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A Systematic Review of Rural Development Research

Characteristics, Design Quality and Engagement with Sustainability

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Preface

This book examines the nature and quality of publication output across the field of rural development globally over time. The aim is to determine the extent to which rural development, as an academic and practice discipline, is developing in such a way as to potentially facilitate evidence-based decision-making regarding local, national, and global challenges of our times. The book is an expanded version of the 2013 Sustainability Collection International Award for Excellence in New Research and Thinking winning paper (see Evans et al. 2013 in *The International Journal of Environmental, Cultural, Economic, and Social Sustainability: Annual Review 2013*). We acknowledge that relevant sections of that paper are reproduced in this book.

Achieving healthy and viable rural communities in the face of rapidly changing social, ecological, and economic conditions is a stated global priority (United Nations 2010; World Bank 2010). Rapid urbanisation, inequalities in income and service levels within and between communities, and population and economic decline are challenging the viability of rural communities worldwide (ARUP 2008; Australia Futures Task Force 2007; Daley and Lancy 2011; Thomas 2008). Persistent global scale (re)occurrence of these and related issues has led governments to prioritise policies aimed at enhancing the livelihoods of people living in rural regions (Daley and Lancy 2011; Giarchi 2006; Shortall and Warner 2010).

Approaches to reviewing the literature on rural development have focused on a wide range of issues relating to, for example, education, gender, health and nutrition, and economic development, especially agriculture, through a number of explicit and transparent qualitative and quantitative methods (see Department for International Development 2011). However, none of the approaches have provided an analysis of overall trends of the quantity, characteristics, and quality of research output over time, which is useful for gaining a broad view of the field. Examining whether the types of publications on rural development have shifted from measurement research to descriptive research to intervention research over time can indicate whether research efforts have progressed beyond describing rural development issues to providing data on how to facilitate positive change (Sanson-Fisher

et al. 2006). Although the systematic literature review approach has been widely adopted in the health sciences (Berrang-Ford et al. 2011), it has not yet previously been applied to the rural development field.

The systematic literature review method also contributes to ongoing debates on research quality. Scientific research is often criticised in academic, professional, and public policy circles for being uneven and lacking credibility (Centre for Knowledge Translation for Disability and Rehabilitation Research 2005; Gersten et al. 2000; Shavelson and Towne 2002). Research about the same issue can vary considerably in its assumptions, methods, and findings (Gough et al. 2013). A lack of overall agreement on a specific set of standards for assessing research quality can add to the confusion, making it more difficult for research users to trust research. A number of groups have been working to bridge this gap through the development of research appraisal tools. For example, the Effective Public Health Practice Project (2009) has established a standardised quality appraisal tool for quantitative studies. The Critical Appraisal Skills Programme (2013) has also established a number of tools for the evaluation of various research designs, including qualitative studies. Our research draws from this work to appraise the quality of research in rural development.

In this brief, we propose that the systematic literature review method offers promise in informing evidence-based rural development policy and practice. Specifically, we apply the approach used by Sanson-Fisher et al. (2006) and Bailey et al. (2009) in order to undertake a systematic literature review of rural development publications in the English language, investigate changes in the field across three time periods (1988–1989, 1998–1999, and 2008–2009), and classify research publications by type, region, and engagement with sustainability. We then apply 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 to appraise the research approaches, characteristics, and quality of intervention studies within the rural development field. We seek to evaluate the general nature, quality, and reliability of growth in knowledge regarding rural development and, more specifically, whether the field is growing in a manner that reflects research and policy priorities, wider social trends, and interests related to sustainability in a robust and reliable manner.

Findings reveal that descriptive research has dominated the rural development field since the 1980s. Research output has shifted from developing to developed regions. The proportion of publications linked to sustainability increased significantly over the time period under review, and the majority of sustainability interventions employed processes of engaging the community and wider stakeholders. The authors consider implications for learning that can be derived from the systematic literature review process by highlighting four points relevant to researchers, policymakers, practitioners, and funding bodies in the field. Findings from the appraisal of research approaches and characteristics and quality of intervention studies reveal that rural development researchers have a predisposition for qualitative research approaches. Most intervention studies were found to be of a descriptive type, with only a small percentage comprising evaluation research. The quality

of intervention studies in rural development research was found to be predominantly poor, thereby limiting their usefulness for evidence-based decision-making.

We recommend two practical steps that individuals and teams can take to improve both the quality and the potential utilisation of their research at minimal extra cost. One step is to utilise standardised research quality assessment tools and reporting guidelines to routinely review peers' research grant applications and journal manuscripts prior to submission. The second step is to be explicit, when developing research proposals, as to how and by whom the research results will be utilised in order to inform decision-making.

Finally, this book promotes quality and utilisation of research in order to inform evidence-based decision-making within the rural development field. However, the quality improvement and utilisation strategies and understandings promoted in this book are transferable and, hence, we encourage researchers, policymakers, and practitioners from other fields to critically consider the work and adapt it for their own contexts.

Cairns, Australia

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Contents

Chapter 1
Introduction and Background

1.1 Rural Development

Rural development has multidimensional facets that represent a significant policy concern requiring new thinking and explicit initiatives (Australia Futures Task Force 2007; Daley and Lancy 2011; Organisation for Economic Co-operation and Development 2006a). However, governments do not necessarily have a complete understanding of the types of policies, programmes and practices that can enhance opportunities for people living in rural communities. In an era when governments and policymakers increasingly engage in evidence-based policy decision making (Petticrew and Roberts 2006), research can make a valuable contribution to understanding rural development and provide evidence to guide policies and practices.

A challenge when undertaking studies in rural development is the lack of a clear and consistent definition used to classify a region or an area as rural. For example, Woods (2005) highlighted that there are numerous definitions that have been applied by rural researchers and governments, based on varying criteria. While some countries employ qualitative definitions, others use a population figure or population density as the defining factor (Thomas 2008). Population figures, however, are highly variable. For example, a rural area in Mexico is considered to house fewer than 2,500 people, whereas the comparable figure is 5,000 in India and 10,000 in Nigeria (International Fund for Agricultural Development 2001).

Alongside these variations in definition, it is important to note that rapid levels of urbanisation over the last century have had an ongoing impact on rural-urban configurations (ARUP 2008; Daley and Lancy 2011; IFAD 2011). From 1900 to 2007, the global urban population rose from 220 million to 3.3 billion, signalling an increase from 13 % to 49 % of total population (Thomas 2008). Further, from 2000 to 2025, it is estimated that the number of people living in urban regions will double

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(ARUP 2008; United Nations 2010). Currently, the urban centre population increases by 180,000 people/day (ARUP 2008).

Inequalities between urban and rural regions can be vast. Cities house half the world's population, but consume three-quarters of the Earth's resources (ARUP 2008). The number of rural poor outweighs the number of urban poor, with about 70 % of the world's poorest people concentrated in rural areas (IFAD 2011; United Nations Department of Economic and Social Affairs 2008). Rural communities typically experience disadvantages including lower levels of income, infrastructure and access to essential services, such as health care and education, and fewer opportunities for economic development (ARUP 2008; Ashley and Maxwell 2001; Mission Australia 2006; Peters 2007). Aspirations of an enhanced quality of life drive rapid migration from rural to urban areas (ARUP 2008; Daley and Lancy 2011). The trend towards urbanisation hinders the viability of rural communities, increasing the work load of remaining people and stifling creativity through loss of skills and expertise of those who out-migrate (Global Education 2009).

It is also important to highlight that the extent of the issues associated with development varies between rural communities and that there are wide differences in performance (OECD 2006b). Not all rural communities are suffering. In North America, Europe and Australia, there are rural towns that are thriving (Cavaye 2001; Daley and Lancy 2011; Mission Australia 2006). For instance, in the Australian context, coastal settlements and inland mining centres are prospering, whereas non-mining inland areas are experiencing slow growth and, in some cases, shrinking (Daley and Lancy 2011). The OECD (2006a) identified four policy domains that collectively enhance rural development, as follows: (1) transport and information and communications technology (ICT) infrastructure development; (2) public service provision; (3) valorisation of natural and cultural rural amenities; and (4) rural enterprise promotion. Nonetheless, it seems that attributing any one policy framework to successful rural development is illusive (OECD 2006a). Enhancing rural development requires varying economic, social and environmental improvements—processes that can be informed by research (Cavaye 2001). However, a lack of research providing a holistic overview compromises policy impact and success. This research attempts to address this gap.

1.2 Sustainability

Sustainability deals with complex interconnections between environment, society and economy, involving the distribution of resources and, on account of their finiteness, living within limits (Sustainable Measures 2005). Nonetheless, the term 'sustainability' is sometimes ambiguously applied to serve particular interests that, in fact, work against the essence of a sustainable future, which is dependent on consideration of economic, environmental and social factors, and involvement and combined actions across societal sectors (McLoughlin 2004). This ambiguity underlies our interest to explore the different ways that the concept of sustainability

is applied within rural development research. In policy, sustainability has achieved importance over the last decade (Firth and Winter 2007). Policy makers have adopted the definition of sustainability put forth by the Brundtland Commission (Corney 2006). The Commission defines sustainable development as development that meets the needs of present populations without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development 1987). However, this definition has been critiqued for being too vague and ambiguous, allowing a range of disparate groups to assemble under the 'sustainable development' banner (Kates et al. 2005). For example, under this banner, liberal economists embrace the ideology of economic expansion, scientists emphasise the consequences of degrading ecosystems, and social welfare groups highlight the importance of addressing social inequalities. One concern for us, as researchers, is overuse or ambiguous use of the term 'sustainability', which may lead to its irrelevance. It is important that researchers provide explicit definitions of sustainability within research contexts, as consideration of interconnecting environmental, economic and social factors is core to the development and viability of rural communities and the rural development policy agenda (Scoones 1998).

