative research*: This type used tools such as surveys or questionnaires to collect data in order to classify, count or evaluate features and/or construct statistical models to explain the process or impact of a rural development intervention.
- *Qualitative research*: This type used words, pictures or artefacts to explain the process or impact of a rural development intervention.
- *Mixed methods research*: This type used a combination of quantitative and qualitative tools to explain the process or impact of a rural development intervention.

Recall in the first stage of the research that we classified publications as measurement research, descriptive research or intervention research. In this second stage, we further classified intervention research as a description of an intervention or an evaluation of an intervention. If the research was determined to be an evaluation of an intervention, then we classified it as a process, outcome or impact evaluation, as per Patton (2002):

- *Process evaluation*: This type assessed the procedures enacted during the development and/or implementation of a rural development intervention.
- *Outcome evaluation*: This type assessed the degree to which the intended objectives of a rural development intervention were achieved.
- *Impact evaluation*: This type assessed the overall or net effects of a rural development intervention.

We additionally examined the publications according to the intervention focus. All interventions broadly related to building rural community capacity or improving livelihoods. However, we were interested in the specific focus of the intervention (e.g., resource management, health, education and training, agriculture and farming, poverty alleviation etc.).

2.2.4 Research Quality

Research quality involved assessing publications according to the EPHPP Quality Assessment Tool for Quantitative Studies, the CASP Qualitative Research Checklist, or both tools for mixed methods research.

- **EPHPP**: This is a critical appraisal tool designed to assess quality in quantitative research, according to eight components (Appendix A).
- **CASP**: This is a critical appraisal tool designed to assess the applicability, reliability and validity of published qualitative research, according to a series of ten questions (Appendix B).

During the appraisal of the qualitative research studies, the first two authors began to independently discern differences in terms of the scale of the intervention and the positioning of the intervention relative to the research aims. We identified a broad pattern wherein rural development researchers:

- Drew upon a case study of an intervention primarily to substantiate an argument or thesis;
- Reported on a single, small-scale intervention; or
- Reported on a large-scale project, often with reference to multiple publications generated by them through involvement in the project over time.

Box 2.1 provides examples of studies within these three categories. This additional classification framework supported the appraisal process and added to our developing understanding of trends within rural development intervention research.

Box 2.1: Examples of Qualitative Rural Development Research

Category 1: Substantiation of an Argument or Thesis

Humphreys (1999)

This paper critiques projects in northern Thailand working to counteract female urban migration due to poverty. The case is made through the example of ThaiCraft, a Thai non-governmental organisation that employs young women in income-generating, rural home-based craft projects that support traditional technologies of textile production. The author argues that, in reality, craft or textile-based development projects only serve to hone women's skills for poorly paid, insecure work, while maintaining traditional patriarchal value distinctions between women who weave and women who migrate, as well as patriarchal structures by encouraging women to do home-based work.

Schroeder (1999)

This article critiques fiscal policy shifts in Africa that have devolved environmental management from the state to the community level with little benefit for the community. The author illustrates his argument through the Gambian-German Forestry Project, a German-funded (government and donor partnership) community forestry project in Gambia. The project boasts a community-based approach to forest management under the premise that it promotes greater participation by disenfranchised groups in the decision making process. However, project documentation reveals that, in reality, the Gambian government and German donor have retained high levels of managerial control over resource management and expanded the programme while reducing services and financial aid.

(continued)

Box 2.1 (continued)**Braden and Mayo (1999)**

This article argues for the importance of place-based culture in community development and rebukes community development programs that adopt a culturally hegemonic approach. The authors contend that most community development initiatives use culturally dominant languages, economies and forms of government that restrict the capacity of more disadvantaged communities to determine their own development and, in turn, work against, rather than for, the intent of the initiative. The argument is illustrated through a case study from Burkina Faso that provides an example of how video can be used as a tool to build community participation and empowerment in a culturally inclusive manner.

Category 2: A Single, Small-Scale Intervention**Harris (2009)**

This article describes an ethnographic study focusing on a video-production workshop designed to promote participatory processes and empowerment of rural women in Fiji. It was found that the video content produced by the women in the workshop gave significance to Fijian women's work, abilities, skills and potential as income producers, as well as highlighted community needs and linkages.

Terry and Khatri (2009)

This article describes the application of participatory learning and action (PLA) processes to identify and understand factors that influenced two Fijian communities in the implementation of changes to pig waste management practices. The selected villages were located in areas with expanding tourism and were experiencing low water quality from uncontrolled release of pig waste. The PLA processes were found to assist communities identify and prioritise a range of pig waste problems and one village to install a new pig waste management system.

Mavrocordatos (1998)

This article describes the author's experiences in developing community listening theatre with a Namibian non-governmental organisation working in shanty-town districts with dispossessed farming communities. Dramatic expression was found to allow previously diffident people to address pressing

(continued)

Box 2.1 (continued)

political issues and to challenge their own self-oppression. In some cases, participants organised collective action around specific issues of concern and their own (re)empowerment.

Category 3: A Large-Scale, Long Running Project**Huacuz and Agredano (1998)**

This article describes a decade-long, large scale and socially driven rural electrification programme in Mexico that aimed to provide, basic electrical services to rural Mexican sites without electricity. The programme was supported by government finance from 1989 to 1996. By the late 1990s, the programme covered about 50 % of Mexican states and had evolved into a mature, well-institutionalised operational framework with quality assurance processes and measures, inclusive of user training and technical specifications.

Johnson et al. (1989)

This article describes the Kibwezie Rural Health Scheme, a decade-long, large scale, community-based rural health scheme in Kenya. The scheme, developed in partnership between the Ministry of Health and the African Medical and Research Foundation, was designed as a replicable model health programme and underpinned by a health promotion and disease prevention philosophy. The authors include details of the philosophy and objectives of the programme, the individual components, cost analysis and lessons learned.

Garza and Eller (1998)

This article describes the conceptualisation, design and implementation of the Rural Community College Initiative, which sought to improve the institutional capacity of rural community colleges in the United States to act as catalysts for change in their communities and regions. Over a decade-long period, the programme engaged nine community colleges from geographically diverse and economically distressed rural areas in designing and establishing education programmes capable of driving local and regional development through increased access to higher education and economic stimulus.

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Sustainability

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2015, X, 63 p. 3 illus., Softcover

ISBN: 978-3-319-17283-5