The Multidimensional Poverty Assessment Tool

Design, development and application of a new framework for measuring rural poverty

IFAD

Enabling poor rural people to overcome poverty

Cover photo:
Paddy fields in Xinhua Township,
Guangxi Zhuang Autonomous Region, China.

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Disclaimer: The Multidimensional Poverty Assessment Tool (MPAT) should be used according to the instructions in the MPAT User's Guide, which is available in hard copy or online (with additional materials) at http://www.ifad.org/mpat. Every effort has been made over the course of the MPA Project to ensure that MPAT provides an accurate overview of the dimensions measured. However, MPAT's efficacy is tied to the instructions provided in the User's Guide, which explains how the Standardized MPAT can and should be used. If the user decides to customize MPAT (which is certainly appropriate and even encouraged), the psychometric and statistical properties of the MPAT surveys and indicators will no longer necessarily remain, and the user is therefore cautioned to make every effort to ensure that such a Context-specific MPAT is developed in accordance with the guidelines provided in the User's Guide, and to test it before it is implemented.

This publication is available online at: http://www.ifad.org/mpat

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Acronyms

CAAS	Chinese Academy of Agricultural Science
COSOP	country strategic opportunities programme
CPM	Country Programme Manager
CSC	Check-Score-Code
DFID	Department for International Development
DHS	Demographic and Health Survey
HDI	Human Development Index
HH	household
IFI	international financial institution
IMI	Initiative for Mainstreaming Innovation
LSMS	Living Standards Measurement Study
M&E	Monitoring & Evaluation
MEASURE	Monitoring and Evaluation to Assess and Use Results
MICS	Multiple Indicator Cluster Survey
MPA	Multidimensional Poverty Assessment
MPAT	Multidimensional Poverty Assessment Tool
NGO	non-governmental organization
NV	natural village
PMO	Project Management Office
RIMS	Results and Impact Management System
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WEILAI	Water, Economy, Investment, Learning and Assessment Indicator
WFP	United Nations World Food Programme

Foreword

Poverty remains one of the severest blights of humankind. Worldwide, more than one billion people continue to live in extreme poverty in spite of all the efforts by international and national donor agencies, governments and individuals over many decades. Poor rural people, and those who are vulnerable to slipping (back) into poverty, have been hit especially hard by the recent global financial crisis and last year's food price crisis. Poor and vulnerable people are also among the first to be affected by the impacts of climate change.

Rural poverty has many causes and dimensions and these are often specific to a country and a particular context. The root causes of poverty need to be understood in order to design efficient measures tailored to the needs and strengths of poor people. Simple and efficient tools are required to assess the various dimensions of poverty in the specific context, in order to make the right decisions when creating poverty reduction programmes and policies. The Multidimensional Poverty Assessment Tool (MPAT) provides a methodology and a framework for the development community to implement better poverty reduction programmes.

MPAT was designed to be used in different contexts and countries of the developing world. A simple tool like MPAT allows project managers, government officials and others to regularly monitor and determine those sectors which require support for improving livelihoods. MPAT also serves as a mechanism to help government agencies cooperate on shared poverty reduction goals. In India, for example, MPAT may be useful for the current "convergence" process. But MPAT's utility can go beyond poverty reduction. Its assessments are accessible and hence it can contribute to increase the transparency with regard to how investments in poverty reduction are made. Its accessibility enables poor people to be further involved in the process and to become empowered.

This book outlines the methodological foundation for MPAT, giving the reader a clear understanding of *why*, *how* and *for what purpose* MPAT was created. Over the next year we expect that MPAT will be used in a variety of contexts. Its application may range from supporting strategy development to project implementation and impact assessment. It is likely that MPAT's application in other countries will reveal new ways in which the tool can be further improved. We will strive to systematically document the learning emerging from this tool so that it can be fed back to further sharpen and improve the tool and its methodology. Such improvements will flow directly into the next version of the MPAT User's Guide. We hope this book will be a source of support and encouragement to practitioners and policy decision-makers as they strive to accomplish their complex and difficult tasks. We hope that they will gain a better understanding of how MPAT can be used to help advance our individual and collective efforts to alleviate rural poverty and improve rural livelihoods.

MPAT was developed in a collaborative effort, together with national and international experts. It underwent intensive field testing in real project and poverty situations in China and India. The peer review by international and national experts provided the required technical and statistical soundness to warrant its application in other countries. We are grateful for having the opportunity to develop MPAT through funding by IFAD and its Initiative for Mainstreaming Innovation (IMI) programme. This project would have not been realized without the great dedication of the project team, led by Alasdair Cohen and supported by our country partners, IFAD staff and the project Sounding Board.

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Preface

人在饥饿时只有一个烦恼，吃饱以后便生出无数烦恼

"A person who has food has many worries, a person who has no food has one worry"

Chinese proverb

बड़ी इच्छा अंतहीन गरीबी है

"Large desire is endless poverty"

Indian proverb

The pages that follow provide the reader with an overview of the Multidimensional Poverty Assessment (MPA) Project, an initiative which, thanks to the support of a great many people around the world, yielded a new and innovative tool for understanding and measuring rural poverty. The purpose of this book is to describe the theoretical foundations upon which the Multidimensional Poverty Assessment Tool (MPAT) was built, to tell the story of how it was created, developed, tested and piloted in rural China and India, and to explain how MPAT can be used to benefit rural communities around the world.

Lasting poverty alleviation is achieved by fostering a comprehensive enabling environment within which people have a sufficiently high level of well-being and are able to pursue *their* livelihood goals based on *their* aspirations and initiative. To ensure that such environments are in place requires, at a minimum, an understanding of the key constraints rural people face – the fundamental dimensions central to their lives and livelihoods. MPAT does not try to define rural poverty *per se*; rather it takes a step back from assessment modalities that are overly focused on economic- and consumption-oriented indicators and strives to provide an overview of fundamental and relatively universal dimensions germane to rural livelihoods, rural life, and thus

to rural poverty. By summarizing rural communities' perceptions about key dimensions of rural poverty and focusing them through a quantitative lens, MPAT transparently illuminates problem areas so that *all* stakeholders can see where deficiencies lie and can begin to discuss which interventions may be most appropriate to address them, based on the local context.

I feel incredibly privileged to have worked on this project with individuals from around the world who recognized the need for such a tool, and helped ensure that it was properly developed by generously giving of their time and expertise. MPAT would not be what it is without their ideas and support; they are gratefully acknowledged below. I am especially thankful for the support of Rudolph Cleveringa, Mattia Prayer Galletti, Thomas Rath and Roxanna Samii, who saw the potential of this tool early on, supported me intellectually and logistically, and allowed me the freedom to guide the MPA Project based on an idealism we all share.

It is my sincere hope that our efforts have indeed produced a tool that can provide a lucid overview of where support is needed, and in so doing help individuals, organizations and governments around the world with their efforts to assist poor rural people in overcoming poverty.

Alasdair Cohen
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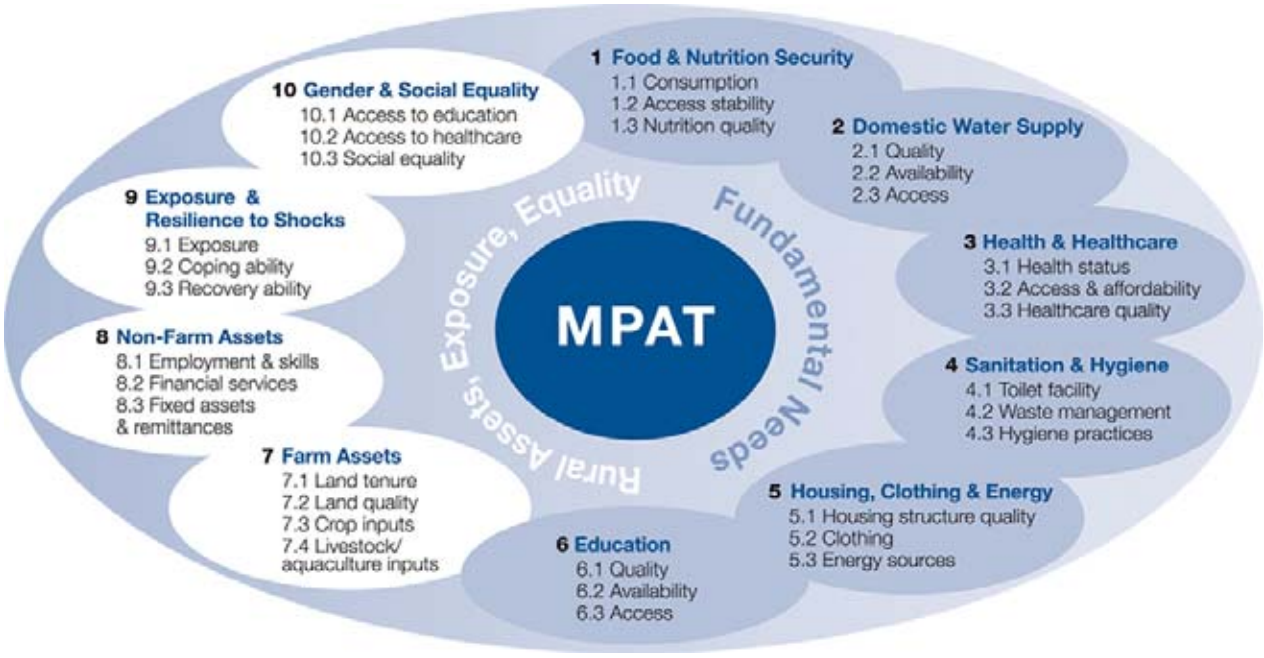
Executive summary

The Multidimensional Poverty Assessment (MPA) Project was a collaborative, international initiative led by IFAD to develop, test and pilot a new tool for local-level rural poverty assessment. IFAD is an international financial institution and a specialized agency of the United Nations dedicated to rural poverty reduction. The project was formulated in 2007, initiated in 2008 and primarily funded through an Initiative for Mainstreaming Innovation (IMI) grant and IFAD-supported projects and government agencies in China and India. The MPA Project was supported by a Sounding Board of experts from IFAD, other United Nations agencies, international and regional organizations, and universities around the world, with the majority of its members coming from the Asia region, where the tool was developed.

This book provides an overview of the theoretical rationale for creating the Multidimensional Poverty Assessment Tool (MPAT), a description of the MPA Project and the details of the steps involved in MPAT's development and testing. The book concludes with an examination of MPAT's added value and potential uses. In addition to this publication, an MPAT User's Guide is available online (http://www.ifad.org/mpat). The User's Guide is geared primarily to project management officers working with donor-supported and/or government-supported poverty reduction projects in rural areas, but MPAT is equally relevant for all groups concerned with rural poverty reduction: governments, donors, United Nations agencies, non-governmental organizations (NGOs), practitioners, academics, etc.

MPAT is designed to be universal enough to be relevant to most rural contexts around the world, yet specific enough to provide project managers and others with a detailed overview of key dimensions relevant to rural poverty reduction efforts. MPAT provides an assessment, an *overview*, of ten dimensions central to rural livelihoods (see figure below), highlighting where additional support or interventions are likely to be most needed. However, to understand the *whys* behind MPAT's values, users must look behind the numbers at the data, and in turn look to the field with additional, target-specific tools and approaches, since the local context is central to understanding what the problems are and how they can best be addressed. To this end, MPAT surveys can be expanded to capture additional data of interest, making them standardized yet flexible tools that can fit any context. Thanks to more than a year of testing and iterative improvement, MPAT is now ready for implementation.

Poverty is multifaceted and highly complex. In most situations, poverty is best reduced by helping people help themselves – on their terms. Information is needed to understand *how*. In order to effectively address poverty, governments, donor agencies and others must understand the principal underlying causes involved (at multiple scales) if they are to arrive at some approximation of the constraints poor people face. Such an understanding is required if one is to responsibly design and apply relevant, beneficial interventions with the goal of reducing poverty in a given region and enabling residents to pursue meaningful and rewarding lives and livelihoods. Income (or economic growth) does not provide a reliable proxy measure of poverty. *Multidimensional*



measurement is a more responsible and reliable alternative in most contexts.

As such, MPAT strives to capture those domains that are, arguably, fundamental to human well-being and, by extension, to poverty reduction, in a 21st century rural context. This is done by using survey questions that are broad enough to be applicable in most rural contexts, but precise enough to act as quality proxy measures for the components they represent. Regardless of the type of intervention, in order to help themselves, people's most fundamental needs must first be met before they can effectively address more long-term goals. So too, in most rural contexts today, dimensions beyond fundamental human (physiological) needs often constrain rural people's ability to help themselves. Agriculture, for example, although no longer as central to rural livelihoods as it once was, remains paramount for most poor rural people. Farming systems are increasingly complemented with other livelihood opportunities and inputs, which should likewise be addressed, in addition to a range of potential shocks people must cope with and recover from – not just natural shocks, but socio-economic shocks as well. All of these dimensions can be further examined through a lens of equality, both gender equality and social equality, since many people (particularly minority groups) are excluded from the benefits that an enabling environment may offer others. MPAT provides a mechanism for examining these dimensions.

MPAT's data are collected through surveys and then organized via indicators since this method provides a standardized means of collecting and analysing qualitative and quantitative data. However, one must be cautious when using indicators since there is a temptation to tout numbers as truths, rather than acknowledge the sometimes questionable reflections of reality that they are. More generally, it should also be noted that, with respect to detailed, context-specific poverty assessment, *participatory approaches* are arguably the best option for attaining a thorough understanding of poverty characteristics in an area. To be sure, this is the preferable methodology in many situations; but if the goal is to obtain a thorough overview of key sectors and make spatial and temporal comparisons, then there is a need for standardization, which is especially difficult to achieve when using relatively open-ended participatory approaches. Standardization

means that the same tool is used the same way each time; this in turn means that if MPAT is used in the same project multiple times, then the indicators/results can be compared to each other. The same holds true if MPAT is used in different countries – this is part of MPAT's value: the ability to make comparisons across space and time. Indeed, a reliable, standardized assessment tool can support project monitoring and evaluation, by being implemented at project start-up (for a baseline assessment), for a mid-term review and finally for a project completion assessment.

Surveys provide a means of collecting data in a standardized fashion, and indicators allow for the systematic and transparent valuation and summation of qualitative and quantitative data. Central to ensuring reliable, quality data capture is the standardization of the surveys, as well as the way in which they are administered. The vast majority of the data collected come from the MPAT Household (HH) Survey (with additional data collected via the MPAT Village Survey). This is appropriate because one of the key goals of MPAT is to provide a forum that allows rural people to communicate their perceptions about the key domains that surround and impact their lives. The HH Survey is administered more like an interview than a questionnaire, although the actual form is structured like that of a questionnaire. This allows enumerators to engage respondents in a meaningful way and quickly record respondents' answers, which saves time and is one of the reasons MPAT can be administered in about 30 minutes per HH.

Once the data are collected, survey responses are assigned values, which are in turn aggregated into subcomponents and components. Many poverty-related indices are *composite indicators*. A composite indicator is an amalgamation of different indicator values into a single value, or index, which seeks to represent those individual indicators. A *thematic indicator*, on the other hand, is a grouping of indicators that measures values similar to a common theme or concept. MPAT is a thematic indicator because each of its ten components is itself a composite indicator and the values for all ten are presented together but not aggregated into one index.

There are many challenges inherent in the use of surveys and indicators when attempting to measure poverty, and these challenges were addressed from the beginning of the MPA Project. Indeed, great efforts were made to ensure that the MPAT surveys were developed as professionally as possible and that the indicators were arrived at through a participatory process involving a wide range of stakeholders. Both the MPAT HH and Village Surveys have been analysed and tested with respect to their psychometric properties. This was accomplished primarily by ensuring that the way in which the questions are ordered and worded induces as little bias as possible and by developing a thorough enumerator training programme. So too, the indicators were subjected to rigorous statistical analysis, as well as an in-field validation exercise.

To elaborate, most MPAT survey items were created specifically for the MPA Project. MPA Sounding Board members were asked to provide suggestions for survey questions ahead of the MPA start-up workshop (September 2008), and many questions were either adopted from previous research or work, or specially created for MPAT's subcomponents as required. The MPAT HH and MPAT Village surveys were tested and revised extensively in various parts of rural China and India in 2008 and 2009. Workshops (in Beijing, New Delhi and Rome) were held at key intervals to garner input, and regular feedback loops connected the MPA Sounding Board to key project activities from start-up to completion. In this way, valuations for the survey items and weightings for the

subcomponents' aggregation were arrived at largely through a participatory process with Sounding Board members and other stakeholders. A large-scale pilot of MPAT (version 6) was conducted in China and India in early 2009 and the data were subjected to an independent analysis, which in turn provided recommendations for additional improvements to the MPAT framework and surveys. This analysis also statistically confirmed the suitability of using a thematic indicator, as opposed to a composite indicator, and verified the overall robustness of MPAT's architecture.

In spite of these efforts, MPAT unavoidably remains an imperfect tool. With regard to the development of any such poverty assessment tool, this is a foregone conclusion. Indeed, even with over a year's worth of work, extensive field testing, and the contributions of a great number of people from a wide variety of backgrounds and regions, the valuations used to convert the HH- and village-level data into numbers are forever debatable and imperfect, as are the weightings used throughout the Standardized MPAT. What must be kept in mind, however, is that there is no "perfect" formula for the valuations or the weightings. Decisions had to be made in order to have an operational tool, and every attempt was made to arrive at the best decisions possible based on the nature of the tool and the input provided. One of the principal purposes of this publication (and the MPAT User's Guide) is to ensure that readers understand the methodology and its evolution – how the surveys were developed, where the data come from and how they are valued and aggregated, how the subcomponents were created and how they are aggregated to yield component values. These issues, and more, are explained in detail, with the rationale of transparency. In short, *transparency* helps ensure that MPAT will be fully understood and used responsibly.

As touched on above, if one project or location is to be compared to another, then both must use the Standardized MPAT. That said, clearly every context is different, and while every effort was made to use valuations that should, for the most part, be universally applicable, this will not always be the case. Therefore, users are encouraged to experiment with the subcomponent weightings, and even item valuations, in order to tailor them to best reflect the priorities in their region. That is, users can create a *Context-specific MPAT*, alongside the standardized version, by first calculating the Standardized MPAT (to compare with other projects or countries) and then changing the valuations and/or weightings, as appropriate, in order to calculate a Context-specific MPAT.

To summarize, MPAT is a multi-purpose tool that can be used to support rural poverty alleviation efforts in the less-developed world. MPAT does not try to define rural poverty *per se*; rather it takes a step back from assessment modalities that are overly focused on economic- and consumption-oriented indicators and strives to provide an overview of fundamental and relatively universal dimensions germane to rural livelihoods and rural life, and thus to rural poverty. MPAT is a survey-based (household and village level) thematic indicator primarily designed to support monitoring and evaluation, targeting and prioritization efforts at a local level. However, MPAT has many other uses as well, such as: making in-country and cross-country comparisons; supporting project design; policy dialogue and national programme support; raising awareness among a variety of stakeholders; beneficiary empowerment and advocacy; and providing for innumerable secondary data analysis with the survey datasets. MPAT allows project managers, government officials and others to determine which dimensions of rural livelihoods likely require support, and more generally, whether an enabling environment is in place to allow rural residents to pursue their livelihood goals.

Chapter 1 Introduction

"Seventy five per cent of the world's poorest people, 800 million women, men and children, live in rural areas."

Cleveringa et al., 2009: 1

The Multidimensional Poverty Assessment (MPA) Project was a collaborative, international initiative led by IFAD to develop, test and pilot a new tool for local-level rural poverty assessment. IFAD is an international financial institution (IFI) and a specialized agency of the United Nations dedicated to rural poverty reduction. The project was primarily funded through an Initiative for Mainstreaming Innovation (IMI) grant and IFAD-supported projects and government agencies in China and India. The MPA Project was supported by a Sounding Board of experts from IFAD, other United Nations agencies, international and regional organizations, and universities around the world, with the majority of its members coming from the Asia region where the tool was developed.

The Multidimensional Poverty Assessment Tool (MPAT) is a project management tool that measures fundamental dimensions of rural poverty in order to support poverty alleviation efforts in the less-developed world. Specifically, MPAT is a survey-based thematic indicator primarily designed to assist monitoring and evaluation (M&E), targeting and prioritization efforts at a local level. That is, household and village level surveys are used to collect data, which are then valued and organized by way of indicators. In this way, MPAT provides an overview of fundamental dimensions related to human well-being and rural livelihoods.

MPAT's data are organized and presented via a thematic indicator. Indicators are, justifiably, controversial tools and poverty indicators are especially imperfect instruments. Nonetheless, they can prove useful if properly and transparently designed, developed and applied. Hence, one of the primary goals of this book (and the accompanying MPAT User's Guide) is to make it clear exactly how MPAT was developed and tested, and how the MPAT indicators are constructed.

Central to MPAT's development is the theory upon which it is based. While often overlooked, or addressed in a cursory fashion, the theoretical rationale for any indicator is in fact crucial (Saisana and Tarantola, 2002). In order to set the stage adequately, the reader should understand the theoretical perspective of rural poverty and human well-being in which MPAT took root. Consequently, this publication begins with a discussion of why MPAT was developed and what role it was envisioned to fill. This is described in a succinct fashion, followed by a brief discussion of the pros and cons of using indicators and surveys generally – and with regard to measuring poverty specifically. The subsequent chapters address the MPA Project itself, and MPAT's development, repeated testing, piloting in China and India (Figure 1) and analysis of the pilot data, and how this analysis, as well as regular feedback loops and workshops, informed the creation of the final MPAT survey.

The MPA Project's key phases are described step by step, so that the means of developing MPAT are as transparent as possible – this is fundamental, not least for those who will use MPAT since they should understand how and why it was created. Indeed, any tool used to

inform policy that will impact people's lives deserves such attention. This publication also discusses how MPAT is both standardized and adaptable to any region; the book closes with an overview of MPAT's potential uses, which serve to illustrate why this framework and approach add so much value to the existing basket of poverty assessment tools.[3]

MPAT is equally relevant and applicable at a large or small scale (e.g. a few villages in an area, in contrast to projects covering thousands of households); it is therefore hoped that MPAT will benefit governments, NGOs, IFIs, research institutions, universities and many others who have vested interests in understanding and addressing rural poverty around the world. To further this end, this publication, the MPAT User's Guide and all supporting materials (including indicator calculation spreadsheets) are available online, free of cost. This publication and the User's Guide are intended to provide the reader with a complete understanding of MPAT: what it can and cannot do, how it should and should not be used, and all the means and resources required to use it responsibly – ultimately, it is hoped, for the benefit of the world's poor rural people.

Alasdair Cohen

Figure 1
Children in Uttarakhand, India

3/ This publication is written for a general audience, whereas the MPAT User's Guide is geared to practitioners, academics and project management staff (spreadsheets and other training resources for MPAT can be downloaded, with the rest of this publication, free of charge at: http://www.ifad.org/mpat).

Chapter 2 MPAT's theoretical rationale and structure

"Poverty is fluid: it is a situation or a condition people find themselves in, not a permanent characteristic. Most people living in poverty do not suffer fatalism or low aspirations; rather, they take initiative to change their conditions, and most are confident that with hard work they will prevail. Poor people value freedom and their social relationships, and they want to use them to improve their well-being in a variety of ways. But their initiatives, whether individual or collective, often come up against blocked opportunities, whether in the context of rigged markets or local democracies captured by the elite. The key to poverty reduction lies in the intersection of initiative and opportunity."

Narayan et al., 2009: 336

2.1 Fostering an enabling environment: MPAT's theoretical foundation

IFAD's (2001) Rural Poverty Report (and the new, forthcoming, Rural Poverty Report) makes it all too clear that rural poverty remains a cripplingly serious issue around the world. In order to effectively address poverty, governments, donor agencies and others must understand the principal underlying causes involved (at multiple scales) if they are to arrive at some approximation of the constraints poor people face. Such an understanding is arguably required if one is to responsibly design and apply relevant, beneficial interventions with the goal of reducing poverty in a given region and enabling residents to pursue meaningful and rewarding lives and livelihoods.

With respect to understanding and measuring poverty, rural or not, there is no longer much debate that poverty is multifaceted and highly complex, with context-specific causes (Sen, 1985, Bourguignon and Chakravarty, 2003, Barrett, 2005, Alkire, 2007). That said, in the context of a large poverty reduction intervention it is often not practical (with respect to resources, staff, logistical arrangements, etc.) to conduct highly detailed, exhaustive surveys of a region's poverty. Similarly, it is not always pragmatic or useful to rely on existing government-collected data to assess the state of poverty in a region (especially if information is needed at a high resolution).[4] Poverty assessment tools provide project managers with a means for understanding, monitoring and tracking levels and types of poverty in an area. Since it is not practical to attempt to capture all the variables involved (if even it were possible), decisions must be made as to what aspects of poverty are most fundamental, most relevant to poverty, and thus to poverty reduction.

In order to create such a tool it is necessary to understand the overarching objective of poverty reduction initiatives. In most situations, poverty is best reduced by helping people help themselves – on their terms. Information is needed to understand *how*, and in turn to understand what type of social of physical infrastructure might enable such circumstances. Such information can best be gathered by talking with would-be beneficiaries and those working at the institutions which surround their lives (i.e. participatory approaches).

Generally speaking then, fostering an enabling environment which allows people to create the type of life *they* choose is, arguably, the overarching goal of many rural poverty reduction initiatives. This in turn requires a context-appropriate combination of essential

4/ By "high resolution" I mean data which can be disaggregated, or broken down, so that it can be analysed at the village or, ideally, household level. Often government census data are indeed collected at these levels, but the data are then aggregated together and presented at higher administrative levels, which, while potentially useful for regional- and/or national-level comparisons, are too broad to provide the level of detail often needed for project-level poverty assessment.

social services, access to information, skills training, social and physical infrastructure, etc. Indeed, a recent study on the subject found that whether people climb from destitution by "growing new crops, using new agricultural techniques or equipment, accessing new markets, starting a business, getting a job, or migrating for employment... people take initiatives based on their self-confidence, agency, aspirations, and empowerment" (Narayan et al., 2009: 46). By expanding the range of livelihood options available through information, training and support, it is hoped that people will eventually be in a position to choose the type of livelihood they wish to pursue.

Of course, this is all well and good, but if "a community is stifled by a lack of water, or plagued by sporadic violence, or living in shelters unable to protect them from yearly monsoons, they will be understandably preoccupied with addressing their more visceral, fundamental and immediate needs" (Cohen, in press). It follows that, regardless of the type of intervention, it is crucial to first ensure that people's fundamental needs are adequately addressed, and that they are not hampered by other core constraints to their lives and would-be livelihoods. This thinking is behind the MPAT framework.

Traditionally, key indicators and assessments of poverty were (and are) predominantly based (directly or indirectly) on income and/or consumption. However, economic growth or income growth do not reliably provide a good proxy measure of poverty. Moreover, it is actually quite costly to even attempt to measure rural incomes. *Multidimensional* measurement is a more responsible and reliable alternative in most contexts (Hicks and Streeten, 1979, Streeten et al., 1981, Sen, 2000, Bourguignon and Chakravarty, 2003, Sullivan, 2006). Sen's work on "freedom and capabilities" is built on these ideas and on the importance of enabling people – as the means and ends of "development" (Sen, 1984, Sen, 1985, Sen, 2000). Sen (2000: 108) writes: "Policy debates have indeed been distorted by overemphasis on income poverty and income inequality, to the neglect of deprivations that relate to other variables, such as unemployment, ill health, lack of education and social exclusion."

While MPAT is similar to Sen's *Capabilities Approach*, it does not stem from this, largely economic, school of thought.[5] Indeed, it should be kept in mind that, from the beginning of the MPA Project, MPAT was *not* intended to be an income-based poverty assessment tool. Rather, it was a deliberate effort to move away from income-based assessment. While a variety of MPAT's survey items seek to provide proxy measures of wealth and income-generating capacity at the household (HH) level, no attempt is made to measure rural incomes.

Subsequent sections of this publication will discuss what MPAT's added value is; for now, suffice it to say that: "MPAT measures people's capacity *to do* by focusing on key aspects and indicators of the domains essential to an enabling environment within which people are sufficiently free from their immediate needs, and therefore in a position to more successfully pursue their higher needs and, ultimately, their wants" (Cohen, in press).

To accomplish this, MPAT's framework is designed to evaluate core dimensions that are fundamental to rural poverty, and thus to rural poverty reduction efforts. Of course MPAT's architecture is not all-encompassing. Rather, the line has been drawn at what are seen to be those sectors, those dimensions, which are crucial to human well-being and livelihoods in a rural context. These core domains must be adequately addressed first, if more "advanced" poverty reduction strategies (e.g. village-managed microcredit) are to have a chance at success. This notion is somewhat analogous to Maslow's theory that: "Human needs arrange themselves in hierarchies of pre-

5/ The reader may consult Annex III, on page 132, for a comparison between MPAT's theoretical foundations and Sen's *Capabilities Approach*.

potency. That is to say, the appearance of one need usually rests on the prior satisfaction of another, more pre-potent need" (Maslow, 1943: 370). When thinking about this and MPAT's framework (see Figure 2) with respect to other domains related to rural poverty alleviation efforts (e.g. road and power infrastructure, rural credit cooperatives), it may be useful to visualize MPAT as the core circle of multiple priorities, with other concentric circles of additional priorities or options around it.[6]

With this in mind, the reader should note that MPAT does not take an ideological standpoint on what is the best means of reducing poverty, or promoting "development"; not least because the "answer" will always depend on local geography, demography, history, cultural norms, socio-political and socio-economic dimensions, as well as other factors. Similarly, attempting to measure other people's *quality of life* is an especially difficult endeavour, and one that does not readily lend itself to a standardized approach across cultures. If human well-being is not a daily concern, if people's needs are largely met, then what is left are often "wants"; and when one attempts to determine, *a priori*, which "wants" are more desirable than others, the door to paternalism is wide open. Moreover, there is no end to "wants" as they are largely a product of socialization and media.[7]

Consequently, MPAT seeks to provide an overview of *likely human well-being*, but not *quality of life*. As such, it is perfectly feasible that a community that is perceived of as "poor" by others could score highly on MPAT's ten components and feel that, overall, they have a high *quality of life*: that is, *income-poor, but life-rich*. Of course, it is also possible that a community could score highly on MPAT's components and simultaneously believe they have a very low quality of life (as, for example, might be the case in an oppressive regime).

In summary, MPAT strives to capture those domains that are, arguably, fundamental to human well-being and, by extension, to poverty reduction, in a 21st century rural context. This is done by using survey questions that are broad enough to be applicable in most

6/ This "concentric circle" means of understanding MPAT's place in the larger rural "development" context was articulated by Ai Chin Wee (World Bank) at the second MPA workshop in New Delhi, after a presentation by the author on MPAT and its theoretical foundations and purpose with respect to assessing fundamentals.

7/ At a global level, the impact (intentional and not) of mass media on what people believe they *want* is significant. See: Tomlinson, J. (1991) *Cultural Imperialism: A Critical Introduction*, Baltimore, Johns Hopkins University Press.

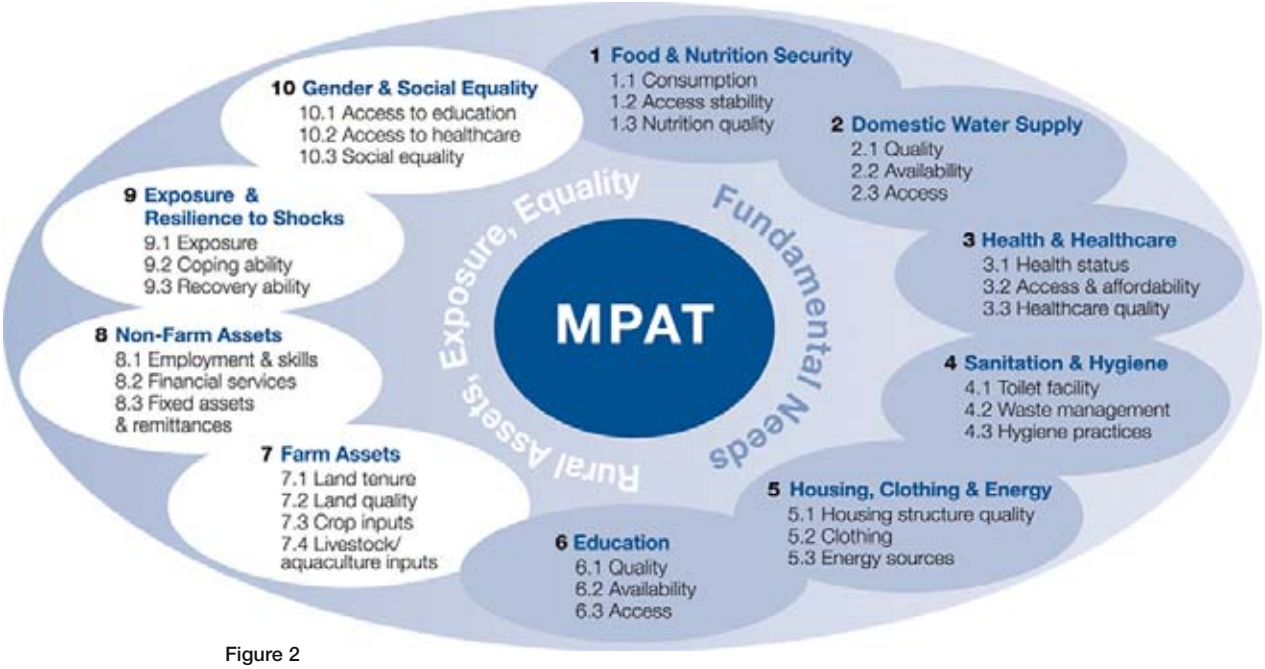


Figure 2
Organizational diagram of MPAT's components and subcomponents

rural contexts, but precise enough to act as quality proxy measures for the components they represent. MPAT's framework provides a means of assessing fundamental dimensions of rural poverty, but not a definitive list of *the* fundamental dimensions – since there is no valid means of agreeing on such a finite list. The sections below discuss all ten components, and their theoretical rationale, in greater detail.

2.2 The starting point: People's fundamental needs

"The economy is being globalized, ethics is not. Today the fashion is the quick profit, instantaneous material gratification and the obsession to participate in the material consumption banquet… this frenzy for quick profits and material gratification is devouring social rights, as well as the environment"

De Rivero, 2001: 141

First and foremost, MPAT is based on the conviction that all people, rich or poor, living in urban, peri-urban or rural areas, across continents and cultures, have the same essential needs. Moreover, if people's physiological needs are not adequately met they will be preoccupied with meeting those needs (Maslow, 1943), likely to the neglect of other domains of their lives until these needs are fulfilled. From the outset, the simple but important distinction between *need* and *want* is drawn; to measure need is relatively objective; to measure want is to take part in a subjective exercise fed by each culture's mores and priorities.

This distinction between need and want can be construed as one between *human well-being* and *human quality of life*; the former relatively objective, the latter inherently subjective. Granted, there is some room for argument within these broad assertions, but the overall point remains that MPAT's primary purpose is to provide an assessment of, at a minimum, the key dimensions relevant to humans' needs. As such, the first six of MPAT's ten components are largely founded on the *Basic Needs* theory (Streeten and Burki, 1978, Streeten et al., 1981, Maslow, 1943) but go beyond this, and thus are better considered *fundamental needs*.

These six components are presented below. The reader should note that the order is essentially arbitrary and is not intended as a ranking of these components. Each component is a composite indicator; that is, each component is built on subcomponents, which are in turn based on proxy measures – questions from the MPAT HH Survey and/or the MPAT Village Survey. The data from these questions form the values for each subcomponent, and these in turn are combined to yield the values for their respective components (these issues are discussed below[8]). The list below provides a general description of these components based around *fundamental needs*.

1. **Food & Nutrition Security** measures the stability and availability of sufficient quantities of adequately nutritious food to the HH. This component goes beyond an assessment of consumption, and strives to determine both the quality of the food being eaten (from a nutritional standpoint) and the constancy of the HH's food supply.

2. **Domestic Water Supply** measures the likely quality of water used for drinking, cooking, bathing and cleaning inside the home, as well as the stability of supply, and the HH's access to this water. Given that only second-hand, subjective proxies are used to determine the "quality" of the water, this cannot be determined to any fine degree (as compared to water testing).

8/ And in greater detail in the MPAT User's Guide. The main idea, though, can also be understood by examining Figure 3 and Figure 4, or the MPAT outline on page 92.

However, by aggregating a number of pieces of data concerning likely quality, a good approximation is achieved. The other subcomponents measure the availability of water and people's access to it.[9]

3. **Health & Healthcare** measures the health status of residents in the area, people's access to healthcare and the quality of the care provided. In addition, as with the *Domestic Water Supply* component and others, this provides an example of how MPAT assesses not only the existence of a service or resource and its quality, but the degree to which people can access/afford it (in many instances access is more important than *quality*).

4. **Sanitation & Hygiene** measures the quality of the HH's sanitation (toilet facilities), their waste management practices and personal hygiene behaviours. As with the other questions which constitute the MPAT survey, those for the *Sanitation and Hygiene* component are designed to be applicable across cultures.

5. **Housing, Clothing & Energy** measures the general quality of the HH's home (resilience to weather, etc.), the availability of adequate footwear/clothing, and the energy sources used in the home. These issues are so basic that they are almost forgotten in some poverty-related assessments. Given their centrality to daily life in and around the HH, these three dimensions are grouped together.

6. **Education** measures the quality of children's primary education (i.e. usually for children aged 5 to 14), its availability and children's access to it. This component is perhaps more of a cultural necessity than a physical one (Streeten et al., 1981), but nonetheless some form of education (linguistic, physical, cultural, technical, etc.) is a fundamental human need. This component is more concerned with the future viability of a given community than the current educational status of its residents (the *Non-Farm Assets* component takes adults' vocational skills into account).

Decades of experience, research and literature based on work around the world link these six components, and their synergistic interconnections, to rural poverty alleviation and human well-being. These components are intuitively fundamental since they are founded upon the notion of *need*: the need for nourishment, for hydration, for vigour, for cleanliness, for shelter/protection from the elements, and lastly for the nourishment of minds, which expands people's capacity to do and to create, and ultimately, to choose the life and livelihoods they desire.[10]

In so far as people's most fundamental needs are assessed through these first six components, MPAT provides a thorough overview of these sectors. However, to stop here would be insufficient with respect to addressing the fundamental dimensions, constraints, sectors and other aspects of contemporary rural poverty in much of the world.

9/ This component borrows heavily on the *Water, Economy, Investment, Learning and Assessment Indicator* (Cohen, 2007; Cohen and Sullivan, in press) and Sullivan's Water Poverty Index (Sullivan, 2002), discussed below.

10/ It should be noted, that while the *quality-availability-access* rubric was used as something of a theoretical starting point it is not strictly adhered to in the same structural format for each of the first six components.

2.3 Rural poverty in the 21st century: Agriculture, livelihoods, exposure and equality

"Poor people have needs, but reducing people to just their needs robs them of their aspirations, dreams, ambitions and skills – in short, of their ability to help themselves."

Narayan et al., 2009: 41

The four MPAT components listed below go beyond immediate physical and cultural needs and address fundamental dimensions of rural livelihoods, life and well-being. These four components and some of their subcomponents are the result of an exchange of ideas among practitioners, academics, and other experts of the MPA Sounding Board. The way in which rural life, livelihoods and poverty have changed in recent years – a "new rurality", as some have termed it (Rauch, 2009) – and the impacts of globalization and climate change, essentially dictate the need to adequately consider and assess these dimensions.

This "new rurality" is largely the result of an increasingly interconnected and complex world; a world in which economic opportunities for some mean climate-change-induced hazards for others; where opportunities for higher wages in factories and cities draw rural residents out of their villages as money flows back; where religious/social/economic/political divides victimize some at the expense of others, through outright conflict or legitimized exploitation – in sum, an increasingly complex world within which poor rural people tend to be on the losing end of new institutional, climatic and socio-political realities. Some of these challenges are new, others are millennia old. However, they are all fundamental dimensions of rural poverty in much of the world today:[11]

7. **Farm Assets** measures HHs' general ability to produce food for themselves and/or for sale/trade to others. This component is actually composed of four subcomponents[12] which capture elements crucial to farm-based livelihoods (whether for subsistence agriculture or sale at market). In addition to assessing the quality of the land to which HHs have access, the *type* of access (i.e. land tenure) is examined as well. There is also a focus on determining whether the key inputs needed for crop and livestock/aquaculture production (where applicable) are available.

8. **Non-Farm Assets** measures HHs' non-farm wealth-generating ability, their access to credit (formal and informal), and their wealth and savings. Given that many rural HHs no longer rely predominantly on agriculture for their livelihoods, it is important to investigate the degree to which other means of livelihood support, such as remittances or vocational skills, are available and relied upon.