Further, as researchers from the education discipline, we are interested in the intersection of learning and sustainable development and, in particular, the types of (learning) strategies applied by intervention researchers to engage communities in rural development initiatives. The important role that education plays in working towards sustainability is recognised by the United Nations Educational, Scientific and Cultural Organization (UNESCO 2002) and its Decade of Education for Sustainable Development (UNESCO 2005), and by governments (see for example, Australian Government Department of the Environment, Water, Heritage and the Arts 2009), non-government agencies, such as the World Wildlife Fund, and experts in the field (see Tilbury et al. 2002; Scott and Gough 2003). One of our objectives in this research is to understand the types of formal and non-formal learning strategies that inform the way rural development researchers engage with sustainable development. We propose that the ability to effectively engage with sustainable development is partly determined by the extent of knowledge and understanding of different learning processes and strategies, and the contexts wherein they are likely to be most effective.

Scott and Gough (2003) provided a sustainable development learning model, outlining three strategies through which learning takes place: information, communication and mediation. Information can be understood as learning that occurs through a one-way process of instruction of the learner where new information is unproblematically internalised. Communication is learning that involves a two-way process. The content and usefulness of the new knowledge may be open to question and dispute. Hence, learning requires a process of negotiation and engagement with the learner. Yet, Scott and Gough (2003) asserted that in contexts characterised by complexity and uncertainty, information and communication strategies by themselves may be insufficient. Mediation involves potentially multiple-way exchanges between stakeholders, who bring different disciplinary understandings, skills and values to the table. Mediation involves a facilitation of learning wherein all

stakeholders can expect to share, mediate conflict, seek common ground and develop other skills that enable them to continue to learn adaptively in response to changing circumstances. In this research, we were interested in investigating the types of learning strategies that were applied to engage communities in development initiatives. In considering the complex and contested nature of sustainability and development issues, we propose that the majority of intervention studies employed best practice learning principles to engage communities in development initiatives (AusAID 2007; Bowen 2005; Cavaye 2001). In following Scott and Gough's (2003) model, such principles are best applied through mediation approaches. We expand on this model of learning in the methods section as a way to further classify intervention research. First though, we consider the role that evidence-based policy and practices may play in enhancing rural development outcomes.

1.3 Evidence-Based Policy

Over the past 20 years, there has been an increased focus on applying research to policy development. However, the absence of an overall method to evaluate the contributions of research to improving rural development outcomes makes it difficult to apply evidence to policy formation. Defining the type of research that contributes most to improving knowledge and practice in a field of research is conceptually, methodologically and politically problematic (Sanson-Fisher et al. 2006). The extent to which research results are translated into policy and practice or contribute to improving conditions for rural communities are important indicators, yet they are difficult ones to measure accurately. Simpler and more commonly used measures include the allocation of research resources, number of publications, and number of publications of particular research types and research quality (Sanson-Fisher et al. 2006). By examining the volume and types of publication outputs over time, it is possible to determine if a research field is progressing systematically from simply describing and theorising problems to evaluating strategies and identifying those that are effective and efficient and can also be translated or adapted to the needs of other contexts.

Nevertheless, for research to make a meaningful contribution, it needs to engage with the complete spectrum of measurement, descriptive and intervention research types as defined later on in the book, employing quantitative, qualitative and mixed methodologies (Boaz et al. 2002). There is little point in developing theories to make sense of a situation or describe a problem, if the research fails to investigate what can be done to improve the situation. There is also little point in rushing development and implementation of interventions without understanding the broader social, environmental and economic factors that can impact effectiveness of interventions. Research outcomes are capable of changing the balance of available evidence and thus have implications for policy and practice (Davies 2004).

The expansion of development research requires that evidence is both consolidated and robust in order to be more readily applied to decision making. Existing reviews of rural development research provide thematic, narrative and descriptive overviews of evolving themes (Ellis and Biggs 2001), key issues and questions (Phuhlisani Solutions 2009), as well as specific issues (Ahmad and Abu Talib 2011). We agree with Ellis and Biggs (2001) that any attempt to portray evolving ideas in rural development over a large period of time risks oversimplification. However, there is increasing evidence that, in order to be useful to policy makers, reviews are required to accommodate the complete range of available evidence (Dixon-Woods et al. 2005). A systematic literature review of knowledge and quality output over time can play an important role in the development and delivery of evidence-based policy.

1.4 Research Quality

Research quality is an area of concern for researchers, academic administrators, governments and policy makers alike. Research quality is underpinned by methodological rigour related to design or conduct. Research that lacks methodological rigour runs the risk of bias and, hence, is considered to lack validity and reliability (Reitsma et al. 2009). However, notions of validity and reliability are contested based upon varying ontological, epistemological and methodological assumptions and, as a result, fuel debate about whether, in any case, validity and reliability apply to all types of research (Hannes 2011; Hannes et al. 2010; Mikkelsen 2005; Spencer et al. 2003). Some researchers argue that for research to be useful it needs to be trustworthy and, hence, regardless of methodological background, should be able to assure validity, reliability and objectivity (Hannes 2011). Other researchers accept these concepts for quantitative research but dismiss them as irrelevant to qualitative research, arguing that they stifle interpretive and creative aspects integral to qualitative research (Dixon-Woods et al. 2004). Still others support a set of quality assessment criteria distinct from that applied to quantitative approaches, capable of capturing the particularities of quality in qualitative research (Lincoln and Guba 1985; Seale 2002).

We take the position that assessing the quality in research is important because it provides assurance that the study results are valid, reliable and, hence, trustworthy and useful. However, no single approach to assessing quality is appropriate for all research. The best approach is to be determined by contextual, pragmatic and methodological considerations (Centre for Reviews and Dissemination 2009). Nonetheless, the question of how to best distinguish methodologically sound studies from those that contain methodological flaws is far more established for quantitative than qualitative research (Hannes et al. 2010). Quality in quantitative research is commonly assessed through standardised methods such as the Cochrane Collaboration (2011) Risk of Bias Tool or the Effective Public Health Practice Project (EPHPP) (2009) Quality Assessment Tool for Quantitative Studies.

The appraisal of qualitative research, even though contested (see Hannes et al. 2010; Long and Godfrey 2004), can still be appraised according to tools such as the McMaster Critical Review Form—Qualitative Studies (Letts et al. 2007) or the Critical Appraisal Skills Programme (CASP) (2013) Qualitative Research Checklist. Here we report on the findings from application of the EPHPP and CASP tools to appraise rural development research.

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).

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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.

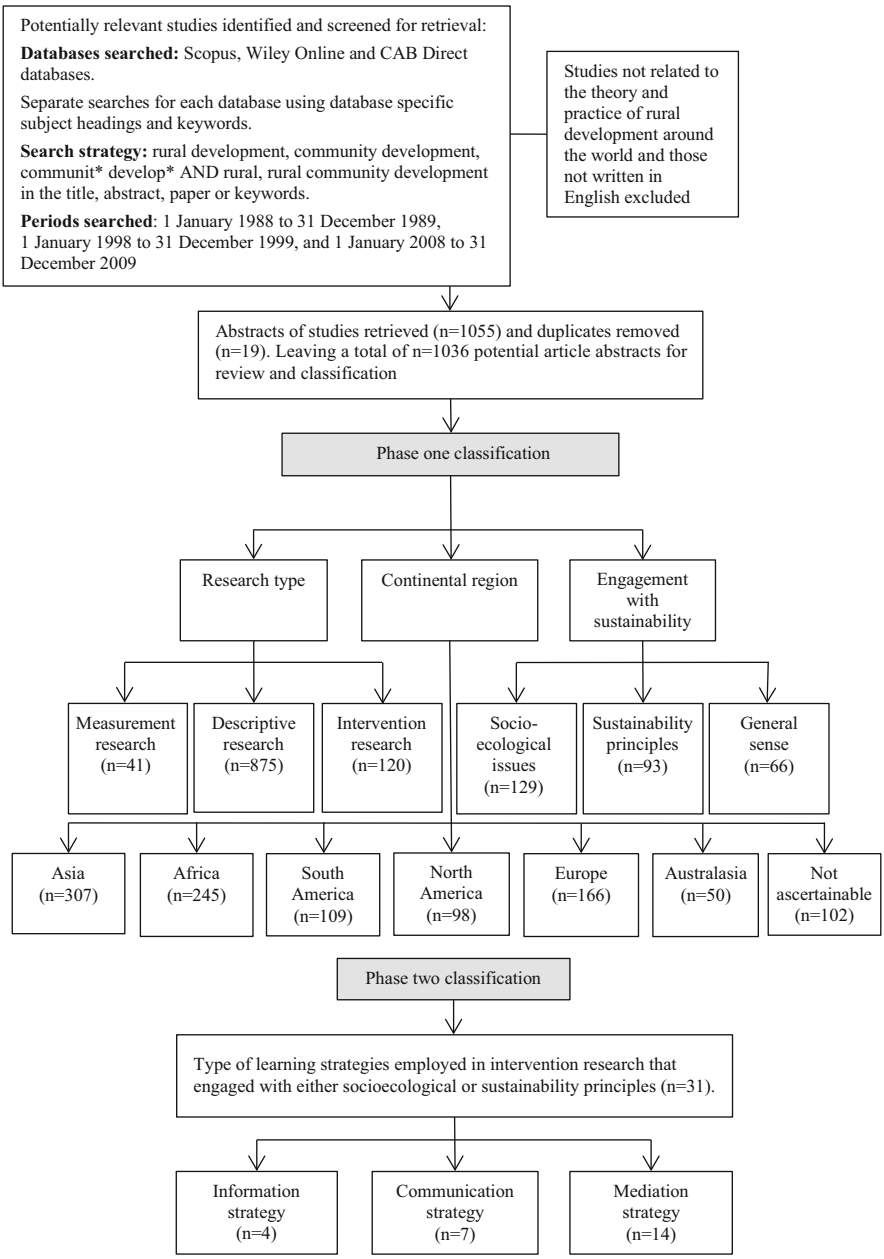

Fig. 2.1 Search strategy and classification

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).

