

MEASURING LIVELIHOODS

AND ENVIRONMENTAL DEPENDENCE

Methods for Research and Fieldwork



Edited by

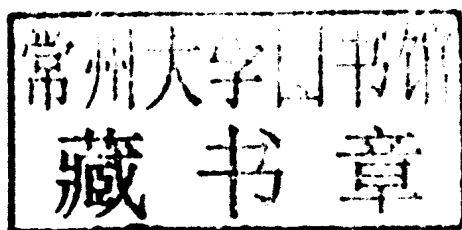
Arild Angelsen, Helle Overgaard Larsen, Jens Friis Lund,
Carsten Smith-Hall and Sven Wunder

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*Arild Angelsen, Helle Overgaard Larsen, Jens Friis Lund,
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Foreword

Understanding rural livelihoods is one crucial key to putting an end to global poverty. As the authors of this book have demonstrated elsewhere, environmental resources can make up a considerable portion of the livelihood portfolio. But measuring environmental dependence is far from simple, and most of the standard surveys that are undertaken miss many of the environmental resources that are collected, consumed and sold by rural people. With partial surveys comes partial understanding – that will not be the basis of what is needed to drive development and empower rural households.

This book sets out a conceptual framework and method for a deep understanding of rural livelihoods and environmental dependence. It brings together the leading thinkers in this field. It is also the foundation for the global analysis of environmental dependence involving more than 30 PhD students and their supervisors.

This foreword has to end with a personal note. I got to know William Cavendish in the late 1990s when he was doing a highly innovative PhD in rural Zimbabwe. His methods of environmental accounting at household level inspired us to undertake further such studies. Then, in the early 2000s, discussions with colleagues at CIFOR led to the Poverty Environment Network (PEN). I am particularly grateful to Sven Wunder and Arild Angelsen for their considerable work to make PEN a reality, and to the authors for bringing this book to fruition. This book provides a solid methodological foundation for designing and implementing household and village surveys to quantify rural livelihoods, with an emphasis on environmental income and reliance in developing countries.

Bruce Campbell

Director, Program on Climate Change, Agriculture and Food Security (CCAFS) of the Consultative Group on International Agricultural Research

Preface

This book is an output of a large collaborative research project – the Poverty Environment Network (PEN), coordinated by the Center for International Forestry Research (CIFOR) and involving about 30 institutions and 50 individuals across the globe. When PEN was established in 2004, a central aim was to promote better practices for collecting field data to quantify the role of environmental resources in rural livelihoods. But, we quickly realized that the topic goes beyond the allegedly ‘simple’ issues of questionnaire design and interview techniques, and involves the full research process – from the initial research idea through hypotheses formulation and data collection to analysis and presentation of results. It is not only about asking the questions right, it is also about asking the right questions. This book therefore deals with all the essential steps of the research process.

We would like to sincerely thank all those involved in the PEN project and the preparation of this book. The 33 PEN partners did the hard fieldwork and shared their experiences. These provided valuable lessons that are reflected in the book. Several PEN partners are also chapter or box authors.

The other main group of contributors are PEN resource persons, who have supervised PEN partners, commented on the research tools, attended workshops and responded to various questions arising as PEN went along. Together with the CIFOR scientists involved, they provided the intellectual leadership of the project. Most of the resource persons are chapter authors.

Many chapters have been reviewed by other authors. Finn Helles of the University of Copenhagen gave the penultimate manuscript a critical read and provided valuable suggestions.

The PEN project is co-funded by the Department for International Development (DFID) through the Economic and Social Research Council (ESRC) in the UK, Danida through the Consultative Research Committee for Development Research, and USAID through the AMA-BASIS CRSP programme, and CIFOR core funding. The support from CIFOR management is also acknowledged. PEN started without any secured external funding, based on a belief that ‘good ideas eventually get funded’. Several PEN partners also received fieldwork support from the International Foundation for Science (IFS).

Acronyms and Abbreviations

BINGO	big international non-governmental organization
CBS	Community Baboon Sanctuary
CI	confidence interval
CIFOR	Center for International Forestry Research
FECONACO	Federación de Comunidades Nativas del Río Corrientes
GPS	global positioning system
GUI	graphical user interface
ICDP	integrated conservation and development project
ICREA	Institució Catalana de Recerca i Estudis Avançats (Catalan Institution for Research and Advanced Studies)
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IFRI	International Forestry Resources and Institutions
IUCN	The World Conservation Union
LSMS	Living Standards Measurement Survey
NGO	non-governmental organization
NTFP	non-timber forest product
OLS	Ordinary Least Squares
OUI	observation unit identifier
PAR	Participatory Action Research
PEN	Poverty Environment Network
PES	payments for environmental services
PLA	Participatory Learning Approach
PRA	Participatory Rural Appraisal
RCT	randomized controlled trial
REDD	Reducing Emissions from Deforestation and Forest Degradation
RRT	Randomized Response Technique
SLF	Sustainable Livelihoods Framework
UAB	Autonomous University of Barcelona
WTA	willingness to accept
WTP	willingness to pay

Without these various sources of financial support, the PEN project (and this book) would not have materialized.

