

This fascinating study of poverty in rural Yunnan reveals that different methods of poverty assessment produce vastly different poverty rates and that different households are identified as poor depending on the method used. Dr Lu gives a vivid sense of Chinese village society and of how the rural poor view their own lives. She argues that income generation programmes are less likely to be effective in alleviating poverty than investment in rural education, health and pension provision. Her findings have important policy implications. Anyone interested in rural China, poverty or poverty alleviation should read this groundbreaking book.

Delia Davin, Professor and Acting Director,
National Institute of Chinese Studies, University of Leeds

This book provides a timely critical view on the way in which poverty is measured in China. It shows how poverty is constructed through different measurement instruments, and thus opens ways for developing a more inclusive approach to poverty reduction policy, not only for China, but also for other developing countries.

Li Xiaoyun, Professor of Development Studies,
China Agricultural University

Identification of the poor is the key to accurate targeting of poverty reduction programs and has always been a major challenge for practitioners in rural development and poverty reduction. Applying different assessment approaches in communities in southwestern China, the author of this study reveals that there is no single magic way to identify the poor. Multiple approaches should be applied in practice and a comprehensive strategy should be adopted for sustainable development and poverty reduction. This study enhances our understanding of poverty and poverty reduction interventions.

Wang Sangui, Professor,
Renmin University of China

Poverty and Development in China

China has made huge economic strides in recent decades but poverty is still a major issue on the agenda for rural China. *Poverty and Development in China* analyses how poverty is recognized and measured and how people in poverty are identified, literally asking who is poor in China? Lu Caizhen's research compares four approaches to poverty assessment: China's official poverty identification method; the participatory approach to poverty assessment; the monetary approach; and use of multidimensional poverty indicators. Each of these is applied to the same population of households to identify the poor in rural Wuding County, Yunnan Province.

The analysis shows that there is in fact very little overlap of households identified as poor by the various means, and that choice of approach does matter in the outcome of who is identified as poor. This has implications at the theoretical, methodological and policy levels. Lu discusses these in detail, concluding that, at present, there is a need to shift away from poverty-reduction strategies that narrowly emphasize income-generation activities, as these are often short-term efforts. Instead, the focus should move towards a broader combination of short-term and long-term strategies to break poverty's inter-linked structural causes.

Lu Caizhen is a researcher at the World Agroforestry Center at the Chinese Academy of Sciences, China.

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Alternative approaches to poverty assessment
Lu Caizhen

Poverty and Development in China

Alternative approaches to poverty
assessment

Lu Caizhen

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Foreword

To be invited to write a foreword to a book as remarkable as *Poverty and Development in China* is a privilege and a challenge. For this book makes major original contributions to poverty research and to understanding how we understand and identify poverty. It gives rich and credible insights into life, conditions and poverty in rural China. Beyond that, it raises sharp questions with universal significance about methodology and policy. It illuminates the strengths and weaknesses of alternative methodologies. And it shows how our methods determine what we learn, who we consider to be poor and what we decide should be done. It confronts all of us who are concerned with poverty research and policy with evidence that demands deep and critical reflection.

We have come a long way with poverty studies and the analysis and measurement of poverty. Only 20 years ago the concept of income-poverty was almost a monoculture, reinforced in its dominance by being measurable and widely measured. In the 2010s it is still widespread, and useful for comparisons, but the multidimensionality of poverty is today accepted and not seriously questioned. We now have numerous concepts, indicators and composite indices to describe and measure it. Exclusion, deprivation, vulnerability and ill-being are all part of the broader vocabulary now used for aspects of the bad life. It is much more acceptable now to ask: whose concepts of poverty? ‘Ours’ – those of professionals, or ‘theirs’ – those of poor people? *Poverty and Development in China* confronts these questions and then takes us much further. Any sense that we have arrived, and now know enough about poverty and its identification, can in no way survive this book.

Its unique strength is that Lu Caizhen applied and compared four alternative approaches to poverty assessment to the same households in the same four villages in Yunnan Province. The first alternative was the official poverty list drawn up by village officials and leaders for submission upwards, in due course to be linked with benefits from the system. She describes the actual process, how it differed from the required government procedure, and the consequences. The second was the monetary poverty approach based on expenditure, and then separately on income, and assessed at various cut-off points. The third was participatory poverty

assessment with focus groups and participatory wealth ranking. And the fourth was the use of multidimensional poverty indicators. Some of these concepts and measures were used for the first time in China.

The quality of the research and the critical reflections on methodology and epistemology make the findings highly credible. Description and review of the four methodologies are valuable contributions for the whole field of poverty studies. Even-handedly Lu Caizhen considers the pros and cons of each approach. To take one example, she recognizes the strengths of participatory poverty assessment and finds, contrary to some common belief, that it costs less than household surveys and saves time; but she also recognizes its limitations for generalization.

The comparison of what was learnt through the four approaches gives us a richness of description. There is here a treasury of detail about poverty and the realities of life in contemporary rural China. Much of this is also relevant for poverty elsewhere. The findings go beyond the better-known dimensions, as when people's own indicators of poverty include the number of bachelors in a household, and many old women are found to be at their wits' end with a life that is not only lonely but boring.

The book leads to a devastating climax. I hesitate to mention it for fear of spoiling the discovery for others. But it is so significant and dramatic that I must flag it lest it be missed. After her painstaking and meticulous research, Lu Caizhen compares the households found to be poor by the four alternative approaches. The result is stunning. Less than 1 per cent, only 4 out of the 473, was identified by all four approaches. Not only that, but those in common between any two or three approaches were far fewer than might have been expected. That these findings present major challenges to research, policy and practice is starkly self-evident.

So this book raises huge questions about paradigmatic syndromes of methodology, epistemology and policy. Different approaches not only point to different people as poor but they embody different values, and they lead to different conclusions about what should be done. Most obviously, the monetary poverty approach leads to policies to generate income and for infrastructure, as the author points out, to the neglect of education, health and pensions. After this book, things can never be, or should never be, the same. For it shows with scholarship, elegance and rigour that we cannot evade the need, in the interest of poor and deprived people themselves, for critical epistemological awareness to recognize how our methods inform and maintain our mindsets and how this affects the policies and practices that are advocated and adopted.

Let me hope that *Poverty and Development in China* will be widely available at an accessible price. For it should be on every reading list for poverty studies in all countries, North and South, and should be considered by policy-makers in China and elsewhere. It is rare that we are presented with such a feast of insight and such a frontal challenge. We have to

appreciate 'the politics of epistemology'. To understand poverty, and to know what best to do, we have to look back on ourselves and our methods of inquiry. After this book, unless its readership is restricted by price, there is no excuse for any lack of reflexivity about approaches, even less for methodological monoculture. Poverty studies should never be quite the same again.

Robert Chambers

Preface

Who is poor in rural China? One question, many answers

‘For too long’, says Lu Caizhen, ‘poverty has kept too many Chinese people constant company.’ But times in China, as the world well knows, are a-changing.

At the core of this book, there is a central and primary question: who is poor in rural China? But to this one simple question, there have to be many complex answers. It is this complexity, and its downstream policy implications, that Lu Caizhen’s research addresses, analyses and clarifies.

The salience of this inquiry needs little justification. It is a vital issue in itself; but it also has wider strategic relevance. Did the benefits of the recent decades of explosive export-oriented economic growth touch the distant peasantry in Yunnan? New poverty reduction policies were expected to reach parts and people that this growth did not reach; did they? Local approaches are meant to be guided by local participation; are they? And, needless to say, what happens in China heavily influences the global incidence of poverty.

While much lip service is paid to the incontestably multidimensional and experiential nature of deprivation, the conventional money-metric poverty line approach still rules the roost. It is this dominance, at epistemological, methodological and policy levels, that Lu Caizhen’s research effectively challenges. Without rejecting it altogether, she deconstructs this mainstream method of identifying and aggregating poverty, demonstrating how limiting it can be.

She uses a simple paradox to drive the point home. In 2005, income per capita stood at 14,000 yuan, and using the official national poverty line approach, the headcount rate of poverty incidence had decreased to less than 3 per cent – a remarkably, if not incredibly, low figure. But how should this be understood when over 40 per cent of secondary school students in rural areas drop out of education, and medical insurance covered less than 10 per cent in 2004 in rural areas? Health and education are two major deficits and dimensions of poverty. How was this paradox to be resolved? ‘In my thesis I wanted to analyse how poverty is recognized and measured, how people in poverty are identified, using alter-

native approaches. This would help in understanding poverty in rural China in a balanced and nuanced manner.'

Lu Caizhen investigated her central question in a village in Wuding County in Yunnan, where she studied about 500 households over a year. The resulting doctoral dissertation, successfully defended in 2009, and extensively revised, forms the basis of this book.

The key feature that makes the work of high significance in the field of poverty studies is the use of multiple methods on a single population; one could well add: by a single researcher well rooted, by birth, affinity and professional experience, in the reality being studied. Her research confirms the sensitivity of poverty estimation to the choice of alternative approaches and methods and thereby underscores the importance of triangulation in the recognition and aggregation of poverty. Her novel research throws up several significant findings on the incidence and pattern of rural poverty.

The use of the national official poverty line of 668 yuan yields an incidence of headcount poverty of just 3.4 per cent of households. This is as remarkably low as the poverty line itself is acknowledged to be. So she re-estimated the incidence on the basis of two other specifications of the poverty line. First, the national poverty basket was estimated using local prices; this led to a poverty line of 1,296 yuan; the incidence rate was then found to be 18.0 per cent. Second, through participatory interactions with village folk, she composed a notional basket of items that would correspond to local perceptions of what could be regarded as the poverty threshold. This basket, valued also at local prices, was calculated to be 2,315 yuan; using this fully local poverty line, the conclusion was that 59.6 per cent of the households were in poverty. The spread is enormous: for every one household that would be classified as being poor using the official poverty line, there are nearly 18 households that would be deemed poor using a poverty line reflecting local perceptions of basic needs valued at local prices.

The next finding pertains to the official list of poor households that the local officials generate annually. It was found that the methodology for the identification of poor households was generally ad hoc, arbitrary and influenced by the subjective preferences of those making the list. Additionally, how long this list was in any year, that is the rate of officially recognized local poverty incidence, was overwhelmingly influenced by political guidelines and considerations and budgetary constraints of local government. As such, this rate of incidence fluctuated widely from year to year, with the pattern of these fluctuations often running contrary to what should reasonably have been expected based on trends in the real economy of the village for these years. For the reference year of research, the incidence rate, based on the local list, turned out to be 40.2 per cent.

The same population, comprising the 473 households used in the survey, was then investigated through a careful field application of participatory poverty assessment methods. This exercise revealed a rate of poverty

incidence of 33.8 per cent.

Finally, in an innovative exercise, Lu Caizhen adapted the recent Indian multidimensional poverty household indexing template to calculate household scores that were then used to rank households. This ranking was then compared with the one thrown up by the other criteria. What clearly emerges from this multi-method field research is that the different approaches throw up very different estimates for the incidence of poverty for the same set of households.

The story does not end there, but leads to a question of deep intrinsic and instrumental import: do the different approaches identify different populations as being poor? This is critically important. Should there be a very substantial overlap, the choice of method might not have mattered very much; on the other hand, if the overlap is limited, the choice made would be crucial for the outcome.

There are two bottom-line summary answers that are provided on the extent of overlap: the first pertains to what percentage of households were deemed to be poor on *all* four criteria employed; the second calculates the percentage of households that were found to be not-poor on every any of the four criteria.

The statistics are telling. Using the national version as representing the monetary poverty-line approach, only 4 households of 473 surveyed were poor on all criteria. This, no doubt, reflects the very low poverty line. But when the high local money poverty line was used, the number rose to 34, or to only 7.1 per cent of all households. Looking at the other side, it was found that using the low official poverty line, 170 or 35.9 per cent of households were found to be non-poor on all criteria; the number being 90 or 19.0 per cent if the much higher local poverty threshold was used. Or, four of every five households were found to be in poverty on some one criterion, using the local poverty line.

Applying diverse methods, each with its own conceptual and a priori justifications, to the estimation of the incidence of rural poverty for a fixed population for the same reference period yields very divergent empirical answers both with regard to the overall rate of incidence and for rankings and overlaps between the groups of 'households in poverty'. These are some of the startling findings that emerge from Lu Caizhen's research.

Clearly the empirical outcomes should not, indeed cannot, be generalized to rural Yunnan, let alone to rural China. Nevertheless, they provide revealing insights into the conceptual and methodological ambiguities of the empirical estimation of poverty. There are powerful implications for the design and implementation of anti-poverty interventions.

Revelatory as its empirics are, the strength of the research extends beyond the numbers to the nuanced and balanced exposition of how things really happen at the level of the village – how personal lives and official processes interface and interact. The reader is guided through the field, with maturity and assurance, by an accomplished and sensitive practitioner of field participatory methodologies. And then, there is an intriguing

and illuminating treatment of the theme of participation spanning the pre- and post-reform eras, through a comparative analysis of the socialist phenomenon of national campaigns and the present-day practice of participatory methods with locally circumscribed domains.

I find myself reacting to Lu Caizhen's research at two levels. As an academic engaged in teaching and researching in the field of poverty studies, I find the work immensely rewarding and potentially extremely valuable; in a densely over-published domain, it offers a research perspective that is virtually unique. As such, it greatly adds value to poverty studies in very many ways that are relevant not just for China, but for the field as a whole. There are powerful, if uncomfortable, policy implications that researchers and practitioners equally need to contend with.

At a more personal level, it is impossible that the supervisor of a dissertation, and especially one as heavy as the one that underpins this book, should not feel a special sense of involvement with the project. And it is equally inevitable that the formality of the supervisory relationship is overtaken by the informality and familiarity of friendship, adding to the surrogate sense of satisfaction at the award of a Distinction, a particularly rare honour, to Lu Caizhen's dissertation.

At the gathering of academics at the award ceremony, Lu Caizhen opened her formal defence on a poignant note: with emotion propped up by propriety, she said: 'I have personal memories and experience of poverty, as I grew up in a farmer's family in rural Yunnan. My parents were farmers; my brothers still are. My mother had bound feet, but no education. She could not read and write. It has been a very special journey for her daughter to stand here today to welcome and thank you all for your kind presence.'

One journey has indeed ended, but not without giving Lu Caizhen the key to unlock the door to the next one. It is to be hoped that it will be as productive and rewarding for her, as, one anticipates eventually, howsoever indirectly, for the hardy peasant subjects whose lives of struggle and striving for betterment have provided the driving motivation of her excellent and valuable research.

(Statements attributed to Lu Caizhen in this preface are drawn from the text of her exposition at the public defence of her doctoral dissertation on 8 May 2009 at the International Institute of Social Studies, The Hague.)

Ashwani Saith

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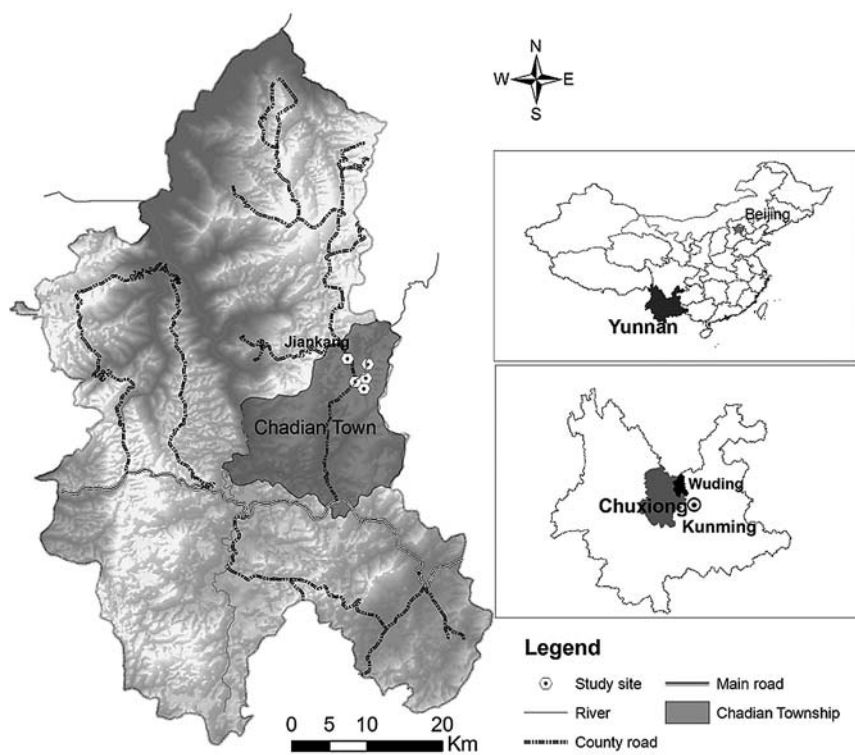
Throughout the project, I travelled between The Netherlands and China. My husband, daughter and parents-in-law provided constant encouragement and support. They deserve more than the usual thanks. I express my deepest gratitude to my parents, who inspired me to pursue my research.

Note: throughout this volume names have been changed for reasons of ethics and to maintain confidentiality.

List of abbreviations

ABCKB	Agriculture Bank of China Kunming Branch
ADB	Asian Development Bank
AEI	Average Education Index
CASS	Chinese Academy of Social Sciences
CCGOV	China Center for Governance
CPCCC	Communist Party of China Central Committee
CPGC	Central People's Government of The People's Republic of China
CPRC	Chronic Poverty Research Center
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
FHH	Female-headed household
GDP	Gross Domestic Product
GDR	Gross Dependency Rate
HDI	Human Development Index
ILO	International Labour Organization
IMF	International Monetary Fund
LGOPAD	Leading Group Office of Poverty Alleviation and Development
LGOPADYNP	Leading Group Office of Poverty Alleviation and Development of Yunnan Provincial People's Government
MCAPRC	Ministry of Civil Affairs of The People's Republic of China
MDI	Multidimensional Poverty Indicator
MDGs	Millennium Development Goals
MHH	Male-headed household
NBSC	National Bureau of Statistics of China
NGO	Non-Governmental Organization
NPL	National Poverty Line
NPMS	National Poverty Monitoring Survey
OECD	Organisation for Economic Co-operation and Development
OPI	Official Poverty Identification

OPL	Official Poverty List
PBCKB	People's Bank of China Kunming Branch
PGCDT	Wuding, People's Government of Chadian Township
PGYNP	The People's Government of Yunnan Province
PMS	Poverty Monitoring Survey
PPA	Participatory Poverty Assessment
PPI	Participatory Poverty Index
PPP	Purchasing Power Parity
PRA	Participatory Rural Appraisal
PWR	Participatory Wealth Ranking
RHS	Rural Household Survey
RMB	Renminbi Yuan, Yuan (Chinese currency)
SBYNP	Statistics Bureau of Yunnan Province
UNDP	United Nations Development Programme
USD	United States dollars
VC	Villagers' Committee
WB	World Bank
WBI	World Bank Institute
WDCDRC	Wuding County Development and Reform Committee
WDCPADO	Wuding County Poverty Alleviation and Development Office
WDCSB	Wuding County Statistics Bureau
WDEPELDO	Wuding, 'Eleven-Year' Plan Editorial Leading Group Office of Wuding County
WDPADO	Wuding County Poverty Alleviation and Development Leading Group Office
YNDPF	Yunnan Disabled Persons' Federation
YNPBE	Yunnan Provincial Bureau of Education
YNPFB	Yunnan Provincial Finance Bureau
YPWF	Yunnan Province Women's Federation
YRDRC	Yunling Rural Development Research Center



Location of the study site in Wuding County, Chuxiong Yi Autonomous Prefecture, Yunnan Province, China

1 Introduction

1.1 Research problem

This research centres on the identification and measurement of poverty in China utilizing different approaches. Even though China has made huge economic strides and rapid progress in poverty reduction in recent decades, poverty is still a major issue in rural China. Identification of poverty in China has long relied mainly on the national poverty line and the World Bank's US\$1 dollar per day or \$2 per day standard.

With the Millennium Development Goals (MDGs), the United Nations aims to halve world poverty by 2015. The World Bank and other major donors assess proposed anti-poverty policies in relation to their impact on reported poverty incidences (Laderchi *et al.* 2003). However, there is disagreement on how many poor people China actually has, who they are, where they are concentrated and even on what poverty really means in China, the second largest single contributor of the world's poor (Deaton 2001; Li 2009b). A fundamental question to ask is how poverty is measured, identified and represented in order to formulate effective strategies for poverty reduction (Shimeles and Thoenen 2005).

The current research uses multiple identification methods for poverty assessment in China to scrutinize the accuracy of poverty identification and the impact of various poverty assessment means for policymaking and policy implementation. The focus here is on the 'official poverty list' (OPL), the national poverty line (NPL) (which uses a monetary approach), participatory wealth ranking (PWR) and the use of multidimensional poverty indicators (MDI). These are applied to the same population of households in the administrative village of Jiankang. This is followed by a comparison of the poverty incidences generated, in particular an examination of household characteristics and any overlap of the households identified, as well as aspects highlighted and hidden by the various approaches.

Identification of the poor is crucial for poverty reduction. However, the current mix of approaches used to identify the poor and the policy that is subsequently formulated are rather messy (Lu 2010b). Despite recognition of the multidimensional nature of poverty and agreement on the importance of incorporating the perspective of the poor in studies of

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poverty, the monetary approach is still the most widely used method of poverty assessment.

Most research indicates that different approaches identify different households as poor. In theory, this would lead to different policies for poverty reduction. However, studies comparing means of poverty assessment are almost always carried out on different populations or at different times and places, making direct comparisons impossible (Scoones 1995; Laderchi *et al.* 2003; Franco 2003; Stewart *et al.* 2007). Some studies have demonstrated that different methods identify the same populations as poor (Maltzahn and Durrheim 2008; Deutsch and Silber 2005). An empirical question to ask then is whether different approaches do in fact identify the same or dissimilar households as poor and whether the assessments have different policy implications. However, precise empirical knowledge on this crucial question is limited.

The current study remedies this gap, as it applies four poverty assessment methodologies to the same population in China. The purpose of the comparison is to learn whether the four approaches generate the same poverty incidence and identify the same people as poor. If they do identify the same households as poor, then the theoretical differences may be unimportant in policy and targeting terms. Any of the approaches could be used as a proxy for the others to identify the poor, despite any potential theoretical deficiencies (Laderchi *et al.* 2003; Stewart *et al.* 2007). If not, we must ask whether the choice of approach matters. What are the overlap rates and different coverage rates? Is the overlap great or inconsequential? There are four possibilities for overlap related to the four approaches (Lu 2010b):

- 1 There may be a large level of overlap, as depicted in Figure 1.1. If the four approaches identify the same or most of the same households as poor, then the theoretical differences among approaches could be considered irrelevant and unimportant in developing poverty reduction targets. So one approach could be used as a proxy for the others to identify the poor despite potential theoretical deficiencies (Stewart *et al.* 2007; Laderchi *et al.* 2003).
- 2 There may be inclusive overlap among the four approaches (Figure 1.2). This is the case when different poverty lines are used from a monetary perspective on poverty. The problem here is deciding where to set the poverty line.
- 3 There may be very little overlap among the four approaches, as depicted in Figure 1.3.
- 4 There may be no overlap among the four approaches (Figure 1.4).

In (3) and (4), the poor households identified are largely or totally different. That means the approach does matter in poverty assessment.

The central hypothesis of the current study is that different approaches generate different poverty incidences, identify households with different

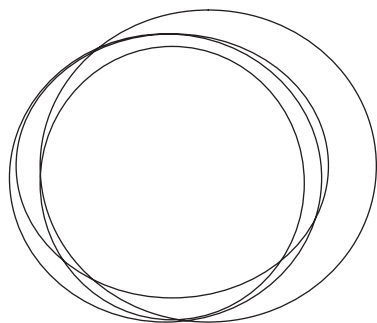


Figure 1.1
High overlap of households in the
four approaches

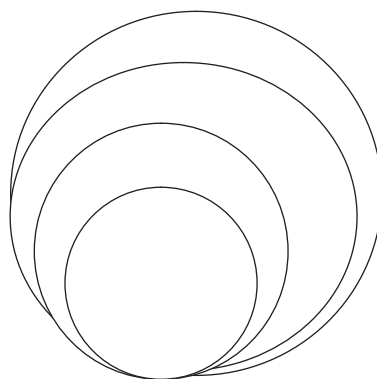


Figure 1.2
Inclusive overlap of poor
households, such as use of
different poverty lines from a
monetary poverty perspective

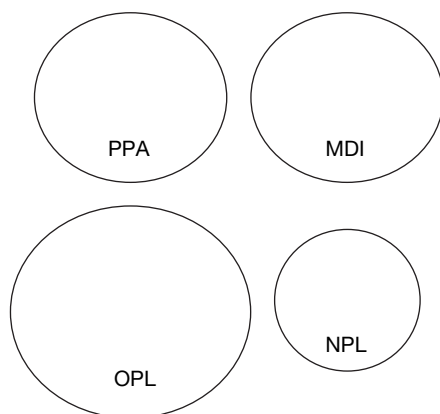


Figure 1.3
Little overlap of poor households in
the four approaches

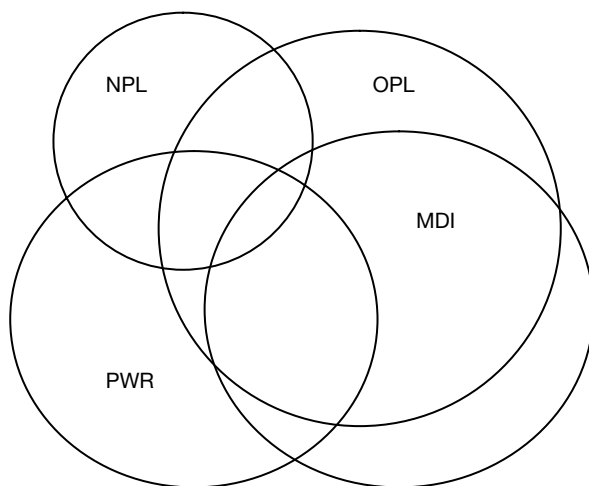


Figure 1.4
No overlap of poor
households in the four
approache

characteristics as poor and result in different policy implications. Rather than assessing their merit, this study aims mainly to explore any differences in the incidences of poverty generated by the various approaches. It asks what characteristics are shared by the households picked up by the different approaches, what overlaps there are in the households identified as poor and what implications the choice of approach/method have for policy and strategies.

This comparative study of the four approaches incorporates several levels of analysis. The first is epistemological: how is poverty understood in the different approaches? The second is methodological: what poverty incidences do the different approaches produce? What are the overlaps of households identified as poor by the different approaches? Do the different approaches identify households with different characteristics as poor? What dimensions or aspects do different approaches reveal and mask? The third level of analysis is policy and strategy relevance: do different approaches imply different policies and strategies?

1.2 Justification and context

Poverty reduction is a development priority and an urgent task for the Chinese government. Poverty assessment work is increasingly recognized as playing a critical role in the design and promotion of effective poverty reduction policies. It helps to more effectively transfer poverty reduction resources to the poor to improve their situation (Ekambi 1999). Coudouel *et al.* (2004: 29) list four reasons for poverty assessment:

for cognitive purposes (to know what the situation is), for analytical purposes (to understand the factors determining the situation), for policymaking purposes (to design interventions best adapted to the issues), and for monitoring and evaluation purposes (to assess the effectiveness of current policies and to determine whether the situation is changing).

An understanding of poverty assessment methodologies is critical in China, as China has undergone intensive structural reforms, experiencing rapid economic growth and declining poverty levels over the past 30 years. According to Chinese statistics, 29 million people were still below the Chinese poverty line of 637 yuan/capita/year in 2003, and 85.2 million persons were below the low-income line of 882 yuan/capita/year (NBSC 2004). Moreover, the erosion of public provision has left nutrition, health and education in poor regions in a deplorable state (WB 2001). Many problems faced by the poor – like socioeconomic insecurity (Saith 2003), inequality, vulnerability (particularly to market risks, natural disasters and hazards) and declining access to basic health and education – have been exacerbated in the process of rapid growth and transition (Griffin *et al.* 2000). Health and education show major deficits. More than

40 per cent of rural secondary school students drop out. The proportion of rural residents who attend high school fell from 22 per cent in 1985 to 19 per cent in 1999 (Cao *et al.* 2009). Medical insurance coverage was less than 10 per cent in 2004 in rural areas. These non-monetary dimensions of poverty cannot be captured by the monetary approach. Targeting for poverty alleviation in China has been done on a regional basis, with counties that are designated as poor targeted for remedial measures. However, poor households are found in non-poor counties as well (Li 2009a). Their problems cannot be solved with a regional income-based approach alone. How is this puzzle to be solved?

This question is vital in its own right. But it is also important for several other reasons. (1) China has boasted dramatic economic development in recent years. It is worthwhile finding out whether this has benefitted the poor. (2) The Chinese government has introduced many poverty reduction policies. What are the outcomes? (3) Thinking globally, in the Millennium Development Goal (MDG) framework, how many poor are there in Asia and in the world? Statistically, this depends largely on results for China, because of its vast population. (4) If the Chinese poverty targeting system fails to reach out to the poor households in non-poor counties, using the household as the targeting unit becomes even more important than before (Li 2009a). (5) Recently, China's poverty alleviation policy has shifted from being development-oriented to being both development-oriented and relief-oriented (Wang 2009; CPCCC 2010). It is also shifting from a purely monetary perspective on poverty to a more multidimensional view (Wang and Alkire 2009). The idea is to guarantee subsistence while lifting rural low-income populations out of deprivation (Fan 2007). This increases the importance of identifying households that are poor in different dimensions.

Multiple measures are needed to address the complex and multidimensional nature of poverty in China. Therefore, although the empirical work in this study centres on poverty assessment approaches, it also investigates inequality, capabilities and social exclusion, as well as multidimensional poverty.

Employment of multidimensional poverty indicators is completely new in China. Limited work has been done there using such indicators at the household level (Wang and Alkire 2009; Chen 2008). Use of the indicators in the context of China is interesting because it enables multidimensional measures of poverty to be compared with measures of income poverty.

The current study explores whether the use of alternative approaches to identify the poor adds value to monetary analysis. It also looks into the costs of relying only on the monetary approach, which is rife with methodological problems. Thus, there is a need to compare the four approaches – the official poverty identification method, the national poverty line (using the monetary approach), participatory poverty assessment (PPA) and the use of multidimensional poverty indicators – in poverty assessment. The aim is to construct a broader and multidimensional conceptualization of poverty and development which can lead to more inte-

grated approaches to identify the poor.

The current study was conducted in Yunnan, southwest China. One of China's poorest provinces, Yunnan Province is bordered by Myanmar, Laos and Vietnam. About 10 per cent of the Chinese poor were counted in the mountainous and ethnic minority areas in Yunnan in 2009. Yunnan is also China's most diverse province in terms of climate, geomorphology, topography, ethnic groups and culture. The overlap of diverse natural conditions and minority cultures causes multiple forms of poverty and complicates poverty alleviation.

To recap, this research contributes to theory and literature in four ways. First, using the same dataset and research population, it tests and demonstrates the empirical use of the official poverty identification method, the national poverty line/monetary approach, PPA and multidimensional poverty indicators in identification of the poor. Second, it studies the poverty incidences produced by the different approaches and the overlap of households categorized as poor according to the different methods. It also establishes the different characteristics of the households identified as poor by the various approaches. Third, it delves into the meaning of these multiple measures of poverty in order to broaden understanding of poverty in rural China in a balanced and nuanced manner. Fourth, it discusses the main implications of the various understandings of poverty for the concepts, methods and policies adopted to reduce poverty. This is done by applying these methods to the same population at the conceptual and methodological levels to ascertain whether the same households are identified as poor by different approaches.

1.2.1 Poverty assessment in China

To assess poverty, the Chinese government uses the monetary approach based on income and consumption data drawn from the household surveys which have been conducted in the country for more than 20 years (Tong and Lin 2001). This monetary method, or poverty line approach, uses mainly income and expenditure. In so doing it overlooks the complex, multidimensional nature of poverty and social aspects from personal, community, cultural, historical, psychological and environmental perspectives. It therefore ignores important non-income features of poverty and well-being (WB 2001). The product of this approach is a narrow policy agenda revolving around income generation, infrastructure and employment (Hillman 2003). Other livelihood capitals are given only limited attention.

1.2.2 Anti-poverty policy in China

Poverty reduction efforts were initiated in China only after the economic opening and reform policies of 1978. Poverty reduction efforts can be divided into four stages.

1 Poverty alleviation driven by market-oriented and structural reform: 1978–85

From 1978 to 1985, poverty alleviation was driven by structural reforms. After 1978, the household contract responsibility system was implemented which distributed land to each household. Land reform provided a tremendous boost to farmers' enthusiasm for production, their productive ability and land productivity. Prices of agricultural products were liberalized to allow re-establishment of a market system for agricultural products. Investments in industrial and commercial sectors were liberalized to support the rapid growth of township and village enterprises. Land was fully utilized and developed under household management. These changes led to rapid growth of the economy. Economic and social transition played a dominant role in poverty alleviation. A dramatic drop was measured in poverty incidence, attributed to general economic growth and the institutional transition from a planned economy to a market economy. Many poor escaped poverty by raising the prices of their agricultural products, shifting to higher value agricultural subsectors and by migrating to perform off-farm jobs. The poor population dropped from 250 million (a 30 per cent poverty incidence) in 1978 to 125 million (a 15 per cent poverty incidence) in 1985, buoyed by seven years of rapid rural economic growth (NBSC 2004; Wang 2001).

Reform of the rural land system, decollectivization, the market and employment contributed to poverty reduction. Structural reform can be seen as the dominant anti-poverty strategy during this period (Montalvo and Ravallion 2010). The growth of the rural economy directly helped poor farmers to escape from poverty. Rapid development of the national economy contributed to large-scale poverty reduction, even though the government did not establish a special poverty reduction organization (Wang 2001).

2 Large-scale developmental anti-poverty through regional development: 1986–93

In the mid-1980s, rapid economic growth caused economic, cultural and social gaps between the east and west and between the coast and inlands, as a result of social, historical and geographical differences and constraints (Jalan and Ravallion 2002). In June 1986, the Chinese government set up the State Council Leading Group for Economic Development in Poor Areas (renamed the State Council Leading Group for Poverty Alleviation and Development) to be in charge of organizing, coordinating, reviewing and supervising economic development activities in poor areas. Poverty reduction in the 'old (revolutionary base), minority, remote and poor' (*lao, shao bian, qiong*) areas became a top priority and was integrated into the country's Seventh Five-Year Plan (1986–90). Counties were chosen as the basic units for poverty reduction. The Leading Group designated

8 Introduction

258 counties as state-designated poor or poverty-stricken (*guojia ji pinkun xian*) (Park *et al.* 2002). This number was increased to 373 in 1989 with no further major changes until 1993.

Large-scale poverty reduction initiatives were launched nationwide. Relief policies were replaced by regional development anti-poverty policy; thus, poverty reduction was to be achieved through regional development. Nonetheless, most poor regions opted for economic growth driven by industrial development. Such a policy was viewed as favourable for county economic development, though it lacked a direct link with poor farm households. The number of rural poor declined from 125 million in 1985 to 80 million in 1992, and poverty incidence dropped from 14.8 per cent to 8.7 per cent. However, the poverty reduction pace soon slowed, and average annual poverty reduction dwindled to 4.5 per cent (Chen and Zhou 2002; Wang 2001). The main measures used in this period were 'food for work' programmes (*yigong daizhen*) and preferential loans (*youhui daikuan*). At the same time, favourable finance, tax and price policies were implemented in poor areas to increase their development ability (Zhu *et al.* 1996).

3 Hard-core attack on poverty: 1994–2000

In 1994, the Chinese government launched the national Eight–Seven Poverty Reduction Plan, which called for solving the food and clothing problems faced by 80 million rural poor in the seven years from 1994 to 2000. This plan targeted 592 poor counties, which covered more than 72 per cent of the rural poor in the country based on nutritional requirements set by the National Bureau of Statistics of China (NBSC). The poverty reduction policies focused mainly on development activities, placing priority on development of crop and animal farming, alongside farm-products-based agro-processing. Reducing poverty through science and technology and implementing family planning were also emphasized. In 1999, the Central Committee of the Chinese Communist Party ordered implementation of a hard-core poverty reduction effort at the village and household level. At the heart of the initiative was the targeting of poverty funds and measures to the poor villages and households. This constituted a shift in poverty reduction policies from poverty reduction driven by regional economic development to a direct targeting of the poor population (Chen and Zhou 2002; Wang 2001).

4 Institutional poverty reduction: 2001–10

In May 2001, the Central Committee of the Chinese Communist Party issued the Opening-Up (*Kaifa*) Poverty Reduction Programme for Rural China. This anti-poverty programme focused mainly on improving the basic production and living conditions of the rural poor, improving their quality of life and strengthening their ability to help themselves. It also

set out to enhance infrastructure facilities in poor villages and improve the ecological environment, thus improving economic, social and cultural conditions to provide people a better life. 'Key working counties' (*fupin kaifa gongzuo xian*) for poverty reduction and development were to be those in minority regions, old revolutionary base regions, border regions and extremely poor regions in the central western area. These are areas where the poor were concentrated as measured by poverty rates, incomes and basic production and living conditions. The key counties would be regularly reconfirmed and revised (LGOPAD 2001).

The main thrusts of the programme were crop planting and animal raising, agricultural industrialization, improvement of basic production and living conditions, poverty reduction using science and technology, improvement of scientific and cultural qualities of the rural poor, labour mobility, voluntary migration and encouragement of participation in the poverty reduction activities (LGOPAD 2001).

Hillman (2003) criticized the poverty reduction efforts as being hampered by a narrow spatial and income-based definition of poverty. The 'development' discourse of poverty programmes, in fact, continued to be based on the assumption that poverty was due to a lack of reform, so it tended to leave the poor out of decision-making processes. The 'opening-up' principle was based on the belief that poor regions remained impoverished because of a lack of marketization and under-investment in rural infrastructure. The opening-up discourse continues to permeate all levels of government. The logic is that poor areas can rid themselves of poverty only through increased marketization and income-generating opportunities. Thus, the new poverty alleviation policy is largely employment-oriented. The emphasis on infrastructure and employment shows the government's narrow understanding of poverty, as in reality the poor are suffering under an increasing burden of user-paid school fees and medical bills. The lack of health care and under-investment in education are two problems ignored by the 'opening-up' imperative for poverty alleviation.

The Chinese government has long used county-based targeting to reach poor populations, even though its new poverty reduction programme proposes that future poverty policies be directed to poor villages (Remenyi and Li 2003). County-based targeting has failed to reach the real poor at the macro and micro levels (Huang *et al.* 1998; Beynon *et al.* 2000). Many poor households in predominantly poor areas have been excluded and marginalized from poverty alleviation assistance, because of ineffective targeting and misallocation of poverty reduction resources. Ineffective targeting has caused dilution, omission and leakage of the benefits to the non-poor (WB 2001). As Li Xiaoyun notes, 'the lack of means and methods in identifying the groups in need is one of the major factors blamed for the failure of the real poor people to get support in China' (Li 2001c). China's Leading Group for Poverty Reduction and the World Bank recommend improving targeting of the real poor and increasing

beneficiary participation (WB 2001). This has made accurate identification of the poor more urgent.

The development-oriented Poverty Reduction Program in Rural China (2001–10) led to a major shift of focus from the county level to the village level in terms of anti-poverty programme planning and implementation (LGOPAD 2001). This policy shift makes clear the importance of effective village and household targeting, and of identifying the real poor at the household level. With the implementation of participatory village development planning (LGOPAD 2005b; Wu 2005), there is a need for a parallel process of identification of the poor to match and support it.

1.2.3 Participation

China has a centralized, top-down decision-making system. Participatory rural appraisal was introduced in the country only in the late 1980s. It was first applied in the field of development in the early 1990s (Plummer and Taylor 2004; Lu 2000b; Li 1999, 2001b; Vernooy *et al.* 2003). Participation has since mainly been used in the early stages of programme identification and preparation and in initiatives by international donors and non-governmental organizations (NGOs) and in government-sponsored projects (Li 1999; Beynon *et al.* 2000; Zheng *et al.* 2001; Zheng and Lu 2001; Li 2001a; YNPRA 2003; Plummer and Taylor 2004). Some projects have tried to facilitate dialogue between experts and local beneficiaries with the aim of adapting programmes flexibly to local needs. Recently, local institutions together with NGOs and international poverty alleviation organizations began to stimulate local people's participation in design, implementation, monitoring and evaluation of poverty reduction programmes. Participatory approaches have been used in a range of poverty reduction initiatives (Lu 2000a), for village development planning, targeting of poverty alleviation efforts and, since 2005, even in official poverty identification (LGOPAD 2005b; Wu 2005). The Participatory Poverty Index (PPI) was developed to identify poor villages (Wang and Li 2003), not to identify poor households.

Participatory approaches are viewed chiefly as a consultation tool, a technical alternative or as an instrumental device for reducing 'leakage' of poverty reduction funds (Young 2003: 15). As Young (2003) points out, the Development-Oriented Poverty Reduction Programme for Rural China is vague about participation. Its promotion of participation is driven by appreciation of the efficacy of stakeholder consultation and its potential to better identify and target programmes. Though participation is still limited in decision-making and policy formulation for poverty reduction, the situation in China is nonetheless better than in some other low- and middle-income countries in Asia and Africa. Some work has been done in China to build participatory institutions for project management. Yet the country has few precedents on which to model such independent institutions. Bureaucratic constraints to participation are also still a large

problem. Local officials and experts are unhappy with poor people's participation. They perceive it as a diminution of their own authority.

With the promotion of participation by the Chinese government and with village committee elections under way (MCAPRC 1998), there is a need for a participatory approach to poverty assessment. The idea is to ensure that the voice of the poor is heard and that benefits for the poor and their priorities are reflected in anti-poverty programmes and that the poor retain the right to participate in programmes that affect their lives.

1.3 Overview of five approaches to poverty assessment

The poverty literature sets out a number of approaches to poverty assessment. Examples are the monetary approach, the capability approach, social exclusion as defining poverty, the participatory approach and the multidimensional approach. A theoretical comparison of these ways to define and identify 'poverty' and 'the poor' serves to illustrate the differences.

1.3.1 *The monetary approach*

The monetary approach is the most commonly used method to identify and measure poverty (Booth 1887; Rowntree 1902). Monetary poverty encompasses both absolute poverty and relative poverty (Townsend 1974; Runciman 1966; WBI 2001). Individuals are said to be living in absolute poverty if they are unable to obtain the minimum necessities to maintain their physical existence (Rowntree 1902). The most important component of a basic needs poverty line is the food expenditure necessary to obtain some recommended food energy intake and a modest allowance for non-food goods (Ravallion 1992). The 'headcount ratio', the 'poverty gap ratio' and the 'poverty severity index' may be used to analyse the number of the poor, the magnitude of poverty and the depth of poverty (Foster *et al.* 1984; WBI 2001).

The monetary approach measures well-being by income or expenditure. As such, it enables national and international comparisons to be made. Monetary assessments are viewed as an absolute, objective (Greeley 1994) and external evaluation a snapshot conducted by social scientists and others rather than by the poor themselves. Yet the excessively reductionist nature of the approach fatally distorts the very meaning of poverty. This suggests the need to adopt a broader notion of human deprivation instead of a narrow focus on income or food poverty lines. Such poverty lines cannot be meaningfully used as a proxy for vulnerability and socioeconomic insecurity (Saith 2005), as a measure and understanding of poverty and as a basis for constructing policies to overcome deprivation (Stern 2001). Monetary poverty lines ignore differences among household members and human diversity (metabolic rate, activities, age, sex, size, socioeconomic environment) (Sen 1999; Laderchi *et al.* 2003; Saith

2004; Sen 1992). Problems of inter-personal comparisons are thus raised, and gender inequality is not reflected (Saith 2004; Chant 2003). Also, the unit of analysis is the household, though a better unit of analysis would be the individual (Carvalho and White 1997). Saith (2004) draws attention to estimation problems and value judgements related to the composition of the food basket deemed to be required (Laderchi *et al.* 2003), the neglect of economies of scale, the choice of appropriate adult equivalence scales, intersectoral and interregional variations in diet and prices and the income distribution data used in the estimation process (Saith 2005, 2004). Addressing these deficiencies is clearly constrained by the complexities and difficulties involved in obtaining accurate information (Sinha 2003). The perception of poverty is individualistic, with poverty defined as individual circumstances and behaviour, not as a social phenomenon (Laderchi *et al.* 2003). It thus leads to an implicit policy bias in favour of private income generation rather than provision of public goods like health, education, housing, transport, communications (Saith 2004, 2005) and environmental integrity (Laderchi 1997). Similarly, it leads to a bias towards those lacking private income in the identification of the poor for targeting purposes (Laderchi *et al.* 2003). This can produce a superficial and misleading understanding of the nature, causes and cures of poverty. It can lead to an equally narrow adoption of targeting, monitoring and evaluation criteria, thus carrying the approach's many blind spots into the operational phase of interventions (Saith 2004). The policy implications of the monetary approach focus on improving the economic situation of the poor, so their income can be raised above the poverty line. Policymakers may interpret this as an emphasis on economic growth and optimal distribution of monetary income (Laderchi *et al.* 2003). Thus, other root causes of poverty, such as lack of public services, may be neglected. Results of monetary policies will be short term, not long term and sustainable, if we fail to tackle the root causes of poverty.

1.3.2 The capabilities approach

The capabilities approach, or entitlements approach, to poverty assessment was spearheaded by Amartya Sen (1993) after Aristotle, Adam Smith, John Stuart Mill and Karl Marx (Sen 1987). It views poverty as the absence of some basic capability to function or as the failure to achieve certain minimal or basic capabilities. 'Basic capabilities' are the 'ability to satisfy certain crucially important functionings up to certain minimally adequate levels' (Sen 1993). Capability approach indicators revolve around the freedom to live a valued life.

Thus, Sen's capability approach proposes that when we conceptualize or evaluate poverty or inequality, we should do so in the space of 'functionings' and capabilities. The approach conveys an ethical critique of mainstream development. It rejects the dominant belief that income is an adequate measure of human well-being and embraces the fundamental

fact of human diversity (Sen 1992). Human diversity is said to influence how a person can convert the characteristics of a commodity into a functioning (Sen 1992).

The strength of this concept lies in its highly multidisciplinary character and its focus on the plural or multidimensional aspects of well-being (Robeyns 2005). The capabilities approach is reflected in, for example, the Human Poverty Index (HPI), which is a composite index of multiple dimensions of poverty and well-being. The implied policymaking focus is on the causes and environmental context that affect poverty. Associated anti-poverty measures therefore target not only incomes, but also dimensions such as education and health care (Philipp 1999). Central to the capabilities approach are five classes of assets. On the downside, however, the asset index is unit-free and relatively slow moving. Thus, it may not adequately and rapidly reflect important changes in one's economic situation (Booyesen *et al.* 2008) and measure current standard of living (Shimeles and Thoenen 2005). The distribution of assets further depends on the context (past, present and future), which includes exogenous and endogenous factors (Siegel 2005).

Some methodological and operational issues and challenges remain. For instance, there is no definitive list of relevant capabilities (Nussbaum 2000) and selection of the relevant functionings is difficult, as is measurement of these functionings at the individual level. Theoretical and practical challenges are also presented in aggregation of these functionings into a composite (scalar) measure of individual welfare and in aggregation of individual welfare to societal welfare (Kuklys and Robeyns 2004; Ysander 1993). The approach has been called too individualistic (Deneulin and Stewart 2002), not operational (Sugden 1993; Roemer 1996; Srinivasan 1993) and unpractical (Sugden 1993). Roquette sums up data limitations, difficulties in aggregation and weighting, and incompleteness as substantial drawbacks of the approach (Laderchi *et al.* 2003). There are also problems in identifying break-off points in the distribution of capabilities to differentiate the poor from the non-poor, as this is context-dependent and arbitrary (Laderchi *et al.* 2003).

Srinivasan (1993) finds the Human Development Index (HDI) to be empirically weak and have serious problems of non-comparability over time and space. It cannot scrutinize the household or individual level because some capability indicators are group measures or stock variables, which change very slowly over time. This limits their usefulness for short-term and medium-term poverty monitoring (Lok-Dessallien 2004). The capability approach, further, cannot capture fundamental causes or dynamics of poverty. Most assessments do not directly involve the poor in analysing the causes of poverty (Laderchi *et al.* 2003). In such cases, the nature and causes of poverty can easily be misunderstood, leading to ineffective poverty reduction.

The capability approach suggests investments in extending and exercising basic capabilities through provision of monetary income and im-

proved allocation of social goods to achieve education, health and other goals (Laderchi *et al.* 2003; Saith 2001).

One important policy assumption for both the monetary approach and the capability approach is that growth is good for the poor. However, distributional issues are less relevant in this type of poverty reduction (Laderchi *et al.* 2003). Both approaches largely fail to directly capture the fundamental causes and dynamics of poverty. The solutions they propose to poverty may therefore be misleading.

1.3.3 Social exclusion

The concept of social exclusion emerged in France in the 1970s and refers to those who are not protected by state welfare and are considered social misfits (Lenoir 1974). The European Foundation defines social exclusion as ‘the process through which individuals or groups are wholly or partially excluded from full participation in the society within which they live’ (Haan 2001). The social exclusion approach to poverty focuses on the multidimensionality of deprivation and the relations and processes that cause deprivation (Haan 2001). The approach shifts from ‘income’ or the narrow monetary dimension, to embrace social, political and cultural dimensions as well. It looks at relational aspects, emphasizing social relationships, relative conditions and dynamic processes, rather than absolute deprivation and static states. The focus is thus on process rather than outcome (Saith 2001). Atkinson summarizes three main characteristics of social exclusion: relativity, agency and dynamics (Atkinson 1998). Exclusion is said to be a dynamic process in which future prospects are relevant as well as current circumstances (Laderchi *et al.* 2003).

Critics of the social exclusion approach point to its definitional problems, both social and economic. The major conceptual weaknesses of social exclusion are its vague and diffuse definition (Farrington 2004; Li and Pinel 2004; Haan 2001), its broad framework and society specificity (Laderchi *et al.* 2003), its relative nature and its focus on dynamic processes and relational roots and aspects (Sen 2000). This means it is susceptible to many interpretations and is difficult to quantify and compare. Traditional poverty and deprivation measures serve as indicators of social exclusion and can provide information on the progress of policies. But it is difficult to gain insight into the processes that cause social exclusion. Bottom-up participatory means are felt to be most productive, allowing communities themselves to determine local indicators (O’Brien *et al.* 1997).

Social exclusion embraces an element of relativity. Economic growth may never eliminate social exclusion. Redistribution policies are a priority choice to remove imbalances and improve the overall situation of those deprived. Groups rather than individuals are targeted by social exclusion policies, like eliminating discrimination and various forms of affirmative action (Laderchi *et al.* 2003). Policies can also target the causes, the proc-

esses and the results of exclusion. Such measures are interpreted to foster inclusion in markets and social processes, with particular emphasis on the formal labour market (Laderchi *et al.* 2003). Effective solutions are viewed as those reflecting the multidimensional nature of social exclusion, identifying exclusion and its effects on everyone, achieving greater participation and promoting community and social capital.

1.3.4 Participatory poverty assessment

The monetary approach, the capability approach and the social exclusion approach have been criticized as being externally imposed and failing to take into account the views of poor people. They have been challenged by the participatory approach in recent years, based on the views, perspectives and realities of poor people themselves in understanding the multidimensional nature of poverty (Chambers 1994a, 1994b, 2002, 1995). The aim of the participatory approach is to get people to take part in decisions about what it means to be poor and the magnitude of poverty.

The practice of participatory poverty assessment (PPA) evolved from participatory rural appraisal:

The purpose of a participatory poverty assessment (PPA) is to create space for the voice for the poor in providing a deeper understanding of the dynamics of poverty and its regional contextual characteristics, of the coping mechanisms adopted by the poor, and of local perceptions of problems and priority interventions. To this end, PPAs use a variety of participatory methods and represent a groundbreaking new departure in policy-based poverty research.

Chambers 1994a

PPA was scaled up by the World Bank in the early 1990s to complement its own poverty assessment techniques (Narayan *et al.* 1999, 2000; Narayan and Petesch 2002). However, the World Bank's use of the participatory approach is quite instrumental. Its purpose is to ask the poor to cooperate with the programme and in mutual learning, not really to change the nature of the programmes themselves. There is little self-determination or empowerment (Laderchi *et al.* 2003).

The major advantage of PPA is its departure from externally imposed standards. Differences from other approaches are its conveying the perspective of the poor, at least in theory, and the small size of its samples, even in the scaled-up version. The poor are not only involved in the identification of problems and solutions to them, but also in the implementation, monitoring and evaluation of poverty reduction programmes. As a result, they develop a true sense of ownership that leads to the greater success of such programmes. The poor will prioritize the dimensions that affect them most and contribute solutions to tackle these. The poor's involvement in policy and programme design and implementation is said to

empower them even as it improves programme success (Qizilbash 2003).

PPA's limitations relate to representativeness, generalizability and comparability of findings across regions and countries, as well as respondent, investigator and seasonal biases and sampling bias (Norton *et al.* 2001). Problems are also inherent in cultural differences. The method is, furthermore, complex and contains multiple dimensions of analysis, such as process, causes and outcomes of poverty from the viewpoint of the poor. The result may be too broad, too obvious and too complex, leading different analysts to reach different conclusions and thus complicating decision-making (Dauphin 2001).

Operationalizing PPA presents its own challenges. In principle, PPA should be done by the concerned people themselves. But in practice it is always outsiders who conduct the assessment and interpret the results. Inevitably this causes problems like under-emphasis of certain themes and filtering away and omissions in understanding, recording, analysing, editing and writing. There may be an obvious 'selectivity' in highlighting policy-relevant conclusions and suiting the donor agency's purpose (Booth 1998; Laderchi *et al.* 2003). In practice, poor people's impacts on projects or plans are often remote and paltry. The perceived lack of 'scientificity' of the approach, its subjective nature and political economic considerations contribute to this. A fundamental problem arises from heterogeneity within communities. To whose voice should we listen? The poorest and women are used to being excluded (Robb 1999). PPA has been said to condone and reinforce existing social and power relations and to rarely constitute a representative sample of the population. Participants, moreover, might overlook objective elements and reach biased conclusions on account of their limited information and knowledge, social conditioning and tendency to answer questions based on what they think interlocutors want to hear. It is difficult to get honest answers. Moreover, assessments, especially those conducted in public, can put participants at some risk (Laderchi *et al.* 2003).

1.3.5 Multidimensional poverty assessment

The multidimensional approach was introduced in response to criticisms and failure to identify the poor using traditional approaches. The multidimensional approach originated from Fisher (1956). Atkinson and Bourguignon (1982) studied how different forms of deprivation were associated (Thorbecke 2005). This multivariate direction includes the social exclusion approach (Lenoir 1974), Townsend's work (Townsend 1979), Sen's functionings and capability approach (Sen 1980; UNDP 1997) and the 'fuzzy sets' approach (Cerioli and Zani 1990; Fusco 2003). Here, modern sociologists challenge traditional poverty lines, looking for broader, more inclusive and multidimensional understandings of poverty and ill-being (Chambers 1983, 1995; Bourguignon and Chakravarty 2003; Atkinson 2003; Sundaram 2003; Dewilde 2003). They do so by paying

attention to common property resources (Jodha 1986), state-provided commodities (Datta and Meerman 1980) and vulnerability (Maxwell and Smith 1992). Thanks to the pioneering work of these authors, the concept of multidimensionality of poverty has now become widely recognized (Sundaram 2003; Fusco 2003; Wagle 2005; Wagle 2008; Alkire and Santos 2010).

Multidimensional approach measurements are carried out using a set of criteria that include both direct and indirect measures and other possible poverty indicators (Moisio 2004). The approach views the different ways to measure poverty as alternative means to gain information on the same complex social problem. It accepts that one estimate or index cannot provide a satisfactory picture of the multidimensional nature of poverty (Moisio 2004).

The multidimensional approach is used in various countries. In India it is encompassed in the Below Poverty Line (BPL) benchmark (Sundaram 2003), in Belgium and Britain in the latent class measurement model (Dewilde 2003), in Iran in the combination of qualitative and quantitative methods for measuring rural poverty (Hayati *et al.* 2006) and in Peru in the country's 'best 15' indicators (Johannsen 2006). The Multidimensional Poverty Index (MPI) is a new measure aimed at drawing a comprehensive picture of poverty (Alkire and Santos 2010).

The multidimensional concept of poverty should lead to a more inclusive approach to poverty alleviation based on the weighting of each of the employed dimensions (Kanbur and Shaffer 2007). However, Fusco (2003) points out, 'if we argue that poverty is multidimensional, we have to say what we mean by multidimensional, i.e. what is a dimension, and what are the multiple dimensions of interest in constituting well-being or poverty'. Other questions to pose are how many dimensions we can have, whether there is a definite set of dimensions and whether every possible dimension is relevant in defining the multidimensionality of poverty (Alkire 2002). This conceptual diversity creates a problem in determining empirical indicators of poverty (Razafindrakoto and Roubaud 2003). An essential step is to choose a set of poverty indicators for multidimensional poverty measurement. The choice will have a great influence on the results and policy implications (Fusco 2003).

It is also difficult to define the extent to which poverty should be measured in the various directions. To be poor, how much does a person have to fall short in terms of each dimension or several dimensions or all dimensions? To be defined or identified as poor, should all of the dimensions of poverty be taken into account? Or several dimensions? Or just one dimension, or some overall index or average of indices related to poverty (Hayati *et al.* 2006)? People's preferences can affect their choice of which consumption goods, services and activities may be judged as necessary. What indicators are most important and what score or weight should be given a certain indicator? Can different indicators be given equal scores in ignorance of their importance? Should indicators be averaged to yield

a multidimensional poverty scale? Any aggregation results in a loss of information. A last issue relates to the choice of thresholds. Thresholds can be especially restrictive for a multidimensional view of poverty. Some authors choose instead to use the 'fuzzy sets' concept, which conveys different degrees of poverty rather than a dichotomy between the poor and the non-poor (Hayati *et al.* 2006). In fact, the application of a classification system is always arbitrary. A major concern is that the choice of weights and scales, whether explicit or implicit, affects the ranking of the households (Morris 1979; Maxwell and Smith 1992). How to compare achievement in different dimensions is another problem (Mehta 2000).

The multidimensional approach exposes the richness or complexity of the nature of poverty, which needs to be addressed in any policy for poverty reduction. Also, the use of a multidimensional framework may alter the particular set of people who are identified as poor:

Change in one dimension of poverty can lead to changes in other dimensions, illustrating the interlocking and mutually reinforcing nature of poverty. Better health improves one's working capacity. On the other hand, change in one sphere may not last, if other dimensions do not also change. Only multifaceted positive change can break the vicious cycle of poverty.

Hayati *et al.* 2006

Different dimensions of poverty and different types of poor call for different policies. Measurement based on basic needs, such as water supply and sanitation facilities, housing conditions, education and health, are most useful for programmes or policies geared specifically to problems in those areas. At the same time, some dimensions need to be tackled together for multifaceted positive change.

To sum up, each approach is underpinned by a different definition of poverty based on different epistemologies and concepts. Yet the definitions and measurements invoked for poverty assessments remain contentious. Each of the indices used to measure poverty according to the approaches presented are most useful at a certain level, such as the individual level, the household level, the regional, national or international level. Moreover, the different approaches look at different aspects of poverty, either absolute or relative, and some of them look at both. The focus may be either objective poverty, defined externally, or subjective poverty defined by the concerned poor people. The dimensions of poverty addressed also differ. A single indicator may be used or a proxy measure selected. Or locally perceived realities can be incorporated, or measures of multiple dimensions or multiple proxies. Each approach has its own weaknesses, both conceptual and measurement. Different approaches target different parts of the population and analyse poverty at different levels. Perhaps most importantly, the different approaches will be interpreted differently by policymakers (Laderchi *et al.* 2003). '[N]umerous

approaches have been explored in the recent literature, and no “best practice” approach has yet emerged’ (Montgomery *et al.* 2000: 155–6).

1.3.6 Politics of methodology

The measurement of poverty is a highly political matter. Different countries have different focuses and epistemologies of poverty. Epistemology is deeply relevant to poverty analysis because it bears on the types of knowledge which are favoured and the types of validity criteria adopted. First and foremost, results depend on how poverty is viewed, whether it is understood in terms of income, capabilities, social exclusion and empowerment or in multiple dimensions. Measurement of the various aspects also presents a problem. When not under pressure, governments try to make things as easy as possible. Second, measurement of poverty depends on the resources a government can commit. Third, it depends on what financial commitment and effort the government plans to devote to poverty reduction.

Practitioners have various demands and expectations of poverty measures, depending on their perspective and situation. But who is categorized as poor and non-poor is perhaps also a political issue. If political pressure forces a government to reduce poverty, then the number of poor people may initially appear to increase. If the government wants to reduce public expenditure, or if poverty reduction is not a priority, then the number in poverty may appear to decline. If government officials hope to demonstrate their political achievements then the number of people in poverty might also be reduced. It depends on the purpose for which the statistics are used. Typically, there are many more poor people than registered in official statistics. Some countries hide the existence of large pockets of poverty, as such deprivation makes them appear underdeveloped and may be perceived as evidence of public policy failure. Others show the poverty within their borders, to ask for help and support. Some view poverty measures only as a way to separate the poor from those not in dire economic need. Some see poverty measures as a way to determine who is in need and should receive social assistance. Others may use poverty rates to guide distribution of social resources across groups and jurisdictions, as an important dimension of any resource allocation formula. Still others focus on the role of poverty rates as an indicator of social well-being to assess performance or as an advocacy tool. Some people see poverty measures as a critical social indicator to assess how a society is doing over time (Ortiz 2007).

Debates about the measurement of poverty also provide a forum for indirect debate on more fundamental issues of the scope and focus of poverty reduction policy. How much should a nation spend on poverty reduction? Should a nation raise or cut spending on poverty reduction? Which groups are particularly deserving of extra help? Government policy may effectively reduce or increase the proportion of population living

in poverty. So the poverty standard is arbitrary and political. Policymakers weigh whether to have a higher or lower poverty threshold using sensitivity analyses, then establish appropriate and politically amenable poverty counts as a common policy framework (Ortiz 2007). This is important, because a poverty line reveals what a country does and does not do to address the needs of its poor population. Poverty can be reduced if governments are committed. However, governments in less-developed countries are rarely fully committed. Poverty reduction is only one of their many development objectives. Many countries are starved of capital, pressured by external debt. They have other important priorities than poverty reduction alone.

The choice of approach is highly political and epistemological. The worldviews of governments entail a philosophical analysis of poverty, not a technical analysis. Poverty and poverty measures play different roles and have different demands and expectations for different persons, depending upon their perspective and situation. There is no single concept and measure of well-being.

1.4 Research questions

Based on the above problems, the current study uses China's official poverty identification method, the monetary approach, PPA and multi-dimensional poverty indicators to assess poverty and identify the poor in Yunnan Province, China. It then compares the results obtained. The overall objective is to explore differences that might arise from the use of these four approaches to poverty assessment in practice and to discuss the policy implications of the choice of approach.