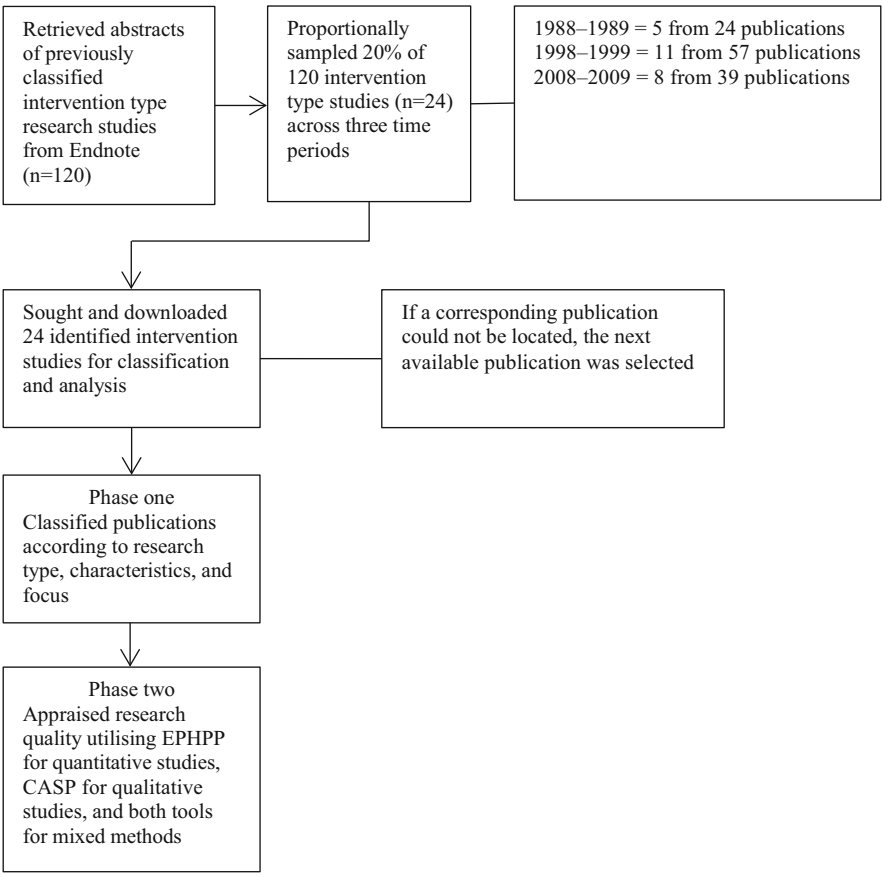

Fig. 2.2 Intervention research classification and quality appraisal processes

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.

Chapter 3
Results

3.1 Research Output: Type, Region and Engagement with Sustainability

Relevant to stage one of the research, Tables 3.1, 3.2, 3.3 and 3.4 provide details of the overall number and type of publications, and the number and proportion of research publications by region, engagement with sustainability and learning strategies employed.

3.1.1 Number and Type of Publications

A total of 1,036 rural development publications in the English language were identified using the search strategy. Of these, 12.4 % were published in 1988–1989, 36.0 % in 1998–1999, and 51.6 % in 2008–2009. For all time periods, descriptive research made up the largest research type, comprising 84.5 % of total publications (Table 3.1). Intervention research comprised the second largest type (11.6 %). Measurement articles can be seen to have made up only 4.0 % of publications.

Absolute numbers of overall publications, as well as in all assessed categories, increased significantly ($p < 0.05$) over the observed time intervals, with the largest gain across the earlier interval. The highest increase in terms of numbers (206 publications) was for descriptive studies across the earlier interval. Across the more recent interval, the increase in descriptive studies was more modest, and there was a notable decline in intervention publications. In contrast, measurement studies realised sustained percentage increases over both intervals, however, these increases were based on small absolute numbers. In summary, the rural development field grew significantly over the observation time period with descriptive studies dominating research output.

N. Evans et al., *A Systematic Review of Rural Development Research*,
SpringerBriefs in Public Health, DOI 10.1007/978-3-319-17284-2_3

Table 3.1 Number and proportion of research publications by type

	1988–1989		1998–1999		2008–2009			Total	
Research type	n	%	n	%	n	%	p-value	N	%
Measurement	3	2.3	9	2.4	29	5.4	<0.001	41	4.0
Intervention	24	18.8	57	15.3	39	7.3	<0.01	120	11.6
Descriptive	101	78.9	307	82.3	467	87.3	<0.001	875	84.5
Total	128	100.0	373	100.0	535	100.0	<0.001	1,036	100.1

Table 3.2 Number and proportion of research publications by region

	1988–1989		1998–1999		2008–2009			Total	
Region	n	%	n	%	n	%	p-value	N	%
Asia	44	33.3	118	29.4	145	26.7	<0.001	307	28.5
Africa	33	25.0	116	28.9	96	17.7	<0.001	245	22.8
South America	24	18.2	42	10.5	43	7.9	0.043	109	10.1
North America	9	6.8	34	8.5	55	10.1	<0.001	98	9.1
Europe	3	2.3	41	10.2	122	22.4	<0.001	166	15.4
Australasia	2	1.5	12	3.0	36	6.6	<0.001	50	4.6
Not available	17	12.9	38	9.5	47	8.6	<0.001	102	9.5
Total	132	100.0	401	100.0	544	100.0	<0.001	1,077	100.0
Developing	101	76.5	276	68.8	284	52.2	<0.001	661	61.4
Developed	14	10.6	87	21.7	213	39.2	<0.001	314	29.2

Table 3.3 Number and proportion of research publications by engagement with sustainability

Engagement with sustainability	1988–1989		1998–1999		2008–2009		Total	
	n	%	n	%	n	%	N	%
General sense	1	0.8	28	7.5	37	6.9	66	6.4
Socioecological issues	3	2.3	57	15.3	69	12.9	129	12.5
Sustainability principles	1	0.8	32	8.6	60	11.2	93	9.0
Engagement total	5	3.9	117	31.4	166	31.0	288	27.8
No engagement total	123	96.1	256	68.6	369	69.0	748	72.2
Total	128	100.0	373	100.0	535	100.0	1,036	100.1

Table 3.4 Number and proportion of intervention studies engaging with socioecological issues or sustainability principles by learning strategy

	Total	
Learning strategy	n	%
One way communication flow	4	12.9
Two way communication	7	22.6
Multiple exchanges/mediation between stakeholders	14	45.2
Not enough information to classify	6	19.4
Total	31	100.1

3.1.2 Continental Region

Table 3.2 shows the number and proportion of rural development publications by region for each time period. Overall, the region with the largest proportion of research publications was Asia (28.5 %), followed by Africa (22.8 %) and Europe (15.4 %). The region with the smallest proportion of research publications was Australasia (4.6 %).

For all regions, publication output increased significantly ($p < 0.05$) over the assessed time intervals. While Africa experienced a 250.0 % increase across the earlier interval (83 publications in absolute numbers), the more recent interval saw a slight decline in African publications. South America was notable in terms of marginal percentage increase (2.4 %) over the more recent interval. Asia, with the highest proportion of research publications for all time periods, also saw a lower increase over the more recent interval when compared to the earlier time period. Proportionally, Asian publications declined from 33.3 % of publications in 1988–1989; to 29.4 %, in 1998–1999; to 26.7 %, in 2008–2009 (Table 3.2).

While numbers of publications for Europe, Australasia and North America were very small in the earliest period (three, two and nine publications respectively), these regions experienced the highest percentage increases over both intervals. Over the more recent interval, Europe realised a 197.6 % increase—the largest in numbers for this interval (81 publications)—with Australasia realising a 200.0 % increase and North America, a 61.8 % increase. Europe's increase in rural development research publications saw it overtake Africa to become the region with the second highest number of publications for 2008–2009. North America overtook South America in terms of publications for this most recent period. Collectively, North America, Europe and Australasia saw a 144.8 % increase in English-language publications across the more recent interval, in contrast with the 2.9 % increase for the largely developing regions of Asia, Africa and South America.