9. **Exposure & Resilience to Shocks** measures HHs' exposure to natural and socio-economic shocks, hazards or other negative events; the component also measures HHs' ability to cope and recover from such events. This component is a direct response to potential climate change impacts and natural disasters, as well as the impacts of domestic and national conflicts. But the assessment is relatively open-ended, since the goal is to let poor rural people convey what they are most concerned about. Whether it be natural disasters, violence or something as seemingly mundane as taxes, they know their context best, and this component allows them to voice their concerns and fears, and clarifies the degree to which they might cope and recover were such an event or shock to pass.

11/ Again, the order is relatively arbitrary and is not a ranking – all of these components are crucial.

12/ All other components have three subcomponents. Initially the goal was to have no more than three subcomponents per component, because, as per the discussion of indicators below, the more subcomponents there are the less impact they each potentially have on their component's value. However, in this case it was determined after the pilot that an additional subcomponent was warranted. See the MPAT User's Guide (valuations section) for details.

10. **Gender & Social Equality** measures the equality of women's and men's access to education and healthcare, as well as the likely degree of equality of opportunity across minority/ethnic groups. This was one of the most challenging MPAT components to design. Gender and social inequality presents a major, yet often overlooked or ignored, barrier for many rural poor striving to improve their lives. Awareness of such inequality is the first step to addressing it. Hence, this component relies on two proxies – access to education and access to healthcare – to assess gender equality. An assessment of social equality fills in the third subcomponent.

As with the first six components, there is a wealth of literature and research linking the importance of these four dimensions to rural poverty. This body of literature is so vast that one could write a book on each of the ten components and its importance with respect to rural poverty alleviation efforts. That said, let us briefly discuss some of the implications of each of these four components with respect to rural poverty.

With respect to agriculture and poverty, two relatively recent works (Molden, 2007; FAO, 2008) make it clear that while "traditional" farm-based activities still constitute a significant portion of rural livelihoods, non-farm activities are becoming increasingly relevant to rural livelihoods, and thus to rural poverty reduction, in much of the world – especially in sub-Saharan Africa. There is further evidence for this observation; indeed, in their recently released study, Narayan, Pritchett and Kapoor (2009) note that of those individuals and HHs that have managed to climb from destitution in recent years, the majority did so via *non-agricultural activities*. This is not to say that agriculture will not continue to play a central role in rural areas; of course it will. However, other non-farm dimensions must be given due attention and support; hence the division between *farm* and *non-farm* activities and assets in MPAT's architecture.

Agriculture, whether rainfed or irrigated, will be increasingly adapted to shifts in regional climates. Climate change will continue to alter patterns of precipitation (timing, duration and frequency), and many of those who will be hardest hit are poor rural people. Of course, farmers will adapt as much as possible, but many will likely need some support or guidance, depending on where they live and what types of crops are predominately farmed (IPCC, 2007). As such, there is a significant focus on water resources in the *Farm Assets* component, and climate change is addressed in the *Exposure & Resilience to Shocks* component.

However, as touched on above, the latter component does not merely provide a measurement of perceived exposure to natural disasters and detrimental shifts in climate (with respect to farming); it also provides an outlet for HHs to express their primary concerns and fears. This is especially important given that many of the world's poor rural people live in areas with poor governance ("fragile states" at the extreme end of the spectrum), where problems of corruption, theft, violence and other social ills bear upon them and limit their opportunities (Graham, 2007). With respect to natural hazards, many such shocks/hazards cannot be avoided (unless one moves, of course). As such, MPAT provides an analysis of the ways in which HHs believe they will likely cope and recover should a given negative event take place. A great deal of research demonstrates the negative interrelations between shocks, be they natural, socio-economic, or other, and HH reactions to such events, and their ability, or often inability, to adequately cope and

recover (Ahmed et al., 2007). The study by Narayan et al. (2009) revealed that just under 20 per cent of those involved in the study cited *health/death, shocks and natural disasters* as the reason/s why their HH had *fallen* into penury.

The *Gender & Social Equality* component is a critical element of rural poverty reduction, and one which cross-cuts all the other MPAT components. MPAT provides a means of measuring where things stand in a given region with respect to the aforementioned dimensions; indeed, human well-being and the ability to make decisions about ones livelihood are largely determined by the state of these dimensions. Ensuring that all people in a given area have equal access to social services and infrastructure (not to mention political and economic opportunity) ought to be a crucial part of any poverty reduction initiative. Unfortunately, it is often the case that women and members of minority ethnic/cultural/religious groups do not have the same access, and therefore the same opportunities, as others and their fundamental needs may be significantly underserved – hence the importance of measuring gender and social equality.

Moreover, "gender and social equality is fundamentally relevant to poverty alleviation given the disproportionately positive and catalytic impact women have on poverty reduction efforts, as well as the links between empowerment, social equality and successful poverty reduction initiatives generally (Narayan, 2005; Narayan, et al., 2009; Vargas-Lundius, 2007)" (Cohen, in press). Providing project staff, government officials, NGOs and others an overview of where inequalities likely lie is a great first step in amending such social ills, and by extension, a means of boosting poverty reduction potential in a given area.

Chapter 3 Surveys, indicators and MPAT's structure

Now that we have an understanding of MPAT's architecture and its overarching rationale, it is important to remind ourselves that MPAT provides an *overview* of these dimensions. To understand the *whys*, users must look behind the numbers at the data, and in turn look to the field (meaning, conditions on the ground) with additional, target-specific tools and approaches. Part of MPAT's role then, is to provide an understanding of *where* such additional investigations are likely warranted both spatially and by sector. In order to more fully understand MPAT's potential, and its limitations, it is necessary to first understand more about surveys and indicators.

3.1 Surveys and indicators: Imperfect but useful tools for poverty assessment

The following discussion is by no means an exhaustive review of the pros and cons of using surveys and indicators for poverty assessment. The primary point of this section is to ensure that the reader is aware of some of the key issues and concerns that should be considered when planning on using *any* survey or indicator to better understand rural poverty in a region, and guide policy decisions that can have profound effects on people's lives and livelihoods. One must be cautious when using indicators since there is a temptation to tout numbers as truths, rather than acknowledge the sometimes questionable reflections of reality that they are.

It should also be noted that, with respect to detailed, context-specific poverty assessment, *participatory approaches* are arguably the best option for attaining a thorough understanding of poverty characteristics in an area. To be sure, this is the preferable methodology in many situations; but, if the goal is to obtain a thorough overview of key sectors and make spatial and temporal comparisons, then there is a need for standardization, which is especially difficult to achieve when using relatively open-ended participatory approaches. With this in mind, the reader and would-be user of MPAT can rest assured that MPAT is based upon carefully developed and tested surveys that collect data which are then organized in a systematic and transparent fashion through indicators. Nevertheless, readers and would-be users need to be aware of some of the primary pros and cons of such tools, not least because awareness of where potential pitfalls lie provides a means of addressing, and perhaps overcoming, them.

3.1.1 Surveys

A *survey* is a relatively generic term for assorted methodologies that capture data. Whether they are self-report questionnaires or semi-structured interviews, surveys that collect data about people are subject to a variety of constraints and avenues through which bias can distort (intentionally or not) the data gathered. At the core of any survey is measurement – information is collected and later organized in some way so that it can be understood and presented. *How* data are collected is crucial to ensuring that the data provide an accurate reflection of the reality which is supposedly being measured (how data can be organized with indicators is discussed below).

Designing a survey to elicit information is not straightforward. When designing a tool to collect data from people it is necessary

to devise a survey which reduces bias (i.e. people's preconceptions, prejudices) and helps prevent respondents from deliberately distorting the collected data (e.g. in order to secure more aid for a region, or to demonstrate that a certain programme was successful, or even to enhance their social desirability, or general self-presentation). "[S]elf reports are a fallible source of data, and minor changes in question wording, question format, or question context can result in major changes in the obtained results" (Schwarz, 1999: 93).

With respect to administered surveys, bias can also be introduced by the person asking the questions (when it is not a questionnaire that the respondents complete themselves, as is the case with MPAT). In fact, it has been found that respondents themselves may elicit information from the survey or enumerator in order to form their responses. That is, respondents are both led and constrained in their answers by the wording and format of questionnaires (Schwarz, 1999). For example, leading questions (i.e. questions that implicitly suggest an answer choice or the type of answer sought) may be unwittingly interpreted by interviewees as "conjectural evidence" which is in turn used in the formation of their answers (Swann et al., 1982, p. 1036). Unfortunately, some researchers in the field of development do not adequately consider these social-psychological factors, or understand the importance of analysing their survey instruments for psychometric soundness.

Clearly then, it is important to design a survey in such a way as to eliminate as much participant and observer bias as possible. This is accomplished via enumerator training and a focus on psychometrics and survey testing when developing the actual questionnaire or interview. These concerns were factored into MPAT's development from day one[13] (see: Schwarz and Sudman, 1996, for additional information).

3.1.2 Indicators

Indicators are tools that can be used to *simplify the complex* by combining data of various types, be they quantitative, qualitative, categorical or ordinal. The ability of indicators to blend data of various types allows for a complex construct to be assessed, compared and summarized in a *standardized* fashion. This is the ideal, this is what indicators are supposed to do. Yet the potential of indicators as tools for summarizing the complex is limited both by the very nature of the tool itself (subjective tools through which resolution is increasingly lost as data are combined) and due to the ways in which indicators are used and misused (intentionally or not). Indeed, the misuse of indicators for policy-making can be accidental because "composite indicators may send misleading, non-robust policy messages if they are poorly constructed or misinterpreted" (Saisana et al., 2005, p. 308) or even intentional if indicators are designed to manipulate data to "reveal" sought-after "truths" (Jain, 2003).

For example, a stock index is a well-known type of indicator. Clearly it is useful, since it provides a gauge as to how the market, overall, is performing at a given point in time. However, it is not necessarily useful for making specific investment decisions. When combining or averaging large sets of data, outliers are often lost in the process, and gradations of clarity blurred. This is at once the value of an indicator (i.e. simplifying large amounts of data) and its key shortcoming. Being aware of this, and the many other problems inherent in indicator use, requires transparency on the part of those who develop them, and knowledge of their inner workings on the part of those who might use the produced values.

The first steps of designing an indicator are inherently subjective. In their nascent

13/ Moshe Feldman, one of the MPA Project's advisers, was recruited specifically for his expertise in psychometrics and training design.

stage indicators are often an amalgamation of ideas and subjective choices about what factors best capture a given system or state. That is, when designing a composite indicator choices are made with respect to what components should be used to best capture the information in question – these choices are subjective. Additional steps, such as deciding how to organize these factors (*which should be the subcomponents for this component?*) and how to combine them (*is this subcomponent more or less important than the other two in describing the component they allegedly represent?*) can also be quite subjective. Statistical analysis subsequent to these decisions can help objectify the decision process,[14] but from the beginning the choice of what to use and how to combine it to create an indicator is highly subjective.

If an individual, or group of people, designing a composite indicator choose too many components, this can create additional problems because clarity and precision are lost as numbers are combined and re-combined. Of course, to make information accessible it must be simplified, but the more one simplifies something, the more of that information is lost (e.g. the average age of 98 teenagers and two octogenarians will wash out the presence of the elderly). With respect to indicators, *resolution is increasingly lost as data are aggregated* (i.e. mathematically combined). This same concept applies spatially since if indicators are aggregated at an inappropriate geographic scale, the result can be the masking of spatial variability of conditions on the ground (Molle and Mollinga, 2003, Sullivan and Meigh, 2007). Thus, the choice of a particular indicator is indeed very much related to the scale one wishes to examine, and the policy decisions that need to be made. The "right" level of aggregation depends on the purpose at hand – as does the general architecture of the indicator.

If nothing else, it is important to keep in mind that indicators are subjective tools based on the perceptions and assumptions of their creators; these assumptions are often cloaked (intentionally or not) in the language of objectivity and the seeming certainty of formulas and numerical precision. Given the potential for misrepresentation through index misuse or miscalculation, indicators are particularly open to criticism, which is arguably proportional to their final level of aggregation.

3.1.3 Data sources

Ensuring that one has reliable raw data with which to build an indicator is vital; hence the importance of understanding where data come from and how they are collected.

Whether using data from a census or a small-scale survey, many of the problems concerning data quality are the same because one is relying on the information people provide in response to questions (written or oral). It is here, at the source, that data reliability issues first arise. Many problems arise with using census data since data from existing sources "…may be inconsistent, unreliable or even invalid for what [they] claim to represent, so results from any assessment or modeling process should be treated with caution" (Sullivan and Meigh, 2007, p. 124). Even in the "developed world", census data do not accurately represent certain demographics (often minorities) and must be adjusted (Elliott and Little, 2000). In the less-developed world, data reliability issues are worse (Jain, 2003). For example, Kaufman et al. (1999, p. 28) attempted to aggregate 31 different indicators of governance across 155 countries, but the "inadequacy" of existing data allowed them to "identify relatively few significant differences in governance across countries" – a problem they attributed largely to "deficiencies" in the polls and surveys resulting from "poorly worded

14/ I.e. their validity can be analysed with respect to the degree to which they actually capture the construct in question.

questions about ill-defined and excessively broad concepts".

When census data are used to fuel indicators, the potential for error is multiplied significantly since errors from data collection to aggregation can make their way into the final indicator values, potentially misleading well-intentioned policy-makers who may not comprehend the inevitable limitations involved. With regard to MPAT, these points are largely mute, since MPAT requires data at a local level, and the resolution of census data is often insufficient and inappropriate in a project context.

However, much of what was just discussed *is* applicable since MPAT is a survey-based indicator. The next section discusses both the importance of survey design and testing, and how many of the problems discussed above can be addressed – in a word, the solution is "transparency".

3.2 How MPAT avoids the key pitfalls of surveys and indicators

If the theoretical rationale for an indicator's construction is made clear, if the means of collecting data are spelled out, if the aggregation formula, valuations and their justifications are presented, then an indicator's summation of a given situation can be understood appropriately, and action based on the output taken responsibly. This requires *transparency*. Consequently, every effort has been made to explain in detail the rationale and history of the MPA Project, so that future users might better understand the origins of MPAT (additional technical details are outlined in the MPAT User's Guide).

Most MPAT survey items were created specifically for the MPA Project. MPA Sounding Board members were asked to provide suggestions for survey questions ahead of the MPA start-up workshop (September 2008), and many questions were either adopted from previous research (e.g., Cohen, 2007) or work, or specially devised for MPAT's subcomponents as required (based on input from MPA Sounding Board members as needed). Thus, one of the key functions of the MPA Sounding Board was to provide assistance and support with the survey's design since the wide range of member's expertise could be called upon to suggest potential questions or help revise survey items as needed in the course of MPAT's development.

Thanks to this arrangement, the MPA Project benefited significantly from the considerable amount of experience and expertise of the Sounding Board members. In addition, a great deal of input was received from project staff and stakeholders. For example, after each iteration and testing of MPAT, the MPA Team (responsible for the day-to-day running of the project) met with the enumerators and other staff who had participated in the testing and used their feedback to alter, or in cases delete or add, survey items. So too, the statistical analysis conducted by Saisana (2009a) provided a vehicle for eliminating and/or revising certain survey items that were problematic (because they were not clear, evoked too much missing data, or for other reasons). That said, throughout the various iterations of MPAT, the final decisions with respect to survey items, indicator architecture, item valuation, weightings, etc. rested with the author, who is therefore responsible for any problems that may remain.

3.2.1 Thematic vs. composite indicators

Now that we have an understanding of what indicators are and what their purpose is, it is worthwhile to distinguish between two types of indicators. The most commonly used indicator is probably a *composite indicator*, which is an amalgamation of different

indicator values into a single value that seeks to represent those individual indicators. The Human Development Index (HDI) is probably the most well-known composite indicator in the field of development. Essentially, the HDI combines data on gross domestic product, life expectancy and education/literacy to provide a single comparative measure (i.e. a composite index) by which the nations of the globe can be compared (UNDP, 2006, p. 394).

As mentioned previously, in order to make information accessible it must be simplified. However there is a trade-off involved, as we have seen: the more one aggregates data, the more resolution is lost. For example, if one were to create 50 different indicators of governance stability at a national level, and then combine them into one composite value using equal weights (so that each indicator had an equal contribution to the singular value), the individual influence of each indicator would become essentially irrelevant – that is, the average would wash away any distinctions (however extreme) in the values aggregated. Sometimes this is desirable; with respect to understanding and monitoring poverty, it is not.

Thematic indicators present an alternative. A thematic indicator is a grouping of composite indicators that measures values similar to a common theme or concept.[15] A thematic indicator is useful when one wants to understand a general construct, but does not want the values from each element to be blended together into one value. The MPAT indicator is a thematic indicator because each of the ten components is itself a composite indicator, and the values for all ten are presented together, so that the user can quickly have an overview of each dimension (e.g. see the radar graph on the left side of Figure 4). The decision to create MPAT as a thematic indicator was a necessary outcome of the theoretical rationale upon which MPAT was built. That is, since poverty is multidimensional it would be inappropriate, to say the least, to blend multiple dimensions into one value. After all, what would this singular number actually reveal? As will be seen below, the statistical analysis[16] provided additional support for this means of organizing MPAT's indicators, rather than creating an index.

3.2.2 How it works: The MPAT survey and indicator architecture

It is hoped that the rationale for MPAT's structure, both the overall framework and its calculation and presentation as a thematic indicator, is now clearer. Of course, the details lie in the survey questions themselves and the ways in which the data from these questions are valued and combined to calculate each of the ten components. As the discussion of surveys above should have illustrated, capturing data is not at all straightforward, and the problems inherent in using surveys are compounded when the goal is to gather such information in a responsible, accurate and standardized fashion that is also quick, inexpensive and relatively easy (as far as survey administration).

The MPAT surveys collect data from two sources: HHs and village-level officials/employees. Thus there are two MPAT surveys, hereafter referred to as the *MPAT HH Survey* and the *MPAT Village Survey*. The vast majority of the data collected come from the HH Survey, and it should be understood that *the HH (not individuals) is the primary unit of analysis*. This is appropriate because one of the key goals of MPAT is to provide a forum that allows rural people to communicate their perceptions about the key domains which surround and impact their lives. That is, part of MPAT's value is that the data come from the beneficiaries themselves, although the data are organized by HH.

15/ See: http://composite-indicators.jrc.ec.europa.eu/S1_theorframework.htm.

16/ As can be seen in Table 8, because the ten components exhibit very low correlations to each other, this indicates that they likely measure different aspects of the construct in question.

The HH Survey is administered more like an interview than a questionnaire, although the actual form is structured like that of a questionnaire (see page 99 and/or the User's Guide for a copy of the survey). This allows enumerators to quickly record respondents' answers, since almost all the likely answers are already accounted for on the survey. This saves time and is one of the reasons MPAT can be administered in about 30 minutes per HH. The Village Surveys are structured the same way, but are slightly more open-ended in places, allowing for more of a dialogue (see page 105).

MPAT's architecture and survey/indicator methodology are largely based on a similar thematic indicator called the *Water, Economy, Investment, Learning and Assessment Indicator*, or WEILAI (meaning "future" in Mandarin), which was developed, tested and piloted in 2007 in rural southwest China (Cohen and Sullivan, in press, Cohen, 2007). WEILAI's architecture was in turn founded largely on Sullivan's (2002) *Water Poverty Index*, which is probably the most well-known composite indicator for assessing water poverty. MPAT's innovative nature owes much to these tools.

Central to ensuring reliable, quality data capture is the standardization of the surveys, as well as the way in which they are administered. Standardization achieves reliable, replicable results which can easily be compared to other areas, or times, where/when MPAT is used. As is touched upon below, both surveys can be expanded to capture additional data of interest to those using the survey (making them standardized, yet flexible tools which can fit any context).

Once the data for a given region are captured through the MPAT surveys, the data are checked through a rigorous quality-control process (termed Check-Score-Code [CSC] – see page 64 for an overview, and the MPAT User's Guide for details). Afterwards, the responses are assigned values on a scale of 1 to 10, with 10 being the high, or more desirable, score. In order to arrive at final values for the subcomponents, data from multiple survey items are combined. The subcomponent values are then themselves combined in order to yield the component values (since each is a composite indicator). Figure 3 illustrates how data are valued and combined to yield the final component scores[17]. As data move up this information pyramid, resolution is increasingly lost, but the complexity of the situation the data represent is simplified in step.

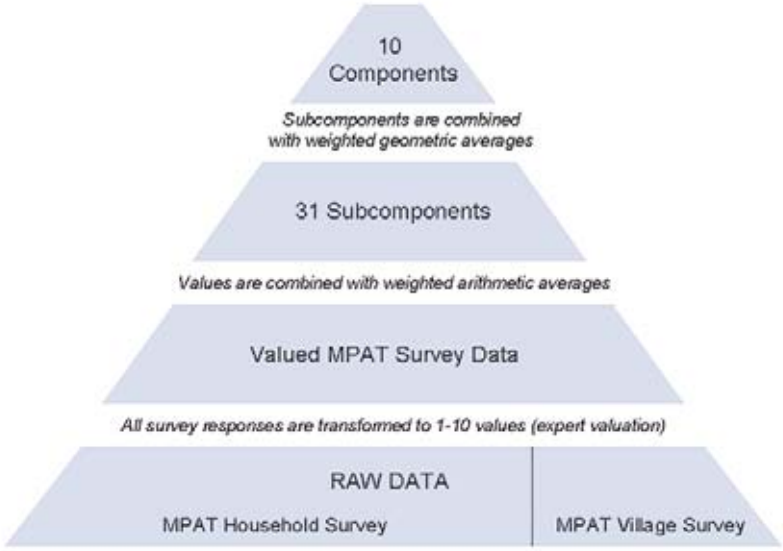


Figure 3
How MPAT's data are converted into component scores

Another means of visualizing the way in which the component scores are built upon the subcomponent scores can be seen in Figure 4 for the *Health & Hygiene* component. Here, one can also see how the radar graph on the left in Figure 4 presents all ten composite indicators together (this is the last step of aggregation; these ten components will not be aggregated into an index since MPAT is a thematic indicator).

17/ The subcomponent and component scores are presented on a 0-100 scale for greater precision, though the minimum value is actually 10 (not a zero), since the values are scaled up from a 1-10 scale.

The reader may be asking: How exactly are these final scores arrived at? How does one take the answers to survey questions and turn them into numerical values? Before answering these questions, it is worthwhile to note that there are essentially two main ways to do this: 1) creating a scale based on the range of data collected; or 2) using an absolute rubric to assign values. MPAT uses the latter approach, which is one of the reasons so many stakeholders were invited to assist with the creation of this tool (in contrast, WEILAI and the Water Poverty Index use the former approach). To restate: most poverty measurements are based on rankings (e.g. ranking HHs based on reported income, or asking village residents to rank HHs themselves – arguably a more accurate method). The range of values that results is then used as the baseline (this can be easily done using min/max formulas, see Cohen and Sullivan, in press for an example). MPAT, on the other hand, uses *absolute scales*.

To take an example from MPAT to illustrate how this is done, the reader is asked to examine subcomponent 2.3 of MPAT's *Domestic Water Supply* component (see the MPAT outline, which starts on page 92). By means of the HH Survey, *access to domestic water resources* is partially measured by assessing the amount of time it takes a HH to collect enough water for one day's domestic needs; this is done by recording the *number of minutes needed* to collect the water (since measuring distance, for example, would not account for topography and thus would not be highly correlated to the time needed to reach the water source). Details aside, the point is that if one were to calculate a value for a given HH using the *range* of data collected in an area, a given HH's score would be determined by its place in the range of collected values for that area. Thus, if in one region the surveyed HHs reported needing anywhere from 10 minutes to 120 minutes, and one HH in particular reported a time of 110 minutes to collect water, then that specific HH would have one of the lowest scores because it would be determined based on its position in the range of values collected for that region.

This is a perfectly acceptable approach to valuation, and one advantage is that the indicator developers do not have to decide *a priori* what the values/scores will be. However, a problem does arise: it becomes increasingly difficult to make comparisons across areas since the range of values collected for any dimension will vary between locations, and one is therefore required to establish rules for using ranges of data. Using an *absolute scale*, on the other hand, means that values are determined *before* data are collected. Thus, using the same example, one might determine that *any* HH that required more than 80 minutes, but less than 100, to collect water (anywhere in the world) would receive a "4", and any HH that required 100 minutes or more would receive a "1" (again, just an example). This is, essentially, the approach taken in MPAT.

Deciding where the cut-off points between values should be is no easy task, and consequently a great number of stakeholders and experts were consulted in creating these scales for MPAT (discussed below, and the valuations are provided in the MPAT User's Guide). For the time being, it is important to understand the general way in which survey data are converted into values, which are in turn combined into other, more representative and general values of a given dimension. Indicators are valuable in that they provide a standardized means of accomplishing just this.

So, to answer the original question, let us take an example from the subcomponents for the *Health & Healthcare* component. The data captured in the MPAT HH and MPAT Village Surveys are assigned values and then

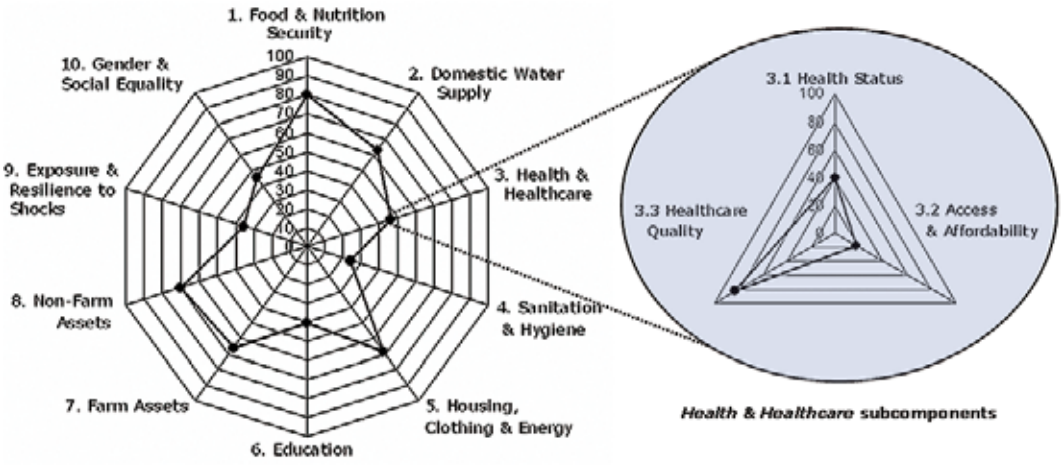


Figure 4
Hypothetical MPAT values for a given region
Source: (Cohen, in press)

these values are combined (with weighted arithmetic averages) to calculate the subcomponent values for the *Health & Healthcare* component. With this accomplished, these subcomponent values would then be aggregated into the component value using expert weightings and a weighted geometric average (refer to Figure 3). This is the actual MPAT method.

In Figure 4, for the sake of simplicity and in order to convey the concept, this is accomplished by using equal weights (i.e. each of the three subcomponents' values are combined in equal measure [0.33^{-}] to yield one value) and a simple mean to combine them, yielding the value of 46. This should be more intuitive. The only difference then is that in the real aggregation, expert weightings are used instead of equal weightings and a geometric average is used instead of an arithmetic average. The actual weighting schemes and type of mean used are explained in the MPAT User's Guide; this is just an example to better illustrate the mechanics of how the survey data are assigned values, which are then combined into subcomponent values and in turn into component values.

This discussion should also highlight the importance of looking behind the component values to see how the subcomponent scores contributed to a singular value – that is, what data were simplified to arrive at this one value? Furthermore, do we fully understand the *Health & Healthcare* component by looking only at the number "46"?

3.2.3 The importance of transparency

> "[T]he utility of any indicator is dependent on the quality of the data upon which it is built, the transparency with which it is developed, its ability to accurately describe a system, and the caution with which it is used to inform policy."
>
> Cohen, in press

Both the MPAT HH and Village Surveys have been analysed and tested with respect to their psychometric properties. This was accomplished primarily by ensuring that the way in which the questions are ordered and worded induces as little bias as possible. Of course it is likely that the surveys could be even more psychometrically sound than they

are at present, but users can be confident that most of the unwanted bias has been removed, and that by following the enumerator training programme and guidelines (in the MPAT User's Guide) additional bias should be very limited.

A great deal of energy has been spent on the iterative process of designing, testing, revising and re-testing the MPAT surveys to create a tool that is as bias-free as possible, while retaining its ability to be applied almost anywhere in the world, yet still producing data at specific enough scales so as to be highly useful to project staff and others. At each key step of the MPA Project many experts and stakeholders were consulted in order to secure their feedback and help ensure that the tool was developed in a responsible and inclusive fashion. This process is described in the subsequent chapters of this book.

Without transparency and consultation, the subjective choices made by "experts" are hidden from view, and the calculations based on them cloaked from scrutiny. One of the principal purposes of this publication and the MPAT User's Guide, aside from providing users with clear instructions for calculating the MPAT indicators, is to make certain that everything is understood – how the surveys were developed, where the data come from, how the data are valued and aggregated, how the subcomponents are created, and how they are aggregated to yield component values. *Transparency* then, is arguably the most important means of ensuring that MPAT is understood and used responsibly.

Before discussing the chronology of the MPA Project, it is worthwhile to take a quick look at other poverty assessment tools currently being used.

3.3 A quick look at other poverty assessment tools[18]

MPAT's utility depends on the goals of the user and the context in question. There are a host of other well-developed poverty assessment tools specific to a variety of perspectives and addressed to a variety of goals. In order to give the reader a taste of the structure and content of some of these tools, three of the more well-known and used are presented below.

3.3.1 Multiple Indicator Cluster Surveys

"The Multiple Indicator Cluster Survey (MICS) programme developed by UNICEF assists countries in filling data gaps for monitoring the situation of children and women through statistically sound, internationally comparable estimates of socioeconomic and health indicators. The household survey programme is the largest source of statistical information on children."

http://www.unicef.org/statistics/index_24302.html

Background and Overview

MICS is a national-level survey tool developed by The United Nations Children's Fund (UNICEF) to assist countries in their efforts to collect HH-level data on children and women. MICS was first developed in response to the *World Summit for Children* to measure progress towards an internationally agreed-upon set of mid-decade goals. The first surveys were administered in 1995, and then again in 2000 and 2005.

Methodology and Structure

MICS surveys are typically carried out by government organizations, with the support and assistance of UNICEF and other partners.

18/ Chen Mingming (MPA Project intern), under the supervision of the author, conducted a review of commonly used poverty assessment tools and helped draft the information in this section.

Table 1 Multiple Indicator Cluster Surveys – Components overview

Questionnaire	Household	Individual women	Children under five
Components	Information panel	Information panel	Information panel
	Household listing	Child mortality	Birth registration and early learning
	Education	Tetanus toxoid	Vitamin A
	Water and Sanitation	Maternal and newborn health	Breastfeeding
	Child Labor	Marriage/union	Care of illness
	Salt Iodization	Contraception	Immunization
	HIV/AIDS	Anthropometry	

Source: http://www.unicef.org/statistics/index_24302.html

MICS is composed of three "Core Model" questionnaires:

- Household Questionnaire
- Individual Women Questionnaire
- Children Under Five Questionnaire.

Each questionnaire includes different modules (components) for collecting information on education, nutritional status, health status and reproductive health. An overview of these components is listed in Table 1.

Use and Impact

MICS has been used to monitor the progress of assorted international development goals such as *World Fit for Children*, the *UNGASS* targets on HIV/AIDS and the Abuja targets for malaria. In particular, the third-round application of MICS (2005) was an important source of data for the Millennium Development Goals.

Organization and Website

UNICEF
http://www.unicef.org/statistics/index_24302.html
Manual:
http://www.childinfo.org/mics2_manual.html
and
http://www.childinfo.org/mics3_manual.html

3.3.2 Demographic and Health Surveys

"The Demographic and Health Survey (DHS) supports a range of data collection options that can be tailored to fit specific monitoring and evaluation needs of host countries… The DHS programme provides assistance with the Demographic and Health Survey, the Service Provision Assessment Survey, the HIV/AIDS Indicator Survey, the Malaria Indicators Survey and qualitative research."

http://www.measuredhs.com/

Background and Overview

The DHS was developed based on the *World Fertility Survey* and *Contraceptive Prevalence Survey,* which provided early comparative global data on fertility, family planning and infant/child mortality in the 1970s and 1980s. The initial DHS project was established at the *Institute of Resource Development* in 1984. In 1997, DHS was incorporated into the multi-project Monitoring and Evaluation to Assess and Use Results (MEASURE) programme of the Joint United Nations Programme on HIV/AIDS (UNAIDS). This led to the MEASURE DHS+ project, which is jointly supported by several institutions and is used to collect demographic and health data in less-developed nations.

Methodology and Structure

Nationally representative HH surveys provide data for monitoring and impact evaluation indicators which evaluate population dynamics, health and nutrition. An overview of the indicators in the questionnaire is outlined in Table 2. The DHS questionnaire is flexible since additional modules (e.g. Domestic Violence Module, Female Genital Cutting Module, Maternal Mortality Module, Women's Status Module) can be integrated depending on the context and country in question.

Use and Impact

DHS is now primarily used to support the MEASURE evaluation tool to assist country programmes in assessing and addressing their health and population issues. The data produced are also used by universities and other organizations worldwide to research demographic and health-related trends.

Organization and Website

USAID
http://www.measuredhs.com/

3.3.3 Living Standards Measurement Study

"The Living Standards Measurement Study (LSMS) was established by the Development Economics Research Group to explore ways of improving the type and quality of household data collected by statistical offices in developing countries. Its goal is to foster increased use of household data as a basis for policy decision making. Specifically, the LSMS is working to develop new methods to monitor progress in raising levels of living, to identify the consequences for households of past and proposed government policies, and to improve communications between survey statisticians, analysts and policy makers."

http://www.worldbank.org/lsms

Background and Overview

The LSMS was established by the World Bank in 1980. Initially, the central focus was on exploring methods for improving the quality and type of HH data collected by government statistical offices in less-developed nations. In the early 1980s, LSMS focused on analysing

Table 2 Demographic and Health Survey – Components overview

DHS Components
1. Respondent's background
2. Reproduction
3. Contraception
4. Pregnancy, postnatal care and breastfeeding
5. Immunization, health and nutrition
6. Marriage and sexual activity
7. Fertility preferences
8. Husband's background and woman's work
9. HIV/AIDS and other sexually transmitted infection

Source: http://www.measuredhs.com/

Table 3 Living Standards Measurement Study – Components overview

Household Questionnaire	Community Questionnaire	Price Questionnaire
Demographic structure Housing conditions Schooling	Demographic information	Prices from up to three vendors are collected for 28 food, 6 pharmaceutical and 13 other non-food items.
Health Employment Migration	Economy and infrastructure	
Expenditure and income Household non-agricultural businesses	Education	
Agricultural activities Fertility and contraceptive use	Health	
Saving and credit Anthropometric measures	Agriculture	

Source: http://www.worldbank.org/lsms

surveys, in order to determine the most important information to collect and the most feasible means of collecting it. Since 1980, work has been done on survey implementation and analysis, and the most recent focus is on building analytic capacity and ensuring data availability for interested researchers.

Methodology and Structure

LSMS surveys are multi-topic questionnaires that collect data on a number of dimensions, such as HH consumption, income, savings, employment, health, education, fertility, nutrition, housing and migration. Three different kinds of questionnaires are normally used: the *household questionnaire*, the *community characteristics questionnaire*, and the *price questionnaire*. An overview of these questionnaires and their key components is outlined in Table 3. A fourth type of questionnaire, *the school or health facility questionnaire*, is sometimes used as well.

Use and Impact

LSMS serves as a primary data source for the World Bank's research on poverty lines, the LSMS working paper series and other research projects.

Organization and Website

World Bank
http://www.worldbank.org/lsms

Chapter 4 MPAT's development

As the discussion above reveals, there are many challenges inherent in the use of surveys and indicators when attempting to measure poverty. These challenges were in the foreground from the beginning of the MPA Project, and great efforts were made to ensure that the MPAT surveys were developed as professionally as possible and that the indicators were arrived at through a participatory process involving a wide range of stakeholders.

The following sections guide the reader through the various phases of MPAT's development, from conception to finalization. For now, let us discuss the MPA Project itself, step by step, beginning with an overview of the entire project.

4.1 MPA Project timeline

The MPA Project (originally called the Thematic Indicator of Rural Poverty) was conceived of in the fall of 2007 at IFAD Headquarters in Rome. Funding was secured in early 2008[19] and the operational planning began that summer.

One of the first steps was the formation of a consultative Sounding Board (rather than a Steering Committee), whose responsibility was to offer general guidance to the project and provide specific inputs based on the Sounding Board members' varied areas of expertise. Given this mandate, experts were invited from a variety of organizations in order to try and assemble a group that had experience and expertise in the domains relevant to MPA. Staff from IFAD's Technical Advisory Division provided the core membership of the Sounding Board, but the majority of those involved were from, and/or

19/ The MPA Project would not have been possible without the considerable initial support of Rudolph Cleveringa, Mattia Prayer Galletti, Thomas Rath, Roxanna Samii and the IFAD IMI Committee, chaired by Khalid El-Harizi.

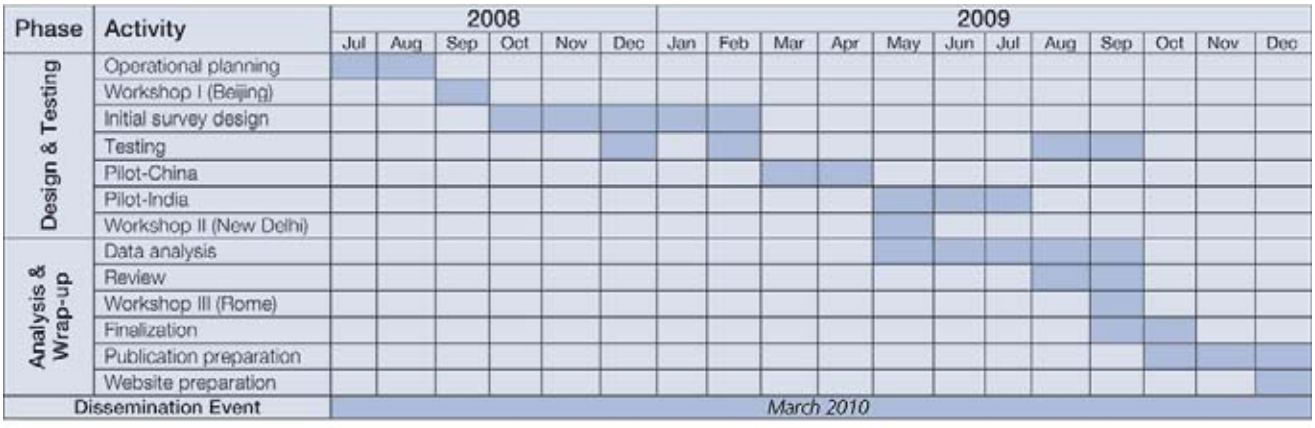


Figure 5
MPA Project: Timeline of major activities

based in, the Asia region. Members came from a variety of United Nations organizations, research institutes, government organizations, universities and various other organizations.[20]

Figure 5 provides an overview of the MPA Project timeline, an initiative which spanned over a year and half. The MPA Team[21] was responsible for the day-to-day running of the project, and the MPA Sounding Board was consulted at regular intervals between the key activities listed in Figure 5. In this way, MPAT was developed through an iterative process of testing and revision, with regular feedback loops for expertise to be incorporated each step of the way.

4.2 MPA Project planning

From the project's proposal stage to formal operational planning, the framework was debated and altered considerably. By the time the first field tests were conducted, dozens of experts had already contributed to the design of the MPAT survey.

Initially, MPA was too heavily based on its methodological predecessor, WEILAI (discussed on page 37). As such, the initial list of MPA components was overly focused on water resources. There were eight general, non-defined, components in the draft framework, and one macro-level indicator:

1) Food Security
2) Land Equity
3) Education
4) Health
5) Sanitation
6) Domestic Water Access
7) Agricultural Water Access
8) Environment

*) Gender Equity – Macro-Indicator

A key consideration was that MPAT was being developed for application in *any* rural context in *any* country. This challenge was highlighted when attempting to create an indicator to measure "gender equity", since a wide range of cultural and traditional norms would have had to be integrated if the Gender indicator was to capture data for each component (as it was originally envisioned to do).[22] This problem was compounded by the difficulties inherent in assigning values to collected data, especially since the goal from the onset was not to load MPAT with normative judgments as to what others should strive for with respect to *quality of life*.