To meet the overall objective, the study first presents the poverty situation in China and problems in poverty reduction in China. It then demonstrates and discusses the four approaches to poverty assessment, defining them, exploring their measurement methods and investigating their policy implications. The research was conducted in an administrative village. In this locale, the results of applying the four approaches are compared, illustrating more fully the value added by each. Implications are then explored at the conceptual, methodological and policy levels based on the findings of the comparison.

The three main sets of questions of the study are as follows:

- 1 What incidences of poverty are obtained using each of the different approaches?
- 2 What households are identified as 'poor households' by each approach, and what is the degree of overlap and differential coverage between the results of the different approaches?
- 3 What are the implications of the different approaches for policy and action?

Other specific questions are explored as well to reach the stated objectives: how is poverty defined and measured by the different approaches? What dimensions and aspects does each approach reveal and mask? Does the choice of approach matter in poverty assessment? What are the policy implications of the choice of approach to assess poverty? What are the implications of the differences between these four approaches at the conceptual, methodological and policy level?

1.5 Research methodology

1.5.1 Site selection

Comparison of the four approaches took place Jiankang Administrative Village, Wuding County, Yunnan Province, China. Data were collected from May 2005 to March 2006. The Jiankang Villagers' Committee (or administrative village) was selected according to a number of criteria. Wuding County is a state and provincially designated poor county. Jiankang is an administrative village in a mountainous area, which is typically where most poor live. There are Yi and Miao ethnic groups living in the village as well as Han Chinese. Poor households are present as well as non-poor ones. Jiankang Administrative Village counts more than 600 households, with more than 500 of these located in five natural villages. Each natural village has more than 50 households, so it is possible to do PPA there and the survey is meaningful. The village has further maintained official lists of poor households for several years.

The current research uses individuals, households and groups as the units of data collection. The household is the unit of analysis in the household survey and the multidimensional poverty indicators survey. Groups are taken as the analytical unit for the PPA: rural poor men's groups, poor women's groups, male ethnic groups, schoolboys' and -girls' groups, elderly men's groups and elderly women's groups. The individual is the unit of analysis for documentation of the oral history of the village.

1.5.2 Methodology, approaches and tools

Both qualitative and quantitative data were used. The main tools of data collection were household surveys, focus group discussions, informal discussions, unstructured and semi-structured interviews, household-level in-depth interviews, non-participatory observation, oral history and secondary data collection. Secondary data includes information from various government agencies at the national, provincial, county, township and village levels. Sources include the Poverty Alleviation and Development Office, the Statistical Bureau, the township government and the village committee. These data encompass national, provincial and county demographics, the poverty situation, poverty reduction policies and projects, household survey results and official lists of the poor.

PPA and household surveys were the two main methods for collecting data. To generate primary data, multiple research methods were used, discussed in detail in the relevant chapters. Data were collected from national, provincial, county and township government officials, the villagers' committee and villagers' group leaders, as well as from village health workers, teachers and rural men and women. The sequence of methods and instruments used in the research was as follows:

- Discussions were conducted with officials at the national, provincial, county, township and administrative village levels to understand the local economic and social situation and the official understandings of poverty: who the poor are, the causes of poverty and the constraints facing the area. The officials were also asked how poverty is measured, their views on possible and existing solutions, strategies, policies and selection of research village. Selection of natural villages was discussed with villagers' committee members. The researcher then remained in the village to collect primary data.
- The PPA was conducted with men's groups, women's groups, ethnic groups, elderly groups and schoolchildren's groups to understand local people's perceptions of poverty, its causes and history, wealth rankings, poverty dynamics and strategies for poverty reduction. Each focus group discussion or interview took from one to three hours. These were conducted from November 2005 to March 2006.
- A questionnaire survey was conducted in nine village groups in five natural villages between January and March 2006 to gain information on key social, economic and demographic aspects of households, like composition, asset ownership, income, expenditure, health and education. Responses to the pre-coded questionnaires were analysed using STATA statistical software.

Four sets of data were used in the poverty assessment:

- the official poor population lists
- monetary poverty lists
- participatory wealth ranking results
- multidimensional poverty indicator lists.

These data were obtained in different ways. The official poor population lists were obtained from the office of the Jiankang Villagers' Committee. These lists were generated mainly by village group leaders and at public meetings. The monetary poverty lists were created by the author from household survey data. Participatory wealth ranking (PWR) results were generated in PPA exercises with local villagers. The multidimensional poverty indicators lists were generated by the author using household survey data. Evaluations of each set of data are provided in the relevant chapters.

1.6 Organization of the study

Following this introduction, Chapter 2 analyses poverty in China from a macro perspective. The definition of poverty, types of poverty and poverty measurements are presented. The background of rural poverty, inter-sectoral poverty, interregional poverty, inequality and human poverty in rural China are discussed.

Chapter 3 provides basic information about the economy, society and deprivation in Yunnan. The economic structure, social framework, patterns of deprivation, trends of poverty, the poverty situation and anti-poverty efforts in Wuding and Yunnan are presented. Basic information about the field site is provided from the demographic, social, economic, cultural and environmental perspectives – including location, social characteristics, economic and political structure, gender relations, vulnerability and sources of livelihood of the villagers.

Chapter 4 looks at poverty in Jiankang Villagers' Committee using the official poor population list generated by the official poverty identification method. The list is reviewed, and incidence of poverty, characteristics of the poor households and dynamics of poverty are analysed. Reflections on the exercise are then summarized.

Chapter 5 discusses the monetary approach to poverty assessment using household survey results. Four poverty lines are set to assess poverty: (1) the national poverty line of 668 yuan and the low-income line of 924 yuan; (1) the US\$1.25 per day poverty line and \$2 per day poverty line (Ravallion *et al.* 2009); (3) the actual-price-based national poverty line and low-income line; (4) the local people's perceived poverty line and low-income line. The results of analyses with the four poverty lines are compared to learn what poverty incidences they produce, who they consider to be poor and what the characteristics of poor households are according to the different poverty lines. Poverty incidence, poverty patterns, correlates and attributes of households are discussed. Reflections are then summarized from the exercise.

Chapter 6 focuses on the use of PPA to analyse perceptions of poverty, criteria of who the poor are, the causes of poverty and solutions for poverty from villagers' perspectives. Results are presented of discussions with groups of men, women, ethnic minorities, schoolchildren and the elderly on which households are poor, the dynamics of poverty, labour divisions and strategies to overcome poverty. Stratification, diversity and inequality of households are analysed. Characteristics of poverty dynamics are investigated. Reflections on the exercise are then summarized.

Chapter 7 focuses on the application of multidimensional poverty indicators in the local context in China. Different dimensions of poverty are discussed and selected for assessment. Multidimensional poverty indicators are developed and applied to measure poverty in all households. Multidimensional poverty, dimensions of poverty, stratification and dis-

parity within the study villages are analysed. Reflections on the multidimensional poverty indicators are then summarized.

Chapter 8 compares the results of the four poverty assessment approaches. Empirical findings are derived from the aggregate poverty incidences, the characteristics of the households identified and the degree of overlap among the households identified by the different methods. Special attention is paid to the aspects highlighted and hidden by the different approaches. As such, an answer is provided to the question of whether the choice of approach matters. Limitations and challenges of each approach are also presented. Implications of the choice of approach are discussed in relation to theory, methodology and policy.

2 Poverty in China: macro perspective

2.1 Introduction

Poverty remains an important issue in China. Though rural poverty has been tremendously reduced since 1978, it is still severe. So it is important to know how many poor there are in China and how the Chinese define and measure poverty. Knowledge of the distribution and characteristics of poverty can contribute to the development of strategies to overcome poverty. This chapter analyses poverty in China from a macro perspective. It discusses the definition of poverty, types of poverty and poverty measurement. The background of rural poverty, intersectoral poverty, interregional poverty, inequality and human deprivation in rural poverty in China are also introduced.

2.2 Definition and measurement of poverty

2.2.1 Definitions of poverty

To most Chinese, poverty means no food to eat and no clothes to wear. Poverty is always topical in China. Poverty is said to keep the Chinese people constant company. Nonetheless, the understanding of poverty in China has changed somewhat. 'Poverty' as it is mainly used in China concerns economic poverty. The National Bureau of Statistics of China (NBSC) defines poverty as follows: '[A]n individual or a household cannot maintain their basic living needs by relying on what they earn through their labour or other income' (Wang and Li 2003). Zhao Donghuan and Lan Xumin discuss the poor as 'people who cannot obtain enough labour income to maintain the ... basic living standard ... accepted by the social culture and recognised by the society under a certain environment and condition' (Wang and Li 2003).

As the notion of poverty has developed, poverty has come to be associated with not only low income and a low standard of living, but also with certain social and cultural features. Tong Xing and Lin Minggang define poverty as 'a general term of economic, social and cultural backwardness, a state of living in which low income leads to a lack of basic material and

services for a living, and a lack of chances and means for development' (Tong and Lin 2001).

Analysing a number of the poverty definitions, Kang Xiaoguang settles on a definition of poverty as a status of living under which people cannot maintain a standard of living acceptable by individual physiology and social culture, because they cannot obtain basic material life conditions and opportunities to participate in basic social activities (Kang 1995). Wang and Li (2003) summarize people's minimum needs as basic physical needs, like nutrition and sufficient calories, a minimum of clothes and shelter to main normal living activities; basic social services such as education, health care and cultural activities; control and use of basic production means and production resources; a secure environment enabling households to live in dignity; human rights, human communication and social status.

2.2.2 Types of poverty

Depending on its severity, poverty can be divided into absolute poverty and relative poverty (Kang 1995; Tong and Lin 2001; Zhang and Liu 1997). Absolute poverty refers to 'the state in which people's need for basic life could not be met due to insufficient supply of food and clothing, and simple expanded production cannot be maintained or is difficult to maintain' (Tong and Lin 2001). Relative poverty has two definitions. One is relative low-income poverty, which means the food and clothing problem has been solved, but the low-income individual, family or area is poorer compared with other members of society or other areas. Absolute poverty is different from this (Zhang and Liu 1997). The second definition casts relative poverty as a status of life and income below a certain proportion of the average income. This definition of relative poverty includes absolute poverty (Zhang and Liu 1997).

Kang Xiaoguang divides poverty into institutional poverty, regional poverty and stratum poverty. 'Institutional poverty' is the poverty status of an individual or a certain group, community or region caused by unequal distribution of living resources as decided by a social institution (such as a political rights allocation institution or employment institution). Within the same institutional context, poverty caused by natural conditions and social development is called 'regional poverty'. Within the same institutional context and regional conditions, poverty brought about by the individual's personal situation (low education level, low labour status and poor social capital) is called 'stratum poverty' (Kang 1995).

Wu Guobao classifies poverty into two types: resource- or condition-restrained poverty and ability-restrained poverty. Resource- or condition-restrained poverty refers to poverty caused by lack of funds, land, infrastructure and the like. A common manifestation of resource- or condition-restrained poverty is regional poverty. Ability-restrained poverty means poverty caused by lack of labour, intelligence or the necessary

technical skills for labour in a poor family or population, like individual poverty (Zhang and Liu 1997).

2.2.3 Poverty measurement

Even though scholars recognize poverty's social and economic aspects, the Chinese government views all poverty as absolute poverty and measures by income and expenditure. As a part of its endeavour to reduce poverty, rural household surveys have been used since the mid-1980s to capture the national poverty incidence. The poverty line is determined at the county level. The threshold for poor counties in 1986 was an average rural net income below 150 yuan per year (Wang 2007).

The food share method was used to determine the poverty line for the benchmark years 1985 and 1990. The consumer price index multiplied by the previous year's poverty line was applied to update the poverty line for subsequent years. At the suggestion of the World Bank, the government statistical bureau has since 1995 used a four-step method determine the poverty line:

- Step 1 Select 2,100 k-calories intake per day per person as the minimum nutritional needs, according to the suggestion of nutritionists.
- Step 2 Select the food bundle which can satisfy the minimum calorie intake level. Around 12 items of food were selected to calculate the minimum 2,100 k-calorie intake after removing harmful and extravagant consumption items like alcohol, sweets and cake. Determine the essential food expenditure per capita per day to satisfy that. The minimum food expenditure at the prices paid by a low-income population in a poor area is the food poverty line.
- Step 3 Estimate the essential non-food expenditure using a regression model to obtain a non-food poverty line.
- Step 4 Derive the poverty line by adding the food poverty line (about 60 per cent) and the non-food poverty line (40 per cent). In 2000, the low-income line was set based on the same food poverty line and a 60 per cent share for non-food consumption (ESCAP 1999; NBSC 2004; S. Wang 2004; Tang *et al.* 2001).

The poverty line changes over the years, with inflation. The poverty line was 530 yuan in 1995, 668 yuan in 2004 and 1,196 yuan in 2009. This is the lowest income with which it is possible to maintain a basic standard of living. It comes to about US\$0.75 per day using the PPP exchange rate in 2003 (NBSC 2004). It thus diverges from the international poverty line of \$1.25 per day per capita.

China's rural household survey (RHS) is used to estimate the country's rural poverty line. It covers 68,000 households selected from 7,100 villages in 857 sampled counties in 31 provinces. The RHS focuses mainly

on income and expenditure of rural households (Xian 2006; NBSC 2004; ESCAP 1999).

The National Poverty Monitoring Survey (NPMS) is conducted in 592 poverty-stricken counties together with the RHS. It has provided basic data for poverty monitoring in China since 1997 (NBSC 2002, 2004).

In 2003, Wang Guoliang and Li Xiaoyun developed the Participatory Poverty Index (PPI) to identify poor villages for poverty reduction and development planning research projects (Wang and Li 2003; COHD 2004) (Table 2.1). Participatory village poverty reduction plans were developed in 148,000 villages using the PPI (COHD 2004).

Advantages of the PPI are that it uses participatory approaches to identify poverty-stricken villages and reflects the multidimensional nature of poverty. It constitutes a consultative process to empower villagers to collect data and express their preferences on use of state funds (Young 2003). While the PPI can be used to identify poor villages, it cannot identify poor households, since the data it employs – such as percentage of households that have drinking water, the percentage of women who suffer from long-

Table 2.1 Examples of indicator weighting for the Participatory Poverty Index

<i>Indicator category</i>	<i>Weight (%)</i>	<i>Indicator</i>	<i>Meaning of indicator</i>	<i>Weight (%)</i>
Living conditions	35	Grain production/year/person	Grain production/year/person harvested from household's own land	37
		Cash income/year/person	Cash income earned per capita per year from different sources, not including grain production, but including income from grain sales	39
		Quality of housing	percentage of households who live in mud brick house	24
Life and production conditions	33	Drinking water supply	percentage of households whose drinking water is more than 1 km away or 100 meters higher altitude	41
		Electricity supply	percentage of households who have access to electricity	24
		Transportation	percentage of natural villages with access to a road for a three-wheel automobile	35
Health and education	32	Women's health	percentage of women who suffer from long-term sickness	50
		School drop-out rate of girls	Drop-out % of girl students of primary and secondary school-age girls	50

Sources: ADB 2004; Wang and Li 2003.

term sickness and the drop-out rate of female students – are village- or community-level statistics. No indicators or index is provided. The PPI is employed mainly as a tool to express villagers' preferences on the use of state funds (Young 2003).

China uses its official poverty identification method, based on the national poverty line, to target poor households for poverty reduction programmes launched by the State Council Leading Group Office of Poverty Alleviation and Development (LGOPAD). However, because of their complexity, household surveys are seldom carried out. Rather, poor households and populations are identified and listed by local village leaders and villagers according to their own judgements.

2.3 Rural poverty in China

2.3.1 Background

Lifelong poverty, hunger and vulnerability were the norm for the Chinese peasantry in the nineteenth and early twentieth century (CPRC 2004). Before liberation in 1949, China, which was then home to almost a quarter of the population of the world, was relentlessly plagued by famines. Between 8 bc and 1911, China recorded 1,828 famines. That translates to almost one famine every year somewhere in the Chinese countryside. Some 50 per cent of the country's population in the fertile eastern provinces and 80 per cent in the south lived below the minimum subsistence level in 1918 (Mukhopadhyay 1990).

Upon establishment of the People's Republic of China in 1949, half of its 0.4 billion population lived in hunger. With agrarian reform, land was allocated to every household. The introduction of the collective socialist system in the early 1950s led to a significant decline in the incidence of famine and malnutrition, except during the three years of the Great Leap Forward from 1958 to 1961. Under the collective socialist system, a household's entitlement to food was determined not only by its labour input, but also by the population's food needs and the grain output at the production team level. Access to food, especially staples, was a public concern. The households were made responsible for vegetables and other non-grain edibles, which they mostly managed themselves (Mukhopadhyay 1990). Griffin and Saith (1981) conclude that the distribution of income tended to become gradually more equal over time and a high degree of equality had been achieved by 1979 in China.

When Deng Xiaoping came into power in 1978, the excessive 'egalitarianism' of the system was seen as a barrier to overall growth and the overt 'commandism' began to be perceived as an obstacle to individual initiative. In 1978, the absolute poor population in the rural areas numbered 250 million (31 per cent) (Park and Wang 2001). Alongside the opening of the economy and the advent of reform policies, the household contract

responsibility system was implemented after 1979 to distribute land to each rural household (Mukhopadhyay 1990).

Changes in rural poverty from this point can be divided into four stages: the large-scale reduction of the poor population stage (1978–85); the steady reduction of the poor population stage (1986–92); the hard-core attack on poverty stage (1993–2000); and the well-off society stage (2001–10) (Table 2.2).

Before the 1990s, poverty was a rural problem, and the rural poor were the focus of anti-poverty policies. In the late 1990s, with the reform of state-owned enterprises in cities, urban poverty emerged as a social problem as well. Today, whether a household is poor depends largely on where it is located, with rural areas generally poorer than urban areas. Poverty is

Table 2.2 Four stages of rural poverty in China

<i>Changing stages of rural poverty</i>	<i>Large-scale reduction of poor population (1978–85)</i>	<i>Steady reduction of poor population (1986–93)</i>	<i>Hard-core attack on poverty (1994–2000)</i>	<i>Well-off society (2001–10)</i>
Major poverty alleviation measures	1. Rural household contract responsibility system 2. Increasing prices of agriculture products	1. The Chinese Communist Party state council announced measures to improve the situation in the rural areas as soon as possible 2. Establishment of the State Council Leading Group for Poverty Reduction 3. Change from relief-oriented poverty reduction to developmental poverty reduction	Implementation of the 'Eight–Seven' Poverty Reduction Programme in March 1994. It clearly requires reduction of absolute poverty by the end of this century	Implementation of the China Rural Poverty Reduction and Development Plan. Consolidation, development and improvement of successful achievements based on solving food and clothing deprivation
Change in poor rural population	Reduction from 250 million to 125 million. Poverty dropped by half. Some 17.86 million people rose out of poverty annually. Poverty incidence dropped from 30.7% to 14.8%	Reduction from 125 million to 80 million. Some 6.4 million people rose out of poverty annually. This rate slowed in 1991 and 1992 to only 2.5 million per year	From 1994 to 2000, the rural poor population dropped from 82 million to 32 million. About 7.1 million people rose out of poverty per year	Reduction from 32 million poor in 2000 to 29 million in 2003. About 1 million people rose out of poverty per year

Source: Modified from Chen and Zhou 2002.

also a factor driving rural-to-urban migration. China's registration system restricts worker mobility, however (Stern 2001). Even so, because cities are more developed than the countryside and there are more opportunities in the city, rural residents flood urban areas in search of jobs.

2.3.2 Changes in the rural poverty rate

Structural reforms and economic growth caused a rapid fall of poverty (Figure 2.1). From 1978 to 1985, the rural poor population was halved from 250 million to 125 million (Park and Wang 2001). In the mid-1980s, the Chinese government initiated a large-scale poverty reduction effort. The NBSC and LGOPAD formulated the first formal standard by which to measure poverty. This standard referred to absolute poverty, in other words the ability to acquire the basic necessities of life, and was revised over the years in line with a price index and the development of poverty measuring methods. Poverty reduction has since been carried out in stages, each taking a different form (see Table 2.2). With regional development efforts to reduce poverty from 1986 to 1992, the rural poor population dropped from 125 million to 80 million. From 1993 to 2000, with implementation of the government-led 'hard-core attack on poverty' the rural poor population again dropped, to 32 million (Park and Wang 2001; Tian *et al.* 2003). In 2001, China launched its Rural Poverty Reduction and Development Plan, under which the rural poor population dropped to 29 million by 2004 (NBSC 2004), but it increased again to 40 million in 2009 as a result of a revision of the poverty line (WB 2009).

Under the Chinese official standard, the rural poverty rate declined from 30 per cent in 1978 to 2.8 per cent in 2004 and increased again

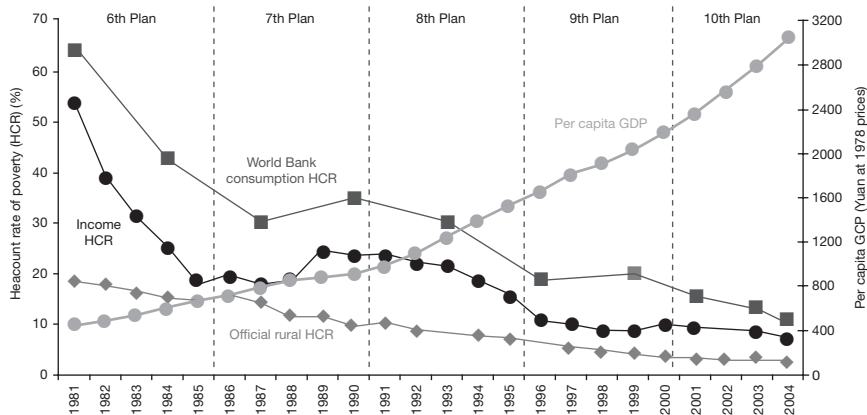


Figure 2.1 China's rural poor

to 4.6 per cent in 2009 (Table 2.3) (WB 2009). Using the World Bank standard, the rural poverty rate fell from 31.3 per cent in 1990 to 11.5 per cent in 1998 (Tian *et al.* 2003), falling further to 5.4 per cent in 2007 (Table 2.3) (Dollar 2007; WB 2009). Poverty is in fact a dynamic phenomenon in rural China, with households moving into or out of poverty all of the time. Between 2002 and 2003, more than half of the nationally surveyed rural households fell into or rose out of poverty in rural China. There is thus a high level of transitory poverty with a large proportion of households experiencing only one year of poverty during 2002–3 (NBSC 2004).

2.3.3 Characteristics of the rural poor

In China, there are few landless farmers. Nonetheless, given the harsh natural conditions in many places, especially in the west, much land is low quality and low productivity. Furthermore, the quantity of land is becoming insufficient to support the rising population. The rural poor tend to inhabit areas with a harsh natural environment, where production and living conditions are hard. These are remote and mountainous areas, cold areas, stony mountainous areas, karst areas, areas undergoing desertification and dry or semi-dry areas. The populations that live there have inadequate access to resources, poor infrastructure and meagre social capital. Their environments typically offer little in the way of public services such as transportation, communication and irrigation systems and supply of electricity and drinking water (Wang and Li 2003). These poor are ecologically vulnerable, politically sensitive and regionally marginalized (Wang and Li 2003).

Poor rural households are typically disadvantaged by poor health, limited education and difficulties such as high dependency ratios. They have scant access to health and education services. Illiteracy and semi-illiteracy among the ethnic minority poor runs at 35–60 per cent (Wang and Li 2003). Disabled people and households with disabled members and dependants make up a large and rising proportion of the poor. The disabled account for about one quarter of the rural poor. Disability creates a vicious cycle of absolute poverty, because of the associated labour shortage and increased health expenses. About two-thirds of the rural disabled poor live outside of the 592 nationally designated poor counties and are not covered by most existing poverty relief programmes (WB 2001; Wang 2007).

Many more people in China live just above the poverty line or fluctuate around it. These populations are vulnerable to shocks in the context of the economic transition, marketization and worsening natural environments. Transient poverty can become chronic poverty if a shock is severe. This new form of poverty and vulnerability is especially challenging for migrants and the rural populations living outside the state-designated poor counties. Chronic poverty remains a significant problem through-

Table 2.3 Rural poor population and poverty rate in China

Year	Official Chinese standard			World Bank standard		
	Poverty standard (yuan/person per year)	Number of rural poor (million)	Poverty rate (%)	Poverty standard (USD/person per day)	Number of rural poor (million)	Poverty rate (%)
1978	100	250	30.7	—	—	—
1985	206	125	14.8	—	—	—
1986	213	131	15.5	—	—	—
1987	227	122	14.3	—	—	—
1988	236	97	11.1	—	—	—
1989	259	102	11.6	—	—	—
1990	300	85	9.4	1	280	31.3
1991	304	94	10.4	1	287	31.7
1992	317	80	8.8	1	274	30.1
1993	350	75	8.2	1	266	29.1
1994	440	70	7.7	1	237	25.9
1995	530	65	7.1	1	200	21.8
1996	580	58	6.3	1	138	15
1997	640	50	5.4	1	124	13.5
1998	635	42	4.6	1	106	11.5
1999	625	34	3.4	1	100	10.8
2000	625	32	3.4	1	105	11.3
2001	630	29.2	3.2	1	—	10.5
	872*	90.2	9.7	—	—	—
2002	627	28.2	3.0	1.08	97.6	—
	869*	86.5	9.2	—	—	—
2003	637	29.0	3.1	—	—	9.5
	882*	85.2	9.1	—	—	—
2004	668	26.1	2.8	1.08	75.4	8.2
	924*	75.9	8.1	—	—	—
2005	683	23.6	—	1.08	52.8	9.4
	944*	64.3	—	—	—	—
2006	693	21.4	2.9	1.08	38.6	6.7
	958*	35.5	4.8	—	—	—
2007	785	14.9	1.6	1.08	32.0	5.4
2008	1067	43.2	4.6	—	—	—
2009	1196	40.0	4.6	1.25	25.4	—

Sources: Tian *et al.* 2003. The China standard comes from Tang *et al.* 2001; LGOPAD 2006; WB 2009. The World Bank standard is from Tian *et al.* 2003; ADB 2004; Ravallion and Chen 2007; Chen and Ravallion 2008a; WB 2009.

Note

* the national low-income line (NBSC 2004).

out China. Estimates suggest that 40–65 million people live in persistent poverty. This amounts to between one fifth and one quarter of the country's absolute poor using the US\$1 per day poverty standard based on household expenditure. Chronic poverty rises if the 'new poor' – those left behind by growth – are counted. Tens of millions of 'missing women' and huge numbers of malnourished children make the picture of chronic poverty even more severe (CPRC 2004).

Ethnic minorities constitute less than 9 per cent of the total population but make up a 40 per cent share of the absolute poor. Minorities are concentrated in the most remote mountainous and poorest areas in the northwest and southwest (WB 2001).

Women are greatly over-represented among the rural poor. Poor women and girls are especially disadvantaged in access to basic education and health services (Beynon *et al.* 2000). In addition to high maternal mortality rates, the infant mortality rate for girls is higher than that for boys (WB 2001). Women tend to work longer hours, have less access to information and technical knowledge, fewer mobility opportunities and lower health status than men (Lu 2008b, 2008c). The lack of an adequate water supply, rural roads and paths and electrification place heavy demands on women's labour, especially in view of the rigid gender divisions.

2.3.4 Regional poverty

Regional poverty refers to the concentration of the poor population in certain areas (Xu 2001). China's rural poor is clustered mainly in ecologically fragile regions with limited natural resources, like the karst areas, high mountainous and steep areas, and cold areas in the southwest and the Loess Plateau and areas undergoing desertification in the northwest. The poverty rate is 17–34 per cent in Inner Mongolia, Shanxi, Shaanxi, Ningxia, Gansu and Xinjiang in the northwest, 11–19 per cent in Guangxi, Sichuan, Guizhou and Yunnan in the southwest and 12–18 per cent in Henan, Jilin and Heilongjiang in the northeast. The populations of these 15 provinces constitute less than half of the total population of China, but the rural poor in these provinces account for almost 80 per cent of the total rural poor. These regions share a poor natural environment and resources, a lack of social services, poor transportation infrastructure and remoteness from social economic centres (Kang 1997).

In 1994 about 70 per cent of China's poor population was concentrated in the 592 state-designated poor counties or cities. The central and western areas housed 80 per cent of China's poor. In these, 515 counties were among those designated by the state as poor counties, making up 87 per cent of the counties state-designated as poor. The state-designated poor counties were Shanxi, Inner Mongolia and Henan in central China and Sichuan, Guizhou, Yunnan, Shaanxi, Gansu and Xinjiang to the west. Provinces which have highly dense and broadly distributed poor populations and great difficulty in poverty reduction were Guizhou, Yunnan,

Shaanxi, Sichuan, Gansu and Henan (Zhu *et al.* 1996). There are large differences in incidence of poverty between the coastal provinces and the western (north and south) provinces. Many of the state-designated poor counties are mountainous, where about half of China's poor live (53 per cent in 1999). These counties face great challenges in integrating into the national and international economies (Stern 2001). Significant incidence of poverty also exists outside these poor regions in largely non-poor rural areas and in cities among urban residents and migrants. Our definition of poverty in regional terms refers to chronic deprivation. The transition process and marketization, however, have led to the rise of new forms of poverty, with increasing numbers of transitory poor and people vulnerable to falling into poverty in both rural and urban areas (Griffin *et al.* 2000).

Chen Fan summarizes regional poverty as including three types of rural households: households in absolute poverty; households on the edge of poverty (transient poverty); and households in relative poverty. The first and second types of poor households are found in the traditional agricultural economy. It is difficult for them to rise out of poverty, which is a root cause of the persistent existence of regional poverty in agricultural areas (Chen 1998).

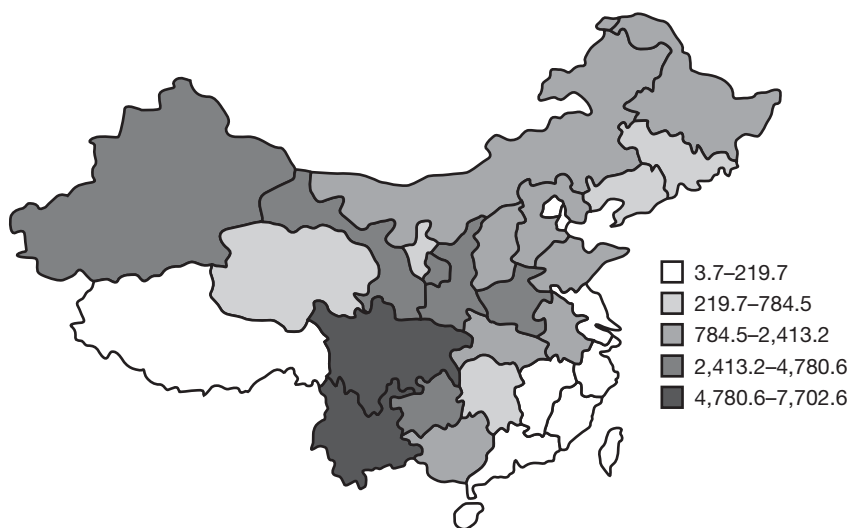
After many years of economic development and poverty reduction, the number of poor in the state-designated poor counties had decreased to 62 per cent by 2004 (Wei and Wu 2007). Rural poverty is now most concentrated in the remote, minority and border areas, especially in the western provinces (Figures 2.2 and 2.3). Many western areas suffer difficult environmental conditions, such as high altitude, poor soils, degraded grasslands, desertification, landslides and large-scale erosion. The poverty rate among the rural population was 7.3 per cent in the western provinces (affecting 16 million people), 3.9 per cent in the central provinces and only 1.3 per cent in the eastern coastal provinces (affecting 5 million people) in 1999. The northwestern and southwestern provinces are most affected by environmental degradation and associated rural poverty, followed by the central mountainous provinces. The remaining poor areas suffer from poor infrastructure, especially of roads and water storage facilities, inadequate health and education services, low agricultural productivity and underdeveloped markets and non-agriculture industries (ADB 2004). These areas, with their fragile ecological environment, poor infrastructure, underdeveloped social structure and reliance on farming, are becoming more marginalized in the process of economic development (Tian *et al.* 2003).

In 1996 more than 60 per cent of the rural poor lived in border provinces such as Gansu, Yunnan, Sichuan, Guizhou, Guangxi, Qinghai, Inner Mongolia and Xinjiang (Fan *et al.* 2002) (Figure 2.2). Population densities are low in these areas, leading to higher than average poverty incidence. Northern China, including the provinces of Henan, Hebei, Shaanxi and Shanxi, is also an area where the rural poor are concentrated, as a result of poor natural resources, poor soil and scarce water (Fan *et al.* 2002).



Source: Fan et al. 2002.

Figure 2.2 Number of rural poor by province, 1996 (thousands)



Source: Fan et al. 2002.

Figure 2.3 Percentage of rural poor in total rural population, 1996

2.3.5 Inequality

Unequal distribution of economic growth and government economic reform policy have led to widening gaps in prosperity between rural and urban areas (Zhao 2006; Ma 2010; Khan and Riskin 1998), between different urban areas and between different rural areas (Cao *et al.* 2009; Yao *et al.* 2004) (Table 2.4). Inequality has risen, too, in terms of household income, consumption (Ma 2010; Zhang and Wan 2006) and important social outcomes like health status and educational attainment. The Gini measure of inequality of household consumption increased from 0.31 at the beginning of reform to 0.45 in 2004 (Dollar 2007). The Gini coefficient for rural China increased from 0.24 in 1980 to 0.35 in 1999 (Benjamin *et*

Table 2.4 Income difference between urban and rural residents

Year	<i>Per capita income of urban and rural residents</i>			
	Urban (yuan)	Rural (yuan)	Absolute difference (yuan)	Urban–rural ratio (rural = 1)
1978	343.4	133.6	309.8	2.57:1
1980	477.6	191.3	286.3	2.50:1
1985	739.1	397.6	341.5	1.86:1
1990	1,310.2	686.3	823.9	2.20:1
1991	1,700.6	708.6	992.0	2.40:1
1992	2,026.6	784.0	1,242.6	2.58:1
1993	2,577.4	921.6	1,655.8	2.80:1
1994	3,496.2	1,221.0	2,275.2	2.86:1
1995	4,283.0	1,577.7	2,705.3	2.72:1
1996	4,838.9	1,926.1	2,912.8	2.51:1
1997	5,160.3	2,090.1	3,070.2	2.47:1
1998	5,425.0	2,160.0	6,365.0	2.51:1
1999	5,854.0	2,210.3	3,643.7	2.64:1
2000	6,280.0	2,253.4	4,026.6	2.78:1
2001	6,859.6	2,366.4	4,493.2	2.89:1
2002	7,702.8	2,476.0	5,226.8	3.11:1
2003	8,472.2	2,622.2	5,850.0	3.23:1
2004	9,421.6	2,936.4	6,485.2	3.21:1
2005	10,493.0	3,255.0	7,238.0	3.22:1
2006	11,759.0	2,587.0	9,172.0	3.28:1
2007	13,786.0	4,140.0	9,646.0	3.33:1
2008	14,471.0	4,761.0	9,710.0	3.32:1
2009	17,175.0	5,153.0	12,022.0	3.33:1

Sources: Xu 2001; Ma 2010; Zhao 2006.

al. 2004; Khan and Riskin 1998) to 0.38 in 2005 (WB 2009) and further to 0.43 in 2008 (Table 2.5) (Ma 2010). This increase in inequality suggests a worsening relative position of low-income households. The rich are getting richer and the poor are getting relatively poorer according to this measure (Benjamin *et al.* 2004).

Inequality has two implications. First, poverty is caused by the constant rise of the poverty line as a result of socioeconomic development. Second, living conditions are deteriorating for the groups of people on the bottom rungs, as a result of the rising income differences between different regions, between different social strata and between different members within the same social stratum. Absolute poverty and relative poverty co-exist in China, though relative poverty is increasing. Low-income and poor households are found not only in poor areas. The absolute income difference between urban and rural residents grew from 279.2 yuan in the 1980s to 12,022.0 yuan in 2009. The income difference ratio reached 2.51:1 in 1998 and 3.33:1 in 2009, up from 1.86:1 in 1985 (Xu 2001; Ma 2010). The gap between rich and poor in urban and rural areas is also widening. Increased inequality has slowed poverty reduction (Griffin *et al.* 2000; Ravallion and Chen 2007; Cao *et al.* 2009; Yao *et al.* 2004).

Table 2.6 shows the highest quintile as accounting for 39.6 per cent of the total income and the lowest quintile accounting for 7.7 per cent among rural households in 1989 (Wang 1997). In 1994, the highest quin-

Table 2.5 Gini coefficient of income of urban and rural residents

<i>Year</i>	<i>Rural</i>	<i>Urban</i>	<i>Year</i>	<i>Rural</i>	<i>Urban</i>
1978	0.212	0.160	1994	0.340	0.292
1980	0.249	n.a.	1995	0.339	0.282
1981	0.247	0.150	1996	0.329	0.285
1982	0.244	0.162	1997	0.331	0.293
1983	0.257	0.165	1998	0.330	0.299
1984	0.266	0.177	1999	0.339	0.318
1985	0.268	0.170	2000	0.357	0.323
1986	0.284	0.206	2001	0.364	0.326
1987	0.285	0.202	2002	0.462	0.377
1988	0.297	0.210	2003	0.456	0.371
1989	0.309	0.242	2004	0.472	0.377
1990	0.298	0.271	2005	0.455	0.367
1991	0.312	0.292	2006	0.430	0.358
1992	0.320	0.281	2007	0.431	0.363
1993	0.337	0.293	2008	0.437	0.404

Sources: Xu 2001; Ravallion and Chen 2007; WB 2009; Ma 2010.

tile held a 50.1 per cent share and the lowest quintile a 4.3 per cent share of the total income for urban and rural households together. These latter percentages reached 51.4 per cent and 4.1 per cent, respectively, in 1997. The share of the highest income group was thus 11.66 times larger than that of the lowest group. Class stratification and relative poverty is growing and becoming a serious problem in China (Xu 2001). Even though the rural population's income has multiplied many times in the past 15 years, serious inequality nonetheless exists in rural areas.

Geographic conditions have long created a prosperity gap between the east and the west. Before the 1980s, the Chinese government tried to invest in the west to minimize the difference. However, after the 1980s, a policy of favouring the east widened the gap. The income of the rural population in the coastal southeast is higher than that in the northeast and north. Yet even in the coastal areas and northwest there are high-income and low-income populations (Wang 1997).

2.3.6 Human aspects of poverty

The above discussion focused on intersectoral poverty and interregional poverty, mostly from a monetary perspective. Poverty was defined relative to a basic needs-related poverty line. China has continued to rely on this relatively narrow definition of income poverty to evaluate incidence

Table 2.6 Incomes of five strata of rural, urban and rural residents

<i>Groups according to annual family income</i>	<i>1989</i>	<i>1994</i>	<i>1997</i>	<i>2001</i>
	<i>Share of total income of rural households (%)</i>	<i>Share of total income of urban and rural residents (%)</i>	<i>Share of total income of urban and rural residents (%)</i>	<i>Share of income or consumption (%)*</i>
Lowest income group ($\frac{1}{5}$)	7.7	4.3	4.1	4.7
Second-lowest income group ($\frac{1}{5}$)	12.9	9.1	—	—
Medium income group ($\frac{1}{5}$)	16.4	14.4	—	—
Second-highest income group ($\frac{1}{5}$)	22.9	22.1	—	—
Highest income group ($\frac{1}{5}$)	39.6	50.1	51.4	50

Sources: UNDP 2003; Wang 1997; Xu 2001.

Note:

* Survey based on consumption in ESCAP 1999.

and trends in poverty using headcount measures and to target poverty interventions. This conceptualization of poverty has been criticized on the grounds that it ignores important non-income features of poverty and well-being. Income-based indicators cannot provide a complete picture of changes in poverty. They certainly neglect the increasingly complex and multidimensional nature of poverty in China's economic transition (Griffin *et al.* 2000).

China has good social development indicators compared with many countries at similar levels of income. Yet significant aspects of human poverty remain that require greater effort to eradicate. These aspects may even be exacerbated by an exclusive focus on reducing income poverty. The World Bank describes as deplorable the state of education, health and nutrition among China's absolute poor. The percentages of illiterate and sick people are higher than the percentage of income-poor in many areas (Griffin *et al.* 2000). In 2002, 9.1 per cent of adults were illiterate, 11 per cent of children under five were underweight. Some 16 per cent of five-year-olds were under-height in 1995–2002. A quarter of the population had no access to an adequate water source in 2000. Only 40 per cent had regular access to proper sanitation facilities in 2000. Some 11 per cent of the population was undernourished in 1999–2001. The birth attendance rate by skilled health personnel was 76 per cent in 1995–2002 (UNDP 2003).

Some evidence shows worsening indicators during the reform period rather than a steady reduction in the human aspects of poverty. A clear decline is evident in access to basic health care and education. Girls have especially limited access to basic education, and ill health remains a major cause of poverty among vulnerable populations (Griffin *et al.* 2000).

Reduced access to health and education causes more illness and illiteracy, which hampers people from engaging in off-farm employment and migrating for better jobs and opportunities. Moreover, it threatens to erode the gains made and to pass poverty on to future generations. Families' health and education expenditures are rapidly increasing, leading to rising poverty if these costs are taken into account (Gustafsson and Li 2004).

2.4 Conclusion

In sum, statistics reveal a dramatic reduction in poverty according to both the international and national poverty lines. However, even though scholars recognize poverty as a social and economic phenomenon with many dimensions, the Chinese government still conceptualizes poverty in economic terms, measured by income and expenditure at the county level.

Different forms of poverty coexist in China. New forms of poverty have emerged as a consequence of economic reform. These go beyond lack of income and regional poverty, to include inequality, a rise of acute rela-

tive poverty, transient poverty (Jalan and Ravallion 2000, 1998), chronic poverty, educational poverty and unaffordability of health and education services (Gustafsson and Li 2004). Vulnerable households also tend to be characterized by a high dependency ratio, very limited social security and welfare and new gender disparities. The income/expenditure measure is insufficient for explaining these various manifestations of poverty, including the lack of health care, the lack of education and child undernourishment (Gustafsson and Li 2004; Griffin *et al.* 2000). These aspects are overlooked by the monetary approach to poverty assessment and undermine income-based poverty reduction policies.

China's existing poverty monitoring system focuses particularly on rural poverty in the 592 counties officially recognized as poverty-stricken. The poor in these poverty-stricken counties make up only some 60 per cent of the total rural poor of China. The central government's poverty reduction funding mostly goes to these recognized poverty-stricken counties. The two-fifths of the rural poor living outside of these state-designated poor counties are overlooked (Wang 2007). The programmes thus fail to reach all of the real poor at the macro level (Zheng *et al.* 2001; Wang 2007). Units of aggregation, such as the county, cause ineffective targeting of benefits, limited geographic coverage and leakage. Nor do regional development anti-poverty policies target efforts directly to poor households.

The income poverty line is only just enough to survive. Actual poverty is more severe than this threshold reflects, leading to overstatement of the decline in poverty and understatement of the remaining poverty incidence (Riskin 2004; Ravallion and Chen 2007). Using the international poverty line of US\$1 per day yields a higher poverty rate (Riskin 2004).

Monetary measures of poverty lead to policies focusing on income generation and infrastructure development. Yet without overall improvement of poor people's education, health and other conditions (Khan 1998), income generation is just a short-term strategy. Low education and poor health can trap the poor in a vicious cycle of poverty; even passing poverty on to future generations. Income generation as a poverty alleviation strategy can hardly lift the poor population out of poverty in other dimensions. The absolute poor's problems are deeply rooted and structured in caricatures; they are not easily solved by income generation and broadly targeted interventions. Participation is as yet viewed instrumentally as mainly a consultation process, not as a right of the poor.

3 Economy, society and deprivation in Yunnan

3.1 Introduction

This chapter takes a closer look at the study area and the micro development context in which Jiankang Administrative Village is located. It examines the socioeconomic and cultural framework in Yunnan, the poverty situation and trends, patterns of poverty and social divisions. It further scrutinizes poverty and poverty alleviation policies in Yunnan Province and Wuding County, as well as social and economic aspects of the Jiankang Villagers' Committee.

3.2 History and social change in Yunnan

Yunnan is located in the southwest of China bordered by Myanmar in the west and by Laos and Vietnam in the south. The total area is 394,000 km², of which 84 per cent is mountainous, 10 per cent is highlands and hills and 6 per cent is basin and valley. The average altitude is around 2,000 m with the highest altitude 6,740 m and the lowest altitude 76 m. Yunnan has a diverse climate, embracing temperate, tropical and frigid zones. There are four seasons in a year. There are 13 prefectures and 3 cities. The prefectures and cities are sub-divided into 129 counties and districts (PGYNP 2006a, 2006b). Yunnan is China's most diverse province in climate, geomorphology, topography, ethnic groups and culture. The overlap of diverse natural conditions and minority cultures causes multiple forms of poverty and complicates poverty alleviation.

Yunnan has a long history. The discovery of the prehistoric Yuanmou ape, Kaiyuan ape and Lama ape in Lufeng showed Yunnan to be one of the cradles of origin of humanity. In different dynasties, garrison troops and peasants were sent to Yunnan to open wasteland and grow food grains. Gradually, the Han Chinese began to outnumber the original ethnic populations. Before 1949, land was owned by landlords and managed by tenants (FAO 2006). Upon establishment of the People's Republic of China in 1949, the population in Yunnan numbered 15.95 million, of which the rural population made up 92 per cent. Total agricultural output was 0.925 billion yuan. Average grain production

was 248 kilograms. Consumable goods in the city were mainly imported from the coastal area. In general, Yunnan's rural areas still had a backward economy before 1949.

After 1949, Yunnan went through the same processes of development as the other provinces in China. In 1950, agrarian reform was launched. Feudal private land ownership was replaced by the three-level collective ownership system made up of the people's commune, the production brigades and the production teams. All farmers could get grain and cash from the production team according to their work points by participating in agricultural production and based on egalitarian precepts. At the same time, the people's commune, production brigades and the production team provided for cooperative health care, the collective-run primary and secondary school and access to services for the 'five-guarantee households' (*wubaohu*).¹ 'Barefoot doctors' and health workers supported the commune and production brigades to provide health care to farmers regardless of their income or ability to pay. Civil Affairs Offices provided temporary relief to people and households that had difficulties because of labour deficit, natural disaster, accidents or sicknesses. This was called 'the egalitarian practice of everybody eating from the same big pot'. The economy was a planned one. The government controlled everything (Oi 1989). The farmers had only the food they needed to survive. *Hukou* (residency permits or household registration)² prevented farmers from moving to cities. This was a time of low income, low consumption and low efficiency. As a result, most rural residents were poor and society was relatively equal (FAO 2006).

In 1982, after the economic 'opening up' policy, the farm household contract responsibility system was implemented in rural China. Land was contracted to all farm households, and all rural households were given a piece of land to cultivate. Since then, economic development has been emphasized. After 1990, farmers began migrating to the cities for odd jobs or to set up a business. Rich people appeared while others remained in poverty. Polarization emerged and social inequality increased.

3.3 Economic structure and social framework in Yunnan

In 2005, Yunnan was geographically the eighth largest of China's 30 provinces. The population was 44.5 million in 2005, of which 21.5 million were women, who thus make up 48.4 per cent of the total. The male-to-female ratio was 1.07:1 in Yunnan, compared to 1.06:1 in China as a whole in 2004. The rural population made up 70.5 per cent of the total population in the province, compared to 58.2 per cent in China as a whole. The rural female population was some 15.68 million, constituting 50.5 per cent of the whole rural population. There were 8.66 million rural households in the province (YPWF 2006). The birth rate was 14.7‰ and the natural growth rate 7.97‰ (Suo and Ma 2006), which is higher than that in Guangdong, the most developed province in China, and the Chinese average (Table 3.1).

Yunnan hosts most of China's ethnic groups. Twenty-five ethnic groups in Yunnan have a population greater than 5,000, in addition to the majority Han Chinese population. Fifteen ethnic groups are indigenous to the province. The total population of ethnic minorities is 14.6 million, making up one third of Yunnan's total population. Ethnic minorities play a critical role in Yunnan's economic development.

In 2005, Yunnan's GDP ranked tenth from the bottom in China (NBSC 2006). Average GDP per capita ranked third from the bottom. Agriculture still plays an important role in the province's economy (Table 3.1). Net farm income is lower, however, than China's average. Inequality be-

Table 3.1 Social and economic indicators in Yunnan, Guangdong and China in 2005

<i>Indicators</i>	<i>Yunnan</i>	<i>Guangdong</i>	<i>China</i>
Population (10,000)	4,450	9,194	130,756
Birth rate (‰)	14.7	11.7	12.4
Natural growth rate (‰)	7.97	7.02	5.89
Primary school enrolment rate (%)	96.30	99.68	99.15
Maternal mortality rate/100,000	49.1	–	51.0 (2004)
Infant mortality rate‰	19.7	–	29.9 (2004)
Mortality rate of children under 5 years of age (‰)	24.5	–	28.1 (2004)*
Average life expectancy (years)	68.5	–	71.8 (2004)
Population with tap water (%)	70	–	–
Households with latrine (%)	55	–	–
GDP (100 million yuan)	3,472.34	21,701.28	182,321.00
Ratio of primary, secondary and tertiary sectors	18.9:41.7:39.4	6.3:49.5:44.1	12.4:47.3:40.3
Average GDP per capita (yuan)	7,802	23,603	13,493
Average disposable income of urban population	9,265.9	14,769.9	10,493.0
Average net income of farmers	2,041.8	4,690.5	3,055.0
Engel coefficient for urban family	42.8	36.1	36.7
Engel coefficient for rural family	54.5	48.3	45.5
Gini coefficient in 2003	0.35	0.337	0.34
Poor population with income below 683 yuan (10,000)	248.4	–	2,365
Low-income population with income of 684–944 yuan (10,000)	489.4	–	4,067
Average years of education	6.61	8.35	8.00

Sources: CPGC 2006; NBSC 2006; CCGOV 2006.

tween the urban and rural population is still large. Rural people spend more than half of their income on food. The Gini coefficient is higher in Yunnan than in Guangdong and in all-China. The poor have an increasingly hard life in Yunnan.

Only 4.2 per cent of the rural population participates in rural pension insurance. About 16.2 per cent of the rural population participates in the new rural cooperative medical insurance. Only 1 per cent of the rural poor received a minimum living standard subsidy in 2005 (SBYNP 2006b). Welfare and social security among the province's population is generally low.

Primary and middle school enrolment rates in Yunnan are lower than average in China. Mean education is 6.61 years (SBYNP 2006a), below the average for all of China. In 2005, one third of the rural population still had no tap water, and less than half had even an outdoor latrine. Life expectancy is lower in Yunnan than in Guangdong and all-China (PGYNP 2006b). Health and education services and social insurance tend to be poorer than in Guangdong and China on average. Most socioeconomic indicators are lower than average for China. Even though the total population of Yunnan accounts for only 3 per cent of the population of China, the province's poor make up more than 10 per cent of the Chinese total. The low-income population constitutes more than 12 per cent of the total low-income population in China. Overall, Yunnan is still one of the least developed and poorest provinces in China.

3.4 Trends of poverty and patterns of deprivation

Before 1978, most people in rural Yunnan were poor as a result of the equalitarian practices of the people's communes. In 1985, poverty incidence was 35.11 per cent using a poverty line of 150 yuan. Yunnan's poor were concentrated in 41 state-designated 'poverty-stricken' (poor) counties (Guo *et al.* 1990) (the number increased to 73 after the adjustments made in 1994). After ten years of large-scale development-oriented poverty alleviation efforts, in 1995, poverty incidence had decreased to 17.10 per cent (using a 530-yuan poverty line). In the phase of tackling key problems of poverty, from 1994 to 2000, poverty incidence continued to fall, reaching 11.71 per cent of the total population (using a net income of 625 yuan as the poverty line). The low-income incidence reached 17.89 per cent (with a net income of 865 yuan as the low-income line). In the development-oriented poverty alleviation phase, starting in 2000, poverty incidence fell to 5.6 per cent (using a 683-yuan poverty line) by 2005 and the low-income incidence fell to 11 per cent (with 944 yuan as the low-income line) (Table 3.2). In general, the poor population in Yunnan is decreasing, and rural poverty is declining. However, because the province often suffers natural disasters, the rate of the low-income population returning to poverty is high. In 2004, 1 million people fell back

Table 3.2 Poor and low-income population in Yunnan according to the Yunnan Provincial Statistics Bureau, 1985–2005 (unit: 10,000)

	1985	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Poverty/low-income line (yuan)	206	530	580	640	635	625*	625/ 865	630/ 872	627/ 869	637/ 882	668/ 924	683/ 944
Poor/low-income population (10,000)	1,200	700	660	540	440	355*	337.5/ 684.6	273.4/ 708.5	304/ 583.6	275.4/ 544.9	262.3/ 515.4	248.4/ 489.4
Poverty/low-income incidence (%)	35.11	17.1	16.3	13.1	10.5	7.1	11.71/ 17.89	9.64/ 18.7	8.19/ 17.24	7.32/ 16.04	7.08/ 14.95	5.6/ 11
Total poor and low-income population (10,000)	–	–	–	–	–	–	1,022.1	981.9	887.6	820.3	777.7	737.8
Poor and low-income population ranking in China	–	–	–	–	–	–	1	2	2	3	2	–
Total poverty and low-income incidence (%)	–	–	–	–	–	–	29.63	28.35	25.43	23.36	22.03	16.60
Population rising out of poverty that year (10,000)	NA	40	120	100	85	110	85	107	134	77	43	40
Population whose food and clothing problems were solved	NA	5.7	18.2	18.5	19.3	30.9	34.7	11.9	17.5	11.2	5.4	5.4

Sources: LGOPADYNP 2005; SBYNP 2006b; NBSC 2006; J. Wang 2004; Yang and Zhou 2005; Kong 2006.

Note

Before 2000, there is no low-income line and no low-income population.

into poverty (Kong 2006). That means that poverty is still a significant problem for Yunnan. Poverty alleviation in Yunnan plays a great role in China's overall poverty alleviation efforts.

At the start of the new millennium, the speed of poverty reduction slowed. The welfare gap began to widen and poverty deepened. More people fell back into poverty from the low-income group. Poverty was transformed from largely a regionally concentrated phenomenon to a complicated, diversified and scattered phenomenon. About 84.4 per cent of Yunnan's poor and low-income population was distributed in the 73 state-designated poor counties and the seven provincially designated poor counties in 2004 (LGOPADYNP 2005). The poor population tends to reside in illiterate households with relatively greater numbers of dependants. Living conditions for the poor are harsh, and inequality is on the rise. Poverty reduction is therefore becoming ever more difficult (J. Wang 2004).

Several things can be said about the pattern of poverty in Yunnan. First, poverty has an institutional character (Kang 1995: 9). Social institutions such as political power, employment, financial transfers, social services and social security dictate an unequal distribution of resources to different communities, regions, groups and individuals. This causes certain communities, regions, groups and individuals to be poor.

Second, as stated, the poor population mainly lives in remote, mountainous, karst, high and cold areas, in dry and hot valley areas, in ethnic minority areas and along borders (Kang 1995; Yang and Zhou 2005). Guo *et al.* and Wang categorized the poor counties in Yunnan into five types: (1) the ecologically deteriorating poor areas in northeast Yunnan; (2) the geologically limited, high and cold poor areas in northwest Yunnan; (3) the structurally scattered poor areas in central Yunnan (Guo *et al.* 1990); (4) the karst poor areas in southeast Yunnan; and (5) the backward and ecologically vulnerable poor areas in southwest Yunnan (J. Wang 2004). Poverty incidence decreases from the northwest, southwest and southeast towards the northeast and west.

Third, poverty has a group and class nature (Kang 1995; Yang and Zhou 2005). Poor populations are farmers, ethnic minorities, unemployed workers and vulnerable people like the elderly, the sick and the disabled (Yang and Zhou 2005). The poor and low-income population in the 78 minority-nationality autonomous counties made up 56.5 per cent of the total poor and low-income population in Yunnan in 2003 (J. Wang 2004).

Deprivation is reflected in a lack or limited share of infrastructure, like roads, drinking water and electricity, services such as health and education, income, assets, goods, food, insurance and quality of life. Education, medical care, electricity, roads, drinking water, entertainment, telephones and toilet facilities are essential for large populations, yet they are luxuries for most of the poor in Yunnan. They simply have no access to these essentials. Moreover, many deprivations occur together (Holman 1978;

CPRC 2004). Multiple deprivation is suffered by most poor people in rural Yunnan.

3.4.1 Poor infrastructure

About 4.9 per cent of poor villages and 3.6 per cent of low-income villages have no road access (J. Wang 2004). Some 2.5 per cent of villages where poor households live and 2.4 per cent of low-income villages are not connected to the electricity network. About 8.4 per cent and 8.3 per cent of the poor and low-income villages, respectively, have no telephone connection at all. There is no television reception in 6.6 per cent and 5.8 per cent of the villages where, respectively, most poor and low-income households live (J. Wang 2004). Most land in Yunnan is dry and sloped, without irrigation. Farmers depend on rain for watering and good weather for harvesting. Poor infrastructure can thus be said to constrain economic development and prevent people from rising out of poverty.

3.4.2 Limited education

Poor and low-income populations suffer lack of education and other social services. Poor people have higher illiteracy. The absolute poor have 1.21 years less comprehensive education than the non-poor population (5.36 years for poor and 6.57 years for non-poor). The illiteracy rates for the poor and low-income population are, respectively, 25.6 per cent and 24.9 per cent. School enrolment rates for children of 7–15 years of age are 85.17 per cent and 84.87 per cent for the poor and low-income population, respectively. This is less than the average in China (J. Wang 2004). The junior high school enrolment rate is 78.8 per cent. Gross enrolment in senior high school and technical secondary school is 29.9 per cent and the gross enrolment rate in college is 11.15 per cent (YNPBE 2006).³

Also, distance and accommodation issues are hard to resolve. In mountain areas, many children from seven years of age must walk 1–3 km to and from school along mountainous paths two or three times a day. After third grade, students located farther away can be accommodated at the school, though fees for accommodation and food are a big expense for poor households. At the schools, more than 20–30 students might live in a space less than 20–30 m². Two students often share a single bed. The primary school fee was 160 yuan per year, not including food, accommodation and other fees. Thus, school expenses for a single student are 23.4 per cent of a poor household's net income. Many students drop out in junior and senior high school. Most children cannot go to senior high school because of the limited admission numbers and facilities, high tuition fees and distance. College and university is a luxury out of reach of most poor households. Supporting a child in college financially ruins a rural poor family, leaving it deep in debt. Even if the student graduates, finding a job is difficult and competitive. Thus the high cost of educa-

tion, especially a college education, prevents many children from poor and low-income households from getting a good general education or higher education. All of the factors mentioned – long distances, expenses for food and accommodation, poor quality of education, limited facilities, the high cost of college and limited job opportunities after college – are the main reasons why students drop out of school. Low education makes it difficult for poor people to accept and adapt to new technology and knowledge.

3.4.3 Unmet health care needs

Poor health is a significant form of deprivation. If health problems are serious, they affect the length and quality of life itself (Alcock 1997). Many rural people cannot afford to see a doctor when they are sick. Annually, poor and low-income households spend only 39.1 yuan and 39.0 yuan per capita on health and medical care, but non-poor households spend 99.2 yuan per capita. Sickness without treatment causes long-term illness, serious hardship, handicap and disability for many rural people. It leads to loss of production and increased expenditures for medication, bringing households into a vicious cycle of poverty. Where poor people do have an opportunity to go to a hospital, the costs may amount to hundreds or thousands of yuan. In such cases, serious illness of a family member often drives families into poverty and debt. Moreover, the numbers and quality of doctors at hospitals is limited in many cases.

3.4.4 Low income

‘Lack of income can be a principal reason for a person’s capability deprivation’ (Sen 1999). At the end of 2005, some 2.48 million poor still lived under the poverty line of 683 yuan. Their maximum income was only 33.45 per cent of the provincial average income. Population with a low income of 684–944 yuan numbered some 4.89 million (SBYNP 2006b). Yet this low-income line is only 46.23 per cent of the provincial average income and 22.05 per cent of the disposable income of urban residents. Cash income is much lower than the net income of the poor and low-income population. Low income and lack of cash prevent poor households from acquiring the seeds, fertilizers, education and health services they need. These households then become even worse off.

3.4.5 Limited goods and food

Food security and malnutrition are still large problems facing many poor and threatening their health. According to a state council survey in 100 poor villages, 36.4 per cent of rural households have a food security problem (Yao and Jiang 2006). Compared to the non-poor population in Yunnan, the poor of the province have access to a share of 79.9 per cent

of grain, 57.9 per cent of oil, 66.4 per cent of vegetables, 39.1 per cent of fruits, 80.0 per cent of tea, 46.2 per cent of nuts, 61.6 per cent of meat, 47.6 per cent of eggs, 50.0 per cent of milk, 28.5 per cent of aquatic products and 62.9 per cent of sugar (J. Wang 2004). The poor eat only rice, corn, potatoes, wheat and wild vegetables as staple foods for three to five months before the harvest. The poor can buy only cheap, low-quality and expired goods and food.

3.4.6 Few assets and low quality of life

The poor and low-income population own few assets in Yunnan. Absolutely poor households own only 40.3 per cent of the large pieces of furniture that non-poor households own. This figure is 21.9 per cent for washing machines, 31.1 per cent for a bicycle, 25.4 per cent for a telephone and 48.4 per cent for a colour television set. In many mountainous areas, the poor live in crowded houses together with animals and poultry and suffer poor hygienic conditions. Some 30 per cent of the rural population still has no access to safe drinking water. Only 55 per cent of rural households have latrines (PGYNP 2006b). Just 1.7 per cent of poor households and 2.5 per cent of low-income households have a shower heater. So women in the poor and low-income areas have a high incidence of gynecopathy. Many poor have only a crowded bed, or cannot even afford a bed. They just lie on a straw mat beside a fireplace. Parents with three or four children may crowd onto an earth and wood platform with one ragged quilt. Poor housing conditions contribute to poor health, which is an obvious deprivation. Low ownership of the necessary assets makes life that much harder for the poor.

3.4.7 Deprivation of time

As a result of poor infrastructure, poor conditions and limited assets and resources, poor and low-income populations work longer hours than the non-poor. They must fetch water from far, collect firewood, pig fodder and other natural resources, carry things because of the lack of, or deficient, transportation, wash clothes by hand and toil harder in the busy season without money to hire labour. They grind flour by hand because they lack electricity or money to pay for processing. They walk to the market and downtown for lack of a motorcycle or bicycle. Long working hours damage the health of poor and low-income populations.