3.1.3 Engagement with Sustainability

Table 3.3 presents the number and proportion of rural development publications by sustainability classification. It is important to reiterate when presenting the following results that abstracts alone were analysed. Out of total publication abstracts, 27.8 % engaged with sustainability by: referring to the term 'sustainable/sustainability' in a general sense; addressing socioecological issues yet without reference to the term 'sustainable/sustainability'; or referring to the term 'sustainable/sustainability' in relation to socioecological issues and/or sustainability principles. In the earliest time period, 3.9 % of articles engaged with sustainability. This percentage increased significantly ($p < 0.001$) over subsequent periods. For the middle period, the proportion of articles engaging with sustainability grew to 31.4 %

(117 articles). The proportion engaging with sustainability in the most recent period remained at 31.0 % (166 articles).

Articles in all sustainability categories increased many fold over the earlier interval, far outstripping the percentage increase in articles that did not engage with sustainability, albeit involving smaller numbers. Of the sustainability categories, articles engaging with sustainability principles showed the highest percentage increases and broadly similar additions over both intervals. It is notable though that across the more recent interval, the percentage increase in articles that did not engage with sustainability exceeded the percentage increase in articles engaging with sustainability.

A final classification was undertaken in terms of the type of learning strategies employed in intervention research that engaged either with socioecological issues or sustainability principles. Publications that simply referred to the term sustainable/sustainability in a general sense were excluded from this classification tier. Overall, there were 31 intervention studies that engaged either with socioecological issues or sustainability principles. Even though this number is small, and the abstract alone did not provide enough information to classify the type of learning in one-fifth of the interventions, Table 3.4 provides some insight into the nature of learning strategies involved in rural sustainability interventions. The majority (67.8 %) of intervention studies that engaged either with socioecological issues or sustainability principles involved two-way or multiple exchanges between stakeholders (i.e., communication or mediation learning strategies). Only 4 of the 31 interventions involved a one-way exchange of information from intervening agency to community.

3.2 Research Characteristics

Table 3.5 summarises the characteristics of a total of 24 intervention publications assessed during the second stage of the study. Note that, in Table 3.5, we use the term ‘programme’ or ‘project’ dependant on how the researchers themselves referred to the intervention.

3.2.1 Intervention Location and Target Group

The location of the interventions varied, with five (20.8 %) taking place in Asia, five (20.8 %) in Africa, four (16.7 %) in South America, three (12.5 %) in Europe, three (12.5 %) in North America, two (8.3 %) in Australasia, and two (8.3 %) in Oceania. All studies reported and/or described the project/programme target group but only two provided precise sample sizes (Capps and Crane 1989; Crouch 2008).

Table 3.5 Characteristics of rural development intervention studies

First author (year), country of author	Intervention aim and location	Intervention focus and strategies	Target group and sample	Study approach and type/design	Data collection methods	Outcomes or effects
Capps (1989), USA	Train village health workers in prevention and community education strategies in response to shortage of primary health care services (El Salvador)	Health, education	Village health workers, 47 students from 19 villages	Quantitative, programme process evaluation	Structured interview post training (verbal survey), monthly reports analysis	Further training offered to health workers
Hale (1988), N/A	Prepare village physicians for rural primary care in response to shortage of trained physicians (Mexico, Colombia, Chile and Argentina)	Health, education	Medical students	Qualitative, programme description	Not described	Not described
Johnson (1989), Kenya	Promote prevention as a response to ineffective top-down curative health care approaches (Kenya)	Health, promotion	Members of the Kibwezi region: 4 locations, 21 sublocations and 203 villages	Qualitative, programme description	Baseline survey, document analysis, cost analysis	Not described
McWaters (1989), Australia	Develop a community work approach within a small multidisciplinary health centre to combat difficulties of health delivery in isolated communities (Australia)	Health, community-work	Health and welfare service providers, local government, representatives of community-based groups, local residents	Qualitative, programme description	Not described	Brought together a broad range of local service providers whose actions reached into the community

(continued)

Table 3.5 (continued)

First author (year), country of author	Intervention aim and location	Intervention focus and strategies	Target group and sample	Study approach and type/design	Data collection methods	Outcomes or effects
Useem (1988), USA	Facilitate the formation of self-directed problem solving projects to mobilise rural populations towards self-determination (Thailand)	Poverty, participatory development strategies	Village residents from 21 poor villages	Quantitative, programme process evaluation, participatory research	Baseline survey, structured interview, rankings	Village groups launched income-generating, health, and education initiatives that attracted the participation of large numbers of village residents
Braden (1999), UK	Facilitate community development through community drama and video to facilitate transmission of top-down community development messages (Burkina Faso)	The Arts, community video	Village residents	Qualitative, programme description, participatory research	Not described	Building of community inclusivity and consensus on local issues
Datta (1998), India	Address degradation of natural resources and encourage rehabilitation of a watershed (India)	Resource management, participatory and process oriented approach	Village residents from a total of 250 villages	Qualitative, programme description, participatory research	Participatory rural appraisal techniques involving repeated joint discussions	Improvements in living conditions and local involvement of people in local natural resource management
Garza (1998), USA	Encourage rural community colleges to establish initiatives that increase access to higher education and foster economic development in rural areas (USA)	Education and training, collaborative and consultative processes	Populations from nine distressed and underserved rural communities, nine rural community colleges	Qualitative, programme description, case study	Structured interviews, observations	Increased collaboration and partnerships for change between community colleges and residents

Huacuz (1998), Mexico	Address lack of electrical services via photovoltaic electrification (Mexico)	Resource management, electricity supply and delivery	Members of rural communities	Qualitative, programme description	Not described	Evidence that photovoltaics was a viable option to solve the problem of rural electrification
Humphreys (1999), N/A	Stimulate home-based craft projects to generate income in response to female urban migration due to lack of local work (Thailand)	Education and training, educational partnerships and information dissemination	Women from North and North-eastern villages	Qualitative, programme description	Not described	Author reported inconclusive evidence that home-based craft projects provided a viable long-term alternative to urban migration
Lammerink (1998), Netherlands	Enhance rural community capacity to manage own water supply systems and sanitation practices (Cameroon, Kenya, Nepal, Pakistan, Colombia and Guatemala)	Resource management, participatory action research	Members of 24 diverse communities	Qualitative, programme description, participatory research	Document analysis, interviews	Programme proved effective for enhancing community management capacity of water and sanitation
Mavrocordatos (1998), UK	Develop community listening theatre as a tool to enable disempowered and dispossessed communities to depict their concerns through dramatic expression (Namibia)	The Arts, drama	Members of the Gibeon community	Qualitative, programme description	Not described	Community listening theatre proved effective for developing community empowerment

(continued)

Table 3.5 (continued)

First author (year), country of author	Intervention aim and location	Intervention focus and strategies	Target group and sample	Study approach and type/design	Data collection methods	Outcomes or effects
Petrea (1998), USA	Increase citizen involvement in rural agricultural safety and health issues in response to high numbers of farming work-related disabling injuries and fatalities (USA)	Agriculture and farming (WHS), community leadership development strategy	Farmers, farm families, farm workers, agricultural and rural public and private sectors from Illinois	Qualitative, programme description	Participant observation, documentation and responsive evaluation	Establishment of functional agricultural safety and health leadership groups
Robinson (1999), Australia	Develop linkages between acute and community aged care services in a community lacking co-ordinated health aged care services (Australia)	Health, linkage development	Nurses working in a regional public hospital and two private hospitals in a small regional city	Qualitative, project description, participatory action research	Case notes from research team meetings analysis	Nurses developed enhanced understanding of the aged care system and the range of accessible aged care services
Schroeder (1999), USA	Grant rural communities leasehold rights to community forestry reserves (Gambia)	Resource management, community-based	Village community	Qualitative, project description	Project planning document analysis	Decentralisation of forest management proved to be an effective method for converting community-based resource management into a tool of structural adjustment
Tewari (1998), South Africa	Re-empower forest dwelling communities and reverse forest degradation (India)	Resource management, co-management partnership based	Members of forest dwelling communities	Qualitative, programme description	Field surveys, discussions and interviews	Programme led to established systems for joint forest management

Terry (2009), Singapore	Implement changes to address unsustainable pig-waste management practices (Fiji)	Resource management, participatory learning and action	Members of the Komave and Votua village communities	Qualitative, programme description, participatory learning action	Resource mapping, activity profiles, institutional relationship exercises matrix scoring/ranking, Venn and impact flow diagrams	PLA methodology was effective for identifying environmental and health concerns related to pig-waste management and led to the building of a piggery system
Reif (2008), Germany	Identify and evaluate development strategies and make recommendations for sustainable regional development in response to over-exploitation of forests (Romania)	Resource management, participatory management	Local people, regional politicians and experts	Qualitative, project description, objective oriented process design	Stakeholder analysis, personal interviews, workshop, planning for future development trends and scenarios	Recommendations for future sustainable development
Momen (2009), USA	Increase rural-urban linkages in response to failure of previous development programmes (Nepal)	Poverty, rural-urban linkages/ partnerships	Local people, politicians and business leaders	Mixed methods, programme process evaluation	Survey, interviews	Insights into the workings of the development programme
Leistritz (2009), USA	Build a wind energy centre to address rising costs and environmental impacts of fossil fuels (USA)	Resource management, N/A	The Langdon community in North Dakota	Quantitative, project impact evaluation through an impact assessment model	Secondary sources, personal and focus group interviews, integrated assessment model	Financial and employment gains for the local community
Harris (2009), Australia	Increase local capacity by training women to use participatory video to sell local products (Fiji)	The Arts, video	10 women from the Navua Rural Telecentre Group—a rural female multi-ethnic organisation	Qualitative, project description, ethnography	Filming, interviews, observation and dialogue	Promotional video, enhanced social capital, empowerment of women