Concerning the other big-picture issues, the idea from the outset was to develop a survey-based tool which could be used both as an M&E support tool at regular intervals in a project's lifespan, and also as a something of a "rapid appraisal" tool to be used as needed for prioritization and/or targeting needs. From the beginning then, the idea was to develop a tool that was easy to use, quick to implement and relatively simple to calculate (i.e. to take the collected data and calculate the indicators/components). In short, one of the primary goals was to develop a survey that, through well-conceived and well-tested proxy measures, could capture a wide range of data in a relatively short time. The specific goal was an average HH Survey administration time of less than 30 minutes, in order to keep the tool's application costs and total administration time as low as possible – this being part of MPAT's eventual added value. On a more macro level, part of the proposed tool's appeal was that the results would be presented in such a way as to be readily intelligible to a wide body of stakeholders.

In the pages that follow, the reader will see how these goals were accommodated through a process of consultation and, to a lesser extent, trial and error. Examples are mentioned below to give the reader a taste of the initial debates and discussions involved in creating such a holistic measure.

20/ Please see the Acknowledgements section for details.

21/ In most instances in this publication, MPA "team" refers to the author and other support staff. Piero Cellarosi was involved in most activities, from the start-up workshop through the MPA pilot in China and again when MPAT v.7 was tested in China. Sun Yinhong supported all activities in China, helping to ensure that appropriate partners were in place and that logistical support was forthcoming where needed, as did Shaheel Rafique in India. The MPA Team and MPA Project were managed by the author, with supervision from Thomas Rath, Mattia Prayer Galletti and Roxanna Samii.

22/ In the project proposal it was suggested that a Gender Equity macro-indicator would be calculated and presented alongside the data for the other components; however, after some discussion and investigation, it became clear that this would prove to be too difficult (if possible at all) and considerably slow down the total administration time required for the surveys.

4.3 Pre-start-up workshop – 1 September 2008: Beijing, China

In the early weeks of the official beginning of the MPA Project, a number of experts were consulted in order to garner a variety of opinions on MPAT's suggested architecture.[23] It was agreed that the issue should be discussed in greater depth, and so on 1 September 2008 an informal "pre-start-up workshop" meeting was held at the United Nations World Food Programme (WFP) offices in Beijing. The primary purpose of this meeting (Figure 6) was to reassess MPA's initial framework (tentatively agreed to in Rome) and come to an agreement on MPA's main components.

Zhang Xiaoqin

Figure 6
MPA pre-start-up workshop meeting: Beijing, China

The meeting proved extremely productive, not only in substantiating the framework already developed, but in strengthening it by:

- splitting the "Agricultural Water Access" component into agricultural and non-agricultural components (eventually re-named Farm Assets and Non-Farm Assets)
- removing the "environment" component (since it was agreed that identifying substantive differences at the project level would be especially difficult, and that valuing subject environmental assessments would be even more problematic)
- adding a component to assess exposure[24] to negative events, disasters/hazards (not a vulnerability assessment necessarily, but a recognition of the importance of assessing exposure, especially with the advent of climate-change-induced shocks)
- agreeing to create one component to measure gender equality, rather than attempting to create a macro-indicator to assess equality across all components.

Table 4 shows the framework that was agreed to in this meeting, and the possible types of sectors/domains which might be measured through a given component's subcomponents. The members of this meeting deliberately steered away from attempting to define the subcomponents, since this was to be the primary task of the start-up workshop, and the goal was to give the entire Sounding Board an opportunity to contribute to MPAT's development at that level. Thus, this pre-start-up meeting succeeded in its goal – namely, refining and solidifying MPA's overall framework (i.e. its core components).

23/ The author is especially thankful for the advice and guidance of Wu Guobao during this early stage.

24/ The author is especially thankful for Anthea Webb's suggestions concerning the inclusion of this component.

Table 4 Initial MPA framework agreed to at MPA pre-start-up workshop meeting

	MPA Component	What might be measured? For example:	Subcomponents
Basic needs – by sector	Food Security	Quality, availability, access	?, ?, ?, ?, ?
	Education	Quality, availability, access	?, ?, ?, ?, ?
	Health & Healthcare	Quality, availability, access	?, ?, ?, ?, ?
	Housing	Quality, availability, access	?, ?, ?, ?, ?
	Sanitation & Hygiene	Quality, availability, access	?, ?, ?, ?, ?
	Domestic Water Supply	Quality, availability, access	?, ?, ?, ?, ?
Assets/equity exposure	Agricultural Assets	Land tenure, agricultural water supply, livestock, cash crops, etc.	?, ?, ?, ?, ?
	Non-Agricultural Assets	Assets, employment, skills, non-farm income (remittances, pensions, etc.)	?, ?, ?, ?, ?
	Resilience to Shocks	Subjective perceptions of exposure to natural hazards & other risks	?, ?, ?, ?, ?
	Gender Equity	Degree of gender equity – (household and community)	?, ?, ?, ?, ?

4.4 Start-up workshop – 24 September 2008: Beijing, China

Before the MPA start-up workshop (Workshop I) members of the Sounding Board were asked to provide feedback on what they believed the subcomponents should be for their respective area/s of expertise; that is, for the components they were assigned based on their background. Specifically, they were asked to propose operational definitions for the subcomponents and to submit potential questions that could be used for the MPAT surveys. These contributions were collected and presented (the main talking point) at the MPA start-up workshop.

In order to facilitate this process, and ensure that suggested questions were appropriately developed, Sounding Board members were emailed a set of guidelines (which can be found in Annex I on page 124) for developing survey questions. As mentioned above, a focus on psychometrics and survey testing was a priority from the beginning, as was the development of a quality training programme for enumerators (see the MPAT User's Guide). Thus, as can be seen in Annex I, Sounding Board members were provided with a template to input their suggestions for the design of each component, including suggested survey items (based on their area/s of expertise).

Central to the Sounding Board's development of potential survey questions was a focus on creating psychometrically sound survey items. Given the especially busy schedules of most Board members, many

Changquan Jin

Figure 7
Opening presentation at the MPA start-up workshop

Changquan Jin

Figure 8
Sun Yinhong speaking during the discussion session at the MPA start-up workshop

were unable to commit adequate time to develop detailed sets of questions; however, the majority of members did provide useful suggestions for subcomponents and the key building blocks for potential survey items,[25] which were later refined and created by the MPA Team. The completed forms (with the authors' names removed) were distributed for analysis/discussion at the workshop.

The MPA Project start-up workshop was held in the Sino-Italian Ecological and Energy-efficient Building at Tsinghua University in Beijing, China.[26] The workshop participant list and itinerary can be found in Annex II on page 130.

Overall, the workshop was considered a success, although there was insufficient time to explore the specifics of each component in detail. The morning session (Figure 8) was used largely to discuss the overall framework of MPA, the tool's eventual purpose and its likely added value to practitioners. It was stressed that data were to be collected through HH and Village Surveys, and that both were to be structured as questionnaires, but to be administered by enumerators so as to seem to be more like structured interviews than self-report questionnaires (in order to facilitate fast administration times and efficient coding and scoring of the data later). The afternoon session was used to review each component and discuss its possible subcomponents. The suggestions, definitions and questions that Sounding Board members contributed ahead of the workshop provided fuel for the discussion.

By the end of the day, the workshop participants were able to reach a general agreement on the subcomponents for each component, based in good part on the contributions received from Sounding Board members. This alone was a significant accomplishment, since it meant that the tool's core architecture was established. However, there was not enough time to address individual questions for each subcomponent, and much work remained to be done with regard to refining the subcomponents and the definitions of the main components.

As such, the MPA Lead Adviser[27] and Team continued with the work over the following weeks and in October 2008 emailed an initial draft of the MPA structure (components and subcomponents) as well as the suggested questions for each subcomponent to the Sounding Board. The Board reviewed this "zero draft" of the MPAT survey, and provided highly useful feedback, which was factored into the draft in order to create the first version of the surveys (MPAT v.1). A professional translation firm in Beijing was hired to translate MPAT v.1 from English to Chinese, and the translation was then double-checked by IFAD staff in China.

During these initial phases of the MPA Project, a theoretical analysis of MPAT's framework was undertaken using Sen's *Capabilities Approach* as a conceptual starting point. As discussed in section 2.1 (page 24), MPAT is structured on a theoretical rationale which *deliberately* moves away from economic-based assessment approaches, and makes no effort to measure rural incomes or economic growth (since they are not reliable proxies of

25/ The author is especially thankful for the input of Jamie Anderson, Piero Cellarosi, David Dent, Hu Wenbin, Sean Kennedy, Nie Fengying, Marcela Quintero, Francesco Rispoli, Adam Romero, Song Yiching, Laurent Stravato and Robina Wahaj, among others.

26/ Thanks to the support of MPA Sounding Board member, Professor Wang Chengwen, and Tsinghua University.

27/ The author served as the MPA Project Manager from the beginning to the completion of the MPA Project. However, for ten months of this time the author received funding from Fulbright to conduct the MPA research in China; therefore, due to contractual considerations (between Fulbright and IFAD), the author's title/role during these months was "MPA Lead Adviser".

poverty reduction in rural areas). That said, given the similarities between MPAT and aspects of the *Capabilities Approach*, a theoretical exercise was undertaken to analyse MPA from this framework (the report for which was finalized in January 2009).[28] The assessment was positive. That is, even from the standpoint of the *Capabilities Approach*, MPAT's initial structure was seen as theoretically robust. While there would likely not have been any significant revisions to MPAT's theoretical foundations based on this analysis (since MPAT's theoretical rationale is self-standing), it is nonetheless refreshing to note MPAT's complementarity with much of the theory which underpins the *Capabilities Approach*. The report, which also provides the reader with an overview of MPAT's structure at its earliest developmental stages, is found in Annex III, on page 132.

Figure 9
Enumerators, officials and staff at the first MPAT field test

4.5 First field test – 5 December 2008: Hebei, China

Initially, the MPAT surveys (then called MPA) were designed to have too many questions; that is, there were more survey items than needed for each variable sought. This was done in order to field-test the suitability of the questions and help determine which were most appropriate and most effective at capturing the desired information. After the initial version of MPAT had gone through a series of revisions and modifications based on the feedback from the Sounding Board, the team arranged to field-test MPAT v.1 near Bazhou, Hebei Province, China.

Before the actual field test, the MPA Team worked with staff from the Chinese Academy of Agricultural Science (CAAS), led by Professor Nie Fengying, to test an early version of the MPAT enumerator training programme. Admittedly, this initial training was not nearly as thorough as was required and the quality of the survey administration suffered as a result. This further highlighted the need for an extensive enumerator training programme (which was subsequently developed and is provided in the MPAT User's Guide), accompanied by detailed notes and definitions for the MPAT HH and Village Surveys. Generally then, the primary purpose of the field test (at this early point in the tool's development) was to identify weak points in the survey, errors in the translation (from English to Chinese) and areas for expansion/improvement.[29]

On 5 December 2008, the MPA Team, accompanied by enumerators and faculty from CAAS, met with local government officials (Figure 9) of the *Bazhou Municipal Party Committee of the Communist Party of China*,[30] who had already arranged for a selected group of "representative" heads of HHs to come to their offices in the village's centre. Ideally, the survey would have been administered door to door as designed, but under the circumstances this method (gathering the respondents in one location) was deemed acceptable since the primary purpose was to ensure that the questions were clear to both enumerators and respondents (i.e. a random, representative sample was not necessary to achieve these ends).

28/ This work was undertaken by, and at the suggestion of, Piero Cellarosi, due to his familiarity with the *Capabilities Approach*.

29/ At this stage of the project's execution, the HH-level survey was often referred to and labeled as the "HH questionnaire" and the village-level survey was often referred to and labeled the "village interview".

30/ Under the supervision of Liang Xuemei (Director).

Alasdair Cohen

Figure 10
An enumerator from CAAS administers MPAT v.1

Alasdair Cohen

Figure 11
Village school at MPAT v.1 testing site

Once the general purpose of the exercise was explained and the HH heads agreed to participate, enumerators (from CAAS) sat with respondents and administered the survey (Figure 10), with MPA Team members standing by to assist as needed (very little assistance was required). Respondents were provided with a small monetary gift as compensation for their time *after* they had completed the survey (they were not told ahead of the exercise that any gift/compensation would be offered).

After the first round of HH Surveys, the author and Piero Cellarosi, accompanied by a village official, visited the local school (Figure 11) and healthcare centre in order to collect data for the Village Survey (communicating in Mandarin, with assistance from the village official as needed). In addition to speaking with village leaders (also to collect data for the Village Survey), the author and Cellarosi toured the village in order to collect observational data, which were used to help verify the robustness of the data collected via the HH Survey (e.g. concerning sanitation conditions, HH refuse management).

Back in Beijing, the MPAT Team sat with all the enumerators to discuss any big-picture issues they had identified with the survey.[31] Afterwards, the team and enumerators went through the survey, question by question, identifying areas that were unclear, or where answers which were not predicted had come up. This proved invaluable in strengthening the clarity of the tool and determining where more refined questions (and answer choices) were and were not required, or where questions could be deleted or should be added. A great number of the issues identified were due to seemingly minute, but in fact significant, errors or variations in the translation from English to Chinese (this highlights the importance of thoroughly testing survey translations, as discussed in the MPAT User's Guide). The author and Cellarosi conducted the same exercise for the Village Survey since a number of similar issues arose during its administration.

After extensive revision, MPAT v.2 was created and sent (via email) to the Sounding Board in mid-December, with a request for feedback by 1 February 2009. Based on feedback received, MPAT v.3 was created in early February 2009.

It should be mentioned that while the MPAT Team often accompanied enumerators to villages for the field tests, the MPAT survey

31/ It should be noted that the average time of survey administration was approximately 30 minutes. The goal had been an average time of less than 30 minutes, although it was understood that as enumerators became increasingly comfortable with the tool, through repeat use, this average time would decrease.

was *always* administered by individuals who had grown up in the areas where the survey was used. This was necessary, not only to overcome issues with language and local dialects, but also to reduce the bias that would be introduced by having a "foreigner" or "official" administer an in-person survey.

local government officials (Figure 12), who selected the heads of households who participated in the testing. Unlike the Hebei test, in which ten HHs were used, in Shandong 20 HHs were used, from two different parts of the administrative village.

4.6 Second field test – 19 February 2009: Shandong, China

MPAT v.3 was tested in Guanzhuang and Nanzhuang villages, Shandong Province, China, with the assistance of faculty and graduate students from Shandong University at Weihai,[32] under the supervision of Professor Sun Wuan. Before the field test, on 17 February at Shandong University at Weihai the author conducted a training programme (in Mandarin) for the enumerators and faculty members who would be accompanying them to the field for the MPAT v.3 field test. During this training a few minor issues with the translation from English to Chinese were identified and rectified.

This training provided a much-needed opportunity to evaluate the revised training regime. Indeed, based on the lessons learned during the first field test, a greater effort was made to ensure that the enumerator training was sufficiently thorough. At the same time, however, the graduate students who were to administer MPAT v.3 were doing so voluntarily, and consequently it was not possible to ask them to commit more than a day to a training programme that, in turn, would only be used to administer 20 surveys. As such, the enumerator training was only one day. Nevertheless, the improvements to the enumerator training programme that resulted were significant, which was reflected in the quality of the survey administration during this field test.

As with the field test in Hebei, it was necessary to coordinate MPAT efforts with

Figure 12
Enumerators, officials and staff at the second MPAT field test

Alasdair Cohen

Figure 13
Guanzhuang village, testing MPAT v.3

32/ The author is thankful for the support of Professors Sun Wuan, Zhao Yan, Yan Huihui and Yang Yongxing, as well as their Masters students Xiao Qing and Li Xiumei.

Once again, respondents were provided with a small gift as compensation for their time *after* they had completed the survey. The author, with assistance from Professor Sun Wuan, met with and interviewed (in Mandarin) village, school and healthcare officials in order to test the village-level survey (Figure 13).

Following the field test, the author met with the faculty and graduate students who had administered MPAT v.3 and discussed all issues that had arisen during the testing, followed by a question-by-question analysis/discussion of areas that potentially required revision. In the weeks following this field test, multiple revisions were made, resulting in MPAT v.4.

4.7 Third field test – 23 March 2009: Uttarakhand, India

The English version of MPAT v.4 was sent to IFAD colleagues in New Delhi and the Project Management Office (PMO) in Uttarakhand for translation into Hindi.[33] Once the translation of the survey was checked, the PMO tested MPAT v.4 in 20 HHs in the Uttarakhand region on 23 March 2009, under the supervision of Shaheel Rafique.

After the field test was completed, Rafique provided a report describing all of the survey administration issues that had emerged. Thanks to this detailed assessment, questions which were unclear were amended and additional information and answer choices were added as required. This feedback was received in time to revise MPAT and create MPAT v.5 ahead of the enumerator training programme for the MPAT pilot in China (next section).

This field test in particular was crucial, since it was necessary to test MPAT in a country (Figure 14) other than China before it was piloted there. Given that MPAT is designed to be applicable in most rural settings, it was indeed rewarding for the MPA Team to note that there were relatively few revisions that were required based on the India field test – a fact which attested to the efforts made from the outset to ensure that MPAT was *not* a country-specific tool.

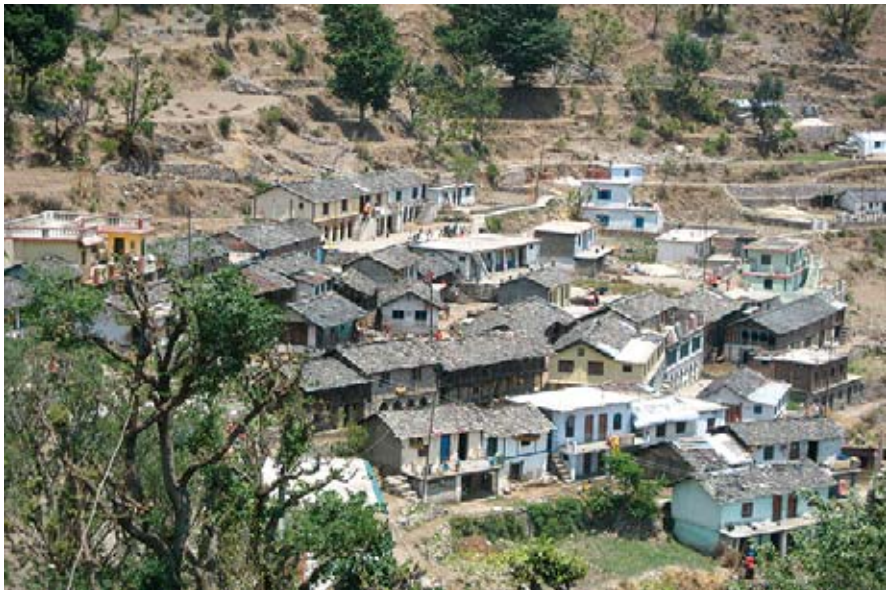


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Figure 14
Village in Uttarakhand, where the third MPAT field test was conducted

33/ The author is thankful for the excellent translation provided by H. B. Pant.

Piloting MPAT in China and India

Chapter 5

With these three field tests completed, interspersed with revisions and feedback loops with the MPA Sounding Board, the MPA Team believed that MPAT was essentially ready for a large-scale pilot. The methodology for the piloting of MPAT in China and India was essentially the same. The same version of the MPAT surveys (v.6) was used, the same sampling methodology, etc. However a slightly revised version of the enumerator training programme was used in India (as it incorporated improvements which had resulted from its use in China, where the pilot had begun earlier). As such, the MPAT pilot activities in China are discussed in detail followed by an overview of the pilot activities in India. The outline for MPAT v.6 (which has all the survey items used, as they appeared in v.6) can be found in Annex IV on page 142.

5.1 MPAT pilot – March-April 2009: Gansu, China

5.1.1 Pilot preparation

Before beginning any pilot-related activities, the MPA Team held a series of meetings with key Gansu Province PMO officials.[34] One of the purposes of these meetings was to review the MPAT v.5 survey in its entirety (now that it had incorporated the findings from the field test in India). In addition, the MPA Team provided information about what the role of the enumerator supervisors was to be so that the PMO would be in a position to properly supervise the enumerator teams and the team leaders in each county where MPAT was to be piloted. The meetings were also a means of discussing the accumulated email and phone correspondence involved in the planning of the pilot. The sampling frame had essentially been agreed to ahead of these meetings, in line with an IFAD Results and Impact Management System (RIMS) sampling frame (i.e. a stratified, random sampling approach) that the PMO had already used in 2006.

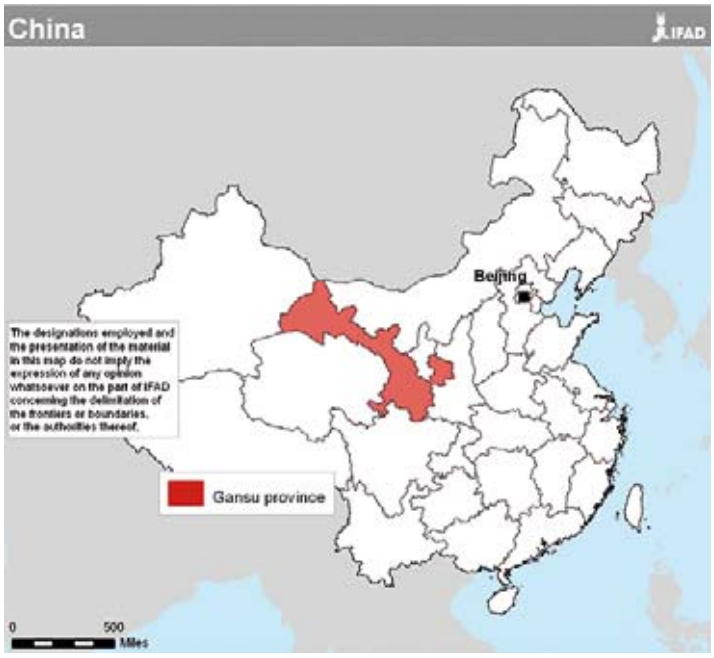

Figure 15
Gansu Province, China

Gansu Province is located in northwest China (see Figure 15). Given the region's proximity to the Xinjiang Uyghur Autonomous Region (aka Xinjang Province) and the high percentage of Muslims living in Gansu, as well as other factors, there are a number of political and administrative sensitivities which had to be considered. Even though the MPA Team was working with the IFAD PMO and Gansu Province government officials, it was still necessary to address these concerns. In order to complete the work as

34/ The author is especially thankful for the support of PMO director Duan Qibin, his colleagues Zhao Dongqing and Wang Guifang, as well as others at the Gansu PMO.

planned, it was agreed, for reasons of confidentiality, to use codes in place of village, township and county names when sharing any of the findings from the pilot. As such, the analysis, discussions, tables and figures below use codes in place of names.

Initially, a sample size of 360 HHs was sought; in the end, data from a total of 345 HHs, from 23 "natural villages"[35] (NV) were used for the China portion of the MPAT pilot and analysis (though data from more than 345 HHs were in fact collected – discussed below). Due to the number of enumerators involved, it was estimated that the pilot would be conducted in two weeks or less (although in fact it took slightly longer). The MPA Team trained the PMO staff on the CSC quality control procedures for the data, but it was agreed that the MPA Team would directly supervise these efforts on behalf of the Gansu PMO.

Figure 16
Enumerator training programme for the MPAT pilot in Gansu, China

35/ For those readers unfamiliar with the administrative hierarchy in China, the basic progression from local level to central government begins with a "natural village", which is a village. These villages are grouped into "administrative villages"; the next level up is a township, followed by a county, a prefecture and the province.

5.1.2 Enumerator training

The MPA pilot represented the first opportunity to extensively test the developed enumerator training programme. The enumerator training was held at a hotel in Lanzhou, the capital of Gansu Province. Over 20 participants attended from a number of surrounding counties. MPAT v.5 (English and Chinese versions) was used for the training.

Central to the training was an explanation of the MPA Project itself and the purpose of MPAT (Figure 16). The details of the training programme are in the MPAT User's Guide, but one technique of note will be discussed here, since it proved especially useful (although it took more time than anticipated). Specifically, part of the training programme entails two people acting as an enumerator and respondent so that the entire group can listen and observe, and each individual trainee can record what she or he perceived to be the correct response to each question asked. The training team had already determined the dialogue and therefore the appropriate responses to this exercise. This method provided an opportunity to reinforce what had been learned up to that point, and to create a realistic situation (e.g. respondents changing their mind after providing an initial response, not understanding a question, providing an answer that is not predicted on the survey).

Following this exercise, all of the completed surveys were collected and some of the results entered onto a spreadsheet by the MPA Team (there was not enough time to enter all the responses). This allowed the team to analyse where the greatest discrepancies were with regard to inaccurate scoring of the survey (which would indicate where most trainees were still having difficulty understanding and scoring particular responses). As can be seen in Figure 17, the team went through all of the questions for which there was considerable variation in the recorded answers to try and identify *why*

the correct answer choice was inaccurately perceived.[36] While this particular exercise was very useful, it was quite taxing for the team since the survey data had to be entered and analysed very quickly during the lunch break on that particular day. Still, this immediate feedback proved extremely useful in helping enumerators understand how to score responses.

Another useful approach, also recommended in the training programme, was the use of an overhead projector to go through the examples of how to score (i.e. how to mark) the surveys. Specifically, the Microsoft Word version of the MPAT v.5 survey in Chinese was converted into picture files and then projected for the trainees to see. As the training leader (author) went through some sample questions, he used a computer and the projector to simulate how they should mark responses with a pen. This proved very useful to the trainees. (In smaller groups a projector would not be needed.)

Initially three full days were allotted to the enumerator training programme (the final programme, which is very similar to the one conducted in China and India, can be found in the MPAT User's Guide). The first two days were intended to be introductions and a series of practical exercises, with the third day slated for in-field practice. However, due to the large number of trainees (approximately 20), as well as the scheduling commitments of many of those in attendance, the logistical arrangements and financial requirements were not feasible.[37] A compromise was reached and arrangements were made to allow the enumerators to practise with staff at the hotel. This was deemed acceptable since all of the staff in question were from rural areas, had relatively low levels of education, and had not been living in Lanzhou for very long. Overall, this resulted in a sufficient opportunity for the trainees to practise.

Alasdair Cohen

Figure 17
Gansu enumerator training: Example of one feedback approach

5.1.3 Feedback from the training

At the conclusion of the training, a short, anonymous survey was conducted to gather feedback from the trainees. Overall, the vast majority of participant feedback was positive, and the length of the training seemed to be sufficient (see Table 5). This type of feedback

Table 5 Overview of trainee feedback from Gansu pilot enumerator training programme

Question	Feedback	Answer choices
What do you think about the training?	100% = good	good, satisfactory, not good, poor
Were the materials provided sufficient?	90 % = sufficient 5% = too much 5% = not enough	sufficient, too much, not enough
Was the time for practising sufficient?	90% = sufficient 10% = too long	sufficient, too long, not enough
Was the time for the training programme sufficient?	95% = sufficient 5% = not enough	sufficient, too long, not enough

36/ E.g. "4.1b" or "5.3b" in the projected image in Figure 17 (note: the version used at that time had different survey item numbering than the later versions).

37/ Those who participated in the training were the enumerator supervisors, who would in turn train their enumerator teams.

gathering is recommended to future users after the training is conducted, since it provides a means of identifying training gaps that may remain, and can be rectified before administering the survey.

Figure 18
Gansu MPAT pilot enumerator training programme: MPA staff, participants and PMO staff

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Figure 19
Typical houses in one of the MPAT Gansu pilot villages

One of the unanticipated outcomes of the training in Gansu was an in-pouring of suggestions and identification of flaws with MPAT v.5. This was largely because the majority of the training participants (Figure 18) had extensive real-world experience working in rural areas, and the training forum style encouraged their questioning of the MPAT survey – at both macro and micro levels. Interestingly, many of the debates and discussions resulted from closer inspections of the minutia of a few a survey questions.

In light of the numerous changes and revisions which were deemed appropriate based on these discussions, the MPA Team decided it was best to create yet another version of the MPAT surveys. In close cooperation with the Gansu PMO, the MPA Team revised the survey, creating MPAT v.6 (this had the added benefit of clearly demonstrating to participants in the training programme that their views and opinions were valued, and, what is more, that this was indeed still the *development and testing* phase of MPAT). MPAT v.6 was then used for the pilot in Gansu Province and in Uttarakhand, India (the pilots were staggered and the PMO in India had yet to begin at that time).

5.1.4 In-field validation efforts

There are a number of ways to attempt to assess how robust a given poverty measurement tool or approach is. Statistical analysis is one method (discussed in Chapter 7) and in-field analysis another; for any such analysis the essential idea is to attempt to demonstrate that the tool in question actually measures what it claims to. Unfortunately, it was only possible to complete a thorough in-field assessment in China, and not in India.

Piero Cellarosi

Figure 20
MPAT pilot area: Farmers planting seeds; schoolchildren in class

Following the completion of the enumerator training programme in Lanzhou, the author and Piero Cellarosi, accompanied by Zhao Dongqing and Wang Guifang, travelled to field sites where MPAT v.6 was slated to be piloted (Figure 19 and Figure 20). Over the course of a few days the group met with local government officials, village leaders, teachers, healthcare staff, storekeepers, farmers, and others in four villages in two counties (of the four counties where MPAT v.6 was to be piloted) in order to collect first-hand data with which the MPAT indicators calculated with the pilot data might later be verified.

The group collected data (primarily through interviews and observation) for all ten MPAT components in order to calculate an independent set of indicators that could later be compared to those calculated with the survey data. (See Annex VI on page 152 for a detailed report on these activities.) There was no expectation that the indicators calculated with this data would match those calculated with the soon-to-be collected pilot data. Rather, the hope was that the indicators calculated through this in-field validation would rank similarly to those calculated with the actual pilot data, in which case MPAT's ability to accurately measure key dimensions of rural poverty would be further bolstered. Overall, this analysis did indeed illustrate that MPAT is robust (the results are discussed in section 7.3, on page 72).

5.1.5 Pilot administration

In March and April 2009, the piloting of MPAT v.6 in Gansu Province was undertaken by the Gansu Provincial Project Management Office and their staff and government counterparts, under the supervision of PMO director Duan Qibin and with support as needed from the author. Upon completion of the pilot in all four counties, the surveys were sent to Beijing, where the MPAT Team took responsibility for transferring the data to spreadsheets (discussed on page 64).

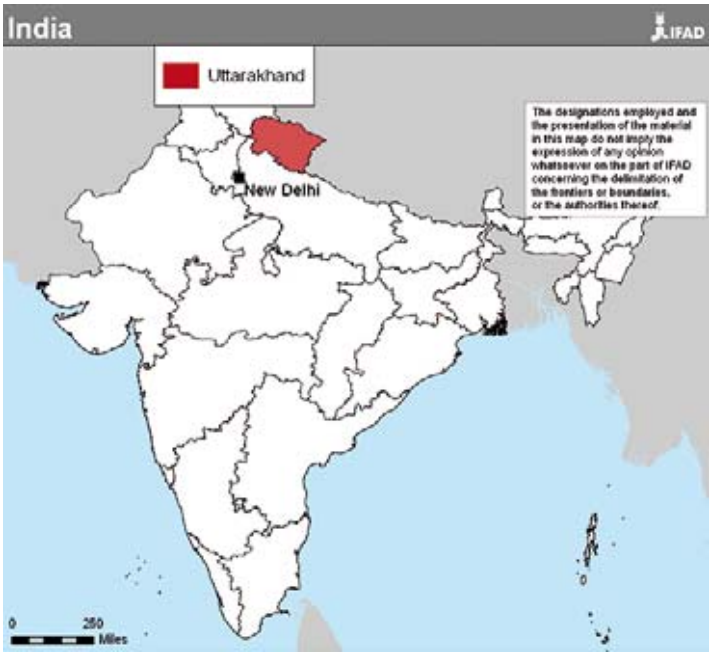


Figure 21
Uttarakhand, India (also referred to as Uttranchal)

5.2 MPAT pilot – May-July 2009: Uttarakhand, India

The piloting of MPAT v.6 in India was conducted in May, June and July 2009 in various parts of Uttarakhand (Figure 21).[38]

The MPAT enumerator training programme used in Gansu was slightly revised and improved before it was used again in Uttarakhand. The actual survey itself, however, was not revised for the Uttarakhand pilot since it was important to ensure that the same questions/survey was used in both countries (especially as it concerned later statistical analysis of the entire pilot sample across both countries).

In early May 2009, the author visited some of the sites where MPAT was to be piloted (Figure 22), and met with local PMO staff (Figure 23) and government officials to ensure that they had a full understanding of the MPAT survey and training materials.

Initially, this trip was intended to provide an opportunity to conduct an in-field validation exercise (as described above for the Gansu pilot). However, the trip coincided with national elections, which disrupted many facets of society generally, and government offices and staff schedules specifically. As such, it was not possible to allocate sufficient staff, resources and time to conduct the sought-after in-field validation. Due to these circumstances the author visited three villages in the project area, and met with village leaders, a women's group, farmers, teachers and others. While certainly useful, not enough data were collected to calculate all ten of MPAT's indicators in each village visited (as was done in Gansu Province).

38/ The author is especially thankful for the support of PMO Jyotsna Sitling (former Director), Pawan Kumar, H. B. Pant, Arif Moqueem Akhtar and their colleagues, as well as Shaheel Rafique and S. Sriram. The reader should note that due to a smaller number of enumerators available for the India pilot, the total time taken to complete the pilot was significantly longer than in China.

Alasdair Cohen

Figure 22
Gaid Village, Jaunpur Block: Young woman collecting water

Following these field visits, and after the second MPA workshop (discussed in Chapter 6), staff from the Uttaranchal Livelihoods Improvement Project for the Himalayas, in conjunction with the Uttarakhand Parvatiya Aajeevika Sanvardhan Company, conducted an enumerator training programme (using the improved training format) and then supervised the administration of the MPAT survey in 182 HHs in 18 villages. The pilot administration was of exceptionally high quality, due in part to the lessons learned from the Gansu Province pilot. Consequently, the data from all 182 HHs were determined to be reliable, and the entire dataset was used for later analysis.

Figure 23
Uttarakhand MPAT pilot enumerators and PMO staff

Chapter 6 The second MPA workshop – 15 May 2009: New Delhi, India

The second MPA workshop marked a significant turning point for the project and an exceptional opportunity to gather and incorporate feedback from dozens of stakeholders, strengthening MPAT's design and calculation.

6.1 Collecting suggested weightings and valuations for MPAT

The primary purpose of the second workshop, held at the WFP offices in New Delhi, India, on 15 May 2009, was to address MPAT's weightings and valuations. Specifically, the goal was to arrive at a consensus on how MPAT's components should be calculated – which was largely determined by deciding how the subcomponents should be combined to yield values for each component (i.e. deciding which subcomponents are more/less important for their component's total value). More simply put, the primary goal was to allow a variety of experts and stakeholders to contribute their opinions on how the subcomponents should be weighted to yield their component scores. In order to facilitate the process, Sounding Board members and others were emailed a form with more detailed instructions on how to assign weights, and asked to provide their suggestions to the author ahead of the workshop. This form[39] can be found in Annex VII on page 166. The results were used to help create the "expert weighting" scheme for the standardized version of MPAT.

The United Nations Development Programme (UNDP) helped facilitate the expansion of this exercise through its Solutions Exchange network.[40] Members of the network were asked to contribute their thoughts and input on MPAT, as well as their suggestions on how the subcomponents should be weighted. The full UNDP report, which summarized this feedback, can be found in Annex VIII on page 174.[41] The feedback was very positive, and most participants viewed MPAT as "an effective, holistic and useful tool for the purpose of M&E as well as for targeting and prioritizing activities in poverty reduction and livelihood promotion projects" (excerpt taken from page 176, Annex VIII). It is a tribute to the extensive development of MPAT which preceded this exchange that almost all those who submitted feedback had a positive impression of MPAT, and recognized it as a pragmatic and innovative project support tool.

In addition to addressing potential weighting schemes for MPAT, the workshop presented an opportunity to collect experts' suggestions on how to create valuations for the survey items. Selected Sounding Board members were emailed an additional form requesting their suggestions on what values should be assigned to survey responses. That is, since MPAT uses absolute values, the values for the survey item responses needed to be established in order to calculate the indicators. Of course, this is no easy task (assigning values) since one has to consider how a given response ought to be scored across contexts. An example of this form can be found in the second part of Annex VII. This exercise, in which experts were asked for their suggestions on the potential valuations of the MPAT survey items/responses, may possibly represent "the first exercise (in the field of composite indicators) in which experts are asked to assign values to indicators of categorical character"

39/ It should be noted, that the same form was sent to all would-be participants involved in the process. In hindsight, it would have been desirable to have created multiple forms so that the ordering of the components could have been changed to control for the effects of people's attention and interest perhaps diminishing as they neared the end of the list of components. Potential bias due to this effect was addressed at both the workshop and in the statistical analysis of the suggested weightings data.

40/ The author is thankful for the assistance of Navin Anand and Monika Khanna.

41/ The UNDP report is also available online at: www.solutionexchange-un.net.in/mf/cr/cr-se-mf-24040901.pdf.

(Saisana, 2009b). If so, this is yet another homage to the innovativeness of the MPA Project, and the degree to which it was a truly consultative effort. In all, 40 experts, from 10 countries and 28 organizations contributed their opinions on MPAT's component weightings ahead of the workshop.[42]

6.2 Workshop proceedings

Twenty people, from a variety of organizations, backgrounds and countries, participated in the workshop (Figure 25), providing a wealth of perspectives on rural poverty and poverty assessment in general (a list of workshop participants and the workshop itinerary can be found in Annex V on page 150). Overall, the workshop was considered to be a success.

Following the introductory remarks and initial presentation, there was a great deal of discussion on: the value of indicators generally; the need for a tool like MPAT; priorities with respect to poverty reduction; the perspective of project management vs. programme management; the importance of examining outputs and/or inputs; behavioural and/or economic issues; etc. Thanks to this discussion, participants better understood the difficulties and constraints involved in indicator design/testing, and the problems and subjectivity involved in assigning expert weightings vs. using equal weightings. To clarify, *equal weightings* would mean that all the subcomponents for a given component are weighted equally, so if there were four subcomponents, for example, each would contribute 25 per cent to the total value of the component. An *expert weighting* scheme, on the other hand, is one in which different weights are assigned to subcomponents based on their importance relative to the total component.

During the workshop's morning session, a consensus eventually emerged in support of MPA's overall architecture, but not on the specifics of the weightings, or the content of some of the subcomponents. Data from the MPA pilots in China and India would have helped shed light on some of these issues, but were not available at the time of the workshop. This initial discussion[43] was followed by discussion/debate on some of the suggested weightings that 40 experts had contributed before the workshop.

Figure 24 displays the weighting suggestions of all 40 people who contributed,

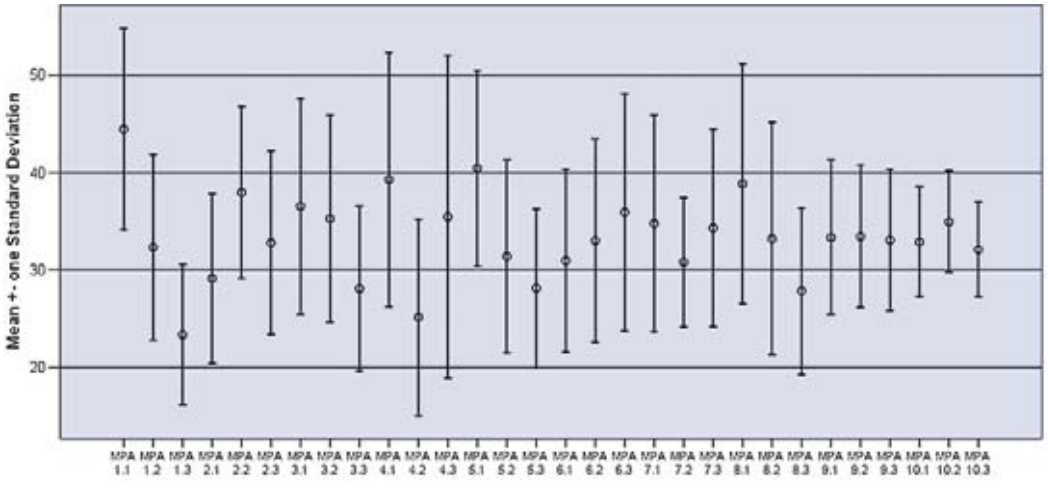


Figure 24
Experts' suggestions on MPAT v.6 subcomponent weightings (percentage): Mean plus/minus one standard deviation

42/ Two additional weighting forms were received after the workshop (Saisana's analysis is based on a sample of 42).