The poor and low-income populations suffer other deprivations as well. They are frustrated in accessing capital and credit. Officials place their notion of efficiency before equity; the rule for credit and loans is 'lend to the rich one, not the poor one'. 'Richer villages, and richer households in poorer villages, are gaining access to finance at the expense of poorer villages and poorer households' (Zheng *et al.* 2001). Even poverty alleviation funds and micro-credit exclude the poor, because the poor lack collateral to get a mortgage or loan.

3.5 Social divisions and poverty

3.5.1 Minorities and poverty

Yunnan is a province with multiple ethnic groups. The origins of these groups differ. When the Han Chinese came to Yunnan with their advanced tools, some ethnic groups were driven into remote mountains where they were insulated from the outside world. Some ethnic groups came from the north or inland, for refuge or other reasons. Many ethnic groups live in border areas. Before the establishment of the People's Republic of China, slash-and-burn cultivation was the main agricultural production method for some ethnic groups. Many of these groups still live in remote mountain areas with harsh natural conditions, frequent natural disasters, primitive tools and poor infrastructure.

Ethnic minorities tend to be marginalized both in spatial and economic respects. About 6 million of the minority population does not speak Chinese. Going to school is difficult for them. The drop-out rate for ethnic minority students is higher than that for Han Chinese. Illiteracy is also high. Poor health services and difficulty in accessing health care cause high maternal and infant mortality rates among ethnic minorities. These populations are isolated from the Han Chinese by linguistic, traditional and cultural differences and poor transportation and communication. It is more difficult for them to participate in social and economic activities and to share in the benefits of economic development. As a result, many are still in poverty. In 1985, 9.4 million of the 11.4 million ethnic minority population were living in households with an average annual income less than 200 yuan. The proportion of Han Chinese at that income level was only 8.4 per cent (WB 1992).

The Chinese government is trying to promote development and progress for all ethnic groups. In all of the 41 counties in Yunnan designated by the state and province as poor in 1986,⁴ 15 were autonomous minority counties.⁵ Some 31 counties were minority concentrated counties (Guo *et al.* 1990). In 1994, after readjustment of the criteria for distinguishing poor counties, 20 autonomous minority counties in Yunnan were officially recognized as poor. This is 69 per cent of the total 29 autonomous minority counties in Yunnan.

In 2000, 6.6 per cent of the ethnic minority population lived in poor areas. Ethnic minority populations made up 40.18 per cent of the total population in poor areas, which is higher than the 33.4 per cent average for Yunnan Province as a whole. Minority areas thus have large proportions of poor and low-income populations and poverty is deeper there than in non-ethnic-minority areas.

Autonomous minority regions harboured 57.6 per cent of the total poor and low-income population in the 78 state and provincially designated poor counties in 2004. Poverty incidence was 24.6 per cent of rural population in these counties. Ethnic minority areas had 35.6 per

cent poor, which is 5.4 per cent higher than in non-ethnic minority areas. Rural absolute poverty was 81.1 per cent higher than that in non-ethnic minority areas. Incidence of rural absolute poverty was 3.86 per cent and 1.83 per cent higher, respectively, than that in non-ethnic minority areas and Yunnan Province (LGOPADYNP 2005).

3.5.2 Border areas and poverty

There are 25 border counties in Yunnan stretched along 4,060 km of border. These counties, with only 14.2 per cent of Yunnan's total population, harboured 22.8 per cent of the province's poor and low-income residents. The poor and low-income population makes up 31.5 per cent of the total inhabitants of the border counties, compared to only 19.6 per cent in Yunnan as a whole. Rural poverty incidence here is 12.7 per cent, which is 5.4 per cent higher than Yunnan's average (J. Wang 2004). Living conditions in border areas are harsh. Poor natural conditions, remote location and poor infrastructure contribute to poverty. Many minority populations in the border areas have a low level of education. Some cannot speak Chinese. A 2005 study found that the border area had the largest, most concentrated extremely poor and low-income populations in Yunnan, and even in China (LGOPADYNP 2005).

3.5.3 Disability and poverty

According to the fifth census survey in 1997, poor disabled people account for 29.6 per cent of the total poor population in Yunnan. In 2000, the province's total disabled population was 2.46 million, of whom 1.97 million lived in the rural mountainous areas. About 70 per cent of the disabled households are poor (SBYNP 2004a). About 66 per cent of the disabled people could participate in productive work and thus raise themselves out of poverty. However, poverty reduction programmes have neglected disabled people. A number of disabled people were not included on the official poor lists of the study villages. About 63.6 per cent of poor disabled people lived in the state-designated poverty-stricken counties where the government had invested poverty alleviation resources. About 36.4 per cent of the poor disabled people lived outside of these designated counties. They had little government support. So poverty alleviation for disabled people highlights a weakness in poverty alleviation schemes (LGOPADYNP *et al.* 2005).

3.5.4 Gender and poverty

Poverty and gender are closely related. In rural Yunnan, poverty is most prevalent and severe amongst women. Women are also more vulnerable to poverty, as they have fewer capacities and capital to access resources. Women are under-represented in villagers' committees (only 1.88 per

cent of directors' positions are filled by women) and at the village leader level. Women lack decision-making power, both in the community and at home, and have limited rights to resources. Women have heavier labour burdens, longer working hours and more tiring chores than men. In addition to participating in productive work, women undertake household burdens like fetching water, collecting firewood and pig fodder, washing clothes, caring for children, cooking and cleaning. Poor women suffer chronic ill health as a result of their heavy labour burden and lack of access to health care. Women's ailments, especially gynaecological infections, often go untreated (either because they have limited resources for medical expenses or are too shy to speak out).

Girls in rural area have less opportunity to attend school than boys, and they drop out of school earlier. Women's illiteracy is much higher than that of men. Female-headed households and widows lack social capital, particularly in terms of kinship and community support. They have fewer opportunities to access poverty-reduction projects and resources like credit, agricultural extension, training and information on account of their lack of wide social networks. Women tend to neglect their own needs to meet other family members' needs in periods of income or food shortages. They thus become poverty's direct victims (Yang and Zhou 2005; Zheng *et al.* 2001).

3.5.5 Ageing and poverty

In 2000, there were 2.03 million rural residents more than 65 years of age (SBYNP 2004a). About 80 per cent of the elderly live in rural areas (Shen 2004). Yunnan ranks first among 20 surveyed provinces in the proportion of rural elderly who exist below a poverty line of 50 yuan per month. Poverty is even more widespread among the rural ethnic minority elderly and among the less educated elderly than amongst the urban elderly, the Han Chinese elderly and the better-educated elderly (Bai *et al.* 2006). The risk of poverty in old age is great thanks to the lack of retirement benefits, pension schemes and health insurance.

There is no retirement for the rural elderly. Because of lack of labour in poor households, they must usually work until they can do so no longer. Many people of more than 60–70 years of age work in the fields, grazing animals and doing household chores in rural areas. With the increasing labour export from rural areas, more and more elderly work in the fields for longer periods and carry heavier workloads. At the same time, they look after the grandchildren, educate them and support them in school to reduce the burden on the migrants. Many elderly in rural areas feel their well-being is worsening.

Most rural elderly depend on their children to make a living and support them when they are old and cannot work. A few elderly are ill-treated by their children. Older people have more health problems, yet few see a doctor when they are sick. They put up with sickness, and sometimes

die at home from these illnesses. Many of the poor rural elderly have no source of income, and their children are also poor (SBYNP 2004a). As a result of their diminishing physical abilities, reliance on traditional agricultural production methods and lack of inputs, they harvest less and less. They are excluded from the labour market, labour export, credit and loans. The elderly tend to live in the worst houses. Lack of income means that they may be unable to improve such conditions. Inability to afford essentials leads to severe deprivation and reduces quality of life.

There is little entertainment in rural villages and limited television, so the poor elderly live lonely and boring lives. Aged women have a harder time and lower status than men. Their life is miserable. Many poor elderly women report a complete lack of well-being.

3.5.6 Environment and poverty

Environmental poverty is typical in Yunnan, which is a province with a vulnerable ecology. Most of the poor population live in remote, harsh mountainous areas, where natural resources are lacking (Yang and Zhou 2005). Poverty and a vulnerable environment are combined in many poor areas, where vegetation has been damaged by massive logging and the opening of land for cultivation. Landslides, soil erosion, drought, floods, hail storms, earthquakes and pests occur annually. Forest clearing for farming and to accommodate the increasing population has worsened water and soil erosion, which in Yunnan is the worst in China. Many low-income persons fall back into poverty as a result of natural disasters (Yang and Zhou 2005). The poor are the most vulnerable in the face of natural disaster. Because of the massive use of fertilizer, plastic sheeting and pesticides, soil degradation is also becoming severe in Yunnan. It influences agricultural production. Poverty leads to more and more natural resources and non-timber forest products, like mushrooms, bamboo shoots and grass, being overexploited. Conflicts between forest conservation and poverty alleviation are increasing. Poor people rely more than the non-poor on natural resources. The poor spend more time collecting firewood and non-timber forest products farther from home and have less time for productive work.

3.5.7 Participation and poverty

Participation is closely linked with poverty. The poor are seldom Party members or village leaders, and they lack connections with the powerful people in the village. Poor households also tend to live far from the village centre. They have no decision-making power at meetings. Sometimes the poor are not even informed of a meeting because those in power forget them. Minimal education and illiteracy limits their involvement in training and in new technology.

Many poor people cannot take part in poverty alleviation projects because of the costs involved. Many such projects require counterpart funds, in terms of new equipment, a big house or more grain, labour and land. The poor, who have limited access to these, are excluded. Some poverty alleviation officials and NGOs tend support the non-poor or slightly poor, but not the poorest, because that way it is easier for them to see poverty alleviation effects. Poor people are vulnerable and cannot afford the risk of a project failing. Uncertainty also limits the poor's participation. Poor people seldom participate in labour migration either. They have young children and sick elderly to care for, and thus cannot miss out on planting and suchlike tasks. Yet their failure to participate in decision-making and poverty alleviation projects may very well mean continued poverty.

3.6 Poverty alleviation

3.6.1 Poverty alleviation policy in Yunnan

Yunnan applies the same poverty alleviation policies and strategies as in China as a whole (Chapter 1). Various poverty reduction policies have been implemented in recent years. Table 3.3 shows that the focus of poverty reduction is still on the state- and provincially designated poor counties, or 'regional poverty'. Policies have shifted from the pre-2000 emphasis on economic development and solving food and clothing shortages to harmonious development of economic, bio-environmental and social conditions, alongside solving food and clothing problems. Thereafter, sustainable development of poor areas and poor households became key. A major policy shift is from the 'hard-core attack on poverty' before 2000, to village planning in 2002, to providing comfortable housing, relocation and labour export in 2003 and 2004. Points of focus since then have been the improvement of whole villages, labour export and poverty alleviation through industrialization.

The main poverty alleviation policies in Yunnan can be summarized in six categories. (1) 'Poverty alleviation through relocation' (*yidi kaifa fupin*) focuses on solving livelihood problems and providing the poor with a viable local ecological environment. The poor are helped to migrate to another place to improve their living and production conditions, enabling them to rise out of poverty. (2) The 'comfort housing, food and clothing project' (*anju wenbao gongcheng*) tries to improve the housing and living conditions of the poor population. (3) The 'key village building' (*zhongdian cun jianshe*) policy, implemented in Yunnan since 2001, facilitates village planning to provide infrastructure and public services like cultivated land reconstruction, access to electricity, roads and water, nine years of compulsory education, health care clinics, sports facilities, science and cultural rooms, libraries, skills training, cash crops and trees, biogas and energy-saving stoves. Since October 2004, 'improvement of the whole village' has emphasized key village

Table 3.3 Table 3.3 Poverty alleviation policy and strategy in Yunnan, 2000–4

Year	Before 2000	2001	2002	2003	Before Oct, 2004	After Oct, 2004
Focus of poverty reduction	506 hard-core townships, 73 nationally designated counties	Poverty alleviation through relocation for 1 million people who had lost basic living conditions, 0.4 million poorest households who live in thatched cottages, 5,000 poorest natural villages, 4,000 poor villagers' committees, 100 poorest ethnic townships and 100 poor border ethnic townships; 7 provincial key counties and 73 national poverty alleviation key counties				
Thinking on poverty reduction	Economic development, solving lack of food and clothing	Harmonious development of economy, eco-environment and society; solving lack of food and clothing and solidifying efforts; stressing on sustainable development for poor households and poor areas				
Key policies	'Seven-seven' poverty reduction and hard core attack plan in Yunnan Province	10-year poverty alleviation and development plan in rural areas	Village planning	Comfort housing project, labour export	Improvement of the whole village, labour export, poverty alleviation through industrialization	
Main poverty reduction policies	Infrastructure projects; micro-credit; relocation development; securing sufficient food, clothing and the comfort housing project; poverty alleviation through science and education; poverty alleviation through foreign capital; poverty alleviation through public works	Infrastructure project; poorest ethnic townships; relocation development; securing sufficient food and the comfort housing; micro-credit; poverty alleviation through science and education; poverty alleviation through foreign capital; poverty alleviation through public works	Micro-credit; poorest ethnic townships; relocation development; securing sufficient food and clothing and the comfort housing project; poverty alleviation through science and education; poverty alleviation through foreign capital, through society, through public works	Comfort housing project; relocation development; labour export; micro-credit; key village construction; securing sufficient food and clothing and the comfort housing project; poorest border and ethnic townships; poverty alleviation through science and education; poverty alleviation through public works	Comfort housing project; relocation development; labour export; micro-credit; key village construction; securing sufficient food and clothing and the comfort housing project; focus on the poorest border and ethnic townships; poverty alleviation through science and education; poverty alleviation through public works	Poverty alleviation through the comfort housing project; labour export; poverty alleviation through industrialization; poverty alleviation through relocation development; micro-credit; poverty alleviation through science and education; poverty alleviation through public works
Change of policies	Pilot project in poorest ethnic townships and poor border ethnic township	Confirming and publicizing 100 poorest ethnic townships and 100 poor border ethnic townships	Added key villages	Added poverty alleviation through the comfort housing project (reconstruction of thatched cottages)	Added poverty alleviation through industrialization.	Based on key village, emphasizing the improvement of the whole village and poverty alleviation through industrialization

Sources: YRDRC 2005; Yang and Zhou 2005.

building as its most important focus. (4) 'Poverty alleviation through industrialization' (*chanye hua fupin*) has been implemented since the late 1990s, focusing on poverty alleviation through science, technology and industrialization. In 2003, the Yunnan Provincial Government and Party Committee encouraged and organized poor areas to develop non-hazardous, green, organic agricultural products and special local products like rubber, tea, chilli pepper, sugarcane and livestock husbandry. (5) 'Labour export' (*laowu shuchu*) was first a major part of the poverty alleviation by relocation policy. Since 2004, special funds have been allocated to conduct technical training and organized labour export. (6) 'Poverty alleviation through micro-credit' (*xiaoer xindai*) aims to support women, develop human resources and help households generate income (Yang and Zhou 2005).

Thus, the target unit of poverty reduction shifted from extremely poor ethnic townships and poor border ethnic townships before 2001 to the 'key villages' in 2002. Building the key villages and providing comfort housing became the focus in 2003. After 2004, poverty reduction through industrialization was stressed. Emphasis thereafter was given to 'whole village development' and poverty reduction through industrialization based on key villages in poverty reduction policies.

Analysis of poverty reduction strategies and policies in Yunnan Province in the context of this research showed that poverty reduction is still concentrated in state- or provincially designated poor counties, in other words, on 'regional poverty'. The key village is the unit of analysis in poverty reduction. Poverty reduction focuses on income generation and infrastructure construction. Health and education has gained scant attention in poverty reduction. There are few strategies or policies to tackle the structural root causes of poverty, like low level of education, high school fees, limited health care, lack of pensions and insurance, gender issues (Lu 2008a, 2010a) and empowerment of the poor.

3.7 Poverty and anti-poverty measures in Wuding, Yunnan

3.7.1 Basic information

Wuding is a state-designated poor county under Chuxiong Yi Autonomous Prefecture in northern-central Yunnan. It is 78 km from Kunming, the capital city of Yunnan Province and 160 km from Chuxiong Prefecture. The county has an area of 2,948 km². Rural population makes up 92.7 per cent of the total population. Minority ethnicities such as Yi, Miao, Lisu, Hui and Hani are found in Wuding (WDCSB 2005). The highest altitude is 2,956 m and the lowest is 862 m. The forest coverage rate is 46 per cent (WDCSB 2005). The average cultivated land area is 1 mu.⁶

As evident from county social and economic indicators (Table 3.4), agriculture plays a key role in Wuding's economy. GDP per capita, aver-

Table 3.4 Social and economic indicators in Wuding County in 2005

<i>Indicators</i>	<i>Wuding</i>
Ratio of primary, secondary and tertiary sectors	40.4: 25.7: 33.9
GDP per capita	4,151 yuan
Average disposable income for urban population	8,078 yuan
Average net income of farmers	1,791 yuan
Engel coefficient	67.5
Primary school enrolment rate	99.8%
Secondary school enrolment rate	100.8%
Senior high school gross enrolment rate	41.6%
Average years of education	7.12 years (goal in 2006)
Maternal mortality rate/100,000	61.6
Infant mortality rate	16.45‰
Natural population growth rate	4.6‰
Average life expectancy (years)	72

Sources: WDEPELDO and WDCDRC 2006; Lu 2006.

age disposable income of urban population and net income of farmers is lower than the average for Yunnan Province. The Engel coefficient is higher than that for Yunnan on average. This means that people in Wuding spend a greater proportion of their income on food. In general, the economy in Wuding is developing more slowly than the average in Yunnan.

However, student enrolment rates for primary school, secondary school and senior high school are higher than Yunnan's averages. Average years of education are also higher than the provincial average. Maternal mortality rate is relatively high, though infant mortality is lower than the provincial average. The natural population growth rate is 4.6‰. Life expectancy is 72 years, which is higher than Yunnan's average (WDEPELDO and WDCDRC 2006). Wuding exhibits better human development than in Yunnan as a whole.

Four characteristics typify Wuding County: its mountains, its ethnic groups, religion and poverty. Mountains cover 97 per cent of the total area. Ethnic minorities make up 51 per cent of the population. About 7.6 per cent of the population practises religions such as Buddhism, Islam and Christianity. Poverty is large in scale and deep (Lu 2005). As a poor county with multiple ethnic groups, mountainous areas, poor infrastructure, poor living conditions, few production resources, frequent natural disasters (WDCPADO 2005c), slow economic development and slightly better human development, it is perhaps illustrative as a poverty case study.

3.7.2 Poverty and poverty reduction in Wuding

In 1985, about 47.5 per cent of the rural population existed on an income below the poverty line of 200 yuan. This excludes the poor population in the non-poor administrative villages. The average net income in Wuding was 170 yuan. The average output of industry and agriculture was 320 yuan per capita. The ratio of industrial to agricultural output was 1:3.4. In 1982, illiteracy was 34.4 per cent. The poverty situation improved somewhat with the poverty alleviation efforts of the government. However, with the raising of the poverty line, the number of poor also grew. In 2000, 74.0 per cent of the population was poor. After years of poverty alleviation, poverty incidence decreased to 27.7 per cent and low-income incidence to 35.0 per cent in 2005 (Lu 2005), which were much higher than Yunnan's average.

The main focuses of poverty alleviation have been relocation, construction of demonstration villages for solving food and clothing problems (*wenbao cun*) and securing well-off villages (*xiaokang cun*), the comfort housing project, supporting key villages (*zhongdian fuchi cun*), micro-credit and labour export. Activities involved providing drinking water, roads, village paths, dams, canals, cultivated land reconstruction, electricity, science and cultural rooms, sports facilities, biogas, cash crops and trees, livestock husbandry, forest planting, broadcast and television networks, clinic construction, training and housing improvement (WDCPADO 2005a). In addition, different departments from the central level to the prefecture support poverty alleviation in the county by sending staff, donating computers, providing clothes, stationery and money and constructing ponds and water tanks. In 2005, poverty alleviation policies like 'improvement of the whole village' (*zheng cun tuijin*), labour export, poverty alleviation through industrialization, comfort housing construction and micro-credit became the main focuses in Wuding County.

3.8 The field site

3.8.1 Spatial and social aspects of Jiankang

The research site is in Jiankang Administrative Village, Wuding County, Chuxiong Yi Autonomous Prefecture. The research site cannot be said to be strictly representative of the various regions in Yunnan, thanks to the province's complex topography, society and resources and the different types of poverty and poverty causes of different regions. There can in fact be no representative village in such a diverse area, neither from a landscape perspective nor from the perspective of weather, ethnicity and culture. Poverty is more severe in some of the other regions.

Jiankang is a mountainous village 42 km from the Wuding county seat and 20 km from Chadian township seat. It can be accessed by stone road.

The highest altitude is 2,860 m; the lowest 2,340 m. The Jiankang administrative centre is at 2,380 m altitude. The average temperature is 12°C. The temperature ranges from 20°C in summer to below 0°C in winter. Annual rainfall is 1,100–1,300 mm. Table 3.5 presents area and land details.

Eleven natural villages and 13 villagers' groups make up Jiankang Villagers' Committee. Of the natural villages, 4 have more than 50 households each. In 610 households in 2004 there was a population of 2,356, of which 1,278 were men and 1,078 women. The male-to-female ratio is 1.18:1. Han Chinese, Yi and Miao make up most of the population in Jiankang. Ethnic minorities constitute 57 per cent of the total population.⁷

Even though Jiankang is not a key village for provincial support, the average income was only 996 yuan in 2006, as reported by the Villagers' Committee to the government.

For this study I chose nine villagers' groups in four natural villages with more than 50 households (Table 3.6). The other four villages are small, each having fewer than 20–30 households. The chosen villages are Jiankang, Keshuqi, Heishanda and Qiangdehei. They have a total of 525 households, of which 272 are Han Chinese, 192 are Yi and 61 are Miao (Table 3.7). Ethnic households make up 48.2 per cent of the total households; ethnic minorities are 48.9 per cent of the total population.

In 1995, an earthquake struck Jiankang and damaged most houses. In 1996, the government helped to build 126 one- and two-floor brick tiled houses for all of the 126 households. Almost all of the houses in the other villages are adobe with tiled roofs. Most houses in the villages are located together, except in Hongni and Jiaguan, and a few of the new houses were built in clusters.

There is one primary school and one teaching post in Jiankang, with 18 teachers and 244 students (girls and boys). Most children go to primary school. Students go to Chadian Middle School for secondary education after primary school. Gradually, students tend to drop out after entering secondary school because of the distance and household economic difficulties. For a high school education, students go to Wuding, which is 42

Table 3.5 Total area and average area of different types of lands

<i>Item</i>	<i>Area (mu)</i>	<i>Average area per capita (mu)</i>
Total area	60,060	25.5
Mountain and forest	44,908	19.5
Non-arable land	11,979	5.1
Arable land	3,173	1.35

Note

1 mu = 1/15[typesetter: fraction] hectare.

Table 3.6 Profile of research villages in Jiankang Villagers' Committee

Villagers' group		No. of HHs	Ethnicity of HHs			Population		Distance from VC
			Han	Yi	Miao	M	F	
Heishanda		71		10	61	144	117	7 km
Jiankang	Shangcun	79	4	75	–	133	118	0 km
	Xiacun	45	3	42	–	92	72	0 km
Keshuqi	Shangcun	60	23	37	–	127	112	4 km
	Xiacun	36	8	28	–	77	59	4 km
Qiangdehei	Jiazhu	37	37	–	–	76	76	5 km
	Hongni	64	64	–	–	125	117	3 km
	Jiayan	72	72	–	–	135	119	5 km
	Jiaguan	61	61	–	–	121	105	5 km
Total		525	272	192	61	1030	895	

Source: Household survey.

Note

HHS households; VC Villagers' Committee.

Table 3.7 Breakdown of population by ethnicity in the research villages

Ethnicity	Population	Male	Female
Han Chinese	985	522	463
Yi	703	380	323
Miao	218	121	97
Other	19	7	12

Source: Household survey.

km away. However, it is difficult to go to high school. The enrolment rate from secondary school to high school is 27 per cent or less as a result of the limited number of high schools.

There are two clinics in Jiankang with very simple equipment and medicines to treat common minor complaints like colds and diarrhoea. Some households have to buy medicine and health services on credit and pay it back later when they have money. A few households cannot afford to go to doctors when they get sick. Several villagers are disabled through lack of treatment when they were ill. Some households have to borrow money or sell animals or assets to send family members to the hospital to get treatment. This puts them into debt for many years.

There are nine staff at the village committee level. There is the Party branch secretary, the committee director and the vice-director. There are

also two forest rangers, two health workers (one a woman), one veterinarian and one family planning worker (a woman). Each village group has a group leader and vice-leader. There is one Communist Party branch in the Jiankang Villagers' Committee with a total of 76 Party members, of whom 11 are women.

3.8.2 *Land and livelihood*

All households have a piece of land. Most of the households plant their own land as well as land left by migrants. Only a few people, like some of the migrants, the elderly and the doctors and shopkeepers, do not plant their own land. Almost all families owned their house, except one in Jiaguan.

Only the Jiankang natural village and Keshuqi natural village are located along the main paved stone road. Other villages can be accessed only via a seasonal earth road. Most villagers must walk several kilometres to catch a passing bus to the market or walk all the way. Only 19 households have a motorcycle. Villagers in Hongni and Keshuqi complain about the lack of a bridge to connect their homes to their land, so in the rainy season they cannot plant or carry manure to the field or produce back home. Only 34 households have a telephone connection and 93 households have a cellular telephone. However, cellular telephone signals were weak before September 2006. Most households collect firewood to use for cooking and heating. Only three or four households use a combination of firewood, gas and biogas stoves. Seven households acquired shower heaters in the past two to three years. Some people are able to shower only occasionally when they go to market.

Fewer than 10 households have no electricity, and these are homes far away from the main electricity network. Less than 20 per cent of the households have a colour television set. Two villagers' groups in Keshuqi had no access to tap drinking water. However, tap water is not available all the time in the other villages. Villagers store water in buckets. Children reportedly suffer from water-borne diseases as a result of drinking infested water from the river in the summer.

Few households have latrines. There is a public latrine in both Jiankang and in Heishanda, but they are not cared for or maintained, and the sanitation is terrible. Some households have simple latrines made of mud-brick and wood outside their home. Poor households do not own such furniture as a sofa, cabinet or tea table.

The research villages are the poorer villages in the Villagers' Committee. The village leaders concluded that the reasons for poverty are, first, poor natural conditions, such as the high altitude and cold weather; second, multiple ethnic minorities; third, the long frost period and short sunny period. In general, the Han Chinese have a better life than the Yi, and the Yi have a better life than the Miao.

3.8.3 Work and income

The main crops grown are potatoes, corn, rice (only in Jiankang natural village) and radishes, with a lesser quantity of beans, wheat and vegetables like cabbage and pea-sprouts. Most households have one crop cycle. Almost all potatoes, corn and radishes are rain-fed. There is no mechanized farming here. Most of the agricultural work is done with human energy. Manure and crops are carried to and from the field by horse- or ox-driven cart or by humans.

Agriculture is the primary source of income for most households. Households sell potatoes for cash income. Most families need to buy rice, except a few households in Jiankang natural village. Vegetables are mainly planted for self-consumption. Other sources of income are animal husbandry, labour migration, mushroom sales and subsidies from converting cultivated land into forest.

Most households own livestock, mainly several pigs and chickens. Some also have cattle, horses and goats. Miao households in Heishanda have more goats.

Nowadays, more and more young people (both men and women) migrate for work year-round. Male migrants usually do construction or factory work, drive, operate a taxi tricycle or set up their own business. Female migrants work as waitresses, factory workers or maids. Men come back to get married at about 25 years of age. Some couples migrate for work together and leave the children with their grandparents or other relatives or neighbours, or in school. Many households rely on income from migrant labour to buy food and fertilizer. Villagers exchange labour with relatives and friends in the planting and harvest seasons.

A handful of families have bank savings or loans. A cooperative credit post in Jiankang is the main source of loans for agricultural activities and business. There is no money lender in Jiankang. People frequently borrow from relatives, friends and neighbours, mainly for house building, education and medical care.

3.8.4 Access to education

Men have a higher educational level than women (6.19 years compared to 4.08 years). More women are illiterate than men, of all ethnicities. Few women have completed primary education. Illiteracy is highest among the Miao. In the past, only a few girls could go to school. Nowadays, almost all boys and girls attend primary school (Table 3.8 and 3.9). Heavy school expenses are a reason for dropping out and a reason for poverty. Many villagers rank a household as poor if it must support two children in school. School expenses are a large burden that can push a household into poverty. Households supporting students in college are definitely in debt and impoverished.

Table 3.8 Educational status of persons in the research villages

<i>Educational level</i>	<i>Men</i>	<i>Women</i>	<i>Population</i>
Illiterate (persons)	90	248	338
Primary school (persons)	357	304	661
Secondary school (persons)	299	142	441
High school (persons)	34	17	51
Technical school (persons)	16	12	28
College and above (persons)	9	7	16
Total (persons)	805	730	1,535
Education years (years)	6.19	4.08	5.19

Source: Household survey.

Note

Education for adults over age 15.

Table 3.9 School-age girls and boys, by school attendance status

	<i>Men</i>	<i>Women</i>
Never attended school (persons)	7	6
In school (persons)	128	114
Population 7–15 years of age (persons)	135	120

Source: Household survey.

3.8.5 Gender issues

In agriculture, most tasks are done by both men and women, including planting, field management, fertilizing, weeding and harvesting. Transplanting in paddy cultivation is exclusively women's work. Ploughing, transporting crops and driving a horse- or ox-drawn cart, sales and marketing are described as men's activities. Gathering and sale of mushrooms is done by both men and women. Women are generally responsible for collecting tree leaves, pig fodder, tree flowers and wild fruits; management of vegetable gardens; feeding pigs and chickens; and housework – cooking, washing, cleaning, caring for children and the elderly and fetching water – though a few men also contribute. Men typically collect ingredients for herbal medicine, feed cattle and horses, sell potatoes and exchange potatoes for rice. Firewood collection is also a man's activity, though women also do it in households which lack men's labour. Livestock, like cattle, horses, goats and sheep and sometimes pigs, are mostly grazed by the elderly, teenagers or women. Meetings and training are mostly attended by men,

though training is rare. Both men and women go to the market. Financial management and decision-making are mostly men's tasks with consultation with women. In only a few households are these tasks done by women.

Wage labour for house construction is mostly provided by men. Wage labour for transplanting and harvesting in other villages is mostly done by women. Both men and women engage in labour migration. After marriage, some women stay at home to care for children and the elderly and to do field work.

There exists gender inequity in the villages, though in agriculture, women in the same way as men. Most reproductive tasks are done by women. Most village leaders are men. Women have limited decision-making power in the household, in the villagers' group and in the villagers' committee.

3.8.6 Vulnerability

The villagers face much vulnerability. Natural disasters like drought, windstorms, hail and flood are frequent. These compromise grain production and lead to reduced income and food. Crops are afflicted with pests in summer. Chickens, pigs, cattle and goats are vulnerable to diseases in spring. Old cattle die in winter as a result of the cold weather and lack of fresh grass. If the livestock dies, income and meat are reduced. People are susceptible to colds in winter and rheumatism in the rainy season when they expose themselves to work in the fields. Poor households suffer food shortage from May to August, when the grain price rises, and meat shortage between June and November. Villagers also face security problems, like theft of potatoes, corn, cattle, chickens and meat. In February and March, some villages lack drinking water. In the rainy season, households without tap water often find their drinking water contaminated by flood waters, which causes water-borne disease like diarrhoea. Because of forest closure, villagers can collect firewood for only 15 days in October, or they must walk a longer distance to collect firewood in other months. These problems make villagers vulnerable. This is especially true of the poor, because they have few resources with which to cope with these vulnerabilities.

3.9 Conclusion

This chapter provided an account of the socioeconomic and cultural aspects of Yunnan, Wuding and Jiankang. Against this background, the poverty situation was examined. Most of Yunnan's socioeconomic indicators are lower than the average for China. Yunnan is still a province with one of the poorest populations. The poor there mainly live in remote, mountainous, karst and cold areas, in dry and hot areas, in ethnic minority areas and in border areas. They have poor infrastructure and a vulnerable environment. Patterns of deprivation are reflected in the lack

or limited share of infrastructure, education and health care, in the low incomes of inhabitants, in limited access to goods and food, ownership of few assets, low overall quality of life and time deprivation.

Poverty is associated with minorities, border areas, disability, women, ageing, vulnerable natural environments and low participation. Poverty alleviation policies have focused on regional poverty, income generation and infrastructure improvement. Health and education have been given scant attention in poverty reduction. There are no strategies or policies to tackle the structural root cause of poverty or empowerment of the poor.

Wuding is a less-developed county with a large poor population but better human development indicators than Yunnan's average. Poverty reduction policies in Wuding are similar to those in Yunnan as a whole. Jiankang is a mountainous, multi-ethnic poor villagers' committee in Wuding with inadequate infrastructure, harsh weather and frequent natural disasters. Villagers rely on agriculture to earn their living. The administrative village is characterized by traditional cultivation systems and little mechanization. Most men have a secondary school education, while women tend to have only primary education. Most children attend primary school. However, after starting secondary school, many drop out because of the long distance from home to school and economic difficulties at home. There exists an unequal gender labour division. Women have limited decision-making power. Villagers thus face various vulnerabilities, related to natural disasters, disease, food shortage, insecurity, unsafe drinking water and forest closure.

4 The official poverty identification method: ‘You are the poor’

4.1 Introduction

This chapter discusses the official means of identifying the poor by the local government in Jiankang Villagers’ Committee, Wuding County, Chuxiong Yi Autonomous Prefecture, Yunnan Province. Poverty incidence statistics and the numbers of poor obtained from national-level rural household surveys do not convey who and where the poor are. How then does the local government identify the poor for poverty alleviation interventions? Section 4.2 reviews how the poverty incidence derived from the national rural household survey links with the official poverty identification procedure done by the Leading Group Office of Poverty Alleviation and Development (LGOPAD). Section 4.3 examines the official list used to identify the poor households and how such identification is accomplished at the village level in a local government and village-level process. Section 4.4 discusses who the poor are on the official poverty list. Section 4.5 looks at the characteristics of the households officially designated as poor and the patterns of poverty found in them. Section 4.6 analyses the dynamics of poverty. Section 4.7 evaluates how the villagers view the official poverty identification process and the problems that exist in the official identification of the poor.

4.2 Review of the rural household survey in China

Poverty incidence in China is estimated using the national rural household survey (RHS). Two other data sources also provide information for the national poverty monitoring system: the national poverty monitoring survey (NPMS) and special poverty monitoring surveys. On the basis of these sources, the government sets the national poverty line in terms of income and expenditure and measures poverty distributions, thus capturing the national poverty incidence. The number of the poor in China is then derived from the poverty incidence. The central government allocates poverty alleviation funds according to the degree of poverty and number of the poor in the various regions. Poverty alleviation resources mainly go to the 592 key state-designated poor counties,

especially before 2000 (WB 2009).¹ The numbers of poor derived from the RHS cannot be used for poverty alleviation fund allocation, because that survey does not tell who the poor are and where they are located at the county level and below.

After poverty alleviation funds are allocated to counties, the County Poverty Alleviation and Development Leading Offices must identify who the poor are and where they are for poverty alleviation benefits. At this level, the official poverty (or poor household) identification is conducted (it has been called ‘filing and carding’ of the poor since 2005) in a process organized by the LGOPAD (the ‘Poverty Alleviation Office’ for short; *fupin ban* in Chinese). Using the official identification method, poor households are identified and an official list of the poor is submitted to upper levels of government for approval. Poverty alleviation projects and funds then gradually follow, such as the ‘key village’ poverty reduction effort (*zhongdian fuchi cun*) and ‘improvement of the whole village’ (*zhengcun tuijin*).²

The process, thus, from the national-level rural household survey to poverty resource allocation in China, is as follows:

- Step 1 Conduct rural household survey in 68,000 rural households.
- Step 2 Obtain poverty incidence from survey data.
- Step 3 Derive number of poor from poverty incidence.
- Step 4 Break down the number of poor by county.
- Step 5 Allocate poverty reduction resources to counties.
- Step 6 Organize official process to identify who the poor are and where they are located by the County Poverty Alleviation and Development Leading Offices.
- Step 7 Gradually initiate poverty alleviation projects, such as the key village poverty reduction effort and improvement of the whole village, in selected poor villages.

4.3 The data and process of official poverty identification in the village

4.3.1 The data

In order to know who and where the poor are so as to target the poor in poverty alleviation interventions, the State Council LGOPAD (or *fupin ban*) recently launched the submission of lists of poor individuals and poor households from the village level. The procedure by which the lists are derived is called the ‘official method of identifying the poor’ or ‘official poverty identification method’. This official poverty identification process enables LGOPAD to identify who and where the poor are for poverty alleviation interventions and monitoring of poverty alleviation achievements. Villages and groups are asked to submit a list of poor and low-income households and people. Villagers’ group leaders and accountants produce the poor households list (the ‘official poor list’ or

'official poor population list'), or it may be produced at village meetings and submitted to the villagers' committee, and then to the township rural economic station (*nongjing zhan*), before being handed over to LGOPAD at the county, prefecture, provincial and even central level. The poor and low-income list submitted to the government is available for Jiankang Villagers' Committee for the years 1997, 1998, 1999, 2002, 2003 and 2004 from six sources:

- 1 survey and statistical table of poor households in Township, Wuding County (*wuding xian xiang pinkun hu diaocha tongji biao* (tables 1, 2, 3) in 1998 (data from 1997);³
- 2 survey and statistical table of poor households in X Township, Wuding County (*wuding xian – xiang pinkun hu diaocha tongji biao*) (tables 1, 2, 3) in 1999 (data from 1998);
- 3 basic information on poor areas and poor households in Wuding County in 2000 (*wuding xian pinkun diqu, pinkun hu jiben qingkuang biao*) (data from 1999);⁴
- 4 records of extremely rural poor households (*nongcun tekunhu jiating beian biao*)⁵ (data from 2002, completed in 2003);⁶
- 5 poor rural households list (*pinkun nonghu huamingce*) for Jiankang Villagers' Committee, Chadian Township, Wuding County (in 2003, completed in 2005);⁷
- 6 poor rural households list (*pinkun hu nonghu huaming ce*) for Jiankang Villagers' Committee, Chadian Township, Wuding County (in 2004, completed in 2005)⁸ with household head, sex, number of family members, address, household type and average net income.⁹

4.3.2 The process

According to interviews with county officials, village leaders and villagers, in some years a quota of poor was allocated to the villagers' committee before the official poverty identification exercise. Before submission of the poor list, county-level officials would calculate a number of households/people below the poverty line and low-income line, according to the poverty situation, the rural household survey, the total population and the poor identified in the past year.¹⁰ A quota was allocated to each township, and the township government allocated the quota to the villagers' committees according to their poverty situation and population. There were several reasons for the quota allocation. First, when the county LGOPAD asked the village leaders to submit the poor list, many rich villages submitted more names than poor villages because of the difficulty of measuring income. Second, numbers of poor rose and fell on account of the lack of reliable measurement methods below the county and township level. At the same time, the central government wanted to limit the percentage of poor to less than 5 per cent of the population at the national level for the stability of the country, and it had limited

resources available for poverty reduction.¹¹

The township government requested Jiankang Villagers' Committee to submit its poor list. The township government also conveyed to village leaders their quota of the poor. For example, the quota allocated to Jiankang was 750 poor in 2003.¹² The villagers' committee allocated the quota to each villagers' group based on the number of residents, households and the poverty situation according to group leaders. After the group leaders and accountants received the quota, they said they listed households starting from the 'poorest' until they reached the quota based on their estimation of the income and expenditure of each household.¹³ A rural household survey was seldom conducted. The accountants said they knew each household well. They calculated the net incomes by subtracting residents' total annual costs from their income based on estimations by a village accountant.¹⁴ The calculations thus constitute a guess.

In 2005, a new method of filing and carding the poor (*pinkun renkou jiangang lika*) was launched by the State Council LGOPAD (LGOPAD 2005b). It emphasized justice, openness, fairness and mass participation, as well as a combination of top-down and bottom-up methods, data-based calculations and opinion-sharing throughout the process (LGOPAD 2005a; Wu 2005). LGOPAD suggested holding public meetings to draw on various opinions in making up the poor and low-income households list. A working team composed of three government officials was sent to Jiankang to assist in the identification of the poor households. The 'Rural Poor Household File of Yunnan Province Form' was distributed to each villagers' committee according to the quota (LGOPADYNP 2006).¹⁵

It was usually the group leaders and accountants who decided whether to hold a public meeting to draw up the poor list. Of the nine villagers' groups in this study, five did not hold a public meeting.¹⁶ In those groups it was again the leaders and accountants who listed the names of 'poor and low-income households' to submit to the villagers' committee. According to group leaders, in the Jiazhu and Jiayan villagers' groups there were too many conflicts in the undertaking. With everybody fighting to be on the poor list, it was too difficult to make decisions in a meeting, so the leaders decided to do it themselves. Four villagers' groups held public meetings to produce the poor and low-income list.¹⁷ Usually the meetings included village representatives, Party branch group leaders, a women's representative, group leaders and the accountant. In Jiaguan, the group leaders listed the poor and low-income households first. Then they held a public meeting to discuss the list.¹⁸ In some groups, even though they had public meetings and agreed on the poor and low-income households list, they also agreed that all the households would be put on the list in turns, and that in the future any poverty alleviation resources would be shared by the whole group. After finalizing the list, it was made public.¹⁹

The list of poor households was then submitted to the villagers' committee. According to the committee leaders, as a result of the difficulty the village leaders and accountants experienced in completing the 'Rural

Poor Household File of Yunnan Province Form' (*Yunnan sheng nongcun pinkun hu dang'an*) and the complexity of filling in the document in the very short timeframe allowed, the working team members themselves filled in the form, writing whether the households were poor, low-income or non-poor as submitted by the villagers' groups without interviews and consultation with the households themselves. They just passed along the reported average net incomes and completed the form on that basis.²⁰ No household survey was done at village level. Thus, the actual official poverty identification procedure carried out in the village was as follows:

- Step 1 Village leader and accountant or public village meeting produce a list of poor and low-income households according to the quota allocated.
- Step 2 Resulting list is made public at villagers' group level.
- Step 3 The poor and low-income households list is submitted to the villagers' committee.
- Step 4 The household questionnaire forms for the poor and low-income households are filled in depending on their category.
- Step 5 The list is submitted to the township government.
- Step 6 List is approved by the government.

The process is different from the procedure required by government in several respects:

- Step 1 Conduct household survey in all households.
- Step 2 Collect data and make calculations from household survey.
- Step 3 Hold village meeting to discuss the poor and low-income households list.
- Step 4 Verify list.
- Step 5 Make public the poor and low-income households list.
- Step 6 Government approves the list (Wu 2005).

Problems can clearly be found in this process. The poor and low-income households are identified according to the quota allocated by the county government. No household survey is done at villagers' group level. The poor and low-income households list is produced according to the village leaders and accountants or at public meetings. Household surveys and the national poverty line are not very useful here. Participation is just a tool to help draw up the poor and low-income list.

4.4 Who are the poor on the official poor list?

In the official poverty identification method, the poverty line (including income for all years and grain consumption) before 2000 and the absolute poverty line and low-income line after 2000 are applied to identify the poor. These lines increase according to inflation (Table 4.1). Those whose

income is less than the poverty line are the absolute poor (the 'poor') and those whose income is below the low-income line are described as 'low-income'. However, there is a quota of poor households/people allowed and household surveys are seldom carried out because of their complexity and the limited time available. The poverty line is therefore not really used at the village level. Household income is just estimated by the village accountant and leader, according to their knowledge and assumptions about the households and the requirements of the government. The poor who are identified are those considered to be poor by the group leaders, accountants or powerful people in the group. Most households identified are poor, there is no doubt about that. There is an unwritten rule that households with a business, those with family members who are government officials, permanent staff or teachers, those with a salaried job and a concrete house on Jiankang's main street and, in some groups, even those migrating for labour for an extended period could not be on the poor list in the past. However, it depends on the quota the village gets. As a result, households with no migrant labourers, no business, no members in salaried employment are the poor households. Data in 2003 and 2004 confirm this. Migrant households made up 8.3 per cent of total households in 2003, yet they accounted for only 3.5 per cent of the poor households. These numbers in 2004 are 8.3 per cent and 5.5 per cent, respectively. Villagers' committee leaders gave more of the quota to Miao and Yi ethnic villages like Heishanda in past years. The average poverty incidence in Jiankang was 38.6 per cent in 2004, but was 49.6 per cent for the Miao village of Heishanda.

Some group leaders and accountants put their own households, relatives and friends, or those with whom they had good relations, on the list, even though they might not be as poor as others.²¹ After reaching the poor list quota, the households which were considered not absolutely poor were put on the low-income households list until the low-income quota was reached. In fact, outside the absolutely poor households, almost all households in the villages were low-income in 2003 and in 2004 (except ten households). Households with retired teachers, government officials, wives of government officials, villagers' committee leaders or a business were on the low-income households list in 2003 and 2004. All households (611) and all of the population (2,315) were on the rural poor and low-income list in 2002. All of the population except 24 people were on the poor and low-income list in 2004 (2,305 out of 2,329). All households are poor or low-income in the quota sense. This means that whether people are designated as poor depends on the quota given.

However, one disabled single-person household and two of the five 'five-guarantee households' were on the poor list in only one or two years. Jian Junxiao said that five-guarantee households (*Wubaohu*) and relief households, such as those where the disabled live, could not be included among the poor, but could be included among the low-income households.²² Most of the missing households were small and single-per-

son households, for example a household with a single elderly member, an elderly couple or female- and bachelor-headed households, as these were merged with other households because of quota limitations. This is borne out by analysis of the 2004 data. Even though single or bachelor households made up 6.4 per cent of total households, they compose 3.5 per cent of the total poor households. The data in 2003 show the opposite, even though single and bachelor households made up 5.7 per cent of total households, they made up 9 per cent of the total poor households that year.

4.5 Characteristics of the official poor

The Chinese government uses income and/or grain consumption to measure poverty, so poverty is shown as a lack of money or grain, in other words, in the economic dimension. Before 2000, only absolute poverty was assessed. Since 2000, poverty has been divided into absolute poverty and low income. At the county, township and village levels, the quotas are the main consideration in poverty identification. So here poverty is indicated in a relative sense. When the quotas increase, more people are poor. When the quotas are reduced, fewer people are poor. Interestingly, when there are no quota limitations, more people are put on the poor and low-income households list, as in 2002. One reason could be that more people are poor than the quota given. Another is that people turn to the government for poverty alleviation resources if they can.

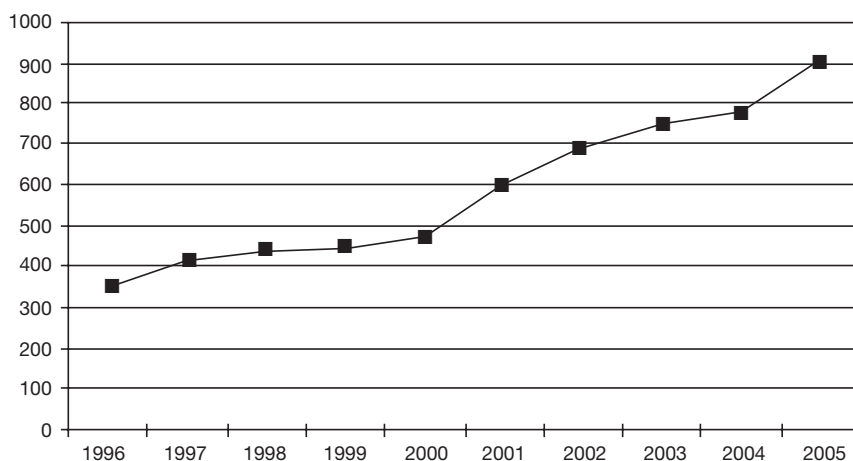
Regional poverty is another form of poverty. Mountainous areas have higher quotas because they are poorer than flat areas. Poverty also has an ethnic face. It is obvious that the Miao ethnic minority is poorer. At the same time, there is an official aspect of poverty. The official breadth and depth of poverty depends on how many people may be identified as poor and on how much effort and budget the government hopes to invest in poverty alleviation. Poverty relates to dependency rate as well, and to disasters and sickness of family members. There is power poverty, related to relationships with group leaders and other local power relations. Lack of sustainable livelihood opportunities, like a permanent job, a salary and a business, is also a form of poverty considered by village leaders and villagers here. Inability to export labour for an extended period is considered a form of poverty in some groups. Housing poverty was mentioned by the villagers in producing the poor list. Yet poverty does not show a female face here. Female-headed households are not included in large numbers on the poor list. Even though female-headed households made up 7.9 per cent of total households in 2003 and 8.0 per cent in 2004, these households made up only 7.5 per cent and 5.0 per cent of the total poor households in 2003 and 2004, respectively. The poor female-headed households are those without an able-bodied man in their household. Some female-headed households have husbands who are government

officials or teachers or have married-in husbands from elsewhere; these are not considered poor.

At the same time, the government has created a new form of poverty: dependency (in Chinese *deng, kao, yao*, meaning waiting for, depending on government for a living and asking for government support). Many people are not really poor, but want to be on the poor list to receive support and have the government take care of them (WDPADO 2005). This type of poverty is very much in evidence. When the villagers know that support will be given, everybody wants to be on the list so that they can receive support in the future. Village leaders put as many households and people on the list as they can, so that in the future they might receive more poverty alleviation resources.

4.6 Dynamics of official poverty

Before analysing the dynamics of poverty, let us take a closer look at the village economy in Jiankang. Even if the net incomes recorded by village leaders are not completely accurate, they should still reflect the village economy to a certain degree. Figure 4.1 shows average net income in Jiankang as gradually and steadily increasing. There is no sharp drop or sharp rise of income over these years. The minimum annual increase is 2 per cent and the maximum increase is 25 per cent. The average annual increase of net income is more than 10 per cent.

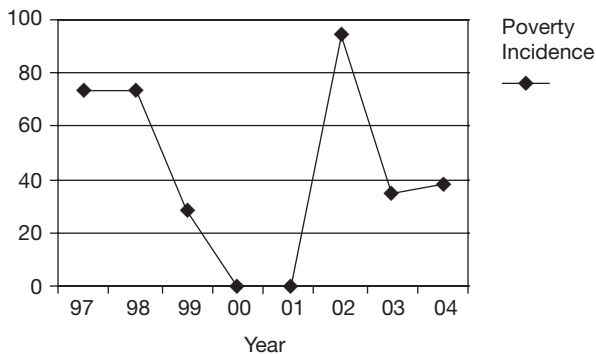


Source: Jiankang Villagers' Committee records.

Figure 4.1 Average net income (yuan) in Jiankang Villagers' Committee, 1996-2005

Poverty incidences show a totally different picture (Figure 4.2). There are large drops and jumps in different years. The six years of poor households lists found for Jiankang show no trend in poverty in the research area over the years. Poverty rises and falls in an unusual way from one year to the next.

The poverty incidence noted for 1997 is 73.25 per cent and 73.37 per cent for 1998, while average net income had increased by 5 per cent in 1998 over 1997. Different households were identified in the two years. There is a sharp drop of poverty incidence from 73.37 per cent in 1998 to 28.79 per cent in 1999. However, village economic data show the average net income for 1999 had increased by just 2 per cent over 1998. The drop in the number of poor reflects only the central government's desire to reduce the numbers of the poor to show that progress had been made in poverty alleviation in 2000.²³ Average net income increased rapidly in 2000, 2001 and 2002. The minimum increase is 7 per cent, and the maximum increase is 25 per cent (from 2000 to 2001). No data on the poor is available for these two years because its submission was not required. Even though the village economy showed a fast increase in average net income, poverty incidence rose sharply, too, from 28.79 per cent in 1999 to 94.03 per cent in 2002, in only three years. No great or abnormal disaster is evident in 2002. In fact, average net income had increased by 14 per cent over 2001. The sharp increase of poverty incidence was due to the absence of quotas that year.²⁴ Even though average net income increased only 9 per cent from 2002 to 2003, poverty incidence dropped from 94.03 per cent in 2002 to 34.44 per cent in 2003. That does not reflect an especially good harvest that year, but rather the government's quota of 750 poor people in 2003. Average net income increased by 4 per cent in 2004 over 2003, though poverty incidence rose, too, from 34.44 per cent in 2003 to 38.70 per cent in 2004. In reality poverty did



Source: Jiankang Villagers' Committee records

Figure 4.2 Poverty incidence in Jiankang Administrative Village, 1997–2004

Table 4.1 Poor and low-income households in the research area

Item	1997	1998	1999	2002	2003	2004
National poverty line (yuan)	300	400	580 yuan, 300 kg of grain	627	637	668
National low-income – line		–	–	–	638– 882	669– 924
Population	1,866	1,863	1,844	1,877	1,864	1,925
Total households	487	489	492	508	501	510
Poor people	1,367	1,367	531	1,765	642	745
Poverty incidence (%)	73.25	73.37	28.79	94.03	34.44	38.70
Poor households	341	341	138	470	198	197
Poor and low-income people	–	–	–	–	1,864	1,905
Incidence of poverty – and low income	–	–	v	–	100	98.96%
Poor and low-income households	–	–	v	–	501	502

Source: Official poor and low-income households list in Jiankang village records.

not worsen in 2004. The government had revised its quota to 370 households with 1,484 people in the low-income category in 2004 for the whole villagers' committee. Actually, only five months separated the 2003 and 2004 poverty identification. That for 2003 was carried out in March 2005 and that for 2004 in August 2005. Average net income in 2005 showed 14 per cent increase compared with 2004.

Incidence of poverty and low income shows a different picture. Both were 100 per cent at the household and individual levels in 2003. In 2004, incidence of poverty and low income was 98.96 per cent, showing a drop. The village economy also showed an increase in average net income of villagers.

The data provided show that poverty incidence dramatically rises and falls. Yet we also understand that poverty incidence must move in some relation to village economic growth. Yet the figures show poverty as unrelated to the village economy. No trend is evident. An interview with government official Jian Junxiao in the Wuding LGOPAD²⁵ helps to clarify the reasons for the dramatic shifts. He explained that government officials usually allocate quotas of the poor each year to the villagers' committee. However, after 1999, the central government wanted to realize Li Peng's promise of dramatic poverty reduction by 2000. To achieve this goal, only a small number of poor people could be reported. Staff at Wuding LGOPAD even went to the rural economic station to change farmers'

average net incomes, increasing them to reflect fewer poor people. Suddenly, the number of the poor dropped drastically in 1999. Jian said that the numbers of poor at the county level were fictional in 1999. In 2000 and 2001, no poor list was required, so there is no poor list at the village level for these years. In 2002, the central government launched the 'Identification of Key Poverty-Stricken Counties to be Aided by the State' initiative, at which point the poor list submission was reinstated.

Jian also pointed out that no quota of poor was allocated in 2002. This means that the poor list submitted by group leaders was unencumbered by quota limitations. Even though the form indicated that only the extreme poor were to be listed, 2002 showed the highest poverty incidence of all these years. After 2003, the county government again allocated quotas. So the number of poor households and persons has remained relatively stable since 2003.

Thus, poverty incidence is related to the quotas for the poor assigned by government. Quotas of poor households and people are closely related to poverty alleviation policy at the central level. The trends of poor quotas and poverty incidence follow the trends of national poverty alleviation budgets and efforts.

At the same time, an interesting phenomenon becomes visible. With quota limitations, fewer poor households and people were identified. With no quota limitations, more poor households and people were identified. Because the government assigned no quota in 2002, the village leaders put almost all of the population and households on the list. In 2004, there was a quota for both households and people, with the household quota being less than the actual number in the village and the individual quota being more than the actual number of people in the village. So the group leaders merged people from the missed households into other households. For instance, a single mother's household was merged with that of her son. Only 24 people in all of the villages were not identified as poor or low-income.

Poor households and people listed in different years should reflect poverty dynamics and mobility. However, because of government intervention in assigning numbers of the poor and allocating different quotas for poor households and individuals in different years, and in the absence of effective identification of the actual poor, numbers of poor households and people drop and increase in an incredible way. Statistics on people rising out of or falling into poverty are determined by the quota, not by actual circumstances. Poverty dynamics here are human-made. They do not reflect changes of households and people falling below or rising above the poverty line. Fluctuations simply reflect quota limitations and government intervention.

It would be misleading to analyse the percentage of households in poverty in a certain year, in several years or in all of the years, or the dynamics of poverty. The dramatically fluctuating poverty incidence (Figure 4.2) does not reflect the real poverty situation. Comparison between villagers'

groups may also be misleading because of quota limitations and differences in understandings of the concept of low-income and use of different poverty lines for different villages before 2003.

Even though the poverty incidence in 1997 and 1998 are similar, when analysing mobility in and out of poverty, the data from the two years turn out to be incomparable, because different villagers' groups used different poverty lines to categorize the households, from 100 yuan (poor), 200 yuan (middle-income) and 400 yuan (better-off) in Jiankang Xiacun to 200 yuan (poor), 200–300 yuan (middle-income) and 300–600 yuan (better-off) in Jiankang Shangcun. Also, some ten names of household heads on the 1997 list are not found on the 1998 list. It is difficult therefore to sort out which villagers' groups used which poverty line to categorize households and how to interpret these ten households.

The data for 2003 and 2004 are similar, with a quota limitation. These two years have different total numbers of households (501 households in 2003 and 510 households in 2004), leading to problems in comparing them. Attempts at comparison reveal few households that are poor or low-income in both years. Only 22 per cent of the households are poor in both years (Table 4.2). These make up just 56.56 per cent of the total poor households. This proves that villagers' leaders might put households on the poor and low-income lists in turn. Most households are in fact poor or low-income in at least one year. If some households could not be on the list in one year, the village leaders would put them on the list in the next year. This does not mean that these households fall into poverty while others rise out of poverty.

The analysis of poverty dynamics reveals the official poverty identification method to be a political enterprise. Poverty dynamics are influenced by government interventions, not by poverty itself. With such government involvement, it is difficult to gain insight into true poverty dynamics and trends. Many other practical issues and problems block the analysis of poverty dynamics and mobility as well. First is the discrepancy between the total numbers of households in different years. Every year, house-

Table 4.2 Number of households experiencing poverty in 2003 and 2004

<i>Number of years in poverty or low income</i>	<i>Households</i>					
	<i>Poor</i>		<i>Low-income</i>		<i>Poor and low-income</i>	
	No.	%	No.	%	No.	%
0 (i.e. never poor)	8	1.77			8	1.77
1	283	55.49	398	78.03	501	98.23
2 (i.e. always poor)	112	21.96	218	42.74	501	98.23

Note
HHs households.

holds disappear or combine, and new households emerge or separate. Changes in numbers of households may have other causes, too. Recently said it was rumoured that local villagers were to be resettled elsewhere because they live too near the reservoirs which provide drinking water to Kunming. As a result, more households emerged, the idea being that compensation would be on a household basis. Another challenge is the use of different names or different pronunciations of names for the same households in different years. Some households might use their father's name in one year and their son's name the next, or another family member's name. Lists from different years might also use different Chinese characters in writing the names or they might be understood differently by different people because of the local accent. Mistakes are made in writing household names, making them difficult to recognize. Another problem is mistakes made by local officials and village leaders in entering data in different years. Local villagers' group leaders use different criteria to categorize the households in different years. Comparisons thus become difficult, as it is hard to match the households and data over the years.

4.7 Reflection on the exercise

The Chinese government is trying to target poor and low-income people with its official poverty identification procedure as a prelude to poverty alleviation interventions. This official method has been conducted in the study area six times. Income was the basis for assessing poverty. Participation in poverty identification was gradually emphasized more. However, problems remain in implementation, and there is an urgent need to improve the method.

Before 2004, the list did not have to be made public, so villagers knew little about the group leaders' and accountants' submission of the list. Few households knew which were the poor households and whether they had been on the poor list in the past. This information was made available only in the two most recent study years.²⁶

After January 2005, the government requested villages to make public the poor and low-income household and people list. The 2003 and 2004 poor lists were made known in the village. Gradually, villagers began to discuss them. Villagers' came to hold certain views on the official poverty identification list. Almost all of the households wanted to be on the list, regardless of whether they were poor. Because of the quota limitation, villagers associated being on the list with receiving poverty alleviation support. The households which were not on the list wanted at least to be on the low-income list. The households on the low-income list wanted to be on poor list (WDPADO 2005). In the villagers' minds, if there was a quota, there must be something (support) coming (from the government).²⁷ Village leaders try to list as many low-income people as they can when there is no quota limitation, because income is so difficult to calculate and measure at the village and household level.

The numbers of the poor rise and fall in different years in the absence of accurate measurements of poverty. The government has to use a quota to control the number of the poor claimed in the official poverty identification process. Quotas of poor households and individuals assigned by the government are arbitrary, even when loosely based on a poverty line. The number of poor households and people identified depends on whether the county is a state-designated poor county (Park *et al.* 2002; Wang 2007), and the quota assigned by the government (Wang 2007), rather than how poor the local people are. On one hand, because of the quota limit, many households which hoped to be on the poor list are excluded. At the same time, the quota of poor households and people is related to how many poor are deemed politically acceptable. The government is trying to limit the number of the poor to less than 5 per cent of the total population for political reasons at the national level. Politics are involved. On the other hand, limited budgets for poverty alleviation translate into smaller assigned quotas. However, in order for the state-designated (key) poverty-stricken counties to maintain their poverty alleviation funds (Park *et al.* 2002), many of these counties over-report their numbers of poor and low-income inhabitants. According to Jian Junxiao,²⁸ there should be only 68,000 poor and low-income residents in Wuding County, according to the poverty incidences derived from the national rural household survey. However, more than 160,000 poor and low-income people were identified in 2004. The numbers of people identified in the official poverty identification process are much greater than those identified using the national poverty line. Perhaps poverty exists in dimensions broader than monetary criteria alone. From one viewpoint, that means the poverty line is too low and too narrow to identify the poor because many households still want to be on the poor list. From another viewpoint, it can be said that there is no adequate measurement to indicate who is poor and who is not. The government's efforts to alleviate poverty have led to the emergence of a dependency type of poverty (*deng, kao, yao sixiang*), with people hoping for government support. There also exists relative poverty, as indicated by the official poverty identification procedure. The non-poor may be identified as poor in a relatively rich villagers' group. The poor in a rich or better-off villagers' group may be better off than the non-poor in another villagers' group. The poor identified in the state-designated poverty-stricken counties may not be counted as 'poor' in a county with a lesser quota, or in a county not state designated as poor.

Regardless of the identification exercise, there has as yet been no poverty alleviation fund for the poor households. As a result of the lack of poverty alleviation resources forthcoming, poverty identification is taken as a casual exercise. Some leaders even promise households which were not on the poor list this year that they can be on the list next year.²⁹ Households thus take turns on the list. The process becomes political. Some who are really poor, like the disabled, the five-guarantee households, the elderly and single or two-person households, are excluded from the list.