(continued)

Table 3.5 (continued)

First author (year), country of author	Intervention aim and location	Intervention focus and strategies	Target group and sample	Study approach and type/design	Data collection methods	Outcomes or effects
Fleury (2008), France	Implement sustainable agriculture and rural development in response to unsustainable alpine agricultural farming practices (France, Switzerland, Austria, Italy)	Agriculture and farming, participatory management	Farmers, elected officials and NGO members	Mixed methods, project impact evaluation	Field notes, observation	Enhancement of farm economies, empowerment and skills of farmers, links and social capital at the community level
Crouch (2008), South Africa	Develop effective stress management practices in impoverished rural communities with high levels of destructive stress (South Africa)	Health, stress management techniques	160 members of Limpopo Province	Quantitative, programme impact evaluation, experimental and factorial design	Two questionnaires	Reduction in stress in all four programmes
Bodorkós (2009), Hungary	Facilitate bottom-up sustainability planning and development in socio-economically disadvantaged communities (Hungary)	Resource management, bottom-up sustainability planning	Members of the Mezocsat region	Qualitative, project description, participatory action research	Semi-structured and structured interviews, survey	Empowerment of traditionally disadvantaged communities

3.2.2 Intervention Focus and Strategies

All 24 intervention publications broadly related to developing community capacity through a variety of foci and strategies. Nine (37.5 %) publications focused on developing capacity for management of local natural resources, such as watersheds, forests and waste, or to address sustainability issues such as biodiversity loss through participatory approaches; six (25.0 %) focused on improving community health by, for example, enhancing community health facilities and training of health professionals through targeted education, promotion and partnership building strategies; three (12.5 %) focused on building community participation and empowerment through arts-based strategies such as video and drama; two (8.3 %) focused on enhancing education and training opportunities and participation through collaborative and partnership processes and information dissemination; two (8.3 %) focused on improving agriculture and farming practices through community participatory strategies; and two (8.3 %) focused on alleviating rural poverty through participatory and rural-urban linkage strategies.

3.2.3 Study Approach, Design, Data Collection Methods and Outcomes

The intervention publications were classified into quantitative, qualitative or mixed methods research type. Of these, qualitative made up the largest research type, comprising 16 (66.7 %) out of 24 publications. Quantitative research comprised the second largest type, comprising four (16.7 %) publications, while there were only two (8.0 %) mixed methods publications (Table 3.5). The publications were also classified as a description of an intervention or an evaluation of an intervention. There were 18 (75.0 %) descriptions of interventions and only 6 (25.0 %) evaluations of interventions. If a publication was deemed to be an evaluation of an intervention, it was further classified into either a process, outcome or impact evaluation. There were three process evaluations and three impact evaluations. No outcome evaluations were found.

Eighteen (75.0 %) out of the 24 publications reported data collection methods. For most of the 18 publications this information was general. All except three publications (Crouch 2008; Datta and Virgo 1998; Schroeder 1999) reported on more than one data collection method. The most common data collection methods included interview techniques (ten publications), document analysis (seven publications), survey or questionnaire (six publications) and observation (four publications).

Only one publication (Crouch 2008) provided specific programme outcomes (Table 3.5). In the majority of publications, the outcomes or effects of the intervention were unsubstantiated observations on the part of the authors. For the most

part, findings were described, but not triangulated or supported with an adequate discussion of the evidence.

3.3 Research Quality

The 24 intervention publications were assessed for research quality. As already mentioned, quantitative publications were classified according to the EPHPP tool, qualitative publications according to the CASP tool, and mixed methods publications according to both tools. All four publications that employed solely quantitative methods were rated as weak. Two of the 16 publications that employed qualitative methods were rated as moderate. The remaining 14 were rated as weak. The two publications that employed mixed methods were rated as weak for the quantitative and qualitative components. Quantitative publications most commonly received weak ratings for confounders, study design and data collection methods (Table 3.6). Qualitative publications most commonly received unfavourable ratings for ethical considerations, data analysis, research design, recruitment strategy, data collection and consideration of relationship between researcher and participant (Table 3.7).

Table 3.6 Quality appraisal of quantitative research utilising the EPHPP tool

Publication	(A) Selection bias	(B) Study design	(C) Confounders	(D) Blinding	(E) Data collection methods	(F) Withdrawals and dropouts	(G) Intervention integrity	(H) Analyses	Total score
Capps and Crane (1989)	Moderate	Weak	Weak	Moderate	Weak	NA	Q1. Can't tell Q2. No Q3. Can't tell	Q1. Practice/ individual Q2. Practice/ individual Q3. Can't tell Q4. No	Weak
Useem et al. (1988)	Moderate	Weak	Weak	Moderate	Weak	Weak	Q1. Less than 60 % Q2. No Q3. Can't tell	Q1. Community Q2. Community Q3. Can't tell Q4. Can't tell	Weak
Crouch (2008)	Weak	Strong	Weak	Moderate	Strong	Moderate	Q1. 80–100 % Q2. No Q3. Can't tell	Q1. Individual Q2. Individual Q3. Can't tell Q4. No	Weak
Leistritz and Coon (2009)	Weak	Weak	Weak	Weak	Weak	N/A	Q1. Can't tell Q2. Can't tell Q3. Can't tell	Q1. Community Q2. Community Q3. Can't tell Q4. Can't tell	Weak
Momen (2009) (mixed methods)	Weak	Weak	Weak	Weak	Weak	NA	Q1. Can't tell Q2. No Q3. Can't tell	Q1. Individual, organisation/ institution Q2. Organisa-tion/institution Q3. Can't tell Q4. No	Weak
Fleury et al. (2008) (mixed methods)	Weak	Weak	Weak	Weak	Weak	Weak	Q1. Can't tell Q2. No Q3. Can't tell	Q1. Individual Q2. Individual Q3. Can't tell Q4. No	Weak

Table 3.7 Quality appraisal of qualitative research utilising the CASP tool

Publication	(1) Clear statement of research?	(2) Qualitative methodology appropriate?	(3) Research design appropriate for aims?	(4) Recruitment strategy appropriate for aims?	(5) Data collection addresses research issue?	(6) Relationship between researcher and participant considered?	(7) Ethical considerations accounted for?	(8) Rigorous data analysis?	(9) Clear statement of findings?	(10) Research is valuable?	Total score
Hale (1988)	Yes	Yes	No	No	No	No	No	No	No	Yes	Weak
Johnson et al. (1989)	Yes	Yes	No	No	No	No	No	No	No	No	Weak
McWaters et al. (1989)	Yes	Yes	No	No	No	No	No	No	No	No	Weak
Braden and Mayo (1999)	Yes	Yes	No	No	No	No	No	No	Yes	No	Weak
Datta and Virgo (1998)	Yes	Yes	No	No	No	No	No	No	Yes	No	Weak
Mavrocordatos (1998)	No	Yes	No	No	No	No	No	No	Yes	No	Weak
Lammerink (1998)	No	Yes	No	No	No	No	No	No	No	No	Weak
Garza and Eller (1998)	No	Yes	No	No	No	No	No	No	Yes	No	Weak
Huacuz and Agredano (1998)	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Weak
Petrea and Aherin (1998)	No	Yes	No	No	No	No	No	No	No	No	Weak
Humphreys (1999)	Yes	Yes	Yes	No	No	No	No	No	No	No	Weak
Robinson (1999)	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Moderate
Schroeder (1999)	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Weak
Tewari and Isemonger (1998)	Yes	Yes	No	No	Yes	No	No	No	Yes	No	Weak
Terry and Khatri (2009)	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Moderate

Reif et al. (2008)	No	Yes	No	No	No	No	No	No	Yes	No	Weak
Harris (2009)	Yes	Yes	No	Yes	No	Yes	No	No	Yes	No	Weak
Bodorkós and Pataki (2009)	Yes	Yes	No	No	No	No	No	No	Yes	No	Weak
Momen (2009) (mixed methods)	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Weak
Fleury et al. (2008) (mixed methods)	Yes	Yes	No	No	No	No	No	No	Yes	No	Weak

Chapter 4
Discussion and Conclusion

4.1 Trends Relating to Quantity, Region and Engagement with Sustainability

Our findings uncover some interesting patterns. In terms of our first hypothesis, when comparing the data by time periods, results show that the total number of rural development publications increased significantly over the observed time intervals. It was revealed, however, that percentage growth in the field was more vibrant across the earlier interval compared to the more recent interval.

It is important to note that our research approach has limitations. Rural development is a field that has no dedicated database. Using three databases and discrete time periods (for reasons of feasibility) may have influenced the results. Nevertheless, our selection of databases was informed by advice from university librarians, preliminary searches and careful review. Further, the selected time periods are reasonable for allowing changes in numbers and broad patterns to be observed (Bailey et al. 2009; Sanson-Fisher et al. 2006). While work on rural development is published in a range of genres, journals are the most common, reliable and current means of dissemination. Using journal abstracts rather than full publications for classification of total output and research type may have also influenced the results. Abstracts can be vague and, hence, difficult to classify. Nonetheless, for the purposes of total output and research type, and with limited resources, the review of 1,036 publications through abstracts provided a feasible and appropriate method. Reviewing publications written exclusively in the English language may have further influenced results, which could explain the relatively limited number of South American publications where Spanish and Portuguese are the main languages.