43/ In retrospect, it would have been better to include a discussion of these issues (i.e. the pros and cons of indicators, and the challenges in designing/developing them) in the opening presentation, since this may have obviated the need for such a lengthy discussion on the subject (which, while very useful with respect to the workshop's understanding of the issues involved, delayed the key workshop tasks considerably).

to provide an overview of where consensus, or lack thereof, exists for each of the subcomponents – using the mean plus/minus one standard deviation to illustrate the variation around the averages. The reader should note that the subcomponent numbering in Figure 24 is from MPAT v.6; the names of the subcomponents are in the outline in Annex IV on page 142. As can be seen, for example, for the *Sanitation & Hygiene* component (subcomponents 4.1, 4.2 and 4.3), there is a great divergence of opinions around the weightings for the "Toilet facilities" subcomponent (4.1) and the "Practices" subcomponent (4.3).

During the workshop, participants decided to explore not only those MPA components for which there was a great deal of variation in opinions (i.e. #1, *Food & Nutrition Security* and #4, *Sanitation & Hygiene*), but also those for which there appeared to be agreement (i.e #9, *Resilience & Exposure to Shocks* and #10, *Gender Equality*). These components, their potential weightings and the likely reasons for the agreement/disagreement around suggested weightings were discussed in depth. This involved a great deal of debate, which made it clear that there are indeed good reasons for placing more weight on various subcomponents. (For example, in attempting to answer questions such as "Which is more important with respect to rural poverty – *toilet facilities* or *hygiene practices*? *exposure to shocks* or *recovery ability*?", there are good arguments on both sides.) This discussion did much to support and clarify the aggregated suggestions of the 40 experts, and further demonstrated the great difficulty inherent in developing this sort of an indicator. Indeed, there were debates wherein experts in the same sector had equally valid arguments for why X or Y should be prioritized.

During the afternoon session, participants broke into small roundtables to discuss the specifics and valuations for a few components. The forms that selected Board members completed to provide suggested survey-item valuations (see the second part of Annex VII, which begins on page 166) were printed and distributed to the roundtables (Figure 26) as a starting point for providing additional suggestions on what the valuations should be.[44] In most instances, the roundtables generally agreed with the expert valuation suggestions, although there were also a number of suggested changes (later incorporated into MPAT's valuations). Moreover, this exercise went even further in revealing the complexity and hurdles involved in indicator construction and data valuation at the subcomponent and survey-item levels. It also provided additional input for the development of MPAT v.7.

Unfortunately, there was not enough time to review all ten components in detail, and in the end only MPA's first four components were reviewed in this manner (in hindsight, a two-day workshop would have been more appropriate). The Country Programme Manager (CPM) for India, Mattia Prayer Galletti, closed the workshop with the telling observation that "even a relatively simple approach requires a great deal of thought and discussion".

6.3 Key outcomes

Ultimately, there was a consensus on the great potential of MPAT to support poverty alleviation initiatives in the Asia region and elsewhere, once the tool was fully developed. Some of the more salient issues and points which were introduced, discussed and incorporated into MPAT v.7, as well as used in drafting this publication, were:

- The value of MPAT as an integrative, *heuristic* tool for project managers which can serve to raise awareness of the many facets central to rural poverty reduction

44/ The reader should note that the names of the Sounding Board members were deleted from these forms before they were printed, in order to reduce any bias which may have resulted. That said, workshop participants were aware that these suggested valuations were from the Board members based at a variety of United Nations and other well-renowned organizations, so this may have influenced their thinking (although most participants were not reticent in criticizing some of the Sounding Board members' suggested valuations).

- MPAT's potential value as a rapid assessment tool (and for project execution)
- Emphasis on why MPA is a *thematic indicator*, not a composite index
- The *interpretation* of MPA results always being site/context-specific (and that MPAT cannot be relied on alone to identify attribution/causality)
- MPAT's role in an M&E framework (i.e. it is one of many potential tools)
- MPAT's complementary role with IFAD's RIMS and other M&E systems
- HDI as an example of the importance of using expert weightings (defining priorities) in certain instances
- Problem of defining one set of weights across regions/countries and the need for context-specificity (i.e. a *Standard MPAT* and a *Context-specific MPAT*)
- Time/cost/input aspects of MPAT's implementation
- Possibility/desirability of explicitly separating subcomponents that assess inputs and those that assess outcomes
- The 12-month recall time often used in the survey (to smooth seasonality effects) identified as potentially too long
- The need to better define some of the survey terms in the enumerator training programme, and in some cases change them to be more inclusive across cultures (e.g. changing "brushing" teeth to "cleaning" teeth)
- New categorizations for the questions on household waste management (separating into food, non-food and wastewater)
- The possibility of changing the name of MPAT "Agricultural Assets" and "Non-Agricultural Assets" to "Farm Assets" and "Non-Farm Assets"
- Alcohol (or drug) consumption might need to be addressed in more depth
- Suggestion to more thoroughly address household savings (e.g. jewellery)
- Not all poverty alleviation/development projects intend to cover MPA's ten components; as such MPA may not always be entirely appropriate (but that a given project may discount the importance of values calculated for components which are not explicitly addressed in the project, and/or use such data for informative purposes, rather than M&E).

At the conclusion of the workshop, it was agreed, following the author's suggestion in the introductory presentation, to develop an MPAT expert-weighting system, or *Standardized MPAT*, but to also ensure that users can develop their own weighting systems to account for context-specificity – i.e. by providing an option for users to create a *Context-specific MPAT*. These two MPAT indicators can then easily be calculated, and even compared side by side (discussed in the User's Guide).

Alasdair Cohen

Figure 25
Shaheel Rafique speaking at the second MPA workshop

Alasdair Cohen

Figure 26
A roundtable discussion during the second MPA workshop

Chapter 7 Checking and analysing the MPAT pilot data

This section discusses the results of the pilot (of MPAT v.6) and the ways in which the results and their analysis further guided the refinement of the MPAT survey and aggregation methodology. Specifically, results from an independent statistical analysis (section 7.2) and the in-field analysis (section 7.3) are discussed.

A variety of tools can be used to examine how well a given indicator functions, such as factor analysis, sensitivity analysis, multiple regression analysis and other statistical techniques. Factor analysis can be used to help determine how much error variance each subcomponent is contributing, or how many subcomponents or components would be needed, statistically speaking, to best capture the overarching variables in question. Sensitivity analysis is a means of examining which subcomponents have more of an impact on the component scores and the effects of different weighting and aggregation schemes. Much of the statistical analysis of the MPAT v.6 pilot data was undertaken by Michaela Saisana.[45] Before any such analysis could be conducted, however, the quality of the raw data was examined.

7.1 Transferring data from surveys to spreadsheets

When using any data, it is necessary to know where they came from, how they were collected, and how they were checked before being entered onto a spreadsheet. Any model, or indicator, is only as good as the data upon which it is built. Before discussing the analysis of the pilot data, and some of the key findings from Saisana's analysis, it is important to understand how those data were captured and transferred to spreadsheets. If the data which are being analysed were transposed in an irresponsible fashion, or if the raw data are not trustworthy in the first place, then any subsequent analysis will be of little, if any, real value.

The brief section below describes the methods used in the MPA Project (the CSC method is expounded upon in the MPAT User's Guide). This process was used in both China and India, but is only described once – for the China data, which were in fact more problematic than the data collected in India.

7.1.1 The Check-Score-Code method

Based on previous research projects conducted for IFAD in 2007 (Cohen, 2007) and for WFP in 2008 (a survey-based research project, which shared similarities with the MPA Project with respect to survey methodology), the author developed a system for maximizing the quality control for data taken from surveys and entered into spreadsheets. This procedure, termed the Check-Score-Code (CSC) method, is a three-part system, which takes slightly longer than traditional methods but, if done correctly, essentially guarantees that the data entered will be mostly free of data coding and entry errors. The reader should note that the CSC system is in part tied to the way in which the survey is formatted (see page 99), since there is a column that runs along the left side of all questions, and these boxes are left empty by enumerators but later filled in during the "scoring" phase of the CSC.

CSC is a relatively simple, multi-stage process (described step by step in the MPAT User's Guide). In brief: the first stage is a check of whether the data recorded are accurate,

45/ Michaela Saisana conducted an independent analysis of MPAT; the findings of her assessment informed the refinement of MPAT (the reader is encouraged to see Saisana's full report, which is available online at http://composite-indicators.jrc.ec.europa.eu/).

clear, logically coherent, etc. The second stage is a double-check and scoring of these recorded data so that the numerical codes for all circled responses, and responses which had numerical values recorded, are transferred to the shaded column on the left of the survey. The last stage is simply coding the data; that is, reading the numbers from the column on the left of the survey and entering them into a spreadsheet. Each stage of CSC should be preceded by an in-depth training session followed by practice time with dummy surveys (intentionally filled with errors).

For each stage, the research assistant responsible for the task at hand first writes his or her name at the top left of each survey being worked on before beginning a particular task, making sure to use the same colour pen for all subsequent mark-ups on the survey (and making sure to use a different colour from that which the enumerator had already used). Moreover, no one research assistant should ever complete more than one stage of the CSC per survey – this helps further ensure a high degree of quality control. If used correctly, the CSC approach ensures that it is immediately obvious who was responsible for any mark-ups, changes or notes on the survey, and at which stage in the CSC process (or before) they occurred. This provides a means of quickly tracing the source of any errors, from the enumerator's entries through to the coding stage.

For the MPAT HH and Village Surveys from the MPAT v.6 Pilot in Gansu, China, the author, Piero Cellarosi, and five paid research assistants (Masters-level students at Shandong University at Weihai) completed the quality control and data entry for 345 questionnaires in April 2009 using the CSC method.

7.1.2 Organizing the surveys and initial observations

The first step was organizing the surveys into groups by NV and matching the village-level surveys with their respective NVs. The HH Surveys in each NV were then organized chronologically, and then by time of administration. Afterwards the recorded times (i.e. duration of each survey) were reviewed, as well as the names of the enumerators and the date of the survey. This step revealed some significant issues with respect to the likely quality of the data and thus with the reliability of the data (that is, doubts surfaced as to the degree to which the sampling methodology was followed in all locations – see Figure 27). This doubt prompted a more detailed analysis of the potentially problematic surveys (filtered by enumerator). As a result, it was decided not to use data from one county for MPAT (of course, this does not mean the data could not be used, just that their probable quality was not deemed appropriate for MPAT's requirements). There were still some additional concerns with data quality in the remaining set of surveys. (See Table 6 for details.)

The remaining surveys were arranged by County/Township codes (starting with County 34, then 31, and then 11). Afterwards, an additional NV code, from 1 to 23, was assigned to each NV (for use in future MPAT analysis/reports). HH codes were then assigned to all surveys, from 1 to 346[46] (using the order of the NV codes).

Based on the rough assessment described above, and other variables, it appeared that the data from HH codes 1 to 195 were likely of high quality/reliability, HH codes 196 to 240 were probably of acceptable quality, and HH codes 241 to 346 were of questionable quality/reliability – these concerns were also addressed through statistical analysis. One indicator as to the validity of these assertions can be seen in the

46/ Although the HH codes go up to 346, there were actually a total of 345 HHs because one of the surveys was missing pages (this was only discovered after all the HHs were assigned codes, hence the numbering up to 346).

Table 6 Overview of MPAT v.6 Gansu pilot data and their likely quality

County code	Township code	Administrative Village (AV) code	Natural Village (NV) code	Natural Village code for MPAT reports	Number of surveys per NV	HH code
31	3133	3133	33	1	15	1-15
31	3134	3134	34	2	15	16-30
31	3135	3135	35	3	15	31-45
31	3136	3136	36	4	15	46-60
31	3137	3137	37	5	15	61-75
31	3138	3138	38	6	15	76-90
31	3139	3139	39	7	15	91-105
31	3140	3140	40	8	15	106-120
34	3449	3449	2	9	15	121-135
34	3450	3450	4	10	15	136-150
34	3451	3451	3	11	15	151-165
34	3452	3452	3	12	15	166-180
34	3453	3453	4	13	15	181-195
11	1102	1102	1102	14	15	196-210
11	1103	1103	1103	15	15	211-225
11	1107	1107	…301	16	15	226-240
11	1104	1104	…704	17	15	241-255
11	1105	1105	…107	18	15	256-270
11	1110	1110	…605	19	14*	271-285*
11	1106	1106	1106	20	15	286-300
11	1108	1108	1108	21	16	301-316
11	1111	1111	1111	22	15	317-331
11	1109	1109	1109	23	15	331-346
			Totals	23 NVs	345 HHs	

*HH_code_284, survey was missing two pages, so none of the data were used

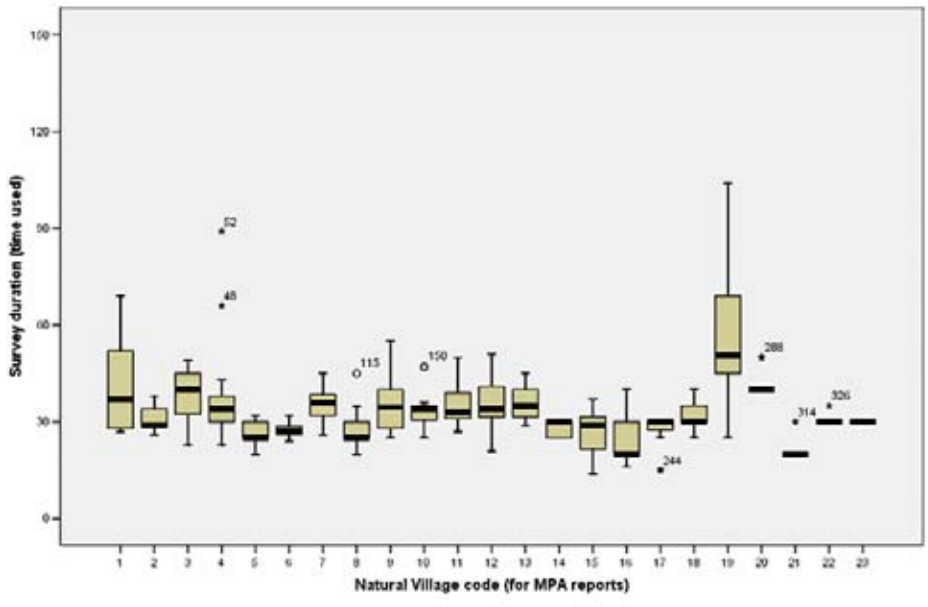


Figure 27
Survey durations for MPAT pilot in China

Table 7 Average survey administration time: China and India MPAT v.6 pilot

MPAT HH Survey duration (minutes)				
	Minimum	Maximum	Mean	Std. Deviation
China	14	104	32.97	10.99
India	15	75	36.47	14.06

variability and distribution of the reported survey-durations (survey time), as is displayed in Figure 27. For example, the reader will note that the recorded average durations per NV for NVs 20-23 appear to be *too* precise.

In the end, after speaking with PMO staff in the region, it was agreed that the data for these HHs were of acceptable quality. The CSC method was used for all the HHs listed in Table 6 as well as for the Village Surveys.

As stated throughout this publication, the goal from the outset was to create a survey that could capture enough information to support each of MPAT's components, and yet be completed in 30 minutes, or less, per HH. Data from the MPAT pilot reveal that in China the average survey took about 33 minutes to administer, compared to about 36.5 minutes in India (see Table 7). With respect to the data from India, it is likely that for two of the villages (village codes 14 and 16) either the times were not recorded when the surveys were administered, and were then later filled in (as may well have happened with some of the villages in China), or something similar happened but the time was perhaps doubled (see Figure 28). In any event, when MPAT v.7 was field-tested in China and India (described below) the average survey durations were 25.8 minutes (n=30) in China and 32.8 minutes (n=30) in India, for an average of 29.3 minutes. As such, the MPA Team is generally pleased that the MPAT HH Survey does indeed take roughly 30 minutes to administer per HH.

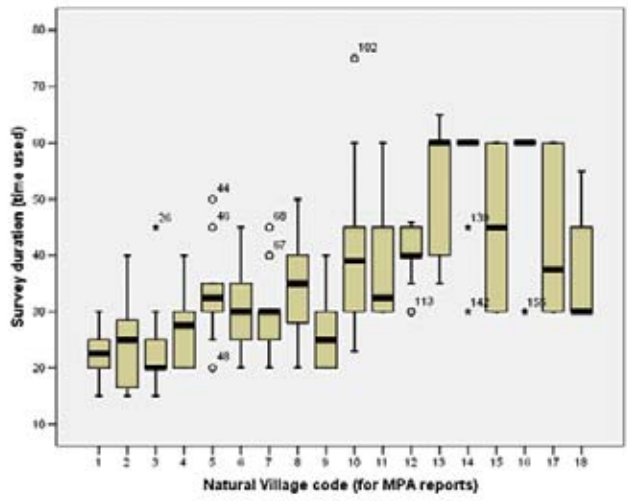


Figure 28
Survey durations for MPAT pilot in India

7.2 Statistical analysis of the MPAT v.6 pilot data

A central part of the MPA Project was the independent analysis of the structural integrity of the tool, from a statistical perspective.[47] This analysis was also commissioned in order to determine if MPAT was statistically sound and in order to help determine which survey items (or structures) were doing more harm than good to the overall tool (by looking at highly correlated questions in order to eliminate the less powerful/discerning ones, through sensitivity analysis to determine each item's relative impacts on its subcomponent or components, etc.). The results and findings below are taken

47/ This independent analysis of MPAT was included in the original Plan of Work when the project was proposed, since it was seen as central to ensuring the quality and credibility of the to-be-developed tool.

from Michaela Saisana's full report, *The Multidimensional Poverty Assessment Tool (MPAT): Robustness issues and critical assessment*, which is available online at: http://www.jrc.ec.europa.eu/. The primary questions the report sought to address were:

"1. What is a suitable (both conceptually and methodologically) aggregation method to combine the survey items?
2. Is the MPAT internally sound and consistent, from a statistical and conceptual point of view?
3. What methodological approaches (models) could be used to build the MPAT and how do the results of these models compare to each other?"[48] (Saisana, 2009a)

The statistical analysis of the MPAT v.6 pilot data revealed a wealth of information which, overall, validated the robustness of MPAT and identified a number of specific areas where MPAT could be improved:

"The overall assessment of the v.6 MPA Framework by means of multivariate analysis and uncertainty and sensitivity analyses reveals no particular shortcomings in the conceptual structure. In brief, the analyses demonstrate that the v.6 MPA framework:

- is internally consistent, from a conceptual and statistical point of view,
- is not double-counting information (very low correlations between the items),
- has a well-balanced structure (not dominated by few subcomponents), and
- is robust with respect to alternative weighting and aggregation rules at the subcomponents level." (Saisana, 2009a)

Firstly, it is especially noteworthy that the outcome of the analysis supports the theoretically founded choice *not* to create a composite indicator, but rather to use a ten-component thematic indicator. Moreover, the Principal Components analysis indicated that 31 subcomponents would be appropriate with respect to capturing the general theme in question – and in fact the final version of MPAT has 31 subcomponents (MPAT v.6 had 30). Whether the analysis found these structural conditions favourable or not, the author and key project staff would have likely argued that the theoretical foundation for such an architecture was justification enough – that said, it is indeed fortuitous that the statistical analysis also recommends this structure, in turn lending further credibility to MPAT's theoretical rationale.

When creating an indicator such as MPAT it is desirable for subcomponents within one given component to be highly correlated with that component (i.e. with its aggregated value), since they purport to measure the same construct, or aspects of a given construct. A correlation analysis was also conducted in order to examine correlations between the MPAT v.6 subcomponents and the components. If MPAT's theoretical rationale was supported by the data, one would expect to find that within components the subcomponents were highly correlated to "their" component, but not to other components. In fact this was the primary finding, as illustrated in Table 8 (with a few exceptions where the correlation coefficient was not so high; most of the exceptions were addressed in the subsequent MPAT v.7).

As can be seen in Table 8, for the most part there are high correlations between subcomponents and their component, as compared to their correlations with other components. Saisana (2009a) writes: "This result [of the Principal Components Analysis] implies that the survey questions included in the MPAT components capture very distinct and diverse aspects of the concept that the respective component represents, with little or no overlap of information between the survey questions. This is explained by the very low correlations between the responses of the survey questions within a component."

48/ "In line with the third objective, an uncertainty and sensitivity analysis are performed to evaluate the impact on the results of alternative scenarios in which different sources of uncertainty are activated simultaneously. These scenarios differ from one another in the normalization method of the survey items responses, the weighting scheme at the subcomponents level and the aggregation method at the subcomponents level. This type of multi-modeling approach and the presentation of the results under uncertainty, rather than as single numbers to be taken at face value, helps to avert the criticism frequently raised against composite measures – namely, that they are generally presented as if they had been calculated under conditions of certainty, while this is rarely the case" (Saisana, 2009a).

Table 8 Pearson's correlation coefficients between MPAT v.6 subcomponents and components

	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Comp7	Comp8	Comp9	Comp10
Sub1.1	**0.73**	0.09	-0.09	0.00	0.11	-0.07	0.19	0.10	0.11	0.10
Sub1.2	**0.67**	-0.02	-0.12	0.05	0.06	0.00	0.09	0.06	0.07	0.02
Sub1.3	**0.63**	0.04	-0.06	-0.06	0.27	0.23	0.15	0.11	0.03	0.04
Sub2.1	-0.06	**0.57**	0.18	0.17	0.09	0.11	0.09	0.05	0.05	0.10
Sub2.2	0.03	**0.87**	0.39	0.25	0.02	0.19	0.40	0.06	-0.03	0.16
Sub2.3	0.16	**0.61**	0.00	-0.07	0.16	0.07	0.27	0.19	0.00	0.14
Sub3.1	0.22	0.20	**0.41**	0.02	0.25	0.21	0.33	0.15	0.04	0.12
Sub3.2	0.00	0.39	**0.77**	0.30	0.17	0.29	0.38	0.23	-0.02	0.14
Sub3.3	-0.33	0.01	**0.49**	0.17	-0.24	-0.24	-0.16	-0.08	-0.01	-0.18
Sub4.1	-0.11	0.31	0.42	**0.89**	-0.04	0.10	0.29	0.17	-0.12	-0.23
Sub4.2	0.20	-0.23	-0.39	-0.17	0.10	-0.03	-0.07	-0.13	0.14	0.23
Sub4.3	0.15	-0.06	0.02	**0.42**	-0.09	-0.02	-0.11	-0.08	-0.02	-0.22
Sub5.1	0.23	0.15	0.06	-0.11	**0.84**	0.20	0.19	0.08	0.14	0.24
Sub5.2	0.06	-0.08	-0.01	-0.03	**0.53**	0.02	-0.07	-0.04	0.03	0.03
Sub5.3	0.00	0.20	0.31	0.30	0.19	0.05	0.25	0.10	0.00	0.08
Sub6.1	0.04	0.07	0.03	0.17	0.04	**0.35**	-0.06	-0.03	-0.11	-0.01
Sub6.2	0.18	-0.25	-0.36	-0.35	0.24	**0.37**	-0.15	-0.12	0.13	0.12
Sub6.3	0.00	0.35	0.48	0.34	0.02	**0.67**	0.31	0.23	-0.14	0.13
Sub7.1	0.25	0.12	-0.23	-0.26	0.26	**0.29**	**0.30**	0.07	0.10	0.29
Sub7.2	0.11	0.37	0.29	0.24	0.10	0.17	**0.68**	0.26	0.03	0.17
Sub7.3	0.07	0.25	0.26	0.24	0.03	-0.09	**0.73**	0.15	0.01	-0.18
Sub8.1	0.01	0.13	0.24	0.10	-0.01	0.06	0.19	**0.83**	-0.17	-0.03
Sub8.2	0.24	-0.08	-0.18	-0.12	0.09	0.08	0.09	**0.42**	-0.03	0.13
Sub8.3	0.11	0.16	0.21	0.19	0.06	-0.01	0.30	**0.62**	-0.04	-0.08
Sub9.1	-0.03	0.00	0.04	-0.10	0.05	-0.16	-0.01	-0.19	**0.79**	0.17
Sub9.2	0.05	-0.02	-0.13	-0.04	-0.05	-0.08	0.03	0.12	0.16	0.03
Sub9.3	0.22	-0.02	-0.08	0.02	0.21	0.09	0.12	-0.06	**0.58**	0.05
Sub10.1	-0.07	0.14	0.15	-0.16	0.23	0.21	-0.02	0.00	0.07	**0.80**
Sub10.2	0.12	-0.07	-0.02	-0.01	0.20	0.01	0.18	0.12	0.18	**0.54**
Sub10.3	-0.19	0.31	**0.58**	0.33	-0.13	-0.04	0.26	0.19	-0.05	0.16

Significant coefficients are greater than 0.27 ($p < 0.05$, $n = 527$)

Source: Saisana (2009a)

Indeed, Saisana (2009a) found that, "Overall, the results in this section confirm in most cases the conceptual grouping of subcomponents into ten components and suggest that these components account for different aspects of rural poverty with little overlap of information between them." What is more, there were no highly statistically significant correlations between the main ten components (see Table 9), indicating their independence statistically, which provides additional support to the theoretical decision to construct MPAT as a thematic indicator, rather than a composite one. The analysis identified subcomponents and survey items which required modification (addressed in MPAT v.7) and, more generally, the findings essentially confirmed, statistically speaking, the multidimensional nature of the MPA framework and the quality of MPAT's architecture.

Table 9 Pearson's correlation coefficients between the ten MPAT v.6 components

	Food & Nutrition Security	Domestic Water Supply	Health & Healthcare	Sanitation & Hygiene	Housing & Energy	Education	Farm Assets	Non-farm Assets	Exposure & Res. to shocks
Domestic Water Supply	0.06								
Health & Healthcare	-0.13	0.35*							
Sanitation & Hygiene	-0.01	0.23	0.32*						
Housing & Energy	0.23	0.11	0.08	-0.04					
Education	0.10	0.19	0.18	0.07	0.20				
Farm Assets	0.20	0.42*	0.26	0.21	0.16	0.14			
Non-farm Assets	0.13	0.13	0.18	0.08	0.05	0.08	0.27*		
Exposure & Res. to Shocks	0.08	-0.01	-0.02	-0.07	0.14	-0.10	0.07	-0.14	
Gender Equality	0.08	0.21	0.04	-0.21	0.22	0.19	0.10	0.01	0.17

* Significant coefficients are greater than 0.27 ($p < 0.05$, $n = 527$)

Source: Saisana (2009a)

With respect to gaining a clearer understanding of the most appropriate means of aggregating the subcomponents to arrive at their component values, Saisana's Uncertainty Analysis, based on modelling of a variety of weighting/aggregation combinations (see Table 10), revealed that using a *weighted geometric average* (i.e. Model Four) would be the best method for aggregating the subcomponent values (Saisana, 2009a). This is also a desirable aggregation formula because the weighted geometric average serves to highlight lower scores more than a weighted arithmetic mean would by strengthening the impact of low values on the aggregated scores (which is important since especially low scores should be flagged for attention). The MPAT User's Guide goes into more depth with respect to the recommended methods and mathematical formulas used for calculating and aggregating MPAT's indicators. Specifically, Model Four "…employs an expert-based valuation of the responses, an expert-based weighting scheme for the subcomponents, and a weighted geometric average of the subcomponents, [and therefore] fits most purposes" (Saisana, 2009a).

Table 10 Eight different models for the calculation of the MPAT component scores

	Scaling method for the raw data	Weights attached to the subcomponents	Aggregation rule for the subcomponents
Model 1	Expert	Equal	Arithmetic average
Model 2	Expert	Expert	Arithmetic average
Model 3	Expert	Equal	Geometric average
Model 4	Expert	Expert	Geometric average
Model 5	Linear	Equal	Arithmetic average
Model 6	Linear	Expert	Arithmetic average
Model 7	Linear	Equal	Geometric average
Model 8	Linear	Expert	Geometric average

Note: In all models, the survey questions within a subcomponent are combined using a weighted arithmetic average.

Source: (Saisana, 2009a)

In order to get a feel for the discerning power of MPAT at a macro level, it is useful to look at the cumulative distribution of MPAT component scores for the China and India datasets combined. As can be seen in Figure 29, only ~20 per cent of the HHs score under 80 for the *Food & Nutrition Security* component, which demonstrates the best performance overall (as compared to the other nine components). As Saisana points out, "The curves of *Domestic Water Supply*, *Health & Healthcare* and *Education* are close to each other, implying similar proportions of households having similar scores in those components all along the curve; scores here are relatively good for most households; almost 8 in 10 households score more than 50 points. For the *Sanitation & Hygiene* component, the situation is particularly worrying: 1 in 4 households scores less than 50 points" (2009a).

Lastly, it is important to keep in mind that users can check on the more macro-level data with regard to HH respondents before delving into the rest of the data. That is, by examining the gender and age of respondents it is possible to further control for potential bias which may have been introduced. For example, if 90 per cent of the respondents in a given project were males between the ages of 15 and 20, serious caution would be called for in interpreting the results, and indeed it might be advisable to study such an "aberration" in more depth and explicitly acknowledge it any MPAT-based reports or analysis. This is discussed in the MPAT User's Guide as well.

The next section looks at some of the changes made to the MPAT surveys based on the findings and recommendations from the statistical analysis.

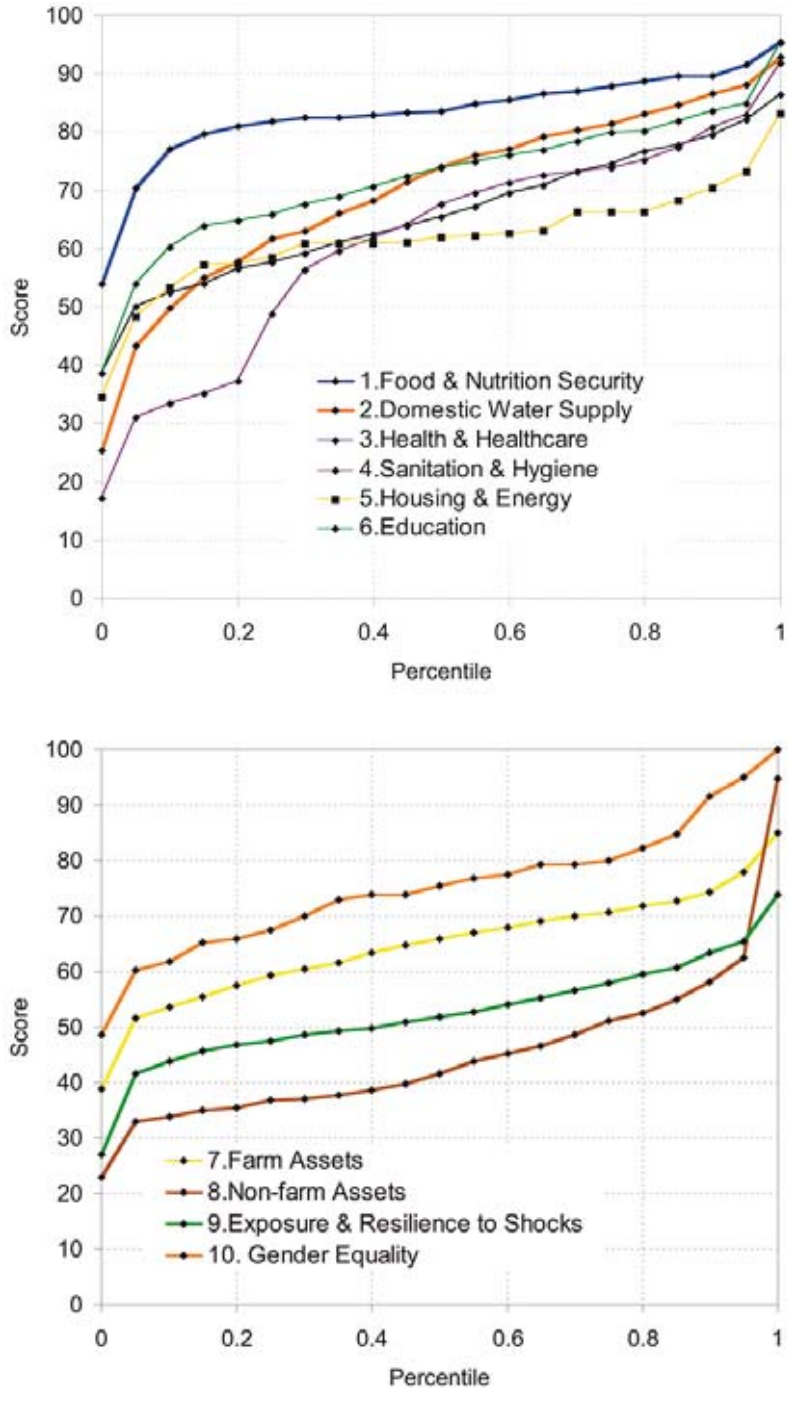


Figure 29
Cumulative distribution of MPAT v.6 component scores in China and India
Source: Saisana, 2009a

7.3 In-field validation results

The in-field validation exercise (discussed in section 5.1.4) demonstrated that, overall, MPAT appears to be robust with respect to accurately capturing information for each of its main components. The full report, found in Annex VI on page 152, states: "After comparing the results of the two assessments [i.e. comparing the in-field assessment with the calculated indicators from the pilot data], it appears that the MPAT indicator does effectively reflect poverty conditions in rural areas… Although some discrepancies were found, they are likely due to the limits of the in-field validation (and specifically bias introduced by village officials) rather than inaccuracy of MPAT."

One aspect of this in-field assessment was to ask village leaders (at the end of the semi-structured interview) to rank MPAT's ten components based on what they believed were the most important components for their village/area. This participatory exercise was quite revealing, and the results are presented in Annex VI. Overall, there was a good deal of convergence in opinions and observations/rankings, although not in all cases, which highlights the need to share MPAT results with beneficiaries to obtain their opinions on the findings (discussed more in Chapter 10).

In comparing the MPAT indicators with those from the in-field validation, the report found that "…the overall percentage of correlation is about 58 [per cent]. The higher correlation is observed in village #14 (80 per cent), followed by village #18 (70 per cent), village #8 (50 per cent) and village #1 (30 per cent). It is notable that where the MPAT indicator and the in-field validation differ most, the latter seems to reflect a bias introduced by the village leader's perception." That said, even though the four villages rank the same whether using the in-field validation or the MPAT indicators (the desired outcome), the report's author rightly points out that it would be worthwhile to conduct additional research, especially in other regions, to examine these issues more precisely.

7.4 Recommendations from statistical analysis

A number of statistical analysis techniques were employed in order to try and identify redundant survey items or survey items which, overall, were not contributing significant added value to the indicators. Based on Saisana's recommendations (see her report), a number of survey items were deleted from MPAT v.6 and others were revised as appropriate. To give the reader a flavour of some of the issues that came up as a result of Saisana's analysis, the following are a few examples of potential problem areas identified and the changes made (this illustrates that not all of the "problems" identified via statistical analysis are in fact problematic, as is the case in the first two bullet points).

- For #36 in MPAT v.6[49] it was found that the data captured for #36.1 and #36.2 were not especially useful in identifying differences between HHs. It was suggested that the two could be merged (i.e. merging the frequency of consumption of both grains and roots/tubers). However, given that diets vary significantly by country, and that the data captured are especially useful to project managers and others, it was agreed to keep the division of #36.1 and #36.2. (Note: for the final version of MPAT these are now questions #34, #34.1 and #34.2.)
- For #15 in MPAT v.6 there were a number of problems with respect to the data sought for the number of minutes needed to collect water in the rainy and dry seasons. As such, it was agreed that the

49/ The MPAT v.6 outline is in Annex IV on page 142. The reader should also note that the question added to MPAT v.7, #44.2, is relevant to the quality of education because if an area offers teacher's quality housing free, or at highly subsidized rates, there is a better chance that more qualified teachers will be recruited (also mentioned in the MPAT outline).

structure would remain, since again, this type of data is very useful to project staff, but that for the MPAT indicators only #15.3, the amount of time needed "during most of the year", would be used to calculate the subcomponent's value. The same rationale applies to #18, and only the data from #18.3 are actually used to calculate the subcomponent.
(Note: for the final version of MPAT these are now questions #14 and #14.3, and #15 and #15.3, respectively.)

- The indicator based on student-teacher ratios was moved from subcomponent 6.2 to subcomponent 6.1. (data captured via questions #44 and #45).
(Note: for the final version of MPAT this is now questions #44.1 and #45.)
- With respect to suggested weightings for item aggregation, it was found that for question #32 there was no significant difference when the values of the three strategies were aggregated using a 45-30-25 weighting scheme or a 3-2-1 weighting scheme (see the complete valuations in the MPAT User's Guide for details). As such, the expert weightings were left in place. This example highlights the degree to which item analysis was undertaken, as well as the robustness of the suggested weighting method (statistically speaking).

Some of the findings and resulting recommendations from the statistical analysis were largely due to the locations in which the pilot took place. For example, with respect to land tenure (subcomponent 7.1) many of the enumerators in China felt that the issue was not especially important, given the relative homogeneity of land tenure in rural China. And indeed, not surprisingly, the data reflect this. In India, on the other hand, there was a wider variety of types of land tenure reported. This particular example highlights the fact that MPAT is indeed designed for application in any rural area, and is not specific to one country. As such, it is possible that when implemented in certain countries some of the survey items may not be especially relevant.

Overall, Saisana's (2009a) report concludes that "MPAT v.6, upon some improvements throughout the entire development, would pass the 'statistical' filters of index quality, and it could thus be reliably used to identify weaknesses and possible remedial actions, prioritize villages or even households with relatively low levels of rural poverty, and ultimately monitor and evaluate policy effectiveness."

7.5 Results and calculated MPAT indicators from the MPAT pilot

The pages that follow illustrate how MPAT values are organized and presented. The first section provides an overview of the MPAT v.6 values for two villages in China (Figure 30 and Figure 31), followed by Figure 32, which overlays the MPAT v.6 component indicators so that one can quickly compare the two villages.

The subsequent section does the same for two villages in India (Figure 33 and Figure 34), with the two village component scores overlaid in Figure 35. The last section provides the reader with an overview of the MPAT indicators for each project, the Gansu project in China (Figure 36) and the Uttarakhand project in India (Figure 37), followed by Figure 38, which overlays the final MPAT v.6 component values for each. In this way, the reader can compare the two projects at a glance.

That said, these MPAT profiles are presented to give the reader an *overview* of the MPAT v.6 pilot data and an understanding of how the data are summarized and presented. However, this section does not provide an analysis of these data beyond that which is presented – it is for the reader to explore

these data and in so doing ruminate on possible connections and causes. Ultimately, it is for the PMO staff in these areas to investigate these issues in detail and determine which approaches might be more appropriate for addressing the lower values in some of the MPAT v.6 indicators.

Part of the value of the pilot was identifying poorly worded, or poorly conceptualized, survey items. A case in point is the MPAT v.6 question used to capture data for subcomponent 10.1 on gender equality and access to food: 161 HHs in India (88 per cent) and 76 in China (22 per cent) reported "other" in response to the question. These responses were then, necessarily, converted to "missing data". Consequently, there were not enough data to calculate the subcomponent value for most villages in India, and as a result it was not possible to calculate the *Gender Equality* component – as is evidenced in the village profiles for India below (Figure 33 and Figure 34). The reader should note that this is the reason for the missing values for the *Gender Equality* component; it is not a score of zero. The results for the MPAT v.7 tests do have complete data for this component, and are found in section 8.4.