The poor list therefore cannot be said to identify the real poor at the village level. Power relations and politics, nepotism and bureaucracy are involved in the official poverty identification process at the village level. Villagers and leaders confirmed that the poor lists do not show the real poor households. Party Secretary Jiang Kaihua said, 'The poor is not visible in the poor households list ... Now the number of the poor is fake.'³⁰

Government has emphasized public participation and a combination of a top-down and a bottom-up approaches. However, at the village level, there is little or limited participation in poverty identification. Group leaders and accountants are the ones deciding who is poor in some villagers' groups, not the villagers. The process of identifying the poor is not open, fair or participatory. How can filing and carding of the poor be done in accordance with principles of justice, openness and fairness? Local government officials and village leaders' understanding of and attitudes towards participation are limited. Village leaders and accountants think they know the households well, and that they can represent the villagers. Village and group leaders override residents' input. Participation is scarcely emphasized at the local level. Even where there is participation, it is limited to consultation. Participation is not viewed as a right, a process or an end for the villagers involved. This participation is different from the participation in campaigns before 1978, which preserved proactive involvement within a national framework, and political participation was driven by the state (Burns 1988). Currently the issue of poverty is left to the villagers. Government seems to be saying, 'It is your problem, you take care of it.' This appears to suggest that if problems arise in the future, the villagers are the ones responsible, not central government. Jiang Kaihua pointed out: 'Yang Guangliang (Kangxia)'s group did not hold a public meeting. If poverty alleviation resources are distributed by the list, if the villagers know, they will appeal to higher authorities for help (*shangfang*).'³¹ Jian Junxiao agreed: 'There will be problems for the villages which have not made public their poor and low-income households list when poverty alleviation support is given to households.'³²

Under such circumstances, the official poverty identification exercise seems to have created risks and the potential for conflict among households, if poverty alleviation resources were forthcoming to support the households on the list. Yet the ones on the list might not be the only ones to get benefits. Help might be shared among all households. This would mean that poverty reduction resources would leak to the non-poor households. Potential poverty alleviation resources could thus become a source of welfare that can be shared by everyone, not a means to support poor and low-income individuals, or a means to help poor and low-income individuals rise out of poverty. Because the real poor are unlikely to receive poverty alleviation resources, sharing poverty alleviation resources would widen inequality at the village level. Poverty identification would thus create an arbitrariness if resources to counter poverty were allocated. Conflict would arise among the villagers because of the closed,

power-dominated, unfair identification process of the poor in some villages. So we may ask whether the exercise contributes to the building of a harmonious society in China.

Village leaders complained about the quota and the difficulty of matching it. Jiang Kaihua reflected: 'It would be easier to assess poverty without a quota limitation ... It would be more accurate without the quota.'³³ In 2004, there was a quota for both households and individuals, which made identification especially difficult.³⁴ Because the numbers did not match those in the villagers' group, it had to merge some of the households.

The complexity and time-consuming nature of household surveys means that such surveys are seldom carried out at the village level in the official poverty identification process. As a result, income is simply 'guesstimated' by local officials and village leaders. It is almost impossible to calculate actual incomes. At the same time, village leaders complain of inaccuracy of the per capita net income submitted by the township to the village level each year: 'In 2005, we were heavily hit by disasters (drought and flood). Even though our production output fell, our net income submitted was not reduced. The township gave us a limit of 890 yuan when we had just submitted 600 yuan.'³⁵ Income and poverty line have little meaning at the village level. Village poverty incidence and poverty dynamics show no relation to village economic development.

Even at the township and county level, one issue raised by the Wuding County Poverty Alleviation Office was that the standard of collecting and calculating net income was different from household to household, village to village, township to township and even department to department (WDPADO 2005). The income calculation of the Rural Economic Station was different from that of the Statistics Bureau.³⁶ Some groups and villages calculated net income as total income minus production costs. Others calculated net income as total income minus all costs. Different departments have different ways of calculating, too.³⁷ Net incomes therefore are not comparable. Furthermore, numbers of the poor are limited by quotas, not by incomes. The process, though officially based on income, is driven by the quotas.

From a methodological viewpoint, even though there are six years of data available, it is difficult to make comparisons and analyse poverty dynamics and mobility because of government intervention, the different criteria used by different village leaders and the many other practical issues and problems identified.

At the same time, some villagers are unsatisfied with the poverty identification and poverty alleviation process. Some, especially those on the low-income list, think: 'I am rich because I work hard. Why don't you work hard?' Some even complain that the expectation of poverty alleviation support discourages the diligent ones and encourages the lazy ones. Because the diligent ones were not poor, they might not obtain support. Some of the poor were the lazy ones. They were lazy so they were poor, but they might get support in the future. Villagers also thought of most

households as being quite the same. Support is perceived as justifiable only for the disabled and the five-guarantee households. Others, they maintain, will not starve.³⁸ Actually there were quite a lot of low-income households. These were vulnerable to any natural disaster. At the same time, there is regional poverty in this area and infrastructure and services are, as explained above, unsatisfactory.

To conclude, the official identification of poor and low-income households and individuals is arbitrary, with limited participation and a political and inaccurate approach. Reported poverty incidence is in no way related to the state of the village economy. Rather, it is influenced by government efforts and actions. A lot of politics are involved: the quota limitations, allocation of the quotas, budget considerations and policies and targets for poverty alleviation. Poverty is not determined by how poor the villagers are or by the villagers themselves, but by how large a quota the village can get and by village leaders and accountants. Poverty is in evidence in a relative (quota) sense and in a monetary and political sense. Most of the time local officials simply guess incomes. Net incomes are therefore not comparable.

The poor list does not identify the real poor, nor does it reflect the real poverty situation and poverty dynamics at the village level. If poverty alleviation resources were forthcoming for the households, conflicts would arise or poverty alleviation resources would be shared as a form of welfare amongst all the households. This is a result of the closed, unfair process of poverty identification and the largely fictitious poor lists. Mis-targeting of poverty reduction resources to non-poor households is another result. Leakage of poverty reduction resources to non-poor households is likely to lead to ineffective use of resources.

5 The monetary poverty approach: ‘They are the poor’

5.1 Introduction

Chapter 4 discussed the government’s official method for identifying the poor. A problem with this official method is the use of quotas and the political and arbitrary aspects of the exercise. The poverty line was found to be hardly useful, and household surveys were seldom carried out. The literature makes frequent reference to the use of the monetary approach for poverty assessment at the village level in China (McCulloch and Calandrino 2003). To learn whether the monetary approach to poverty assessment is valuable at this level and how it is used to identify the poor, this chapter takes a fresh look at the monetary approach using household survey data collected by the author from May 2005 to March 2006 in nine villagers’ groups in four natural villages in Jiankang. These are the same villages studied in the previous chapter.

The aim is to learn how and which households are identified as poor using different monetary poverty lines. Section 5.2 discusses the choice of different poverty lines. Section 5.3 looks at process, data and methodological issues. Section 5.4 assesses different ways to identify the poor using the monetary approach. Section 5.5 discusses attributes and commonalities of poverty across households with different demographic characteristics. Section 5.6 critically reflects on the monetary approach to poverty identification.

5.2 Choice of poverty lines

This section looks at the application of several income poverty lines: (1) the national poverty line and low-income line per person per year; (2) the actual-price-based poverty line and price-based low-income line per person per year; (3) the World Bank’s US\$1.25 per day poverty line and US\$2 per day poverty line; and (4) local people’s own perceived poverty line and low-income line per person per year.

5.2.1 The national poverty line and low-income line in 2004

According to the Rural Survey Department of the National Bureau of Statistics in China, the national rural poverty line was decided based on rural household surveys in 1985, 1990, 1994 and 1997. Poverty lines for other years were revised in line with the rural household expenditure price index. The national rural poverty line for 2004 per person per year was 668 yuan. Low-income lines, in addition to the poverty line, have been set since 2000. The rural low-income line in 2004 was 924 yuan per person per year, with the non-food consumption proportion set to 60 per cent.¹

5.2.2 The actual-price-based national poverty line and low-income line

The national rural poverty line and low-income line are adjusted and updated for subsequent years using the consumer price index multiplied by the poverty line of the previous year (ESCAP 1999). Yet even with this indexed income, local people may be unable to buy the same consumption bundle because actual prices may be higher. The actual-price-based national poverty line is obtained by using the same consumption items as in the food bundle issued by the Chinese government, multiplied by the actual prices of different items in the research village. The actual-price-based food poverty line per person per year is 778 yuan in the study area (Table 5.1). With non-food consumption making up a 40 per cent share, the actual-price-based national poverty line per person per year is approximately 1,297 yuan. The actual-price-based national low-income line per person per year is 1,945 yuan, in which non-food consumption comprises 60 per cent.

5.2.3 The World Bank poverty lines of US\$1.25 per day and \$2 per day

The US\$1.25 per day per person World Bank international poverty line, which has been a representative poverty line among the poorest countries in the world since March 2008 (Chen and Ravallion 2008b, 2008a; Ravallion *et al.* 2009), amounts to 5.11 yuan per day at 2005 *purchasing power parity* (PPP).² The \$1.25 per day poverty line then equals 1,865 yuan per person on an annual basis. The \$2 per day World Bank international poverty line, which is the mean poverty line found among the developing countries as a whole (Chen and Ravallion 2008a, 2008b; Ravallion *et al.* 2009), equals 2,983 yuan per person per year.

5.2.4 The local people's poverty line and low-income line

Local people have their own perception of the poverty line, which differs from the economists' national poverty line (Ravallion and Lokshin 1998). In order to understand how local people experience poverty, the author

Table 5.1 Actual-price-based food poverty line based on same food consumption bundle as Chinese national poverty line

<i>Consumption item</i>	<i>Unit k-calories (k-cal./kg)</i>	<i>Amount consumed (kg)</i>	<i>Caloric intake (k-cal./ day)</i>	<i>Proportion of total calories</i>	<i>Price (yuan)</i>	<i>Sum (yuan)</i>
Grain	3,150	220.00	2,115.60	88.4	2.5	550
Vegetable oil	8,990	2.45	60.34	2.50	8	19.60
Vegetables	204	100.00	56	2.30	0.5	50
Pork	3,950	8.70	94	4	10	87
Eggs	1,635	1.30	5.80	0.20	10	13
Animal oil	8,960	1.36	33.4		10	13.60
Mutton, beef	1,746	0.54	2.60		16	8.64
Milk	1,522	0.75	3.13		2	1.50
Poultry	1,845	0.74	3.74	2.60*	15	11.1
Fish, shrimp	1,091	0.96	2.87		10	9.60
Sugar	3,970	1.00	10.90		5	5
Fruit	604	3.00	4.96		3	9
Total			2,393.34			778.04
Poverty line	(60% food and 40% non-food consumption)					1,297
Low-income line	(40 % food and 60% non-food consumption)					1,945

Sources: S. Wang 2004; Park and Wang 2001.

Notes

* The combined proportion of animal oil, beef and mutton, milk, poultry, fish and shrimp, sugar and fruit.

Using the same food consumption bundle, the Rural Survey Organization, National Bureau of Statistics, P.R. China selected 2,100 k-calories per day per person as the minimum nutritional intake suggested by nutritionists (Xian 2006; Tang et al. 2001).

facilitated four discussions with residents of the study villages. They defined poverty in terms of consumption. The four discussions produced similar views of the food consumption below which one could be thought of as poor: 0.5 kg of rice, 0.2 kg of meat (0.3 kg of meat in the Jiaguan discussion), 0.5 kg of vegetables per day and occasionally having chicken and fish. Regarding non-food expenditures, a set of clothing and several pairs of shoes per year were deemed necessary. Health care and primary school fees are also significant but necessary expenses.

To summarize the food consumption bundle they considered necessary, a quite simple and rough, but practical and realistic, list can be made: 0.5 kg of rice, 0.2 kg of meat, 0.125 kg of potatoes, 0.5 kg of vegetables, 0.1 l of alcohol or wine per day; two meals a day with beans or tofu occasionally; and 2 kg of chicken and 2 kg of fish (usually on Chinese New Year)

per year. This takes no account of eggs, mutton, beef, milk, sugar, oil, fruit, salt, soy sauce, vinegar and cooking fuel.

The standard menu is a bowl of rice, a dish of meat, a dish of vegetables and a bowl of potato soup for a meal. In the discussions, additional dishes like tofu, beans or potatoes were mentioned. Tofu is not available every day, beans are eaten occasionally and potatoes are available year-round and consumed most of the time. Potatoes are therefore included as a regular dish. The amounts of tofu and beans are adjusted according to the average expenditure amounts obtained from the household survey. In the Jiaguan group discussion, 0.2 l of liquor per day was deemed standard. Local people in Jiankang often make and drink liquor, and they serve liquor to guests. The food-based poverty line expenditure per person per year with no liquor comes to 1,389.25 yuan (Table 5.2). Liquor and cigarettes are omitted as they are considered harmful and extravagant consumption items (Saith 2005). Even though more than 70 per cent of the local men smoke, cigarettes are not taken regarded here as a necessity. Regarding other non-food items, the Jiaguan group considered a primary school student to need 500 yuan annually to pay school fees. Medical fees were also noted as expensive. The author suggests that non-food expenditure like clothes, shoes, transportation, communication, health, education, housing, miscellaneous daily needs, entertainment and services add up to 40–60 per cent of the amount of poverty-line food expenditure. The local people's poverty line per person per year thus reaches 2,315 yuan, with non-food consumption making up 40 per cent of the total. Considering the high cost of education and health, non-food necessities probably make up closer to 60 per cent of the total. In this case, the local low-income line per person per year comes to 3,475 yuan.

5.3 Process, data and definitions

5.3.1 The process and data

The author conducted a household survey in nine villagers' groups in four natural villages in Jiankang. Most of the household interviews were done by some ten farmers and primary school teachers with a junior high school education or higher under the supervision of the author. Before the survey, the author trained interviewers for half a day. Then the author asked them to fill in a questionnaire on their own household. The author then reviewed the questionnaires to ascertain whether all items on the questionnaire were understood, following up with some clarifications. After the interviewers understood and were familiar with the questionnaire, they interviewed the rural households and completed the questionnaires in their villages. Usually at least two interviewers were hired in each village. They were in charge of distributing the forms, checking the quality of the completed questionnaires and collecting the questionnaires

Table 5.2 Local people's poverty line food consumption bundle

Item	Unit k-calories (k-cal./kg)	Amount per day (kg)	Amount per year (kg)	Caloric intake (k-cal./day)	% of total calories	Price (yuan)	Cost (yuan)
Rice	3,150*	0.5	182.5	1,575	56.77	2.5	456.25
Pork	3,950*	0.2	72	779	28.08	10	720
Potatoes	1,040**	0.25	91.25	260	9.37	0.6	54.75
Vegetables	204*	0.5	182.5	102	3.67	0.5	91.25
Chicken	1,845*	—	2	10.1	0.36	15	30
Fish	1,090**	—	2	5.97	0.21	10	20
Beans	3,160**	—	4	34.6	1.24	2.5	10
Tofu	810**	—	3.5	7.77	0.28	2	7
Liquor	3,520**	0.1	36.5	352	—	3	109.5
Total with no liquor			2,774	100		1,389.25	
Total with liquor			3,126.44			1,498.75	
Local people's poverty line			(60% food and 40% non-food consumption)				2,315.00
Local low-income line			(40 % food and 60% non-food consumption)				3,475.00

Sources: Discussions with men's and women's groups in Jiaguan Villagers' Group, and two discussions with men's groups in Jiankang Villagers' Committee.

Notes

* These are the unit k-calories from S. Wang 2004b.

** These unit k-calories are from sources including the Internet and food packaging.

in addition to interviewing households. The author visited each village once every two to three days to check on the completion of the questionnaires and also to see whether any problems had arisen or if there were blanks that needed to be filled in. In such cases the author asked the interviewers to check back with the households for the missing data or incorrect information. The data were then entered into an Excel worksheet and STATA form and analysed using STATA software.

The questionnaire was designed for the local situation following qualitative research by the author to broadly understand the local context (Appendix A1). In total, 1,925 persons were surveyed in 525 households. Income and expenditure are missing for six households because three had migrated for an extended period of time and three households were composed of elderly single men who relied on different children for their living in different months of the year. Of the remaining 519 households, 46 are 'migrant households', meaning that all members of the household have lived outside the village for more than a year. Omitting the 46 migrant households, 473 households are left as permanent residence households. Thus the dataset used here to estimate the incidence of poverty covers 1,798 persons in the nine research villagers' groups.

5.3.2 Defining important methodological terms

Household. A household refers to a group of people who eat from the same pot and sleep under the same roof and also have kinship ties and are registered as a household on the village accountant's households list. Nonetheless, boundaries of households are fluid and dynamic. Some households stay together for some time, then separate. Some household members migrate for jobs elsewhere and seldom return home, but they are still treated as family members by the households and villagers' group accountant. So the term also includes members working outside of the village but who contribute their income to the household or otherwise form part of the household.

Household size. The size of a household includes all members, even if they work and live elsewhere year-round. Consumption expenditure and income per person are adjusted by adult equivalence, economies of scale and resident equivalence for the permanent residence households and by adult equivalence and economies of scale for households with migrants.

Adult equivalence scale. Most surveys consider the household as the unit of analysis, not the individual. Households differ in size and composition. Generally, poverty lines are expressed in individual terms, in relation to individual income or consumption. However, children's consumption is less than adults'. The consumption of a household with two children and two adults is less than that of a household with four adults. Yet equivalence scales are seldom used in poverty assessment in China. According to Gustafsson and Yue (2006), the official Chinese approach to poverty line specification appears 'primitive', because ex-

penditure needs are assumed to be strictly proportional to the number of household members and no adjustment is made for the ages of household members.

This study also considers as too rough the 'old' OECD scale (Atkinson *et al.* 1995; Hagenaars *et al.* 1994). It therefore uses an adult equivalence scale by which children 0–6 years of age are deemed equivalent to 0.2 adult, those 7–12 years of age equal 0.3 adult, those 13–17 years of age are 0.5 adult and persons over 17 years are considered adults, as confirmed in discussions with local villagers and based on the years of education of Chinese students. This appears to suit the situation in China, where children attend primary school at 7 years of age, middle school at 13 years of age and college at 18 years of age. The amount of food needed also increases each time a child makes the transition to a higher level of school.

Economies of scale. Large households may have distinct advantages over smaller households, because they benefit from purchasing products in bulk which may be cheaper, and they can share commodities, allowing them to economize on purchases of some products, especially housing, infrastructure and services such as water and electricity and durable consumer goods like television sets, bicycles, furniture and utensils. Per-person expenditures in households with two or more members are therefore less than in households with one person. With economies of scale, as consumption increases the cost of consuming each additional unit falls. Again, the 'old' OECD scale assumes a value of 1 for the first household member and 0.7 for each additional adult (Atkinson *et al.* 1995; Hagenaars *et al.* 1994). Accordingly, this study assigns a value of 1 for the first adult household member and 0.7 to each additional adult.

Poverty. Poverty is measured by income and consumption in rural China. Poverty refers to a condition such that a household does not have an acceptable living standard. It lacks the material basis for enlarging production and is even unable to maintain simple reproduction and cannot satisfy basic human needs. Household members cannot dress warmly and eat fully, and they cannot obtain sufficient meals for labour needs. The Chinese government uses 668 yuan per person per year as the national poverty line, and 924 yuan per person per year as the national low-income line. Our measures of poverty are adjusted to reflect economies of scale and resident equivalence (for migrants). Households whose net income or expenditure per adult equivalent per year is below 668 yuan are considered income poor or expenditure poor, and those with net income or expenditure per adult equivalent per year below 924 yuan are defined as low-income or low-expenditure. In addition to the national poverty line and low-income line, this study also uses the actual-price-based poverty line and price-based low-income line; the World Bank US\$1.25 per day and \$2 per day line; and the local people's perceived poverty and low-income line.

Income poverty. If poverty is measured by income, it is called income pover-

ty. This study refers to those households with a net income per adult equivalent per year below the income poverty line as the 'income poor' or absolute income-poor households. Households with net income per adult equivalent per year below the low-income line are called 'low-income' households.

Expenditure poverty. Where poverty is measured by expenditure, it is called 'expenditure poverty' or 'consumption poverty'. This study refers to those households with an expenditure per adult equivalent per year below the expenditure poverty line as 'expenditure-poor' households. The low-expenditure line includes essential non-food outlays constituting 60 per cent of total expenditures. Households with an expenditure per adult equivalent per year below the low-expenditure line are called 'low-expenditure' households.

Income. The income of rural households includes cash and others. The catalogue of income is as follows: (a) agricultural production; (b) forest and forest products; (c) non-agricultural enterprises/activities; (d) income transferred from remittances, pensions, gifts, relief goods, subsidies for children's education, and other goods and subsidies received; (e) sales from animal husbandry and animal products; (f) rents from dwellings, shops, land, water pumps, generators, tractors, livestock and loan interest; (g) wages and salaries from formal employment and migrant work minus living expenses outside the village.

$$\text{Gross income} = a + b + c + d + e + f + g.$$

Expenses similarly have various elements: (h) productive expenses, including outlays for seeds, fertilizers, pesticides, plastic sheeting, plough fees, transportation fees, machine rental fees, irrigation fees, tree seedling fees, forest management fees, agriculture taxes, other fees and costs to hire labourers; (i) rental fees for land; (j) animal husbandry expenses such as feed additives, fodder, grass, veterinarian fees and grazing fees (costs of buying animals and poultry are excluded); (k) gifts and cash sent to relatives and friends. (Depreciation of fixed productive assets is ignored because of the complexity of calculation.)

$$\text{Net income} = \text{gross income} \tilde{h} \tilde{i} \tilde{j} \tilde{k}.$$

Thus, income here includes products of agriculture and forestry, net income from non-farm activities, transferred income, subsidies, income from sales of animals and poultry, income from rentals and income from employment.

As above, net income per adult equivalent accounts for economies of scale and residence equivalence adjustments are made. Migrant households' income is net income plus their living expenses, which are deducted from their wages/salary and divided by their family size, accounting for economies of scale, but with no residence equivalence adjustment.

Consumption expenditure. Consumption expenditure includes food and

non-food items consumed by household members. Home-produced foodstuffs are counted, as well as purchased foods. Consumption includes four categories: (a) living expenses, such as staple and non-staple foods, alcohol, cigarettes, candy and tea, eating outside the home, clothes and shoes, daily necessities, and firewood if bought, gas, electricity and water; (b) transportation and communication, recreation and other services; (c) medical care and doctors' visits, medicine and hospitalization; (d) education costs such as school fees, textbook fees, insurance fees, food, accommodation, stationary and pocket money.

$$\text{Consumption expenditure} = a + b + c + d.$$

The prices of self-produced products, own-consumption goods, are set according to market prices that year where the local villagers buy and sell goods. Durable consumer goods like electronics, furniture and productive assets are omitted because it is difficult to know how long a durable good lasts and to calculate depreciation costs.

Consumption expenditure is calculated per adult equivalent with economies of scale and residence equivalence adjustments. Migrant households' consumption expenditure is consumption expenditures plus living expenses in cities divided by family size with adult equivalence and economies of scale, but no residence equivalence.

Permanent residence households. Permanent residence households are those which have rural household registration status in the village and still reside there in full or in part (Table 5.3).

The gross dependency rate of the permanent households is 51 per cent, which is higher than the 2003 average of 41 per cent in China and 45 per cent in Yunnan. The average years of education of household members

Table 5.3 Information on surveyed permanent residence households

	Household (no.)	Percentage of total households	Population (persons)
No.	473	100	1,798
Male household head	440	93.01	947
Female household head	33	6.97	851
Han Chinese	250	52.85	938
Yi	171	36.15	650
Miao	51	10.78	191
Other ethnicity	1	0.2	19
Semi-migrant and migrants	20	4.2	428
Five-guarantee	5	1.05	6

is 4.24, which is lower than the 6.61 year average for Yunnan Province (SBYNP 2006b). The permanent residence households in this study tend to have lower education, larger family size, older family members, fewer labourers, higher dependency rate, more children in school, more disabled and sick members, multiple ethnicities and lower net income and expenditure than the migrant households (Table 5.4).

Migrant households. Migrant households are those which retain their rural registration status, but in which all family members have left the village to engage in state- or non-state-sector employment elsewhere as their main source of income for longer than one year. Migrant households are not included in the analyses in this chapter. This study does attempt to analyse the characteristics of the migrant households to learn how they differ from the permanent residence households. In Jiankang, there are 46 migrant households with a total of 113 persons, of whom 73 are men and 40 are women. The male-to-female ratio is 1.82:1. Thus most of the migrants are men. The proportion of female-headed households (19 per cent) is much higher than for the permanent residence households. Female-headed migrant households are typically those in which

Table 5.4 Characteristics of permanent residence households and migrant households

<i>Household type</i>	<i>Permanent residence households</i>	<i>Migrant households</i>
Number of households	473	46
Male-headed household (households)	440	37
Female-headed household (households)	33	9
Female-headed households (%)	6.97%	19%
Household size (persons)	3.80	2.45
Adult equivalence unit (persons)	2.22	0.98
Average age of household head (years)	43	40
Average age of household members (years)	33	32
Average no. of labourers	0.64	0.88
Gross dependency ratio	51%	9%
Average years of education	4.24	6.11
Average years of education of household head	5.04	5.95
Average years of education for adults ≥ 15	4.81	6.35
Average no. of children in school (person)	0.57	0.13
Average no. of disabled persons (person)	0.22	0.04
Average no. of sick members (person)	0.60	0.13
Expenditure per capita (yuan)	2,394	8,816
Net income per capita (yuan)	3,057	8,083

Source: Household survey conducted by author.

the husband holds a formal job in the city and the wife at first maintains the rural household registration but later follows to the city. Of the migrant households, 20 are Han Chinese, 20 are Yi and 6 are Miao. About 15 migrant households are single-member households. Thus, more than half of the migrant households are ethnic minority households and many are single-member households. Of the migrants, 96 are able-bodied labourers, making up 84.95 per cent of the total migrants. There are eight dependants, yielding a gross dependency ratio of only 7.07 per cent. This is much lower than that in the permanent residence households. Most of the migrants (107 persons) are healthy. Only five suffer from a disability like stammering or have suffered minor illnesses such as appendicitis, facial paralysis, gynopathy or injury. Of all the migrants, eight are government officials, two are staff in science, health or education, eight are businesspeople, two are drivers and one is a shopkeeper. The others work in construction, factories, restaurants, as tricycle chauffeurs and the like.

To sum up, migrant households tend to be smaller than residence households, with younger family members, more labourers, a lower dependency ratio, higher education, fewer children in school, fewer disabled and sick family members, higher net income and higher expenditure (Table 5.4).

Semi-structured interviews with migrants and local villagers indicated that before they left the village their lives were similar to the lives of the permanent residence households. Yet most migrant household members considered their lives to have improved since migration. Some said that before they left the village, little was left after they paid their expenses at the end of the year. One migrant said that there was more opportunity to make money in the city. A few migrants had even bought an apartment or truck in the city. Their lives were clearly better than those of the permanent residence households. However, compared to other city folk, they were still living a hard life in the cities.

Resident equivalence scale. With the promotion of labour export or labour migration, more and more people from rural areas are leaving their villages for urban areas or other places to provide labour for some months or year-round. However, because migrants may have family members still in the village, it is difficult to disentangle the consumption expenditure of households with migrants. Households with some members migrating for labour are nonetheless different from households with all members at home, especially with respect to consumption expenditures. The consumption of a household with a migrant living elsewhere is less than that of a household with all members at home. To account for this, the current study formulates a resident equivalence scale. This scale assigns a value of 1 to residents living in the village or at home and for migrants a value of the actual months in which the migrant lives at home divided by 12 to obtain a resident equivalence score. Migrants residing away from home year-round are excluded from the calculations, because their living expenses are already subtracted from the income earned from mi-

grant labour. For example, a migrant living at home for three months is counted as 0.25 member ($3/12$ [typesetter: fraction]). One at home for eight months of the year is counted as 0.67 member ($8/12$ [typesetter: fraction]). The resident equivalence score is used to calculate the consumption expenditure and income per capita for permanent residence households with members as migrants. Note that for migrant households with all members living outside the village, there is no need to use the resident equivalence scale in calculations.

5.4 Application of the monetary approach to identify the poor

5.4.1 The ‘expenditure-poor’

There are only 16 households (3.38 per cent of total households) or 41 persons (2.28 per cent of total population) in the study villages below the national poverty line of 668 yuan (Table 5.5) in terms of expenditure, once adjustments are made for adult equivalence, economies of scale and residence equivalence. Average expenditure per adult equivalent per year with economies of scale and residence equivalence adjustments for the poor households is 403 yuan, with a range from 0 to 639 yuan. Poverty incidence is higher among female-headed households. Both the average age of the household heads and the average age of family members in poor households are higher than in non-poor households. The poor households have a smaller family size than non-poor households. There are more disabled members and fewer sick members in these poor households. Furthermore, poor households have no members in formal employment. Expenditure-poor households have few migrant members and few labourers. Only six households export labour. The gross dependency rate for poor households is lower than that for non-poor households. There are fewer students in poor households. The household head and all other household members have fewer years of education than in non-poor households. Neither do poor households consume much. Only four households consumed meat, seven households consumed clothes and shoes in the year examined, four households had transportation and communication costs, six households had health care costs and two households had educational costs.

The ‘expenditure-poor’ households are the five-guarantee households (three of the five), the elderly couple households (four), female-headed households with no husband (four), single-member households (five), households with disabled members, households with an aged head and family members, households with few migrants and labourers, households with smaller family size, those without formally employed members and households with less-educated adults (Table 5.7).

Using the national low-income line of 924 yuan, 38 households or 8.03 per cent are classified as low-expenditure households, including 109 persons (6.06 per cent of the population). This takes into account expenditure

per adult equivalent, economies of scale and residence equivalence. The low-expenditure households are similar to the expenditure-poor households. They consume less in food, meat, clothes, transportation, communication and health and education services. These households do not travel much and communicate little with the outside world, and they spend little on health and education services. Like the expenditure-poor households, the low-expenditure households are elderly couple households, households made up of single elderly women and men, female-headed households with no husband, households with disabled members, those with many dependants, male-headed households with no wife, newly separated households with young children, households with children and grandparents at home and mothers and fathers doing migrant work and young couples with small children. Compared to the better-off households, these households also have a smaller size, older household heads, older family members, more disabled members, fewer formally employed members, fewer migrant labourers, a smaller active work force, a lower gross dependency rate, fewer students and lower educational level of family members.

Using the actual-price-based national poverty line of 1,296 yuan, about 17.97 per cent of the households (85 households) and 14.51 per cent of the total population (261 persons) are identified as 'actual-price-based expenditure-poor' measured by expenditure per adult equivalent with economies of scale and residence equivalence adjustments. Using the actual-price-based national low-income line of 1,945 yuan, 42.28 per cent of the households (200 households) and 39.76 per cent of the total population (715 persons) are identified as in the low-expenditure category.

Using the World Bank's US\$1.25 per day poverty line, 39.11 per cent of the households (185 households) and 36.65 per cent of the total population (659 persons) are poor. This takes into account expenditure per adult equivalent with economies of scale and residence equivalence adjustments. Using the \$2 per day low-income line, some 78.43 per cent of the households (371) and 77.47 per cent of the population (1,393 persons) are identified (Table 5.5).

Using the local people's poverty line of 2,315 yuan, 59.61 per cent of the households (282 households) and 56.78 per cent of the total population (1,021 persons) are identified as poor, measured by expenditure per adult equivalent with economies of scale and residence equivalence adjustments. Using the local people's low-expenditure line of 3,475 yuan, about 86.89 per cent of the households (411) and 85.81 per cent of the population (1,543 persons) are under the local low-expenditure line.

As measured by expenditures, households with high health and education expenses, on one hand, are rich, because they can afford to get medical treatment and send children to school. However, the substantial outlays for health and education cause many of these households to fall into debt and poverty.

Table 5.5 Different expenditure poverty lines and poverty incidences in research villages, Jianshang

Poverty line	Criteria (yuan)	No. of households	Percentage of households	No. of people	Percentage of people
National poverty line	668	16	3.38	41	2.28
National low-income line	924	38	8.03	109	6.06
Actual-price-based national poverty line	1,296	85	17.97	261	14.51
Actual-price-based national low-income line	1,945	200	42.28	715	39.76
World Bank US \$1.25/ day	1,865	185	39.11	659	36.65
World Bank US \$2/day	2,983	371	78.43	1,393	77.47
Local poverty line	2,315	282	59.61	1,021	56.78
Local low-income line	3,475	411	86.89	1,543	85.81

Source: Author's household survey.

5.4.2 The 'income poor'

There are 33 households (6.97 per cent of the total permanent residence households) and 99 persons (5.50 per cent of the total population) that fall under the national poverty line of 668 yuan, measured by net income per adult equivalent with economies of scale and residence equivalence adjustments. Using the national low-income line of 924 yuan, 69 households (14.58 per cent of the total) are low-income households, as are 222 persons (12.34 per cent of the population) (Table 5.6). Most 'income-poor' households spend a large proportion of their money to buy seeds, fertilizer, pesticide, fodder, veterinary care for their animals and irrigation. Some sent money as a gift to relatives and friends. A few households invested to purchase livestock such as a cow or horse, or smaller animals like pigs, goats and sheep. All of the income-poor households are agricultural producers with no non-agriculture income, no salary-earning members, no village leaders, no income from sales of large livestock and little income from pig sales. Even though each of the seven households has one migrant labourer on average, the migrants generate no income after subtracting their living expenses from their earnings. Four five-guarantee households are income-poor. Also strongly represented among the income-poor are single bachelor households, elderly couple households, households with a single elderly woman and children in school, households with long-term or short-term sick members, those with elderly dependants and young children and those with many children. Female-headed households with no husband and male-headed households with no wife are among the income-poor as well.

Table 5.6 Different income poverty lines and poverty incidences in research villages, Jianshang

<i>Poverty line</i>	<i>Criteria (yuan)</i>	<i>No. of households</i>	<i>Percentage of households</i>	<i>No. of population</i>	<i>Percentage of population</i>
National poverty line	668	33	6.97	99	5.50
National low-income line	924	69	14.58	222	12.34
Actual-price-based national poverty line	1,296	110	23.25	376	20.91
Actual-price-based low-income line	1,945	202	42.74	714	39.71
World Bank US \$1.25/day	1,865	194	41.01	689	38.32
World Bank US \$2/day	2,983	283	59.61	1,028	57.17
Local poverty line	2,315	235	49.68	846	47.05
Local low-income line	3,475	321	67.86	1,190	66.18

Source: Author's household survey.

To summarize, the income-poor households and low-income households are those with small family size, elderly household heads, elderly family members, disabled family members, no formally employed members, few migrant labourers, few labourers, low gross dependency rate, few children in school, low educational levels of adult members and little income from non-agricultural activities and animal husbandry. But they do have expenses for seeds, fertilizer, pesticide, fodder and gifts. The only difference between income-poor households and low-income households is that income-poor households have a lower gross dependency rate. Low-income households have a higher gross dependency rate than both their income-poor and better-off counterparts (Table 5.7).

Using the actual-price-based national poverty line of 1,296 yuan, about 23.25 per cent of the households (110) and 376 persons (20.91 per cent of the population) are identified as the income-poor measured by net income per adult equivalent with economies of scale and residence equivalence adjustments. The actual-price-based national low-income line of 1,945 yuan identifies 42.74 per cent of the households (202) as low-income households and 714 persons (39.71 per cent of the population) as low income.

The World Bank's US\$1.25 per day at 2005 PPP poverty line identifies 41.01 per cent of the households (194) and 689 persons (38.32 per cent of the population) as income-poor measured by net income per adult equivalent.

Table 5.7 Demography of poor households and non-poor households by national income poverty line, low-income line, expenditure poverty line and low-expenditure line

Poverty line	HH (no.)	Income range (yuan)	Ave. income (yuan)	MHH (no.)	FHH (no.)	HH size (person)	Head age (year)	Ave. age (year)	Total disabled	Total sick persons (no.)
National income poor	33	537-645	354	30	3	3.00	50.96	44.19	8	14
National income non-poor	440	670-18,171	3,260	410	30	3.86	43.03	34.89	62	182
National low income	69	537-921	571	62	7	3.21	46.57	40.23	14	26
National non-low income	404	925-18,171	3,481	378	26	3.9	43.07	34.73	56	170
National expenditure poor	16	0-639	403	13	3	2.56	53.93	47.76	3	6
National expenditure non-poor	457	709-25,141	2,464	427	30	3.84	43.22	35.11	67	190
National low expenditure people	38	0-908	644	31	7	2.86	49.89	42.75	8	12
National low expenditure non-poor	435	925-25,141	2,547	409	26	3.88	43.03	34.91	62	184

Poverty line	Ethnicity HH (no.)			Formal	Ave. migrant/HH	Ave. no. of labourer	Gross dependency rate	Ave. school-children/HH	Ave. education ≥15y	Ave. head education (year)	Ave. education (year)
	Han	Yi	Miao	job member							
National income poor	20	10	3	0	0.21	0.57	0.49	0.51	2.84	2.78	2.59
National income non-poor	230	162	48	13	0.83	0.65	0.51	0.57	4.96	5.20	4.37
National low income	42	18	9	1	0.26	0.61	0.52	0.52	3.54	3.46	3.25
National non-low income	208	154	42	12	0.87	0.65	0.51	0.57	5.03	5.30	4.41
National expenditure poor	8	6	2	0	0.50	0.46	0.44	0.12	3.26	3.25	2.98
National expenditure non-poor	242	166	49	13	0.79	0.65	0.51	0.58	4.87	5.10	4.29
National low expenditure people	23	10	5	0	0.42	0.50	0.48	0.21	3.58	3.76	3.14
National low expenditure non-poor	227	162	46	13	0.82	0.66	0.51	0.60	4.92	5.15	4.34

Notes

Ave. average.

Here 'poor' means those whose income or expenditure is lower than the national poverty line of 668 yuan. 'Non-poor' means those whose income or expenditure is higher than the national poverty line of 668 yuan. 'Low income/expenditure' means those whose income or expenditure is lower than the national low-income line of 924 yuan. 'Non-low income/expenditure' means those whose income or expenditure is higher than the national low-income line of 924 yuan.

alent with economies of scale and residence equivalence adjustments. The \$2 per day low-income line identifies 59.61 per cent of the households (282) and 1,028 persons (57.17 per cent of the population) as low-income.

Using the local people's poverty line of 2,315 yuan identifies 49.68 per cent of the households (235) and 846 persons (47.05 per cent of the total) as poor, measured by net income per adult equivalent with economies of scale and residence equivalence adjustments. The 3,475 yuan local people's low-income line yields 67.86 per cent of the households (321) and 1,190 persons (66.18 per cent of the population) as low-income.

Table 5.7 shows that by using different poverty lines, different numbers of households are identified as poor. Poverty incidence even differs by just using expenditure or income poverty measures. Quite large differences are found between the percentages and the characteristics of the households identified by the income or expenditure criteria and by different poverty lines.

Expenditure is considered a better and in fact preferable measure of current and long-term welfare. Expenditures vary less than income from year to year. Expenditure data is therefore regarded as relatively stable. Not all income is consumed. Income fluctuates more, and may be difficult to measure for households that own a business. However, there are several problems with the expenditure measures here. Health expenditures fluctuate significantly from year to year. A household may spend a substantial amount of money to treat a serious disease one year, and not in another year. Some households are poor in food consumption, but their health and education expenditures may exclude them from identification as poor or low income. Measurement of durable goods expenditures is problematic. Households buy expensive durable goods sporadically and generally not yearly. Moreover, depreciation of durable goods is difficult to calculate, because it is difficult to know how many years a durable good can be used.

Some respondents were unwilling to expose their real income because of the Chinese idea that one should hide one's wealth, but most were willing to share their expenditures. Some households have 'illegal' sources of income, like making and selling charcoal, which go unreported. Indeed, the components and sources of income are difficult to estimate. Those that are not explicitly described in the questionnaire are ignored, influencing the accuracy of the results.

It is difficult for families to recall all of their expenditures and income for the past year. The more items that are included on the questionnaire for expenditure and income, and the more they are examined, the more expenditure and income emerges. Yet greater length and detail of the survey influences data accuracy, as fatigue or boredom might set in during the interviews.

Of course, the specific figures assigned for poverty line, economies of scale, adult equivalence and residence equivalence remain to a degree arbitrary in monetary poverty assessment. The poverty incidences reported

really depend on where the poverty line is set, not on how poor the local people are.

Comparing the poverty incidences found with other estimates in China and in Yunnan, people in Jiankang appear less poor in consumption and poorer in income. Poverty incidence in China was 2.8 per cent and low-income incidence was 8.1 per cent (including the poor population) in 2004 (NBSC 2005b) using the national poverty line of 668 yuan and the low-income line of 924 yuan. Poverty incidence in Yunnan in 2004 was 5.9 per cent in 2004 and the low-income incidence was 11.7 per cent. Expenditure poverty incidence in Jiankang was 2.2 per cent and the low-expenditure incidence was 6.1 per cent. Income poverty incidence in Jiankang was 5.5 per cent and the low-income incidence was 12.3 per cent using the national poverty line and low-income line. One explanation of the low poverty incidence could be the use of adult equivalence with economies of scale and residence equivalence.

Jiankang is poorer under the World Bank US\$1.25 or \$2 a day measures, both in terms of consumption and income relative to the China averages. The expenditure-poverty incidence based on the US\$1.25 per day measure in Jiankang (36.65 per cent) is much higher than China's expenditure-poverty incidence (26.4 per cent) (2005 PPP poverty line = US\$1.25). The low-expenditure incidence based on \$2 per day in Jiankang (77.47 per cent) is much higher than the average low-expenditure incidence for China (46.7.2 per cent) (2005 PPP poverty line = \$2.00) calculated by Chen and Ravallion (2008a).

The income poverty rate based on the World Bank US\$1.25 per day measure in Jiankang (38.32 per cent) was higher than the China average (17.4 per cent) (2005 PPP poverty line = US\$1.25) in 2005. Based on the \$2 per day measure, the low-income rate in Jiankang (57.17 per cent) is higher than China's average of 34.9 per cent (2005 PPP poverty line = US\$2.00) (Chen and Ravallion 2008a). There are no provincial data for Yunnan on how many persons are poor and low-income according to the World Bank \$1.25 and \$2 per day measures.

5.5 Attributes and correlations of poverty

To learn the attributes of and commonalities among the households identified, this research examined the demographic features of households found to be poor and better-off in terms of expenditure and income.

By dividing the households into ten deciles from the poorest to the richest in terms of expenditures and income, correlations can be sought with other indicators. The variables used were in each decile the number of male- and female-headed households, average household size, average age of the household head, average age of household members, total number of disabled persons and sick members, number of ethnic minority households, number of formally employed members, average number of migrants per household, average number of labourers, gross depend-

Table 5.8 Relation between expenditures and household demography in deciles

Deciles (HH)	Expenditure range (yuan)	Average expenditure (yuan)	MHH (no.)	FHH (no.)	HH size (persons)	Head age (years)	Average age (years)	Total disabled	Total sick persons
1-47	0-980	703	40	7	2.97	48	42	9	16
48-94	981-1,351	1,173	44	3	3.34	44	37	7	14
95-141	1,352-1,634	1,510	44	3	3.91	42	34	1	17
142-188	1,635-1,869	1,765	46	1	4.04	41	34	9	17
189-235	1,870-2,142	2,012	44	3	3.76	43	34	4	18
236-282	2,143-2,298	2,215	45	2	3.68	45	36	5	18
283-329	2,299-2,655	2,483	42	5	4.06	40	33	8	22
330-376	1,656-3,057	2,832	45	2	4.27	43	33	8	23
377-423	3,058-3,688	3,332	46	1	3.70	41	35	13	27
424-473	3,730-15,141	5,705	44	6	4.22	44	32	6	24
1-473	0-15,141	2,394	440	33	3.80	43	35	70	196

Deciles (HH)	Ethnicity (HH)		Formal job members	Ave. migrants	Ave. labourers	Gross dependency rate	Ave. school- children (persons)	Ave. education ≥15y (years)	Ave. head education (years)	Ave. education (years)
	Han	Yi								
1-47	31	11	5	0	0.4	0.52	0.51	3.82	3.91	3.30
48-94	19	14	14	3	0.55	0.66	0.43	4.07	4.19	3.48
95-141	26	12	9	0	0.59	0.60	0.64	4.21	4.31	3.65
142-188	23	15	9	0	0.74	0.68	0.58	5.21	5.91	4.64
189-235	24	17	6	0	0.76	0.65	0.49	4.79	4.95	4.16
236-282	20	24	3	3	0.82	0.67	0.45	4.9	4.91	4.28
283-329	23	24	0	0	1.00	0.63	0.61	4.99	5.48	4.36
330-376	25	21	1	0	0.91	0.63	0.52	5.49	5.93	4.81
377-423	22	23	2	0	0.91	0.70	0.48	4.71	5.17	4.31
424-473	36	12	2	7	1.14	0.70	0.40	5.87	5.56	5.37
1-473	250	172	51	13	0.78	0.64	0.51	4.81	5.04	4.24

Source: Author's household survey.

ency rate, average number of schoolchildren in households, average educational level of adult household members (>15 years of age), average years of education of household heads and average years of education for all household members. This produced some interesting relations (Appendix A4 and Table 5.9), which are discussed below.

Education is the indicator most strongly associated with per capita consumption and income. All education-related variables have strong positive correlations with average income and expenditure per adult equivalent. Poverty is highly correlated with illiteracy. The poorest persons have the least education. The higher the educational level of the household head, persons over 15 and all family members, the higher the average adult consumption and income per capita. The poorest deciles have less than three to four years of education on average, while the richest have more than five to seven years on average. Low education thus correlates with poverty.

Migrant work and formal work are associated with higher per capita income. Migrant work shows a very strong correlation with both per capita income and consumption expenditure (Appendices A4.4 and A4.5). The poorest households have the fewest members doing migrant work outside the village (averaging 0.27 and 0.40 migrants per household, respectively, in the income and expenditure tables). The richest households have more members doing migrant work (averaging 1.68 and 1.10 migrants per household, respectively, in the income and expenditure tables). Most non-agricultural income is from labour migration. Having a household member working in the formal sector is associated with higher per capita income; however, there is no obvious correlation with per capita expenditure. From these figures we can conclude that poor households depend mainly on income from agriculture, though income from migrant work and formal employment also substantially contribute. Rich households depend mainly on income from migration or a formal salaried job.

In general, the sex of the household members is hardly correlated with per capita income and expenditure. There are female-headed households in each group, but most female-headed households are in the poorest and richest income deciles (Appendix A4.14). The female-headed households in the poorest expenditure deciles are those of single elderly women and widows without able-bodied men. The rich female-headed households are those whose husbands have a formal job outside the village. They have access to a regular salary.

Regarding both average income and expenditure per adult equivalent, the age of household head matters. Age of household heads and average age in poor households is higher than in the non-poor households (see Table 5.8 and Table 5.9). Households consisting of elderly persons have the highest poverty incidence. The poorest deciles had the oldest household head. Also, increased per capita income and expenditure is associated with a lower average age of all household members. The poorest deciles have the highest average age of family members (40 years in the

Table 5.9 Relations between income and household demography

Deciles (HH)	Income range (yuan)	Average net income (yuan)	MHH (HH)	FHH (HH)	HH size (persons)	Head age (years)	Average age (years)	Total disabled persons	Total sick persons
1-47	-537-720	455	42	5	3.04	48.00	40.00	9	16
48-94	722-1,109	919	42	5	3.78	42.80	35.00	8	20
95-141	1,120-1,482	1,330	44	3	3.51	45.20	39.00	10	21
142-188	1,491-1,806	1,657	46	1	3.87	41.20	33.00	8	21
189-235	1,814-2,310	2,043	44	3	3.78	43.50	37.00	9	21
236-282	2,329-2,966	2,651	45	2	3.87	43.20	36.00	8	20
283-329	2,985-3,599	3,254	44	3	4.10	41.29	34.97	5	23
330-376	3,605-4,612	4,077	43	4	3.74	43.40	34.37	3	4
377-423	4,624-6,100	5,325	45	2	4.14	44.08	32.35	5	16
424-473	6,110-18,171	8,510	45	5	4.12	42.86	32.24	4	22
1-473	-537-18,171	3,057	440	33	3.80	43.58	35.54	70	196

continued overleaf

Table 5.9 continued

Deciles (HH)	Ethnicity (no. HH)		Formal job member (persons)	Ave. migrants /HH (persons)	Ave. no. of labourers /HH (persons)	Gross dependency rate	Ave. school-children /HH (persons)	Ave. education ≥ 15 y (years)	Ave. head education (years)	Ave. education (years)	
	Han	Yi									Miao
1-47	30	11	6	0	0.21	0.57	0.52	0.55	3.37	3.42	3.08
48-94	26	11	10	1	0.29	0.64	0.61	0.57	4.28	4.42	3.76
95-141	26	17	4	0	0.29	0.55	0.59	0.55	3.95	4.48	3.49
142-188	21	18	8	0	0.59	0.56	0.60	0.74	4.33	4.82	3.85
189-235	26	15	6	0	0.51	0.58	0.49	0.65	4.42	4.5	3.91
236-282	18	21	8	0	0.82	0.68	0.46	0.48	4.29	4.9	3.91
283-329	19	24	4	1	1.08	0.67	0.54	0.63	5.27	5.89	4.67
330-376	26	20	1	1	1.12	0.70	0.41	0.44	5.39	5.38	4.72
377-423	26	18	3	3	1.27	0.76	0.36	0.46	6.61	6.51	5.79
424-473	32	17	1	7	1.6	0.71	0.54	0.58	6.23	5.88	5.24
1-473	250	172	51	13	1.78	0.64	0.51	0.57	4.81	5.04	4.24

Source: Household survey by author.

income table and 42 years in the expenditure table). The richest deciles have the youngest average age of family members (32 years for both income and expenditure). Age is thus correlated with poverty, and there can be said to be an age dimension to poverty. Elderly people are more vulnerable to poverty. Elderly people easily fall into poverty, indicating the key poverty-alleviation role that a pension system could play.

The relationship between average number of students in the household and income is not obvious (see Table 5.8, Appendices A3 and A4.6). Increased per capita expenditure is associated with a higher number of children in school. The lowest two deciles in per capita consumption have the fewest children in school. The cost of education clearly makes up a large part of household expenditure. Education is one of the largest expenses for rural households in China. Identifying the poor as those with low expenditure, moreover, camouflages poverty caused by high education costs, because the households with high education expenses have high expenditure. So they do not fall into the expenditure-poor category. Though they may be poor because they spend a lot on education, they are identified as expenditure-rich households and neglected in counts of the poor using expenditure data. Many of them are in debt, however, as a result of borrowing to pay school fees.

Similarly, the number of sick members is correlated with per capita expenditure (Table 5.8, Appendices A2 and A4.7). Households with high consumption spend more on medicine. Poor households cannot afford to spend much to treat sick members, so their expenditure is low. Many households with a higher average per capita expenditure have more sick members, yet are identified as being less poor using expenditure data (Appendices A2 and A3, Appendix 4.7, Tables 5.7 and 5.8). Using only expenditure to identify the poor also masks households that have sick members but cannot afford treatment.

The size of the households seems to be positively related to per capita consumption and income (Tables 5.8 and 5.9, Appendices A2, A3 and A4.8 and A4.9). Poor households tend to be small in size. The increase of per capita consumption and income accelerates as household size increases. This can be explained by the fact that poor households tend to be made up of a single man or woman or an elderly couple, or they are the five-guarantee households. This is confirmed by findings from the participatory poverty assessment. Family size is declining thanks to family planning. Few households have a large family nowadays. The maximum family size is eight members, with the average family size 3.8 persons. This finding is interesting since most literature shows larger household size to be correlated with lower per capita consumption. A higher gross dependency rate, defined as the proportion of household members younger than 15 or older than 65, is also correlated with lower per capita consumption and income. The current study found that households with more children and elderly are poorer than those with fewer children and elderly. Average number of labourers is positively associated with per capita in-

come and consumption. Households with more labourers earn more and consume more per capita.

Regarding the number of disabled persons in the different deciles, higher per capita income is associated with fewer disabled persons in the household (Table 5.9, Appendices A3, A4.10, A5). This shows the influence of disability on a person's contribution to household income. Households with more disabled persons have less income and are poorer. So disability is also a cause of income poverty. However, disability is hardly correlated with per capita consumption. While disabled persons do not contribute much to income generation, these households do not spend much to treat the disabled.

From the number of ethnic households in the different deciles, Miao households emerge as the poorest in terms of both expenditure and income (Appendices A4.11 and A4.12). Yi households are less poor in terms of expenditure (Appendix A4.13). Han Chinese households are more equally distributed among the categories. This finding underlines the disadvantaged status of Yi and Miao people. Yi households tend to have more expenditure. The incidence of Miao households decreases as income increases, while for Han and for Yi households little difference is observed. There are relatively more poor Miao households than Han and Yi households.

To summarize, some household characteristics have the same effect on average income and average expenditure. Education is strongly correlated with both per capita income and expenditure. Households with more migrants and formally employed members are also on average better off in terms of both income and expenditure. The size of the households is another indicator that is positively related to per capita consumption and income. Small households are more vulnerable to poverty. Households made up of a single man or woman or an elderly couple have a greater risk of being poor. At the same time, households with more dependants are poorer than those with fewer dependants. The average number of labourers is also related to both per capita income and expenditure. Though the age of the household head and household members is correlated with per capita income and expenditure, the relation is an inverse one. Households with more labourers have a higher per capita income and consumption.

Some household characteristics have a different effect on income and on expenditure. Average number of children in school, for instance, is positively correlated with per capita expenditure, but hardly associated with average income. The number of sick members is correlated with per capita expenditure, yet not with per capita income. This reveals that health poverty and poverty caused by high education fees are masked when expenditures are used to identify the poor, because the households with high expenditures on health and education are labelled as expenditure-rich, and thus fall above the expenditure poverty line (Gustafsson and Li 2004). Households spending a lot on health and education will not be included among the poor if they have patients in treatment at

home and students in high school or college, even if these households are therefore in debt.

The number of disabled persons is negatively correlated with household income. Yet having disabled members is hardly related to consumption. This means using an income poverty line captures the disabled persons' situation, while using an expenditure line to assess poverty would probably overlook the plight of disabled persons.

In general, income-poor households are those with less educated heads and household members, fewer migrant labourers, no formally employed members, older household heads and members, more disabled members, smaller family size, lower gross dependency rate, fewer labourers and often Miao ethnicity.

The expenditure-poor households are those with less-educated heads and household members, older household heads and members, fewer children in school, fewer sick members, smaller family size, lower gross dependency rate, fewer labourers and often Miao ethnicity.

The poor households as measured using the monetary poverty approach are those with little education, old age, fewer migrant workers, fewer labourers, more dependants, smaller household size and no formally employed members.

5.6 Critical reflection on the exercise

This chapter used a monetary poverty line to identify the poor among 473 households using household survey data from the nine research villagers' groups in Jiankang. Income and expenditure poverty lines generated data that could be generalized and compared with other regions. Some economic concepts, like the adult equivalence scale, economies of scale and the residence equivalence scale, were applied in the measurement. Some new poverty lines were also applied to measure poverty, like the actual-price-based national poverty line and low-income line and the local people's poverty line and low-income line. Most of these concepts and measures had never before been applied in the context of China. They are part of the value-added of this research. In sum, using different poverty lines yields different poverty incidences and identifies different persons as poor. However, there exist several outstanding issues at the operational level, regarding the household survey and the poverty line itself.

5.6.1 Problems with the poverty line

Poverty measured using a poverty line identifies only those households that are poor in terms of income and expenditure. Yet income and expenditure are not robust indicators for measuring the complicated and multidimensional nature of poverty. The monetary poverty line approach assumes that money can buy health, education and other services at any time and in any place (Saith 2005). By focusing narrowly on

income or food, the poverty line undervalues broader notions of human deprivation. Dimensions like health, education, access to common property, public provisioning, household assets, infrastructure and participation are neglected by monetary poverty line measures (Saith 2004, 2005). The monetary approach thus turns out to be one-dimensional and blind to the sociopolitical dynamics underlying the persistence and reproduction of poverty, like marginalization and social exclusion. The voices and perspectives of the poor – which are crucial in the context of designing development interventions – are missed in the monetary approach. The approach ignores inequality and hides, condones, legitimizes and perpetuates inequality in poverty reduction (Saith 2004, 2005). Neither does a monetary poverty line tell why the poor are poor and how to help poor people rise out of poverty.

Poverty caused, for example, by high education fees and health expenses is neglected using an expenditure poverty line to assess poverty. Correlating expenditure and income with household characteristics showed that the number of sick members and students is associated with per capita expenditure. However, households with high expenditure on health and education are excluded from the expenditure-poor. Yet some of these households even sell off assets, or go into debt, to purchase health and education services (Saith 2005). Health expenditures fluctuate from year to year, meaning that they are difficult to analyse. For example, the household with the second-highest expenditure per adult equivalent is one with a 60,000-yuan medical fee as a result of a family member's car accident. Its per capita living expenses are only 454 yuan, which is far below the poverty line. However, because the medical cost is included in the poverty measurement, the household emerges as the richest in the village.

Households with disabled persons are also easily neglected by expenditure poverty indicators, because lower expenditure is not correlated with the number of disabled members. Furthermore, Miao ethnicity households are poor in terms of both income and expenditure.

The unit of analysis is the household. Intra-households disparities are ignored in resource access, consumption and other entitlements. Also neglected are household assets that imply a store of value that can be converted into cash in case of income fluctuation.

The poverty threshold and poverty line used turned out to be largely arbitrary. To set the poverty line, estimation procedures are needed for the composition of the food basket, an adult equivalence scale, resident equivalence, economies of scale, intersectoral and interregional variations in diet and prices and income distribution. The national poverty line is determined using the 2,100 or 2,400 k-calorie requirement. The income poverty line does not adequately take into account the calories needed for the kind of hard work and extended labour performed by a significant proportion of the population, especially the poor (Saith 2005). The poverty line uses the lowest-priced calories. However, it is difficult for the poor to find cheap food baskets, and if they can it is difficult to know

just what they decide to consume. The actual price of the basket goods is often much higher than the prices used in setting the poverty line. The national poverty line is less than one third of the local people's poverty line. The national poverty line (668 yuan) is only half of the actual-price-based national poverty line (1,296 yuan). The local people's poverty line is more than double the current national poverty line. The current national poverty line and low-income line are too low for people to survive and so they fail to identify all of the people who, because of poverty, are having difficulty surviving.

This income- and expenditure-based understanding of poverty implies that poor households can escape poverty by increasing their income to above the poverty line. The resulting policies mainly emphasize economic growth and distribution of monetary income. However, these neglect the root causes of poverty, such as the lack of public services. Without tackling the root causes of poverty, any results will be short-term.

5.6.2 Problems with measurement

Measuring the incidence of poverty using an income or expenditure poverty line has several weaknesses. Methodological assumptions and choices have to be made in the estimation procedure, for instance, regarding the composition of the food basket, the adult equivalence scale, intersectoral and interregional variations in diet and prices and income distribution data. Conceptual and practical problems arise in measurements of household income and expenses and in making cost-of-living comparisons when prices and household characteristics are so different. Such problems relate, for instance, to adult equivalence scales, economies of scale and resident equivalence adjustments to deal with differences in household size, demographics and migrants. For example, the household with the highest expenditure per adult equivalent is a migrant household with a total income of 11,234 yuan and total expenditure of 18,500 yuan. However, using resident equivalence to calculate this household's expenditure per adult equivalent yields 57,334 yuan. If no resident equivalence scale is used, the expenditure per adult equivalent is only 9,150 yuan. With the equivalence scale, the household is falsely identified as the richest one.

At the operational level, household income and expenditure data are considered time-consuming and difficult to collect, often inaccurate and, overall, a cumbersome undertaking. In the current study, more than one to two hours was spent with each household because of the complexity of the questionnaire. More than a month and more than ten interviewers were needed to conduct the household survey. A sufficiently large dose of patience and willingness was also required of the respondents. It is easy for the interviewees and interviewers to get bored and tired during a one- to two-hour interview. The interviewers might conduct three or four household interviews per day; and interviewees might sometimes

lose concentration in answering so many questions. This influences the quality of the data. The design, pre-test and answering of the questionnaires, the entering of data, cleaning the data and analysis of data are time-consuming as well and require patience and concentration. Moreover, it is expensive. The researcher must be familiar with the village situation, as the quality of the questionnaire and the variables hinges on the researcher's knowledge about the local circumstances. Managing statistical software like STATA or SPSS also requires expertise.

Interviewers and interviewees' assumptions and attitudes, moreover, influence the results of the survey. Some interviewees adjust their answers according to their guess of the purpose of the survey. If they think the survey is a forerunner to poverty alleviation support, they will try to underestimate their income and overestimate their expenses and other items to make their household seem poorer. Some households try to avoid reporting income from labour export, business or other hidden sources. Households are more willing to expose their expenditures than their income. Interviewees always expect potential poverty alleviation projects to help them. They always link the household survey with some possible support in the future; this raises an expectation of support, even though the researcher tells them the survey is just for research. A few households did not at first want to be interviewed, but were eventually persuaded. They considered the survey to be meaningless because no action would follow, or they doubted that the interviewers would record their responses correctly (the interviews with these were in the end done by the author). One household in Jiaguan deliberately provided wrong information. This reflects the arbitrary nature of such survey data.

It is difficult to use a poverty line to calculate and identify the poor. Household production overall, production for own-consumption and labour (including payment of workers with meals) are difficult to capture, remember and calculate. Many respondents could not remember exact figures for income and expenditure. It was difficult for household members to recall their expenditures and income for the whole year. Reliability is thus an important consideration with questions involving recollection of yearly income and expenditures. Income from agriculture is underestimated. Many self-produced and self-consumed grains and vegetables are excluded. Small amounts of income are especially difficult to remember.

Another issue reported by the local officials and reflected in the data collected is that productive costs can include only investments to buy items like fertilizer. Self-provisioned seeds, other self-provisioned items and self-invested inputs like labour and manure are not included in productive costs. Thus, income is overstated for households that have such self-provisioned goods.

Consumption expenditure of the households is generally underestimated. It is easy to ascertain the cost of food from the market. However, it is difficult to count the food produced by the households. Usually, house-

holds remember only the production for sale. They underestimate the amount of food consumed themselves. Foods like corn and potatoes are home-produced and used as human food, animal feed, for sale, for seed and, sometimes, to exchange for rice. It is difficult for households to recall how much was eaten by humans and livestock, and how much was saved as seed. Most households slaughtered one or two pigs to eat in a year, with other pigs being sold. Expenditures for health care are generally underestimated. Some households and interviewers just skipped or neglected the medical fee portion. A final issue with the survey is that greater numbers of questions on expenditure lead to recording a higher expenditure.

It is difficult to deal with the income and expenditure of migrants and of salary-earning members of permanent residence households who consume in different places with different prices and living standards. These migrants contribute to the household income, yet they are not consuming within the households, so household members who work elsewhere year-round are excluded from consumption expenditures. This study created a resident equivalence scale to deal with migrants in permanent residence households. Yet problems appear here, too.