Results do not support our second hypothesis that publication type would shift from measurement research to descriptive research to intervention research over time. While there were small numbers of measurement studies, publications in this category were notably growing. Overwhelmingly, research output in the rural

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development field was of a descriptive nature and research of this type gained ground proportionally over the two intervals. Intervention studies were shown to be in recent decline. The dominance of descriptive research in rural development is in accord with other fields, such as health where descriptive research constitutes the predominant research type (see Bailey et al. 2009; Sanson-Fisher et al. 2006). Unlike descriptive research, intervention research is more expensive and time consuming to undertake, and often requires complex evaluative research and expertise that is not always readily available to development practitioners and project managers.

The growing dominance of descriptive research does not demonstrate a logical maturing of the field, where research output should reflect a shift from describing to addressing problems (Sanson-Fisher et al. 2006). In 2008–2009, for example, intervention studies accounted for only 7.3 % of all publications, in contrast to descriptive studies which comprised 87.3 %. Similarly, the low level of measurement research may not be providing a sufficiently solid and reliable evidence base for researchers to delineate issues, and design and evaluate effective interventions. While findings revealed sustained percentage increases in measurement studies over both intervals, it is too early to make any definitive claims in this regard. Findings highlight the need for development policy makers, researchers and practitioners to pay greater attention to well-designed evaluation research.

Findings support our third hypothesis that the majority of publications would be from developing regions. However, a clear shift emerged in the data with the proportion of publications from the developed regions of Europe, North America and Australasia increasing from 10.6 % of total publications in 1988–1989 to 21.7 % in 1998–1999, and 39.2 % in 2008–2009. In fact, over the more recent interval, these developed regions saw a 144.8 % increase in output in publications in the English language, in comparison with a marginal per cent increase for the developing regions of Asia, Africa and South America.

While Asia retained its place as the region with the largest output of rural development publications—in spite of a slowing over the more recent interval—Europe overtook Africa as the region with the second highest output for the most recent period. This finding could reflect a number of European trends, including the emergence of rural development programmes since the early 1990s (Shortall 2008), increased policy emphasis on developing socially and ecologically sustainable rural communities to counteract rapid and largely unsustainable urban development, and widespread support for the social inclusion and development of rural communities (Shortall and Warner 2010). The downturn in African publications in the English language may also reflect any number of factors, including increased urbanisation and associated shifts in government priorities from rural to urban development. We acknowledge that articles from francophone Africa have been excluded in this review. Whatever the causes, it is important to understand that the fortunes of rural and urban dwellers in Africa are more intricately intertwined than assumed by current policy dichotomies, thus providing opportunities for integrated development policies and programmes across rural and urban regions (Tsey 2011).

Increased output from developed regions coincides with recognition by governments and policy makers of the importance of inclusive rural development policies (Fernando 2008). Prior to the twenty-first century, rural and urban development issues and policy making were managed independent of each other. Recognition of the interdependence of rural and urban social, economic and political issues has led to an increased profile of rural issues. In Australia, governments spend over $2 billion per year on dedicated regional development programmes (Productivity Commission 2010, cited in Daley and Lancy 2011), however, according to Daley and Lancy (2011), this is a conservative estimate "as successive governments have embedded policies for promoting specific regional development in a range of other ongoing programs" (p. 20).

Findings pertaining to engagement with sustainability within the rural development literature are also interesting. We hypothesised that engagement with sustainability would increase over time. Overall, our finding that there was a significant increase in the proportions of articles engaging with sustainability supports our fourth hypothesis. Publications that engaged with sustainability increased from 3.9 % of publications in the earliest period to 31.0 % in the most recent period. This finding is positive and reflects increased concern and attention paid to sustainability issues by governments, non-government organisations and civil society. Nonetheless, it is noteworthy that increases in engagement with sustainability largely took place over the earlier interval. There certainly was a renewed interest in sustainability in the late 1980s and early 1990s (after its original emergence in the late 1960s and early 1970s), coinciding with the Brundtland Report's (World Commission on Environment and Development 1987) introduction of the concept of 'sustainable development', as well as the Rio Declaration on Environment and Development (United Nations Conference on Environment and Development 1992). However, the finding that the percentage increase in articles that did not engage with sustainability exceeded the percentage increase in articles engaging with sustainability, across the more recent interval, is somewhat at odds with increasing mainstream social and political participation in the sustainability agenda.

The second part of our fourth hypothesis, that the majority of sustainability interventions would employ recognised best practice principles, is also supported in our findings. Overall, 67.8 % of interventions were applied through communication and mediation learning approaches. This finding reflects an understanding on the part of researchers and practitioners that effective interventions involve processes of consultation, participation, engagement, negotiation and, at times, mediation (Bowen 2005; Shortall 2008; Shucksmith 2000). Although the numbers of classifiable interventions were small, Scott and Gough's (2003) sustainable development learning model provided a valuable framework to differentiate broad learning strategies employed by researchers and practitioners in rural development interventions. The framework was able to be applied even with the limitations and challenges of using abstracts alone for classification.

4.2 Trends Relating to Research Approaches, Characteristics and Quality

In the second stage of our study, we were interested in ascertaining: the types of broad research approaches that rural development researchers adopt (i.e., quantitative, qualitative or mixed methods); whether researchers evaluate interventions and, if so, the types of evaluations they apply; and the overall quality of the research. The selection method we applied is representative of the field as a whole. Recall that 20 % or 24 publications were randomly sampled from a total of 120 intervention publications across the three time periods, whereby each publication had an equal chance of being selected independent of the selection of any other.

In terms of research approaches, we found that a large majority of rural development researchers draw from qualitative methods. Of the 24 publications, 75.0 % applied qualitative methods; 17 %, quantitative methods; and 8.0 %, mixed methods (Table 3.5). This finding is not surprising considering that much rural development research concerns the application of collaborative approaches to enhance social development and living standards at the community level (Bowen 2005) and that human experience is a strong feature of qualitative research (Silverman 2010). However, the dominance of qualitative over quantitative and mixed methods research may well reflect a fixed preference for qualitative methods by rural development researchers and points to a lack of recognition of the potential benefits that quantitative and mixed methods research can contribute to the field.

The high volume of qualitative publications correlates with our next finding that 75.0 % of the 24 intervention publications were of a descriptive type and only 25.0 % of an evaluation type (Table 3.5). All studies of a descriptive type were, in fact, qualitative studies and all evaluations of interventions were quantitative studies. The predominance of publications describing rather than evaluating interventions is in keeping with the propensity of qualitative research to explain rather than classify, count or evaluate (Burns 2000). It is noteworthy that while findings from stage one revealed that 84.5 % of total publications were descriptive and only 11.6 % were intervention, even of the publications that were classified as intervention, three-quarters were found to be descriptions of interventions. It was also found that of the six evaluation studies, three comprised process evaluations and three, impact evaluations, with no publications evaluating outcomes (Table 3.5). We highlight two points here. First, the absence of outcome evaluations relates to the overall low number of (process and impact) evaluations. There is little point in evaluating outcomes for contexts where there is no knowledge of implementation. For example, process evaluations provide information about the integrity of the intervention including events, progress and developments within a particular intervention context. Where outcomes are evaluated without knowledge of such contexts, the results are seldom able to provide direction for action due to the lack of information about what produced the observed outcomes (Patton 2002). Second, the low number of evaluation studies correlates with the predominance of qualitative research, where evaluation is not conceived as central (Hannes et al. 2010).

Historically, evaluation has been linked to statistical processes and objective indicators of performance, more relevant to quantitative than qualitative research (Patton 2002). Nevertheless, evaluation is important for determining the effectiveness and informing the further development of an intervention (Patton 2002). Further, modern evaluation trends include qualitative perspectives on quality by elucidating the nature and meaning of quality within particular contexts (Patton 2002). Our findings indicate inadequate attention and investment in evaluation design research within the rural development community.

We also identified the focus and scope of rural development interventions. Publications related to enhancing community capacity across a range of foci. We identified six different foci in the 24 studies under examination. This finding is also not surprising given that rural development is a broad field of research and that rural areas are heterogeneous and, hence, experience substantial variation in issues and needs (Daley and Lancy 2011; Summers 1986). In Box 2.1, we provided examples reflective of the scope of rural development intervention research, including a range of small scale, local research studies as well as large scale, long term projects involving multiple stakeholders. The broad nature of qualitative research in rural development suggests that researchers approach research from a range of personal, professional, political and contextual positions. Furthermore, some approaches and methods are clearly more conducive to certain types of qualitative inquiry than others (Guest et al. 2013).

Finally, we appraised research quality by utilising the EPHPP and CASP tools. Overall, we found the quality of rural development research to be poor, regardless of qualitative, quantitative or mixed method research design. From the total of 24 publications, only 2 qualitative studies were deemed to be of moderate quality. The remainder were classified as weak. We acknowledge that the methodological quality of the studies may have been stronger in reality than that indicated through our appraisal. If this is the case, then our findings draw attention to gaps in the reporting of evidence. If the rural development field is not prioritising rigorous reporting and justification of research quality how can we trust the existing evidence base and use it to inform practice, policy and further research? We expand on this point in the next section.