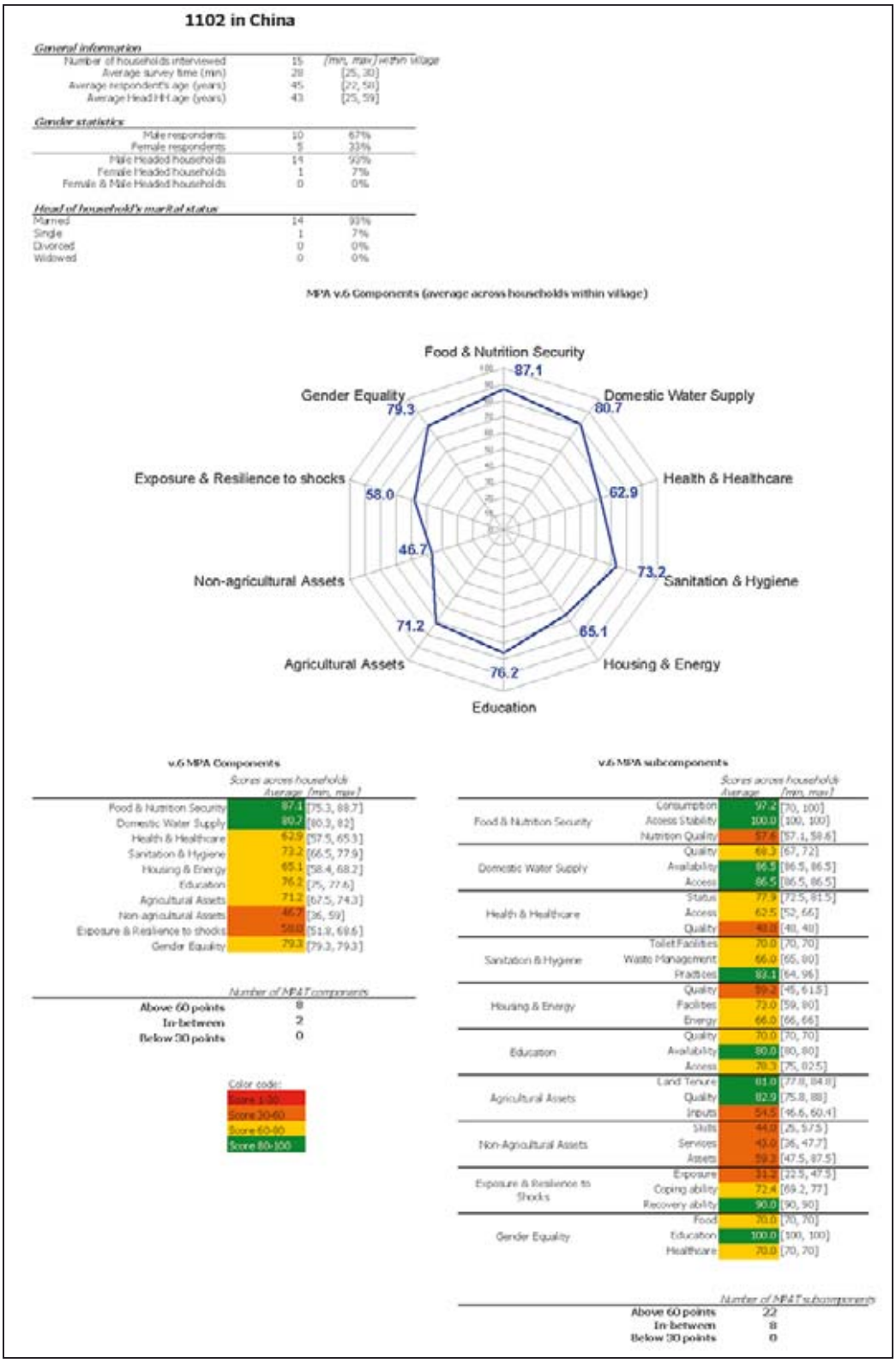


Figure 30
MPAT v.6 indicators for village #1102 in China

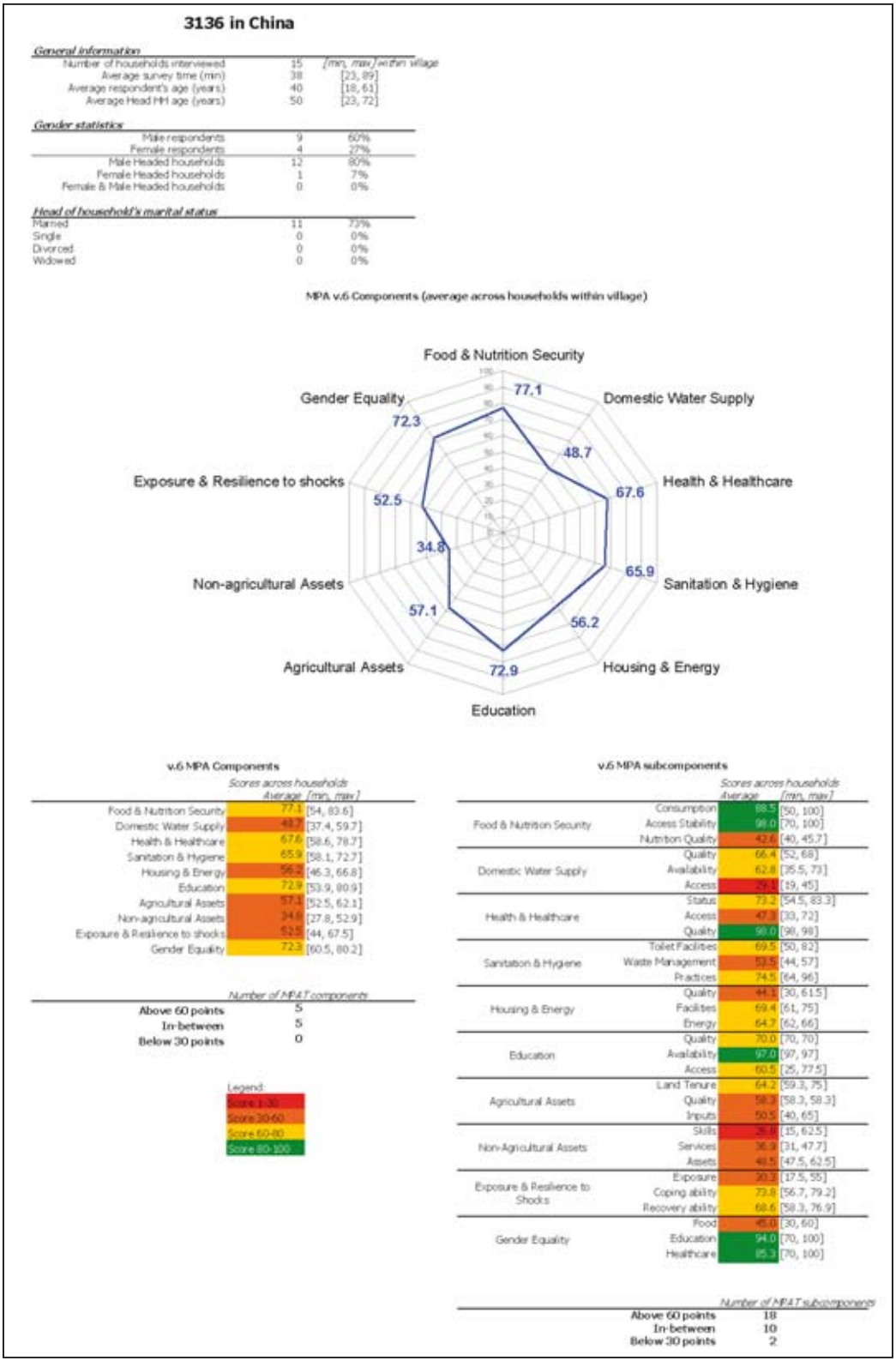


Figure 31
MPAT v.6 indicators for village #3136 in China

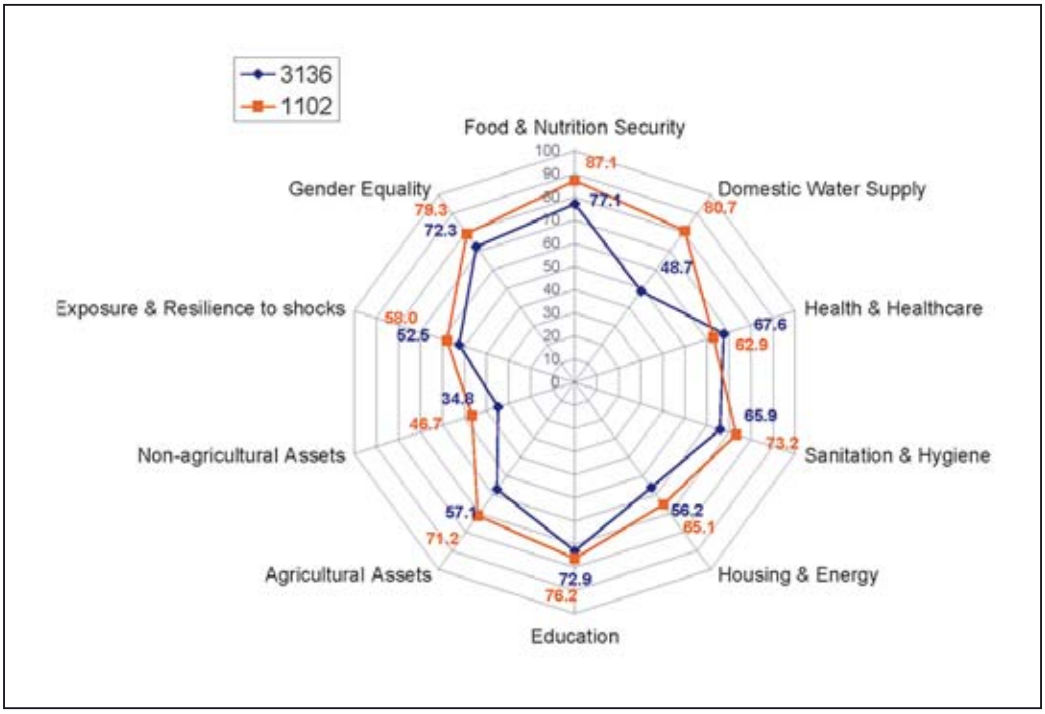


Figure 32
Comparison (overlay) of MPAT v.6 indicators for villages #1102 and #3136 in China

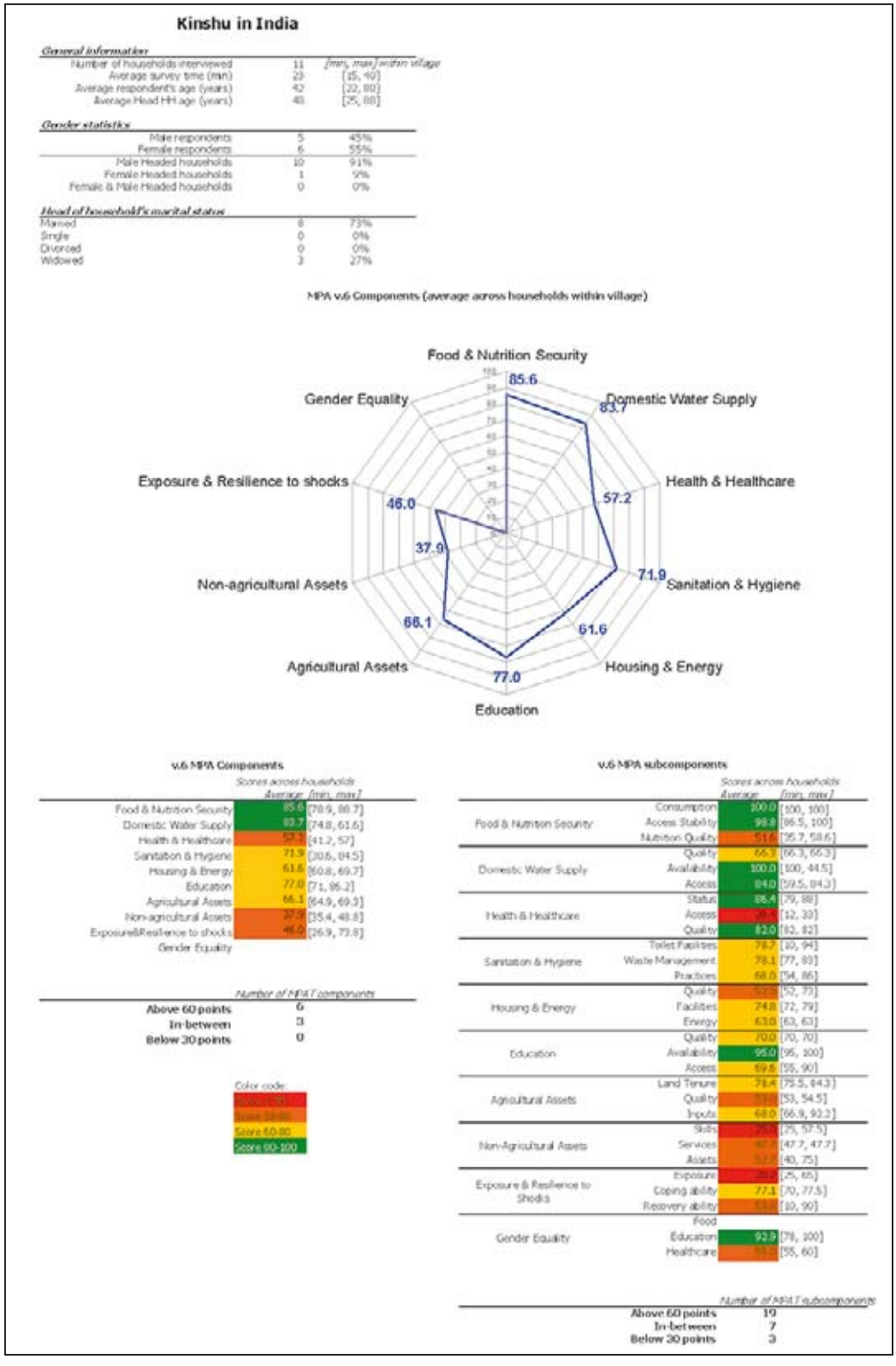


Figure 33
MPAT v.6 indicators for Kinshu village in India

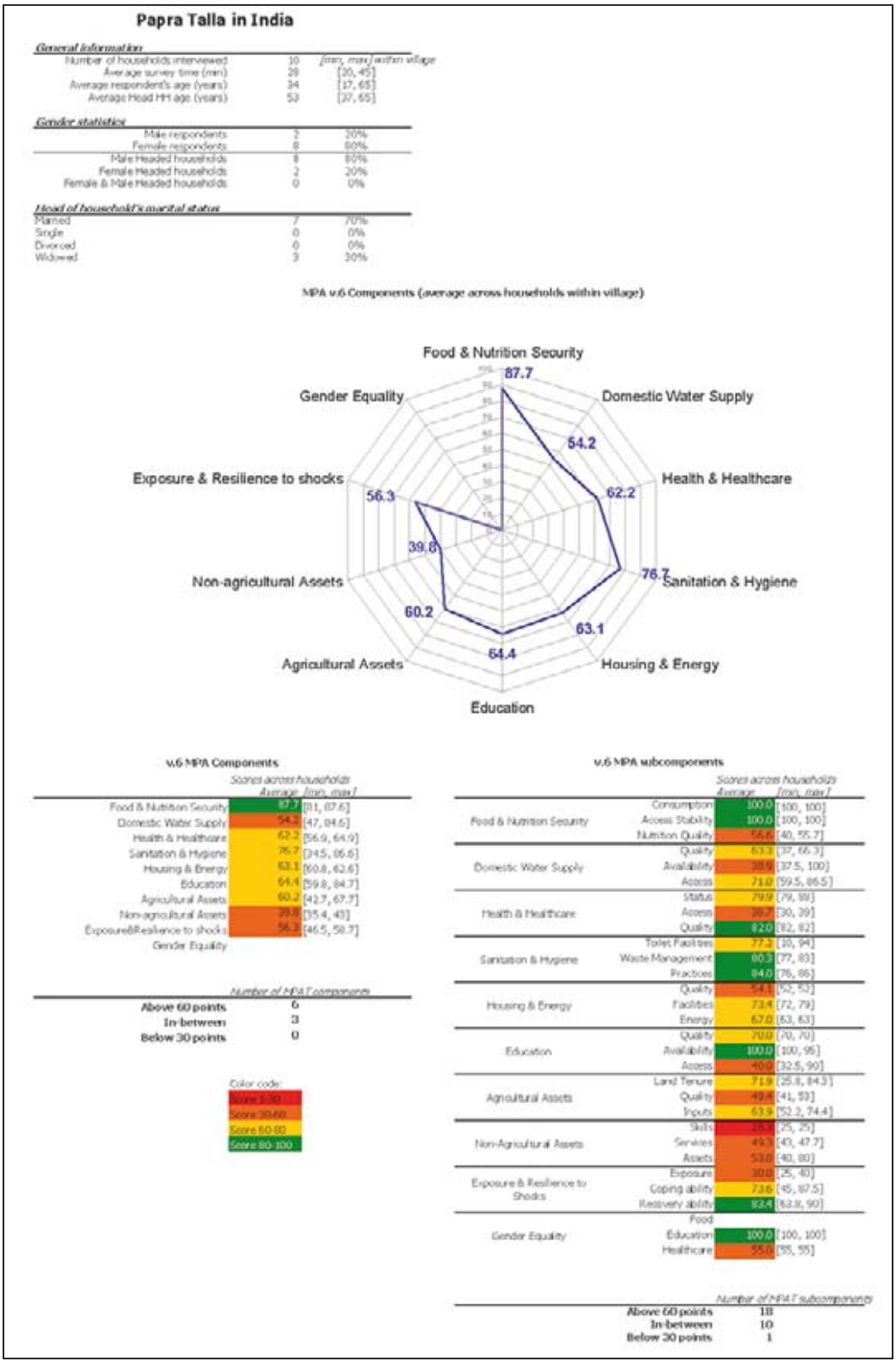


Figure 34
MPAT v.6 indicators for Papra Talla village in India

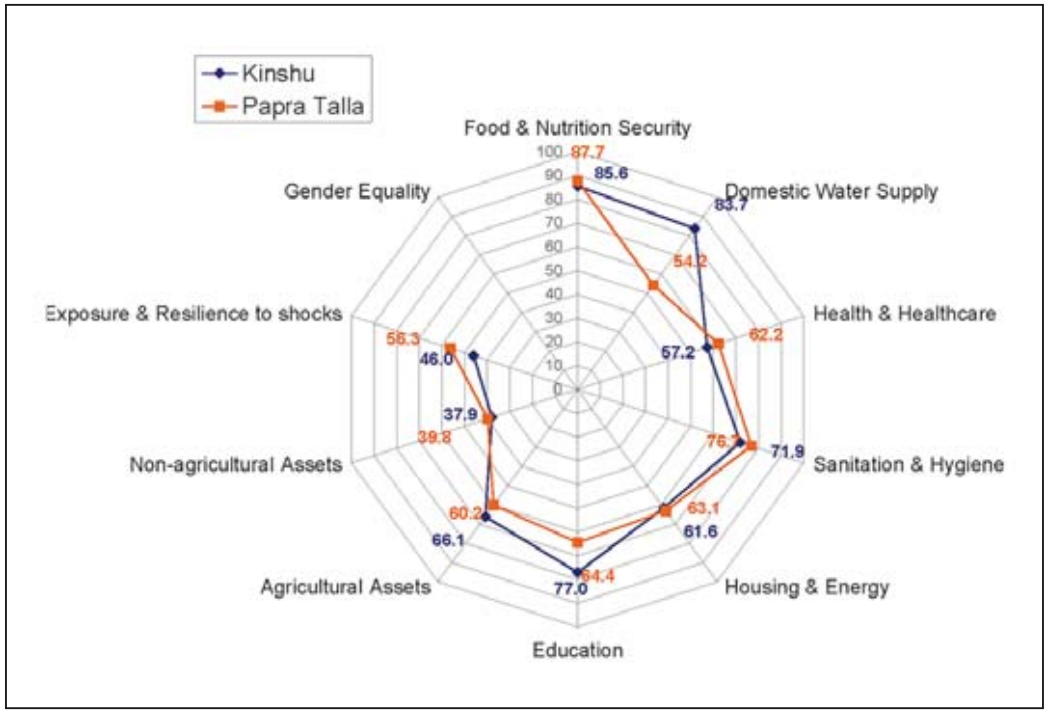


Figure 35
Comparison (overlay) of MPAT v.6 indicators for Kinshu and Papra Talla villages in India

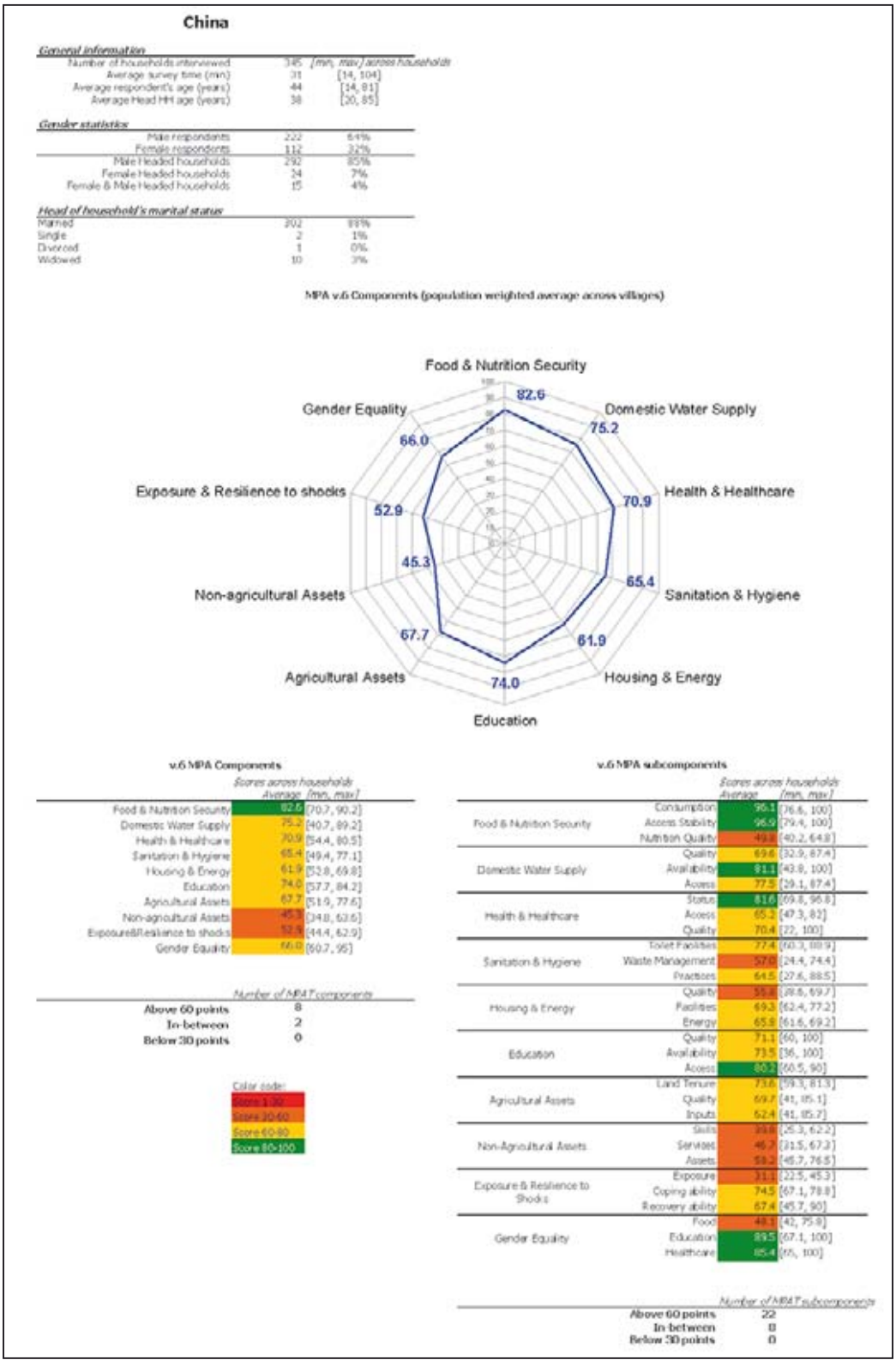


Figure 36
MPAT v.6 indicators for entire MPAT pilot in China

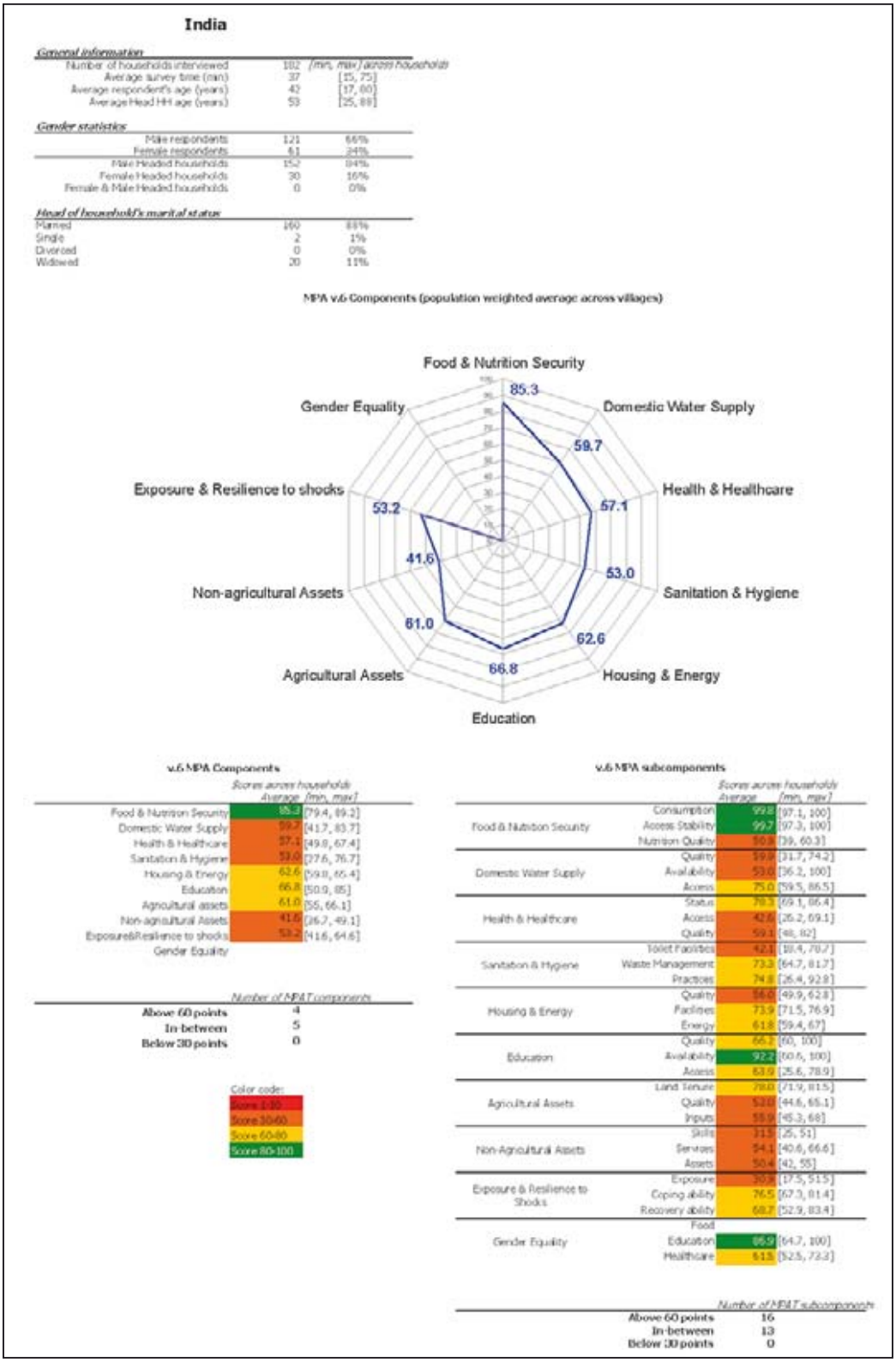


Figure 37
MPAT v.6 indicators for entire MPAT pilot in India

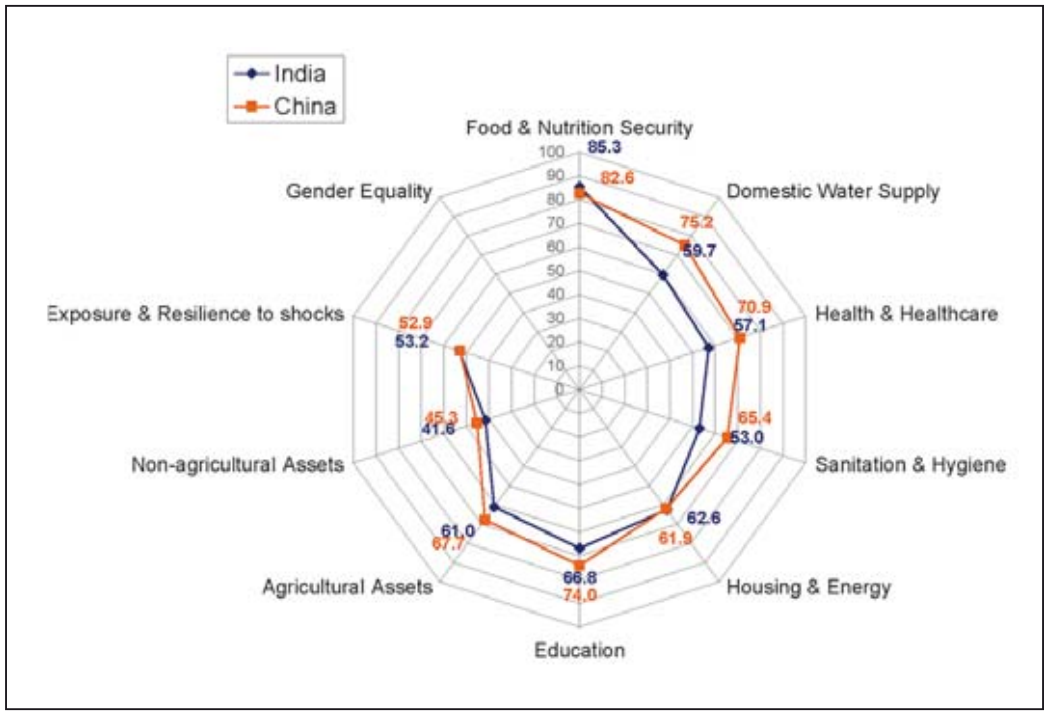


Figure 38
Comparison (overlay) of MPAT v.6 indicators for China and India MPAT pilot data[50]

50/ As discussed above, since there were not enough data to calculate the *Gender Equality* component for India, the results are not compared in this figure (not to be confused with a score of zero).

Chapter 8 Finalizing MPAT

8.1 Structural revisions to the MPAT survey (v.6 to v.7)

As already mentioned, MPAT v.6 was revised based on a variety of sources, including: feedback received during the second workshop in New Delhi; feedback from enumerators and other staff in China; technical notes and feedback from Saisana's analysis of the pilot data; input from the author; as well as other sources and considerations. These inputs were used to create MPAT v.7.

There were a number of relatively minor changes (some mentioned above), and overall perhaps no more than 10 per cent of the survey was actually altered. Structurally, however, there were significant changes, which are highlighted in italics in Figure 39 below. Specifically:

- The *Housing & Energy* component was altered to include "clothing", a crucial but essentially overlooked feature of poverty (it was agreed that the subcomponent which previously attempted to assess the state of a HH's *facilities* was of little added value to the component or MPAT generally).
- An additional subcomponent was added to the *Farm Assets* component (formerly referred to as the "*Agricultural Assets*" component) in order to better distinguish between the valuation of crops and livestock inputs, and in order to incorporate aquaculture.[51] This structural adjustment resolved a few issues: the primacy of crops for many rural HHs was better reflected in a single subcomponent, and an assessment of aquaculture was added, alongside the livestock assessment. As can be seen in the MPAT User's Guide, those HHs which are not reliant upon livestock and/or aquaculture do not receive lower MPAT scores for the *Farm Assets* component – that is, they are not penalized if they only grow crops, or only raise livestock or use aquaculture.
- The *Gender Equality* component was expanded to assess *Social Equality.*[52] A number of Sounding Board members, attendants at the second workshop and others, as well as the MPA Team, had considered incorporating it at certain points during MPAT's development. Given the strong support for such an addition at the second workshop and afterwards, it was decided to augment *Gender Equality* with a measure of *Social Equality* as well. This worked well because through the piloting of MPAT v.6, it was revealed that the subcomponent which had attempted to assess gender equality using a proxy measure of *gender/age and access to food* did not prove especially robust (see Saisana's report). As such, it was agreed that assessing gender equality through an analysis of access to healthcare and education would provide a far more robust proxy measure, one which could be augmented with the now-included assessment of social equality.

It should also be noted that, in order to better triangulate the data obtained, questions with regard to *social equality* are asked of HHs, teachers and healthcare staff. (Village leaders are not asked since, in many cases, they will feel pressure, explicit or implicit, to modify their responses because of the politically sensitive nature of the issue.) [See the User's Guide for aggregation details.]

51/ The author is especially thankful for the input and advice Nicole Franze with respect to adding a measure to assess aquaculture inputs.

52/ The author is especially thankful for the assistance Soumya Kappor provided when creating a measure to capture the *Social Equality* subcomponent of the *Gender & Social Equality* component.

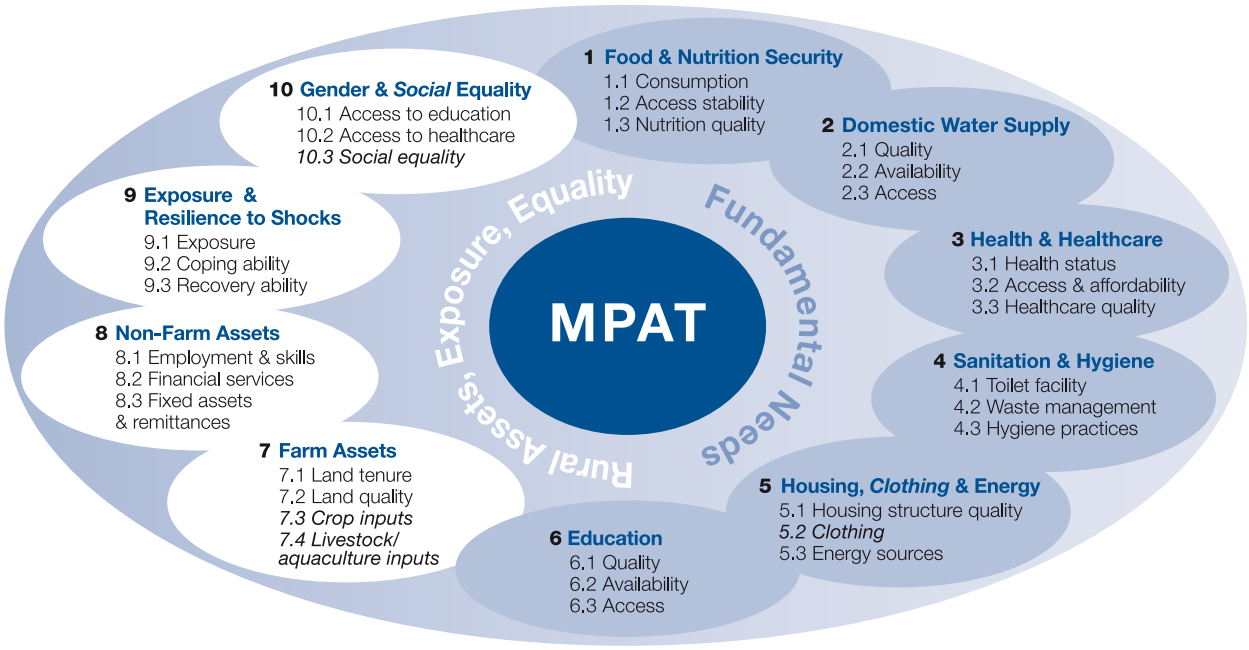


Figure 39
Significant structural changes from MPAT v.6 to v.7 (in *italics*)

In addition, some of the survey item valuation and weighting schemes were modified. To reiterate from a previous section, the valuations were largely derived from the expert suggestions provided ahead of the second workshop. For items added after this workshop, valuations were devised by the MPA Team in conjunction with sector-specific experts, as appropriate. As for the survey items themselves, any remaining issues with the valuations, weightings and/or aggregation are the responsibility of the author.

With these changes in place, the revised MPAT surveys were then translated into Chinese and Hindi so that MPAT v.7 could be tested in rural China and India.

8.2 Final MPAT field tests – August and September 2009: China and India

Once MPAT v.7 was completed, the revisions to the translations in Chinese and Hindi were double-checked to ensure their accuracy. Afterwards, MPAT v.7 was tested for a final time in 60 HHs, 30 in China and 30 in India. The testing in China was completed at the end of August 2009, and the testing in India was completed in early September 2009.

In both regions, the same PMO staff and enumerators who had administered the MPAT pilot were called upon to test this final version of MPAT, since they had already completed the training programme and the revisions were relatively minor (and in order to save the time required to train a new team of enumerators). In both China and India, PMO staff supervised this final administration, ensuring that only new HHs in new villages (i.e. HHs/villages that had not

participated in the pilot) were visited. Since the primary goal of this testing was to make certain that the final survey was clear to both enumerators and respondents, the particulars of the sampling selection were left largely to the discretion of the PMOs.

Once both pilots were completed, the CSC methodology was applied, as with the MPAT v.6 pilot. Overall, the results indicated that the incorporated changes from v.6 to v.7 were appropriate and the revised survey items clear to both enumerators and respondents. Unfortunately, however, survey items used to measure the "clothing" subcomponent were not added to the printed versions of the MPAT HH Survey used to field test v.7. As such, special attention and effort were made to attempt to ensure that these survey items (i.e. questions #38.1 and #38.2 in the MPAT HH Survey) are appropriately designed for use in the field. This shortcoming is mentioned in the same spirit as the other difficulties and problems discussed so far – a spirit of transparency.

8.3 MPAT v.7 calculated indicators for China and India

MPAT v.7 was administered in three villages in India and two in China. The results are presented below in Figure 40 and Figure 41. These profiles show the MPAT indicators for all the villages, per country, aggregated based on the respective populations of the villages in question. That is, a population-weighted average is used so that those villages with larger populations are weighted more heavily. As touched on above, the sampling methodology was not especially important for the MPAT v.7 testing, since the primary point was to ensure that the revised surveys were clear – as such, any would-be interpretation of the results, or comparisons between the results from China and India, should be treated with a great deal of caution (i.e. these are not representative samples).

As with the data for the MPAT v.6 pilot presented above, it is not for the author to speculate on causality concerning the MPAT values generated; this is a task for the PMOs and other stakeholders. With their local context in mind, they will be best able to investigate these dimensions more deeply and discern greater meaning from these numbers in order to devise strategies for addressing them.

8.4 Finalizing MPAT and a few miscellaneous notes

The testing of MPAT v.7 in China and India was a last, but crucial, step in MPAT's development. As expected, the testing revealed very few issues that needed to be addressed. With respect to the China dataset, after a detailed analysis of the errors and missing data across all 30 HHs, a few clear recommendations emerged with regard to how the final MPAT surveys could be made even clearer. The results of this exercise are presented in Table 11[53] below.

Based on this exercise, as well as input from Saisana, it was agreed that the instructions to enumerators in the surveys would be better positioned if located immediately next to the answer choice (rather than being placed at the top of the following survey question). MPAT v.7 was revised based on these findings and recommendations, as well as feedback from the India testing, in order to create the final version of the MPAT HH and Village Surveys.

In the course of this project, a few issues repeatedly came up with regard to the surveys; as such they are addressed below so that the reader and would-be user are clear on these points (these issues are also discussed in the MPAT User's Guide):

53/ With regard to the two most common problems, this analysis revealed that a formatting problem in the Chinese version for question #13.3 was likely the reason for the errors noted for that item. It was also agreed that the formatting of question #18 in the Chinese version was not user-friendly (it was revised accordingly).