Local interviewers can obtain more accurate information than outsider interviewers. Because local people know each other's situation, it is difficult for interviewees to lie. So it is important that the survey be done by local people who know the households well. The only problem with the interview method is that households may underestimate their income and mask their savings. Interviews at different times and with different interviewers will get different answers from the same household. Interviewing different persons (for example the husband and wife) within the same household will also produce different answers. Different interviewers have different understandings of the questions and answers, and interviewees have different patterns of responding. Training and skill are needed for the interviewers to understand and answer the questionnaire better. It is preferable to hire several interviewers in one village, so that the differences become apparent and also to prevent interviewers from becoming bored with the job. However, this results in more diversified answers and related difficulties in analysing the data. In this study, one or two of the interviewers got information for some households from the village accountant or filled in the forms themselves, because they thought they knew the households well enough, even though the author emphasized the need to visit the households and that after the interview the interviewees must sign the questionnaire form. Many interviewees were illiterate, which gave the interviewer a chance to cheat.

Missing items make the questionnaires difficult to analyse or might even render them useless. A tiny mistake might cause a big difference in results. Finally, a household survey is a one-off assessment; it cannot capture transient and chronic poverty.

6 Participatory poverty assessment: ‘We are the poor’

6.1 Introduction

The previous two chapters applied, respectively, the official poverty identification method and the monetary approach to identify the poor. These methods were found to be rather arbitrary, objective, political and imposed by outsiders. We would like to know whether participatory poverty assessment could do a better job. What kinds of households and with what socioeconomic characteristics would the villagers themselves identify as poor? Do local and village-level politics provide a supportive environment for the participatory approach? What are the barriers to participatory poverty assessment in China?

This chapter looks at the use of participatory poverty assessment at the village level and tries to answer these questions. Section 6.2 discusses the process and data for participatory poverty assessment. Section 6.3 looks at the history of poverty in the village and how poverty has been understood by villagers at different times. Section 6.4 analyses the definition of poverty from the villagers’ perspective using a gender lens and a multidimensionality lens. Section 6.5 looks at the complicated causes of poverty. Section 6.6 presents the stratification and wealth ranking carried out by villagers and summarizes the characteristics of households viewed as the absolute poor, middle-income or average and non-poor. It also recaps the poverty indicators that the local villagers used to identify poor households. Section 6.7 discusses characteristics of the poor and non-poor households as revealed by participatory poverty assessment (PPA). Section 6.8 summarizes the complex dynamics of poverty across seasons, years and through life. Section 6.9 talks about solutions and strategies for poverty reduction in the immediate, short, medium and long term. Section 6.10 analyses the official participatory politics at the village level. Section 6.11 reflects on the exercise.

6.2 Process and data for participatory poverty assessment

Five techniques and tools were adopted in the PPA exercise:

- 1 key informant interviews from the national level down to the provincial, county, township, villagers' committee and villagers' group level to gain insight into the local situation;
- 2 non-participant observation;
- 3 oral history;
- 4 household-level, individual unstructured and semi-structured interviews;
- 5 village focus group discussions.

Key informant interviews were conducted with officials at the national, provincial, county, and township level and with village leaders to gain data on the local economic and social situation. Discussants were asked their understandings of poverty, who the poor are, characteristics of the poor, the causes of poverty and constraints facing the area, along with possible and existing solutions, strategies and policies.

Non-participant observation was implemented throughout the field-work. As researcher, I lived in the village, and from my position as an outsider/insider I visited and participated in most activities in the study villages. I attended funerals, weddings, ceremonies, festival dinners, Christian prayers, farm work, circumcisions and villager leaders' working sessions to observe farmers' daily lives. At the same time, I chatted with as many people as possible to learn their views on poverty, poverty identification and poverty alleviation. Sometimes I played poker or mah-jong, watched television and even went to fish or picnic with the villagers. These activities provided me with opportunities to observe their daily work and lives and to understand their thinking about poverty, ways of identifying poor households and ways to overcome poverty.

Oral history was conveyed by elderly women and men exploring their experiences with poverty from childhood to the present. These villagers talked about how people and the government had viewed poverty in different periods.

Unstructured and semi-structured interviews were carried out with 74 respondents – women and men of different ethnicities and ages – to ascertain their perspectives on poverty, the history of poverty, their own life stories, changes in the villages and so forth. Most interviews were carried out in an informal discussion format.

Focus group discussions were conducted with men's groups, women's groups, sometimes elderly men or women's groups and ethnic groups in each of the nine villagers' groups for two to three hours in the evenings (Box 6.1). A total of 21 groups of men, women and children were involved in the discussions. Usually, four to twelve people participated in each, divided along gender and sometimes age and ethnicity lines. People were

Box 6.1 Themes discussed during focus group discussions

- History of the village
- What is their understanding of poverty
- Criteria for poverty
- Poverty in different periods
- Causes of poverty and solutions to poverty
- Government's solutions to poverty
- Local farmers' solutions to poverty
- Categories for village household stratification
- Reasons for categorization
- Poverty dynamics of households or households falling into or rising out of poverty in recent years
- Characteristics of households in different categories
- Seasonal and vulnerability calendar
- Gender labour distribution

invited by the village leaders one to two days before the agreed meeting time. I brought candies for the women and men, cigarettes for men and sometimes liquor to liven up the atmosphere. All of us sat around a table in a circle to ensure that everyone could participate. I started by introducing myself, my assistant and my research and they introduced themselves. I used flip charts and markers to record participants' main points. I raised a topic and facilitated the discussion. I wrote the participants' opinions and drew representative symbols for those who were unable to read.

Discussions started with the history of the village followed by people's understanding of poverty, the causes of poverty, current solutions (the people's and the government's solutions). After that, I asked them to do a wealth ranking. I gave the group a pile of cards each representing one household with the household head's name on it. The names of the household heads had been provided by the villagers' group leaders and accountants. I suggested they start by qualifying categories of households and then allocate the cards to different piles representing the categories. The farmers did the ranking according to their own criteria into two, three or four categories. Then I asked the reasons why specific households had been put in the respective piles. Discussants gave detailed descriptions of the households, including size, labourers, dependants, children in school, livestock ownership and special circumstances, like disability, disease and death of family members. We then discussed the case of households who might have fallen into poverty or risen out of poverty in recent years, which households these were and what triggers might have caused the movements. If time allowed, we touched on subjects like the seasonal calendar and gender relations.

The dataset used in this chapter is from the results of this participatory poverty assessment (PPA) for 494 households by men's and women's focus groups based on local participants' criteria and categories of poverty in the nine villagers' groups in Jiankang Villagers' Committee.

6.3 Background and history of poverty

6.3.1 Poverty before 1950

Before 1950, famine played a decisive role in the lives of people in Jiankang. Natural disasters often occurred on a yearly basis. Until the 1940s, most households owned no land. This lack of land was one cause of poverty and famine at that time. Residents rented land to plant, and some households even worked as labourers on landlords' land to earn a living. In fact, Jiankang society was highly inegalitarian and heavily taxed by landlords. Most households struggled to obtain sufficient food and clothes, which, together with obtaining housing, were the biggest problems facing the local villagers. Insecurity was another big problem for local villagers. The life of the villagers was difficult during this period. Most worked as labourers. Without land, they had only wild vegetables to eat and few clothes to wear. Poor boys and all girls could not attend school. There was no infrastructure and no health and education services. However, the natural resources were quite rich at that time.

6.3.2 Poverty between the 1950s and 1970s

In 1949, the People's Republic of China was established. From the 1950s to the 1970s, the Maoist era, most land was owned by the commune. Households were given a vegetable garden plot. Villagers earned work points to trade for food and income from the commune. Lack of food and clothing was still the most obvious manifestation of poverty. With the coupon system, villagers could only buy cloth and satisfy daily food needs. Working long hours and hard labour for the commune were frequently mentioned as a form of poverty. Women worked longer and harder, caring for children, doing housework, carrying goods and at the same time working like men in the fields. Labour distribution was skewed. There was thus gender inequality in the village. Basic health and education services were provided by the commune. People could afford education and health care, yet men and women did not have equal access to education. Families preferred to educate boys, and this was often cited as a factor limiting the education of girls. There was no running water and no electricity. There was only one horse-driven cart per village. Some trees were cut and sold to earn income for the commune.

Apart from gender divisions, life during the Maoist era was quite egalitarian. Work points were exchanged for food and income. Most farmers

were poor and were used to it. The commune provided welfare for the five-guarantee households and a safety net for the very poor households in times of need. Most houses had straw roofs at this time; a few had tiled roofs later in the 1970s.

6.3.3 Poverty from the 1980s to the present

With the shift from a planned economy to a market economy, land distribution to households proved an effective way to reduce poverty. Agricultural production increased, people had more assets and food. Villagers' lives also began to improve. Some households are even becoming rich, though most remain poor or low income. A few households face food shortages for one to five months of the year. Almost all households have a tiled roof and an adobe or brick house nowadays. Villagers can afford to buy clothes and shoes. All boys and girls attend primary school. Most students go to middle school, though fewer attend high school and college. There are basic medical services, electricity and running water (except in Keshuqi), and most villages have road access. However, middle school, high school and college and health care services remain too expensive for many households.

The PPA produced a clear picture and vivid stories about the history of poverty and changes in poverty in the different periods in the village. Life is changing, and people's experience of poverty is changing in concert. At first, villagers had no food to eat, no clothes to wear, no schooling, no health care, no security and no infrastructure. After the 1950s, limited food, clothes, services and infrastructure became available, though working hours were long. Today, health and education services are available but expensive; working hours remain long and productivity is low. Poverty is viewed as a changing phenomenon and as multidimensional. From this compiled history, we see that people's views and experiences of poverty have changed over the different periods. The participatory approach captures perspectives that would be overlooked using other approaches. This exercise sheds light on the limitations of using only a monetary approach, measuring income or expenditure, to assess poverty.

6.3.4 Ethnicity, women, social exclusion and poverty

Ethnic minority groups usually live in remote mountainous areas, in valleys or in forests, where living conditions are harsh. Inability to speak Mandarin and low educational attainment further prevent ethnic groups from interacting with the outside world, and they become more marginalized. Miao and Yi tend to have less education than the Han Chinese. They have poor access to schools. Distance and the language barrier in school increase the drop-out rate for ethnic students. Illiteracy among the Yi and Miao is higher than amongst the Han Chinese. Geographical

inaccessibility of clinics and hospitals and the high cost of medical care prevent most of the poor ethnic minorities from accessing health care. Yet at the micro level, if the Yi ethnic group is dominant, the Han Chinese feel marginalized, because they do not speak the ethnic language and do not share the culture. This is the situation in Jiankang natural village, where the Yi are dominant. Yet overall, the Yi and Miao people are more disadvantaged and vulnerable to poverty and social deprivation than the other cultural groups. The Yi and Miao have fewer social and economic resources. They have fewer assets and are poorer than the Han Chinese. They may be even worse off in terms of their economic opportunities and labour market position.

Traditional roles prescribe that 'men deal with external affairs, while women deal with domestic affairs' (*nan zhu wai, nv zhu nei*). Women view themselves as poorer than men and as having a harder time than men, especially those women who live in poor households. In general, women are excluded from cultural, political and economic aspects of life. Most housework is done by women. Men seldom cook, wash or clean at home. Even though women participate in agricultural work like men, few women have economic decision-making authority in the home. Local villagers laugh at those men whose wives make decisions or manage the household finances. Women do tend to be consulted, but they are not the final decision-makers. Jiankang is still a male-dominated society.

Culturally, women were excluded from educational opportunities in the past. Women overall have less education than men. Cultural and economic exclusion also causes political exclusion; only one out of the seven villagers' committee members is a woman. Men are typically the ones to attend the village or group meetings. A root cause of women's poverty is social exclusion. To reduce women's poverty the focus must therefore be on eliminating the exclusion of women and discrimination against them (Wang 2006).

Another hidden group who are discriminated against are the male-headed households with no wife. These are households made up of a father and son, or father and children whose mother died, divorced or ran away, or single bachelors unable to find a wife or who cannot conceive a child. Men from these households also perceive themselves to be inferior to other people. Because there is no woman at home, they have difficulty managing their households, and many of these men drink a lot. Couples with no children spend most of their money getting infertility treatment and worry about not having support when they grow old. This puts these households, too, among the poorer and more vulnerable. Yet such households are seldom considered in poverty reduction policy. Women and male-headed households with no wife and couples with no children are prone to various types of poverty. This curtails their social and economic opportunities and leads to multifaceted social exclusion.

The aspects of ethnicity, gender and social exclusion are difficult to capture using quantitative poverty identification approaches, because of their broadness and the associated sensitivities, politics, dynamics and relational and relative aspects. PPA can capture them and probe their relation with poverty.

6.4 Local people's definition of poverty

Poverty is a multidimensional concept for local villagers. Their view of poverty is made up of their experiences, perceptions, feelings and livelihoods. For them, poverty has a mixture of causes, outcomes, factors and indicators. The PPA explored the local concept of poverty, which is presented here as the local people themselves perceive it. Women's views are different from men's, and the views of the richer are different from those of the poorer. The first important thing people mentioned about poverty is lack of assets. The second was the scarcity of state-provided commodities, like roads, markets, education, health care and telephone services. Third was family ties, or structure, quality of life, vulnerability and insecurity, dignity and common property resources.

A concept of poverty (Baulch 1996) can be built in line with these local villagers' perspectives:

poverty = assets + state-provided commodities + family ties + quality of life + vulnerability and insecurity + dignity + autonomy.

Gender plays a role in definitions and experiences of poverty and can be studied by examining assets along with access to and control of resources.

6.4.1 Assets

Following the livelihood framework (Ellis 2000), Table 6.1 presents the assets and constraints mentioned as important in the villages. Natural assets tend to be the first and most important assets reported by both men and women. Elderly women and ethnic women mention cold weather, high altitude, poor quality of land and hard freezing. Men, women, the elderly and even children must work in farming year-round and rely on farming to make a living. They viewed poor farming conditions as the most important element of poverty.

Poor farming conditions leads to long growth periods for crops and low productivity of land. As such, villagers viewed lack of or limited natural resources as a key element of poverty. In the past, villagers grazed their livestock in forests. With the policies of forest closure and conversion of cultivated land into forest, trees have been planted in former fields.

The lack of land was raised by men, women and children's groups as an element of poverty. Some villagers said that everybody had the same size

of land, while others said there were still some households with less land and poorer-quality land.

Physical assets in a broad sense were mentioned all the time by all the groups. These included both durable assets and productive assets. Durable assets were a key indicator of wealth in the eyes of the villagers. A television set, washing machine and sewing machine were viewed as important for women and children. Children's groups also mentioned a watch and sofa as important assets. Women and children stay at home more than men, while men engage in social networking at night, visiting other households. So a television set is more important for women and children. Washing and sewing is mostly done by women, so women see these amenities as important. Children view having a watch as important because they need to know the time to get to school. Telephones and cellular telephones were mentioned in several men's groups, because the social aspect of communication with the outside world was important for men.

Lack of productive assets was viewed as another indicator of poverty. A women's group mentioned diesel engines and fodder cutters. A diesel engine can be used to pump water to vegetables and potatoes to increase productivity. A fodder cutter makes the task of preparing pig feed easier, and so reduces women's workload. Cattle and horses are other productive assets. Cattle are used for ploughing and driving a cart. Horses are used to drive a cart and to carry things.

Both men and women mentioned the unaffordability of houses or lack of money to buy one. Children's groups mentioned not having a brick house as a sign of poverty. Housing is important for everyone, because it provides not only shelter, but also a home.

The lack of livestock, for example pigs, goats, sheep, cattle and horses, was mentioned by all groups. Livestock is viewed not only as an asset in itself, but also as a source of manure. Lack of manure leads to low farm productivity and, in turn, low harvest and low income. Livestock is also a safety net. Animals can be sold in times of emergency when money or cash is needed. Pigs and chickens provide nutrition for the family. Small pigs and chickens can be killed to treat guests when there is no other food to eat. As mentioned above, large livestock, like cattle and horses, can carry things and as such conserve human energy.

One women's group in Jiankang mentioned a food shortage for half of the year as an indication of poverty. Some women and children viewed a lack of food, rice scarcity and hunger as poverty. Within the household, women and children are most vulnerable to this type of poverty.

Lack of human assets was among the most frequently mentioned indicators of poverty. Sickness and disability were viewed as important causes of poverty. Sickness and disability not only lead to physical weakness and lost labour, but also to dependence and increased expenditure. Money is needed to treat or to care for the sick and disabled, so villagers link these conditions with poverty. Women and children considered the lack of labour or having only a few labourers and many dependants as pov-

erty. Lack of labour and many dependants means more work for women, and in labour-scarce households children have to work even when they are very young. Ethnic women's groups considered single-parent households as poor, because one person had to both care for the children and work. When the children were too young to work, these households lacked labour.

Both men and women viewed illiteracy as a key aspect of poverty, and two women's groups considered short-sightedness, narrow-mindedness, rigidity, slow-wittedness and being old-fashioned as signs of poverty. Because such people could not accept new ideas and technology, they could not plan with the times, which was viewed as a cause of poverty.

Several men's groups emphasized social assets. Men linked lack of social relations with poverty, because without such relations their children could not find a job after their graduation from college. They even linked a lack of social relations with no motivation to attend school. Both men and women pointed out the lack of poverty alleviation resources because they lacked social and political relations with upper-level agencies. Women even said that poverty alleviation resources were not equally and fairly distributed among all households or all villages. Newly married households were poor because they had scant supporting social networks and few assets. At the same time, they had less labour available. Those with children were recognized as even more vulnerable.

Women's groups and children's groups viewed households with loans and credits as worse off. Because women and children are less able to earn than men, they worried more about borrowing. Both men and women conceptualized poverty in terms of a lack of income or cash. Having no money was mentioned by both men and women. Nonetheless, both groups focussed more on the consumption that money or income can purchase. Money is needed to buy salt, food, fertilizer and clothes and to access services, especially education and health care. Men pay attention to large amounts and investments needed to do business, to buy a house, to raise livestock and to buy production inputs. Women focus more on small amounts for running the household, like cash to purchase salt, grain, food and clothing and to pay children's school fees and health care fees. Children focus more on lack of money to pay school fees and for daily necessities. Without this cash, they are unable to attend school. Both men and women were concerned about a lack of sources of income other than potato sales. All groups mentioned the dearth of income sources as a key missing asset. This is the villagers' main concern regarding their livelihoods.

6.4.2 State-provided commodities

Villagers mentioned the absence of several state-provided commodities as a sign of poverty. These included an adequate market, roads, means of transportation, telephone and cellular telephone services and schools. Even

Table 6.1 Summarized assets and constraints from the participatory poverty assessment

<i>Assets and constraints</i>	<i>Assets and constraints mentioned by all groups</i>	<i>Assets and constraints mentioned by men's groups</i>	<i>Assets and constraints mentioned by women's groups</i>	<i>Assets and constraints mentioned by children's groups</i>
Natural assets/ constraints	Cold weather, high altitude, low temperature, natural disasters, poor quality of land, , inability to harvest more than one crop	Cold weather, high altitude, natural disaster, strong wind, limited land, poor quality of land, lack of grazing area, lack of grass and fodder for livestock, limited access to forest, limited access to firewood	Only one season for crop, cold weather; high altitude, natural disaster; little land, low quality of land	–
Physical assets/ constraints	Poor quality of house; no livestock, goats and , no market,	No telephone and cell phone network, no livestock, no market, no tap water, no bridge, high productive input, low productivity, no transportation,	No machine, no television set, washing machine, sewing machine, diesel engine, fodder cutter, no water for irrigation, no livestock, no food shortage, lack of rice and hunger	No television set, washing machine, sewing machine, wristwatch, sofa, lack of food, especially rice, and hunger
Human assets/ constraints	Sickness, disability, illiteracy	Only primary or secondary education, no science and technology, ethnic area with low education, high dependency,	Lack of labour, many dependants, sick family member, death of family member, disability, single family, no education	–
Social assets/ constraints	No social and political relations with government and upper level administrators	No social and political relations and network with government and upper level administrators	No social relations	–
Financial assets/ constraints	No income or cash, having loans and credit, no saving, expensive health and education.	No source of income, no money to do business, to buy a house, to buy new variety of seeds, to raise livestock, or to buy production inputs	No saving, having loans and credit, no source of income, no cash to buy salt, food, fertilizer and clothes, expensive to access education and health care, no diversified source of income	Having to take loans and credit, no money to pay school fees

though there is a Sunday market in Jiankang, it is mostly for local people to buy basic necessities. Outsiders seldom come, except seasonally to buy mushrooms and potatoes. The Chadian and Wuding market are far away. Even if local villagers produce potatoes, radishes and corn, without a local market and buyers they cannot sell them. Villagers viewed the distance and inaccessibility of the county market as an indicator of poverty.

It was interesting to note that most men's groups viewed inconvenient transportation, seasonality of roads and lack of road access in the mountains as major manifestations of poverty. Labour wasted carrying things was conceptualized as poverty. Only one women's group viewed inconvenience of transport to carry produce, like potatoes, as poverty. Children's groups also mentioned transportation. Inconvenience of transportation limits villagers' ability to sell their products elsewhere for a better price. Locals have to sell cheap and things they buy are expensive.

Even though some villagers had money to install a telephone, because of quotas (a minimum of 20 households are required), they could not get a telephone connection. Here again we see that even if one household has money, it cannot buy everything. State-provided commodities are especially out of reach. Income poverty measures overlook access to state-provided commodities.

Education and health should be state-provided commodities. However, affordability of and access to education and health services is a huge issue for the villagers. Women conceptualized poverty as the inability to support children through primary and middle school, and many middle school students dropped out. Sickness and disability were caused by the lack of state-provided health care facilities and the unaffordability of the services on offer. Local villagers could not afford to pay outright high medical fees to treat serious diseases, so debt pushes these households into poverty.

A women's group pointed out the lack of a pension system as a kind of poverty. Women felt more vulnerable to ageing without social security. No social security, insurance or pension, reduced income and worsening health on ageing made rural people and elderly feel insecure, vulnerable and marginalized. Most rural elderly were self-dependent or relied upon their families for support.

6.4.3 *Family ties or structure*

Women paid more attention than men to family ties and structures. The poorest households in the eyes of the women's groups were those with an incomplete family structure, such as the absence of mother, father, wife, husband or children. Women therefore viewed households of bachelors, elderly couples living alone, five-guarantee households, female-headed households with no husband and male-headed households with no wife as the poorest households, while men's groups could not agree on a poorest category. In this research, single male-headed households

were identified by villagers as obviously poor. Having no wife was regularly mentioned by both men and women as a cause of poverty. The Yi elderly women's group in Keshuqi considered poor households to be those with no wife, those that could not find or afford a wife and those where the wife had left. Here, having no wife represented not only the lack of money to marry (a bachelor had to pay more than 8,000 yuan to marry). No wife (and no son) was viewed as poverty from a social perspective, too, as it represented a lack of family ties and lack of potential social capital. These families could not draw on a wife's social network in times of emergency, like food shortages. Villagers viewed the number of bachelors in a household as a key indicator of poverty. If a village had many bachelors, that meant the village was very poor, because nobody wanted to marry there, or its men could not afford to marry. The male-to-female sex ratio in the study area was 1.15:1,¹ higher than the 1.07:1 in Yunnan as a whole in 2003 (SBYNP 2004b) and the 1.06:1 in China in 2002 (NBSC 2003).

In individual interviews, men and women mentioned couples with no children or no son as being poor for several reasons. First, these couples had to spend money to treat infertility in order to have a child. This pushed them into poverty. Second, local villagers viewed not having children as shameful. They felt that something had to be wrong with the wife or the husband, or local villagers suspected that they might have done something bad in their last life or present life and were being punished with barrenness in the here-and-now. Third, women were still viewed as the medium to carry on the ancestral line and continue the husband's lineage.

In China, girls are usually married out and sons remain at home to care for the parents. Without a son, there was no one to care for the parents when they grew too old to work. Without a son, families felt insecure and worried about ageing. Women considered elderly parents living alone together as poor, and young people considered couples living apart in their old age as poor. This view of poverty has a psychological and gender inequality aspect as well. Miao families did not view lack of a son or wife as poverty.

Villagers also mentioned households with parents who had died young as poor. First, poverty was absolutely inherited. If there were no parents, there would be no assets like a house. Moreover, society in rural areas revolves around acquaintanceships. Households without parents were discriminated against and bullied. They had less social support and smaller networks. There were fewer relatives to provide help and support. Men's groups especially viewed not having parents within the household, apart from a lack of a wife, son and children, as being a sign of bad luck, misfortune and poverty.

Villagers also mentioned other aspects of poverty. For example, a new variety of crops turning out to be unsuitable because of the cold weather and an old crop variety having low productivity and a long growth period

were aspects mentioned by a women's group. A women's group identified lack of fertilizer as a sign of poverty, as this productive input and knowledge of fertilizer use were necessary for a bountiful harvest. A women's group pointed out inequality as another aspect of poverty. Inequality was obvious at the village level. Children's groups also pointed out that some people did not want to work, so they were poor.

With migration on the rise, the family structure has changed. The elderly and children are left behind in the villages, while the mother and father migrate. The Yi elderly women's group reflected that the elderly have to care for and bring up the children. Some children are not taken care of by anybody and play truant from school. When the elderly get sick, there is no one to care for them and the children.

6.4.4 *Quality of life*

Quality of life was mentioned in relation to three aspects: free time, health and leisure. Working long hours was frequently mentioned by women (only one men's group mentioned it). Women's reproductive roles combined with productive tasks took most of their time, especially in Jiankang natural village. The logging ban and forest closure have increased the time and energy women must invest to collect firewood and fodder. One men's group mentioned that they worked from dawn to nightfall. Long working hours with little to eat weakened the villagers and made them vulnerable to disease. Many villagers suffered rheumatism because of working in the rainy season and getting cold in winter. Lack of money to treat disease caused disability and chronic, long-term sickness. The sick had a lower quality of life than healthy people.

As a result of migration of the young generation, the elderly at home have to work harder. They do all of the farm work and household chores and take care of the children. Some elderly do not even share in the money generated from migrant labour. They live apart from the young couples. The elderly feel their quality of life and well-being suffer after family members migrate.

6.4.5 *Dignity*

Poverty leads to a loss of dignity. Poor villagers viewed poverty as shameful. Both men and women were shy about saying they were poor. Having a house in disrepair and torn clothing, both for children and adults, or having no clothes (in children's groups), was viewed by children and women as a form of poverty. Owing somebody money was seen as compromising one's dignity, not only as a lack of financial resources. Women and children viewed having a loan or credit and people asking for repayment as a loss of dignity. Women treated borrowing food from others as an element of poverty. This, too, was associated with a loss of dignity. Men seldom involved themselves in borrowing food. Working

in old age also reflected a loss of dignity, because it showed that the children did not support their parents, were having difficulty supporting them or were disobedient. One women's group conceptualized poverty as the inability to support children in school; with children having to migrate for labour upon dropping out of primary or middle school. They also felt a loss of dignity when children too young to migrate for work had to drop out of school. However, in the face of poverty, dignity became less important.

Poverty robs people of their dignity. In the hope of receiving poverty relief funds, some people fought to be recognized as poor, regardless of the loss of dignity and shame. This also happened in the official poor identification exercise. The government's poverty alleviation policies fostered this attitude of 'waiting for, depending on and asking for' help to a certain degree, causing local people to forgo their dignity in the hope of receiving support.

6.4.6 *Autonomy*

Individual autonomy includes independence and freedom to make one's own choices. However, because of poverty, many villagers could not make their own choices. Working in old age is viewed as poverty because the elderly have no choice other than to earn a living. An elderly women's group also viewed helping with someone else's farm work as poverty. Lack of money for support meant that children had to drop out of primary or middle school to work; they had no autonomy to choose to go to school.

6.4.7 *Vulnerability and insecurity*

Natural disasters like flood, drought, wind and hail storms were mentioned by all groups. Vulnerability increases in times of natural disasters. Most years are marked by some kind of disaster. A flood might flush away crops. Drought, wind and hail storms might destroy or reduce harvests. Hard frost in January might damage crops. Crops might suffer disease or pests, reducing the harvest. Food might be lacking. Livestock disease could cause death or loss of animals. Animal diseases made it difficult to raise chickens and pigs. Death of family members led not only to a loss of social ties and labour, but also to an additional expense for the funeral.

One disaster on top of another causes vulnerability and insecurity for households. The effects are cumulative in terms of increasing vulnerability to future events. Vulnerability is not only physical but also psychosocial, reflected in high levels of perceived insecurity. Indeed, security was another problem villagers worried about. They feared that corn or potatoes would be stolen at harvest time and that grain, meat and cattle would be stolen before the Chinese New Year. Livestock, like cattle, had been stolen in the past few years from several households.

Having loans and credit also made the poor worry and feel insecure. Local people often lacked safe drinking water, owing to drought in April and May and to flood pollution in June, July and August. Lack of safe drinking water affected people's health, with polluted water causing diarrhoea, especially in children. It made the villagers more vulnerable to disease.

A few people had been injured or died in migrant labour, as they had worked in dangerous jobs like coal-mining or machine operation. Some migrants who were not paid after a long period of work suffered lack of food and shelter in the city.

Poor households were more vulnerable than non-poor households, because the poor had fewer resources with which to cope. Women felt more insecurity than men. Women keenly felt the lack of a pension and lack of a son. Women worried more about insecurity, for instance not having any money saved except for food. They worried about having only enough grain for half a year and living from hand to mouth, only earning only fertilizer fees and having nothing left. Women often assumed the responsibility for making ends meet when the household's real income fell. Women felt more vulnerable and insecure in life because of their vulnerability and disadvantaged position in society.

To summarize, people in Jiankang are vulnerable and insecure because of natural disasters, livestock disease, human illnesses, fluctuations in harvests, forest closure, fluctuations of grain prices, fluctuations of expenses, food shortages and lack of safe drinking water year-round, with disasters often striking in concert.

Local people's perception of poverty is multidimensional. It starts with lack of assets, state-provided commodities and family ties and goes on to encompass a miserable quality of life, lack of dignity and autonomy, vulnerability and insecurity. PPA is expressly designed to grasp the complexities of local life using locally derived categories and definitions and to enable the unexpected to emerge (Shaffer 2002). Many of these aspects can only be obtained using semi-structured and in-depth interviews and by asking open-ended questions. In this study many of the questions asked depended on the answers already obtained. Some aspects, like lack of social capital, family ties, dignity and autonomy, could never be captured or measured by other approaches. This review also shows that even having money does not mean that one can buy what one needs. State-provided commodities, dignity and autonomy may still be lacking. These aspects go beyond the economic to encompass a broader social and economic perspective, including even cultural dimensions which cannot be captured by the monetary approach. Some aspects are even location- or community-specific, like having a wife or a son.

6.5 Causes of poverty

It is difficult to say which aspects are causes of poverty, which aspects are consequences of poverty and which are indicators. Many, like disability and disease, are all three and form a vicious cycle of poverty. Yet there is

a difference between perceptions of poverty, criteria for assessing poverty and perceptions of the causes of poverty. Not having a cow, for example, is a sign of poverty, but some people do not lack a cow because they are poor. Furthermore, different groups have different views on the causes of poverty at the village and household level. At the village level, poor natural conditions, like cold weather, high altitude, poor quality of land, poor transportation, lack of a bridge, natural disaster and lack of a market, are the main causes mentioned or identified by most or all groups. The causes of poverty at the household level are disease, supporting children in school, old age, not earning much in labour migration and having little knowledge of science and technology.

Men's groups focus more on lack of social capital and relationships, the absence of industries, for example mining, lack of government investment, lack of or low education, poor communication infrastructure, living in an ethnic minority area, backward thinking, narrow-mindedness and lack of technology and investment. Women's groups focus more on long working hours, lack of a pension and working even at a very old age. The rich say that poverty in some households is caused by laziness, lack of intensive farming, bad planning and stupidity. The poor have their own difficulties and constraints to face. The poor say that sickness, disease, supporting children in school, ageing and death of family members cause poverty.

Thus, the different groups cite different causes of poverty. This renders the causes of poverty very difficult to capture using other approaches. The participatory approach can capture this multiplicity, both the gender perspective and the different views of different groups.

6.6 Stratification and wealth ranking

Based on the discussion above of definitions of poverty, generally households were divided into three categories by the men's and women's groups: poor, middle-income or average and non-poor. Three women's groups in three villagers' groups decided on four groups, including a 'poorest' category as well. Men's groups did not include a poorest category.

In total, the men's groups ranked 493 households and the women's groups ranked 494 households. In the participatory wealth ranking (PWR) exercises, local villagers merged some households which they thought should be counted as one, like a parents' household with a son's household, because they lived together, or grandchildren living with the parents while the son's household had migrated for work. Of all 493 permanent residence households, 456 were male-headed households and 37 were female-headed. Female-headed households make up to 7.50 per cent of the total households.

In the men's ranking, 161 households (32.66 per cent) were categorized as poor. About 40.5 per cent of the female-headed households (15 out of 37 households) were categorized as poor. Only 32.00 per cent of

Table 6.2 Participatory wealth ranking by men's groups

<i>Category</i>	<i>No. of HH</i>	<i>Percentage</i>	<i>Percentage cumulative</i>	<i>FHH</i>	<i>MHH</i>
Poor HH	161	32.66	32.66	15	146
Middle HH	251	50.91	83.57	13	238
Non-poor HH	81	16.43	100.00	9	72
Total	493	100.00	–	37	456

Source: Men's focus group discussion results in the research villages.

Notes

HH households

FHH female-headed households

MHH male-headed households.

the male-headed households were viewed as poor. Thus, the PWR identifies relatively more female-headed households as poor households. Around 238 households or 50.91 per cent were middle-level households. Poor and middle-level households (equivalent to low-income incidence) were 83.57 per cent. Only about 81 households or 16.43 per cent were non-poor (Table 6.2).

The women's groups identified 44 households or 8.91 per cent as poorest households. About 181 households or 36.46 per cent were identified as poor households. Including the poorest under the 'poor' category, household poverty incidence is 45.55 per cent. Of the total, 51.35 per cent of female-headed households (19 out of 37 households) are poor. Only 45.07 per cent of the male-headed households are poor. Middle-level households numbered 186, or 40.04 per cent. Cumulative poor and middle-level incidence was 87.03 per cent. Around 71 households or

Table 6.3 Participatory wealth ranking by women's groups

<i>Category</i>	<i>No. of HH</i>	<i>Percentage</i>	<i>Percentage cumulative</i>	<i>FHH</i>	<i>MHH</i>
Poorest HH	44	8.91	8.91	5	39
Poor HH	181	36.64	45.55	14	167
Middle HH	198	40.04	85.63	12	186
Non-poor HH	71	14.37	100.00	6	65
Total	494	100.00	–	37	457

Source: Women's focus group discussion results in the research villages.

Notes

HH households

FHH female-headed households

MHH male-headed households.

14.37 per cent of the total were non-poor (Table 6.3).

Compared with the poverty incidence of 38.70 per cent from the official poverty identification exercise, the poverty incidence of the women's PWR (45.55 per cent) is higher, and that of the men (32.66 per cent) is lower. However, the summed poverty and low-income incidence from the official poverty identification exercise is higher than the PWR results of both the men (83.58 per cent) and the women (85.63 per cent). Poverty incidence and the summed poverty and middle-income incidence of both the men's and women's PWR exercises are much higher than the poverty incidence (3.38 per cent) and poverty plus low-income incidence (8.03 per cent) using the national poverty line and measured by expenditure per adult equivalent with economies of scale and resident equivalence adjustments. However, incidence using the local people's poverty line (59.61 per cent) is much higher than either men's or women's PWR results. Interestingly, the result using the local people's poverty and low-income incidence (86.89 per cent) measured by expenditure per adult equivalent with economies of scale and resident equivalence adjustments is similar to the PWR results of the men's groups (83.57 per cent) and women's groups (85.63 per cent). This means that in general, the participatory approach and monetary approach have a similar view on poverty and average incidences.

Overall, the overlap between the men's and the women's PWR results of poor households, average and middle-level households and non-poor households is more than 62.98 per cent. This overlap is quite high. More than half of the households identified by the men's groups as poor, average and non-poor were also identified as poor, average and non-poor by the women's groups. Surprisingly, the overlap of poor and average households is especially strong, at more than 98.54 per cent for the men's

Table 6.4 Overlapping of women's and men's PWR results

Category	No. of HH in men's groups	No. of HH in women's groups	No. of HH overlap b/w men & women's groups	Overlap % for men's groups	Overlap % for women's groups
Poor HH	161	225	110	68.32	48.89
Middle HH	251	198	161	64.14	81.13
Poor and middle HH	412	423	406	98.54	95.98
Non-poor HH	81	71	49	60.49	69.01
Total	493	494	320	62.98	66.34

Source: Women's focus group discussion results in research villages.

Note
HH households.

groups and 95.98 per cent for the women's groups (Table 6.4). Thus, men and women are largely in agreement on which households are poor, which households are average and which households are non-poor.

Comparing the wealth ranking of men and women, it becomes obvious that women view most households as poorer than perceived by the men. Women also have more categories of poverty than do men. Women ranked more female-headed households as poor. Poverty in the village is more severe in the eyes of the women. Perhaps this is because women feel more vulnerable and insecure than men under poverty. Women's poverty is also more severe than men's, and they suffer the effects of poverty far more than men.

Our results show that the basic categorization used to stratify and rank poor households is very different from one group to the next and from one villagers' group to another. Even within the same villagers' group, the results differed between the men's group and the women's group. The poverty incidence found by the different groups is therefore also different. Interestingly, the poor villagers' groups identify fewer poor households than the relatively rich villagers' groups. Thus, poverty's relative aspect is underlined by the participatory approach. In addition, the ranking of poor households and poverty incidence is not comparable across different villagers' groups or between the different groups.

6.7 Characteristics of poor and non-poor households

There are obvious differences between the poor and non-poor households identified by the different groups. The common characteristics of poor households identified by almost all are the following: being a five-guarantee household; households with a disabled member; single-member households; elderly households; households with sick members; households with more than two children in school; and households with no livestock. There were also differences between the results of the men's groups and those of the women's groups and between the rich and the poor. Women's groups identify incomplete households, single households, bachelors' households, female-headed households with young children, households whose partner has passed away and households without sufficient food as poor households. Poverty also has a gendered face. Female-headed single households and female-headed households with many young children were ranked as the poorest households by women. Households with disabled members, long-term sick or hospitalized members and those with mentally ill members were also among the poorest as identified by women's groups. An important finding that has been overlooked in previous research is that bachelor households and male-headed households with no wife or able-bodied women are ranked among the poor or even amongst the poorest households (see the family structure section for more detail).

Men's groups also identify as poor households those with no manure and no money to buy fertilizer, low productivity households, households with a wife who has run away, households with no children, households with no house, households struck by natural disasters, households with many sons and households with no men.

From the differences between the views of the men's and women's groups, it can be concluded that family structure and ties, lack of food, illness, disability and a female head are important poverty indicators for women. Women place more value on family and food. Women are the ones who care for the disabled and ill. Men tend to associate poverty more with productivity, production inputs, housing and natural disaster (Tables 6.5 and 6.6).

There are other differences in views between the men's and women's groups. Women's groups view non-poor households as those with rice and meat at each meal, money, household electrical appliances like a refrigerator and washing machine and furniture such as a sofa and cabinet. Women pay more attention to food and furniture because they are the ones in charge of food and they stay at home more, using the furniture and appliances most of the time. Men emphasize housing, skills, education, livestock and diligence. Men have more education, and they benefit more from education. Women are less educated and benefit little from their education. Women feed livestock, but men sell livestock for cash. In classifying households, the richer villagers focus more on income and economic situation. The poorer focus more on assets.

The characteristics common among average or middle-level households for most groups are not having sick members, having enough food and clothing, having some livestock and having some migrant labour.

From the commonalities among the households identified, we can summarize that the households identified as poor using the participatory approach are not poor in only one dimension, or in only income terms, but they are poor in both a monetary and a non-monetary sense. Local people apply multiple criteria, both social and economic, quantifiable and non-quantifiable. Yet there are some differences in views on poverty. Perspectives of the poorer households are different from those of the non-poor. Men's perspectives are different from women's. The participatory approach captures these differences. Many of these household characteristics cannot be quantified or measured and thus tend to be overlooked by quantitative approaches.

In sum, indicators or criteria like family structure, occupation of family members (formal and migrant employment), health of family members, number of dependants, number of labourers, number of livestock, condition of the house, assets owned, number of children in school, educational level, health of family members, encounters with natural or man-made disasters and owing on loans or credit are drawn upon to characterize households as poor or non-poor. All residents of the study villages, richer and poorer, viewed important indicators to be health, livestock, number

Table 6.5 Summarized characteristics of households by PPA

Characteristics		Absolute poor HH		Average HH	Non-poor HH
		Poorest	Poor		
Family structure		Disabled, single, elderly couples living alone, five-guarantee HH, bachelors, female-headed HH with young children, female-headed elderly single HH	Handicapped/mentally ill family member, single-person HH, newly separated HH with no house, female-headed household in which the male head has died, family member has died, wife run away, or cannot afford to have a wife, elderly weak couple HH	Complete family	Complete family
Occupation of family members		All are farmers	With casual migrant labour	With migrant labour	Having salaried or formal employment, long-term migrant labour, many migrating to cities, businesses, a shop, village leader, skilful members
Sources of income		Single source of income, from farming	Farming as single source of income	Some varied income sources	Various income sources
Assets	Land	No land	Little land	Some land	Large land
	House	No house or small house in disrepair	Adobe brick house	Adobe brick house	Brick cement house, concrete house, multiple houses, good houses
	Durable	No television	No television	Black & white television or colour television	Colour television, telephone, cell phone, vehicle
	Livestock	No livestock	No or few livestock, no or lost large livestock	Some livestock	Many livestock, cattle, horses, goats/sheep
	Labour	No labour	Little labour	Some labour	Many labourers
	Dependants	Old and young dependants	Old and young dependants	Few dependants	No dependants
	School	Cannot afford to send children to primary and middle school	More than two children in school, many young and old dependents, a member cannot speak Chinese	Children in school, Chinese speaking	High education, Chinese-speaking
	Education	Little education	Little education	Some education	High education

<i>Characteristics</i>	<i>Absolute poor HH</i>		<i>Average HH</i>	<i>Non-poor HH</i>
	<i>Poorest</i>	<i>Poor</i>		
Health	Members suffer from long-term diseases or are hospitalized for some time, a family member died	Members suffer from long-term diseases or are hospitalized for some time or often fall sick, a family member has died	Healthy members	Healthy members
Loans/credit		Own loans/credit		No loans
Savings	No savings	No savings	Little savings	Have savings
Vulnerability	Natural or man-made disasters	Land might flood, natural or man-made disasters	Few natural or man-made disasters encountered	No natural or man-made disasters encountered

Table 6.6 Summarized indicators of poverty from participatory wealth ranking

<i>Dimension/context variables</i>		<i>Local indicators (household level)</i>
Family structure		Complete family or incomplete family; lack of parents, husband, wife or children; family member who has died in recent years, such as a family with no adult man or woman, or family with no able-bodied adult man or woman; female-headed households with no husband; male-headed households with no wife; five-guarantee households
Income		Type of employment: casual wage labour, labour migration, salaried or own business (scale, number) or shop; sources of income; amount of income from different sources; number of earners/size of family
Assets	Productive assets	Land holdings (size, irrigation); livestock (number of pigs, goats and sheep, cattle, horses); owner of means of transportation (car, truck); other productive machinery
	Physical assets	Concrete house or brick cement or adobe house; electrical appliance like television set, telephone, refrigerator, washing machine; furniture like sofa or cabinet; clothes
	Human assets or capabilities/human and social capital	Number of children in school; adult and children's education; skills of members; dependants/labourers; long-term sick members; major expenses for health care treatments; old age/inability to work; disabled or mentally ill member
	Financial assets	Debt, loans, credit and savings
Basic needs		Food security: months of food shortage, number of meals containing meat per week, staple food is rice or corn (wheat)
Special circumstances		Death and illness of family members, loss of large livestock, other man-made or natural disasters

of migrants and number of children in school. Indicators like diligence, cleverness and planning skills, though often mentioned, were more difficult to measure and capture.

6.8 Dynamics of poverty

6.8.1 *Lifecycle poverty dynamics*

The historical section of this chapter mentioned that the definition of poverty has evolved over time. For rural villagers, poverty is dynamic, seasonal and mobile. Entering into, escaping from or remaining in poverty is common even within a single year, over several years or over one's lifetime. Households can fall into and rise out of poverty in different years, or in difficult periods during a year. Individuals might be in and out of poverty several times in their lifetime. During the focus group discussions with men in Jiankang regarding poverty dynamics, they described life-cycle changes in poverty in a general sense (Table 6.7). 'Poverty dynamics' has been defined as the processes of social change that increase, reduce or perpetuate poverty in a broad sense, including long-term processes generating transitory poverty, concerns with tracking change and causes of poverty that go beyond income or consumption (Shaffer 2002).

In a lifetime, for instance, from 0 to 70 years of age, a person might encounter several episodes of poverty. From 0 to 15 years of age is the happiest time in life, when there is nothing to worry about. From age 18 to 22, individuals need to think about making money and marrying. Young people migrate for labour, but they are happy. They have parents to depend on, so they are not poor. From 22 to 28, life becomes harder and people tend to become poorer. Most marry in this period. After marriage, they separate from their parents and form a new household. They need to think about food and clothes, and more assets are needed for the new household to earn a living. After giving birth to children, one person has to care for the children, so only one person can work on the land. Because the children

Table 6.7 Poverty dynamics in the lifecycle

<i>Age</i>	
0–15:	Childhood: happy life, not poor
8–22:	Setting up for future responsibility: not poor
22–28:	Marriage, bringing up children, need for more assets: poor
28–35:	Children to feed/clothe: happy time, not very poor
35–40:	Children's middle school education: heavier burden, poor
40–45:	Children's labour starts to pay off: not poor
45–50:	Marriage of children: little land left, poor
50–70:	Old age: no labour, no source of income, poorest

are young, the husband cannot migrate for employment. Nobody can provide help. To raise and care for children is a heavy burden. The household is poor, economically and socially, in this period. From 28 to 35 years old, children attend school. This is a happy time; the couple has labour for work. However the economic burden of supporting children in school is heavy. The household is not especially poor. From age 35 to 40, the children attend middle school and the older generation is starting to age. There is little support from the older generation. The economic burden increases because of supporting the children in school. At this stage, the household is poor. From 40 to 45 years old, after the children enter the labour market, the economic situation improves and the household becomes better off. Around 45 to 50 years of age, when the children are old enough to marry, the parents must save and borrow money to support their children's marriage, especially if they have more than one son. They have to build a house and buy wedding gifts for the son(s). Children then separate from the household. Land is divided amongst the sons' households. Little land is left. The parents get poorer as they age. They have to pay for the funeral when their own parents die. Life worsens. After 50 years of age, they too are getting older and have less ability to work hard and fewer or no income sources. Life worsens until death, around 70 years of age. Women have a similar lifecycle as men. However, women live longer than men. Some women live a miserable life in their final years. They live alone because of difficult relationships with daughters-in-law. Elderly people from rich and obedient families have a better life than those from poor families. They don't need to work hard, and their children support them until they die.

To summarize, over a lifetime, with marriage, raising children, supporting children in school, building a house, supporting children's marriage, dividing lands, obtaining support (or not) from parents, paying funeral expenses for parents and ageing are the big events or periods that determine people's poverty status. However, participating in labour migration, gaining support from parents, sending children to primary school and children becoming labourers able to help support the family enables them to rise above poverty.

Poverty is not the only dynamic in a lifecycle. Even in the space of several years, households can move into and out of poverty for various reasons. Natural disasters are commonly mentioned by villagers in Jiankang. When the farmers get poor-quality seed, fertilizer and pesticide, a reduction in agricultural output results. This sends the household into poverty. Crop and livestock prices in some years, for example 2006, were quite low, forcing some households into poverty. Farmers say that the things they need to buy are expensive, while the things they have to sell are cheap. Using the participatory approach it is difficult to accurately calculate how many households fall into or rise above poverty.

6.8.2 Seasonality within a year

Even within a year, a household can be better or worse off because of events over the seasonal calendar. Many households in Jiankang experience food shortage for three to four months in June, July and August before the harvest in September. Some households have corn or wheat as staple foods, which are not their preferred foods. Some household have to dig potatoes from the field before they are mature to overcome food shortages. But later their potatoes are quickly depleted. This forms a vicious cycle. Many households lack cooking oil and meat to eat between June and the end of the year before they slaughter their annual pig. They rely only on selling potatoes and mushrooms to buy rice and meat and may eat only one meal with meat every two weeks. There is a dire cash shortage in January, February, March and April. During these months cash is needed to buy food, clothes (before the Chinese New Year) and seed and fertilizer for the productive season. Children need to pay school fees in March and September.

6.8.3 Dynamics from non-poverty to poverty

Several events might push households from non-poor to average and from average to poor. Sickness can cause a household to fall into poverty. A family member who suffers from a mental illness can also lead a household into poverty. This is mainly due to the resultant loss of labour. The household also has to take care of the one who is ill and spend money and energy to find a doctor. Family members also feel stress and suffering with a mental patient at home. Death of a family member, like a parent or spouse, may cause a household to fall into poverty. On one hand, labour and a source of income are lost. On the other, funeral fees usurp household money, and psychological pain from the loss affects normal life.

Divorce of a couple causes a loss of labour and source of income. It also affects the households psychologically, often pushing them into poverty. Death or loss of large livestock, like cattle, horses, sheep, goats or pigs, may drive a household into poverty. Loss of cattle or a horse is not only a loss of labour to drive a cart and carry things, it is also a loss of income for emergencies, such as to send children to school or to treat sick family members. When livestock is stolen, the household has to borrow or rent livestock or expend more labour to carry things.

More than two children in school, especially middle school and high school, means that households need to spend money on school fees, accommodation and food for the children. Sending a child to college absolutely drives a household into poverty for several years.

House building may also drive a household into poverty. Villagers have little savings. When a household builds a house, they must borrow money from relatives, friends and the credit cooperative. In the following years,

the household must repay the money, so it is driven into poverty for several years.

6.8.4 Dynamics from poverty to non-poverty

Livestock husbandry is one way for a household to rise out of poverty. Livestock is regarded as a key asset, not only as a source of manure but also as a source of cash. Livestock that is easy to raise and breed produce more livestock to sell, giving the household access to cash.

Labour migration can similarly make a household better off. Agriculture is characterized as insecure, with profit being low and often absent. Production levels on household farms are also low. When a family member migrates for labour, their expenses at home are saved. At the same time, they might send money home to help the household. The household situation can thus be improved. Households can improve their harvests by investing remittances in production inputs. When children are grown, money is no longer needed for education; when the labour force grows, more production can be achieved, and then the household is better off. Having a wife again after a previous wife leaves also makes a household better off. The wife can provide labour, contribute to planning and organize the household so that it is less poor. Parents can help a household to improve its situation.

The PPA reveals that the dynamics of poverty go beyond what economic analyses can measure. There are socioeconomic and even cultural aspects of poverty dynamics and reasons behind movements into or out of poverty, by month, over a year, over several years and over the life-cycle. These aspects cannot be uncovered by approaches using a purely economic analytical framework. However, these aspects or variables are location-specific, irregular and differ from one household to the next and over time. They are therefore not comparable and cannot be generalized. At the same time, it is difficult for participatory approaches to capture quantitative aspects of the dynamics of poverty, such as how many households rise above or fall into poverty on a yearly or monthly basis. PPA exercises grasp the dynamics of poverty, reasons for poverty dynamics and processes of poverty dynamics, but they cannot capture numbers of households in poverty mobility.

6.9 Solutions and strategies for poverty reduction

Local people have their own strategies and solutions to reduce poverty. Different groups have different strategies at the village level and the household level, for the immediate, short, medium and long term.

The main short-term and medium-term strategies mentioned by most groups were infrastructure improvements: road building, bridge building, establishment of irrigation systems, farm structure adjustments, market provision, labour migration and disaster preparation and reduc-

tion. At the household level, strategies were labour migration, animal husbandry and relief support. Immediate strategies mentioned by one women's group were taking a loan, borrowing money, buying things on credit, relief from relatives, working as helpers, labour migration and collecting mushrooms, tree blossom and herbs.

Long-term strategies included resettlement and planting trees to reduce disasters. Men's groups focused on new science and technology for agriculture and farming cash crops. Social security and relief were mentioned for the elderly and disabled. The elderly had no strategies or solutions to overcome poverty, because they had lost their ability to work in their old age. This pointed to the absence of social security and pension and relief systems at the village level. Social security, a pension system and an effective relief system are strategies for poverty alleviation for the elderly and disabled people who cannot rise out of poverty in the current situation. Even though health and education were two areas that drag households into poverty, local people did not dare mention any strategies for health and education. For the villagers, perhaps health insurance and education services seemed too luxurious to contemplate.

PPA involves locals in conceptualizing poverty, identifying the poor, identifying strategies for poverty reduction and in design, implementation, monitoring and evaluation of poverty reduction programmes. Such involvement could empower them, help them to satisfy their specific needs, produce suitable priorities and improve the overall success of the anti-poverty programmes.

Though different strategies were identified using the participatory approach, some groups proved unable to come up with strategies. Perhaps they were limited by their current knowledge. Or they could not imagine a way to reduce poverty, since they saw no solutions to it and no way out. Their inability might have been related to their disappointment with the current situation. Women, especially old women, appeared especially powerless, vulnerable and at their wits' end in the face of poverty. Or perhaps it was because marketization is not working here. Finally, villagers saw many problems of poverty as structural – like ageing, disability, health, education – and difficult to solve with simple strategies.

6.10 New village-level official participatory politics

PPA cannot be implemented in a vacuum. It is embedded in a process of social change and problem solving, inseparable from the idea of action. Participation at the village level is shaped by a range of factors and processes that influence it at every turn. Institutional, social and political features of the national and local context are critical in creating an enabling environment for the poor to be involved in action (Brock 2002). The political and policy environment, government officials' ideologies, attitudes and behaviours, local power relations and rural people's capacities play key roles in influencing the poor's participation. They also

determine whether PPA can usefully be implemented. NGOs and government have shown interest in participatory approaches and are starting to use them to engage villagers in project design, implementation, monitoring and evaluation (COHD 2004) and in poverty identification (LGOPAD 2005b). China is embracing participation slowly and gradually under the top-down framework. The government is eager to promote participation and a combination of top-down and bottom-up approaches to poverty assessment and reduction (LGOPAD 2005b). The introduction of elections for the villagers' committee (MCAPRC 1998) in Jiankang confirms government's willingness to promote democracy and has led to a greater openness in decision-making at the village level.

Even with this slow and gradual progress, there are still obstacles, constraints and limitations for PPA. These reduce its potential to be implemented in a transformative manner in China under the current top-down system, with the current political ideology and framework. PPA enables poor people to participate in poverty identification and strategy development, to change their own perspectives on themselves and on poverty, to build their capacities and become empowered to take part in poverty reduction. However, does the national framework, political ideology and philosophy create space for the poor to participate, and allow such change? Do local village leaders allow villagers to participate?

The top-down system and associated political ideology and philosophy in China definitely conflicts with the bottom-up approach and participative nature proposed by PPA. Government officials and village leaders are still used to the top-down approach, attitude and behaviour. Local government officials and village leaders tend to view and behave towards farmers as they have long done within the top-down system. This attitude hampers farmers' participation. Government officials, the bureaucracy and village leaders may thus constitute an obstacle to effective processes of participation (Thomas 1985; Oakley *et al.* 1991).

Implementation of PPAs challenges government officials and village leaders. Promotion of participatory approaches might be seen by government officials and village leaders as threatening their position and power or as unable to bring benefits. The government wants to promote participation, and villagers want to participate in poverty identification, but in Jiankang the villagers' group leaders do not want the villagers to participate in the process. They feared that the participation of villagers might affect the power and interests of privileged and elite groups, weakening their authority and influencing the control of resources gained from their authority. Village leaders think they can represent the poor; there is therefore no need to expand involvement in local decision-making. However, many villagers in Jiankang hold that the villagers' group and committee inadequately represent their interests. Or a leader might say that participation causes too many conflicts, so it is easier for them to just make decisions to avoid the conflict, as in the case of Jiazhu and Jiayan in Jiankang. Village leaders might

even ignore requests to implement participatory approaches that they consider villagers to be incapable of performing. Perhaps participation, or village politics entirely, is increasingly irrelevant with the growing number of out-migrants. Many villagers in Jiankang do not realize they have the right to participate, and few have the knowledge and skills to perform their role. Villagers and households do understand their own problems and needs, but there are limited avenues and spaces open to them to be involved in decision-making. Neither is there sufficient space for the poor to participate in the process. Little work has been done to build participatory institutions or to institutionalize participation. PPAs should be carried out by local villagers, but this is seldom the case. Most of the time, PPAs are undertaken by outsiders. Considerable resources are required to have staff conduct a PPA in every village. Of course, the Chinese government has not allocated the required resources for PPAs at the village level.

PPA emphasizes facilitation of political and social change in favour of the dispossessed; it therefore goes beyond making policies and projects work better for the poor (Blackburn and Holland 1998). A merely technical shift cannot challenge dominant power relations (Brock 2002). To facilitate PPA implementation, philosophical, ideological, political, attitudinal, behavioural and structural changes are needed among government officials and village leaders to create space for the poor to participate in poverty reduction processes. This requires a shift from the current use of PPAs as an instrumental tool to make the PPAs a transformative process. Villagers need to be equipped with skills, knowledge and training to understand their rights, how government operates and the bureaucratic process (Plummer and Taylor 2004). Yet it is an arduous task to change the bureaucratic culture, to adjust the attitudes and behaviour of leaders and officials and to decentralize power from government bureaucrats and build local people's capacity in the short term.

6.11 Reflection on the exercise

PPA provides a method for villagers themselves to review the history of poverty, to define poverty and who the poor are, to examine the reasons for poverty and poverty's dynamics and to derive strategies to possibly overcome poverty. It emphasizes the right of the poor to participate in defining and analysing the multidimensional and dynamic nature of poverty and the need for field methods to capture these phenomena in processes from the poor's perspectives (Brock 2002). PPA helps to capture the multidimensionality of poverty at the village level. It offers a holistic and people-centred approach to determination of poverty and wealth ranking. Villagers generate their own criteria to rank poverty or wealth. This asserts the primacy of local knowledge over externally determined arbitrary measurement criteria. The villagers know the community, the households and poverty better than outsiders. PPA can

capture the perspectives of women, the elderly and ethnic minorities on poverty.

The conceptual and analytical framework of poverty and its dynamics, as identified using PPA, go beyond income poverty to reach a broader social, economic, cultural and political understanding. Poverty from the local villagers' perspective is tied to a lack of access to different kinds of assets, a lack of state-provided commodities, poor quality of life and lack of dignity and autonomy. The result is individual deprivation, vulnerability and powerlessness. Poverty has various manifestations: not having enough food to eat; not having enough clothes to wear; ill health; limited or no education; limited health care for the ill; no pension system; no access to roads; and no communication infrastructure. Some aspects are intangible, or cannot be captured, quantified and measured by a monetary approach. Broadening the concept of poverty challenges the orthodoxy of poverty analysis up to now and highlights the wider analytical framework of poverty, expanding out from a narrow economic focus. These varied aspects can be captured only using an intensive qualitative approach like PPA. This underscores the importance of an intensive, in-depth micro-level qualitative investigation (Jodha 1989). Villagers are the ones who decide what poverty is, who the poor are and what strategies for poverty reduction are thinkable. PPA opens space to articulate the poor's views and priorities in the policy process and broadens the conceptual framework of poverty assessment and reduction. However, some of these dimensions may be area-specific, region-specific or community-specific. They cannot be generalized for inter-community comparison (Jodha 1989).

PPA is a cost-effective approach to poverty assessment. It costs less than household surveys and saves time. Only writing materials, candies, cigarettes and liquor are required for participants in the discussions. Participatory wealth ranking is also time-saving. A villagers' group numbering fewer than 100 households spends 1–3 hours producing a wealth ranking list. Participatory wealth ranking works well to identify the poor at the villagers' group level. It is easy to do in a villagers' group, and is suitable for micro-level poverty identification. Information gathered is more honest in such an open process than in a household survey, because villagers know fellow participants well. Villagers openly express opinions. Different people add details and cross-check and correct one another. The data produced by a PPA can be checked, verified, amended, added to and owned by participants (Barahona and Levy 2007). It thus constitutes a promising and straightforward way to identify the poor and to monitor poverty interventions at the local and micro level.

PPA can involve both village leaders and villagers in discussions. It avoids exercises of power such as those that occur in the official poverty identification exercise. It also provides gender-disaggregated data to capture the differences between men's views and those of women. It can add a gender perspective to poverty assessment if the researcher is gender sensitive.

However, PPA has limitations as well. The results have problems of standardization, generalization, reliability and comparability at the macro level. These issues are not purely technical, but also ideological and political. They are ideological because they reflect epistemological positions regarding knowledge claims. They are political because the way they are handled affects the credibility afforded to research results in political processes. This view is supported by Shaffer (2002). Poverty is viewed in a relative sense and is based on relative measurements in each village. Results are not standardized and appropriate for cross-regional comparison, because they are based on measures of poverty/well-being in each community (Barahona and Levy 2007). PPA cannot be used to rank large populations or to determine who the poor are in a large geographic region or at the macro level. If a village has more than 100 households, it will be very difficult to do the ranking. Even at the village level, wealth rankings are not comparable. Men, women and different villagers' groups use different categories to stratify households. Even within one villagers' group, men and women stratify households into different categories. The results from the men's group and the women's group in the same village are not even comparable. However, villagers do have similar views on what poverty is and the criteria to be used to measure poverty. Nonetheless, the data cannot be extrapolated, and the Chinese government does not have the resources or staff to conduct a PPA in every village. PPA can be used to understand the multidimensional nature of poverty, to formulate local people's priorities and needs and to develop projects to empower local people.

It would be difficult and inaccurate to use PPA to calculate how many households are falling into or rising out of poverty. Local villagers adjust their assessment of who and how many the poor are according to their understanding of the purposes of the research and the researcher. Wealth ranking is a sensitive exercise. Villagers are often unwilling to do the exercise. Local people do not consider it wise to separate the poor from the non-poor. They tend to say that every household is poor in their village. Every household therefore wants to be on the poor list, and people are loath to say their own household is among the richer.

A wealth ranking would be difficult to achieve without a warm-up dialogue on a related topic. There must be a preliminary discussion before doing wealth ranking, for example, talking about people's understanding of poverty. Otherwise villagers become upset and unwilling to do the ranking. PPA demands good facilitating skills and gender sensitivity of the facilitator. Sometimes one person might dominate the discussion while the others keep quiet. The facilitator must try to encourage the quiet people to talk more.