Finally, we would like to thank Earthscan and Tim Hardwick for their support – and patience – during the publication process.

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and Sven Wunder*

Ås (Norway), Copenhagen (Denmark), Rio de Janeiro (Brazil)

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Chapter 1

Why Measure Rural Livelihoods and Environmental Dependence?

*Arild Angelsen, Helle Overgaard Larsen, Jens Friis Lund,
Carsten Smith-Hall and Sven Wunder*

There is in my opinion a right way and we are capable of finding it.
Albert Einstein (1954, *Ideas and Opinions*, Crown Publishers,
New York)

The hidden harvest

Measuring rural livelihoods and environmental dependence is not straightforward. Environmental resources are important to millions of poor households in developing countries, yet there is not an established right way to systematically collect data that convey their importance. Such resources, harvested in non-cultivated habitats ranging from natural forests to rangelands and rivers, often contribute significantly to households' current consumption, provide safety nets or pathways out of poverty. The uncertainty regarding the numbers can easily lead to either under- or overestimations (Angelsen and Wunder, 2003). Environmental income often consists of many different and sometimes irregularly collected resources: the forest fruits picked during herding, the medicinal plants collected when grandfather was sick, last month's particularly rich fish catch, and so on. A myriad of resources gathered from multiple sources makes environmental income much harder to recall and quantify than a single annual corn or sorghum harvest. A high share of environmental resources are not traded in markets but consumed directly, further complicating their valuation. The body of literature quantifying environmental resources in rural livelihoods is slowly increasing (for example, Cavendish, 2000; Fisher, 2004; Mamo et al, 2007; Vedeld et al, 2007; Narain et al, 2008; Babulo et al, 2009; Kamanga et al, 2009), but has yet to be widely acknowledged in rural

development circles – as becomes evident from recent reviews of rural income and livelihood studies that exclude environmental income (for example, Ellis and Freeman, 2005a).

The general shortage of a representative sample of studies, coupled with the diversity in the quality and methods used in the few existing ones, leave key questions unanswered: how important are environmental resources for poverty alleviation in quantitative terms? When they are important, is it because they can help lift the poor out of poverty or are they mainly useful as gap fillers and safety nets preventing extreme hardship? How do different resource management regimes and policies affect the benefits accruing to the poor? Answers to such questions are essential to design effective policies and projects to alleviate rural poverty. Yet, there is surprisingly little systematic knowledge to answer them adequately.

Published and unpublished quantitative environmental income studies are hard to compare due to methodological differences. In a summary of 54 studies on household environmental income, Vedeld et al (2004, pxiv) noted: ‘The studies reviewed displayed a high degree of theoretical and methodological pluralism, and the substantial variability in reporting of specific variables and results is partly explained through such pluralism. This variability must, however, also be attributed to methodological pitfalls and weaknesses observed in many studies.’ Methodological challenges include: (a) data generated using long (for example, one-year) recall periods, which is likely to seriously underestimate environmental incomes derived from a myriad of sources (Lund et al, 2008; see also Chapter 7); (b) inconsistent key definitions, for example, what is considered a forest or how income is defined, may differ across studies, making findings incomparable; (c) a host of survey implementation problems, such as failure to adequately train enumerators or check data while in the field, resulting in questionable data quality; and (d) a widespread perception that it is too difficult and costly to obtain high quality environmental income data. The geographical coverage of available studies is also limited, with most coming from dry southern and eastern Africa. Thus, while our knowledge regarding environmental income and rural livelihoods is incrementally improving, we believe that more in-depth studies across a range of sites are required, preferably using best-practice and unified methodologies that enable comparison and synthesis. This book is designed to be an instrument to help make it happen.

Designing and implementing household and village surveys for quantitative assessment of rural livelihoods in developing countries is challenging, with accurate quantification of income from biologically diverse ecosystems, such as forests, bush, grasslands and rivers, being particularly hard to achieve. However, as the above published studies indicate, this ‘hidden harvest’ (Scoones et al, 1992; Campbell and Luckert, 2002) is too important to ignore. Fieldwork using