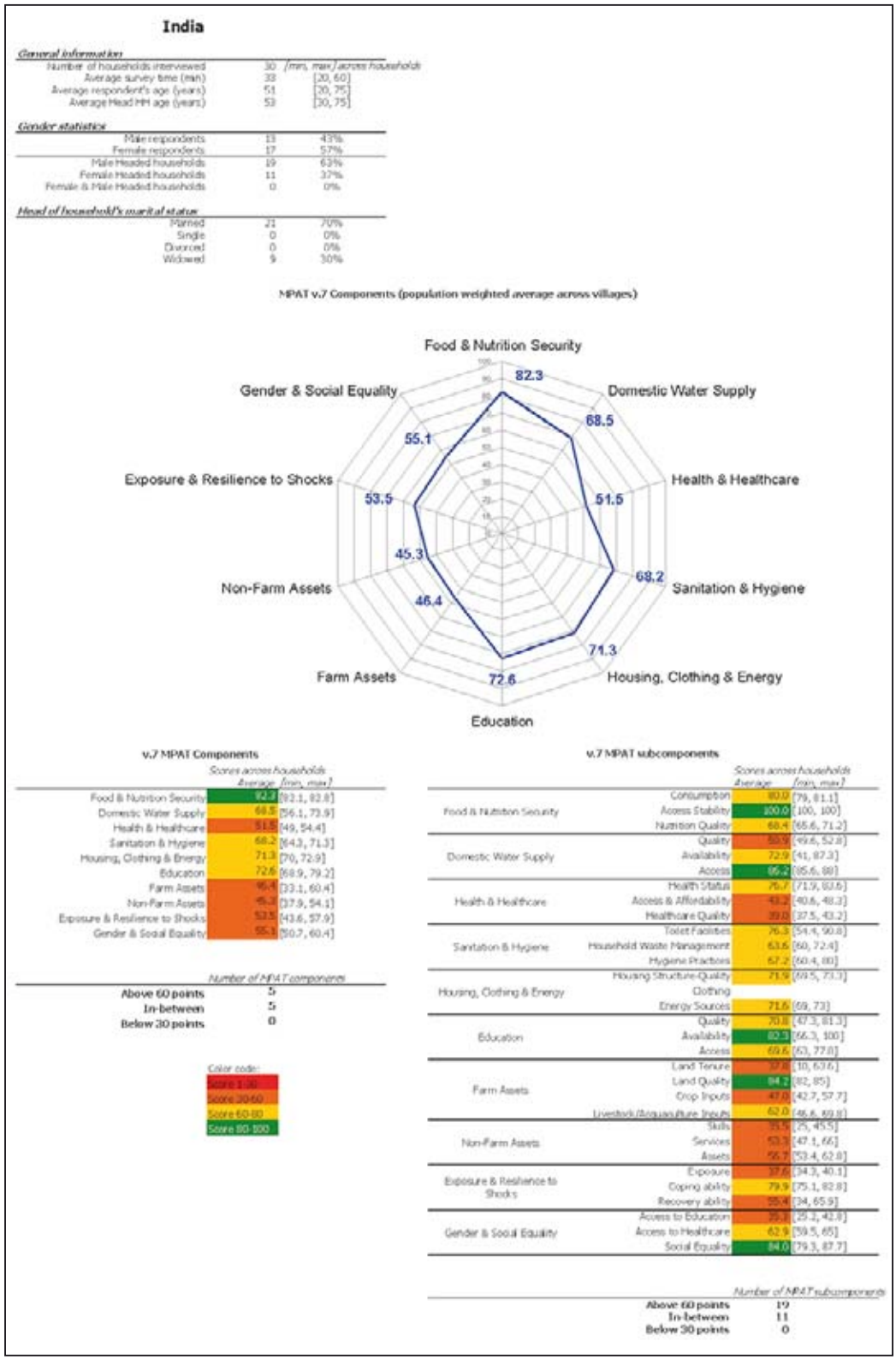


Figure 40
MPAT v.7 indicators for three villages in India

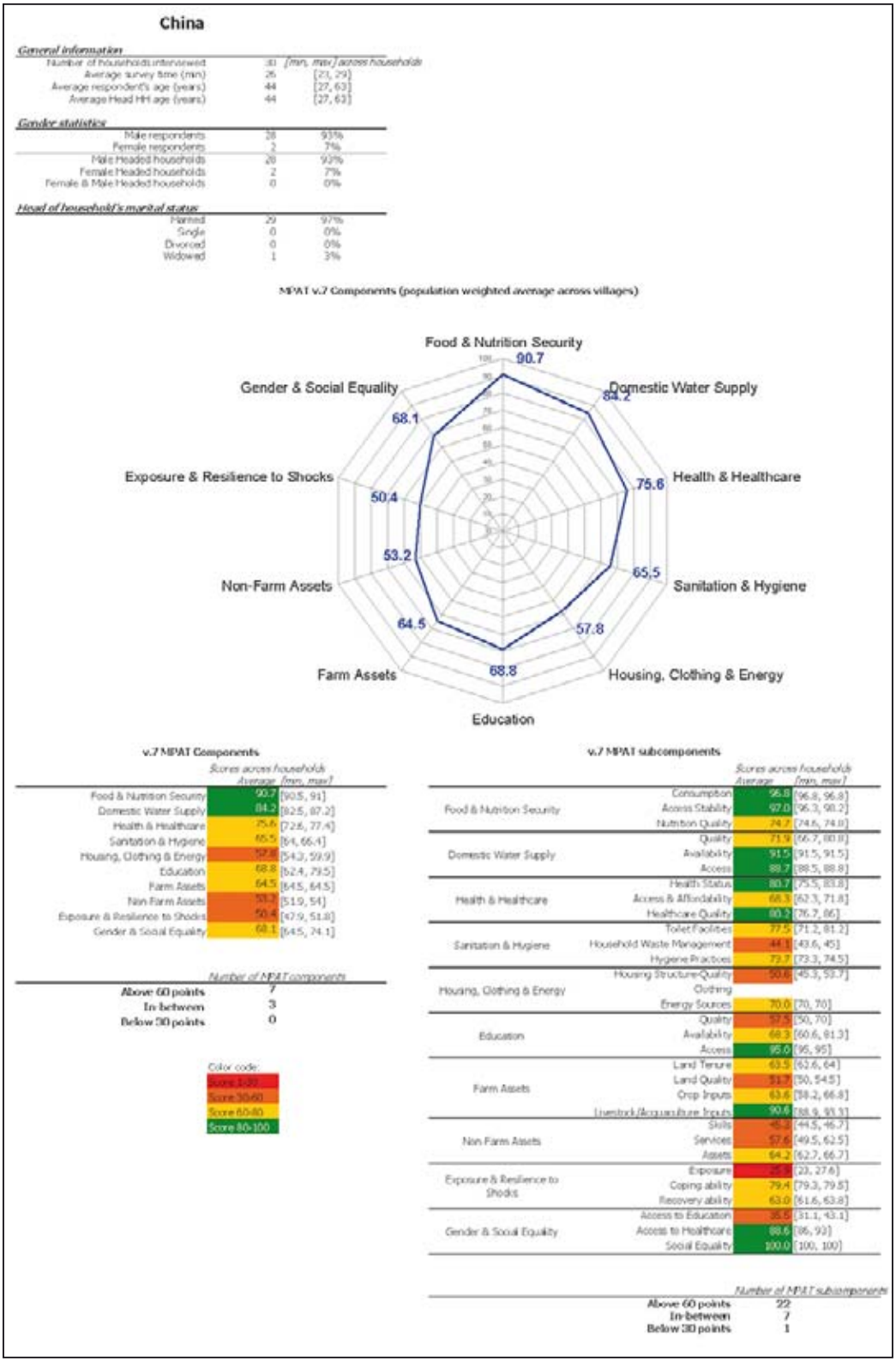


Figure 41
MPAT v.7 indicators for two villages in China

Table 11 Errors and missing data discovered in MPAT v.7 China testing[54]

HH CODE	Date	TIME (min) From	To	Total	Errors discovered: type & question number Total	Q#	Type	Q#	Type	Q#	Type
01	22-Aug-09	8.20	8.48	28	1	18 c	MD				
02	22-Aug-09	9.00	9.24	24	1	22,1	MD				
03	22-Aug-09	9.30	9.55	25	0						
04	22-Aug-09	10.00	10.25	25	0						
05	22-Aug-09	10.40	11.08	28	0						
06	22-Aug-09	11.15	11.40	25	3	13,3	MD	18 c	MD	22,1	MD
07	22-Aug-09	11.52	12.21	29	0						
08	22-Aug-09	13.30	13.55	25	1	18 c	MD				
09	22-Aug-09	14.03	14.29	26	0						
10	22-Aug-09	14.35	15.00	25	0						
11	22-Aug-09	15.09	15.34	25	0						
12	22-Aug-09	15.40	16.06	26	2	13,3	MD	24.2	MD		
13	22-Aug-09	16.11	16.36	25	2	13,3	MD	24.2	MD		
14	22-Aug-09	16.44	17.08	24	1	18 c	MD				
15	22-Aug-09	17.15	17.40	25	1	24.2	MD				
16	23-Aug-09	8.28	8.54	26	0						
17	23-Aug-09	9.06	9.35	29	2	22,1	MD	37	MD		
18	23-Aug-09	9.46	10.11	25	0						
19	23-Aug-09	10.18	10.45	27	2	6,2	MD	7,1	MD		
20	23-Aug-09	10.52	11.21	29	1	13,3	MD				
21	23-Aug-09	11.29	11.55	26	0						
22	23-Aug-09	12.03	12.29	26	0						
23	23-Aug-09	14.10	14.33	23	1	24,2	MD				
24	23-Aug-09	14.41	15.08	27	0						
25	23-Aug-09	15.15	15.41	26	1	28,1a	NC				
26	23-Aug-09	15.52	16.19	27	0						
27	23-Aug-09	16.28	16.52	25	0						
28	23-Aug-09	17.05	17.28	23	1	19	MD				
29	23-Aug-09	17.33	17.59	26	0						
30	23-Aug-09	18.09	18.32	23	0						

Notes: MD = Missing Data | NC = Not Clear | *Italicized* font indicates issues found during the "scoring" phases of CSC

Recall time and time periods. The recall time used for many questions is 12 months. This was discussed at the onset and in workshops, since across cultures many people have difficulty accurately recalling events over such a relatively long time period. With respect to questions related to *Food & Nutrition Security*, for example, it was deemed crucial to attempt to smooth over seasonality effects. As such, it was agreed to use "12 months" in spite of the limitations necessarily introduced with regard to recall. It should be noted that these limitations obviously apply across most cultures; thus problems with recall time will be relatively similar.

The reader should also note that all questions which pertain to time frames in the surveys always refer to the last "X" weeks/months/years. This is because if one were to ask about an event in "the last year" this would create serious problems with respect to consistency, since the time at which MPAT is administered will vary, and because different cultures have years which begin at different dates.

54/ This analysis was prepared by Piero Cellarosi, using the CSC System to check the MPAT v.7 data in China.

Logical consistency checks. The CSC method provides a means of making sure quality data are used to calculate the MPAT indicators. That said, there will be instances where, for a variety of reasons, there are logical errors for a given HH's dataset. This can be the result of survey falsification (at the worst) or, more commonly, human error. For example, a HH dataset may indicate that there are no school-age children in the HH (question #3.1), and at the same time indicate that, in response to a negative shock, the HH's coping strategy is to *take the children out of school so they can help with HH-related work* (question #31).

Users should make every effort to identify such inconsistencies and then determine the likely cause. If the cause cannot be identified, and/or if this type of problem is discovered multiple times for an area, by identifying who the enumerator was users can then examine other surveys completed either in the same area or by the same enumerator. If recurring problems of a similar nature are identified, it will likely be advisable to not use the data from those HHs, or from that enumerator.

The Excel spreadsheet provided online for use with the MPAT User's Guide (http://www.ifad.org/mpat) has logical consistency checks built in for cases in which it is likely that such checks would identify inconsistencies in the dataset. However, users need to remain vigilant to ensure such errors do not get by, and in so doing allow potentially inaccurate data to be used.

Survey items with potentially ambiguous rationale. The survey items (questions) themselves do not always (at first glance) appear to be connected to the subcomponent they are assessing. In such cases, "additional notes" are provided under the subcomponent descriptions in the MPAT outline on page 92 to explain the connections.

The wrap-up workshop and final MPAT surveys Chapter 9

9.1 The final MPA workshop – 11 September 2009: Rome, Italy

Before the final MPA workshop, a dissemination event was held at IFAD Headquarters on 10 September. Invitations were sent to staff from IFAD's Policy and Evaluation Divisions, CPMs from other regions, and staff at FAO. Approximately 50 people from IFAD and FAO attended the event (see Figure 42). The feedback obtained during the question-and-answer session which followed the main presentation was very encouraging with respect to people's satisfaction with the way in which the MPA Project was administered, and with the utility of MPAT itself. This feedback was also incorporated into the final MPA workshop held the following day.

The primary purpose of the final MPA workshop was to incorporate Sounding Board members' feedback into the zero-draft of the MPAT Publication and User's Guide (which were distributed by email before the workshop), and to discuss next steps with regard to MPAT's future use. The workshop itinerary and participant list can be found in Annex X on page 206.

Following an introductory presentation by the author, Michaela Saisana presented her extensive work on the statistical analysis of the tool (Figure 43). Based on the progress to date (at that time), and the largely positive nature of Saisana's analysis and evaluation, the following steps were agreed to:

- Incorporate a number of suggestions/issues (mostly related to clarification) raised at the workshop into the MPAT publications
- Aim to launch MPAT in early 2010 (when the MPAT Book and User's Guide would be released)
- Identify other appropriate venues for disseminating MPAT (the first being World Poverty Day, October 2009, for which a brochure was prepared)
- After the launch, identify IFAD CPMs in each of IFAD's regions to implement MPAT
- Once MPAT has been used in all/most regions, regroup and reassess the potential value of institutionalizing the tool.

Liesbeth Kellens

Figure 42
Thomas Rath's introduction at the MPAT dissemination event

Alasdair Cohen

Figure 43
Michaela Saisana presenting her findings at the third MPA workshop

With the final MPA workshop concluded, and the testing of MPAT v.7 in India completed, the final version of MPAT was created. The sections below provide the outline of MPAT, which lists the components, subcomponents and descriptions of each, as well as the survey items which constitute each subcomponent. The next sections contain the final MPAT HH Survey and MPAT Village Survey (both of which can be downloaded at http://www.ifad.org/mpat).

9.2 **The MPAT outline**

The Multidimensional Poverty Assessment Tool (MPAT)

Household & Village Survey Items – Organized by Component

Component	Subcomponents	Household Survey	Village Survey
1. Food & Nutrition Security This component measures the stability and availability of sufficient quantities of adequately nutritious food to the household.	**1.1 Consumption** This subcomponent attempts to assess whether or not the household has a sufficient quantity of food most of the time.	33.1) During the last 12 months, how often did any member of your household eat fewer meals, or smaller portions, than usual because there was not enough food? Never (1) | Once or twice (2) | Once a month (3) | A few times a month (4) About once a week (5) | A few times a week (6) | Every day (7) | Don't know (8) 33.2) During the last 12 months, how often did any member of your household go to sleep at night hungry? Never (1) | Once or twice (2) | Once a month (3) | A few times a month (4) About once a week (5) | A few times a week (6) | Every day (7) | Don't know (8)	
	1.2 Access Stability This subcomponent attempts to assess the stability of the household's access to food.	33.3) During the past 12 months, did your household experience a period of time longer than two weeks when there was not enough food? (if "yes", how many such periods)? No (1) | Yes, one (2) | Yes, two (3) | Yes, three (4) Yes, four (5) | Yes, more than four (6) | Don't remember (7) | Other, specify: (8) 33.4) During the past 12 months, did your household ever experience one full day with no food to eat? Never (1) | Once or twice (2) | Approximately once a month (3) Approximately every two weeks (4) | Approximately every week (5) | Don't know (6)	
	1.3 Nutrition Quality This subcomponent attempts to assess the diversity of the household's diet as a proxy measure for balanced nutrition intake.	34) During the last 12 months, how often did the majority of your household eat the following foods? 1. Never | 2. Rarely 3. Once a month | 4. A few times a month 5. About once a week | 6. A few times a week 7. Every day 8. Not eaten for religious or cultural reasons 34.1) Grains (cereals, bread, rice, pasta) 34.2) Roots &/or tubers (potatoes) 34.3) Vegetables 34.4) Fruits 34.5) Dairy &/or eggs 34.6) Meat &/or fish-seafood 34.7) Nuts &/or legumes (and/or derivatives, tofu, etc.)	
2. Domestic Water Supply This component measures the likely quality of domestic water as well as the stability of supply and the household's access to it.	**2. 1 Quality** This subcomponent attempts to assess the likely quality of the water the household uses for domestic purposes. (Additional notes: valuations for #14 [estimated quality based on water source] will not always be relevant in all areas. #19 captures the household's subjective assessment of their water quality, which nonetheless provides a useful proxy measure across households.)	14) What is the **main source** (meaning, the source water comes from immediately before being used) of the water your household uses for drinking, cooking, bathing and cleaning inside the home? During the rainy season ☐ | During the dry season ☐ | During most of the year ☐ No rainy season in our area (-1) | No dry season in our area (-2) | Don't know (-3) 1. Private borehole (< 20m deep) | 2. Piped from water treatment plant 3. Communal borehole (< 20m deep) | 4. Spring | 5. Private borehole (> 20m deep) 6. River | 7. Communal borehole (> 20m deep) | 8. Stream | 9. Private well (< 20m deep) 10. Pond | 11. Communal well (< 20m deep) | 12. Water vender 13. Private well (> 20m deep) | 14. Rainwater harvesting container (open) 15. Communal well (> 20m deep) | 16. Rainwater harvesting container (closed) 17. Large dam (built & managed by government, company or collective) | 18. Small dam (built & managed by 1-15 households) 19. Irrigation canal | 20. Other (specify): *["Private" means used primarily by the household, but may also be shared with 2-4 other households, and is located within 100 meters of the household. "Communal" means it is shared by 5 or more households.]* 19) Generally, what do you think the quality of your households' water is? Don't know (1) | Very bad (2) | Poor (3) | Fair (4) Satisfactory (5) | Good (6) | Very good (7) 16) Does your household treat water before drinking it (any treatment method: boiling, allowing to settle, filter, chemical treatment, etc.)? Never (1) | Rarely (2) | Sometimes (3) | Often (4) Always (5) | No treatment is necessary (6)	
	2.2 Availability This subcomponent attempts to assess the stability and quantity of domestic water supply to the household.	17.1) During the last 12 months, for how many months was your household's main source of water sufficient to meet your household's drinking, cooking, bathing and cleaning needs? Months: ☐ | Don't remember (-1) 17.2) How often do you worry there will not be enough water from your household's main water source to satisfy your household's drinking, cooking, bathing and cleaning needs? Never (1) | Rarely (2) | Sometimes (3) | Often (4) | Always (5)	
	2.3 Access This subcomponent attempts to assess the degree of access households have to their main water source.	15) Approximately how much time (in minutes) does it take a member of your household to collect enough water for your household's drinking, cooking, bathing and cleaning needs for a normal (average) day? *[If water is collected from a piped supply in the household record "1" minute]* During the rainy season ☐ | During the dry season ☐ | During most of the year ☐ No rainy season in our area (-1) | No dry season in our area (-2) | Don't know (-3) 18) Can your household usually afford to pay the fees (direct payments only, not maintenance fees) for using water from your household's main water source? No (1) | Rarely (2) | Sometimes (3) | Often (4) | Always (5) | They do not need to pay for water (6)	

3. Health & Healthcare

This component measures the quality of healthcare via its output (i.e. health status), people's access to healthcare and the quality of care provided.

3.1 Health Status

This subcomponent attempts to assess the status of people's health.

(Additional notes: for #5.1 and #5.2, this measure is of course determined in part by the size of the household, but these effects [of disproportionately large or small households] balance out at the village level.)

5.1) In the last 12 months, how often has someone in your household been ill (any non-serious illness)?

Never (1)	Once or twice (2)	Once a month (3)	A few times a month (4)
About once a week (5)	A few times a week (6)	Every day (7)	Don't know (8)

5.2) In the last 12 months, how often has someone in your household been seriously ill (meaning they are so ill that they stay in bed, or lying down, for two or more days at a time)?

Never (1)	Once or twice (2)	Once a month (3)	A few times a month (4)
About once a week (5)	A few times a week (6)	Every day (7)	Don't know (8)

58) In the last 24 months, how has the overall health of the majority of the people in your village/area changed?

Improved slightly (1)	Improved moderately (2)	Improved a lot (3)
Worsened slightly (4)	Worsened moderately (5)	Worsened a lot (6)
No significant change (7)	Don't know (8)	Other, specify: (9)

3.2 Access & Affordability

This subcomponent attempts to assess the household's access to healthcare centers and the affordability of the healthcare those centers provide.

(Additional note: as with #15, time is used instead of distance since this accounts for varied topography.)

6.1) How much time does it take for members of your household to reach the nearest health center which can diagnosis simple illness, or treat simple injuries, and prescribe basic medicines?

Household self-diagnoses, self-medicates for simple illnesses (-1)	No health center in the area (-2)	
Health center is too far to travel to (-3) *[if no center, or center too far, skip to question 7.1]*	Minutes =	

6.3) How much time does it take for members of your household to reach the nearest health center which can diagnosis and treat complicated or serious illnesses or injuries (can perform surgery)?

No health center in area (-1)	Health center too far to travel to (-2)	Don't know (-3)	Minutes =

7.1) Can your household afford professional treatment for non-serious illness or injury (if you choose to)?

No (1)	Yes, if money is borrowed (2)	Yes, with much difficulty (3)	Yes, with some difficulty (4)
Yes, because government or employer helps pay for treatment (5)		Yes, household can afford it (6)	

7.2) Can your household afford professional treatment for serious illness or injury?

No (1)	Yes, if money is borrowed (2)	Yes, with much difficulty (3)	Yes, with some difficulty (4)
Yes, because government or employer helps pay for treatment (5)		Yes, household can afford it (6)	

3.3 Healthcare Quality

This subcomponent attempts to assess the likely quality of healthcare provided in the village/area.

Information is collected from interviews with the village/area healthcare staff.

6.2) Does this health center have enough medical supplies to provide adequate healthcare?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Don't know (6)

41) What are the approximate population and number of households in your village/area?

Population		Number of households		Don't know (-1)

54) Does each center usually have enough medical supplies to provide adequate healthcare?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

55) How many full-time (work most days a week) and part-time (work 1 to 3 days a week) healthcare staff work in these health center/s

Full-time staff		Part-time staff	

56) How many years have they been working (total, your village/area and elsewhere)?

57) How many years of formal training have they completed?

4. Sanitation & Hygiene

This component measures the quality of the household's sanitation (toilet facilities), waste management and personal hygiene.

4.1 Toilet Facility

This subcomponent attempts to assess the general quality of the toilet facilities the household uses.

(Additional note: valuations for #11.1 [estimated quality based on toilet type] will not always be relevant in all areas.)

11.1) What type of toilet facility does your household usually use?

None (open defecation) (1)	Communal, open pit (2)
Communal, enclosed pit (3)	Communal, enclosed improved-ventilation pit (4)
Communal, enclosed pour-flush (5)	Communal, enclosed flush (6)
Communal, compost or biogas (7)	Private, open pit (8)
Private, enclosed pit (9)	Private, enclosed improved-ventilation pit (10)
Private, enclosed pour-flush toilet (11)	Private, enclosed flush (12)
Private, compost or biogas (13)	Other, specify (14):

"Open" means there is no structure, or a structure with no roof. "Enclosed" means there is a structure with any sort of roof. "Communal" means the facility is shared by more than 3 households. "Private" means the facility is used by 1-2 households.

11.2) *[If the household uses a toilet facility of any kind, ask:]* How often is the toilet unusable?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Don't know (6)

4.2 Waste Management

This subcomponent attempts to assess how the household manages their waste materials.

(Additional note: household wastes provide vectors for disease.)

[Enumerator to remind respondent "all responses are confidential"]

12.1) What does your household usually do with food waste/remains (any parts not consumed by people in the household)?

12.2) What does your household usually do with non food waste/garbage?

12.3) What does your household usually do with wastewater (for example, from bathing, cleaning, the toilet)?

1. Discard close to a house [within 25 meters]	2. Discard near a house [25 to 75 meters from the house]	
3. Discard far from a house [75 meters or more]	4. Feed to livestock	5. Burn it
6. Feed to pets or guard dogs	7. Compost it	
8. Use for biogas generation	9. Sell to vender	
10. It is collected regularly [organized garbage collection within 75 meters of house]	11. It is collected regularly [organized garbage collection further than 75 meters from house]	
12. Put down drain [piped sewage network]	13. Use to water crops grown for livestock fodder	
14. Use to water vegetable garden	15. Other, specify:	

4.3 Hygiene Practices

This subcomponent attempts to assess the quality of the household's general hygiene practices.

(Additional note: these behaviors are highly correlated with hygiene, and with health.)

13.1) How many times a week do most members (the majority) of your household clean their teeth?

Never (1)	Rarely (2)	One or two days a week (3)	Most days of the week (4)	
Usually once a day (5)	Usually two or three times a day (6)		Don't know (7)	

13.2) How often do members of your household clean their hands before eating a meal?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Don't know (6)

13.3) How often do members of your household clean their hands after defecating?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Don't know (6)

5. Housing, Clothing & Energy

This component measures the general quality of the household's home, the availability of adequate clothing and the quality of the energy sources used in the home.

5.1 Housing Structure Quality

This subcomponent attempts to assess the physical quality of the housing structure, and its ability to withstand extreme weather events.

[Information to be collected by enumerator while in the household (ask only if unable to determine answer visually)]

9.1) What is the **primary** construction material of the housing unit's exterior walls?

1. Stone & mortar	2. Metal sheeting	3. Reinforced concrete	4. Brick
5. Logs	6. Earth	7. Mud or earth bricks	8. Mud & straw
9. Thin wood	10. Bamboo	11. Thick plastic	12. Thin plastic
13. Reeds	14. Thick fabric	15. Thin fabric	16. Other, specify:

9.3) Can your home withstand strong winds, severe rain, snow or hail without significant damage?

No (1)	Yes (2)	Yes, with minor damage (3)	Perhaps, but with significant damage likely (4)	
Little to no extreme weather in this region (5)			Don't know (6)	

5.2 Clothing

This subcomponent attempts to assess the general availability and quality of footwear and clothing in the household.

38.1) How many of the people (adults and children) in your household usually have adequate footwear?

None (1)	Less than half of the household (2)	About half of the household (3)	
Most of the household (4)	All household members do (5)	Don't know (6)	

38.2) How many of the people (adults and children) in your household have sufficient clothing for severe weather (for example, very hot and sunny, very cold or very wet weather, depending on the area)?

None (1)	Less than half of the household (2)	About half of the household (3)	
Most of the household (4)	All household members do (5)	Don't know (6)	

5.3 Energy Sources

This subcomponent attempts to assess the likely quality (with respect to effects on human health and energy efficiency) of the fuel/s the home uses for lighting, cooking and heating.

10.1) What is the **primary** source of light your home uses when it is dark?

10.2) What is the **primary** fuel source your household uses for cooking?

10.3) What is the **primary** fuel source your household uses for heat?

1. None	2. Low-voltage electricity from grid [legal or illegal connection]	
3. Medium or high-voltage electricity from grid [legal or illegal connection]		
4. Electricity from a generator	5. Electricity from solar cells, wind turbine or small, hydroelectric dam	
6. Liquid fuel [petrol, kerosene]	7. Gas fuel [methane from tank, biogas]	8. Coal or charcoal
9. Vegetable or animal based fats or oils	10. Candle, paraffin wax, or battery-powered source	12. Heat not needed in region
11. Wood, sawdust, grass or other natural material	13. Don't know	

6. Education

This component measures the quality of children's formal education, its availability and children's access to it.

6.1 Quality

This subcomponent attempts to assess the likely quality of the education provided in the village/area.

Information is collected from interviews with the village/area head teacher (or the most senior teacher available).

(Additional note: for #44.2, subsidized, or free, housing is a means of attracting qualified teachers to rural areas.)

44.1) How many full-time (work almost every school day) and part-time (work roughly half the school days) teachers are there?

Full-time teachers		Part-time teachers	

44.2) Are full-time teachers provided subsidized, or free, housing? If so, what is the quality of the housing?

No (1)	Yes, provided poor-quality housing (2)	Yes, provided adequate quality housing (3)
Yes, provided above-average housing (4)	Yes, provided high-quality housing (5)	

45) What is the total number of female and male students (age 5 to 14) who attend classes regularly (at least 4 days a week)?

Female students		Male students	

48) In the last two school years, how has the overall performance of the majority of the students changed?

Improved slightly (1)	Improved moderately (2)	Improved a lot (3)
Worsened slightly (4)	Worsened moderately (5)	Worsened a lot (6)
No significant change (7)	Don't know (8)	Other, specify: (9)

6.2 Availability

This subcomponent attempts to assess the availability of education.

Information is collected from interviews with the village/area head teacher (or the most senior teacher available).

46) Do the teachers have adequate teaching supplies to teach effectively?

No (1)	A few teachers do (2)	About half the teachers do (3)
Most teachers do (4)	Yes, all teachers do (5)	Don't know (6)

47) Do the students have adequate school supplies to learn/study effectively?

No (1)	A few students do (2)	About half the students do (3)
Most students do (4)	Yes, all students do (5)	Don't know (6)

49) How many potential students was the school/s unable to accept due to limited places (or sleeping space in the school dorms) and/or limited school supplies?

None (-1)	Number of potential students		Don't know (-2)

6.3 Access

This subcomponent attempts to assess how easily school-aged children in the household can attend school if they, or their household, wishes.

3.1) How long does it take, in minutes, for the school-age children (age 5-14) in your household to go to school (by any means: for example, walking, bicycle, scooter, bus)?

[If children attend more than one school, enumerator to record the average time.]

Children in the household are not school-age (-1) *[skip to question 4.1]*		Children usually live at school (-2)
# of minutes =	Household has no children (-3) *[skip to question 5.1]*	
The school-aged children in the household do not regularly attend school (-4)		Don't know (-5)

3.2) Can your household afford your children's school fees and school supplies?

No (1)	Rarely (2)	Sometimes (3)	Usually (4)
Yes (5)	Household does not pay the fees and cannot afford supplies (6)		
Household does not pay fees, but can afford supplies (7)	Household does not pay fees or supply costs (8)		

7. Farm Assets

This component measures the household's general ability to produce food and/or create agriculture-based income.

7.1 Land Tenure

This subcomponent attempts to assess the household's land tenure status.

(Additional note: for #27 numerous studies have demonstrated the importance of secure land tenure with regard to investments [labor, inputs, etc.] into agricultural production.)

20) Does your household have access to land for agriculture, livestock or aquaculture?

Yes (1)	No (2) *[skip to question 28]*

21) How much land does your household have for agriculture (for crops, grass, trees, etc.)?

Hectares:		Don't know (-1)	*[Enumerator to convert local measurement to hectares]*

27) What kind of ownership does your household have for your land?

1. Illegal access, squatting	2. Leasehold between 10-20 years
3. Share-cropping arrangement	4. Leasehold between 21-30 years
5. Rented for less than 12 months	6. Leasehold between 31-40 years
7. Leasehold less than 5 years	8. Leasehold for period of more than 40 years
9. Leasehold less than 10 years	10. Freehold (legally owned)

7.2 Land Quality

This subcomponent attempts to assess the likely quality of the household's land and soil.

22.1) Is the majority of your household's land flat, gently-sloping or steep?

Don't know (1)	Steep (2)	Gently sloping (3)	Flat (4)	Terraced (5)	Mixed (6)

22.2) What kind of soil covers the majority of your household's land?

Don't know (1)	Stony-gravely (2)	Clay (3)	Loamy [mixed clay, sand &/or silt] (4)	
Sandy (5)	Wet (6)	Droughty (7)	Mixed, specify (8):	Other, specify (9):

7.3 Crop Inputs

This subcomponent attempts to assess the availability of water, compost/manure/fertilizer, seeds and food for the household's production of crops.

23.1) During the last two years, was your household able to make, or buy, enough compost/manure or artificial fertilizer for each growing season?

Household does not think they need to use compost/manure or fertilizer (1)				
No (2)	Rarely (3)	Sometimes (4)	Often (5)	Always (6)

23.2) During the last two years, was your household able to afford enough seeds for each growing season?

Not necessary because household saved seeds (1)	No (2)	Rarely (3)	Sometimes (4)
Often (5)	Always (6)	Other, specify (7):	

23.3) Is there usually enough water for your household's crops?

Dry season		Never (1)	Rarely (2)	Sometimes (3)	Often (4)
Rest of the year		Always (5)	No dry season in our area (6)	Few, or no, crops grown (7)	

26) Does your household usually have enough people to work/manage your farm?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

7.4 Livestock / Aquaculture Inputs

This subcomponent attempts to assess the availability of water, fodder and/or fish feed for the household's production of livestock and/or aquaculture.

24.1) Is there usually enough water for your household's livestock?

Dry season		Little, or no, livestock (1) *[skip to question 25.1]*		Never (2)	Rarely (3)	
Rest of the year		Sometimes (4)	Often (5)	Always (6)	No dry season in our area (7)	

24.2) During the last two years, how often was your household able to grow, collect or buy enough fodder?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

25.1) Is there usually enough water for your household's aquaculture?

Dry season		Little, or no, aquaculture (1) *[skip to question 26]*		Never (2)	Rarely (3)	
Rest of the year		Sometimes (4)	Often (5)	Always (6)	No dry season in our area (7)	

25.2) During the last two years, how often was your household able to make or buy enough fish feed?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

8. Non-Farm Assets

This component measures the household's non-agricultural income-generating ability, access to credit and household wealth.

8.1 Employment & Skills

This subcomponent attempts to assess the household's income earning potential from small business and/or skilled service provision.

35.1) During the last 12 months, has anyone in your household managed/run their own non-agricultural business? If "yes", for how many months (out of the last 12 months)?

No (1)	Yes, 1-2 months (2)	Yes, 3-4 months (3)	Yes, 5-6 months (4)	Yes, 7+ months (5)

35.2) During the last 12 months, has anyone in your household provided others a skilled service (for example, equipment repair, tailoring, construction) for money or barter?

No (1)	Yes, a few times (2)	Yes, about once a month (3)	Yes, a few times a month (4)
Yes, a few times a week (5)		Yes, usually every day (6)	

8.2 Financial Services

This subcomponent attempts to assess household's access to financial services and degree of debt.

(Additional note: #36 attempts to assess the HH's access to formal credit, #37 looks more broadly at whether the HH is in debt, and to what source.)

36) If your household wanted to borrow money from a bank or other financial service provider (not including friends or relatives) would it be easy to borrow money?

No (1)	Probably not (2)	Probably yes (3)	Definitely yes (4)	Don't know (5)

37.1) *[Enumerator to remind respondent that all responses are confidential]* Is your household currently in debt?

No (1) *skip to question 38.1*	Yes, a little (2)	Yes a moderate amount (3)	Yes, a lot (4)

37.2) To whom is the majority of this debt owed?

1. Relatives	2. Friends	3. Village fund
4. Village government	5. Rural credit cooperative	6. Private money lender
7. Microfinance institution	8. Government bank	9. Private bank
10. Joint village & bank fund	11. Joint development project & bank fund	12. Other, specify:

8.3 Fixed Assets & Remittances

This subcomponent attempts to assess the household's likely wealth.

(Additional note: for #9.2, *housing roof material* has been shown to provide a reliable proxy for household wealth.)

1) How many female and male adults (age 15 and older) live and sleep in your home more than 9 months every year?

Female adults ☐ Male adults ☐ Don't know (-1)

<Note: the sex ratio is not calculated as part of MPAT's indicators, but the data are collected so that they might better serve project staff >

2) How many adults live and work **outside** your household for more than 9 months every year?

Adults ☐

9.2) *[Information to be collected by enumerator while in the household (ask only if unable to determine answer visually)]*
What is the **primary** construction material of the housing unit's main roof?

1. Stone & mortar	2. Tiles or shingles	3. Synthetic roofing material	4. Metal sheeting
5. Reinforced concrete	6. Thin wood	7. Thick wood	8. Bamboo
9. Thick plastic	10. Thin plastic	11. Straw or reeds	12. Other, specify:

39) How many televisions does your household usually have?

Number of televisions ☐

9. Exposure & Resilience to Shocks

This component measures the household's exposure to natural and socio-economic shocks and their ability to cope and recover from such shocks.

9.1 Exposure

This subcomponent attempts to assess the severity of exposure the household faces from natural and/or socio-economic shocks/hazards.

(Additional note: the valuations [see the User's Guide] for the items listed in the table to the right will inevitably not apply perfectly to all situations. User's are encouraged to check the valuations and determine their applicability to the region in question.)

28) Of all the possible negative **events**, natural or socioeconomic, which could occur in the next 12 months, which five are you most worried about (as far as negative impacts to your household, household members' livelihoods and/or the household's agriculture/livestock/aquaculture)?
[Enumerator to list up to five events, from "most worried about" (1") to "less worried about". Enumerator can provide examples of specific events only if respondent does not understand the question once it is read twice.]

29) For these events, **how damaging** would each be for your household? *["likely severity"]*

30) For these events, **how likely** is it that the event will occur in the next 12 months? *["likely frequency"]*

Don't know (-1)	Not very worried about any negative events (-2)		
Likely severity=	Low-minor (1)	Medium-moderate (2)	High-major (3)
Likely frequency=	Unlikely (1)	Likely (2)	Very likely (3)

1.Drought	2.Dry spell	3.Flood	4.Erratic rainfall
5.Acid rain	6.Frost	7.Hail	8.Snow or blizzard
9.Earthquake	10.Volcanic eruption	11.Typhoon/hurricane	12.Tornado
13.Strong wind	14.Dust storm	15.High temperatures	16.Low temperatures
17.Subzero temperatures	18.Fire	19.Insect attack	20.Crop pests
21.Lack of fertilizer &/or too expensive	22.Bad seeds	23.Soil problems	24.Livestock disease
25.Irrigation problems	26.Labor shortage	27.Theft	28.Low market prices for crops / livestock
29.Poor market access	30.Family sickness	31.Debt	32.Local conflict
33.National conflict	34.Taxes	35.Unemployment	36.Lose house
37.Personal violence	38.Corruption	39.Imprisonment	40.Other, specify:

9.2 Coping Ability

This subcomponent attempts to assess the household's ability to cope with natural and/or socio-economic shocks/hazards.

(Additional note: the valuations [see the User's Guide] for the items listed in the table to the right may not apply perfectly to all situations. User's are encouraged to check the valuations and determine their applicability.)

31) If two or three of the five negative events you just mentioned *[in question 28]* were to occur in the next 12 months, what are the three main ways your household would likely react (cope)?

Don't know (-1) | Primary strategy [ ] | Secondary strategy [ ] | Tertiary strategy [ ]

1.Seek off-farm work	2.Children help more than usual with household work	3.Ask friends to help with farm labor or business	4.Ask family to help with farm labor or business
5.Reduce healthcare spending	6.Reduce alcohol consumption	7.Reduce meat consumption	8.Reduce fuel consumption
9.Use savings or sell jewelry	10.Sell livestock	11.Sell stored grain	12.Sell durable goods
13.Plant fewer crops next growing season	14.Postpone payment of debts	15.Borrow money from relatives	16.Borrow money from friends
17.Send children to work outside the household	18.Borrow money from bank or other financial service provider	19.Borrow money from cooperative or village fund (community-based source)	20.Take children out of school so they can work
21.Lease farmland	22.Sell farmland	23.Sell business	24.Beg for money/food
25.Sell/leave home (live with relatives in area)	26.Sell/leave home (move to another area)	27.Rely on group insurance	28.Rely on private insurance
29.Rely on local government	30.Rely on national government	31.Rely on aid organizations	32.Seek technical assistance
33. Work two jobs	34. Start a business	35. Seek medical treatment	36. Other, specify:

9.3 Recovery Ability

This subcomponent attempts to assess the household's ability to recover from natural and/or socio-economic shocks/hazards.

32.1) If one or two of the negative events you just mentioned *[in question 28]* were to occur in the next 12 months, how long do you think it would take for your household to return to a satisfactory situation? *[Record answer in months (for example, 2 years = 24 months)]*

Don't know (-1) | Less than one month (-2) | Months= [ ] | Our household could not recover (-3)

32.2) If in an extreme disaster (of any sort) your household's home was completely destroyed, but your family members were not injured, how long do you think it would take for your household to rebuild your home? *[Record answer in months (for example, 2 years = 24 months)]*

Don't know (-1) | We would move (-2) | Months = [ ] | Our household could not rebuild (-3)

32.3) If one or two of the negative events you just mentioned *[in question 28]* were to occur in the next 12 months, who do you think would be most likely to assist your household?

No one (1)	Family (2)	Friends (3)	Insurance company (4)
Financial institution (5)	Local government (6)	National govt. (7)	Government (general) (8)
Aid organizations (9)	Don't know (10)	Other, specify (11):	

10. Gender & Social Equality

This component measures the equality of access to education and healthcare for females and males, as well as the degree of social equality in the village/area.

10.1 Access to Education

This subcomponent attempts to assess the equality of children's access to education.

4.1) What is the highest level of schooling the female children in your household will **likely** achieve?

No female children (-1)	Don't know (-2)
Highest likely level =	

4.2) What is the highest level of schooling the male children in your household will **likely** achieve?

No male children (-1)	Don't know (-2)
Highest likely level =	

1. No formal education
2. Primary school (age 5 or 6 until age 11 or 12)
3. Junior school (age 11 or 12 until age 14 or 15)
4. High school (age 14 or 15 until age 18 or 19)
5. Technical or vocational school (post Junior school or High school, usually 2 years)
6. College or university (post high school, 3 to 5 years)
7. Advanced degree (Masters, MBA, PhD, etc.)

10.2 Access to Healthcare

This subcomponent attempts to assess the equality of access to healthcare for women and men.

8.1) For the majority of the households in your village/area, do you think there is a better chance for a woman or a man to receive healthcare when needed?

Women (1)	Men (2)	About the same (3)	Don't know (4)

8.2) Do you think the healthcare centers in your village/area (within two hours distance from your home) are **usually** able to provide women with adequate healthcare when they seek it?

There are no healthcare centers in our village-area (1)	No (2)	Rarely (3)	Sometimes (4)
Often (5)	Always (6)	Yes, but since the doctor is male, women prefer not to go (7)	

10.3 Social Equality

This subcomponent attempts to assess the degree of social equality in the village/area and how/if it had changed.

Information to be collected from interview with village/area head teacher (or the most senior teacher available). &
Information to be collected from interview with village/area healthcare staff (and/or village leader/s).