4.3 Learnings from the Systematic Literature Review Process

In consideration of the learning that can be derived from the systematic literature review process, as applied to rural development research, we highlight several points relevant to researchers, policy makers, practitioners and funding bodies in the field. The first point is that the systematic literature review method, as per Bailey et al. (2009) and Sanson-Fisher et al. (2006), has provided an efficient means of quantifying knowledge output and research type. Secondly, it is non-discriminatory in that it has included

publications utilising quantitative and qualitative methodologies, hence, reflecting the total research investment and effort in the field. The approach also avoids unproductive and often dichotomous methodological positioning. Yet, it is important to highlight that, in taking the systematic literature review method to its logical conclusion, this approach does privilege quantitative research methods as it centres on synthesising quantifiable rural development outcomes (Petticrew and Roberts 2006). While it is necessary to quantify rural development outcomes that are measurable in order to inform a robust evidence base, a focus on outcomes alone overlooks important aspects of community engagement processes and other factors, including enablers and constraints, within rural development contexts. We propose then that using Scott and Gough's (2003) sustainable development learning framework is an important complement to the systematic literature review method. Further, we view qualitative studies that provide insight into community and wider stakeholder engagement processes, including community capacity building and mediated learning processes, as equally valid in informing an evidence base to support decision making in the transition to economically, environmentally and socially sustainable rural communities.

Thirdly, the predominance of descriptive research reflects the fact that researchers are good at analysing and theorising problems but not as good at demonstrating what works in real life situations and, if something works, whether it is economically viable and can be translated to other settings. Clearly, there is a need for development policy makers, funders, practitioners and researchers to work more collaboratively towards a culture of intervention and evaluation research as an integral part of sustainable development planning. This shift in focus would substantially enhance the research evidence base for rural and community development practice.

Fourthly, the systematic literature review method has proven useful for thinking about the ways in which a research field may develop over time. We propose though that rather than anticipation of a linear progression of research from measurement research to descriptive research to intervention research over time, the building of a critical mass of publications that gives equal importance to all research types (i.e., descriptive, intervention and measurement) and methods (i.e., quantitative, qualitative and mixed methods) may be more indicative of a maturing research field. We contend that the building of this critical mass requires that different research types and approaches be given appropriate representation and that they be informed by each other and interlinked via an overarching set of big picture questions that researchers can address from different perspectives (Craig et al. 2008; Tsey et al. 2007). Questions to guide research may include: What is rural development? What are the goals of rural development? How do we theorise rural development? What are the underpinning attributes and value systems of rural development? How do these attributes and value systems manifest across different rural communities? How are these attributes described and measured qualitatively and quantitatively? How can rural development outcomes be reliably quantified? What are the benefits and costs of rural development? Is rural development value for money?

Figure 4.1 is extracted from the UK Medical Research Council *Framework for Developing and Evaluating Complex Interventions* (Craig et al. 2008). It provides a useful guide for thinking about the different phases in the research cycle, the types

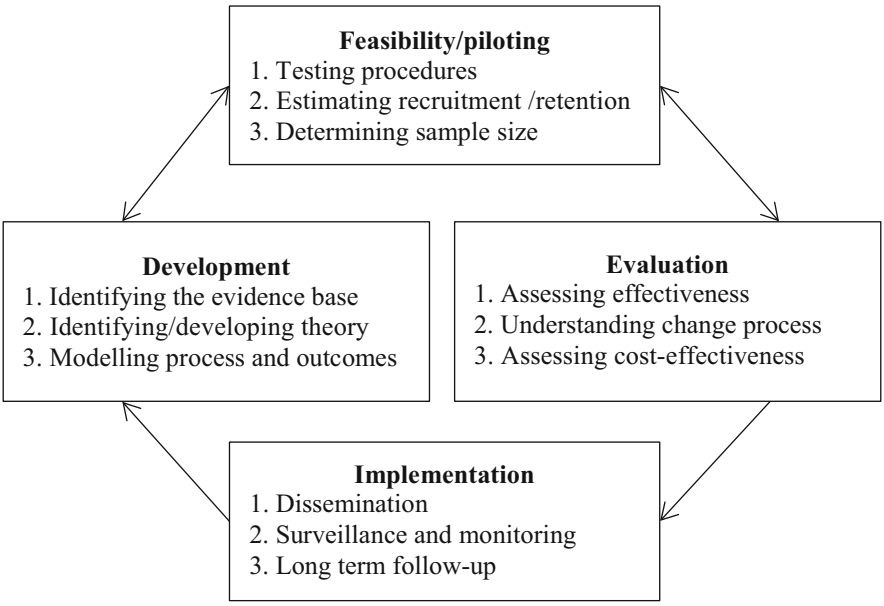

Fig. 4.1 Key elements of the research and translation cycle (taken from Craig et al. 2008)

of research required at each phase and the integrated nature of research that is likely to result in societal impacts and benefits. As the cycle illustrates, there is no point undertaking a rural development needs assessment if a program, policy, service or other intervention is not going to be developed in response to the need. Similarly, there is no point evaluating an intervention if there is no assurance that the intervention will be implemented, even if it is proven effective and value for money.

While all of the different phases in the model need to be in place in order for research to facilitate societal impacts and benefits, these phases in most fields of research, including rural development, are unfortunately under the control of different researchers, policy makers and practitioners at any given time. For example, a researcher may work with a community partner to undertake a compelling needs assessment. However, there is no guarantee that local, regional or national authorities responsible for funding will consider the identified need to be a priority at that particular time. Central to the model, therefore, is the need for collaborative partnerships from the outset. Such partnerships will involve researchers, communities and policy makers who are responsible for making funding decisions so as to ensure that research is user-driven and utilised in a timely enough manner to create societal impacts and benefits.

Overall we found the EPHPP and CASP tools useful for considering issues of research quality in rural development research. The EPHPP and CASP tools were developed in the context of systematic reviews for the purpose of assessing

methodological quality of studies in public health (Hannes et al. 2010; Thomas et al. 2004). We expected that following familiarisation with the tools, the appraisal process would be a mechanical one. We now realise that the process of interpretation required for accurate appraisal is not a mechanical one but rather a subjective exercise requiring skill development (Brewer 2003). Further, while appraisal tools are essential for distinguishing quality research, they are not free of discipline specific epistemological and ontological preferences, standards and biases (Petticrew and Roberts 2006). Nevertheless, using the tools provided a structure which helped us to align our understandings of quality in rural development research and systematise the appraisal of the publications.

We found the quality of rural development research, regardless of design, to be poor. It is important to note, however, that we cannot be certain that the quality of studies was not, in reality, stronger than that indicated through our appraisal. If this is the case then the problem is one of underreporting or lack of clarity in the reporting. Huwiler-Müntener et al. (2002) caution that there is an unfounded and widespread practice of associating reporting quality with research quality. In a study investigating the use of reporting quality as a proxy measure for methodological quality of randomised control trials (RCTs), Huwiler-Müntener et al. (2002) found that the practice resulted in misclassification of a considerable proportion of studies, indicating that reporting quality influenced reviewer assessment of methodological quality. In other words, even though the RCT is widely considered to be the most trustworthy design (Wells and Littell 2009), it can be argued that if readers cannot tell whether insufficient information is on account of inadequacies in design or reporting, then it is possible that well-conducted studies can be poorly reported. Conversely, a high quality of reporting may mask important weaknesses in design quality. The need to counteract poor reporting is reflected in recent efforts in developing research reporting guidelines (e.g., CONSORT Group 2013; Gerber et al. 2014). However, the EPHPP and CASP tools themselves serve to raise awareness around aspects of research that call for clear reporting.

Finally, the undertaking of systematic literature reviews is complex work, requiring skills in data management, methodology, critical appraisal, communication and organisation. Hence, we recommend such work be undertaken in a team with experienced researchers. Early career researchers would not be able to undertake this task on their own. At times we were required to make judgements about, for example, the extent of bias in a study where it was critically important to have an experienced researcher to provide guidance.

4.4 Conclusion

The need to improve the well-being and sustainability of rural communities is internationally acknowledged (United Nations 2010; World Bank 2010). Our findings relating to quantity and type of research revealed a growing dominance of descriptive research in the rural development field over time. Descriptive

research delineates issues and is useful for guiding further work, however, it does not produce changes, as is the case in intervention research. It is important to reiterate that even the intervention publications under review in this study were largely descriptions of interventions. Furthermore, the shortage of adequate measurement research means that there are potentially limited valid and reliable tools to guide work and assess effectiveness of interventions (Bailey et al. 2009; Sanson-Fisher et al. 2006). The question now is how does the rural development field grow in a way that includes all research types and methodological approaches? We suggest that a maturing of the field requires an inclusive framework whereby different research types and approaches are able to inform each other and to be interlinked through an overarching set of big picture questions that will enable a holistic research agenda to evolve. A mature field would allow policy makers, practitioners and researchers to access sufficient quality and volume of different types of evidence so as to make informed decisions. The message here is that different research types are needed—theoretical, descriptive, intervention, measurement, reviews, opinions and commentaries. The important point is to demonstrate the extent to which each output informs the next phase in the research development cycle, thereby facilitating impacts and benefits from research investment.