Power relations come into play in the wealth ranking. This is impossible to avoid. The group leaders invite the villagers to participate in the PPA, so they are likely to invite neighbours, relatives, households living close by, friends and those with whom they have a good relationship. The poor-

est, or those without good relations with the leaders, might be excluded. A focus group discussion can involve only a limited number of villagers, around ten. The voices of villagers who cannot participate will not be heard. Those who participate might say that their relatives, friends and their own family's households are poor.

It is very difficult to do away with villagers' expectations of possible gain. When they participate, they always expect some benefit in the future. This makes the researcher feel some degree of guilt, because of the purely research nature of the exercise. When villagers realize the exercise is just for research, they tend not to be interested in doing the wealth ranking. They say they need support, not research.

PPA provides space for mutual learning and sharing of information and builds interaction between the researcher and the villagers. It provides a platform for partnership and dialogue with villagers and provides villagers opportunities to apply their own knowledge, experience and capabilities, to analyse their own realities and problems, to come up with their own solutions and strategies and to produce possible future action. It can, as such, enhance villagers' capacity to solve problems. However, its purpose here was only for research, so villagers were mainly consultation partners and information providers. They had nothing to do with any decision-making on what data would be used or what action would be taken. The level of participation was therefore still low.

With increasing government interest in promoting public participation at the local level (Wu 2005; LGOPAD 2005a), PPA is gaining popularity. However, participation in China is still treated mainly as a technical tool, a technique for project work or a way to get things done, rather than being viewed as a process, an end, a transformation, a right and a political methodology of empowerment (Young 2003; Rahman 1995, cited in Hickey and Mohan 2004). PPA stresses the right of the poor to participate in defining and analysing the phenomena and processes of poverty. It stresses the opportunities inherent in the PPA process to open spaces and dialogue for the poor to bring out their perspectives and to influence policymakers far more than mere provision of information (Brock 2002). It addresses the structure of the policy process and the attitude and behaviour of policymakers and government officials. It is hoped that participation is understood as part of a wider change in the structures and rhetoric of development, as a way of viewing the world and acting in it (Brock 2002). Hickey and Mohan (2004) contend that for the participatory approach to be transformative three types of critical engagement are required: ideologically explicit participation; a locus of transformation involving multi-scaled strategies encompassing the institutional and structural and going beyond the individual and local levels; and multi-scaled citizenship with thematic priorities of transformation, temporal aspects of participation, space and representation. Gaventa and Cornwall (cited in Brock 2002) propose a further empowerment agenda depending on knowledge, action and consciousness. These play a role in catalyzing

processes of social change and challenges to dominant relations of power.

To facilitate participation under China's top-down system, there is a need for institutional, structural and transformative change (Blackburn and Holland 1998) in government and local leaders' ideologies, philosophies, attitudes, behaviours and working styles. Improvement is also required of villagers' skills, knowledge and training so as to enable them to understand participation and government operation, building citizenship (Cornwall 2002a, 2002b). This is the value added by PPA compared with the other methods.

7 The multidimensional poverty indicators: ‘Who are the poor?’

7.1 Introduction

The previous chapters analysed poverty using the official poverty identification method, the monetary approach and participatory poverty assessment. However, none of these approaches was found to be problem free. A great deal of politics proved to be involved in the official poverty identification method. Household surveys were time-consuming and costly. Both income and expenditure poverty lines turned out to be objective, arbitrary and of dubious accuracy. Poverty identification using a participatory approach, however, was perhaps too subjective. The results of the participatory poverty assessment were difficult to standardize and compare at the macro level, meaning that no generalizations could be made.

In recent years, there has been growing consensus on the multidimensional nature of poverty and the need to define poverty as a multidimensional concept rather than relying only on income or expenditure per capita. However, most studies of poverty are still based primarily on income. We saw that income measures cannot capture the multidimensional nature of poverty. Though the notion of poverty has been gradually enlarged from an income-based concept to a multidimensional one, identification of the poor using a multidimensional approach has not yet been done in the Chinese context. To do so, we must first ask what dimensions of deprivation would need to be included to practically define and measure poverty in China. There are calls for an operational poverty assessment technique to measure absolute poverty that can be used not only for large-scale national programmes but also for medium-scale or even small-scale interventions. Multidimensional poverty indicators could play this role. For this purpose, indicators are needed that are easily implemented at the regional level and can be used to define a different, non-income-based poverty line and to accurately identify the poor. In theory, if the multidimensional indicators are well developed, the score from different indicators should be amenable to aggregation, to enable comparisons to be made with other places.

These considerations give rise to the multidimensional human development indicator approach to estimate the degree of deprivation in a

population. This relatively new, multidimensional type of 'poverty line' aims to reflect the severity of poverty and regional differences in poverty so as to guide efficient allocation of poverty reduction resources to the poor (Siddhisena and Jayathilaka 2006). The search for a multidimensional poverty line is motivated by interest in 'reducing our dependence on extremely expensive, time-consuming, and most likely, inaccurate consumption survey[s]. One or two questions are a good deal cheaper to ask than two or three hundred!' (Deaton 2001).

With this rationale in mind and in response to criticism and the failure of the different traditional approaches to identify the poor, various multidimensional poverty indicator approaches have been introduced (Bourguignon and Chakravarty 2003). Examples are the Human Development Index (HDI) (UNDP 1997), the Below Poverty Line (BPL) in India (Sundaram 2003) and the Multidimensional Poverty Index (MPI) (Alkire and Santos 2010). The HDI can be used only for a population as a whole (see also Chapter 1). At the household level, there is no analogous specific and effective method to identify the poor for poverty reduction and monitoring. The BPL in India (Sundaram 2003) is a promising approach. It has been widely used for several years in a setting that is quite similar to that of China in terms of the large population of rural poor and their farming methods.

An important feature of the BPL is that it does not require direct application of a poverty line to identify the poor, nor is any household excluded just because it possesses some consumer durables (*The Hindu* 2003). It takes both economic and social indicators into account in its ranking. However, critics claim that anomalies and imprecisions riddle the definitions and specifications used for concepts like 'land', 'house', 'consumer durables', 'clothes and apparel', 'migration', 'toilet', 'labour status', 'indebtedness' and 'square meal'; while its coverage of the status of children is incomplete and preferences for specific forms of assistance may be inadequately defined (Saith 2007). Other problems relate to scaling issues, weighting biases, indicator weights, double counting, use of divergent concepts, methodologies and databases (Saith 2007), cut-off points (Jain 2004) and decisions on which indicators are most important (Sinha 2004). Finally, a wide range of social and vulnerability factors are said to be missing, such as dependency ratio, health status, availability of clean drinking water, gender (Saith 2007), quality and nutritional value of food, disability, illness, debt, marginalization and quality of land.

Applying multidimensional poverty indicators from India in China's context also raises problems. The items on average availability of normal wearing apparel, a square meal, reasons for migration and means of livelihood are unsuitable or unclear for China's situation. It is difficult to count how many pieces of clothing one has, since in a cold climate, people might have many clothes, not because they are rich, but for protection against the weather. Neither do Chinese people commonly have an understanding of what a 'square meal' is. The reasons for migration are

different in the Indian and Chinese contexts. Other forms of livelihood and other purposes are similarly varied. Preference for certain forms of assistance is also an unsuitable indicator, as poor people in China need help with housing and non-poor households need wage employment.

Based on these concerns regarding India's multidimensional poverty indicators, the current study extrapolates and selects multidimensional poverty indicators for China by integrating local villagers' perceptions into the method.

Thus, this chapter examines the many dimensions of poverty in search of indicators that could function as multidimensional poverty indicators in the specific context of the study villages in China. Section 7.2 reviews the application of multidimensional poverty indicators and discusses the data and method used further in the chapter. Section 7.3 examines problems and choices linked to the selection of indicators to be included in the measurement of poverty. It then discusses how the indicators are weighted, scaled and scored. Section 7.4 looks at how the different indicators correlate with average income, expenditure and the PWR results. Section 7.5 analyses the poor as identified by the multidimensional poverty indicators and their household characteristics. Section 7.6 reflects on the use of multidimensional poverty indicators, discussing the limits and merits of the exercise and drawing conclusions.

7.2 Application of multidimensional poverty indicators

To argue that poverty is multidimensional, one must specify what is meant by 'multidimensional' and how many dimensions should be considered in poverty analysis. Indeed, it is difficult to know what and how many indicators should be taken into account in poverty analysis.

7.2.1 Data

This chapter uses the household survey results and a selection of indicators expressed by local villagers in the PPA exercise (see Tables 6.5 and 6.6 for details). It further draws on a literature review. Correlations are sought between various indicators and average per capita income per adult equivalent, average per capita expenditure per adult equivalent and the PWR results. The idea is to find relevant multidimensional poverty indicators and use them to analyse poverty in all households in Jiankang Villagers' Committee, Wuding County, Yunnan Province. Valuable background information on the local situation and local perceptions were provided by the PPA exercises carried out with the villagers. The exercises covered local people's perspectives on poverty, local criteria for poverty, village household stratification, wealth ranking results for all households and features of the households in the different categories. The author developed a questionnaire integrating the villagers' perspectives and the indicators they used to assess poverty. In the nine selected

villagers' groups, of all 519 households, 46 were migrant households which had been settled elsewhere for more than a year. Data on a few households were not complete. These were omitted, leaving 473 permanent residence households and their 1,798 members. Data were collected from March 2005 to March 2006. The household survey covered information in 11 subject areas (Appendix A1).

7.2.2 Process

Four steps were used to derive the multidimensional poverty indicators (MDIs).

- Step 1 An initial decision was made on dimensions and indicators that could potentially be selected and used. This was based on views expressed by the villagers during the PPA exercises, the household survey data, experience and a wide-ranging review of the rural poverty literature. Considerations in choosing indicators were as follows: data availability, reliability, whether the indicator was direct or indirect, applicability, comparability, accuracy and quantification, logic and coverage of households. Ultimately, suitable indicators were chosen as promising for further analysis.
- Step 2: Correlations were examined of the different indicators with expenditure and income per adult equivalent and with the PWR results. The indicators found to be correlated positively or negatively with expenditure and income per adult equivalent and with the PWR results were formalized as MDIs for poverty identification.
- Step 3: The chosen indicators were situated in appropriate dimensions, and each dimension was given an equal weight, regardless of how many indicators were included within it.
- Step 4: Each indicator was transformed into a five-point scale, ranging from 0 to 4, from maximum deprivation (0) and to minimum deprivation (4).

7.3 Selection of dimensions and indicators

Eight dimensions were initially considered: 'demography', 'human development', 'assets', 'employment', 'utilities and services', 'consumption', 'participation' and 'other'. These encompass 19 sub-dimensions and at least 57 possible indicators for poverty analysis (Table 7.1). A range of indicators were examined in detail, along with various possibilities for scaling and scoring households under each. This discussion introduces the indicators considered, discussing any limitations regarding data availability and whether it was chosen for further use.

Table 7.1 Potential dimensions and indicators considered

<i>Dimension</i>	<i>Sub-dimensions</i>	<i>Indicators</i>
Demography	HH size, labour, dependency, age, special circumstances	Household size, average labour, gross dependency rate, age of household head and members, special circumstance like physical and mental disability
Human development	Health and education	<ul style="list-style-type: none"> • Health: sickness of family members, times of treatment at a clinic or hospital, medical fees for the household • Years of education of household head, average years of education for family members, average education of adults over 15 years of age, AEL, number of children in school, status of children and number of children dropping out of primary and middle school between 7 and 15 years of age, education fees paid per year
Assets	Natural assets	Land: average size of paddy field area; average size of dry land area
	Physical assets	<ul style="list-style-type: none"> • Housing: ownership of house, type of housing material; house size; courtyard size; courtyard gate material; kitchen rooms, value and their proximity to living room; latrine; shower heater • Livestock: number of cattle and horses; number of pigs, goats and sheep • Consumer durables: television, other durables, like a television set, recorder, sewing machine, washing machine, refrigerator or VCD/DVD player • Furniture: sofa, cabinet, tea table, average number of furniture pieces • Productive and machinery assets: truck, van, car, tractor, horse cart, hand cart, fodder cutter, diesel engine, generator, water pump, muller, brick maker, other machines; average number of productive assets • Clothes: pieces of clothing
	Financial assets	<ul style="list-style-type: none"> • Type of indebtedness, loan amounts, amounts of savings
Employment	Work outside the village	Number of members officially employed with salary, number of migrant workers
Utilities and services	Drinking water, electricity, energy	<ul style="list-style-type: none"> • Type of drinking water, distance to water • Energy: reliable electricity connection, main source of energy for cooking, main cooking stove type • Transportation equipment, main transportation to township • Communication: land line and cell phone

continued overleaf

<i>Dimension</i>	<i>Sub-dimensions</i>	<i>Indicators</i>
Consumption	Selected single expenditure items	Average fertilizer cost, clothing and shoes cost, electricity cost, transportation and communication fees, staple food cost, months of food shortage, kilograms of meat bought and pigs slaughtered, average amount of meat consumed
Participation	Social participation, institutional visits	Meeting attendance, number of family members as village leaders or Party members, villager representatives, women's group representatives, number of visits to township by male and female head
Other		Ethnicity, labour hiring cost, height and weight of family members, native language, working hours of male and female household heads, remittances, sex, selected income items

7.3.1 *Demography*

Under demography, several dimensions and indicators were considered (Table 7.1). Household size is a critical indicator for local villagers. Villagers commonly use family structure to differentiate the poorest from other households. Women's groups viewed the poorest to be single-person households, five-guarantee households, widows and widowers and couples without children. This is very different from literature findings, which show households with large household size to be poor in countries like India and Sri Lanka (Siddhisena and Jayathilaka 2006). Women in the study villages ranked incomplete families – those lacking a mother, father, wife, husband or children – as the poorest households. This demonstrates not only a material viewpoint, but also a psychological one. In China small families are perceived as poorer.

Gross dependency rate¹ (GDR) and average labourers² per capita also critically influence the poverty situation of a household. Households with few dependants and more labour are relatively rich. Local villagers also use the labour, dependants and population ratio to judge whether a household is poor. Labour brings in income to the household, while dependants and students cost money to feed and support. The problem with GDR is that, by definition, it does not count those who are not in the dependent age range but who are nonetheless not able-bodied workers because of physical or mental handicap or because they are still in school.

Special circumstances, like physical and mental disability and death of family members, are other factors mentioned by villagers as influencing a household's poverty status. However, only those households with physically or mentally disabled members can be assessed under such an indicator, so it is not sufficiently widely applicable (Table 7.2).

The age of the household head is also an influence. As mentioned in the PPA, as the household head ages, the ability to generate income diminishes. However, 'household head' is not a fixed role. If an adult son and a father occupy a household, or a son and a mother, the village leaders might use different people's names as the household head. Use of different people's names as household head could cause major discrepancies in outcomes. This indicator is therefore discarded as an indicator to assess poverty.

The age of family members is another possible indicator. However, there are two extremes. With increasing age, the ability to generate income decreases. Also, if multiple family members are younger than age 18, for example, the ability to generate income would diminish with decreasing age. With this indicator, therefore, there is a danger that young orphans' households, households with a single young mother or a father and a baby and young couples with very young children would be skipped because their average age would be very low (Table 7.2).

Table 7.2 Scaling and scoring of households under demography indicators

<i>Dimension: Demography</i>						
<i>Sub-dimension</i>	<i>Indicators</i>	<i>Scores</i>				
		<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Household size	Household size	1	2	3	4	≥5
	473 HH	19	59	87	201	107
Labour	Average labour	<0.2	≥0.2–<0.4	≥0.4–<0.6	≥0.6–<0.8	≥0.8
	473 HH	28	33	152	114	147
Dependency	Gross dependency rate	All are dependants	>1	>0.5–≤1	>0–≤0.5	0
	473 HH	24	32	126	133	159
Special circumstances	Physical/mental disability	More than 1 disabled members or mentally ill for over 1 year	1 member disabled or mentally ill for more than six months	1 member disable, ill or mentally ill for 3–6 months	1 member disabled, ill or mentally ill for 1–3 months	No member disabled or mentally ill
	473 HH	29	23	29	24	368
Age	Age of head	<55	45–55	35–45	25–35	≤25
	473 HH	82	80	170	131	10
	Age of members	<55	45–55	35–45	25–35	≤25
	473 HH	48	55	97	163	112

Note

HH household(s)

7.3.2 *Human development*

The importance of human development, including health and education, is well documented in Sen's capability approach and the HDI. To show the importance of human development and to emphasize the considerations of Sen's capability approach, human development is treated as a dimension in itself, independent of assets. The current study views human development in terms of health and education.

Health is a key indicator for poverty assessment. Illness leads to vulnerability. When a family member falls sick, the household's human assets are diminished and its income reduced. To pay high medical fees a household might sell off natural and physical assets, use any financial savings, take on debt, pull children out of school to enter the labour market and mobilize support from social networks (Hulme and Shepherd 2003). Several related indicators can be used for our poverty analysis: number of sick or mentally ill members, number of treatments in a clinic or hospital and medical fees paid by the household. Even though high medical costs push people into poverty, medical costs are nonetheless a sub-optimal indicator. This is because the poor may seldom go to hospital, even if they are seriously ill, owing to the high cost. The rich go to the doctor more often. Rich households value their health more than poor households do. The former, may as a result, go to a doctor even when their illness is not serious. Perhaps if they can afford to go to a doctor, they are not poor. There is no health and medical insurance in the study area. All households with sick members are poor households. Medical costs cannot be measured in households that do not get medical care or do not report their medical costs. Here again the data show two extremes. Some 145 households had no medical expenses and 144 households spent less than 500 yuan. Only 78 households spent between 500 and 1,500 yuan on medical care, while 104 households spent more than 1,500 yuan. This indicator thus proved difficult to scale.

Neither is number of treatments at a clinic or hospital applicable. First, how do numbers of clinic visits compare with visits to a hospital? Second, these figures tend to be inaccurate. Third, this indicator does not measure the households that do not make use of clinic or hospital services.

While months of sickness tend to be inaccurately reported, numbers of sick family members in a household overlook households which do not have sick members. Some households over-report or falsely report illness of members in order to be put on the poor list.

Education includes both education of all family members and access to school by children. Several indicators can be used: years of education of household head, average years of education of household members, average years of education of family members older than age 15,³ AEI,⁴ number of children in school, number of children dropping out of school and education fees.

The years of education of the household head can affect the economic and cultural situation of the household. Yet there could be a major differ-

ence between the education of the children and that of the parents and other family members. A change of household head would also markedly influence this indicator. Because the years of education of other household members are neglected it is discarded here.

Average years of education of household members takes into account the years of education of all household members. In this case, however, scores for children not in school or in the lower grades of school will erode the education years of adults. Data are available on average years of education of all household members over 15 years of age. A problem, however, is that years of education were not evaluated for household members younger than age 15. If there are members younger than 15 who do not go to school or are illiterate, this will not show.

The AEI is the actual number of years of education of household members over age seven divided by the ideal years of education for these members. The ideal education is taken to be 12 years (6 years of primary school, 3 years of secondary school and 3 years of high school) under the Chinese educational system. The ideal years of education for household members older than age 19 equals 12 years multiplied by the number of household members over 19 years of age. The ideal years of education of household members older than 7 and younger than 19 years equals the age of the member minus 7 years:

$$AEI = \frac{\sum AE_{7+}}{(12 * P_{19+}) + (Age - 7)P_{7-18}}$$

where $\sum E_{7+}$ is the total years of education of household members over 7 years of age, P_{19+} is persons in the household over 19 years of age, and P_{7-18} is persons in the household between 7 and 18 years of age.

The AEI takes into account only the years of education of household members over seven years of age. So it is relatively fair for all households. Education years for most households concentrate on primary and secondary school education. While it is difficult to adjust this scale, it is applicable and operational.

The number of children in school is an indicator frequently mentioned by villagers, especially those with children in high school and college. However, households with no schoolchildren are not covered. Education costs in a household is another important indicator for local villagers, so it could function as a measure of income deficiency. But again, households with no children in school are neglected. On one hand, more children in school means that households spend more to support the children to attend school. Yet if they can support their children's schooling, they are perhaps not poor. There is another dilemma here as well. Investments in education cause poverty of a household now, but they are building human assets for the future. In the future, the household will benefit from

the resources invested and will be less poor if the children finish their schooling and find good jobs. On the other hand, many households are in debt because they borrow money to support their children's schooling.

Because the school is far away and requires out-of-home accommodation, a few parents do not send their children to school until they reach eight or nine years of age. This research found more than ten children not going to school and not working; but they were seven or eight years old. Only two children older than ten did not go to school, and this was because they had a mental or physical problem. So, the number of children dropping out of school is not a good poverty indicator. Regarding children working, because children usually attend school, and school is far from home, children do not typically do farm work. Only 46 children go to school and at the same time work on the farm. Most villagers do not view children working as a problem or a sign of poverty. When children drop out of school, they tend to be 16 or 17 years old, so they then help with the farming or migrate to work in cities. They look like adults, so villagers no longer view them as children. All of the indicators related to schoolchildren and school fees ignore households without school-age children. They are therefore not suitable for identifying poor households (Table 7.3).

7.3.3 Assets

Assets include natural assets, physical assets and financial assets and credit (Table 7.4).

Natural assets

Land is a determining factor of poverty, so land area could be used as an indicator. Land is divided into paddy field and dry land. In general, villages and households with more paddy land are richer. Households in mountain areas have less paddy field. In Jiankang, only Jiankang natural village has paddy fields. All households have dry land. It is difficult to distinguish irrigated from non-irrigated land. Most land is not irrigated. Because few natural villages have paddy fields, this cannot be used as an indicator. The current study combines irrigated land with non-irrigated land under the dry land category. However, local officials say the land areas recorded are inaccurate. Most households hold more land than the land size claimed. In the 1960s and 1970s, in order to avoid agriculture taxes, people tended to under-report their land size. After the household responsibility system was implemented, some households turned waste land into cultivated areas. These lands are not usually included in the land they report. Household members that migrate to cities might give their land to others, or simply not plant their land. But even with these caveats, land size nonetheless could still be considered for use as an indicator to differentiate households.

Table 7.3 Scaling and scoring of households under human development indicators

Sub-dimension	Indicators	Scores				
		0	1	2	3	4
Dimension: Human development						
Health	Number of sick family members and months per HH	>1 member with >1 year sickness	1 member is sick for six months	1 member is sick for 3–6 months	1 member is sick for 1–3 months	No member sick
	473 HH	127	13	27	119	207
	No. of treatments in clinic or hospital per HH	More than 10	7–9	4–6	1–3	0
	473 HH	146	28	70	79	150
	Average medical fees paid	≥300 yuan	200–299 yuan	100–199 yuan	0–99 yuan	0 yuan
Education	473 HH	116	39	55	118	145
	Years of education of household head	Illiterate	primary	secondary	high school or vocational	college and above
	473 HH	89	244	120	20	0
	Average years of education	0	>0–3	4–6	7–9	≥10
	473 HH	32	178	211	46	6
	AEI	0	>0–0.2	0.3–0.4	0.5–0.6	≥0.7
	473 HH	32	86	155	147	53
	Average years of education age≥15	0	>0–3	4–6	7–9	≥10
	473 HH	35	132	212	84	10
	Schooling	Number of children in school	At least 1 child in college or above	At least 1 child in high school	At least 1 child in middle school	At least 1 child in primary school
473 HH		4	12	56	120	286
Status of children and number of children dropouts from primary and middle school (7–15 years old)		2 children not going to school and working	1 child not going to school and working	1 child not going to school and not working	all children going to school and working	all children going to school and not working
473 HH		0	2	14	46	132
Average educational fees		≥300 yuan	200–299 yuan	100–199 yuan	0–99 yuan	0 yuan
473 HH		54	36	50	48	285

Note
HH household(s)

Physical assets

Housing is the third basic necessity, after food and clothing. Ownership of a house, its size, floor type, roof type, courtyard size and features and gate value and materials are considered in scoring this indicator. Data on houses are available for each household except those that do not own their home. Even though housing is related to cultural, geographical and socioeconomic situation, rich households have large, high-value houses, while poor households have small, low-value houses. Households that do not own a house are obviously the poorest ones. Households with a house made of steel and cement are richer than households owning a brick and wood, mud and wood or straw-roofed home or homeless households. However, there are special cases in which a household has no house, for example because it has migrated to the city. These people might have sold their house, but they are not poor according to rural criteria. Another problem with using housing as an indicator is that different villages, interviewers and interviewees view the value and size of houses differently. Estimations of house size vary from village to village. Some households have different kinds of houses and rooms, like a newly built cement house, a mud and brick house, a wing-room, an attached room, a small room or big room. Use of housing as an indicator requires careful definitions. Houses near the road or town are more valuable than those in more remote locations. Saith suggested a focus on ownership status (Saith 2007). However, only three households in the study area do not have a house and only two have a grass or straw roof or log and wood house. So it is meaningless to use home ownership as an indicator. Regarding type of house, most households have mud and wood houses, but many do have a brick and wood house. As an indicator, however, a problem arises with using this asset: the 126 households whose houses were damaged in the 1995 earthquake were able to build new brick and wood houses with the support of the government. Only five households have a steel and cement house. So average house size may provide a better measure to differentiate households.

The relationship between the kitchen and the living/sleeping space and the relationship between the animal pen and human dwelling spaces is interesting. Relatively rich households have a separate kitchen, living room and sleeping room. Animal pens are separate from human dwelling space. Poor households do not have a separate kitchen and animal pen. The precise relationship, however, is difficult to define.

Generally, there are few amenities in houses, such as heating facilities, for example. In the past, shower facilities, like an electric heater or solar heater, were rare in the study village. Only recently have a few households (18 in total) started to install and use a shower heater. This is therefore a weak indicator to identify the poor, since these facilities are absent in most households.

Table 7.4 Scaling and scoring of households under asset indicators

Sub-dimension	Indicators	Scores				
		0	1	2	3	4
Dimension: Natural assets						
Paddy field size	Average paddy field per capita	< 0.25 mu	≥0.25–<0.5 mu	≥0.5<0.75 mu	≥0.75–<1 mu	≥1 mu
	473 HH	379	31	27	13	23
Dry land size	Average dry land per capita	<0.5 mu	≥0.5–<1 mu	≥1–<1.5 mu	≥1.5–<2 mu	≥2
	473 HH	19	73	147	112	122
Dimension: Physical Assets						
State of house	House ownership and type	Houseless or rental house	Grass, straw roof, log and wood	Mud and wood	Brick and wood	Steel & cement house (concrete)
	470 HH	3	2	341	122	5
	Average house size	0	>0–<20	≥20–<40	≥40–<60	≥60
	473 HH	3	84	282	68	36
Courtyard and gate	Courtyard size	<50m ²	50–99m ²	100–149m ²	150–199m ²	≥200m ²
	394 HH	143	85	80	29	57
	Courtyard gate value	No gate	50–499	500–999	1000–1499	≥1500
	473 HH	240	127	49	23	34
Kitchen	Gate material	No gate	Wood	Iron		
	238 HH		146	92		
	Kitchen rooms	No room	1 room	2 rooms	3 rooms	>4 rooms
	473 HH	109	269	85	6	4
	Kitchen value	1–999 yuan	1,000–1,999 yuan	2,000–2,999 yuan	3,000–3,999 yuan	≥4,000 yuan
	375 HH	134	105	59	29	30
	Kitchen location	No kitchen	Kitchen and living room together	Kitchen and living area separate		
	473 HH	71	99	303		
Sanitation	Latrine	No latrine	Public latrine	Mud & wood latrine	Brick & wood latrine	Toilet
	419 HH	95	55	239	19	11
	Shower heater	No shower facility	Shower heated by other	Shower heated by coal or gas	Electric shower heater	Solar shower heater
	332 HH	313	3	1	10	4

Continued overleaf

Sub-indicators	Indicators	Scores				
		0	1	2	3	4
Livestock	Average cattle and horses	0	>0–≤0.25	>0.25–≤0.5	>0.5–≤0.75	>0.75
	473 HH	129	53	110	69	112
	Average pigs, goats and sheep	0	0–≤1	>1–≤2	>2–≤3	>3
	473 HH	63	142	108	52	108
Consumer durable assets	Television	None	Black & white television	2 black & white televisions	Colour television	≥2 colour televisions
	743 HH	152	107	3	233	4
	No. of other durables (TV receiver, recorder, sewing machine, washing machine, refrigerator, VCD/DVD player)	0	1	2 items	3 items	≥4
	473 HH	150	104	105	64	50
Furniture	Average pieces of durable assets	0	>0–≤0.25	>0.25–≤0.5	>0.5–≤0.75	>0.75
	473 HH	117	37	86	93	140
	Furniture like sofa, cabinet, tea table	0	1 piece	2 pieces	3 pieces	≥4 pieces
	473 HH	52	55	88	78	200
Productive machinery and equipment	Average pieces of furniture	0	>0–≤0.5	>0.5–≤1	>1–≤1.5	>1.5
	473 HH	52	109	170	86	56
	No. of productive assets (truck, van, car, tractor, horse cart, hand cart, fodder cutter, diesel engine, generator, water pump, muller, brick maker, other machines)	None	1	2	3	≥4
	473 HH	113	140	175	19	26
	Average pieces of productive assets	0	>0–≤0.25	>0.25–≤0.5	>0.5–≤0.75	>0.75
	473 HH	113	96	183	49	32

Sub-indicators	Indicators	Scores				
		0	1	2	3	4
Dimension: Credit and financial assets						
Credit	Type of indebtedness	For daily consumption purposes from informal sources	For production purpose from informal sources	For other purpose from informal sources	Borrowing only from institutional lenders	No indebtedness and possess assets
	473 HH	2	33	64	74	300
	Loan amount	0	1–999 yuan	1,000–1,999 yuan	2,000–2,999 yuan	≥3,000 yuan
Savings	473 HH	324	37	30	17	65
	Savings	0	1–999 yuan	1,000–1,999 yuan	2,000–2,999 yuan	≥3,000 yuan
	473 HH	437	3	10	5	21

Note

HH household(s)

Latrines are another potential indicator. Rich households might have a toilet, but many poor do not even have a latrine. There are nonetheless problems with this indicator. First, a cultural issue is at play here. Ethnic minorities seldom build a latrine. Most Han Chinese do have a latrine. Second, some villages have a public latrine, so households near the public latrine do not have their own latrine. It is also important to define how to compare a luxury toilet to a simple latrine with two wooden beams and a plastic sheet around it. According to Saith (Saith 2007), scoring toilets generates an obvious perverse bias.

Livestock is a criterion that villagers use to assess poverty. Households with no animals are viewed as the poorest ones. However, a few relatively rich households, like the doctors, the shopkeeper and households with formally employed members, may not have livestock. Livestock includes pigs, goats, sheep, cattle and horses. Cattle and horses are called large animals. Poor households usually do not have large animals. Yet it is difficult to compare a small pig with a big pig, a calf with a cow or a pig with a cow. The current study uses two livestock categories: ‘cows and horses’ and ‘pigs, goats and sheep’. However, the number of livestock is dynamic throughout the year. Households buy, sell and slaughter pigs. The animals can produce offspring or die at any time. They are thus difficult to measure.

The number of durable assets is one of the indicators most commonly mentioned by villagers. Consumer durables can be used to judge whether a household is rich or poor. Data on consumer durables are relatively

easy to collect and reliable. Consumer durables include colour televisions, black and white televisions, TV receivers, recorders, sewing machines, washing machines, refrigerators, VCD/DVD players, telephones and cell phones. There exists the problem of comparability of different durables when using simply the number of durables as an indicator. Is a TV receiver or VCD/DVD player comparable to a refrigerator? Nonetheless, different durables can be included to assess poverty. Saith mentioned that when age, quality, current value and obsolescence of consumer durables are ignored the variable is rendered meaningless (Saith 2007). These are difficult and practical issues to tackle.

There are differences in types and pieces of furniture owned by rich and poor. Here furniture refers to cabinets, sofas and tea tables. Rich households tend to have more furniture, for example a chest of drawers. Poor households in Heishanda have less furniture than households in other villages. This study tried to use ownership of a cabinet, sofa, tea table and bed as an indicator. However, there are single sofas, double sofas and sofa sets; small cabinets and big cabinets. Sizes and values are so different that it becomes difficult to scale the size, age and value for comparability purposes.

Productive assets are key to generating income. Productive assets refer to a truck, van, car, tractor, horse cart, hand cart, fodder cutter, diesel engine, generator, water pump, muller, brick maker and other machines. Only relatively rich households can afford to buy and use such assets. Use of an automobile can easily differentiate the non-poor households. Only two households have a tractor. Horse-driven carts are common here, but both poor households and rich households have them. Some households share a horse-driven cart; rich households do not need a horse-driven cart, which does not mean they are poor. Fodder cutters are popular here, even poor households may have one. Migrant households do not have one. A diesel engine, miller and water pump are poor indicators, as only a few households have them for their own use and households sometimes borrow or rent them out. Other productive assets, like farming implements, are too small to count. The problem with productive assets is their lack of comparability.

Clothing is a basic need next to food. Poor people usually have shabby, worn and low-quality clothing. Average availability of everyday clothing (per person in pieces) is not a suitable indicator for China's situation. People may have many clothes, from a T-shirt and shirt to trousers, a coat, a sweater, a jacket and long johns. A T-shirt is clearly not comparable with a winter coat. Some people may have many pieces of clothing, but of low quality or gained from government or NGO donations, so they are not worth money. Some five-guarantee households and other poor households may have many clothes thanks to donations. Saith (2007) mentions the treatment of clothes and apparel as bizarre when no distinction is made between types of clothing, their value and age, or their condition.

Financial assets

Another indicator in our household survey was the amount of money borrowed or loans from a bank or other credit sources over the year. This is the basis for a household credit availability indicator. From an interview with staff and secondary data from the Credit Cooperation in Jiankang and the household survey, this study found that poor people have difficulty getting a loan and they seldom take loans because of their inability to repay. Even if they take a loan, the amount tends to be small, and they worry they will be unable to repay it. The relatively rich households and households with a business take more loans to provide operating funds, and the amounts are quite large. Some of the households even reported loans that they had repaid many years ago. Types of indebtedness differ according to purpose, from daily consumption to production and other purposes, and from informal sources to formal lending institutions. However, most households (around 300) did not report borrowing money, so the indicator is invalid. Saith (2007) criticizes indebtedness as an opaque and problematic indicator.

In the household survey, savings were mentioned as an indicator for poverty assessment because only non-poor households have money to save. Data on savings from the household survey are incomplete, however. Some households report their savings. Others do not or under-report. Only 43 households reported having savings. The Chinese culture is one of 'hiding your wealth' (*you cai yao cang*) in order to avoid the jealousy of neighbours. Data availability is thus a problem here. Furthermore, accuracy and reliability are dubious, so this indicator is not used (Table 7.4).

7.3.4 Employment

Occupation of family members and work outside the village influence the household income. Households with outside or salaried work, like a formal job and long-term migrant work, are better off than households with no members in outside employment or with members in seasonal work or casual work. Because agriculture is not productive and reliable, earnings from agriculture only just cover costs. Some households do not even break even. One or two household members working elsewhere can contribute extra money to support the household. Earnings from stable outside employment are more reliable than agricultural income, which is influenced by climate, disaster, technology, seed and luck. The indicator is applicable.

Official employment here means government jobs and permanent jobs. Only 13 households had an official salaried job, so this is not a valid indicator (Table 7.5).

A problem with migrants is that the length of stay is so different, varying from a few days to a year. Sometimes even though a migrant resides

outside the village, they may nonetheless be unable to find a job or they may be still looking for employment.

7.3.5 Utilities and services

Drinking water availability and quality strongly affect health outcomes. However, access to drinking water differs according to village, location within the village and the region where the households are situated. It is thus a good indicator for the community, but not for the household. If a village has access to clean drinking water, the situation is the same for most households. This measure therefore seems redundant and meaningless in individual poverty assessment, because it cannot differentiate poor households from the non-poor. In Keshuqi, some households dig their own wells or pipe water into their houses as a group. Other households use river water. The water source depends on where in the village a household lives. Among the study villages, only Keshuqi did not have tap drinking water. About 76 households do not have tap water.

Table 7.5 Scaling and scoring of households under employment indicators

Sub-dimension	Indicators	Scores				
		0	1	2	3	4
Dimension: Employment						
Migrant job	Migrant job and number of migrants	No.	Casual work 0–119 days	Seasonal work 120–239 days	Migrant worker 240–359 days	Long-term migrant workers ≥360days
	473 HH	223	64	32	88	66
	Outside work or salaried work	No.	Seasonal work <6 months	1 long-term migrant worker ≥ 180 days and <360 days	Long-term migrant workers >360 days	Government officials with salary
	473 HH	212	72	111	66	13
	Migrant and formally employed members	0	1	2	3	≥4
	473 HH	212	150	98	12	1

Note

HH household(s)

Access to reliable electricity is not only an indicator of wealth; it also has a bearing on the physical well-being of household members. Electricity access is village-dependent. Thus, like tap water, it is a good community-level indicator. Only a few households far from the central village and households with a newly built house do not have access to electricity in villages where the network is available. A few of the poorest households do not use electricity or have limited access even where electricity is connected. However, these are very few. Only 13 households in the study village do not have access to electricity, so this indicator is not used in our poverty assessment.

There is little difference between the sources of heating, stoves and fuel. Firewood is easy to get and cheap to buy, so most households use firewood and charcoal for heating. Firewood is used for cooking in almost all households, except for one outside the village. There are several kinds of stoves: fireplaces, energy-saving stoves, biogas stoves, liquid gas stoves and coal stoves. Fireplaces and energy-saving stoves are the most common. Owing to the cold weather, many households use a fireplace for cooking and heating at the same time. A few households use biogas to boil water. Liquid gas is difficult to get. Only a few rich households use it, though irregularly, and the households that run a restaurant use it. Use of coal depends on its availability nearby. Coal is used only by migrant households in cities. Thus, the sort of stove a family has depends on which fuel is accessible, meaning that the type of stove is not a good indicator for poverty assessment.

The use of different transportation and transportation equipment might reflect whether the household is rich or poor. Poor households do not have any transportation equipment. They visit the neighbouring villages on foot. However, beyond wealth status, the specific means of transportation used depends on where a household is located, availability of transport and the distance of the destination. If the destination is far, like the county seat or township seat, all travellers take a bus to get there. For nearby destinations, most villagers walk. A few households which have a motorcycle or van might use their vehicle. Transportation differs for men and women. Men tend to travel more by vehicle, while women tend to walk more.

Telephones and cell phones are used in the village, but not the Internet. Use of phones and numbers of telephones and cell phones could thus be an indicator for poverty assessment. However, telephone use is also dependent on where the households are located. Telephones are installed by batch, from time to time. If a household misses an installation period, it is difficult to have one installed later. As for cell phones, a household may have a cell phone, but may not be able to afford to use it after a time, or the network or services might be deficient. Only 85 households reported having a telephone or cell phone. This indicator therefore cannot be used to assess all households (Table 7.6).

Table 7.6 Scaling and scoring of households under utilities and services indicators

Sub-dimension	Indicators	Scores				
		0	1	2	3	4
Dimension: Utilities and services						
Drinking water	Type of drinking water access	River water	Dam, pond water	Lake, spring	Deep well water	Piped water
	468 HH	66	1	3	6	391
	Water distance (km)	<3000	1000–3000	100–1000	<100	
Energy	402 HH	2	5	47	348	
	Reliable electricity connection	No connection	Connected 1–9 months	Connected 10 months	Connected 11 months	Connected all year
	310 HH	12	3	59	205	31
	Main source of energy for cooking	Wood or charcoal	Coal	Biogas	Bottled gas	Electricity, piped gas
	462 HH	453	0	4	1	4
Transportation	Main cooking stove type	Fireplace/Mud stove	Energy-saving stove	Coal stove	Biogas stove	Liquid gas /electric stove
	465 HH	365	97	2	1	0
	Transportation ownership	No transportation	Bicycle, tricycle	Horse, cattle, donkey	Motorcycle	Van, car, truck, tractor
	473 HH	174	26	249	14	10
	Main transportation to township	Walking	Riding bicycle	Motorcycle	Truck	Car, truck, bus, tractor
Communications	369 HH	17	1	19	36	297
	Telecommunications	No phone	1 telephone	1 cell phone	2 telephones and cell phones	More than 3 telephones and cell phones
	473 HH	388	29	47	8	1

7.3.6 Consumption expenditure

Poverty can be measured by both income and expenditure. However, in view of the inaccuracy of available information on income, expenditure is considered the better measure to identify the poor. Levels and patterns of consumption expenditure tend to be smoother than those of income over time; they are more precise and have fewer fluctuations (Siddhisena and Jayathilaka 2006). Expenditure data are expressed in monetary units, and so are intuitive and easily understood (Luzze *et al.* 2006).

Several expenditure indicators reflect a household's poverty situation and are relatively objective. Local villagers say that non-poor households use more fertilizers and have higher agricultural productivity. Fertilizer costs might therefore be an indicator, because poor households cannot afford to buy much fertilizer. However, there are regional differences, with some villages using more fertilizer and others less. In some places no fertilizer at all may be used. With the increasing advocacy of organic farming, it becomes difficult to assess why households might not use fertilizer.

Annual expenditure on clothing and shoes per person in each household can be measured. Clothing and shoe cost can also distinguish the wealthier households. However, there will still be people who like to spend money on clothes, while others do not. Some households get shoe and clothing donations from city people or relatives, so they do not spend any money on clothes. This is therefore not a good indicator.

Electricity payments might reflect the household's poverty situation. Most can remember the amount of their electricity bill. It is a regular expense, collected by a fellow villager. The data can be obtained from the collector. Rich households have a lot of electrical equipment and implements, for example a television set, a DVD player and recorder and an electric rice cooker. They use more electricity and care less about its cost. Poor households have few electrical appliances, and they pay close attention to electricity costs. This makes it a good indicator.

Water payments are not a good indicator, because water is not measured. Transportation and communication fees may be a good indicator.⁵ Rich households travel more and have more communication with the outside world by telephone and cell phone (Table 7.7).

Food is an important indicator in poverty measurement, as it is our most basic human requirement. However, as a result of social and economic factors, cultural influences, weather and seasonal influences, people's nutritional habits are shaped differently. Staple foods and daily diet differ depending on what people produce and what is locally available.

Months of food shortage is often mentioned by local people as a criterion for identifying the poor. Poor households have several months of food shortage, especially of staples like rice. Nonetheless, months of food scarcity and type of staple food consumed are difficult to measure, especially taking into account whether food is self-produced or bought and whether a household eats just rice, or corn and wheat as well.

Table 7.7 Scaling and scoring of households under consumption indicators

<i>Dimension: Consumption expenditure</i>						
<i>Sub-dimension</i>	<i>Indicators</i>	<i>Scores</i>				
		0	1	2	3	4
Fertilizer	Fertilizer cost/year/HH	0	1–499 yuan	500–999 yuan	1,000–1,499 yuan	≥1,500 yuan
	473 HH	44	157	177	64	31
Clothes and shoes	Average clothing and shoe cost/person/year	0	1–49 yuan	50–99 yuan	100–149 yuan	≥150 yuan
	473 HH	50	59	163	132	69
	Average electricity cost/year/person	0	>0–≤15	>15–≤30	>30–≤45	>45
	473 HH	38	74	200	92	69
Transportation and communication	Average cost for transportation and communication (yuan)	0	>0–≤25	>25–≤50	>50–≤75	>75
	473 HH	163	72	101	49	88
Nutrition	Average amount of meat eaten	0 kg	0–29 kg	30–59 kg	60–90 kg	≥90 kg
	473 HH	53	115	203	75	25

Note

HH household(s)

The frequency of eating meat and its quantity in a household is perhaps the key food-related difference between households. Vegetarians are rare in rural areas. Local villagers judge one another's wealth by the weight of pigs slaughtered and eaten and the number of times meat is consumed. Households which can slaughter more than one large pig are viewed as better off than those unable to slaughter even one pig. The current study combines kilograms of pork and purchased meat in the indicator 'average kilograms of meat eaten' to assess nutrition poverty.

Caloric intake per day per person is a common yardstick for distinguishing nutritional condition (Hayati *et al.* 2006). However, the calculation is complex at the village level, so this indicator is discarded here.

7.3.7 Participation

In relation to social participation, there are two organizations: the villagers' committee and the villagers' group. Within the villagers' committee, the Party secretary, committee director and deputy director play key roles in

decision-making. Further in the village, the doctors, the veterinarian, forest rangers and family-planning publicity agents receive a government allowance to assist in decision-making at the villagers' committee level. At the group level, village leaders and accountants are the ones who make decisions. There are also villagers' representatives, Party representatives and members and women's representatives. The level of participation in these organizations and in other village activities could be taken as an indicator of participation. However, only 79 households fall into this category, so it is unusable. At the household level, villagers also participate in meetings, so attendance at village meetings could be considered an indicator of participation. While numbers of meetings differ between villagers' groups, little difference was found between households in meetings attended within the same villagers' group. Adults' voting in the villagers' committee election (MCAPRC 1998; Kelliher 1997) is perhaps the most obvious way people participate in their own governance. This indicator can also be differentiated into those who do not know about the election, those ineligible to vote, those not voting, those bribed to vote and those voting with no bribe. However, because most participate in voting, the indicator becomes meaningless.

There is a link between poverty and frequency of visits to public institutions and facilities. However, it is difficult to decide which institutions are important for villagers and to calculate trips. Without a specific reason, villagers seldom visit the villagers' committee, township government or other institutions. Using the villagers' committee as the destination would leave out the households living near there. This study could take the township seat as the destination and measure the number of visits by men and by women household heads. But it would still have to decide whether to use men's visits, women's visits or both, and count these. This makes the indicator too complex (Table 7.8).

7.3.8 Other indicators

Other indicators were considered or tried in the questionnaires, like ethnicity, labour hiring cost, height and weight of family members, native language, working hours of male and female household heads and selected income items. However, there were problems of data availability, operability, coverage, accuracy, regional differences and overlapping. As a result, these were ultimately discarded.

Ethnicity is a good indicator of social exclusion under a situation of Chinese domination. However, it becomes problematic when applied in the field. In a Han village with a few ethnic minority households, the Han Chinese are usually dominant, and the few ethnic households tend to be marginalized. The situation can be reversed, however, if an ethnic minority outnumbers the Han Chinese at the local level. In an ethnic minority-dominated village with a few Han Chinese, the ethnic minority becomes the dominant group, and the Han Chinese households feel excluded. This was found in the Yi research village, where only a few Han

Table 7.8 Scaling and scoring of households under participation indicators

Sub-dimension	Indicators	Scores				
		0	1	2	3	4
Dimension: Participation						
Social participation	Members as village leader or Party member, representative, villagers' representative, women's representative	No participation at all	Party member	Group leader	Villagers' committee member, doctor, forest ranger, family planning staff	Committee leader, Party secretary
	473	397	50	18	6	2
	Meeting attendance	0	1–3 times	4–6 times	7–9 times	≥10 times
	382	91	94	99	12	177
Institution visit	Township visited, male head	0	1–3	4–6	7–9	More than 10 times
	334	139	153	108	9	64
	Township visited, female head	0	1–3	4–6	7–9	More than 10 times
	473	158	175	82	9	49

Chinese households lived. The Yi are dominant in the village. Han Chinese complained that they were discriminated against and marginalized. However, from the township perspective, Han Chinese are the dominant group. This is confirmed by Srinivas (1987). Moreover, the unity of ethnic groups, particularly of a dominant group, is dynamic and contextual, not static and constant (Srinivas 1987). It is therefore difficult and risky to use ethnicity as an indicator. There is a danger that a score will be given to an ethnic household that forms the dominant group in a village. Another issue is the sheer number, 56, of ethnic groups in China. This means that it is difficult to decide which ethnic group should be scored as dominant.

As for hired labour, villagers do not habitually hire labour for cash. They exchange labour with relatives and friends.

Gifts or money sent to others could be an indicator, but the problem here is reliability of the data and cultural, ethnic and regional aspects.

Anthropologists use height and weight of household members to measure nutrition status, and this could serve as an indicator for poverty assessment. However, variations in race, ethnicity and region mean that it is difficult to operationalize this indicator at the local level. In the household survey, most interviewers recorded their own observations of

these features or asked the interviewees to assess the height and weight of household members. Certainly it would be cumbersome to physically weigh and measure every household member in the study villages. Even if the interviewers had carried a scale with them, they would not have found all household members at home at the same time to weigh them.

Language is also critical in poverty assessment. Not speaking Chinese is viewed as a reason for poverty in the Miao village of Heishanda. If the household head can speak Chinese, it is easier for the household to take part in economic development. However, this is the case only in ethnic minority areas. In areas where all people speak Chinese this indicator becomes meaningless. Also, poor Han Chinese households are neglected by this indicator, so it is discarded here.

Working hours are difficult to calculate. First, there are many members in a household, and the working hours of each cannot be recorded one by one. Interviewers were able to record only the working hours of the male and female household heads. Second, working hours tend to be inaccurate. Different interviewers have different styles of posing the question and eliciting answers. Third, different interviewers and interviewees figure working hours differently. Fourth, villagers say that rich households work harder and longer than some poor households, which is why they become rich. So this indicator is difficult to operationalize.

According to the time spent on mushroom collection, poor people appear to rely more on natural resources. The poor spend more time collecting natural resources, like mushrooms, leaves and tree blossom. The non-poor do not spend much time in these activities because the opportunity cost is higher for them. However, in some places, there are no natural resources to collect. Income from natural resources, therefore, has insufficient coverage to be used as an indicator.

Even though the village has many migrant workers employed in cities, only three households reported receiving remittances. Migrant labourers usually bring money home when they come back to the village for the Chinese New Year, but it is difficult to know the amount. Remittances are therefore not a good indicator.

Gender was considered, but is difficult to use as an indicator. We cannot, say, give a score to a female or a female-headed household and not to male or male-headed ones. As discussed in Chapter 6, female-headed households with no able-bodied men are poor. However, a female-headed household with a husband working in the formal sector is rich. Only 6.9 per cent of households are female-headed, so this indicator cannot sufficiently differentiate the poor from the non-poor.

To summarize, the variables found most applicable for use in poverty assessment are gross dependency rate, average labourers, sickness of family members, average medical fees, AEI, average paddy and dry land area, consumer durables owned, average house size and average kilograms of meat consumed. The following section analyses the correlations of these indicators with average expenditure and income per adult

equivalent and with the PWR results. The idea is to learn which indicators have strong relations with income, expenditure and the PWR results.

7.4 Correlation of indicators with expenditure, income and PWR results

Section 7.3 discussed the possibility of using various indicators for poverty assessment. Some indicators were considered promising. However, there is still too little evidence as to why certain indicators should be selected rather than others. This section correlates different indicators with average expenditure and income per adult equivalent and with the PWR results, to determine which are the best indicators. The idea is to ascertain whether there is a relation or correlation. If there is, the next step is to determine whether it is positive or negative. Households are categorized into ten deciles in the analysis. Those indicators with the strongest correlations and widest applicability are chosen as our multidimensional indicators of poverty.

The indicators with positive correlations to average expenditure per adult equivalent are as follows: household size; average number of migrants per household; average number of migrants per capita; number of labourers in the household; number of schoolchildren per household; number of schoolchildren per capita; average years of education of adults over 15 years of age; average years of education of household head and all family members; AEI; size of dry land and paddy field; kilograms of meat consumed; school costs; transportation and communication cost; pieces of durable assets; average number of pigs, goats and sheep; average number of cattle and horses; electricity consumption; and visits to medical care facilities. Indicators with negative correlations with expenditure are average age of family members; gross dependency rate; and Miao ethnicity. Not showing obvious correlations with average expenditure per adult equivalent are sex of household head; total number of disabled; total number of sick members; number of formally employed members; Han and Yi ethnicity; and average house size (see also Appendix A3).

Regarding the correlations with net income per adult equivalent, the following had a positive relationship: household size; Yi ethnicity; number of formally employed members; average migrants per household; average number of migrants per capita; average number of labourers; average years of education for adults over 15 years of age, household head and all family members; AEI; area of dry land; transportation and communication cost; average pieces of productive assets; average pieces of durable assets; average number of cattle and horses; average visits to medical care facilities; average electricity cost. Showing negative correlations with net income per adult equivalent were the following: average age of household head; average age of family members; total number of disabled; average number of disabled; average number of sick family members; area of dry land; average visits to medical care facilities; Miao ethnicity; gross dependency rate. Not correlated with income per adult

equivalent were average age of household head; total number of disabled; total number of sick members; average number of disabled; ethnicity; number of formally employed members; average migrants per capita; average number of labourers; gross dependency rate; average number of schoolchildren per capita; average kilograms of meat consumed; average medical cost; average school cost; average size of house; average pieces of furniture; average number of pigs, goats and sheep; average cost for clothes and shoes (see also Appendix A3).

The following indicators are positively correlated with the PWR results: household size; average migrants per household; average schoolchildren per household; average years of education of household head, of adults over age 15 and of all family members; AEI; average paddy field; average cost for transportation and communication; average pieces of durable assets; average number of cattle and horses; average cost of electricity (see also Appendix A5).

Interestingly, although number of sick members, average medical costs, average number of schoolchildren and average school costs are very strongly correlated with average expenditure, they show no obvious correlations with average income or the PWR results. Some indicators may be considered very important theoretically, or from an experiential or local people's perspective, but nonetheless do not show very strong correlations with average expenditure, average income and the PWR results. Examples are the number of formally employed members; average labourers; gross dependency rate; area of cultivated land; average kilograms of meat consumed; average house size; average pieces of productive assets; average pieces of furniture; average number of pigs, goats and sheep; and average cost of clothes and shoes.

In sum, consistent positive correlations with income and expenditure per adult equivalent and with the PWR results are found only for household size, average number of migrants per household, all indicators related to education, average transportation and communication cost, average pieces of durable assets, average cattle and horse ownership, and average electricity cost. These indicators are always positively correlated with income and expenditure per adult equivalent and the PWR results (see also Appendix A6). The average age of family members is always negatively correlated with expenditure, income and the PWR results. Thus, eight indicators, covering five dimensions, are deemed useful and selected to identify the poor households in the study villages (Table 7.9):

- 1 demography: household size (+), average age of family members (+);
- 2 human development: AEI (as this encompasses aspects covered by other education-related indicators and is more reasonable than the others) (+);
- 3 employment (migrant): average number of migrants and formally employed household members per household (+)⁶;

- 4 assets: average pieces of durable assets (+), average number of cattle and horses (+);
- 5 expenditure: average transportation and communication cost (+), average electricity cost (+).

7.5 Household score and distribution ranking

The MDI method yields a ranking of households using the MDI score of each (Tables 7.9 and 7.10). In total 473 households were assessed. The minimum score was 0 and the maximum 17. To separate the poor from the non-poor, a cut-off score is required. However, it is difficult to decide where to draw the line. Table 7.10 shows the distribution of households by MDI score. Fuzzy sets can be used to distinguish different gradations of the scores, or it can be left to the government to draw the line.

Table 7.9 Indicators, scoring and scaling by MDI in Jiankang

<i>Dimension</i>	<i>Indicator</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Demography	Household size(members)	1	2	3	4	≥5
	Number HH	19	59	87	201	107
	Average age (years)	>55	45–55	35–45	25–35	≤25
	Number HH	48	55	97	163	112
Employment	Number of migrants and formally employed members/HH	0	1	2	3	≥4
	Number HH	212	150	98	12	1
Human development	AEI	0	>0– ≤0.25	>0.25– ≤0.5	>0.5– ≤0.75	>0.75
	Number HH	32	66	203	142	30
Physical assets	Average ownership of durable assets (piece)	0	>0– ≤0.25	>0.25– ≤0.5	>0.5– ≤0.75	>0.75
	Number HH	117	37	86	93	140
	Average number of cattle and horses	0	>0– ≤0.25	>0.25– ≤0.5	>0.5– ≤0.75	>0.75
	Number HH	129	53	110	69	112
Expenditure	Average transportation and communication cost (yuan)	0	>0– ≤25	>25– ≤50	>50– ≤75	>75
	Number HH	163	72	101	49	88
	Electricity cost (yuan)	0	>0– ≤15	>15– ≤30	>30– ≤45	>45
	Number HH	38	74	200	92	69

Note

HH household(s)

Table 7.10 Distribution of households by MDI score

<i>MDI score</i>	<i>No. of HH</i>	<i>Percentage of HH</i>	<i>Cumulative HH</i>	<i>Cumulative %</i>
0	2	0.42	2	0.42
0.5	2	0.42	4	0.85
1	6	1.27	10	2.11
2	2	0.42	12	2.54
2.5	6	1.27	18	3.81
3	7	1.48	25	5.29
3.5	8	1.69	33	6.98
4	9	1.90	42	8.88
4.5	6	1.27	48	10.15
5	3	0.63	51	10.78
5.5	6	1.27	57	12.05
6	11	2.33	68	14.38
6.5	9	1.90	77	16.28
7	12	2.54	89	18.82
7.5	17	3.59	106	22.41
8	30	6.34	136	28.75
8.5	24	5.07	160	33.83
9	30	6.34	190	40.17
9.5	26	5.50	216	45.67
10	34	7.19	250	52.85
10.5	38	8.03	288	60.89
11	34	7.19	322	68.08
11.5	39	8.25	361	76.32
12	32	6.77	393	83.09
12.5	17	3.59	410	86.68
13	19	4.02	429	90.70
13.5	12	2.54	441	93.23
14	15	3.17	456	96.41
14.5	7	1.48	463	97.89
15	6	1.27	469	99.15
15.5	2	0.42	471	99.58
16	1	0.21	472	99.79
17	1	0.21	473	100.00

Note
HH household(s)

However, for purposes of comparison with the results of the other approaches, this study uses as benchmarks the poverty incidences produced by these other approaches (the national poverty line and low-income line, the local people's poverty line and low-income line, and the PWR results) to draw the line between the poor and non-poor.

For the monetary poverty approach, the results for the expenditure poor are used, since levels and patterns of expenditure seem smoother over time and more precise (Kakwani, cited in Siddhisena and Jayathilaka 2006). Using the expenditure poverty incidence according to the national poverty line, about 3.3 per cent or 16 households are identified as multidimensional poor households. Interestingly, the multidimensional poor households identified are the five-guarantee households (four out of five households), elderly single-woman households and elderly couple households (over age 58), and a single-member disabled household. All of these households are aged (except the one disabled single). They have no durable assets, no productive assets, no migrants, no education (except three households), no large animals and no transportation and communication costs.

Using the expenditure low-income incidence according to the national low-income line, about 8 per cent or 38 households are identified as multidimensional low-income households. These multidimensional low-income households are those with a single elderly woman, an elderly couple, male-headed households with no able-bodied woman, small-sized households, those with no migrants (except three households), those with little education, few durable assets, no cattle and horses (except two households) and minimal transportation, communication and electricity costs.

Using the poverty incidence of the PWR results, 34.14 per cent or 161 households (about one third of the households) are identified as multidimensional poor. The multidimensional poor households identified are those with small household size, few migrants, low education, few durable assets, few cattle and horses, minimal transportation, communication and electricity costs, female-headed households (21 out of 33 households), five-guarantee households (all 5 households), all single-member households (7 single men and 12 single women), households with sick or disabled members, those with few students in school, Miao households (29 out of 51 households) and households with no formally employed members.

7.6 Reflections on the exercise

The MDIs offer a pragmatic approach to combining different indicators. By building in cross-checks and comparisons, the methodology draws on the advantages of various poverty assessment methods. It begins by eliciting local people's knowledge and perceptions of poverty and then tries to standardize for cross-regional comparisons related to accepted poverty line measures. It uses a balanced composition of variables representing

multiple dimensions, in this case demography, employment, human development, physical assets and expenditure. Our eight indicators were household size, ages of family members, employment and migration, education, durable assets, number of cattle and horses and expenditure on transportation, communication and electricity.

The method can be used at the micro level to identify poor households for poverty reduction, or at the macro level to make comparisons and generalizations for poverty assessment and monitoring. It can also be used in large villages where a PPA would be impractical. Regional comparisons are easily made. Data produced by the multidimensional approach enable research not only at the level of the community from which the data are derived, but also at the national level, for comparison and generalization (Barahona and Levy 2007).

This study found that MDIs take into account multiple facets of poverty in poverty assessment. As such, they might help researchers to discern the multiple social and economic dimensions of poverty. The method provides a good representation of multidimensional poverty and captures the relative importance of the different dimensions.

Though it involves a scheme for weighing and scoring, government is free to determine a cut-off value for the aggregate scores to classify households for poverty alleviation policies and projects. Theoretically, more than one group could be identified.

Households identified in the bottom third are those with small household size; few migrants; low education; few durable assets; few cattle and horses; minimal costs for transportation, communication and electricity; female-headed households; five-guarantee households; single-member households; households with sick or disabled members; those with few children in school; Miao ethnicity households; and those with no formally employed members.

Some households might be identified as poor in some but not all dimensions. These disaggregated results are valuable for policy measures as well, as benefits could be targeted to households with a degree of deprivation in certain of these dimensions.

Various critical issues are raised by multidimensionality. These relate to the choice of the 'bottom line' in each dimension, to scoring and weighting, and to aggregation, arbitrariness and robustness in the choice of dimensions, as well as other policy-related issues (Qizilbash 2003).

Taking each dimension in turn, this chapter confronted issues like the specific definition of 'multidimensional', of 'dimension' and even what the multiple dimensions of poverty or well-being are. Can a definite set of dimensions be constructed? Or is every possible dimension relevant in defining the multidimensionality of poverty? Sociological and psychological dimensions cannot be contained within precise boundaries. So a person's deprivation in these dimensions cannot be made explicit. It is difficult to choose what dimensions to include and to define the dimensions. Thus methodological issues are posed by the choice of dimensions

relevant to poverty analysis, how the choice of dimensions is made and how many dimensions to use or choose. This study set out to cover all of the dimensions that affect the lives of the poor. However, data on some dimensions were unavailable or inaccurate. For example, this study attempted to cover lending and savings. However, few households reported having a loan or savings. Some households overestimated loans and credit, while most were loath to mention savings or underestimated them.

Even though some indicators are very important in theory and can reflect the multidimensionality of poverty, a number turned out to be difficult to implement in practice. Indicators of health, land, housing, schooling and gross dependency rate are not always applicable. The same is true for medical cost, school cost, area of cultivated land, average house size, average number of children in school and gross dependency rate. The results showed no correlations between these and average expenditure, income and the PWR results. That means some dimensions are still difficult to assess, although they are very important. Thus, significant dimensions remain overlooked and excluded from the distribution (2007). There also remains a question of whether the indicators selected are sufficiently robust to represent the multidimensionality of poverty. Are indicators like household size and average age of family members really good indicators to assess poverty?

There is a trade-off between redundancy and risk of obviating important indicators. Some villagers may want certain items, say a motorcycle or a DVD player, while others may not. Not wanting an item does not mean they cannot afford it. In short, people's preferences affect their consumption of goods, services and activities.

How can research differentiate the key indicators from the less important ones? How much more score should be assigned to the more important indicators and how can this be operationalized? Are some dimensions more important than others? How much relative importance should be given to dimensions considered as key and what relative weight should be given to 'depth' and 'width' of poverty (Qizilbash 2003)?