40.1) Do some households in your village/area have fewer economic or political opportunities than others because of their religion or ethnic/minority group?

No (1)	Yes, a few households (2)	Yes, less than half of the households (3)	
Yes, about half the households (4)	Yes, more than half the households (5)	Don't know (6)	

[If respondent answered "yes" to question 40.1, then ask:]

40.2) In the last two years, how has this situation (inequality) changed?

Improved slightly (1)	Improved moderately (2)	Improved a lot (3)
Worsened slightly (4)	Worsened moderately (5)	Worsened a lot (6)
No significant change (7)	Don't know (8)	Other, specify: (9)

50 & 59) Do some households in your village/area have fewer economic or political opportunities than others because of their religion or ethnic/minority group?

No (1)	Yes, a few households (2)	Yes, less than half of the households (3)	
Yes, about half the households (4)	Yes, more than half the households (5)	Don't know (6)	

51 & 60) In the last two years, how has this situation (inequality) changed?

Improved slightly (1)	Improved moderately (2)	Improved a lot (3)
Worsened slightly (4)	Worsened moderately (5)	Worsened a lot (6)
No significant change (7)	Don't know (8)	Other, specify: (9)

Miscellaneous:
These questions are asked for data verification/triangulation, or to ensure that the same sources of data are not used more than once, or for other purposes (see the User's Guide for details).

41) What are the approximate population and number of households in your village/area?

Population		Number of households		Don't know (-1)

<NOTE: the population figure is used with the number of full-time and part-time healthcare staff in order to calculate an indicator based on healthcare staff per capita. The number of households is not used in MPAT's indicators, but is collected so that project staff can double-check their household statistics for villages, and in order to see what percentage of the households in a given village were sampled via MPAT [this information should be reported in any MPAT reports/analysis]>

42) Of all the negative **events**, natural or socioeconomic, which occurred in the region over the **last five years**, which five were the most damaging to people in your area (as far as negative impacts to their households, livelihoods and/or agriculture/livestock)?

<NOTE: this information is used in part to triangulate the data captured in question #28 (to see to what degree the occurance of past village-level shocks influcene respondent's concerns about future shocks) >

43) How many schools (for students aged 5 to 14) are there in your village/area?
What are their names?

<NOTE: this information is used to ensure data from the same school/s are not used more than once>

52) How many healthcare centers (public & private) are there within approximately 5km of your village/area's center?

Healthcare Centers	

What are their names (fill in table below)?

<NOTE: this information is used to ensure data from the same clinic/s are not used more than once>

53) How many patients can be treated (attended to) in one day (maximum capacity) at each center?

<NOTE: this information is deemed potentially useful to project staff, but is not necessarily a good indicator of the quality or availability of healthcare>

9.3 The MPAT Household Survey

The Multidimensional Poverty Assessment Tool (MPAT)
Household Survey

IFAD

Enumerator: _____	Time ____:____ to ____:____	Date (Y/M/D): 20____/____/____	
County:	Township:	Admin. Area:	Village:
Respondent's age:	gender= *M / F*	HH code:	Consent: _____
Head of the household's age:	gender= *M / F / M&F*	marital status= *married / single / divorced / widowed*	

1 How many female and male adults (age 15 and older) live and sleep in your home more than 9 months every year?
Female adults [ ] Male adults [ ] Don't know (-1)

2 How many adults live and work **outside** your household for more than 9 months every year?
Adults [ ]

3.1 How long does it take, in minutes, for the school-age children (age 5-14) in your household to go to school (by any means: for example, walking, bicycle, scooter, bus)?
[If children attend more than one school, enumerator to record the average time.]
Children in the household are not school-age (-1) *[skip to question 4.1]* | Children usually live at school (-2)
# of minutes = [ ] | Household has no children (-3) *[skip to question 5.1]*
The school-aged children in the household do not regularly attend school (-4) | Don't know (-5)

3.2 Can your household afford your children's school fees and school supplies?
No (1) | Rarely (2) | Sometimes (3) | Usually (4)
Yes (5) | Household does not pay the fees and cannot afford supplies (6)
Household does not pay fees, but can afford supplies (7) | Household does not pay fees or supply costs (8)

4.1 What is the highest level of schooling the female children in your household will **likely** achieve?
No female children (-1) | Don't know (-2)
Highest likely level = [ ]

4.2 What is the highest level of schooling the male children in your household will **likely** achieve?
No male children (-1) | Don't know (-2)
Highest likely level = [ ]

1. No formal education
2. Primary school (age 5 or 6 until age 11 or 12)
3. Junior school (age 11 or 12 until age 14 or 15)
4. High school (age 14 or 15 until age 18 or 19)
5. Technical or vocational school (post Junior school or High school, usually 2 years)
6. College or university (post high school, 3 to 5 years)
7. Advanced degree (Masters, MBA, PhD, etc.)

5.1 In the last 12 months, how often has someone in your household been ill (any non-serious illness)?
Never (1) | Once or twice (2) | Once a month (3) | A few times a month (4)
About once a week (5) | A few times a week (6) | Every day (7) | Don't know (8)

5.2 In the last 12 months, how often has someone in your household been seriously ill (meaning they are so ill that they stay in bed, or lying down, for two or more days at a time)?
Never (1) | Once or twice (2) | Once a month (3) | A few times a month (4)
About once a week (5) | A few times a week (6) | Every day (7) | Don't know (8)

6.1 How much time does it take for members of your household to reach the nearest health center which can diagnosis simple illness, or treat simple injuries, and prescribe basic medicines?
Household self-diagnoses, self-medicates for simple illnesses (-1) | No health center in the area (-2)
Health center is too far to travel to (-3) *[if no center, or center too far, skip to question 7.1]* | Minutes = [ ]

6.2 Does this health center have enough medical supplies to provide adequate healthcare?
Never (1) | Rarely (2) | Sometimes (3) | Often (4) | Always (5) | Don't know (6)

6.3 How much time does it take for members of your household to reach the nearest health center which can diagnosis and treat complicated or serious illnesses or injuries (can perform surgery)?
No health center in area (-1) | Health center too far to travel to (-2) | Don't know (-3) | Minutes = [ ]

7.1 Can your household afford professional treatment for non-serious illness or injury (if you choose to)?
No (1) | Yes, if money is borrowed (2) | Yes, with much difficulty (3) | Yes, with some difficulty (4)
Yes, because government or employer helps pay for treatment (5) | Yes, household can afford it (6)

7.2 Can your household afford professional treatment for serious illness or injury?

No (1)	Yes, if money is borrowed (2)	Yes, with much difficulty (3)	Yes, with some difficulty (4)
Yes, because government or employer helps pay for treatment (5)		Yes, household can afford it (6)	

8.1 For the majority of the households in your village/area, do you think there is a better chance for a woman or a man to receive healthcare when needed?

Women (1)	Men (2)	About the same (3)	Don't know (4)

8.2 Do you think the healthcare centers in your village/area (within two hours distance from your home) are **usually** able to provide women with adequate healthcare when they seek it?

There are no healthcare centers in our village-area (1)	No (2)	Rarely (3)	Sometimes (4)
Often (5)	Always (6)	Yes, but since the doctor is male, women prefer not to go (7)	

9.1 *[Information to be collected by enumerator while in the household (ask only if unable to determine answer visually)]*
What is the **primary** construction material of the housing unit's exterior walls?

1. Stone & mortar	2. Metal sheeting	3. Reinforced concrete	4. Brick
5. Logs	6. Earth	7. Mud or earth bricks	8. Mud & straw
9. Thin wood	10. Bamboo	11. Thick plastic	12. Thin plastic
13. Reeds	14. Thick fabric	15. Thin fabric	16. Other, specify:

9.2 *[Information to be collected by enumerator while in the household (ask only if unable to determine answer visually)]*
What is the **primary** construction material of the housing unit's main roof?

1. Stone & mortar	2. Tiles or shingles	3. Synthetic roofing material	4. Metal sheeting
5. Reinforced concrete	6. Thin wood	7. Thick wood	8. Bamboo
9. Thick plastic	10. Thin plastic	11. Straw or reeds	12. Other, specify:

9.3 Can your home withstand strong winds, severe rain, snow or hail without significant damage?

No (1)	Yes (2)	Yes, with minor damage (3)	Perhaps, but with significant damage likely (4)
Little to no extreme weather in this region (5)		Don't know (6)	

10.1 What is the **primary** source of light your home uses when it is dark? ____

10.2 What is the **primary** fuel source your household uses for cooking? ____

10.3 What is the **primary** fuel source your household uses for heat? ____

1. None	2. Low-voltage electricity from grid [legal or illegal connection]	
3. Medium or high-voltage electricity from grid [legal or illegal connection]		
4. Electricity from a generator	5. Electricity from solar cells, wind turbine or small, hydroelectric dam	
6. Liquid fuel [petrol, kerosene]		
7. Gas fuel [methane from tank, biogas]	8. Coal or charcoal	
9. Vegetable or animal based fats or oils	10. Candle, paraffin wax, or battery-powered source	12. Heat not needed in region
11. Wood, sawdust, grass or other natural material	13. Don't know	

11.1 What type of toilet facility does your household usually use?

None (open defecation) (1)	Communal, open pit (2)
Communal, enclosed pit (3)	Communal, enclosed improved-ventilation pit (4)
Communal, enclosed pour-flush (5)	Communal, enclosed flush (6)
Communal, compost or biogas (7)	Private, open pit (8)
Private, enclosed pit (9)	Private, enclosed improved-ventilation pit (10)
Private, enclosed pour-flush toilet (11)	Private, enclosed flush (12)
Private, compost or biogas (13)	Other, specify (14):

"Open" means there is no structure, or a structure with no roof. "Enclosed" means there is a structure with any sort of roof. "Communal" means the facility is shared by more than 3 households. "Private" means the facility is used by 1-2 households.

11.2 *[If the household uses a toilet facility of any kind, ask:]* How often is the toilet unusable?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Don't know (6)

[Enumerator to remind respondent "all responses are confidential"]

12.1 What does your household usually do with food waste/remains (any parts not consumed by people in the household)? ____

12.2 What does your household usually do with non food waste/garbage? ____

12.3 What does your household usually do with wastewater (for example, from bathing, cleaning, the toilet)? ____

1. Discard close to a house [within 25 meters]	2. Discard near a house [25 to 75 meters from the house]	
3. Discard far from a house [75 meters or more]	4. Feed to livestock	5. Burn it
6. Feed to pets or guard dogs	7. Compost it	
8. Use for biogas generation	9. Sell to vender	
10. It is collected regularly [organized garbage collection within 75 meters of house]	11. It is collected regularly [organized garbage collection further than 75 meters from house]	
12. Put down drain [piped sewage network]	13. Use to water crops grown for livestock fodder	
14. Use to water vegetable garden	15. Other, specify:	

13.1 How many times a week do most members (the majority) of your household clean their teeth?

Never (1)	Rarely (2)	One or two days a week (3)	Most days of the week (4)
Usually once a day (5)	Usually two or three times a day (6)		Don't know (7)

13.2 How often do members of your household clean their hands before eating a meal?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Don't know (6)

13.3 How often do members of your household clean their hands after defecating?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Don't know (6)

14 What is the **main source** (meaning, the source water comes from immediately before being used) of the water your household uses for drinking, cooking, bathing and cleaning inside the home?

During the rainy season ☐	During the dry season ☐	During most of the year ☐
No rainy season in our area (-1)	No dry season in our area (-2)	Don't know (-3)

1. Private borehole (< 20m deep)		2. Piped from water treatment plant	
3. Communal borehole (< 20m deep)		4. Spring	5. Private borehole (> 20m deep)
6. River	7. Communal borehole (> 20m deep)	8. Stream	9. Private well (< 20m deep)
10. Pond	11. Communal well (< 20m deep)		12. Water vender
13. Private well (> 20m deep)		14. Rainwater harvesting container (open)	
15. Communal well (> 20m deep)		16. Rainwater harvesting container (closed)	
17. Large dam (built & managed by government, company or collective)		18. Small dam (built & managed by 1-15 households)	
19. Irrigation canal		20. Other (specify):	

["Private" means used primarily by the household, but may also be shared with 2-4 other households, and is located within 100 meters of the household. "Communal" means it is shared by 5 or more households.]

15 Approximately how much time (in minutes) does it take a member of your household to collect enough water for your household's drinking, cooking, bathing and cleaning needs for a normal (average) day?
[If water is collected from a piped supply in the household record "1" minute]

During the rainy season ☐	During the dry season ☐	During most of the year ☐
No rainy season in our area (-1)	No dry season in our area (-2)	Don't know (-3)

16 Does your household treat water before drinking it (any treatment method: boiling, allowing to settle, filter, chemical treatment, etc.)?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)
Always (5)	No treatment is necessary (6)		

17.1 During the last 12 months, for how many months was your household's main source of water sufficient to meet your household's drinking, cooking, bathing and cleaning needs?

Months: ☐	Don't remember (-1)	

17.2 How often do you worry there will not be enough water from your household's main water source to satisfy your household's drinking, cooking, bathing and cleaning needs?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

18 Can your household usually afford to pay the fees (direct payments only, not maintenance fees) for using water from your household's main water source?

No (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	They do not need to pay for water (6)

19 Generally, what do you think the quality of your households' water is?

Don't know (1)	Very bad (2)	Poor (3)	Fair (4)
Satisfactory (5)	Good (6)	Very good (7)	

20 Does your household have access to land for agriculture, livestock or aquaculture?

Yes (1)	No (2) *[skip to question 28]*

21 How much land does your household have for agriculture (for crops, grass, trees, etc.)?

Hectares: ☐	Don't know (-1)	*[Enumerator to convert local measurement to hectares]*

22.1 Is the majority of your household's land flat, gently-sloping or steep?

Don't know (1)	Steep (2)	Gently sloping (3)	Flat (4)	Terraced (5)	Mixed (6)

22.2 What kind of soil covers the majority of your household's land?

Don't know (1)	Stony-gravely (2)	Clay (3)	Loamy [mixed clay, sand &/or silt] (4)	
Sandy (5)	Wet (6)	Droughty (7)	Mixed, specify (8):	Other, specify (9):

23.1 During the last two years, was your household able to make, or buy, enough compost/manure or artificial fertilizer for each growing season?

Household does not think they need to use compost/manure or fertilizer (1)				
No (2)	Rarely (3)	Sometimes (4)	Often (5)	Always (6)

23.2 During the last two years, was your household able to afford enough seeds for each growing season?

Not necessary because household saved seeds (1)	No (2)	Rarely (3)	Sometimes (4)
Often (5)	Always (6)	Other, specify (7):	

23.3 Is there usually enough water for your household's crops?

Dry season		Never (1)	Rarely (2)	Sometimes (3)	Often (4)
Rest of the year		Always (5)	No dry season in our area (6)	Few, or no, crops grown (7)	

24.1 Is there usually enough water for your household's livestock?

Dry season		Little, or no, livestock (1) *[skip to question 25.1]*		Never (2)	Rarely (3)
Rest of the year		Sometimes (4)	Often (5)	Always (6)	No dry season in our area (7)

24.2 During the last two years, how often was your household able to grow, collect or buy enough fodder?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

25.1 Is there usually enough water for your household's aquaculture?

Dry season		Little, or no, aquaculture (1) *[skip to question 26]*		Never (2)	Rarely (3)
Rest of the year		Sometimes (4)	Often (5)	Always (6)	No dry season in our area (7)

25.2 During the last two years, how often was your household able to make or buy enough fish feed?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

26 Does your household usually have enough people to work/manage your farm?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

27 What kind of ownership does your household have for your land?

1. Illegal access, squatting	2. Leasehold between 10-20 years
3. Share-cropping arrangement	4. Leasehold between 21-30 years
5. Rented for less than 12 months	6. Leasehold between 31-40 years
7. Leasehold less than 5 years	8. Leasehold for period of more than 40 years
9. Leasehold less than 10 years	10. Freehold (legally owned)

28 Of all the possible negative **events**, natural or socioeconomic, which could occur in the next 12 months, which five are you most worried about (as far as negative impacts to your household, household members' livelihoods and/or the household's agriculture/livestock/aquaculture)?
*[Enumerator to list up to five events, from "most worried about" (1st) to "less worried about". Enumerator can provide examples of specific events **only** if respondent does not understand the question once it is read twice.]*

29 For these events, **how damaging** would each be for your household? *["likely severity"]*

30 For these events, **how likely** is it that the event will occur in the next 12 months? *["likely frequency"]*

Don't know (-1)	Not very worried about any negative events (-2)		
Likely severity=	Low-minor (1)	Medium-moderate (2)	High-major (3)
Likely frequency=	Unlikely (1)	Likely (2)	Very likely (3)

1st	Event # =		Likely severity=		Likely frequency=	
2nd	Event # =		Likely severity=		Likely frequency=	
3rd	Event # =		Likely severity=		Likely frequency=	
4th	Event # =		Likely severity=		Likely frequency=	
5th	Event # =		Likely severity=		Likely frequency=	

1.Drought	2.Dry spell	3.Flood	4.Erratic rainfall
5.Acid rain	6.Frost	7.Hail	8.Snow or blizzard
9.Earthquake	10.Volcanic eruption	11.Typhoon/hurricane	12.Tornado
13.Strong wind	14.Dust storm	15.High temperatures	16.Low temperatures
17.Subzero temperatures	18.Fire	19.Insect attack	20.Crop pests
21.Lack of fertilizer &/or too expensive	22.Bad seeds	23.Soil problems	24.Livestock disease
25.Irrigation problems	26.Labor shortage	27.Theft	28.Low market prices for crops / livestock
29.Poor market access	30.Family sickness	31.Debt	32.Local conflict
33.National conflict	34.Taxes	35.Unemployment	36.Lose house
37.Personal violence	38.Corruption	39.Imprisonment	40.Other, specify:

31 If two or three of the five negative events you just mentioned *[in question 28]* were to occur in the next 12 months, what are the three main ways your household would likely react (cope)?

Don't know (-1) | Primary strategy ☐ | Secondary strategy ☐ | Tertiary strategy ☐

1.Seek off-farm work	2.Children help more than usual with household work	3.Ask friends to help with farm labor or business	4.Ask family to help with farm labor or business
5.Reduce healthcare spending	6.Reduce alcohol consumption	7.Reduce meat consumption	8.Reduce fuel consumption
9.Use savings or sell jewelry	10.Sell livestock	11.Sell stored grain	12.Sell durable goods
13.Plant fewer crops next growing season	14.Postpone payment of debts	15.Borrow money from relatives	16.Borrow money from friends
17.Send children to work outside the household	18.Borrow money from bank or other financial service provider	19.Borrow money from cooperative or village fund (community-based source)	20.Take children out of school so they can work
21.Lease farmland	22.Sell farmland	23.Sell business	24.Beg for money/food
25.Sell/leave home (live with relatives in area)	26.Sell/leave home (move to another area)	27.Rely on group insurance	28.Rely on private insurance
29.Rely on local government	30.Rely on national government	31.Rely on aid organizations	32.Seek technical assistance
33. Work two jobs	34. Start a business	35. Seek medical treatment	36. Other, specify:

32.1 If one or two of the negative events you just mentioned *[in question 28]* were to occur in the next 12 months, how long do you think it would take for your household to return to a satisfactory situation? *[Record answer in months (for example, 2 years = 24 months)]*

Don't know (-1) | Less than one month (-2) | Months= ☐ | Our household could not recover (-3)

32.2 If in an extreme disaster (of any sort) your household's home was completely destroyed, but your family members were not injured, how long do you think it would take for your household to rebuild your home? *[Record answer in months (for example, 2 years = 24 months)]*

Don't know (-1) | We would move (-2) | Months = ☐ | Our household could not rebuild (-3)

32.3 If one or two of the negative events you just mentioned *[in question 28]* were to occur in the next 12 months, who do you think would be most likely to assist your household?

No one (1)	Family (2)	Friends (3)	Insurance company (4)
Financial institution (5)	Local government (6)	National govt. (7)	Government (general) (8)
Aid organizations (9)	Don't know (10)	Other, specify (11):	

33.1 During the last 12 months, how often did any member of your household eat fewer meals, or smaller portions, than usual because there was not enough food?

Never (1)	Once or twice (2)	Once a month (3)	A few times a month (4)
About once a week (5)	A few times a week (6)	Every day (7)	Don't know (8)

33.2 During the last 12 months, how often did any member of your household go to sleep at night hungry?

Never (1)	Once or twice (2)	Once a month (3)	A few times a month (4)
About once a week (5)	A few times a week (6)	Every day (7)	Don't know (8)

33.3 During the past 12 months, did your household experience a period of time longer than two weeks when there was not enough food? (if "yes", how many such periods)?

No (1)	Yes, one (2)	Yes, two (3)	Yes, three (4)
Yes, four (5)	Yes, more than four (6)	Don't remember (7)	Other, specify: (8)

33.4 During the past 12 months, did your household ever experience one full day with no food to eat?

Never (1)	Once or twice (2)	Approximately once a month (3)	
Approximately every two weeks (4)	Approximately every week (5)	Don't know (6)	

34 During the last 12 months, how often did the majority of your household eat the following foods?

.1	Grains (cereals, bread, rice, pasta)	
.2	Roots &/or tubers (potatoes)	
.3	Vegetables	
.4	Fruits	
.5	Dairy &/or eggs	
.6	Meat &/or fish-seafood	
.7	Nuts &/or legumes (and/or derivatives, tofu, etc.)	

1. Never	2. Rarely
3. Once a month	4. A few times a month
5. About once a week	6. A few times a week
7. Every day	
8. Not eaten for religious or cultural reasons	

35.1	During the last 12 months, has anyone in your household managed/run their own non-agricultural business? If "yes", for how many months (out of the last 12 months)? No (1) | Yes, 1-2 months (2) | Yes, 3-4 months (3) | Yes, 5-6 months (4) | Yes, 7+ months (5)
35.2	During the last 12 months, has anyone in your household provided others a skilled service (for example, equipment repair, tailoring, construction) for money or barter? No (1) | Yes, a few times (2) | Yes, about once a month (3) | Yes, a few times a month (4) Yes, a few times a week (5) | Yes, usually every day (6)
36	If your household wanted to borrow money from a bank or other financial service provider (not including friends or relatives) would it be easy to borrow money? No (1) | Probably not (2) | Probably yes (3) | Definitely yes (4) | Don't know (5)
37.1	*[Enumerator to remind respondent that all responses are confidential]* Is your household currently in debt? No (1) *skip to question 38.1* | Yes, a little (2) | Yes a moderate amount (3) | Yes, a lot (4)
37.2	To whom is the majority of this debt owed? 1. Relatives | 2. Friends | 3. Village fund 4. Village government | 5. Rural credit cooperative | 6. Private money lender 7. Microfinance institution | 8. Government bank | 9. Private bank 10. Joint village & bank fund | 11. Joint development project & bank fund | 12. Other, specify:
38.1	How many of the people (adults and children) in your household usually have adequate footwear? None (1) | Less than half of the household (2) | About half of the household (3) Most of the household (4) | All household members do (5) | Don't know (6)
38.2	How many of the people (adults and children) in your household have sufficient clothing for severe weather (for example, very hot and sunny, very cold or very wet weather, depending on the area)? None (1) | Less than half of the household (2) | About half of the household (3) Most of the household (4) | All household members do (5) | Don't know (6)
39	How many televisions does your household usually have? Number of televisions [ ]
40.1	Do some households in your village/area have fewer economic or political opportunities than others because of their religion or ethnic/minority group? No (1) | Yes, a few households (2) | Yes, less than half of the households (3) Yes, about half the households (4) | Yes, more than half the households (5) | Don't know (6)
40.2	*[If respondent answered "yes" to question 40.1, then ask:]* In the last two years, how has this situation (inequality) changed? Improved slightly (1) | Improved moderately (2) | Improved a lot (3) Worsened slightly (4) | Worsened moderately (5) | Worsened a lot (6) No significant change (7) | Don't know (8) | Other, specify: (9)

9.4 The MPAT Village Survey

The Multidimensional Poverty Assessment Tool (MPAT)
Village Survey

IFAD

Enumerator Supervisor: _____ Date (Y/M/D): 20____/____/____

County: Township: Admin. Area: Village:

Information to be collected from interview with village/area government official/s

41 What are the approximate population and number of households in your village/area?

Population		Number of households		Don't know (-1)

42 Of all the negative **events**, natural or socioeconomic, which occurred in the region over the **last five years**, which five were the most damaging to people in your area (as far as negative impacts to their households, livelihoods and/or agriculture/livestock)?

1.Drought	2.Dry spell	3.Flood	4.Erratic rainfall
5.Acid rain	6.Frost	7.Hail	8.Snow or blizzard
9.Earthquake	10.Volcanic eruption	11.Typhoon/hurricane	12.Tornado
13.Strong wind	14.Dust storm	15.High temperatures	16.Low temperatures
17.Subzero temperatures	18.Fire	19.Insect attack	20.Crop pests
21.Lack of fertilizer &/or too expensive	22.Bad seeds	23.Soil problems	24.Livestock disease
25.Irrigation problems	26.Labor shortage	27.Theft	28.Low market prices for crops / livestock
29.Poor market access	30.Family sickness	31.Debt	32.Local conflict
33.National conflict	34.Taxes	35.Unemployment	36.Lose house
37.Personal violence	38.Corruption	39.Imprisonment	40.Other, specify:

*Using these codes, record pertinent **details** about each negative event (especially: when it occurred, its duration, impact on households, and any recovery efforts)*

Event:		Details:
Event:		Details:
Event:		Details:
Event:		Details:
Event:		Details:

Information to be collected from interview with village/area's head <u>teacher</u> (or the most senior teacher available).

43 How many schools (for students aged 5 to 14) are there in your village/area?
What are their names?

School Name	notes
1.	
2.	
3.	
4.	

For all of these schools:

44.1 How many full-time (work almost every school day) and part-time (work roughly half the school days) teachers are there?

Full-time teachers		Part-time teachers	

44.2 Are full-time teachers provided subsidized, or free, housing? If so, what is the quality of the housing?

No (1)	Yes, provided poor-quality housing (2)	Yes, provided adequate quality housing (3)
Yes, provided above-average housing (4)	Yes, provided high-quality housing (5)	

45 What is the total number of female and male students (age 5 to 14) who attend classes regularly (at least 4 days a week)?

Female students		Male students	

46 Do the teachers have adequate teaching supplies to teach effectively?

No (1)	A few teachers do (2)	About half the teachers do (3)
Most teachers do (4)	Yes, all teachers do (5)	Don't know (6)

47 Do the students have adequate school supplies to learn/study effectively?

No (1)	A few students do (2)	About half the students do (3)
Most students do (4)	Yes, all students do (5)	Don't know (6)

48 In the last two school years, how has the overall performance of the majority of the students changed?

Improved slightly (1)	Improved moderately (2)	Improved a lot (3)
Worsened slightly (4)	Worsened moderately (5)	Worsened a lot (6)
No significant change (7)	Don't know (8)	Other, specify: (9)

49 How many potential students was the school/s unable to accept due to limited places (or sleeping space in the school dorms) and/or limited school supplies?

None (-1)	Number of potential students		Don't know (-2)

50 Do some households in your village/area have fewer economic or political opportunities than others because of their religion or ethnic/minority group?

No (1)	Yes, a few households (2)	Yes, less than half of the households (3)	
Yes, about half the households (4)	Yes, more than half the households (5)	Don't know (6)	

51 In the last two years, how has this situation (inequality) changed?

Improved slightly (1)	Improved moderately (2)	Improved a lot (3)
Worsened slightly (4)	Worsened moderately (5)	Worsened a lot (6)
No significant change (7)	Don't know (8)	Other, specify: (9)

Information to be collected from interview with village/area's <u>healthcare staff</u> (and/or village leader/s).

52 How many healthcare centers (public & private) are there within approximately 5km of your village/area's center?

Healthcare Centers [ ]

What are their names (fill in table below)?

53 How many patients can be treated (attended to) in one day (maximum capacity) at each center?

54 Does each center usually have enough medical supplies to provide adequate healthcare?

Health center name	Max daily patient capacity	Enough medical supplies*	notes
1.			
2.			
3.			
4.			
5.			
…	…	…	…

*Never (1) | Rarely (2) | Sometimes (3) | Often (4) | Always (5)

55 How many full-time (work most days a week) and part-time (work 1 to 3 days a week) healthcare staff work in these health center/s

Full-time staff [ ] Part-time staff [ ]

56 How many years have they been working (total, your village/area and elsewhere)?

57 How many years of formal training have they completed?

	years working	years of training		years working	years of training
Full-time staff 1			Part-time staff 1		
Full-time staff 2			Part-time staff 2		
Full-time staff 3			Part-time staff 3		
Full-time staff 4			Part-time staff 4		
Full-time staff 5			Part-time staff 5		
…	…	…	…	…	…

58 In the last 24 months, how has the overall health of the majority of the people in your village/area changed?

Improved slightly (1)	Improved moderately (2)	Improved a lot (3)
Worsened slightly (4)	Worsened moderately (5)	Worsened a lot (6)
No significant change (7)	Don't know (8)	Other, specify: (9)

59 Do some households in your village/area have fewer economic or political opportunities than others because of their religion or ethnic/minority group?

No (1)	Yes, a few households (2)	Yes, less than half of the households (3)	
Yes, about half the households (4)	Yes, more than half the households (5)	Don't know (6)	

60 In the last two years, how has this situation (inequality) changed?

Improved slightly (1)	Improved moderately (2)	Improved a lot (3)
Worsened slightly (4)	Worsened moderately (5)	Worsened a lot (6)
No significant change (7)	Don't know (8)	Other, specify: (9)

Chapter 10 **Conclusions**

Alasdair Cohen

Figure 44
Children in Gansu Province, China

> "There may be as many poor and as many perceptions of poverty as there are human beings. The fantastic variety of cases entitling a person to be called poor in different cultures and languages is such that, all in all, everything and everyone under the sun could be labelled as poor, in one way or another."
>
> Rahnema, 1992: 158

As the above quote makes clear, "poverty" is a relative concept with an essentially limitless number of definitions. Those who are judged poor by others may see themselves as rich, and vice versa. MPAT does not try to define rural poverty *per se*; rather it takes a step back from assessment modalities that are overly focused on economic- and consumption-oriented indicators and strives to provide an overview of fundamental and relatively universal dimensions germane to rural livelihoods, rural life, and thus to rural poverty.

MPAT is a necessarily imperfect tool. Even with over a year's worth of work and the contributions of a great number of people from a wide variety of backgrounds and regions, the actual mechanics of the tool remain debatable – yet, as the discussion of indicators above revealed, this is unavoidable. The valuations used to convert the HH- and village-level data into numbers – which are then aggregated to calculate the subcomponents, and in turn the components – are imperfect, as are the weightings used throughout the Standardized MPAT. What must be kept in mind, however, is that there is no "perfect" formula for the valuations or the weightings. Decisions had to be made in order to have an operational tool, and every attempt was made to arrive at the best decisions

possible based on the nature of the tool and the input provided. Thus, while it may indeed be easy to criticize the valuations (e.g. why is this answer valued at "5.5" and this answer at "7", or why is this subcomponent assigned a weight of "35" instead of "40"?) it must be kept in mind that a tool such as MPAT is necessarily imperfect; at the same time it is a highly useful framework for measuring and better understanding rural poverty.

10.1 Accommodating standardization and context-specificity

"Using MPAT for comparisons across space and time is predicated on using the same sampling methodology, enumerator training, survey (accurately translated), survey administration, quality control for data entry/analysis, data valuations, weightings, etc." (Cohen, in press). Standardization means that the same tool is used the same way each time; this in turn means that if MPAT is used in the same project multiple times, then the indicators/results can be compared to each other. The same holds true if MPAT is used in different countries – this is part of MPAT's value: the ability to make comparisons across space and time. Indeed, a reliable, standardized assessment tool can support project M&E, by being implemented at project start-up (for a baseline assessment), for a mid-term review and finally for a project completion assessment.

As discussed above, most of the work in the MPA Project was focused on developing a *Standardized MPAT* based on expert weightings. The MPAT User's Guide describes the way in which MPAT's indicators are constructed. With respect to the big picture, based on the analysis of the pilot data it was agreed to use expert valuations for the survey items, and an expert weighting scheme for the subcomponent aggregation using a geometric average (as opposed to a simple arithmetic mean). This is the standard methodology for calculating MPAT's indicators. That is, the subcomponents are aggregated to yield component scores in such a way that the impact of the subcomponents which are seen to have higher priority is maximized. If one project is to be compared to another, then both must use the Standardized MPAT survey item valuations and aggregation formulas.

That said, clearly every context is different, and as such, priorities are not uniform across regions (e.g. an arid region as compared to a water-rich one), nor are valuations. Therefore, once the Standardized MPAT is calculated, users are encouraged to experiment with the subcomponent weightings in order to tailor them to best reflect the priorities in their region – that is, they can create a *Context-specific MPAT*, alongside the standardized version. In addition, users can change the values assigned to the survey items to better fit the context in a given area. While every effort was made to use valuations which should, for the most part, be universally applicable, this will not always be the case. Thus, the user can first calculate the Standardized MPAT (to compare with other projects) and then easily change the valuations and/or weightings as appropriate, in order to calculate a Context-specific MPAT. [55]

Take, for example, subcomponent 9.1, *Exposure* in the *Exposure & Resilience to Shocks* component. This was the most difficult subcomponent with respect to assigning expert valuations to the survey items. For example, what is the value (negative or positive) if a given HH is most concerned about an *earthquake* occurring? Or a *dust storm*, or *acid rain*, or a *national conflict*? The most accurate value will depend on the history of the area in question and the likely impact such an event will have on the HH. Of course, the Standardized MPAT adequately addresses the likely severity and frequency of the event,

55/ Note to potential MPAT user: The Standardized MPAT user benefits from our considerable efforts in developing and testing MPAT. Users are encouraged to customize MPAT for themselves; however they must keep in mind that the assurances which pertain to the Standardized MPAT (with respect to robustness and reliability) no longer necessarily hold true once it is changed to any great extent.

but it might well be the case that many of the valuations for the events themselves can be changed to better reflect a given context. This is, arguably, the most potentially problematic MPAT subcomponent with respect to providing valuations that accurately fit the context; thus, it should highlight the potential benefits to be gained by modifying MPAT's valuations and/or weightings.

In addition, users have the option to further enhance the MPAT survey with additional questions if they wish to capture data specific to their region or project which are not already addressed in the Standardized MPAT surveys. However, questions *can only be added to the end* of the MPAT survey (for both the HH Survey and the Village Survey) since the addition of questions anywhere else in the MPAT surveys will likely disrupt the tool's psychometric soundness, and the tool and its output will no longer be comparable to MPAT surveys used elsewhere. It perhaps goes without saying that if a Context-specific MPAT is calculated, it cannot be compared to the Standardized MPAT indicators calculated in other project/regions since the methodologies will not be the same. The MPAT User's Guide goes into greater detail with respect to how modifications can be made to MPAT.

10.2 MPAT's potential uses

MPAT has many potential uses, and thus is applicable to almost any organization concerned with rural poverty. Figure 45 illustrates how MPAT profiles are displayed using the MPAT Excel spreadsheet (discussed in the MPAT User's Guide). The suggested uses below are not exhaustive, but are meant to stimulate thinking with respect to how MPAT might be used.

10.2.1 Policy dialogue and national programme support

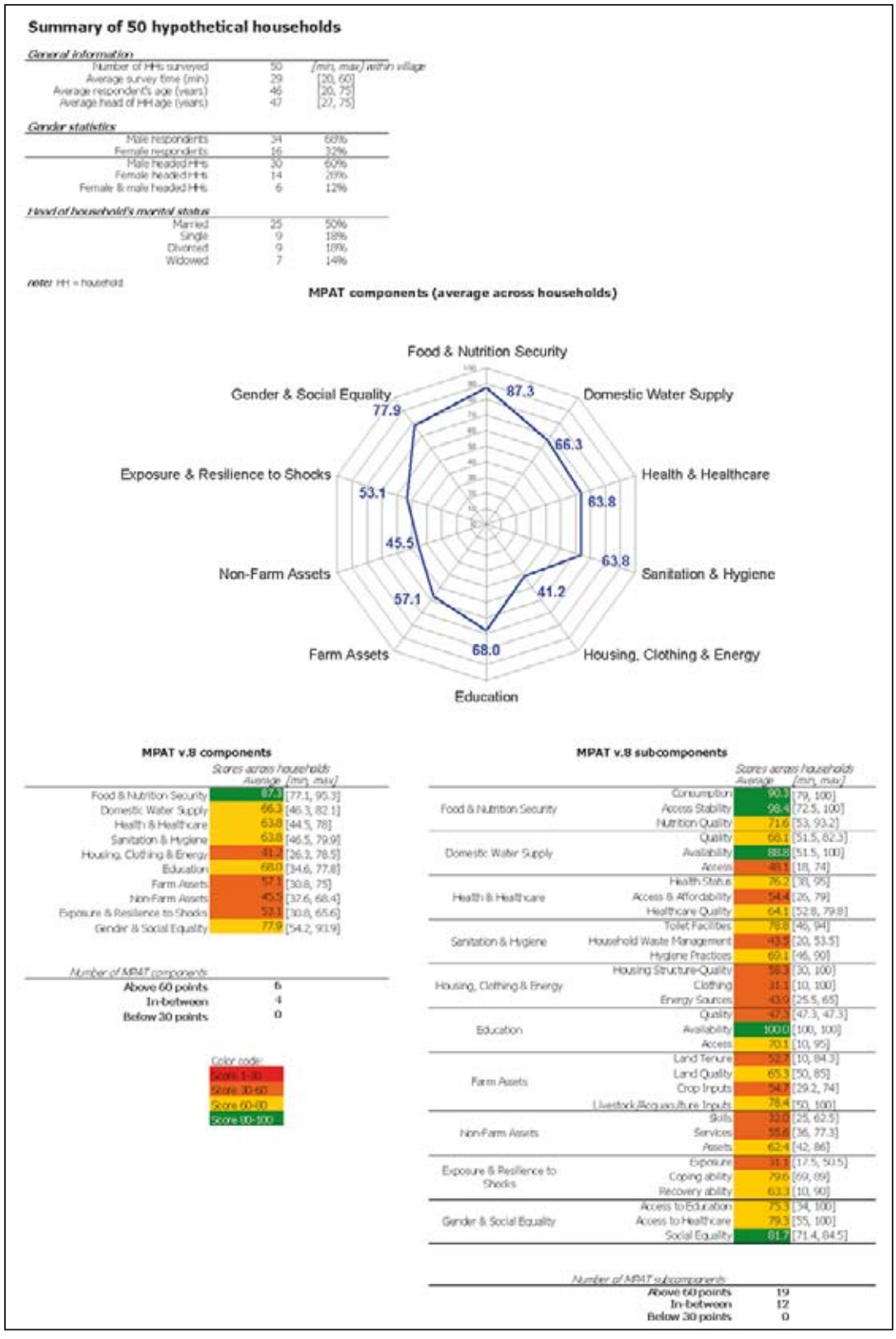
With respect to policy dialogue, there are several uses for MPAT. At a national level MPAT no doubt provides a means of stimulating discussion around country-level poverty reduction strategies. For example, in India the government now has the capital needed to support large-scale, national plans and is therefore focusing on "convergence" as a means of harmonizing line agency efforts towards addressing common goals.[56] In this context, MPAT could be used as a tool for dialogue with all of the line agencies (e.g. Department of Health, Department of Education) in order to involve them and to assist in the allocation of specific tasks among the agencies. In this way, MPAT could potentially provide an incentive of sorts for different line agencies to deliver services, especially if progress is tracked over time. Moreover, such a mechanism would provide a means of demonstrating to the public that expenditures were properly targeted and used.

MPAT provides a framework for dialogue with government ministries concerning their priorities at a country level. For IFAD (and other donors) this use provides a means of discussing how such goals/objectives might be better incorporated into *country strategic opportunities programmes* (COSOPs).[57] Indeed, with respect to IFAD operations, using MPAT at the local level (as it is intended to be implemented) provides an additional means of supporting results-based COSOPs and direct supervision efforts. What is more, MPAT can be used as an education tool to help very sector-oriented service providers or government agencies better understand the synergies inherent in their efforts, as well as the potential impacts they may, or may not, have on other sectors. Put more bluntly, MPAT can be used to show myopic or sector-oriented stakeholders that there is a common agenda.[58]

56/ This specific use was articulated by Mattia Prayer Galletti.

57/ "A COSOP is a framework for making strategic choices about IFAD operations in a country, identifying opportunities for IFAD financing, and for facilitating management for results. The central objective of a COSOP is to ensure that IFAD country operations produce a positive impact on poverty" (http://www.ifad.org/operations/policy/cosop.htm).