Classification of publications also revealed increased uptake of rural development research in developed regions. We recognise this change represents a positive shift to a more holistic approach to rural development in developed nations. Nevertheless, it is important that research efforts and funding are not detracted from the rural development issues of developing nations and communities. An increased level of engagement with sustainability in rural development publications was another positive finding to emerge from this study. However, given that the majority of publications under review had no articulation with sustainability, there is a need to encourage rural development researchers and practitioners to critically evaluate and further integrate sustainability principles in their research and practice. We found utility in Scott and Gough's (2003) sustainable development learning framework. Its application in the classification of sustainability interventions showed that the majority of researchers and practitioners adhered to good practice principles, employing processes of community and wider stakeholder consultation, participation, engagement, negotiation and, at times, mediation. This finding suggests that the rural development field has real potential to contribute to addressing the complex sustainability challenges that we currently face as a global community. Nonetheless, the low number of evaluation studies seriously calls into question the evidence base currently driving rural development policy and practice. This research has identified a need for rural development researchers to expand research approaches to be more inclusive of quantitative and mixed-methods evaluation designs.

Overall, the systematic literature review method offered an efficient strategy to rapidly assess research output, inclusive of all types and methodologies, as well as the extent to which researchers had engaged with identified priority issues and concerns. The appraisal of research quality through application of the EPHPP and

CASP tools was useful for highlighting gaps in quality and in the reporting of research. It is apparent that rural development researchers are not reporting on important aspects of their research. The findings from this review highlight a pressing need for development policy makers, practitioners and researchers to work more collaboratively towards improving the evidence base for rural and related community development practice.

We recommend two practical steps that individuals and teams can take to improve both the quality and potential utilisation of their research at minimal extra cost. One step is simply to utilise standardised research quality assessment tools and reporting guidelines to routinely review peers' research grant applications and journal manuscripts prior to submission. The second step is to be explicit, when developing research proposals, as to where in the research and translation cycle (Fig. 4.1) the research is located, and how the research results will be utilised in order to inform decision making at subsequent phases in the cycle.

Appendix A: Effective Public Health Practice Project (EPHPP) Quality Assessment Tool for Quantitative Studies

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QUALITY ASSESSMENT TOOL FOR QUANTITATIVE STUDIES

COMPONENT RATINGS

A) SELECTION BIAS

(Q1) Are the individuals selected to participate in the study likely to be representative of the target population?

1 Very likely
2 Somewhat likely
3 Not likely
4 Can't tell

(Q2) What percentage of selected individuals agreed to participate?

1 80 - 100% agreement
2 60 – 79% agreement
3 less than 60% agreement
4 Not applicable
5 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

B) STUDY DESIGN

Indicate the study design

1 Randomized controlled trial
2 Controlled clinical trial
3 Cohort analytic (two group pre + post)
4 Case-control
5 Cohort (one group pre + post (before and after))
6 Interrupted time series
7 Other specify _____
8 Can't tell

Was the study described as randomized? If NO, go to Component C.

No Yes

If Yes, was the method of randomization described? (See dictionary)

No Yes

If Yes, was the method appropriate? (See dictionary)

No Yes

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

C) CONFOUNDERS

(Q1) Were there important differences between groups prior to the intervention?

1 Yes
2 No
3 Can't tell

The following are examples of confounders:

1 Race
2 Sex
3 Marital status/family
4 Age
5 SES (income or class)
6 Education
7 Health status
8 Pre-intervention score on outcome measure

(Q2) If yes, indicate the percentage of relevant confounders that were controlled (either in the design (e.g. stratification, matching) or analysis)?

1 80 – 100% (most)
2 60 – 79% (some)
3 Less than 60% (few or none)
4 Can't Tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

D) BLINDING

(Q1) Was (were) the outcome assessor(s) aware of the intervention or exposure status of participants?

1 Yes
2 No
3 Can't tell

(Q2) Were the study participants aware of the research question?

1 Yes
2 No
3 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

E) DATA COLLECTION METHODS

(Q1) Were data collection tools shown to be valid?

1 Yes
2 No
3 Can't tell

(Q2) Were data collection tools shown to be reliable?

1 Yes
2 No
3 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

F) WITHDRAWALS AND DROP-OUTS

(Q1) Were withdrawals and drop-outs reported in terms of numbers and/or reasons per group?

1 Yes
2 No
3 Can't tell
4 Not Applicable (i.e. one time surveys or interviews)

(Q2) Indicate the percentage of participants completing the study. (If the percentage differs by groups, record the lowest).

1 80 -100%
2 60 - 79%
3 less than 60%
4 Can't tell
5 Not Applicable (i.e. Retrospective case-control)

RATE THIS SECTION	STRONG	MODERATE	WEAK	
See dictionary	1	2	3	Not Applicable

G) INTERVENTION INTEGRITY

(Q1) What percentage of participants received the allocated intervention or exposure of interest?

1 80 -100%
2 60 - 79%
3 less than 60%
4 Can't tell

(Q2) Was the consistency of the intervention measured?

1 Yes
2 No
3 Can't tell

(Q3) Is it likely that subjects received an unintended intervention (contamination or co-intervention) that may influence the results?

4 Yes
5 No
6 Can't tell

H) ANALYSES

(Q1) Indicate the unit of allocation (circle one)

community organization/institution practice/office individual

(Q2) Indicate the unit of analysis (circle one)

community organization/institution practice/office individual

(Q3) Are the statistical methods appropriate for the study design?

1 Yes
2 No
3 Can't tell

(Q4) Is the analysis performed by intervention allocation status (i.e. intention to treat) rather than the actual intervention received?

1 Yes
2 No
3 Can't tell

GLOBAL RATING

COMPONENT RATINGS

Please transcribe the information from the gray boxes on pages 1-4 onto this page. See dictionary on how to rate this section.

A	**SELECTION BIAS**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
B	**STUDY DESIGN**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
C	**CONFOUNDERS**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
D	**BLINDING**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
E	**DATA COLLECTION METHOD**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	
F	**WITHDRAWALS AND DROPOUTS**	**STRONG**	**MODERATE**	**WEAK**	
		1	2	3	Not Applicable

GLOBAL RATING FOR THIS PAPER (circle one):

1	STRONG	(no WEAK ratings)
2	MODERATE	(one WEAK rating)
3	WEAK	(two or more WEAK ratings)

With both reviewers discussing the ratings:

Is there a discrepancy between the two reviewers with respect to the component (A-F) ratings?

No Yes

If yes, indicate the reason for the discrepancy

1	Oversight
2	Differences in interpretation of criteria
3	Differences in interpretation of study

Final decision of both reviewers (circle one):

1	**STRONG**
2	**MODERATE**
3	**WEAK**

Appendix B: Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist

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CRITICAL APPRAISAL SKILLS PROGRAMME
Making sense of evidence about clinical effectiveness

10 questions to help you make sense of qualitative research

These questions consider the following:

Are the results of the review valid?

What are the results?

Will the results help locally?

A number of italicised prompts are given after each question. These are designed to remind you why the question is important. There will not be time in the small groups to answer them all in detail!

Screening Questions

1. Was there a clear statement of the aims of the research? *Consider:* • *What the goal of the research was* • *Why is it important* • *Its relevance*	
2. Is a qualitative methodology appropriate? *Consider:* • *If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants*	

Detailed questions

3. Was the research design appropriate to address the aims of the research? *Consider:* • *If the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?*	
4. Was the recruitment strategy appropriate to the aims of the research? *Consider:* • *If the researcher has explained how the participants were selected* • *If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study* • *If there are any discussions around recruitment (e.g. why some people chose not to take part)*	

5. **Were the data collected in a way that addressed the research issue?** *Consider:* • *If the setting for data collection was justified* • *If it is clear how data were collected (e.g. focus group, semi-structured interview etc.)* • *If the researcher has justified the methods chosen* • *If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, or did they use a topic guide)?* • *If methods were modified during the study. If so, has the researcher explained how and why?* • *If the form of data is clear (e.g. tape recordings, video material, notes etc.)* • *If the researcher has discussed saturation of data*	
6. Has the relationship between researcher and participants been adequately considered? *Consider*: • *If the researcher critically examined their own role, potential bias and influence during:* o *Formulation of the research questions* o *Data collection, including sample recruitment and choice of location* • *How the researcher responded to events during the study and whether they considered the implications of any changes in the research design*	
7. Have ethical issues been taken into consideration? *Consider:* • *If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained* • *If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)* • *If approval has been sought from the ethics committee*	

8. Was the data analysis sufficiently rigorous? *Consider:* • *If there is an in-depth description of the analysis process* • *If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data?* • *Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process* • *If sufficient data are presented to support the findings* • *To what extent contradictory data are taken into account* • *Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation*	
9. Is there a clear statement of findings? *Consider:* • *If the findings are explicit* • *If there is adequate discussion of the evidence both for and against the researcher's arguments* • *If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)* • *If the findings are discussed in relation to the original research question*	
10. How valuable is the research? *Consider:* • *If the researcher discusses the contribution the study makes to existing knowledge or understanding e.g. do they consider the findings in relation to current practice or policy, or relevant research-based literature?* • *If they identify new areas where research is necessary* • *If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used*	

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