In practice, comparisons are very difficult and problematic because of regional differences and different understandings and definitions of indicators. Use of the indicators which this study identified brings its own problems. How should they be defined and specified? Even with precise definition and specification, will the indicators be understood and specified in exactly the same way by all interviewers and respondents? Of course, the definitions and specifications of the indicators cannot be precise. This point is supported by Saith (2007). Are the different indicators comparable? Is electricity cost comparable with AEI? For example, the number of migrants and the number of cattle and horses does correlate with average expenditure, income and the PWR results. However, in reality households with no migrants or cattle and horses are not necessarily poor. The composition of households in rural areas is changing. Professional households are emerging, such as that of the doctor, the shop

owner, the restaurant owner, other business people and truck drivers. These households have no migrants, cattle or horses. Households that are relatively rich no longer raise animals. Using indicators like numbers of migrants and ownership of cattle and horses may result in their being included on the poor list.

Who knows what other problems will be caused by the use of these indicators. A danger of their use in poverty assessment is the possibility that they will discourage people from migrating, attending school, buying durable assets, raising cattle and horses, spending money on transportation, communication and electricity, so as to avoid gaining points. This did happen in the case of India. People may under-report their family size, age, numbers of migrants, years of education, ownership of furniture, number of cattle and horses and costs for transportation, communication and electricity, as these are linked to poverty assessment. There is a danger of encouraging households to separate into smaller-sized units to avoid gaining 'wealth' points.

Even once the indicators have been chosen, how far must a person or household fall short in terms of each dimension to be categorized as poor? This is the issue of the 'critical level' at or below which one is poor in some dimension. There is also an identification problem: should an individual be defined as poor if they are poor in any dimension, just one dimension, some basket of 'basic needs', or only if they are poor in terms of all the specified dimensions, or in terms of some overall index or average of indices related to poverty (Qizilbash 2003). How far should poverty extend in the various directions?

It is difficult to scale and weigh the dimensions. The indicator scale needs to be tried many times to attempt to spread households into different bands relatively equally. The scales of different indicators must keep changing to avoid a concentration of households in one band. This is inconvenient in assessment. Whether to give equal weight to any two indicators or to any two dimensions is also difficult to decide. According to Morris (1979), there is no reason to treat any one indicator as more important than another, and equal weight should be assigned to each in the composite index. Different methods of weighting do produce different results, and any change of scale produces changes in household rankings (Morris 1979).

Another question is whether to aggregate the dimensions. Can they be aggregated into a unique index of multidimensional poverty? How would a multidimensional poverty index be compiled? Aggregating the dimensions simplifies the multiple dimensions. However, this may hide or lose important information related to the multidimensional characteristics of poverty. In so doing, it might bias the decision process and obscure the strengths and weaknesses of various policy alternatives. To avoid such problems, other researchers have proposed aggregation without value-weighting. They suggest adding quantifiable measures converted to some common scale. Another issue is the value-weighting itself, which attempts to express the differential contribution of each piece of data to some spe-

cific decision criteria or to the general quality of life of various groups in society. Without a proven index aggregated for all dimensions, comparison will be difficult. Researchers and decision-makers have different considerations regarding the relative advantages and disadvantages of aggregation and value-weighting. The key question in developing a value-weighting scheme is 'whose value?'. The answer may be 'politicians', 'experts', or the 'public's' (Carley 1981).

Another important question is where to set the threshold or the 'bottom line' in each dimension. This relates to the 'width' and 'depth' of poverty assessment and to horizontal and vertical ambiguity (Qizilbash 2003). To draw a poverty line means to divide the population into poor and non-poor. This is discriminating and restrictive in view of the multidimensional nature of poverty. One alternative methodology is to rely on the concept of 'fuzzy sets' which uses different degrees instead of a dichotomy of poor and non-poor.

Even if we draw a poverty line to divide the households into poor and non-poor, will the households identified in Yunnan be comparable with the households identified in Zhejiang? Will a ten-point score mean the same thing in Yunnan and Zhejiang? Will different places use the same poverty line to identify the poor? Comparison problems thus remain between scores and households identified in different places.

Finally, the unit of analysis is the household. Intra-household differences are overlooked.

To summarize, a great many of the choices and decisions made in the process of applying this approach are to some degree arbitrary: the use of weights and scales, the choice of thresholds, the choice of what dimensions and indicators to include, the definition of a dimension, the choice of whether or not to aggregate. After aggregation, when an index or just a number is produced, it may no longer be possible to set an intelligent threshold. Indeed, in this exercise I felt that the threshold set to separate the poor from the non-poor was quite arbitrary. To draw the line is a political act.

These findings and concerns have policy implications.

The foregoing analysis points to important conclusions at the conceptual, methodological, research and policy level. Poverty is multidimensional. The proposed multidimensional poverty indicators can be used to identify the poor households at the village level for poverty reduction efforts. In order to be employed practically and in a participatory way, the indicators should be translated into a short, focused scorecard and be discussed at meetings with groups of villagers who know the households well. Compared to a detailed household survey, these indicators as a tool represent a simple and low-cost option for poverty assessment compared to conventional income and expenditure surveys. For national comparisons, the indicators would need to be standardized.

The method does enable measurement of the multidimensionality of poverty. Identification of poor households using the MDIs provides poli-

cy guidance and offers insight into the dimensions of poverty relevant in a certain area. It can thus assist in the formulation of government policies and programmes. To achieve this, however, a paradigmatic shift in poverty analysis is required. There is a clear need for rigorous empirical study to explore the sociological aspects of poverty and to shift the attention of poverty researchers from purely economic analysis of poverty to a broad sociological view of poverty (Ahmed 2004). Further, a shift of strategy is needed by poverty stakeholders like policymakers, government officials, donors and NGOs from the present emphasis on income-generation activities to broader strategies, like provision of social services, asset generation, infrastructure improvement and establishment of a pension scheme (Ahmed 2004).

Creation of the AEI adds value to the multidimensional poverty indicators. It draws lessons from the HDI, which cannot be used at the micro level. The AEI avoids the inaccuracies found in adult literacy rates and the gross enrolment index and remedies the lack of measures for household members younger than 15 years old. It directly measures the outcome of education including all household members older than seven years of age, even schoolchildren. That means the education of school-age children is incorporated. If a household does not send a school-age child to school, its AEI is low. It is therefore a good way to cover children who have dropped out of school. The AEI is accurate and applicable for measuring education at the household level.

8 Conclusions and the policy implications of choice of approach from the multiple identifications

8.1 Introduction

Comparing different approaches to poverty assessment and their applicability to the same population in an empirical study is new, especially in the context of China. The current research tested four ways to identify the poor in Jiankang Villagers' Committee, Wuding County, Yunnan Province, southwest China. The study population comprised 1,798 people in 473 households. For this population, the preceding chapters have presented the implementation and results of China's official poverty identification method, the monetary approach to poverty identification, participatory poverty assessment and the use of multidimensional poverty indicators. The central hypothesis was that different approaches would generate different poverty incidences and identify households with different characteristics as the poor, thus leading to different policy implications. This study had two specific objectives: (1) to explore differences that arise from the use of the various approaches to identify the poor; and (2) to derive the potential policy implications of these. To this end, a number of questions were answered:

- 1 What incidences of poverty are obtained using the different approaches?
- 2 What households are identified as poor by the different approaches; and what is the degree of overlap and differential coverage between the results of the different approaches?
- 3 What do the alternative approaches highlight and hide?
- 4 Does the choice of approach have implications for policy and action?

The study began by reviewing the literature on the different approaches (Chapter 1). It looked at poverty in China from a macro perspective (Chapter 2) and at the economy, society and deprivation in Yunnan Province and at the field site (Chapter 3). The official poverty identification method was then discussed (Chapter 4), followed by application of the monetary approach to poverty identification (Chapter 5), participatory poverty assessment (Chapter 6) and multidimensional poverty indicators (Chapter 7).

The evolution of poverty and the recognition of poverty as multidimensional and multidisciplinary have gained acceptance in international discourse. Because poverty has been shown to have a multidimensional nature, its study must go beyond economic considerations to encompass broader socioeconomic characteristics and different disciplines. The multidimensional nature of poverty in China is more or less consistent with global findings. Poverty in China reflects the country's complicated rural socioeconomic context. Even though poverty is now generally viewed as a social and economic problem, the Chinese government still interprets the term in a narrow economic sense, using the monetary approach to define the poor as persons with an income of less than a certain amount (668 yuan per year in 2004). Thus, the poor population is still identified on the basis of income and consumption. This tool remains too simplistic to capture the multiple and complex aspects of poverty. People who are poor in other dimensions are neglected, even those suffering from newly emerging forms of poverty like health and education poverty. Households which are poor in respects other than income are left out by the monetary approach.

This chapter first compares the four approaches tested in previous chapters and summarizes the main empirical findings of the study to answer the research questions. Section 8.3 concludes and answers the question of whether the choice of approach matters. Section 8.4 discusses limitations and challenges of poverty assessment. Section 8.5 formulates some policy implications of the choice of approaches for understanding poverty assessment concepts, methods and policies.

8.2 Comparison of different approaches and empirical findings

The previous chapters applied four approaches to identify the poor in Jiankang.

The first, China's official poverty identification method, is the means by which LGOPAD identifies who and where the poor are for poverty alleviation interventions. LGOPAD asks villages and villagers' groups to submit a list of poor and low-income households and people. So a poor households and people list is produced by village leaders, accountants and villagers' meetings. This list is then submitted to LGOPAD at the county, prefecture, provincial and even central level for poverty reduction resource allocation. For comparison purposes, this chapter uses the 2004 poor households list (*pinkun hu nonghu huaming ce*) for the nine research villagers' groups in Jiankang Villagers' Committee, Chadian Township, Wuding County.

The monetary poverty line approach was implemented based on household survey data collected by the author to identify the poor households using the 2004 national poverty line of 668 yuan and the low-income line of 924 yuan. The local price-based poverty line of 1,296 yuan and low-

income line of 1,945 yuan were derived for comparative purposes. This takes the same food basket as that used to calculate the national poverty line but figured local prices in the calculation. Local people also have their own food basket with which the locally perceived poverty line was calculated. The local people's poverty line was 2,315 yuan and the local low-income line was 3,475 yuan. Poverty was measured by consumption expenditure per adult equivalent with adjustments made for economies of scale and resident equivalence.

The PPA exercise used participatory rural appraisal techniques to assess poverty based on local villagers' criteria and categories. The PPA divided households into poor, average and non-poor categories (women's groups also identified a 'poorest' category). For comparison purposes, the results of the men's groups are used here because the men divided households into three groups, which is comparable with the results of China's official poverty identification method (poor, low-income and non-poor households) and the results of the monetary poverty assessment, which also produced three categories (poor, low-income and non-poor).

Multidimensional poverty indicators were chosen based on the household survey data. Eight indicators emerged, covering five dimensions: (1) demography: household size and average age of family members; (2) human development: education index (which encompasses the aspects covered by other education-related indicators); (3) employment (migrant): average number of migrants and number of formally employed household members; (4) assets: average pieces of durable assets, average number of cattle and horses; (5) expenditure: average transportation and communication cost, average electricity cost. It is difficult to set a unique combined threshold for multidimensional poverty indicators. This study defines the bottom one third of households as poor households in the MDI ranking using the poverty incidences of the participatory wealth ranking and the official poverty identification method as benchmark. Poverty and average poverty incidence are defined according to the local people's poverty line and the PWR's poverty incidences, which are very close. Using the local food basket poverty line and the PWR results, 62–7 households were classified as non-poor. For purposes of comparison, this chapter uses 63 households as non-poor households according to the multidimensional approach. Table 8.1 presents the adjusted results of poverty incidences derived from the four approaches for comparison.

This research generated four main findings. First, different approaches produce different poverty incidences. Second, different approaches identify households with different socioeconomic characteristics as poor. Third, there is very little overlap between the households identified by the different approaches. Last, different approaches highlight certain aspects and dimensions while hiding others. These findings are echoed in the poverty literature (Scoones 1995; Laderchi *et al.* 2003; Franco 2003; Stewart *et al.* 2007; Fusco 2003; Parker and Kozel 2007).

Table 8.1 Comparison of poverty incidences (adjusted results) of different approaches

<i>Approach</i>	<i>Poor</i>	<i>Average</i>	<i>Non-poor</i>	<i>Poverty (%)</i>	<i>Poverty and average (%)</i>	<i>Non-poor (%)</i>
(1)	(2)	(3)	(4)	(5) = (2)/ (2) + (3) + (4)	(6) = (2) + (3)/ (2) + (3) + (4)	(7) = (4)/ (2) + (3) + (4)
National poverty line	16	22	435	3.38	8.02	91.96
Local price-based poverty line	85	115	273	17.97	42.28	57.71
Local people's poverty line	282	129	62	59.61	86.88	13.10
Official poverty list*	190	283	–	40.16	100	–
PWR*	160	245	68	33.82	85.61	14.37
MDI	160	250	63	33.82	86.67	13.31

Note

* The households left out by the official poverty list and the PWR are added to each column according to the ratio for comparison.

8.2.1 Different approaches generate different aggregate poverty incidences

Comparison of the empirical studies showed that the different approaches produce different aggregate poverty incidences. Poverty rates differ significantly according to the approach adopted. Poverty incidences range from 3.38 per cent according to the national poverty line, to 33.82 per cent using the PWR and MDI and to a high of 40.16 per cent using the official poverty identification method.

The incidences generated of low-income households (including both poor and average-income households) also vary widely. Low-income incidences range from 8.02 per cent using the monetary poverty approach and 85.61 per cent according to the participatory approach, to 86.67 per cent according to the multidimensional poverty approach and 100 per cent according to the official poverty identification method. The poverty incidence and low-income incidence measured by the national poverty line is very low and that according to the official poverty identification method, PWR, MDI and local people's poverty line is very high. There is thus wide divergence, with striking differences.

One question that arises is whether the large number of households which are poor according to one approach but not according to another

is an artefact of the particular poverty assessment approach selected, or whether the national poverty line and low-income line are in reality too low. Thus, the local price-based poverty line and local people's perceived poverty line were used for comparison with the results of the PPA and the official poverty identification method. Both the local people's poverty line and the PWR are based on the perspectives of local people. However, the poverty incidences generated by each still differ greatly. The poverty incidence according to the local people's poverty line is 59.61 per cent, which is much higher than the PWR poverty incidence of 33.82 per cent (Table 8.1).

In fact, use of the various poverty lines does not greatly alter the results. We still find that different approaches produce very different poverty incidences. Hence, changing the cut-off point for monetary poverty does not eliminate the large discrepancies in poverty incidences between the official method, the participatory method and the multidimensional approach. The empirical evidence thus shows that different approaches generate significantly different poverty incidences. The differences are huge. Research from Chile, Vietnam, India and Peru shows similar findings (Fusco 2003; Laderchi *et al.* 2003; Parker and Kozel 2007; Franco 2003). It is then useful to look at the characteristics of the poor households identified by the different approaches.

8.2.2 Different approaches identify households with different characteristics as poor

The level of poverty was computed according to each approach, and for each approach poverty profiles were constructed to explore different socioeconomic characteristics of the households identified. This showed that different identification methods and approaches identify households with different socioeconomic characteristics as poor (see Lu 2009 for details) (Tables 8.2 and 8.3).

Only household size and education indicators have the same negative correlations in all the approaches. Further, ethnicity is positively correlated with poverty in all four approaches. Thus, all of the approaches identify as poor smaller size households, Miao and Yi households and households with less-educated adults, heads and all members. Other characteristics of poor households differ depending on the approach used.

The official poverty identification method identifies households which were thought to be poor by the village leaders, accountants and the powerful people in the group, though they tended to also include themselves and their friends and relatives on the poor list. The official poor are households which are income or consumption poor, quota poor, power poor, dependency poor and politically poor. Official poor households have younger household heads and members, fewer migrants, higher dependency rates, more disabled members, more sick members and fewer formally employed members.

Table 8.2 Correlations of household socioeconomic characteristics with level of poverty according to different approaches

Socioeconomic characteristics	Level of poverty			
	Official poverty identification	Monetary approach	PWR	MDIs
Ethnicity ¹	Miao (+) -0.1580	Miao (+) -0.1263	Miao & Yi (+) -0.0001	Miao(+) -0.1231
Sex of household head ²	0.1212	-0.0010	-0.0684	-0.2254
Migrant ³	0.0407	0.1862	0.0344	0.3701
No. of formally employed members ⁴	0.0730	0.1366	0.1373	0.1351
Household size ⁵	-0.0433	0.1385	0.2712	0.6177
Age of household head	0.0942	-0.0368	-0.0011	-0.3788
Age of household members	0.0849	-0.1028	-0.0470	0.5813
Years of education of household head ⁶	0.0306	0.1294	0.1861	0.4624
Average years of education of adults older than 15 years ⁷	0.0872	0.2094	0.2779	0.6658
Average years of education of all members ⁸	0.0813	0.2552	0.2785	0.6280
Gross dependency rate ⁹	-0.0394	-0.0888	-0.0322	-0.0555
Average no. of labourers ¹⁰	-0.0629	0.1359	0.0769	0.2415
Average no. of children in school per capita ¹¹	-0.0609	0.0594	0.0434	0.2194
Average no. of sick members per capita ¹²	-0.0178	0.0530	-0.1605	-0.2344
Average no. of disabled members per capita ¹³	0.0162	-0.0401	-0.1129	-0.2248
Average medical cost	-0.0759	0.8143	-0.0284	0.0344
Average school cost	0.0468	0.0984	0.0214	0.1437
Average labour	-0.0629	0.1359	0.0769	0.2415
Average dry land	0.0844	-0.0124	-0.1793	-0.3171
Education index	0.0696	0.2129	0.2705	0.6818

Notes

~ no correlation; + positive relation; - negative relation

1 Miao, Yi or Han Chinese.

2 Male or female.

3 Migrant or not migrant. This variable was defined on the basis of whether the household has migrants who work outside the village.

4 Number of household members working for government or having a permanent job.

5 Number of household members in a household.

6 Years of education completed by the household head.

7 Years of education completed by the household members over 15 years old.

8 Years of education completed by all household members.

9 The dependency ratio is defined as the ratio of the number of dependants (people aged less than 15 or older than 60) and the number of people of working age (between 15 and 60).

10 The ratio of labourers (able labourers ages 18-60 for men and 18-55 for women) divided by total population of the household. Here average labourers does not count physically or mentally disabled members, those who are still in school, and those with a long-term sickness who are dependent on other household members.

11 Average number of schoolchildren per capita.

12 Average number of sick members per capita reported by the households.

13 Average number of disabled members per capita reported by the households.

The monetary poverty approach identifies as poor households whose income or consumption expenditure is less than the national poverty line of 668 yuan. The monetary expenditure-poor households are those with older household heads and members, fewer migrants, fewer average labourers, fewer children in school, fewer sick members, lower gross dependency rate and Miao ethnicity. In the study area, these expenditure-poor households were the five-guarantee households, the elderly couple households, female-headed households with no husband, single-member households, households with disabled members, households with no formally employed members and households with low education of adults, household heads and all household members.

Participatory poverty assessment identifies those households which are thought of as poor by the local people, using locally accepted criteria and categories. Villagers view as poor the five-guarantee households, households with disabled members, single-member households, elderly households, female-headed households, male-headed households with no wife, households with sick members, households with more than two children in school and households with few livestock. The poor households identified by the participatory methodology are those with older household members, lower education of family members and more sick members. Female-headed households, male-headed households with no wife and ethnic Miao households are viewed as poorer than male-headed households and Han Chinese households.

Multidimensional poverty indicators identify households which are poor in various socioeconomic dimensions and according to varied indicators, such as household size, age, education, assets and employment. In general, the poor households identified using the multidimensional poverty indicators are those with low education, older family members, fewer labourers, more disabled and sick members, fewer migrants and no members in the formal sector. Poor households are those with small household size, young age, low education, few durable assets, few cattle and horses and minimal expenditure on transportation, communication and electricity. Female-headed households, five-guarantee households, all single-member households, households with sick or disabled members, those with few children in school, Miao ethnicity and no formally employed members are also poor according to the multidimensional approach.

Different approaches thus identify households with different socioeconomic characteristics as poor. So, if different approaches are used to identify the poor, different households are identified.

Table 8.3 Poverty profile according to different approaches

Approach	Official poverty identification				National poverty line			National basket local price-based poverty line		
	Poor	Low income	Left out	Poor	Low income	Non-poor	Poor	Low income	Non-poor	
Category										
Total households (HH)	181	271	21	16	22	435	85	115	273	
Percentage	38.26	57.29	4.43	3.38	4.64	91.96	17.97	24.31	57.71	
Ethnicity										
Han (HH)	83	154	13	8	15	227	45	60	145	
Yi (HH)	67	97	8	6	4	162	23	34	115	
Miao (HH)	31	20	0	2	3	46	17	21	13	
MHH (HH)	173	251	16	13	18	409	75	111	254	
FHH (HH)	8	20	5	3	4	26	10	4	19	
HH size (persons)	3.72	3.95	2.47	2.56	3.09	3.88	3.07	3.94	3.96	
Head age (year)	42.69	43.64	50.52	53.93	46.95	43.03	47.17	41.8	43.22	
Average age (year)	34.94	35.17	45.40	47.76	39.1	34.91	40.56	34.76	34.30	
Average migrants (person)	0.19	0.22	0.15	0.20	0.09	0.21	0.15	0.17	0.23	
GDR	0.54	0.50	0.47	0.44	0.51	0.51	0.43	0.61	0.49	
Average no. labourers	0.65	0.65	0.48	0.46	0.53	0.66	0.59	0.63	0.66	
Average no. children in school	0.13	0.13	0.03	0.03	0.07	0.14	0.06	0.14	0.15	
Average education years (adult ≥ 15y)	4.38	5.17	3.89	3.26	3.81	4.92	3.94	4.68	5.14	
Average education years of head	4.88	5.14	5.04	3.25	4.13	5.15	3.98	5.17	5.31	
Average education years of members	3.86	4.58	3.21	2.98	3.26	4.34	3.40	4.12	4.56	
Average no. disabled	0.07	0.04	0.19	0.12	0.13	0.05	0.10	0.04	0.06	
Average no. sick	0.17	0.15	0.19	0.2	0.14	0.16	0.15	0.14	0.18	
No. formally employed member/group	1	12	0	0	0	13	3	0	10	

continued overleaf

<i>Approach</i>	<i>Local food basket poverty line</i>						<i>MDI</i>					
	<i>PWR</i>			<i>PWR</i>			<i>PWR</i>			<i>PWR</i>		
<i>Category</i>	<i>Poor</i>	<i>Low income</i>	<i>Non-poor</i>	<i>Poor</i>	<i>Non-poor</i>	<i>Average</i>	<i>Non-poor</i>	<i>Left out</i>	<i>Poor</i>	<i>Average</i>	<i>Non-poor</i>	
Total households (HH)	282	129	62	155	236	67	15	3.17	160	250	63	
Percentage	59.61	27.27	13.10	32.76	49.89	14.16			33.82	52.85	13.31	
Ethnicity												
Han (HH)	143	68	39	81	132	27	8		73	142	35	
Yi (HH)	93	58	21	54	74	37	7		58	88	26	
Miao (HH)	46	3	2	20	26	3	0		29	20	2	
MHH (HH)	263	121	56	140	221	63	12		139	240	61	
FHH (HH)	19	8	8	15	11	4	3		21	10	2	
HH size (persons)	3.62	4.04	4.11	3.43	3.95	4.46			2.26	4.23	4.46	
Head age (year)	44.22	41.54	33.80	42.9	43.8	42.35			48.1	40.86	42.93	
Average age (year)	36.70	33.82	33.80	35.73	34.5	34.03			43.68	31.57	30.59	
Average migrants (person)	0.17	0.23	0.28	0.19	0.22	0.20			0.13	0.22	0.38	
GDR	0.52	0.55	0.40	0.57	0.44	0.57			0.95	0.51	0.32	
Average no. labourers	0.63	0.65	0.69	0.61	0.68	0.64			0.48	0.59	0.73	
Average no. children in school	0.11	0.16	0.16	0.12	0.14	0.14			0.05	0.08	0.14	
Average education years (adult ≥ 15y)	4.50	5.07	5.69	4.06	5.09	6.12			2.54	5.42	7.20	
Average education years of head	4.70	5.48	5.64	4.39	5.15	6.35			4.00	5.55	7.34	
Average education years of members	3.92	4.49	5.21	3.5	4.57	5.26			2.39	4.68	6.43	
Average no. disabled	0.05	0.07	0.06	0.08	0.05	0.02			0.06	0.11	0.00	
Average no. sick	0.15	0.17	0.22	0.21	0.14	0.10			0.27	0.21	0.10	
No. formally employed member/group	6	0	7	1	6	6			0	10	3	

Notes

HH households
FHH female-headed households
MHH male-headed households.

8.2.3 *Little overlap of households among different approaches*

Poor households identified by all four approaches

Only four households are identified as poor by all four approaches. This is less than 1 per cent of the households (see the area PQRS in Figure 8.1 and Table 8.4). Interestingly, of the four overlapping households, two are five-guarantee households, one is an elderly couple and the other is a father-and-son household. This indicates that five-guarantee households, elderly couple households and male-headed households with no wife are viewed as poorest, regardless of the approach used.

Taking the poor and average groups together, only 30 households (6.34 per cent of households) are identified by all four approaches. Typical poor and average households are elderly couples, five-guarantee households, female-headed households, male-headed households with no wife, elderly single women, households with sick and disabled members, households with little education and households with few migrants.

Comparing the national poverty rate with the rates derived using the official poverty identification method and the PWR (Table 8.1), the national poverty line appears too low to meaningfully identify the poor. Rather, it can be said that the national poverty line hides poverty. Assessment of poverty based solely on the monetary approach masks the plurality of deprivation faced by the poor.

Only the analysis using the local people's poverty line derived from a local basket of goods is comparable with the results of the official poverty list and PWR. Using the local people's poverty line of 2,315 yuan per person per year and comparing this with results of the official poverty identification method, the PWR and the MDIs, we see that although the percentages of households in each category are similar, few households in fact fall into the same category in all four approaches. Although in all approaches more than 30 per cent of the households are identified as poor, only 34 households are viewed as poor by all four approaches. This is just 7.1 per cent of households. The maximum overlap between two different approaches is 21.35 per cent. Though all approaches show more than 74 per cent of the households as poor and average (low-income), only 64.48 per cent (305 households) are categorized as poor and average households under all four approaches.

Overlap of poor households in three approaches

Figure 8.2 and Table 8.4 show that the maximum overlap of poor households among any three approaches is 31 households, or 6.55 per cent of the total. The minimum overlap is 0 households. This means that combining any three approaches, fewer households are identified as poor. This overlap is quite low.

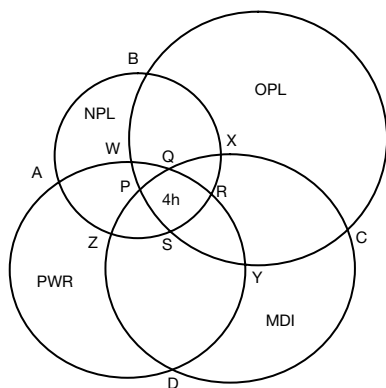


Figure 8.1
Overlap of poor households in four approaches in PQRS

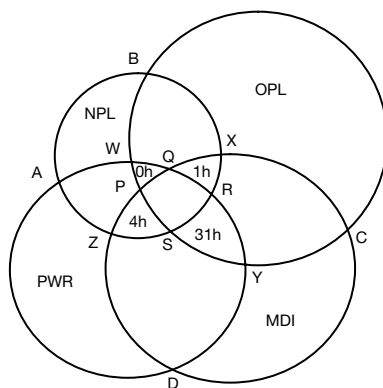


Figure 8.2
Overlap of poor households in three approaches in PQY, QRZ, PSX, WRS

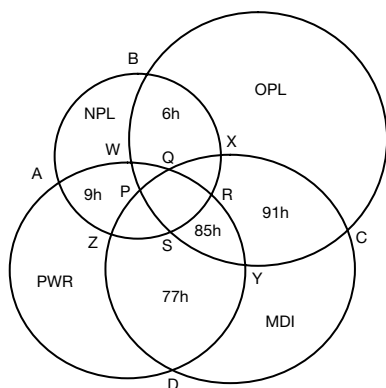


Figure 8.3
Overlap of Poor households in two approaches in BS, WY, QD, PC, AR, ZX

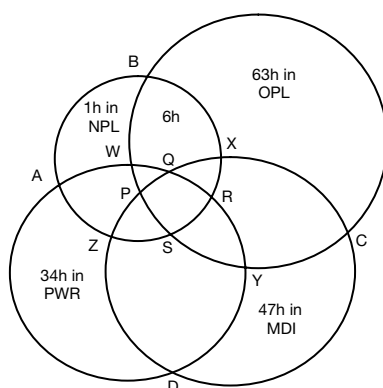


Figure 8.4
Overlap of poor households in one approach in ABW, BCX, DAZ, CDY

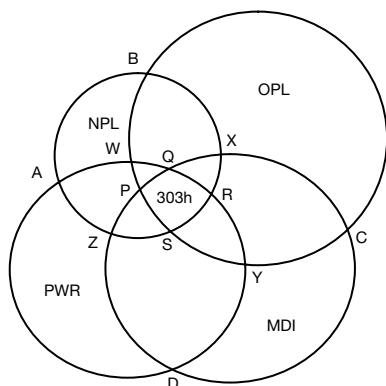


Figure 8.5
Numbers of poor households in any one of the approaches in ABCD

Overlap of poor households in two approaches

Figure 8.3 and Appendix A7 present the overlap of poor households between any two approaches. The poverty incidence of the official poverty list and PWR at first appears similar. However, on closer examination, the overlap rate turns out to be less than 55 per cent. That means that only half of the poor people are identified if we use any two of the approaches. The poor households generated by the official poverty identification method are very different from those identified by households engaging in PWR, even though the government is trying to promote participation in the official poverty identification process.

The official poverty list shows almost all households to be low income. So every household would benefit from poverty reduction resources. Yet such an equal distribution of resources to all households implies a leakage of resources to non-poor households. The official list leads to a mis-targeting to non-poor households. Because there is no longer any real targeting of poor and low-income households, there is in fact no need for a list.

There is little overlap between poor households identified by the official poverty identification method and those identified using the national

Table 8.4 Number of households identified as poor by any one, only one, two, three or four approaches

	<i>NPL</i>	<i>OPL</i>	<i>PWR</i>	<i>MDI</i>	<i>Overlap area</i>
No. of households identified as poor by all four approaches (HH)	4				PQRS
No. of households identified as poor by three approaches (HH)	—	31			PQY
	—	—	4		QRZ
	1		—		PSX
	0			—	WRS
No. of households poor by two approaches (HH)	6		—	—	BS
	—	85		—	WY
	—	—	77		QD
	—	91	—		PC
	9	—		—	AR
	6	—	—		ZX
No. of households identified as poor by only one approach (HH)	1	—	—	—	ABW
	—	63	—	v	BCX
	—	—	34	—	DAZ
	—	—	—	47	CDY
No. of households identified as poor by any one approach (HH)	303				ABCD
Total households (HH)	473				

Notes

HH households

— poor households are not poor under this approach.

poverty line (Appendix A7.A1). This is despite the fact that both use income as a benchmark. The official poverty identification method actually hinges on the quota of poor population allocated by government, not on income. Wuding County is a state-designated poor county, and the local government is trying to maintain the title by submitting large numbers of poor population. As a result, there is very little overlap between the households identified by the two approaches. We may also conclude that the national poverty line is too low to identify the real poor and measurement is quite complex.

Comparing the results of the PWR and the MDIs (Appendix A7.E1), the overlap here is just 77 households (less than 52 per cent) even though the poverty rates used are very similar. The PWR results thus are still very different from the MDI results. Different types of households are identified as well.

The local people's poverty line and PWR are both derived from local views, expressed in talks with villagers. The results should therefore be close. More than 60 households were ranked as non-poor. Many of the households identified according to the local people's poverty line and PWR are also identified by the monetary approach. That means local people feel poor in a monetary sense. They lack cash income. The participatory approach identifies fewer people as poor. This implies that people feel less poor in a relative, non-monetary sense. They find other measures or aspects to compensate for monetary poverty, like having a son and possession of certain assets. In fact, poor households commonly use social assets in times of difficulties. The overlap households identified as poor by the local people's poverty line and PWR are 103 households (21.77 per cent). It is 36.52 per cent of the poor people identified by the local people's poverty line and 66.45 per cent of the poor people identified by PWR (Appendix A7.D1). The overlap poor and low income (average) households identified by both the local people's poverty line and PWR are 341 households (72.09). It is 88.11 per cent of the total poor people identified by PWR and 82.96 per cent of the poor people identified by the local people's poverty line. That means the overlap of poor and average households between these two approaches is quite high. Because the poverty and low-income incidences for both approaches are high, and both methods come from the local people, it more or less reflects the local situation.

Poor households identified in only one approach

Figure 8.4 and Table 8.4 show the number of poor households identified by only one approach. The official poverty list contains the highest number of poor households (63 households) which were left out by the other three approaches. Using the national poverty line, the monetary approach identifies one household that was left out by the other three approaches. That means whatever three approaches are used, one or

more of the poor households identified by the other approaches will still be left out.

Poor households identified in any one of the approaches

If we are not interested in the particular type of poor households we identify, as long as the households are identified as poor by any one approach, 303 households are poor (see ABCD area in Figure 8.5 and Table 8.4). Or we could say that 303 households are poor in at least one dimension. That means whatever approach we use, 64.05 per cent of the total households are identified as poor in at least one dimension.

To summarize, which households are classified as poor depends on which approaches are used to identify them and where the thresholds are set. Different approaches identify households with different characteristics as poor. Changing the approach and the thresholds does not alter the results. The overlap between the four approaches is quite low.

8.2.4 Different approaches highlight and hide different aspects, each has strengths and weaknesses

Different approaches look at or focus on different aspects and dimensions, highlighting and hiding different facets. Of the four approaches to identifying poor households, each has strengths and drawbacks. All of the methodologies contribute to a detailed description of what poverty actually means for those involved. Each reflects some aspects. But no single approach conveys the truth about all dimensions of poverty.

Monetary poverty approaches and the MDIs show inequality and absolute poverty, while allowing for comparisons and generalization at the micro and macro level. MDIs offer an operational instrument for poverty reduction targeting, not only at the community level, but also for national-level comparison and generalization. However, issues remain, such as how to define a dimension, how many dimensions or indicators to use, how much weight or score to give each, how to scale an indicator or domain, whether or not to aggregate and where to draw the poverty line. PPA reveals poverty processes and deals with social concepts like status, power and stigma, gender issues, women's voices, health and education, participation, culture, leisure and quality of life. It also helps to clarify the reasons why people act as they do (Place *et al.* 2007). Nonetheless, the relative nature of the poverty measures causes comparison problems. These arise at the micro level, but become especially acute at the macro level, where standardization, generalization and comparison are required. The monetary approach masks households with more disabled and sick members, and neglects consumption of public goods, such as education and health care. It also neglects aspects of participation, culture, leisure and quality of life. Use of adult equivalence and economies of scale adjustments, resident equivalence, the local food basket and the setting of vari-

ous thresholds in the monetary approach appear quite arbitrary. The official poverty identification method hides issues of gender, old age, culture, leisure and quality of life. Moreover, its results are relative and political; they are not comparable and cannot be generalized at the macro level.

These are not purely technical issues. They also have a bearing on ideology and politics in a broad sense. They are ideological because they reflect epistemological positions regarding knowledge claims. They are political because the way they are handled affects the credibility of research results in political processes (Shaffer 2002).

Micro- or macro-level analysis

Following Laderchi *et al.* (2003) and Hayati *et al.* (2006), all indices used to measure poverty are applicable at specific levels, such as the individual, household, regional, national or international level. The official poverty identification method is a top-down approach used by local government to identify the poor at the village level. The result is political, relative and location-specific. The official poverty identification method cannot be used for comparisons at the regional, national and international levels. The income poverty line – or monetary approach – can be used for regional, national and international comparisons. PPA is a bottom-up approach to understand poor people's perceptions, values and life realities. It works well in small clusters where people are well acquainted with one another, but it is relative and subjective. Though it can be used for individuals and households, it is inappropriate for comparisons across communities or at the regional, national and international level. MDIs can be used both at the micro level to identify poor households and for broader comparisons at the macro level.

Social exclusion and ethnicity

Social exclusion is especially difficult to estimate. The participatory focus group discussions did not generate a definition of social exclusion. No groups saw themselves as being socially excluded. Even the Miao, who live far away in a remote mountainous area, did not consider themselves socially excluded. Ethnicity is important in places like Yunnan, where different ethnic groups reside. Table 8.3 shows ethnicity as having a similar influence in poverty assessment, regardless of the approach used. Whatever approach is used, Miao households are always identified as poorer than Han Chinese and Yi. Ethnic minorities like the Miao usually live in remote mountainous areas. Miao villages are more or less marginalized and excluded from economic development because of the language barrier, low educational attainment, remoteness and lack of assets and opportunity. However, social exclusion is a relative concept. At the micro level, a minority group may be dominant in a village when most households belong to that group (see also Chapters 6 and 7). At the macro

level, ethnic minorities are more or less excluded as a result of geographical inaccessibility and cultural and language differences. Poverty reduction policies could be designed to shift more benefit to ethnic minorities and to remove barriers of exclusion and discrimination along ethnic lines. Women view themselves as poorer than men, and women feel that they have a harder time than men, especially those women who live in poor households. In general, women are more excluded than men from cultural, political and economic aspects of life. A root cause of women's poverty is gender-based social exclusion. Reduction of women's poverty must focus on eliminating their exclusion and discrimination (Wang 2006). Male-headed households with no wives and couples with no children are also identified as particularly vulnerable to different types of poverty. Exclusion here is mainly caused by ethnicity, region, sex and ability. Poverty reduction policies could pay more attention to these vulnerable groups as well.

Gender issues and women's voices

PWR and MDI did a better job of identifying female-headed households, single elderly women and elderly couples that are poorer, more vulnerable and face greater social and economic constraints. PWR and MDI identify more female-headed households as poor. The official poverty identification method and the monetary approach to poverty assessment exclude female-headed households from the identified poor. The PPA set out to produce information segregated by sex and to develop an understanding of the gender dimensions of poverty. It provides a balanced picture, including the experiences of female-headed households and female members as well as those of male members. Women's experiences, views and ideas in general are reflected in the PPA results, but are overlooked by local officials and in monetary poverty assessments. Women are the less privileged sex in Chinese society. PPA and MDI findings shed light on gender-specific aspects and experiences of poverty. They reveal female-headed households, single elderly women and poor women as more vulnerable and facing more social and economic constraints (McGee 2000). PPA also identifies male-headed households without a wife as obviously poorer households. Other approaches do not reveal this.

Household demography

The demography of poor households is shown differently by the different approaches. In relation to household size, all approaches show small households to be poorer than large ones, and non-poor households tend to be those with larger size no matter which approach is used. The age of the household head is not strongly linked with poverty in any of the approaches. Interestingly, except for the official poverty identification method, all approaches show poverty to be higher in households

with older members. The official poverty identification method shows the opposite: here, the younger household members are, the poorer they are. Except for PWR, all approaches show households with fewer migrants to be poorer than those with more migrants. The number of formally employed members is important in assessments made using the official poverty identification method, PWR and MDI, but not for those using the monetary approach. Gross dependency rate is not linked with poverty according to the findings here. Monetary poverty and MDIs show average number of labourers as important, but this is masked in the official poverty identification and PWR.

Health and education

Health and education show some contradictions with regard to perceptions of poverty, and there is a dilemma here. Spending on health and investment in education impoverishes households in the short term. Many households must borrow money and go into debt to send their children to school or to treat sick family members. However, in the long term, they are building human assets for the future. Over time, they will probably benefit from this human capital and be less poor after their children finish school and find a job, or after the sick family member is treated and can work again, unless the children fail to find a job or the treated sick members die or remain ill or disabled. On the other hand, if they can afford to consume health and education, that may mean they are not poor.

There is a discrepancy between the monetary rich and the PPA rich. The PPA views households with high expenditure on health and education as poor, on the understanding that such high costs drive households into poverty. However, using the expenditure poverty line, these households are viewed as rich because they spend a lot on health and education.

Education shows the same pattern, whatever approach is used and regardless of the education-related indicators applied: households with less education are always poorer. Interestingly, the rate of poverty is higher in the households with fewer children in school according to the monetary approach, because they spend less on education, so their expenditure is low. Households with more children in school are classified as less poor, because they spend more on education. However, the effect of households' number of children in school does not show up on the official poverty list, in the poor identified by the participatory approach or in those identified using the multidimensional indicators.

Official poverty identification, PWR and MDIs do show the average number of disabled to be important. Households with disabled members are poorer. However, the monetary approach does not reveal this, which means it neglects disability. The official poverty identification method, PWR and MDIs show that households with sick members are poorer.

Monetary poverty overlooks the effect of sick members on a household's well-being. However, the official poverty identification method, PWR and the multidimensional approach all show the number of sick members as closely related to poverty. The rate of poverty is higher in households with more sick members, as measured by the official poverty identification method, PPA and the multidimensional approach.

Inequality and relational dimensions

The monetary approach and multidimensional approach reveal inequalities between households as well as absolute poverty. The official poverty identification method and PPA can only divide households into poor, low-income (average) and non-poor. They do not show inequality and relational dimensions, neither within a village nor between villages. Villagers compare households. Poverty is relative. The rich households identified in a poor village may be poor if they were in a relatively richer village. The results of the official poverty identification method and PPA thus cannot be compared with other villagers' groups and villages. The official poverty identification method is closely linked with the state-designated poor counties, central government's quota for poor population and budgetary and poverty alleviation policy implications. The poor households and population identified are based not on how poor the villagers are, but on the quota the government allocates to the villages, on politics and on power relations (Park *et al.* 2002; Wang 2007). The official poverty identification method is therefore unable to identify the real poor. Village leaders tend to list their own households and their relatives as poor, even though they are not regarded as poor in more participatory methods.

PPA is effective in revealing poverty processes, dealing with social concepts such as status, power and stigma and for understanding the reasons why people do what they do (McGee 2000). PPA is the better method for uncovering the relationship between poverty, status and power and for getting sensitive issues raised and encouraging candid opinions. Poor villagers and women are less likely to participate in or dominate a group. Women are more likely to raise their voices in women's groups. Men work well in men's groups. Women are quieter in men's groups (Place *et al.* 2007).

The monetary approach is useful for counting poor people and for targeting a population at economic risk (Fusco 2003). Among the four approaches, the MDI approach did a better job in estimating assets held, livestock holdings, employment and consumption.

Comparisons and generalizations

PPA is less useful for comparisons and analysis of poverty across villages, because different meanings are attached to numbers and different categories of assessment are identified in various places (Place *et al.* 2007).

Even if the categories are standardized, the results are not comparable, because different villages have their own criteria and relative measurements for categorizing households. In the official method of identifying poor households much politics was involved, for example quota limitations on the number of the poor. The poverty assessment data from the official poverty identification method and from the PPA exercise are not comparable and generalizable at the macro level, while the data from the monetary approach and MDIs are comparable and generalizable.

The monetary approach and the multidimensional approach are well equipped to investigate trends and changes and to make generalizable inferences on poverty (Place *et al.* 2007). Both provide broad data as a statistically representative picture of all socioeconomic strata.

Participation

There is no participation in assessments made using the monetary approach. Household members just answer questions raised by the interviewers. In the official poverty identification method, the Chinese government is trying to encourage participation. In some villagers' groups, meetings had been held to discuss and decide which households should be on the list. However, many villagers' group leaders still categorize the households according to just their own opinions without the participation of the villagers. Participation here is just an instrumental tool. It leaves the issue of poverty to the villagers, seemingly indicating 'it is your problem, you deal with it'. This is very different from the participation in campaigns before 1978, which preserved proactive involvement situated in a national framework and with political participation driven by the state (Lu 2009).

Local villagers' views on poverty and poor households are fully considered in the participatory approach, and local villagers are empowered in the process. However the bottom-up approach required by the participatory approach is in conflict with the country's top-down bureaucratic system. Institutional, structural and transformative change is thus needed. For this, national, local and village officials and leaders will have to change their ideology, philosophy, attitude, behaviour and working style. At the same time improvements are needed in villagers' skills, knowledge and understanding of participation and government processes, building citizenship while facilitating participation (Cornwall 2002a; Valderrama and Hamilton 1999). This is the extra value added by PPA compared with the other methods. Hickey and Mohan (2004) contend that for the participatory approach to be transformative, three types of critical engagement is required: ideologically explicit participation; a locus of transformation involving multi-scaled strategies encompassing the institutional and structural and going beyond the individual and local levels; and multi-scaled citizenship with thematic priorities of transformation, temporal aspects of participation, space and representation.

The MDIs involve participation in selecting the indicators. However, there is little participation in the poverty identification.

Public goods consumption

The official poverty identification method takes limited account of public goods consumption. The monetary poverty line involves only expenditure or income dimensions. Other dimensions, such as health and education, are omitted. Monetary poverty measures almost invariably include only private resources. They omit social income, which includes goods and services provided publicly like schools, clinics and the environment. This 'can lead to an implicit bias in policy implication in favour of the private income generation as against public goods provision, and also a bias in identifying the poor for target purposes towards those lacking private income, not social income' (Laderchi *et al.* 2003).

In the PWR, villagers mentioned health and education as criteria for poverty assessment. In the MDIs, education is a criterion for poverty assessment. It proved difficult to include health among the indicators.

Culture, leisure and quality of life

Many characteristics mentioned by the villagers, like planning ability, alcoholism, disaster, having too many children, ignorance of agriculture, failure to work on the farm, social status, lack of time and leisure and low quality of life, are difficult to measure using the official poverty identification method, the monetary approach and the multidimensional approach. However, PPA captures all of these aspects. Yet testing these quantitatively requires a complex mix of variables. Illegal livelihoods such as charcoal production and prostitution were mentioned in the PPA but were not specifically asked about in the household survey. Even if we had asked, we would have been unlikely to get honest answers. PPA also captured the history of the villagers, the culture of the different ethnicities, how people enjoy spending leisure time and quality of life. It uncovered complaints about the difficulty of getting a loan, government bureaucracy, corruption and formalism. These were not captured by the other approaches.

8.3 The choice of approach does matter!

The foregoing analysis points to some key conclusions at the research and policy level. This study argues that different approaches have different understandings of poverty from epistemological, typological and normative perspectives (Kanbur and Shaffer 2007). A field like poverty displays quite different ends of the epistemological and methodological spectrums, and the policy implications of each are different (Sumner and Tribe 2004).

This study has shown substantial discrepancies in those identified as poor by the different approaches, suggesting that the choice of approach does indeed matter in poverty identification. The large discrepancies revealed imply problems of targeting. Which households should be targeted for poverty reduction? Should these be the overlapping households, identified by all four approaches? Or households identified by three approaches? Or two approaches? Perhaps households should be targeted that were identified by a single approach. Or all households identified by any of the approaches.

The large discrepancies in those identified as poor according to the different approaches means that over-reliance on any single approach to identify the poor for poverty reduction disregards the multiplicity of poverty. The monetary approach currently dominates poverty assessment. Yet it tends to identify only income-poor households, leaving out households that are poor in other dimensions. Poverty itself has multiple dimensions that cannot be captured by a single methodology or indicator (Franco 2003). Choosing one approach for poverty identification leads to certain households being identified, generating a certain poverty incidence and underlining a certain poverty dimension. Use of only one approach to identify or target people who are poor risks leaving out households that are poor or vulnerable in other dimensions or by other approaches, and overlooking dimensions and aspects revealed by other approaches.

The lack of overlap means that targeting according to one approach will cause serious targeting errors in relation to other approaches and other types or dimensions of poverty. All of the households identified by the different approaches as poor cannot be captured using a single approach. If only one, two or three approaches are used to identify the poor, some households which are identified as poor by another approach are left out.

The households identified as poor by any single approach are deprived and vulnerable in at least one dimension. A focus on only the households identified by all four approaches would be too narrow: only 1 per cent of the households would be targeted (area PQRS area in Figure 8.1). All households identified as poor by any single approach should be included in targeting for poverty reduction according to the specific dimensions in which these households suffer deprivation (area ABCD in Figure 8.5; see also Table 8.4). Considering all of the ways in which a person might be severely deprived points to other dimensions of poverty (Anand and Sen 1997). This broadens the targeting for poverty reduction to a larger number of households and population. It suggests that poverty reduction should provide different help to the poor in the different dimensions.

The complex reality of poverty is difficult to fully capture via any one uni-dimensional or even multidimensional definition or measure. Poverty is a multifaceted object of research and can be defined in several ways. Each of the four approaches studied in this research looks at different

aspects and dimensions, highlights certain aspects and hides others. Each has strengths and weaknesses. Each definition and measure takes into account a particular facet of poverty. All of the methodologies contribute to a detailed description of what poverty actually means for those involved. Each definition and measure conveys part of the truth.

The contribution of this research is its documenting the empirical consequences of using the different approaches to poverty assessment on the same population. The findings were compared with regard to poverty incidences, characteristics of households identified by the different approaches and any overlapping of households identified as poor. The results of this exercise were found to have implications at the conceptual, methodological and policy level.

8.4 Limitations and challenges

Many limitations and challenges face us in the ambition to use multiple approaches and combine results for better poverty assessment.

There is as yet little communication but much bias between practitioners from different disciplines. An example is the bias between participatory approach practitioners and statisticians and economists, and that among sociologists, anthropologists and economists. Practitioners of participatory methods often consider qualitative evidence as sufficient, while statisticians and economists require household surveys to produce 'hard data'. However, in practice and in policymaking, a single approach seldom provides satisfactory data. A change in attitude among both quantitative and qualitative staff and greater interaction between practitioners could reduce this problem. Another solution is to train scientists in understanding, accepting and using different approaches and providing increased opportunities for studies of both qualitative and quantitative methods and their combination (Gunewardena 2003, 2004; Barahona and Levy 2007; Howe and McKay 2007).

Application of participatory approaches also faces challenges from China's top-down bureaucracy and from the attitudes, behaviours, skills, capacities and commitment of government officials and villagers towards participation. Since the start of this research, there have been important developments in poverty identification in China. Limited participation is now called for in the official poverty identification process. Yet local participation in poverty assessment will be very difficult to achieve unless local officials and village leaders change their attitudes and behaviour. They still override the villagers' right to participate, just listing the poor population themselves. Even though there is increasing recognition at the national level of the importance of participation, capacities, skills and commitment to local participation diminish at the lower levels of government. There is also a conflict between the top-down, instruction-driven approach of government officials and the bottom-up procedures required by the participatory approach. Government officials are expected

to manage these two diametrically opposed roles. There is little incentive for government officials to engage in participatory approaches (Plummer and Taylor 2004). Local people, too, find little value or incentive to participate, and they are unaware of their right to participate. Application of the participatory approach requires institutional reform and structural and transformative change in prevailing attitudes, but these changes will be difficult to realize in the short term. It will also require raised awareness of the value of participation among both local government officials and local people (Plummer and Taylor 2004).

To adopt the concept of multidimensional poverty and participatory approaches in poverty assessment in China will require government officials to change their way of thinking and expand their knowledge and capacities to focus on broader socioeconomic development and allow local participation.

Even though this study suggests combining approaches (Rew *et al.* 2007) and using different approaches for different purposes, the measurement of poverty will nonetheless remain a highly political issue. The way a government defines poverty determines the method used to measure it. The choice of what kind of poverty to measure and the methodology used is deeply political. It relates, first, to how the government views poverty and its epistemology on poverty. Second, it depends on what tasks, demands and expectations different people want poverty and poverty measures to play. Is poverty to be revealed or hidden? Is the objective to help the poor, to distribute social resources, to measure social well-being or to advocate for the poor? Different roles require different approaches and poverty lines. Third, the approach chosen depends on how much the government can commit, how much effort the government is willing to make to reduce poverty and the amount of funds available for the task.

Based on the different views, purposes and funds available, policymakers will decide which approach is appropriate and weigh whether to set a higher or lower poverty threshold using sensitivity analyses. They will then establish appropriate and politically amenable poverty standards as a common policy framework (Ortiz 2007).

8.5 Policy significance of choice of approach

The theoretical and empirical differences between the poverty concepts, methodologies and policies involved in the four means of identification have implications at three levels: the conceptual level, the methodological level and the policy level. This study's comparison of the four approaches reveals the multidimensional nature of poverty, underlining the value of this conceptual understanding and of broad measurement of poverty. Different theories, types of data, categories of poverty strata (for example persons, households, communities, sectors) and strategies need to be brought into poverty assessment research methodologies.

8.5.1 Conceptual implications

The conceptual understanding of poverty should be broadened from a purely economic one to a multidimensional and multidisciplinary socio-economic one. This calls for a paradigmatic shift in poverty analysis. At least a definitional shift is urgently required, to include poverty's human, economic and sociological dimensions (Ahmed 2004).

Poverty is understood differently according to the different approaches, from the epistemological perspective and that of normative theory. The philosophical assumptions of a government therefore 'matter' for practice (Kanbur and Shaffer 2007). Poverty under the monetary approach is purely economic, involving only the single dimension of income or expenditure. The poverty definition used in participatory poverty assessment and the multidimensional approach is much broader, including non-economic dimensions like assets, state-provided commodities, vulnerability and dignity, to name but a few. This difference in focus between the different approaches represents a fundamental methodological division between a purely economic concept of poverty (income poverty) and a broader concept of poverty. This difference has implications for the numerical transformation of data, the selection of validity criteria, the conception/dimension of poverty adopted and interpersonal comparisons of well-being. Reconciling these viewpoints entails a philosophical analysis, not a technical analysis (Kanbur and Shaffer 2007).

To improve the analysis of poverty at the definitional and measurement level, poverty should be defined in a broad framework of analysis that combines different approaches (Fusco 2003). A more comprehensive understanding and analysis of poverty will provide better support for multifaceted and integrated policy strategies for poverty reduction.

8.5.2 Methodological implications

At the identification and aggregate level, one cannot rely on only one approach to identify the multidimensional poor. Thus, multiple and multidisciplinary approaches should be used to measure poverty. To capture the multidimensionality of poverty and the advantages of each approach, several approaches are called for to measure the various dimensions and to provide a complete picture of poverty (Franco 2003). Different approaches should be sequentially phased, combined and integrated. Multiple approaches for poverty identification are needed, with adequate resources and time devoted to integration of results at different stages of the process (Place *et al.* 2007). There is also a need for broader methodologies for viewing society and adoption of wide-ranging social policy approaches for poverty reduction. Not only should quantitative and qualitative methods be combined (Kanbur 2003) and multidisciplinary approaches used (Howe and McKay 2007), multiple methods for poverty assessment should also be used within each category, investing

adequate resources and time to truly integrate at each stage of the process (Fusco 2003). Identification and targeting of the poor using multiple and combined approaches needs to be more widely adopted, reflecting concern for a broad characterization of poverty (Laderchi *et al.* 2003). The different approaches should improve, complement and supplement one another, not antagonize. Neither should they substitute for one another, compete or be used in an 'either-or' fashion (Fusco 2003). Before a household survey, participatory approaches can be used to get acquainted with the poverty situation in a locality, to feed into questionnaire design. After the household survey, a participatory approach can be applied to find out the causes of poverty. A combination of methods can overcome most of the biases in the research process that are encountered where one approach is used for poverty identification (Hayati *et al.* 2006). The identification of poor households using multiple approaches provides insight into the dimensions of poverty, which can assist government in formulating better policies and programmes.

The goal of this research was to achieve a comprehensive understanding and measurement of the multidimensional aspects of poverty which could not be obtained by any of the approaches alone (Parker and Kozel 2007). Panel data analysis can be proposed to explore the dynamics of poverty and make it possible to distinguish monetary and non-monetary poverty, transitory and persistent poverty, objective and subjective poverty and short-term and long-term effects of policy to render poverty reduction results more sustainable (Fusco 2003).

One may ask whether using a combination of methods is realistic from a cost and human resources perspective. Combining different approaches and panel data analysis could well be unrealistic, because of the time and cost involved. In fact, different approaches tackle different aspects of poverty and answer different questions, thus serving different purposes. For example, health projects should target health-poor households. Education projects should target households poor in education. Pension scheme projects should target the elderly.

If improved, the official poverty identification method could enable government to better allocate resources for poverty reduction. The monetary approach can be used to develop income-generation strategies to assist households facing short-term economic difficulties. The participatory approach is more effective in revealing poverty processes and in dealing with social issues like gender, participation and social services, such as health and education, at a micro level and for understanding the reasons why people act as they do at the micro or community level. At the same time, participatory methods can be used to identify the real poor for community development project purposes, as these methods are based on the perceptions and aspirations of the people actually experiencing poverty. Multidimensional poverty indicators can serve special project purposes. The indicators chosen will clearly depend on what projects and programmes are the aim and what types of individuals are to be target-

ed. MDIs could be used to identify, select and rank project beneficiaries based on need, and to monitor and evaluate project effectiveness and impact on people's lives. The monetary approach and MDIs are suitable for examining inequality and absolute poverty and generating data for comparison and generalization at the micro and macro level. They can also be used to reveal trends in poverty. These methods provide a breadth of data that paint a statistically representative picture of all socioeconomic strata.

Policymakers should be aware of these differences. There is no reason to give primacy to one approach over another (White 2002). When selecting an approach to identify or target poor people, there is always a risk of excluding individuals who might have been considered poor by another approach. For instance, programmes designed to reduce monetary poverty will be ineffective in reaching those who are poor in non-economic dimensions or to reach all those considered poor by the participatory approach. Identifying the poor based on income and a particular poverty line for social programmes may exclude many people who are considered poor using a multidimensional or participatory approach. Programmes to reduce multidimensional poverty should focus less on monetary transfers and income generation and more on public services like education and health (Franco 2003).

For poverty reduction policy overall in China, the use of multidimensional poverty indicators is recommended as a simple and effective means of identifying the poor at the community level. Furthermore, its results can be generalized to the regional and country level. MDIs are superior to PPA in that regard. However, qualification of the multidimensional approach is necessary. There is a problem of precise definition and specification of the MDIs and with their 'comparative' features, as documented in the case of India (Saith 2007). Use of these indicators might create additional problems as well.

An innovative integrated measurement tool is the use of multidimensional poverty indicators in focus group discussions with a participatory approach. The difficulty and challenge is choosing which dimensions to look at and how many indicators to include. But in general, human development, assets, employment and consumption should be covered whichever method is used. More research is needed to develop the combination of multidimensional poverty indicators with the participatory approach, though the ongoing process in India has brought out some difficulties and provided some guidance (Saith 2007).

With the rapid economic growth of recent years, poverty in India has declined. However, India is still the largest single contributor to the global poor population, with one third of the world's poor (Deaton 2001). Inequality is increasing, as is disparity between regions and between rural and urban (Deaton and Dreze 2002). The decline of the female-to-male ratio among children and the slowing decline in infant mortality rate point to a rising gender inequality and social disparity (Deaton and Dreze

2002). Around 40 per cent of the population is illiterate (Gao 2005; Saith 2008). In rural India, more than 30 per cent of children aged 5–14 did not attend any educational institution in 2000; this number is about 16 per cent in urban India (for girls this was 36 per cent and 18.5 per cent, respectively, for rural and urban India) (Sundaram and Tendulkar 2000). Health and education have become inaccessible and unaffordable for a large portion of the rural population (Saith 2008). Infrastructure and the caste system are constraining India's development. With these many faces of poverty, the BPL census methodology is viewed as an imperfect proxy and poor shortcut for identifying and targeting the poor because of the inevitable targeting errors (Jalan and Murgai 2006). In fact, the indicators used to construct the BPL are poorly correlated with poverty (Jalan and Murgai 2006). The high density of population with an income close to the poverty line makes poverty identification exercises inherently problematic and difficult (Jalan and Murgai 2006). These problems serve to re-emphasize that we cannot rely on only one approach to identify poverty. Different approaches should be applied to identify the multidimensional poor, though the multidimensional indicators require careful application. Nonetheless, it would be misleading to believe that there is any one 'best' approach or most important indicator in poverty assessment.

8.5.3 Policy implications

If poverty is defined as multidimensional and multidisciplinary, methodologies, strategies, policies and programme interventions for the different dimensions should also differ. The particular approaches adopted have important implications for how the problem of poverty is addressed from a policy perspective. Different approaches highlight different aspects of poverty and therefore point to different solutions, ultimately influencing policymaking. Local people's strategies differ from the strategies of government. Poverty reduction strategies at the macro level differ from those at the micro level, and those at the community level differ from those of households.

The Chinese government focuses mainly on economic development, infrastructure construction, dissemination of science and technology and social goods and improving living conditions. With the official poverty identification method, almost all households are identified as poor or low income. This may cause leakage of poverty reduction resources to non-poor households. Even though education is mentioned as a social good, relatively few programmes target education (WDCPADO 2005b; PGCDT 2004, 2005a, 2005b). Even though the poor population is decreasing, the complex and multidimensional nature of poverty makes poverty identification, poverty targeting and poverty alleviation increasingly difficult. The current narrow focus of poverty reduction in China leads to poverty reduction policies centred on income generation and economic growth in the short term. Other entitlements or capabilities, like health and edu-

cation, are neglected or absent. Households which are poor in health or education lack the basic capability to function and to live a valued life (Sen 1993, 1999). They enter a vicious cycle of poverty and pass their destitution on to the next generation. This suggests that the Chinese government might look beyond income generation and infrastructure construction to broader and longer-term poverty reduction strategies and policies including improvement of education and health care, social welfare, pension schemes and allowances for the disabled. The quality of human agency is enhanced by better education, health and the like. Provision of public services such as education, health and social insurance would help to lift the underprivileged out of the cycle of poverty and destitution (Anand and Sen 2000, 1996). Even though the Leading Group for Poverty Reduction has embraced 'participation' as a guiding principle in its work, participatory approaches are not yet considered as empowerment, or a citizen's right, but rather as a technical instrument for better targeting, to reduce leakage of poverty alleviation funds (Young 2003).

The monetary approach is based on income. It provides information on how transfer policies can enable poor people to rise above the poverty line. The use of the monetary approach suggests that the solution to poverty is generation of monetary income. The development of capabilities may also be recommended, but as an instrumental means of increasing productivity and monetary incomes among the poor. One important policy response has been to raise the 'level of the sea so that all boats may rise' (Dollar and Kraay 2001, cited in Laderchi *et al.* 2003: 27). These growth-based policies are useful. They often do help to alleviate poverty, but in the short term. There is no guarantee that an economic answer to the economic dimension of poverty will spread to the other dimensions and allow poor people to rise definitively out of destitution (Fusco 2003).

Participatory poverty assessment involves poor people in conceptualizing poverty, identifying the poor, seeking solutions to problems and in implementing, monitoring and evaluating poverty reduction programmes. Beneficiaries' involvement in designing policies and programmes empowers them and improves the chances of the programmes' success. Different groups have different views and strategies for poverty reduction. There are immediate and short-, medium- and long-term strategies to overcome poverty: income generation, social support, infrastructure improvement, education and relief for those who cannot work. The villagers' own concerns and needs were reflected in their views. The poor prioritize the dimensions that affect them most and contribute solutions to tackle those problems. The poor's involvement in the design of policies and programme implementation can empower them and build their capacities, enabling them to develop a true sense of ownership, leading to greater programme success.

Multidimensional poverty indicators can take into account the causes and consequences of poverty and provide information on how to implement a structural policy response. Change in one dimension of poverty

can lead to changes in other dimensions; in addition, a change in one sphere may not last if other dimensions are unchanged. Poverty dimensions are interlocking and mutually reinforcing (Hayati *et al.* 2006). Some dimensions must be tackled together for multifaceted positive change.

Different approaches imply different strategies and policy implications. Using a single approach, a poverty reduction strategy can assist only those poor who fall under the related dimension of poverty. The poor identified under other approaches will be left out. Taken together as a basis for policy conclusions, the findings from multiple approaches can provide strategies to lift out of poverty households that are poor in different dimensions and contribute to overcome poverty at the household and community level, in the short and long term. A change of attitude is needed concerning poverty reduction policies by policymakers, government officials, donors and NGOs. A shift is needed in poverty reduction strategies from the present income generation activities and short-term strategies to broad combinations of short-term and long-term efforts.

Multidimensional measures and use of different approaches lead to recommendations for structural socioeconomic policies that can break the intergenerational reproduction mechanism of poverty in the long term. Distinguishing between short term and long term allows different approaches to be consolidated into the same wider framework that can combine all the information at our disposal – income-based and multidimensional – to derive more effective poverty reduction strategies. New ideas may arise from the complementarities between the approaches. Strategies to counter short-term, temporary or seasonal poverty may be safety nets and access to credit. Long-term, chronic poverty may require more fundamental policy strategies in education, health and social security. A broader policy framework combining short-term transfer policies and long-term structural policies should be considered for poverty reduction. Poverty reduction strategies should focus not only on monetary improvements or income generation, but also on improvement of social conditions and services. Programmes designed to reduce monetary poverty are likely to be ineffective in reaching all the households identified as poor under approaches like the participatory or multidimensional approach. Programmes and policies aimed at poverty reduction should lean more towards the education and health sectors, pension schemes and social security because human agency, empowerment and poverty reduction can be achieved via health and education, particularly for women (Anand and Sen 2000, 1996).

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APPENDIX A1 QUESTIONNAIRE FOR HOUSEHOLDS

Dear household head,

In order to understand and study the achievements of rural economic and social development in China and problems existing. To provide reliable basis for national policy research, we would like to do a study on production and living situation of your household from January to December 2005. We hope you will assist us and report the real situation. All the information is just for research use, so it will not cause any bad influence and trouble for your family. Thank you very much.

December, 2005

I Basic information on the households

1. _____ Villagers' Group, _____ Natural Village, Kangzhao Villagers' Committee, Chadian Township, Wuding County, Chuxiong Yi Nationality Autonomous Prefecture, Yunnan Province

2. Household code: _____
 Household Head: _____
 Sex: _____
 Age: _____
 Respondent: _____
 Relationship with the household head: _____
 Interviewer: _____
 Time spent:
 From: ____:____ to: ____:____
 Total: ____ hours ____ minutes
 Date ____, ____, 200

3. Information on family members

Code	A Name	B Relationship with the HH	C Sex	D Ethnicity	E Age (years)	F Height (cm)	G Weight (kg)	H Education	I Drop-out reasons
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

Code	I Drop-out reasons	J Aspiration	K Labour capacity	L Health	M If sick, disease	N Disability	O Residential status(months at home)	P Occupation	Q Political status	R Religion
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Notes

C. Sex: 1. Male; 2. Female. D. Ethnicity: 1. Chinese Han; 2. Yi; 3. Miao; 4. Other (Please specify)
H. Education: 0. No education; 1. Grade 1; 2. Grade 2; 3. Grade 3; 4. Grade 4; 5. Grade 5; 6. Grade 6; 7. Middle 1; 8. Middle 2; 9. Middle 3; 10. High 1; 11. High 2; 12. High 3; 13. Technical school; 14. College; 15. University; 16. Other (Please specify)

II Labour time use

	A	B	C	D	E	F	G	H
1.	Activity	Men	Mostly men	Men & women	Mostly women	Women	Elderly	Children
2.	Ploughing field							
3.	Planting							
4.	Field managing							
5.	Fertilizing							
6.	Harvesting							
7.	Transporting crops							
8.	Feeding pigs							
9.	Grazing cattle							
10.	Raising children							
11.	Collecting firewood							
12.	Managing fruit trees							
13.	Managing vegetable garden							
14.	Collecting tree leaves							
15.	Collecting mushrooms, flowers and fruits							
16.	Collecting herbs							
17.	Fetching water							
18.	Cooking							
19.	Washing clothes							
20.	Doing cleaning							
21.	Taking care of children							
22.	Attending meeting							
23.	Attending training							
24.	Marketing							
25.	Dropping in on others							
26.	Managing finances							
27.	Making decisions							

III Infrastructure (housing, living, water, electricity, communication, facilities)

	A	B	C
1.	Home	Built when (year)	
		Constructed of 1. Wood & brick; 2. Adobe; 3. Steel & cement; 4. Thatching; 5. Other (please specify)	
		Area (m ²)	
		Rooms	
		Total value (yuan)	
		Reasons for building house: 1. Expand area 2. Old house is in disrepair; 3. Enough income; 4. For marriage; 5. To follow current style; 6. Popular in village	
2.	Kitchen	1. Yes; 2. No	
		If yes, how many rooms	
		1. Separate from living room (bedroom); Together with living room (bedroom).	
		Total value (yuan)	
3.	Animal pens	1. Yes; 2. No	
		Rooms	
4.	Courtyard	1. Yes; 2. No	
		Area (m ²)	
5.	Courtyard gate	1. Yes; 2. No	
		If yes, made from: 1. Wood; 2. Iron;	
		Value (yuan)	C
6.	Drinking water from	1. Tap; 2. Deep well; 3. Reservoir/lake; 4. Pool; 5. River; 6. Other	
7.	Distance for fetching water each day	1. <100 m; 2. 100–<1000m; 3. 1000–<3000m; 4. >3000m	
8.	Electricity access	1. All year access; 2. Irregular access; 3. No access	
9.	If electricity is irregular access	Months of access	
10.	Telephone connected	1. Yes; 2. No	
11.	Cell phone connected	1. Yes; 2. Irregularly connected; 3. No	
12.	Bath facility	1. No; 2. Solar power; 3. Electrical heater; 4. Gas; 5. Coal; 6. Others	

	A	B	C
13.	Type of toilet	1. Lavatory; 2. Private latrine made of brick and wood; 3. Private latrine made of mud and/or wood; 4. Public latrine; 5. No toilet	
14.	Heating facility	1. Firewood; 2. Charcoal; 3. Electrical heater; 4. No heating facility	
15.	Type of stove	1. Fireplace; 2. Firewood stove; 3. Energy saving stove; 4. Electric stove; 5. Biogas stove	
16.	Type of fuel used for cooking	1. Firewood and straw; 2. Electricity; 3. Gas/liquefied petroleum gas/biogas; 4. Other	

IV Distance from institutions and public facilities and frequency of visits

	A	B	C	D	
	Institution	Commonly used transport	Cost for a round trip	How many times the family members have been in 2005?	
				Man	Woman
1.	Villagers' Committee				
2.	Nearest market				
3.	Credit cooperative				
4.	Township seat				
5.	County seat				
6.	Kunming				
7.	Primary school				
8.	Middle school				
9.	High school				
10.	Nearest clinic				
11.	Township hospital				
12.	County hospital				
13.	Church				
14.	Temple				

V Assets

V1 Durable consumer assets

		A	B	C
	Asset	No	Buying year	Buying value (yuan)
1.	Watch			
2.	Bicycle			
3.	Colour TV			
4.	Black & white TV			
5.	TV receiver			
6.	Motorcycle			
7.	Liquefied gas and stove set			
8.	Electric cooker			
9.	Electric stove /frying pan			
10.	Radio/recorder			
11.	Sewing machine			
12.	Washing machine			
13.	Refrigerator			
14.	Drinking water heater			
15.	Tricycle			
16.	VCD/DVD player			
17.	Telephone			
18.	Cell phone			
19.	Camera			
20.	Car			
21.	Truck			
22.	Electronic organ			

Notes

B. Commonly used transport: 1. Walking; 2. Riding a bicycle; 3. Riding motorcycle; 4. Taking a bus; 5. Taking a truck; 6. Taking a horse cart; 7. Driving a car; 8. Other (Please specify)

C. How many times the family members have been in 2005? 0. No; 1. Once; 2. 2–4 times; 3. 5–9 times; 4. 10–19 times. 5. More than 20 times

V2 Furniture

	A	B	C	D
		No	Buying year	Buying value (yuan)
1.	Bed			
2.	Cabinet			
3.	Sofa set			
4.	Tea table			

V3 Productive assets

	A	B	C	D	E
	Asset	No	Buying year	Buying value	Value now
1.	Truck				
2.	Van				
3.	Farming car				
4.	Big tractor				
5.	Hand tractor				
6.	Cattle or horse carts				
7.	Hand carts				
8.	Green fodder cutter				
9.	Diesel engine/generator				
10.	Processing machine				
11.	Water pump				
12.	Truck				
13.	Van				
14.	Farming car				
15.	Big tractor				
16.	Hand tractor				
17.	Cattle or horse carts				
18.	Hand carts				
19.	Green fodder cutter				
20.	Diesel engine/generator				
21.	Processing machine				
22.	Water pump				

V4 Total land resources

	Land type	Area (mu)	No of land	Distance to the farthest land (km)	Crops planted and use
1.	Paddy field				
2.	Irrigable land				
3.	Non-irrigable land				
4.	Rotating (sloping) land				
5.	Land converted into forest				
6.	Mountain area				
7.	Fruit garden				
8.	Vegetable garden				
9.	Grass field				
10.	Fish pond				
11.	Other				

V5 Renting of land

	A		B	C
1.	Did other households cultivate your land in 2005		1. Yes; 2. No	
2	If yes	Land area cultivated by other household	Mu yuan	
3.		The rent was (if it was goods, convert into money)		
4.	Did your household cultivate another household's land?		1. Yes; 2. No	
5.	If yes	Land area you cultivated belonging to other household	Mu yuan	
6.		How much was the rent you paid (if it was goods, convert into money)		

VI Income

VII Income from planting crops and production in 2005

	A	B	C	D	E	F
	Crop	Area (mu)	Output (kg)	Sales (kg)	Income from sales (yuan)	Main selling month
1.	Potato					
2.	Corn					
3.	Rice					
4.	Beans					
5.	Wheat					
6.	Peanuts					
7.	Sunflower seeds					
8.	Tobacco					
9.	Chinese cabbage					
10.	Pea sprouts					
11.	Radishes					
12.	Herbs					
13.	Fruits					
14.	Others					

VI2 Income from forest and forest products

	A	B	C	D
	Forest	Area (mu)		Income (yuan)
1.	Land converted into forest			
2.	Other income from forest			
3.	Forest product	Output (kg)	Sales (kg)	Income from sales (yuan)
4.	Fruit			
5.	Nuts			
6.	Mushrooms			
7.	Herbs			
8.	Waxberry, tree blossoms			
9.	Hunting			
10.	Firewood			
11.	Timber			
12.	Seedlings/plants			

VI3 Income from special events in 2005

	A	B	C	D
	Special event	Value from gifts, grain, meat received	Money received	Total amount in cash
1.	Marriage			
2.	Funeral			
3.	House building			
4.	Engagement gift			
5.	Dowry			

VI4 Income from non-farm enterprise/activities (self-employed labour, private enterprise, shop, restaurant, snack, small business, clinic, transportation)

		Unit	Non-farm enterprise/activities							
	A	B	C	D	E	F	G	H	I	J
1.	Gross income earned in the year	yuan								
2.	House rent	day								
3.	Cost of raw material & input	yuan								
4.	Labour cost	yuan								
5.	Transportation fee	yuan								
6.	Electricity fee	day								
7.	Tax	day								
8.	Total cost	yuan								
9.	Total net income	yuan								

Notes

Non-farm enterprise/activities: 1. Business, like shop, restaurant, snack shop; 2. Construction; 3. Transportation 4. Culture, education, health; 5. Small business; industry, like food processing; 6. Social service; 7. Others

VI5 Transfer income

	A	B
	Transfer income	Amount (yuan)
1.	Remittances	
2.	Pensions	
3.	Gifts	
4.	Relief funds, grain and goods	
5.	Subsidy for child's education in cash	
6.	Other goods and subsidies in cash	

VI6 Income from animal husbandry and its products

	A	B	C	D		Sales		
		Unit	Number	Total Value		E	F	G
					Self consumed	Number	Income (yuan)	Main sale month
1.	Cattle							
2.	Horse							
3.	Sheep & goat							
4.	Pig							
5.	Poultry							
6.	Other							
7.	Wool	Kg						
8.	Milk	Kg						
9.	Eggs							
10.	Fish	Kg						
11.	Other							

VI7 Income from rent

	A	B
	Item	Rent/year
1.	House rent	
2.	Shop rent	
3.	Land rent	
4.	Water pump rent	
5.	Generator rent	
6.	Tractor rent	
7.	Livestock rent	
8.	Interest from loan	

VI8 Income from fixed job and migrant employment of family members

	A	B	C	D	E	F	G	H
Code	Name	Migrant fixed work	Annual income	Village cadre	Annual income	Seasonal, casual work	Days	Annual income
1.								
2.								
3.								
4.								
5.								
6.								

	I	J	K	L	M	N
Code	Other work (Specify)	days	Annual income	Total income (Including, salary, bonuses, allowance)	Residence: 1. Outside; 2. At home; 3. Outside or home	If living outside, cost for food and living
1.						
2.						
3.						
4.						
5.						
6.						

VII Expenditure

VIII Living expenses

	A	B	C	D
	Food		Amount (kg)	Cost (yuan)
1.	Main food bought	Rice		
		Corn		
		Wheat		
		Potatoes		
		Other main food		
2.	Non-staple food	Beans and bean product		
		Vegetable		
		Oil, salt, soy sauce, seasoning		
		Meat		
3.	Cigarettes, drinking, sugar, tea			
4.	Eating outside the home		meal	

	A	B	C	D
	Food		Amount (kg)	Cost (yuan)
5.	Clothes	Clothes	set	
		Shoes	pair	
6.	Daily necessities			
7.	Living cost	Firewood		
		Gas cost		
		Electricity fee		
		Water fee		

VII2 Productive expenses

	Crops (potatoes, corn, wheat, beans, cabbage, radishes, fruit)	
	A	B
	Item	Cost (yuan)
1.	All crop seeds	
2.	Fertilizer	
3.	Pesticide	
4.	Plastic sheeting	
5.	Plough fee	
6.	Transportation fee	
7.	Machine rent fee	
8.	Irrigation fee	
9.	Other fee	
10.	Fry fee	
11.	Tree seedling fee	
12.	Forest managing fee	
13.	Agriculture tax	
14.	Other fee	
15.	Cattle & horses	
16.	Goats & sheep	
17.	Pigs	
18.	Poultry	
19.	Feed additives	
20.	Fodder, grass	
21.	Vet fee	
22.	Grazing fee	

VIII3 *Animal husbandry expenses*

	A	B
	Item	Cost (yuan)
1.	Cattle & horses	
2.	Goats & sheep	
3.	Pigs	
4.	Poultry	
5.	Feed additives	
6.	Fodder, grass	
7.	Vet fee	
8.	Grazing fee	

VIII4 *Expenses for special events*

	A	B	C
	Event	Times	Cost
1.	Child birth		
2.	Engagement ceremony		
3.	Dowry		
4.	Marriage ceremony		
5.	Funeral		
6.	House building		
7.	Chinese New Year		
8.	Torch festival		
9.	Witch or faith-healer invitation		
10.	Gifts and cash to relatives/friends on events		

VIII5 *Expenditure hiring labour or tenants*

	A	B	C	D	E	F	G
	No. of people hired	Purpose	Exchange or not	If yes, relationship	If no, days	Payment/day	Total amount paid
1.							
2.							
3.							
4.							

Notes

B: Purpose: 1. Crop planting; 2. Crop weeding; 3. Crop fertilizing; 4. Crop harvesting; 5. Crop transporting; 6. Housing building; 7. House repairing; 8. Animal grazing; 9. Firewood collecting; 10. Marketing; 11. Other (Please specify)

VII6 Transportation and communication fees

	A	B
	Item	Cost
1.	Transportation	
2.	Communication	
3.	Entertainment and service	
4.	Other goods and service	

VII7 Medical and health costs over the year

Code	Name of the sick	Disease	Seeing clinic doctor and buying medicine			Hospitalization		
			Times	Cost (yuan)	Result	Times	Cost (yuan)	Result
	A	B	C	D	E	F	G	H
1.								
2.								
3.								
4.								

Notes
E, H: 1. Cured; 2. Not cured; 3. Getting worse.

VII8 Education expenses

	A	B	C	D		F	G	H	I
Code	Student name	School	Distance to the school	Grade	School and textbook fee (yuan)	Insurance (yuan)	Food, living, stationary, pocket money, transport fee (yuan)	Other cost (yuan)	Total (yuan)
1.									
2.									
3.									
4.									
5.									

Notes
B. School: 1. Primary school; 2. Secondary school; 3. High school; 4. Vocational school; 5. College; 6. University; 7. Post-graduate
D: 1. Primary school grade 1; 2. Grade 2; 3. Grade 3; 4. Grade 4; 5. Grade 5; 6. Grade 6; 7. Middle school grade 1; 8. Middle grade 2; 9. Middle grade 3; 10. High school grade 1; 11. High school grade 2; 12. High school 3; 13. Technical secondary school; 14. College; 15. University; 16. Other

VIII Summary of source of main income and expenditure

	A	B	C	D
	Source of income	Income amount (yuan)	Expenditure	Expense amount (yuan)
1.	VII1. Income from agriculture		VII1. Living expenses	
2.	VI2. Income from forest and its products		VII2 . Productive expenses	
3.	VI3. Income from special events		VII3. Animal husbandry expenses	
4.	VI4. Income from non-farm enterprise/activities		VII4. Expenses for special events	
5.	VI5. Transfer income		VII5. Expenditures for hiring labour or tenants	
6.	VI6. Income from animal husbandry and its products		VII6. Transportation and communication costs	
7.	VI7. Income from rent		VII7. Medical and health costs	
8.	VI8. Income from jobs and migration job		VII8. Education expenses	
9.	Total			

IX Debts and credits of money and goods

	A	B	C	D	E	F
When borrowed	Source	Amount (yuan)	Purpose	Period	Interest rate (cent/month)	How much not returned (yuan)
Case 1						
Case 2						
Case 3						
Case 4						
Good 1:						
Good 2:						

Notes:

A. Source: 1. Credit cooperative; 2. Bank; 3. Government; 4. Other NGOs; 5. Project; 6. Private; 7. Money lender; 8. Other (Please specify) C. Purpose: 1. Living; 2. Productive input; 3. Medical fee; 4. Education fee; 5. Other (Please specify)

X Savings and Deposits

	A	B	C	D	E	F
	When saved	Where saved in or to	Amount (yuan)	Saving purpose	Period	Interest (cent/month)
Case 1						
Case 2						
Case 3						
Case 4						

Notes

B. Where saved in or to: 1. Credit cooperative; 2. Bank; 3. Government; 4. Other NGOs; 5. Project; 6. Private; 7. Money lender; 8. Other (Please specify)

D. Saving purpose: 1. Building house; 2. Buying durable goods; 3. Marriage; 4. Productive input; 5. For old age; 6. Education; 7. Returning loan; 8. Other (Please specify)

XI Characteristics of the household

	A	B	C
1.	Was your household poor ten years ago?	1. Yes; 2. No	
2.	If, yes, reasons for falling into poverty		
3.	If no, reasons for rising out of poverty		
4.	Was your household poor five years ago?	1. Yes; 2. No	
5.	If, yes, reasons for falling into poverty		
6.	If no, reasons for rising out of poverty		
7.	Was your household on official poor list in 1997	1. Yes; 2. No	
8.	Was your household on official poor list in 2004	1. Yes; 2. No	
9.	If, yes, reasons for falling into poverty		
10.	If no, reasons for rising out of poverty		
11.	Do you regard your household as poor now?	1. Yes; 2. No	
12.	If, yes, reasons for being in poverty		
13.	If no, reasons for rising out of poverty		

Notes

B2, B5, B9, B12: Reasons for falling into poverty: 1. Little land; 2. Limited labour; 3. Poor natural conditions; 4. Lack of productive inputs; 5. Natural disaster; 6. Children go to school; 7. Big animal died or lost; 8. Death of family members; 9. Sickness of family members; 10. Separation from big family; 11. Marriage; 12. House building; 13. No market; 14. Other reasons (Please specify)

B3, B6, B10, B13: Reasons for rising out of poverty: 1. Plenty of land; 2. Good harvest; 3. Migration labour; 4. Family members work outside; 5. Good animal husbandry; 6. Children grow up to become labours; 7. Nobody is sick; 8. Government loan; 9. Government poverty alleviation goods; 10. Business; 11. Others (Please specify)

Signature of household

Thank you for your time participating in the survey!

APPENDIX A2 CORRELATIONS BETWEEN DIFFERENT INDICATORS AND EXPENDITURE PER ADULT EQUIVALENT

	1-47	48-94	95-141	142-188	189-235	236-282	283-329	330-376	377-423	424-473	1-473
Expenditure range (yuan)	0-980	981-1,351	1,352-1,634	1,635-1,869	1,870-2,142	2,143-2,298	2,299-2,655	2,656-3,057	3,058-3,688	3,689-15,141	0-15,141
Average expenditure (yuan)	703	1,173	1,510	1,765	2,012	2,215	2,483	2,832	3,332	5,705	2,394
MHH	40	44	44	46	44	45	45	42	46	44	440
FHH	7	3	3	1	3	2	5	2	1	6	33
HH size	2.97	3.34	3.91	4.04	3.76	3.68	4.06	4.27	3.70	4.22	3.8
Head age	48	44	42	41	43	45	40	43	41	44	43.58
Average age	42	37	34	34	34	36	33	33	35	32	35.54
Total disabled	9	7	1	9	4	5	8	8	13	6	70
Average disabled	0.11	0.09	0.00	0.07	0.02	0.04	0.05	0.07	0.10	0.05	0.06
Total sick person	16	14	17	17	18	18	22	23	27	24	196
Average sick members	0.18	0.13	0.15	0.13	0.13	0.16	0.14	0.17	0.23	0.21	0.16
Han	31	19	26	23	24	20	3	25	22	36	250
Yi	11	14	12	15	17	24	24	21	23	12	172
Miao	5	14	9	9	6	3	0	1	2	2	51
Total formally employed member	0	3	0	0	0	3	0	0	0	7	13
Average migrant/hh	0.4	0.55	0.59	0.74	0.76	0.82	1	0.91	0.91	1.14	0.78
Average migrant	0.13	0.16	0.15	0.20	0.19	0.21	0.26	0.21	0.24	0.27	0.20
Average labour	0.52	0.66	0.60	0.68	0.65	0.67	0.63	0.63	0.70	0.70	0.64
Gross dependency rate	0.51	0.43	0.64	0.58	0.49	0.45	0.61	0.52	0.48	0.40	0.51
Average schoolchildren/hh	0.23	0.38	0.53	0.57	0.68	0.46	0.76	0.76	0.53	0.76	0.57

	1-47	48-94	95-141	142-188	189-235	236-282	283-329	330-376	377-423	424-473	1-473
Average schoolchildren	0.06	0.09	0.13	0.13	0.16	0.10	0.17	0.17	0.13	0.17	0.13
Average adult education years	3.82	4.07	4.21	5.21	4.79	4.90	4.99	5.49	4.71	5.87	4.81
Average head education years	3.91	4.19	4.31	5.91	4.95	4.91	5.48	5.93	5.17	5.56	5.24
Average education years	3.3	3.48	3.65	4.64	4.16	4.28	4.36	4.81	4.31	5.37	4.24
Average education index	0.34	0.36	0.40	0.46	0.42	0.43	0.45	0.49	0.42	0.53	0.43
Average dry land area	1.33	1.40	1.26	1.64	1.48	1.68	1.57	1.39	1.83	1.72	1.53
Average paddy field area	0.06	0.16	0.14	0.07	0.11	0.19	0.14	0.12	0.25	0.12	0.13
Average meat consumed	12	25	32	36	39	47	49	49	59	46	40
Average medical cost	44	33	59	101	148	146	146	263	481	1282	277
Average school cost	28	45	74	76	90	84	135	163	147	310	117
Average house area	34	26	25	31	26	30	29	31	32	33	30
Average cost for transportation and communication	30	35	44	44	43	39	55	47	42	172	56
Average piece of productive assets	0.17	0.14	0.32	0.39	0.35	0.43	0.42	0.41	0.45	0.45	0.35
Average pieces of furniture	1.44	0.77	0.77	0.81	0.83	0.95	0.94	0.93	0.90	1.01	0.94
Average pieces of durable assets	0.22	0.25	0.32	0.37	0.31	0.32	0.46	0.49	0.43	0.59	0.38
Average piece of durable assets (including TV)	0.34	0.45	0.52	0.58	0.47	0.51	0.66	0.71	0.62	0.86	0.57
Average number of pigs and goats	0.34	0.44	0.48	0.52	0.50	0.61	0.59	0.53	0.65	0.57	0.52
Average cost for clothes and shoes	14	24	24	24	28	32	29	30	26	39	27
Average cattle and horses	0.34	0.44	0.48	0.52	0.50	0.61	0.59	0.53	0.65	0.57	0.52
Average times to medical services	1.37	0.69	1.64	1.33	2.26	2.9	2.82	2.46	3.02	2.06	2.05
Average cost for electricity	14	19	22	29	28	26	27	36	41	43	29

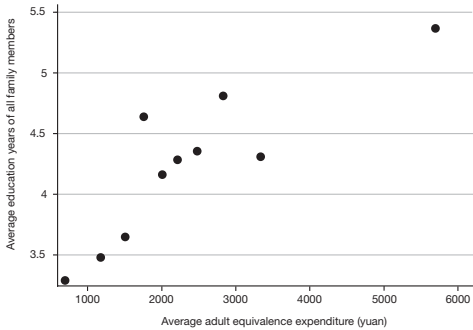
APPENDIX A3 CORRELATIONS BETWEEN NET INCOME PER ADULT EQUIVALENT AND DIFFERENT INDICATORS

Indicator	1-47	48-94	95-141	142-188	189-235	236-282	283-329	330-376	377-423	424-473	Average
Net income range per adult equivalent (yuan)	-537-720	722-1,109	1,120-1,482	1,491-1,806	1,814-2,310	2,329-2,966	2,985-3,599	3,605-4,612	4,624-6,100	6,110-18,171	-537-18,171
Average net income (yuan)	455	919	1,330	1,657	2,043	2,651	3,254	4,077	5,325	8,510	3,057
MHH	42	42	44	46	44	45	44	43	45	45	440
FHH	5	5	3	1	3	2	3	4	2	5	33
HH size	3.04	3.78	3.51	3.87	3.78	3.87	4.10	3.74	4.14	4.12	3.8
Head age	48	42.8	45.2	41.2	43.5	43.2	41.29	43.4	44.08	42.86	43.58
Average age	40	35	39	33	37	36	34.97	34.37	32.35	32.24	35.54
Total disabled	9	8	10	8	9	8	5	3	5	4	70
Average disabled	0.11	0.05	0.11	0.06	0.08	0.07	0.04	0.03	0.03	0.02	0.16
Total sick persons	16	20	21	21	21	20	23	4	16	22	196
Average sick persons	0.21	0.16	0.23	0.15	0.17	0.18	0.19	0.12	0.09	0.14	0.16
Han	30	26	26	21	26	18	19	26	26	32	250
Yi	11	11	17	18	15	21	24	20	18	17	172
Miao	6	10	4	8	6	8	4	1	3	1	51
Formally employed member	0	1	0	0	0	0	1	1	3	7	13
Average migrant/hh	0.21	0.29	0.29	0.59	0.51	0.82	1.08	1.12	1.27	1.6	0.78
Average migrant	0.06	0.09	0.08	0.15	0.14	0.20	0.26	0.31	0.32	0.40	0.20
Average labour	0.57	0.64	0.55	0.56	0.58	0.68	0.67	0.70	0.76	0.71	0.64
Gross dependency rate	0.52	0.61	0.59	0.60	0.49	0.46	0.54	0.41	0.36	0.54	0.51
Average schoolchildren/HH	0.55	0.57	0.55	0.74	0.65	0.48	0.63	0.44	0.46	0.58	0.57
Average schoolchildren	0.14	0.13	0.13	0.17	0.15	0.11	0.13	0.11	0.11	0.14	0.13
Average adult education years	3.37	4.28	3.95	4.33	4.42	4.29	5.27	5.39	6.61	6.23	4.81

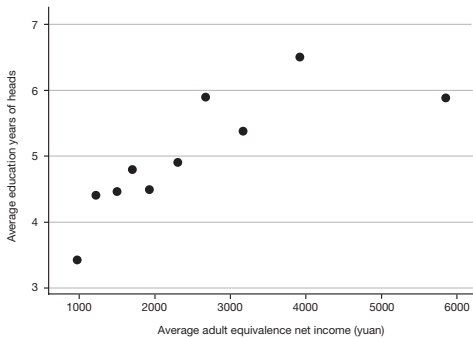
Indicator	1-47	48-94	95-141	142-188	189-235	236-282	283-329	330-376	377-423	424-473	Average
Average head education years	3.42	4.42	4.48	4.82	4.5	4.9	5.89	5.38	6.51	5.88	5.04
Average education years	3.08	3.76	3.49	3.85	3.91	3.91	4.67	4.72	5.79	5.24	4.24
Average education index	0.32	0.39	0.37	0.40	0.39	0.38	0.46	0.46	0.57	0.55	0.43
Average dry land area	1.23	1.44	1.45	1.34	1.67	1.59	1.51	1.74	1.57	1.75	1.53
Average paddy field area	0.093	0.11	0.13	0.14	0.19	0.095	0.27	0.15	0.12	0.085	0.13
Average meat consumed	34	39	36	31	39	46	43	50	40	37	40
Average medical cost	291	195	260	181	233	548	357	167	161	369	277
Average school cost	113	168	77	133	136	90	176	59	104	112	117
Average house area	31	28	29	26	30	28	31	33	28	34	30
Average cost for transportation and communication	23	42	36	36	42	44	57	50	72	152	56
Average piece of productive assets	0.22	0.31	0.31	0.39	0.34	0.43	0.39	0.42	0.39	0.33	0.35
Average pieces of furniture	0.72	0.71	1.30	0.87	0.82	0.84	1.03	0.94	0.97	1.14	0.94
Average pieces of durable assets	0.26	0.29	0.25	0.30	0.30	0.38	0.42	0.43	0.59	0.54	0.38
Average pieces of durable assets (including TV)	0.39	0.44	0.39	0.49	0.50	0.60	0.64	0.67	0.82	0.80	0.57
Average number of pigs	0.88	1.38	1.40	1.68	1.35	1.73	1.75	1.65	1.68	1.56	1.51
Average number of pigs, goat and sheep	1.72	2.27	2.61	2.76	2.46	5.79	2.87	2.38	2.33	2.41	2.76
Average cost for clothes and shoes	22	18	32	27	30	31	24	30	30	29	27
Average cattle	0.62	0.48	0.64	0.58	0.60	0.55	0.72	0.68	0.59	0.64	0.61
Average cattle and horses	0.37	0.43	0.45	0.57	0.65	0.56	0.65	0.57	0.52	0.46	0.52
Average times to medical services	1.51	1.67	1.96	1.92	2.46	2.72	2.03	2.27	1.79	2.21	2.05
Average cost for electricity	27	23	27	29	29	27	30	25	38	30	29

APPENDIX A4 CORRELATIONS BETWEEN EDUCATION, MIGRATION, SCHOOLCHILDREN, SICK MEMBERS, DISABLED MEMBERS, HOUSEHOLD SIZE, ETHNICITY AND FEMALE-HEADED HOUSEHOLDS WITH NET INCOME AND EXPENDITURE PER ADULT EQUIVALENT IN DECILES

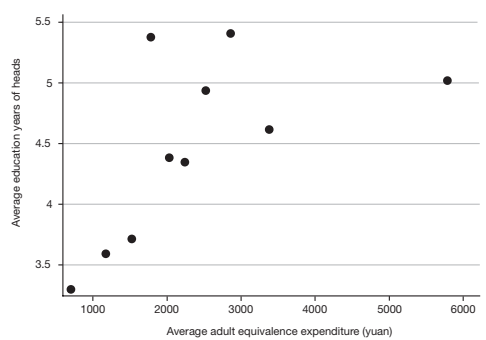
Appendix A4.1 Correlations between average education years of adults over age 15 and per capita expenditure per adult equivalent in deciles



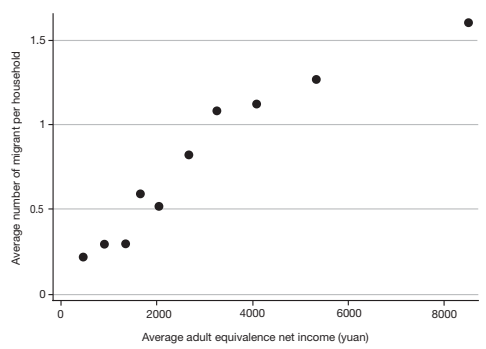
Appendix A4.2 Correlations between average education years of household heads and per capita expenditure per adult equivalent in deciles



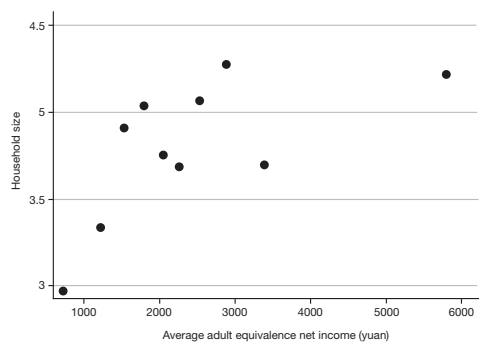
Appendix A4.3 Correlations between average education years of household heads and average income per adult equivalent in deciles



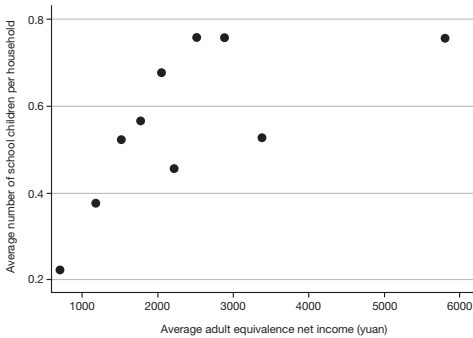
Appendix A4.4 Correlations between average number of migrants in each household and average income per adult equivalent in deciles



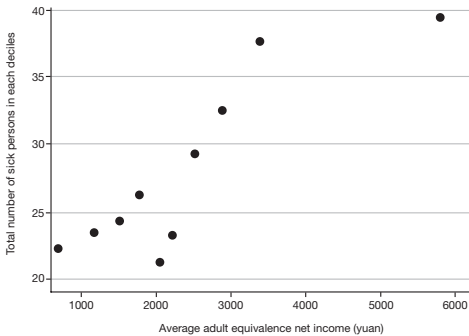
Appendix A4.5 Correlations between average number of migrants in each household and average expenditure per adult equivalent in deciles



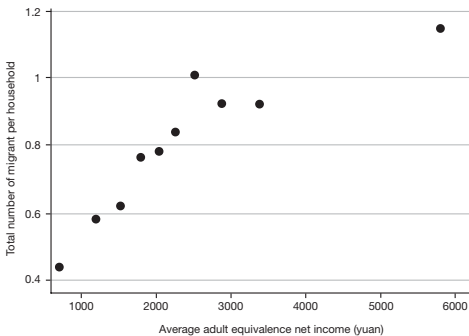
Appendix A4.6 Correlations between average number of school children in each household and average expenditure per adult equivalent in deciles



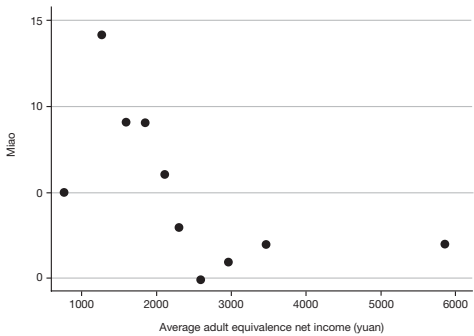
Appendix A4.7 Correlations between average number of sick persons in each decile and average expenditure per adult equivalent in deciles



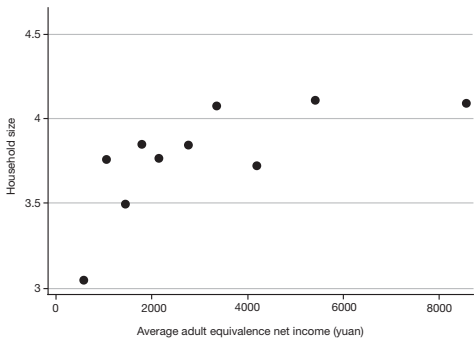
Appendix A4.8 Correlations between average household size and average expenditure per adult equivalent in deciles



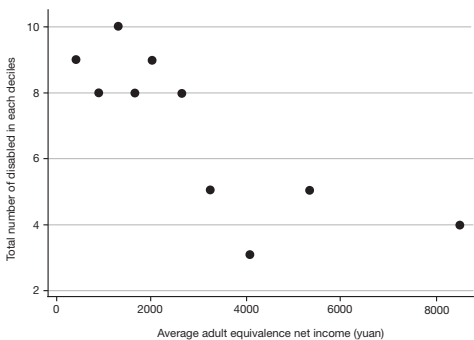
Appendix A4.9 Correlations between average household size and average income per adult equivalent in deciles



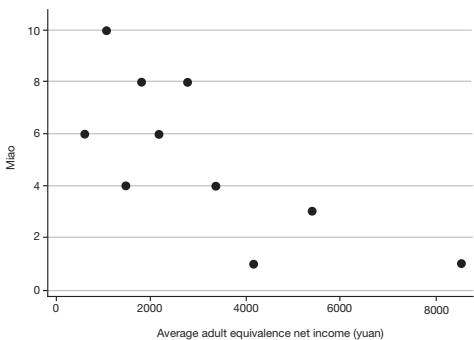
Appendix A4.10 Correlations between total number of disabled persons and average income per adult equivalent in deciles



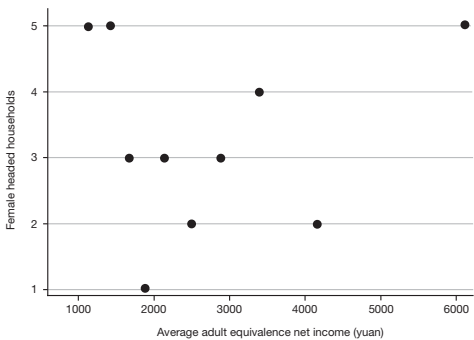
Appendix A4.11 Correlations between number of Miao ethnic households and average expenditure adult equivalent in deciles



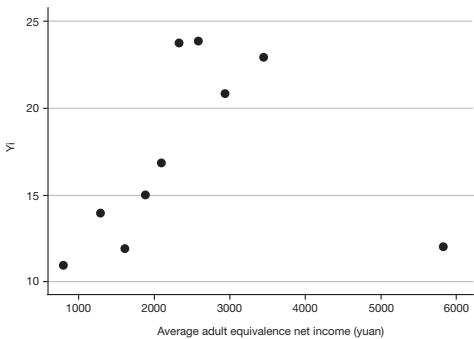
Appendix A4.12 Correlations between number of Miao ethnic households and average net income per adult equivalent in deciles



Appendix A4.13 Correlations between number of Yi ethnic households and average expenditure adult equivalent in deciles



Appendix A4.14 Correlations between number of female-headed households and average net income per adult equivalent in deciles



APPENDIX A5 CORRELATIONS BETWEEN PWR RESULTS AND INDICATORS

<i>Indicator</i>	<i>Mean</i>			<i>Mean average/ total</i>	<i>Standard deviation</i>		
	<i>Poor group</i>	<i>Average group</i>	<i>Non- poor group</i>		<i>Poor group</i>	<i>Average group</i>	<i>Non- poor group</i>
Ave. income per adult equivalent	2538	3053	4505	3057	2612	2206	2948
Ave. expenditure per adult equivalent	2072	2592	2600	2394	1395	2096	1156
MHH	140	221	63	424			
FHH	15	11	4	30			
HH size	3.43	3.95	4.46	3.94	1.30	1.11	1.39
Head age	42.90	43.80	42.35	43.01	13.69	11.21	9.20
Ave. age	35.73	34.50	34.03	34.75	15.61	12.44	10.17
Total disabled	77	84	26	187			
Total sick persons	26	34	7	67			
Ave. no of disabled	0.08	0.05	0.02	0.13	0.22	0.15	0.08
Ave. no of sick members	0.21	0.14	0.10	0.15	0.27	0.22	0.15
Han	81	132	27	240			
Yi	54	74	37	165			
Miao	20	26	3	49			
Formally employed member	1	6	6	13			
Ave. migrants/hh	0.65	0.87	0.92	0.81	0.73	0.88	0.98
Ave. migrants	0.19	0.22	0.20	0.20	0.23	0.23	0.22
Ave. labourers	0.61	0.68	0.64	0.64	0.29	0.25	0.24
Gross dependency rate	0.57	0.44	0.57	0.50	0.57	0.47	0.60
Ave. schoolchildren/HH	0.49	0.61	0.71	0.57	0.71	0.78	0.84
Ave. schoolchildren	0.12	0.14	0.14	0.13	0.18	0.18	0.17
Ave. adult education years	4.06	5.09	6.12	5.09	2.34	2.29	2.83
Ave. head education years	4.39	5.15	6.35	5.29	3.11	3.36	3.65
Ave. education years	3.50	4.57	5.26	4.44	2.06	2.08	2.50
Ave. education index	0.36	0.46	0.53	0.43	0.21	0.19	0.23
Ave. dry land area	1.58	1.56	1.34	1.49	0.75	0.31	0.30

<i>Indicator</i>	<i>Mean</i>			<i>Mean average/ total</i>	<i>Standard deviation</i>		
	<i>Poor group</i>	<i>Average group</i>	<i>Non- poor group</i>		<i>Poor group</i>	<i>Average group</i>	<i>Non- poor group</i>
Ave. paddy field area	0.07	0.12	0.30	0.16	0.23	0.27	0.49
Ave. meat consumed	32	44	38	38	24	27	25
Ave. medical cost	277	312	164	251	605	1095	31
Ave. school cost	104	135	111	116	208	344	232
Ave. house area	31	28	31	30	18	15	18
Ave. cost for transportation & communication	50	57	76	61	109	122	101
Ave. piece of productive assets	0.27	0.41	0.38	0.35	0.29	0.27	0.32
Ave. pieces of furniture	0.93	0.91	1.01	0.95	1.73	0.57	0.51
Ave. pieces of durable assets	0.26	0.43	0.53	0.40	0.33	0.36	0.35
Ave. pieces of durable assets (including TV)	0.41	0.65	0.76	0.60	0.44	0.47	0.42
Ave. number of pigs	1.31	1.61	1.55	1.49	1.35	1.46	1.53
Ave. number of pigs, goats and sheep	1.99	3.14	1.79	2.30	2.35	4.67	2.16
Ave. cost for clothes and shoes	27	27	26	26	27	23	20
Ave. cattle	0.49	0.61	0.80	0.63	0.36	0.38	0.52
Ave. cattle and horses	0.38	0.59	0.62	0.53	0.56	0.48	0.60
Ave. times to medical services	2.06	2.02	1.44	1.84	2.83	2.40	2.20
Ave. cost for electricity	23	28	44	32	17	20	38

**APPENDIX A6 CORRELATIONS BETWEEN INDICATORS
AND EXPENDITURE PER ADULT EQUIVALENT DECILES,
INCOME DECILES AND PWR RESULTS**

	<i>Ave. expenditure</i>	<i>Ave. income</i>	<i>PWR result</i>	<i>Summary</i>
HH size	+	+	+	+++
Head age	—	—	~	---~
Ave. age	—	—	—	---
Total disabled	~	—	~	---~
Total sick person	+	~	~	+~~
Ave. number of disabled	~	—	—	---
Ave. number of sick member	~	—	—	---
Han	~	~	~	~~~
Yi	~	+	~	~+~
Miao	—	—	~	---~
Formally employed member	~	+	~	~+~
Ave. migrants/hh	+	+	+	+++
Ave. migrants	+	+	~	++~
Ave. labourers	+	+	~	++~
Gross dependency rate	—	—	~	---~
Ave. schoolchildren/HH	+	~	+	+~+
Ave. schoolchildren	+	~	~	+~~
Ave. adult education years	+	+	+	+++
Ave. head education years	+	+	+	+++
Ave. education years	+	+	+	+++
Ave. education index	+	+	+	+++
Ave. dry land area	+	+	—	++—
Ave. paddy field area	+	~	+	+~+
Ave. meat consumed	+	~	~	+~~
Ave. medical cost	+	~	~	+~~
Ave. school cost	+	~	~	+~~
Ave. house area	~	~	~	~~~
Ave. cost for transportation & communication	+	+	+	+++
Ave. pieces of productive assets	+	+	~	++~
Ave. pieces of furniture	~	+	~	~+~
Ave. pieces of durable assets	+	+	+	+++
Ave. pieces of durable assets (including TV)	+	+	+	+++
Ave. number of pigs, goats and sheep	+	~	~	+~~
Ave. cost for clothes and shoes	+	~	~	+~~
Ave. cattle and horses	+	+	+	+++
Ave. times to medical services	+	+	—	++—
Ave. cost for electricity	+	+	+	+++

Notes

+ positive correlation; — negative correlation; ~ no obvious correlation.

APPENDIX A7 OVERLAPS OF POOR HOUSEHOLDS BETWEEN TWO APPROACHES

Unit: households (percentage)

Overlap	Poverty line			Official poverty list	PWR	MDI
	National	Actual-price-based	Local			
Official poverty list	6 (3.31%) (37.50%)	37 (20.44%) (43.52%)	118 (65.19%) (41.84%)	–	–	–
PWR	9 (5.80%) (56.25%)	45 (29.03%) (52.94%)	103 (66.45%) (36.52%)	85 (54.83%) (46.96%)	–	–
MDI	6 (3.33%) (37.50%)	40 (44.94%) (47.05%)	205 (71.18%) (72.69%)	91 (47.89%) (50.27%)	77 (52.02%) (49.67%)	–

Appendix A7.A1 Official poverty list versus national poverty line

Overlap		National poverty line			
		Poor	Low income	Non-poor	Total
Official poverty list	Poor	6 (3.31%) (37.50%)	6 (3.31%) (27.27%)	169 (93.37) (38.85%)	181(100%)
	Low income	8 (2.95%) (50.00%)	15 (5.53%) (68.18%)	248 (91.51%) (57.01%)	271(100%)
	Left out	2 (9.52%) (12.50%)	1 (4.76%) (4.54%)	18 (85.71%) (4.13%)	21(100%)
	Total	16 (100%)	22 (100%)	435 (100%)	473

Appendix A7.A2 Official poverty list versus actual-price-based poverty line

Overlap		Actual-price-based poverty line			
		Poor	Low income	Non-poor	Total
Official poverty list	Poor	37 (20.44%) (43.52%)	48 (26.51%) (41.71%)	96 (53.03%) (35.16%)	181 (100%)
	Low income	44 (16.23%) (51.76%)	62 (22.87%) (53.91%)	165 (60.88%) (60.43%)	271 (100%)
	Left out	4 (19.04%) (4.70%)	5 (23.80%) (4.34%)	12 (57.14%) (4.95%)	21 (100%)
	Total	85 (100%)	115 (100%)	273 (100%)	473

Appendix A7.A3 Official poverty list versus local people's poverty line

Overlap		Local poverty line			
		Poor	Low income	Non-poor	Total
Official poverty list	Poor	118 (65.19%) (41.84%)	39 (21.54%) (30.23%)	24 (13.25%) (38.70%)	181(100%)
	Low income	151 (55.71%) (53.54%)	84 (30.99%) (65.11%)	36 (13.27%) (58.06%)	271(100%)
	Left out	13 (61.90%) (4.60%)	6 (28.57%) (4.65%)	2 (9.52%) (3.22%)	21(100%)
	Total	282 (100%)	129 (100%)	62 (100%)	473

Appendix A7.A4 Official poverty list versus PWR

Overlap		PWR			
		Poor	Low income	Non-poor	Total
Official poverty list	Poor	85(46.96%) (54.83%)	84 (46.40%) (35.59%)	11 (6.07%) (16.41%)	1 (0.55%) (6.66%)
	Low income	64(23.61%) (41.29%)	148(54.61%) (62.71%)	54 (19.92%) (80.59%)	5 (1.84%) (33.33%)
	Left out	6 (28.57%) (3.87%)	4(19.04%) (1.69%)	2 (9.52%) (2.98%)	9 (42.85%) (60.00%)
	Total	155 (100%)	236 (100%)	67 (100%)	15 (100%)

Appendix A7.A5 Official poverty list versus MDIs

Overlap		MDI			
		Poor	Low income	Non-poor	Total
Official poverty list	Poor	91 (50.27%) (47.89%)	86 (47.51%) (32.33%)	4 (2.20%) (23.52%)	181 (100%)
	Low income	86 (31.73%) (45.26%)	173 (63.83%) (65.03%)	12 (44.28%) (70.58%)	271 (100%)
	Left out	13 (61.90%) (6.84%)	7 (33.33%) (2.63%)	1 (4.76%) (5.88%)	21 (100%)
	Total	190 (100%)	266 (100%)	17 (100%)	473

Appendix A7.B1 National poverty line versus actual-price-based poverty line

Overlap		Actual-price-based poverty line			
		Poor	Low income	Non-poor	Total
National poverty line	Poor	16 (100%) (18.82%)	0	0	16 (100%)
	Low income	22 (100%) (25.88%)	0	0	22 (100%)
	Left out	47 (10.80%) (55.29%)	115 (26.43%) (100%)	273 (62.75%) (100%)	435 (100%)
	Total	85	115	273	473

Appendix A7.B2 National poverty line versus PWR

Overlap		PWR			
		Poor	Low income	Non-poor	Total
National poverty line	Poor	9 (56.25%) (5.80%)	3 (18.75%) (1.27%)	2 (12.50%) (2.98%)	2 (12.50%) (13.33%)
	Low income	14 (63.63%) (9.03%)	5 (22.72%) (2.11%)	1 (4.54%) (1.49%)	2 (9.09%) (13.33%)
	Left out	132 (31.42%) (85.16%)	228 (53.33%) (96.61%)	64 (15.23%) (95.52%)	11 (2.52%) (73.33%)
	Total	155 (100%)	236 (100%)	67 (100%)	15 (100%)

Appendix A7.B3 National poverty line versus local people's poverty line

Overlap		Local people's poverty line			
		Poor	Low income	Non-poor	Total
National poverty line	Poor	16 (100%)	0	0	16 (100%)
	Low income	22 (100%) (7.80%)	0	0	22 (100%)
	Left out	244 (56.09%) (86.52%)	129 (29.65%) (100%)	62 (14.25%) (100%)	435 (100%)
	Total	282 (100%)	129 (100%)	62 (100%)	473

Appendix A7.B4 National poverty line versus MDI

Overlap		MDI			
		Poor	Low income	Non-poor	Total
National poverty line	Poor	6 (37.50%) (3.33%)	2 (12.50%) (8.33%)	8 (50.00%) (1.85%)	16 (100%)
	Low income	2 (9.09%) (11.11%)	2 (9.09%) (8.33%)	18 (81.81%) (4.76%)	22 (100%)
	Left out	10 (2.29%) (5.55%)	20 (4.59%) (83.33%)	405 (93.10%) (93.96%)	435 (100%)
	Total	18 (100%)	24 (100%)	431 (100%)	473

Appendix A7.C1 Actual-price-based poverty line versus PWR

Overlap		PWR			
		Poor	Low income	Non-poor	Total
Actual-price-based poverty line	Poor	45 (52.94%) (29.03%)	28 (32.94%) (11.86%)	7 (8.23%) (10.44%)	5 (5.88%) (33.33%)
	Low income	41 (35.65%) (26.45%)	57 (49.56%) (24.15%)	14 (12.17%) (20.89%)	3 (2.60%) (20.00%)
	Left out	69 (25.27%) (44.51%)	151 (55.31%) (63.98%)	46 (16.84%) (68.65%)	7 (2.56%) (46.66%)
	Total	155 (100%)	236 (100%)	67 (100%)	15 (100%)

Appendix A7.C2 Actual-price-based poverty line versus MDIs

Overlap		MDI list			
		Poor	Low income	Non-poor	Total
Actual-price-based poverty line	Poor	40 (47.05%) (44.94%)	26 (30.58%) (20.47%)	19 (22.35%) (7.39%)	85 (100%)
	Low income	22 (19.13%) (24.71%)	32 (27.82%) (25.19%)	61 (53.04%) (23.73%)	115 (100%)
	Left out	27 (9.89%) (30.33%)	69 (25.27%) (54.33%)	177 (64.83%) (68.87%)	273 (100%)
	Total	89 (100%)	127 (100%)	257 (100%)	473

Appendix A7.C3 Actual-price-based poverty line versus local people's poverty line

Overlap		Local people's poverty line			
		Poor	Low income	Non-poor	Total
Actual-price-based poverty line	Poor	85 (100%) (30.14%)	0	0	85 (100%)
	Low income	115 (100%) (40.78%)	0	0	115 (100%)
	Left out	82 (30.03%) (29.07%)	129 (47.25%) (100%)	62(22.71%) (100%)	273 (100%)
	Total	282 (100%)	129 (100%)	62 (100%)	473

Appendix A7.D1 Local people's poverty line versus PWR

Overlap		PWR			
		Poor	Low income	Non-poor	Total
Local people's poverty line	Poor	103 (36.52%) (66.45%)	138 (48.93%) (58.47%)	32 (11.34%) (47.76%)	9 (3.19%) (60.00%)
	Low income	39 (30.23%) (25.16%)	65 (50.38%) (27.54%)	20 (15.50%) (29.85%)	5 (3.87%) (33.33%)
	Left out	13 (20.96%) (8.38%)	33 (53.22%) (13.98%)	15 (24.19%) (22.38%)	1 (1.61%) (6.66%)
	Total	155 (100%)	236 (100%)	67 (100%)	15 (100%)

Appendix A7.D2 Local people's poverty line versus MDIs

Overlap		MDIs			
		Poor	Low income	Non-poor	Total
Local people's poverty line	Poor	205 (72.69%) (71.18%)	56 (19.85%) (45.90%)	21 (7.44%) (33.33%)	282 (100%)
	Low income	66 (51.16%) (22.91%)	42 (32.55%) (34.42%)	21 (16.27%) (33.33%)	129 (100%)
	Left out	17 (27.41%) (5.90%)	24 (38.70%) (19.67%)	21 (33.87%) (33.33%)	62 (100%)
	Total	288 (100%)	122 (100%)	63 (100%)	473

Appendix A7.E1 PWR versus MDIs

Overlap		MDI			
		Poor	Low income	Non-poor	Total
PWR	Poor	77 (49.67%) (52.02%)	66 (42.58%) (29.20%)	12 (7.74%) (15.00%)	155 (100%)
	Low income	60 (25.86%) (40.54%)	128 (55.17%) (56.63%)	44 (18.96%) (55.00%)	232 (100%)
	Left out	11 (16.41%) (7.43%)	32 (47.76%) (14.15%)	24 (35.82%) (30.00%)	67 (100%)
	Total	148 (100%)	226 (100%)	80 (100%)	454

Notes

3 Economy, society and deprivation in Yunnan

- 1 Literally 'five-guarantee' is a category of household under the welfare system for the elderly provided by the government Civil Affairs Department. The household is guaranteed special assistance in five areas: food, clothing, housing, medical care and burial services. Eligible households are the elderly living without children (see www.mountainvoices.org/c_glossary.html).
- 2 *Hukou* refers to residency permits (household registration requiring individuals to live in the area designated on their permit).
- 3 Gross enrolment rate in a certain level of education is the number of pupils (total) enrolled in a certain level of education, regardless of age, expressed as a percentage of the population in the theoretical age group for that level of education according to Education International, www.ei-ie.org/barometer/en/glossary.php, accessed 1 April 2008.
- 4 According to the criteria in 1986, a county whose net income per capita was less than 150 yuan, 200 yuan for a minority county, was counted as a nationally designated poor county. Each province also identified its own provincially designated poor counties. In Yunnan, there are 26 nationally designated poor counties and 15 provincially designated poor counties, so in total there are 41 nationally and provincially designated poor counties.
- 5 A county that has a degree of autonomy, or freedom from external authority.
- 6 1 mu = 1/15 [typesetter: fraction] hectare.
- 7 Ethnicity of the households is based on the ethnicity of the household heads.

4 The official poverty identification method: 'You are the poor'

- 1 Interview with Division Director, LGOPAD, State Council, 12 May 2006.
- 2 Interview with Jian Junxiao, LGOPAD, Wuding County, 30 March 2006.
- 3 Items on grain production, average grain consumption and total and average net income are found in the table in 1998 and 1999. Net income ranged from 180 to 300 yuan in 1998 and was 250–400 yuan in 1999 in different groups.
- 4 Information on household head, population, cultivated land, average grain production, average net income, ethnicity, access to electricity and drinking water, reasons for poverty, strategies and cadre was provided. Poverty line is 580 yuan and 300 kg of grain.
- 5 The extreme poor list in 2002 was divided into poor, middle and better-off households. The poor households in extreme poverty as a result of long-term sickness and disability, for example, would receive some relief grain according to how many months of food shortage they suffered. The poverty line was 627 yuan in 2002.

- 6 Information on household head, population, net income, reasons for poverty and so on is available in the table.
- 7 The lists in 2003 and 2004 included information on household head, sex, population, address, household type and average net income. The poverty line was 637 yuan and the low-income line was 638–882 yuan in 2003. The poverty line was 668 yuan and the low-income line was 669–924 yuan in 2004.
- 8 In the summary table it says ‘This table is an important basis for poverty alleviation for the future. So please complete seriously and accurately. Filer and person in charge must sign themselves.’
- 9 These are the six sets of lists on the poor in Jiankang Villagers’ Committee. After submission of each poor list, a copy was deposited in the archive.
- 10 Interview with Jian Junxiao, 30 March 2006.
- 11 Interview with Jian Junxiao, 30 March 2006.
- 12 Interview with Yang Jianneng, 6 May 2005.
- 13 Interviews with Yang Jianneng and Yang Xuanjie, 13 July 2005.
- 14 Interview with Zhu Quanxue, accountant of Zhujia, 11 Dec. 2005.
- 15 This is a six-page form including poor household identification, basic information on the households, household activities, a funding support worksheet, a poor household information worksheet, verification and acceptance information for dealing with the food and clothing problems of the absolute poor and poverty alleviation for low-income households as tabulated and distributed by the LGOPAD of Yunnan Provincial People’s Government.
- 16 Kangshang, Kangxia, Qishang, Zhujia and Yanjia villagers’ groups did not hold public meetings to file and card the poor and low-income people in 2005.
- 17 Guanjia, Qixia, Nihong and Daheishan villagers’ groups held public meetings to file and card the poor and low-income residents in 2005.
- 18 Interview with Sheng Mingguang in Guanjia, 14 Dec. 2005.
- 19 Interviews with Sheng Mingguang, 14 Dec. 2005 in Guanjia, and Yang Guangxue, 4 Sept. 2006.
- 20 Interview with Mao Jianfang, working team member, 23 Nov. 2005.
- 21 Telephone interview with Li Yuzhong, 18 Oct. 2006.
- 22 Interview with Jian Junxiao, 30 March 2006.
- 23 Interview with Jian Junxiao, 30 March 2006.
- 24 Interview with Jian Junxiao, 30 March 2006.
- 25 Interview with Jian Junxiao, 30 March, 2006, Wuding County LGOPAD.
- 26 Li Yuzhong, Deputy Director, Villagers’ Committee, telephone interview, 18 Oct. 2006.
- 27 Interview with Jiang Kaiyou, 6 Sept. 2006.
- 28 Telephone interview with Jian Junxiao, 10 November 2006.
- 29 Telephone interview with Li Yuzhong, 18 Oct. 2006.
- 30 Interview with Jiang Kaihua in Sept 6, 2006.
- 31 Interview with Jiang Kaihua, 6 Sept. 2006.
- 32 Interview with Jian Junxiao, 30 March 2006, Wuding County LGOPAD.
- 33 Interview with Jiang Kaihua, Party Secretary, Jiankang Villagers’ Committee, 6 Sept. 2006.
- 34 Interviews with Shen Mingguang, Guanjia group leader, 13 Dec. 2005 and Jiang Kaiyou, doctor in Jiankang Villagers’ Committee.
- 35 Interview with Jiang Kaihua, 6 Sept. 2006.
- 36 Interview with Jian Junxiao, 30 March 2006.
- 37 Interview with Jian Junxiao, 30 March 2006.
- 38 Interviews with Yang Quanwu’s wife and Li Wenzhi, 28 June 2005; Jiang Kaihua and Jiang Kaiyou, 6 Sept. 2006.

5 Monetary poverty approach: 'They are the poor'

- 1 The Rural Survey Organization of the National Bureau of Statistics has set a low-income line per person per year since 1998 based on the same food bundle as that used to determine the poverty line. The unique difference is that the non-expenditure poverty line is estimated using a 60 per cent food share. It was 880 yuan in 1998, which was quite near US\$1/day according to the PPP exchange rate.
- 2 Source: iresearch.worldbank.org/povcalnet/povcalnet.html.

6 Participatory poverty assessment: 'We are the poor'

- 1 Source: household survey carried out by the author in fieldwork.

7 The multidimensional poverty indicators: 'Who are the poor?'

- 1 Gross dependency rate (GDR) is the number of non-labour-age household members divided by members of labour age. P_{0-14} is the number of children 0–14 years old. P_{65+} is the number of aged population older than 65. P_{15-64} is the number of population between 15 and 64 years old.

$$\text{GDR} = \frac{P_{0-14} + P_{65+}}{P_{15-64}}$$

- 2 Average labour is the ratio of labour (able-bodied workers aged 18–60 for men and 18–55 for women) divided by total population of the household. Here average labour does not count the physically or mentally disabled or those still in school and those with long-term sickness who are dependent on other household members.
- 3 Average years of education of household members is the total years of education of household members older than age 15 divided by the number of household members older than age 15.
- 4 'AEI' came from a discussion with Professor Ashwani Saith in August 2005 and is explained later in this section.
- 5 Transportation and communication fees refer to the costs incurred by all household members for travel and phone calls.
- 6 Here formally employed members are added because the number of formally employed is so small, only 13 in all of the research villages.

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