58/ This notion was articulated by Rudolph Cleveringa at the MPA wrap-up workshop, 11 September 2009.



Summary of 50 hypothetical households

General information

Number of HHs surveyed	50	*[min, max] within village*
Average survey time (min)	29	[20, 60]
Average respondent's age (years)	46	[20, 75]
Average head of HH age (years)	47	[27, 75]

Gender statistics

Male respondents	34	68%
Female respondents	16	32%
Male headed HHs	30	60%
Female headed HHs	14	28%
Female & male headed HHs	6	12%

Head of household's marital status

Married	25	50%
Single	9	18%
Divorced	9	18%
Widowed	7	14%

note: HH = household

MPAT components (average across households)

MPAT v.8 components

	Scores across households: Average	*[min, max]*
Food & Nutrition Security	87.3	[77.1, 95.3]
Domestic Water Supply	66.3	[46.3, 82.1]
Health & Healthcare	63.8	[44.5, 78]
Sanitation & Hygiene	63.8	[46.5, 79.9]
Housing, Clothing & Energy	41.2	[26.3, 78.5]
Education	68.0	[34.6, 77.8]
Farm Assets	57.1	[30.8, 75]
Non-Farm Assets	45.5	[37.6, 68.4]
Exposure & Resilience to Shocks	53.1	[30.8, 65.6]
Gender & Social Equality	77.9	[54.2, 93.9]

Number of MPAT components

Above 60 points	6
In-between	4
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

MPAT v.8 subcomponents

		Scores across households: Average	*[min, max]*
Food & Nutrition Security	Consumption	90.3	[79, 100]
	Access Stability	98.4	[72.5, 100]
	Nutrition Quality	71.6	[53, 93.2]
Domestic Water Supply	Quality	68.1	[51.5, 82.3]
	Availability	88.8	[51.5, 100]
	Access	48.1	[18, 74]
Health & Healthcare	Health Status	76.2	[38, 95]
	Access & Affordability	54.4	[26, 79]
	Healthcare Quality	64.1	[52.8, 79.8]
Sanitation & Hygiene	Toilet Facilities	78.8	[46, 94]
	Household Waste Management	43.5	[20, 53.5]
	Hygiene Practices	69.1	[46, 90]
Housing, Clothing & Energy	Housing Structure Quality	58.3	[30, 100]
	Clothing	31.1	[10, 100]
	Energy Sources	43.9	[25.5, 65]
Education	Quality	47.3	[47.3, 47.3]
	Availability	100.0	[100, 100]
	Access	70.1	[10, 95]
Farm Assets	Land Tenure	52.3	[10, 84.3]
	Land Quality	65.3	[50, 85]
	Crop Inputs	54.7	[29.2, 74]
	Livestock/Aquaculture Inputs	78.4	[50, 100]
Non-Farm Assets	Skills	37.0	[25, 62.5]
	Services	55.6	[36, 77.3]
	Assets	62.4	[42, 86]
Exposure & Resilience to Shocks	Exposure	31.1	[17.5, 50.5]
	Coping ability	79.6	[69, 89]
	Recovery ability	63.1	[10, 90]
Gender & Social Equality	Access to Education	75.3	[34, 100]
	Access to Healthcare	79.3	[55, 100]
	Social Equality	81.7	[71.4, 84.5]

Number of MPAT subcomponents

Above 60 points	19
In-between	12
Below 30 points	0

Figure 45
Final MPAT indicators for 50 hypothetical households

10.2.2 Raising awareness

With respect to building awareness, MPAT would clearly be useful at the design stage, especially for relatively advanced or sophisticated development interventions, in order to ensure that the fundamentals of the enabling environment are in place *before* delving into initiatives which would require a higher degree of capacity from beneficiaries (e.g. a micro-credit initiative). MPAT could also help to elucidate whether a given project is appropriate or even needed in an area (e.g. a large-scale infrastructure project in an area with more immediate problems). That is, even for a proposed project which was not intended to address basic social services and infrastructure, MPAT might reveal serious shortcomings in one or more sectors which would require initial interventions to improve these sectors *before* proceeding with the project as initially envisioned.

So too, MPAT could be used at the onset to identify the weak and strong sectors in a given area; donors could then use these data in their initial dialogue with governments with respect to targeting and prioritization by sector.[59] In this way, MPAT provides a framework for starting dialogue with all stakeholders before the project is designed. This in turn may awaken stakeholders to the importance of multiple domains beyond those that they may have initially envisioned as being important. By stimulating awareness and cognizance of the multiple dimensions of rural poverty, it may be easier to work together toward goals that are now understood to be *common* goals.

10.2.3 Beneficiary empowerment and advocacy

If used as an advocacy tool, MPAT not only provides a means of stimulating stakeholder and/or beneficiary discussion, it also sets up a structure within which needs can be prioritized. For example, stakeholders and/or beneficiaries can rank MPAT's components and subcomponents from their point of view. In this way one can quickly see the concerns and priorities of different groups and begin to discuss how they might be addressed. As such, MPAT provides a tool for starting dialogue with would-be beneficiaries to understand their perceptions and concerns *before* project design. To this end, it could be useful to allow potential beneficiaries to use the MPAT framework to highlight their primary concerns, and then "marry" these concerns with data from MPAT design/planning surveys when negotiating project specifics with government agencies. This could also be done in the reverse order:[60] first calculate the MPAT indicators for a given region and then share the results with focus groups of beneficiaries to elicit their responses. Afterwards, see how well they identify with the findings, and then share the combined data with government agencies to refine project design.

In this way, MPAT could be used as an advocacy tool in order to highlight and petition for increased assistance/support to specific sectors of a rural area. So too, if an MPAT survey was commissioned by an organization on behalf of local residents, the results could be used to lobby local government to increase investments in certain sectors.

10.2.4 Targeting and prioritization

The vast majority of the data collected for MPAT come from the HH Surveys, and it is the HH (not the individual) which is the unit of analysis. Once MPAT is used for a given region and the data are in place, the user can essentially zoom in to any level of interest. For example, as illustrated in Figure 46, one can easily compare MPAT component and/or subcomponent scores across HHs of interest.[61]

More commonly, the village will likely be the primary unit for analysing MPAT scores.

59/ This specific use was articulated by Thomas Rath.

60/ This specific use was articulated by Khalid El-Harizi.

61/ These charts are based on data taken from the MPAT Excel spreadsheet, which is available online (http://www.ifad.org/mpat) and should be used in conjunction with the MPAT User's Guide (the data in these figures are from the first and 50th hypothetical HHs provided as examples in the spreadsheet).

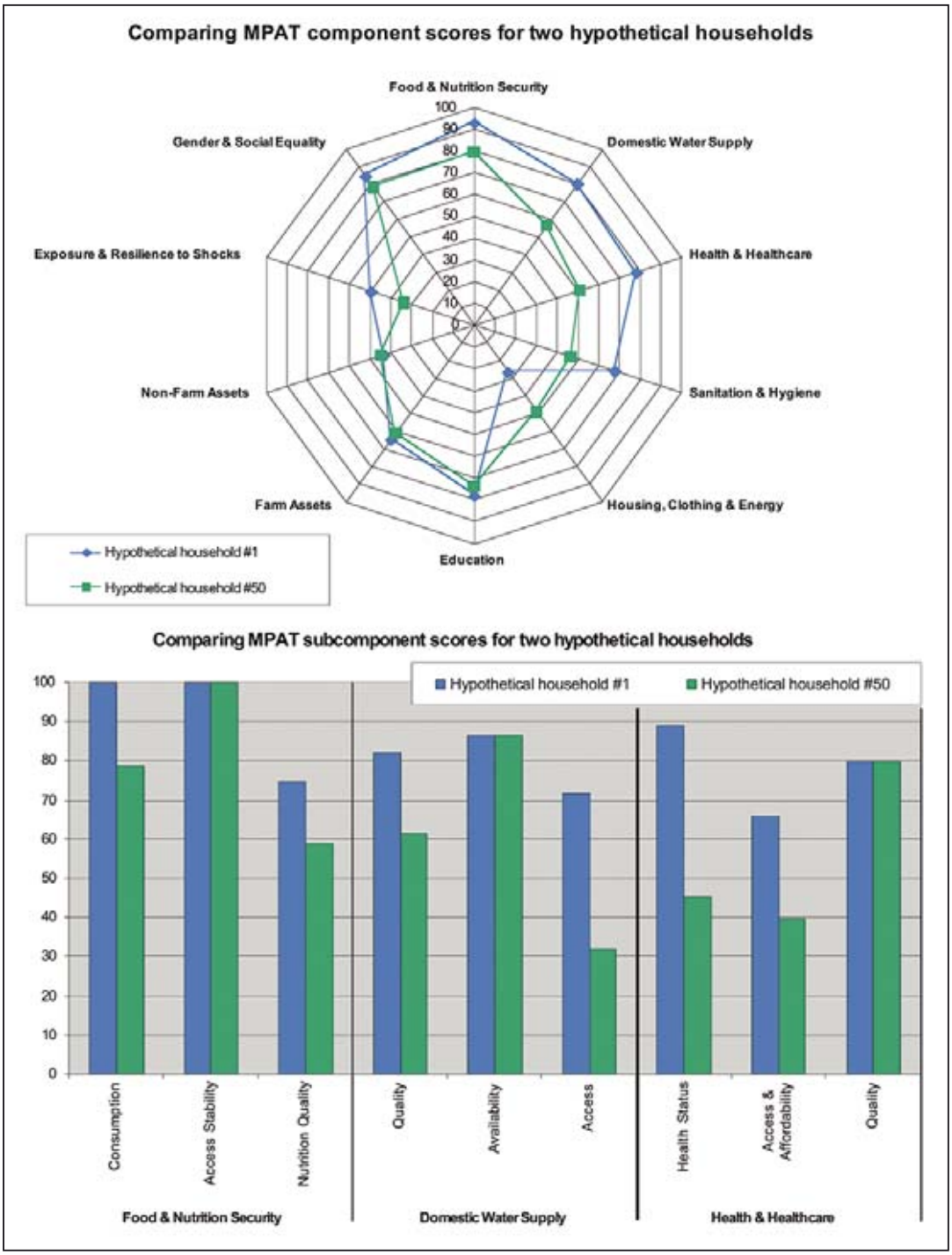


Figure 46
MPAT score comparisons between two hypothetical households

Using population-weighted aggregation (described in more detail in the MPAT User's Guide), MPAT results can be aggregated up from the village level and analysed at different administrative levels, all the way up through county/township levels to the project level. Of course the degree to which such analysis will or will not provide an accurate reflection of conditions in the area will depend on the number of villages in which MPAT was administered. Thus, if used for targeting, the resolution can be as low as the HH, but the utility of MPAT with respect to targeting will depend on the number of HHs sampled. As such, if targeting is the primary purpose, the user may wish to sample more HHs than recommended in the MPAT User's Guide (and attempt to ensure thorough geographic coverage).

With respect to targeting, MPAT provides a means of quickly identifying key problem sectors in a region, with a resolution as precise as the HH if needed. This is especially useful in areas where there the general poverty level is known to be low, but where there is not enough information to determine how to use finite resources to benefit those areas most in need. However, it must be kept in mind that, if used for targeting or prioritization, MPAT helps the user understand the general situation in a given area, by sector; but it is then the responsibility of the user to more thoroughly investigate the shortcomings and other problems MPAT identifies and to tailor appropriate responses to address them. Indeed, MPAT's primary purpose is to quickly and accurately measure the current situation across key poverty dimensions. MPAT assesses fundamentals, but the appropriate responses will always be context-specific. Thus, MPAT is a highly useful resource for the first steps of a targeting or prioritization effort.

10.2.5 Design

MPAT could aid project planners significantly at the design phase[62] by identifying problem areas (which may or may not have been central to the would-be project's primary purpose); this allows planners to have a "big picture" overview at the beginning, to make sure target groups will be properly addressed by the project.

This is also relevant given that some donor agencies/governments find themselves conducting two baseline assessments in an area – either because they use two completely different tools and/or because they are not satisfied with organization- or government-mandated assessment tools. If MPAT is added to the basket of design tools from the beginning, it can then easily be used later for M&E (discussed below).

10.2.6 Monitoring and evaluation

M&E support was one of the primary uses envisioned for MPAT. MPAT can be used to support project M&E by implementing it at the design and/or baseline stage of a project, then again for the mid-term assessment and finally for the project completion assessment (usually this involves intervals of three or four years). In this way, MPAT can provide detailed information on how sectors are changing (for better or for worse) at different scales (from the HH to the project level) in an area. Ideally, MPAT would be used again years after the project is completed in order to help determine the longer-term impact of the project.

Once calculated at two points in time, MPAT values for a given scale can be overlaid to visually assess changes by sector. This can also be done to compare two locations within a project (see Figure 32 or Figure 35 for examples) or even two projects (see Figure 38). However, it must be recalled that MPAT is not by itself sufficient for thorough project M&E;

62/ With respect to IFAD projects, Rudolph Cleveringa pointed out that this potential use would be somewhat analogous to "key files", but perhaps easier to use and visualize as far as gaining a good overview for design.

rather it is envisioned as a primary support tool which can lend perspective and provide guidance to other evaluations efforts.

The sampling methodology for the Standardized MPAT (see the User's Guide) dictates that new HHs are randomly selected at each MPAT administration. However, if one were so inclined, by assessing the same HHs at regular intervals (e.g. every three or four years) it would be possible to examine changes by HH. That said, while this method of analysis could certainly be undertaken, the data could not be used to calculate the Standard MPAT and compare it with other areas. It might be desirable to conduct this type of repeat HH sampling on the side, so to speak, for villages/areas of particular interest, and then analyse the data separately.

10.2.7 In-country and cross-country comparisons

Much like the HDI is used at an international level, MPAT provides a standardized means of comparing areas and projects, which in turn can help stimulate improvement at a regional, country or even cross-country level. That is, MPAT can help stimulate efforts to increase component scores via on-the-ground action in response to comparisons with other projects/areas. As such, it can be wielded by a variety of stakeholders to try and spur action at a local or project/area level.

10.2.8 Additional data analysis with a large, comprehensive dataset

Although the discussion in this publication is dominated by the ways in which data captured via the MPAT surveys are used to create the MPAT indicators, the reader may have also noted that the great wealth of data collected can be used for other forms of analysis. For example, taking the data from the MPAT v.6 pilot in China, we can quickly analyse the mean number of adults, disaggregated by gender, who live in the HH for nine or more months each year (see Figure 47). The same can be done for the data from the MPAT pilot in India (see Figure 48).

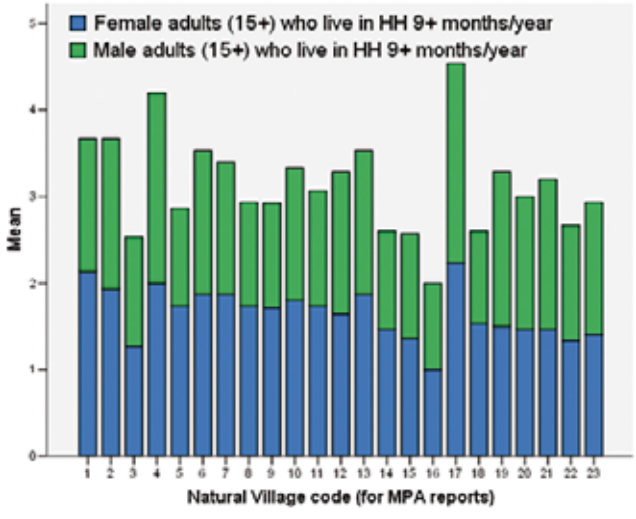


Figure 47
Example of secondary MPAT (v.6) data analysis:
Mean number of adults (by gender) in the HH – China

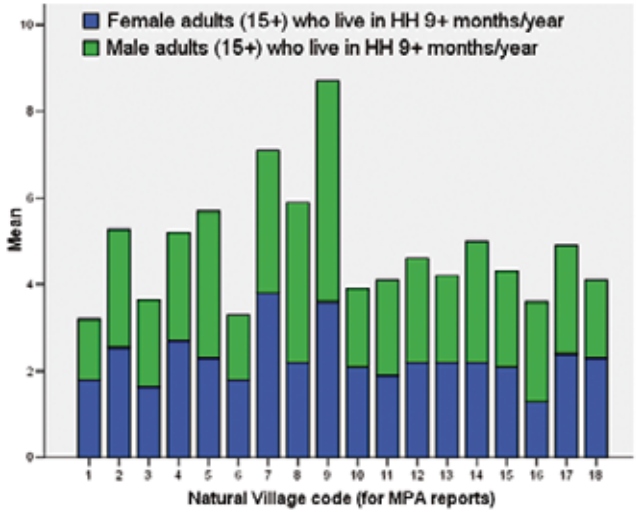


Figure 48
Example of secondary MPAT (v.6) data analysis:
Mean number of adults (by gender) in the HH – India

To take another example, let us assume that we are interested in comparing the amount of time it took residents of an area to access essential services, such as education for children, healthcare for adults suffering from serious injury, and access to daily water supply for the HH. These three types of data can quickly be presented together, as in Figure 49 below. Immediately, villages #3, #4, #5, #7, #8 and #18 stand out and demand closer inspection.

These examples are intended to give the reader a taste of the numerous and essentially limitless possibilities with respect to additional data analysis. The wealth of data collected via the MPAT surveys can be used to provide key information for project reports of all kinds. Having followed the MPAT survey methodology and the CSC method, the user can be confident that the data are of high quality – to the point that sophisticated statistical analysis can be confidently

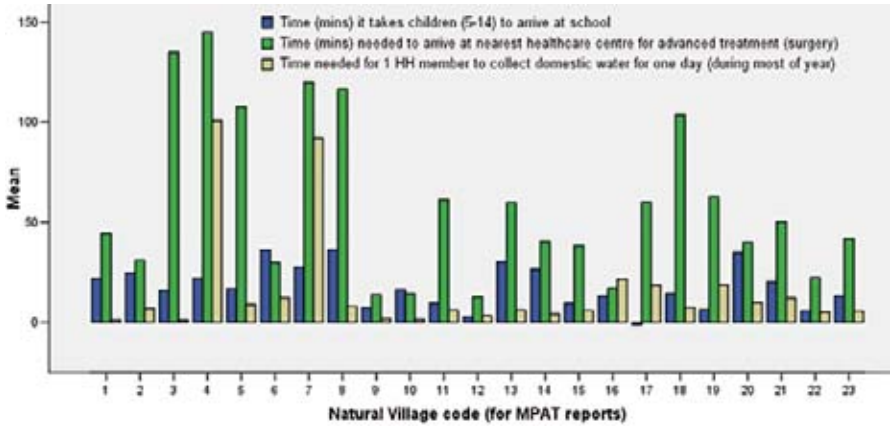


Figure 49
Example of secondary MPAT (v.6) data analysis: Mean time needed to access key services in Gansu, China

Table 12 Example of a simple correlation analysis using MPAT v.6 data from China

		Time needed for HH member to collect domestic-water for one day (during most of year)	Time (mins) needed to arrive at nearest healthcare centre for advanced treatment (surgery)
Time needed for HH member to collect domestic-water for one day during most of year	Pearson Correlation	1	.526(**)
	Sig. (2-tailed)		.000
	N	322	322
Time (mins) needed to arrive at nearest healthcare centre for advanced treatment (surgery)	Pearson Correlation	.526(**)	1
	Sig. (2-tailed)	.000	
	N	322	345

** Correlation is significant at the 0.01 level (2-tailed).

performed at the HH level. This is indeed *added value*. For example, another way to examine the data in Figure 49 (data at the village level) is shown in Table 12, where we see that there is a significant correlation (0.526) across HHs between *access to water* and *access to healthcare* (as measured by MPAT) in the area of Gansu Province.

10.3 Important considerations when using MPAT

As has been said repeatedly throughout this publication, MPAT is an imperfect tool, which is unavoidable given its nature and purpose. Understanding MPAT's potential flaws provides a means of ensuring that it is optimally used.

In 2010, IFAD intends to implement MPAT in other regions. It is likely that MPAT's application in other countries will reveal areas in which the MPAT survey item valuations, or even survey items (i.e. the questions), can be improved. As such, the 2009 MPAT User's Guide is released as a "working document" since it will likely be revisited and revised in, or after, 2010. Interested parties are advised to check the MPAT website for updates: http://www.ifad.org/mpat.

10.3.1 General caveat: The importance of context

Once MPAT is calculated for an area, if one wishes to better understand the values of the components and subcomponents it is crucial to look behind the numbers to the data. In addition, and this perhaps goes without saying, it is necessary to adequately take the local context into consideration when evaluating MPAT's results.

To take an example, consider a situation where at first glance it appears that the data are flawed. However, once the context is understood, it becomes clear that the data are in fact an accurate reflection of reality. Let us assume that subcomponent 2.2, *"Availability"* of domestic water supply to the HH, yields a score of 53 for a given area. The two questions which make up this subcomponent are:

17.1	During the last 12 months, for how many months was your household's main source of water sufficient to meet your household's drinking, cooking, bathing and cleaning needs? Months: ☐ Don't remember (-1)
17.2	How often do you worry there will not be enough water from your household's main water source to satisfy your household's drinking, cooking, bathing and cleaning needs? Never (1) Rarely (2) Sometimes (3) Often (4) Always (5)

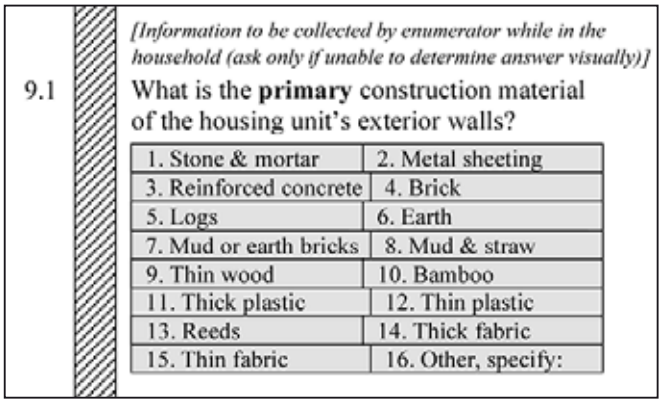
Looking behind this value of 53 to the survey items from which it comes, project managers are surprised: data for the HH Survey question #17.1 reveals that over the last 12 months the HHs' primary source of domestic water was indeed sufficient for their use for all 12 months, and thus they receive a high score for this item. Yet the village-level valuation for question #17.2 results in a very low score. At first this might seem like a contradiction: *How can the residents of one area have a steady, reliable supply of water for the last 12 months, yet at the same time always worry that the water will not be sufficient?*

This outcome is actually quite reasonable if one is aware that the context in which the data were collected is that of a very arid region, regularly subject to droughts and dry spells. This example should make it clear that it is not necessarily enough to look behind the values to the data; it is also necessary to incorporate the local context into ones assessment of MPAT values.

In addition, the reader should remember that since the HH is the primary unit of analysis, MPAT misses the transient poor. The importance of this caveat will vary by region.

10.3.2 Exceptional circumstances

The valuations for the survey item responses (see the MPAT User's Guide) will be relevant most of the time in most areas, but they will not *always* be appropriate/accurate. MPAT is designed to provide accurate valuations based on a proxy assessment of states most of the time, but outliers can make the valuations inaccurate. For example, MPAT HH Survey item #9.1 asks:



[Information to be collected by enumerator while in the household (ask only if unable to determine answer visually)]

9.1 What is the **primary** construction material of the housing unit's exterior walls?

1. Stone & mortar	2. Metal sheeting
3. Reinforced concrete	4. Brick
5. Logs	6. Earth
7. Mud or earth bricks	8. Mud & straw
9. Thin wood	10. Bamboo
11. Thick plastic	12. Thin plastic
13. Reeds	14. Thick fabric
15. Thin fabric	16. Other, specify:

If a home in a given area has walls made with "reinforced concrete" (answer choice "3"), this will receive a high score. But if the rebar is faulty, or the construction quality very poor, the walls would in fact *not* be well-constructed, and MPAT will provide an inaccurate value for that particular HH. This is because, *most of the time* a house built with reinforced concrete walls will indeed be very sturdy and well-constructed – hence the values will be largely accurate, but not always.

That said, even if there are such outliers here and there in a given region, on the whole the aggregated values will still provide a relatively accurate assessment of the sector in question. If the user is concerned about the accuracy of item valuations for a given question or subcomponent, he or she is encouraged to consult the valuations, which are listed in the MPAT User's Guide. Should the circumstances in an area be out of the ordinary to a degree that these estimations will prove inappropriate, and therefore the values for a given item will *not* provide an accurate approximation of the conditions on the ground, then the user should modify the valuations and use a *Context-specific MPAT* (but this would only be necessary if conditions deviated from the norm across most HHs and villages).

To take another example from the MPAT HH Survey, consider question #14. Let us assume that for the HHs in a given village the primary source of water used for domestic purposes is from a pond. In most situations, such water will be of very poor quality for human consumption. However, thanks to some extenuating set of circumstances, a pond in a given village actually provides high-quality water. In this case, the MPAT HH Survey will provide an inaccurate representation of that reality, since the values assigned to those HHs whose main water source is a pond are very low. Again, the user will then have to decide if this issue is significant enough to justify changing the valuation for "pond" and in so doing use the *Context-specific MPAT*.

It is not expected that such situations will arise with great frequency, but it is important that the user be aware of this potential avenue for MPAT to provide an inaccurate proxy measure of a given subcomponent in a given region. This discussion highlights the need for users to read through the MPAT User's Guide in order to ensure a thorough understanding of MPAT and how survey data are converted to values.

10.3.3 Cost implications

The survey format is structured to help reduce costs significantly. Since the MPAT HH Survey can be administered in about 30 minutes or less, a large number of surveys can be completed in a relatively short period of time (depending, of course, on the state of the roads in a given region, the weather at the time of survey, the distances between villages, etc.).

In addition, the formatting of the surveys is condensed so as to minimize printing costs, and potential shipping costs (if needed) – the English version of the HH Survey can be printed on three pages (double-sided). Moreover, since enumerators do not need to have any specialized training or skills (e.g. experience with anthropometry), the costs for enumerator recruitment should not be high; likewise, the enumerator training takes only a few days to complete.

Unfortunately, it is not possible to provide per-survey cost estimates given the diversity of factors inherent in different areas around the world. As an indication of possible cost, it is noteworthy that research in China found that surveys of similar duration/content in the southwest of the country cost approximately USD 3 per HH (in 2007 prices) (Cohen, 2007). Lastly, for those who use MPAT in the context of an IFAD-supported project, the sampling framework is essentially the same as IFAD's RIMS sampling methodology, a methodology very similar to that used by other donors and governments since it provides a random, representative sample with good geographic distribution (see the MPAT User's Guide for details on the sampling methodology).

10.4 Concluding thoughts

As discussed in the beginning of this publication, at the heart of effective poverty alleviation initiatives is the notion that people need an enabling environment which allows them to adequately pursue their livelihood goals on their own terms. Central to such an environment is the provision of basic social services, physical infrastructure and responsive institutions. In order to help themselves, people's most fundamental and basic needs must first be met before they can effectively address more long-term goals. MPAT provides a mechanism for examining whether an adequate enabling environment is available, and to what degree rural people may or may not be overly constrained when addressing their immediate needs.

One of the primary goals of the MPA Project was to develop a tool that would also provide a forum for rural people to communicate their perceptions about key dimensions of their lives and livelihoods. By responsibly collecting, valuing and organizing this wealth of data, MPAT provides users with a comprehensive assessment of the multiple, fundamental dimensions of rural poverty at a local level in a given area. It is testament to MPAT's usefulness that those who participated in its development in China and India wish to implement it to support additional projects in their regions. Indeed, CPMs in China and India are currently investigating ways of formally incorporating MPAT into their COSOPs. At the time of writing, UNDP expressed interest in using MPAT for a new project in India, and other IFAD CPMs intend to use MPAT in 2010. In addition, other organizations have already expressed interest in using MPAT to complement forthcoming poverty reduction projects.

In sum, MPAT provides a rural-specific methodology for quickly and efficiently obtaining a lucid overview of the fundamental dimensions which must be examined and addressed to ensure that an enabling environment for rural poverty reduction is in place. It is the author's sincere hope that MPAT will be used to improve people's lives, to make certain that their well-being is sufficient to allow them to pursue their individual goals and aspirations, and to pursue quality of life as they define it.

References

Ahmed, Akhter, Ruth Vargas-Hill, Lisa Smith, Doris Wiesmann, and Tim Frankenberger. *The World's Most Deprived: Characteristics and Causes of Extreme Poverty and Hunger*: International Food Policy Research Institute, 2007.

Alkire, Sabina. "The Missing Dimensions of Poverty Data: Introduction to the Special Issue." *Oxford Development Studies* 35, no. 4 (2007): 347-59.

Barrett, Christopher B. "Rural Poverty Dynamics: Development Policy Implications." *Agricultural Economics* 32, no. Suppl. 1 (2005): 45-60.

Bourguignon, Francois, and Satya R. Chakravarty. "The Measurement of Multidimensional Poverty." *Journal of Economic Inequality* 1, no. 1 (2003): 25-49.

Cleveringa, Rudolph, Melvyn Kay, and Alasdair Cohen, eds. *InnoWat: Water, Innovations, Learning and Rural Livelihoods*. Rome: IFAD, 2009.

Cohen, Alasdair. "The Multidimensional Poverty Assessment Tool: A New Framework for Measuring Rural Poverty." *Development in Practice* (in press).

———. "WEILAI and Rural China: Development and Application of a Multidimensional Tool for Project Planning, Monitoring & Evaluation." In *Technical Report*. Rome: IFAD, 2007.

Cohen, Alasdair, and Caroline Sullivan. "Water and Poverty in Rural China: Developing an Instrument to Assess the Multiple Dimensions of Water and Poverty." *Ecological Economics* (in press).

De Rivero, Oswaldo. *The Myth of Development: The Non-Viable Economies of the 21st Century.* New York: Zed Books Ltd., 2001.

Elliott, M. R., and R. J. A. Little. "A Bayesian Approach to Combining Information from a Census, a Coverage Measurement Survey, and Demographic Analysis." *Journal of the American Statistical Association* 95, no. 450 (2000): 351-62.

FAO. *Water and the Rural Poor: Interventions for Improving Livelihoods in Sub-Saharan Africa*. Edited by JM Faures and G Santini. Rome: Food and Agriculture Organization of the United Nations, 2008.

Graham, Benjamin. "Challenges for Growth and Poverty Reduction in Fragile States." In *Inclusive Growth and Poverty Reduction in the New Asia and Pacific*. Manila, Philippines: Asian Development Bank, 2007.

Hicks, Norman, and Paul Streeten. "Indicators of Development: The Search for a Basic Needs Yardstick." *World Development* 7 (1979): 567-80.

IFAD. "Rural Poverty Report 2001: The Challenge of Ending Rural Poverty." Oxford: Oxford University Press for IFAD, 2001.

IPCC. "Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group Ii to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change." Edited by M. Parry, O. Canziani, J. Palutikof, P. van der Linden and C. Hanson, 976. Cambridge: Cambridge University Press, 2007.

Jain, S. "Resisting the Tyranny of Indicators: Regenerating Learning Ecologies." http://www.swaraj.org/shikshantar/ls3_shilpa.htm: Swaraj Foundation, 2003.

Kaufmann, D., A. Kraay, P. and Zoido-Lobatón, P. "Aggregating Governance Indicators." World Bank, 1999.

Maslow, Abraham. "A Theory of Human Motivation." *Psychological Review* 50, no. 4 (1943): 370-96.

Molden, David, ed. *Water for Food, Water for Life: A Comprehensive Assessment of Water Management in Agriculture.* London & Colombo: Earthscan & International Water Management Institute, 2007.

Molle, F., and P. Mollinga. "Water Poverty Indicators: Conceptual Problems and Policy Issues." *Water Policy* 5, no. 5-6 (2003): 529-44.

Narayan, D. *Measuring empowerment: Cross-disciplinary perspectives*. Washington D.C.: World Bank, 2005.

Narayan, Deepa, Lant Pritchett, and Soumya Kapoor. *Moving out of Poverty: Success from the Bottom Up*. Washington D.C.: World Bank, 2009.

Rahnema, M. "Poverty." In *The Development Dictionary: A Guide to Power and Knowledge*, edited by W. Sachs. London: Zed Books, 1992.

Rauch, Theo. "The New Rurality: Its Implications for a New, Pro-Poor Agricultural Water Strategy." In *InnoWat: Water, Innovations, Learning and Rural Livelihoods*, edited by R. Cleveringa, W. Huppert and A. Cohen. Rome: IFAD, 2009.

Saisana, M., A. Saltelli, and S. Tarantola. "Uncertainty and Sensitivity Analysis Techniques as Tools for the Quality Assessment of Composite Indicators." *Journal of the Royal Statistical Society: Series A* 168, no. 2 (2005): 307-23.

Saisana, Michaela. "The Multidimensional Poverty Assessment Tool: Robustness Issues and Critical Assessment." In *EUR Report XXX EN*: European Commission, JRC-IPSC, Italy, 2009a.

———. "Personal Communication on Soliciting Expert Opinions on Subcomponent Weightings and Survey Item Valuations for MPAT." Email, 2009b.

Saisana, Michaela, and Stefano Tarantola. "State-of-the-Art Report on Current Methodologies and Practices for Composite Indicator Development." European Commission, Joint Research Centre, Institute for the Protection and the Security of the Citizen, Technological and Economic Risk Management Unit, 2002.

Schwarz, Norbert. "Self-Reports: How the Questions Shape the Answers." *American Psychologist* 54, no. 2 (1999): 93-105.

Schwarz, Norbert, and Seymour Sudman. *Answering Questions: Methodology for Determining Cognitive and Communicative Processes in Survey Research*. San Francisco: Jossey-Bass, 1996.

Sen, Amartya. *Commodities and Capabilities*. Amsterdam: North-Holland, 1985.

———. *Development as Freedom*. New York: Anchor Books, 2000.

———. "Rights and Capabilities." In *Resources, Values and Development*, edited by A. Sen, 307-24. Basil: Blackwell, 1984.

Streeten, Paul, and Shahid J. Burki. "Basic Needs: Some Issues." *World Development* 6, no. 3 (1978): 411-21.

Streeten, Paul, Shahid J. Burki, Mahbub U. Haq, Norman Hicks, and Frances Stewart. *First Things First: Meeting Basic Human Needs in Developing Countries*: Oxford University Press, 1981.

Sullivan, C. A., and J. Meigh. "Integration of the Biophysical and Social Sciences Using an Indicator Approach: Addressing Water Problems at Different Scales." *Water Resources Management* 21, no. 1 (2007): 111-28.

Sullivan, Caroline. "Calculating a Water Poverty Index." *World Development* 30, no. 7 (2002): 1195-210.

———. "Do Investments and Policy Interventions Reach the Poorest of the Poor?" In *Water Crisis: Myth or Reality?*, edited by P. Rogers, 221-31. London, UK: Tayolor & Francis, 2006.

Swann, W., T. Giuliano, and D. Wegner. "Where Leading Questions Can Lead: The Power of Conjecture in Social Interaction." *Journal of Personality and Social Psychology* 42, no. 6 (1982): 1025-35.

Tomlinson, J. *Cultural Imperialism: A Critical Introduction*. Baltimore: Johns Hopkins University Press, 1991.

UNDP. *Human Development Report 2006 : Beyond Scarcity: Power, Poverty and the Global Water Crisis*. Palgrave Macmillan, 2006.

Vargas-Lundius, Rosemary. *Polishing the Stone: A Journey through the Promotion of Gender Equity in Development Projects*. Rome: IFAD, 2007.

Annexes

Note to reader: Only Annexes III, VI and IX have been edited, and the modifications (mostly grammatical) were subsequently approved by their authors. The other annexes are "historical documents" that are presented to give the reader a better understanding of the MPA Project and the development of MPAT. As such, the content of these documents has not been changed, but the formatting and layout have been changed (and footnotes have been added as appropriate where explanation was needed). Annexes II, V and X are presented in the same format/layout that was used during the MPA Project. The UNDP report in Annex VIII is reproduced with the permission of Navin Anand/UNDP; the text has not been edited in any way, although the formatting/layout has been changed.

Annex I Instructions sent to the Sounding Board ahead of the start-up workshop

Instructions for MPA Survey/Questionnaire Development[63]

In order to assist us in developing the MPA survey, we ask that you please create an operational definition for your component and draft five questions to measure it. The household scale is the unit of analysis, but please tell us what (if any) quantitative community scale data should be collected in the field when administering the survey (e.g., student-teacher ratios, number of clinics, number of wells, etc.).

Please use S.I. units (meters, liters, etc.; measurements can be translated to fit local measurement units as needed).

It is critical that questions be simple, clear, easy to translate, require little time to answer and be relevant to any rural context. In order to facilitate the process of developing valid and reliable questions which meet this criterion and avoid test bias, please see the general guidelines below.

More details and examples can be found in the appendix, and a list of the MPA components is on the next page.

Creating an Operational Definition for your Component

An operational definition should describe your component in a measurable way. Consider what type of information would provide an accurate representation for your component. Specifically, the operational definition should describe what your component represents, how it relates to rural poverty, and what types of information provide good indicators for your component. Your operational definition should be clear and concise, but you can use as many sentences as needed to provide a good operationalization.

Developing Survey Items

Use your operational definition as a guide when developing your questions. Some questions should collect subjective data while others should target more objective data. Below is a list of guidelines to follow when developing survey items (for each numbered item, see the appendix for more information).

1. **Criteria for all questions:**

1.1 Simplicity (only try and capture one piece of information per question, as concisely as possible)

1.2 Clarity (make sure questions are unambiguous and cannot be misinterpreted)

1.3 Easy to translate (keep the language as simple as possible)

1.4 Can be answered quickly (do not ask questions which require extended thinking or calculation)

1.5 Relevant to any rural context (make sure the question applies to any rural context in any country)

63/ These guidelines were developed by Alasdair Cohen and Dr. Moshe Feldman, an expert in psychometrics and survey design at the University of Central Florida, Institute for Simulation & Training, in September, 2008 for IFAD.

2. Types of information you can collect:

2.1 Objective information (captures measurable data – even if based on people's estimates)
[e.g., number of minutes waiting, quantity of water collected, area of land cultivated, etc.]

2.2 Subjective Information (people's perceptions of a situation, their opinions)
[e.g., degree of access to a resource, satisfaction with services provided, etc.]

3. Appropriate question & response formats:

3.1 Dichotomous (discriminates between two groups or choices, e.g. yes/no, male/female…)

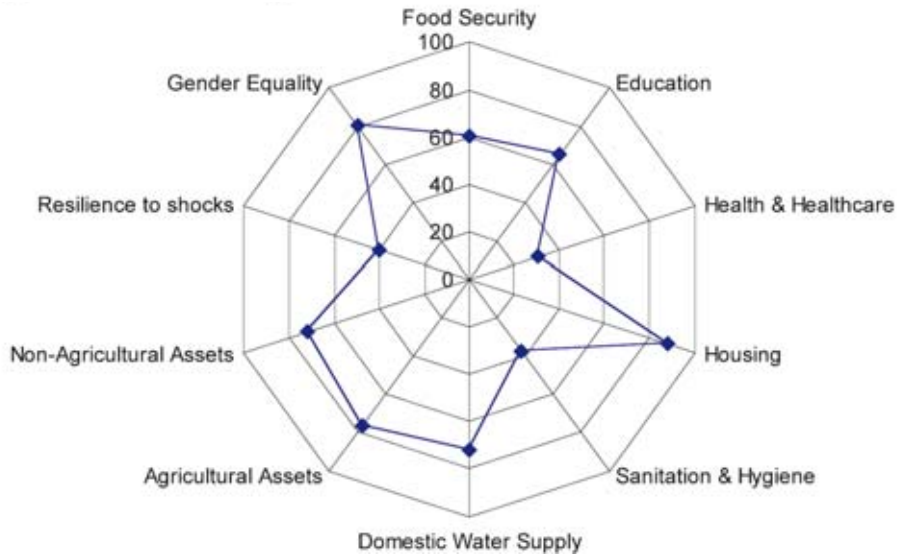
3.2 Categorical (types or categories, e.g., rice/corn/wheat, no toilet/open pit/latrine…)

3.3 Ratio/Numerical (time, quantities, distances, e.g., frequency of a behavior, number of adults…)

The table below outlines the final list of MPA components (the outcome of a pre-workshop discussion forum held in Beijing, September 1st, 2008), subcomponents will be finalized during and after the Startup Workshop based on your input.

	MPA Component	What is measured? for example...	Subcomponents
Basic needs – by sector	Food Security	Quality, availability, access	?, ?, ?, ?, ?
	Education	Quality, availability, access	?, ?, ?, ?, ?
	Health & Healthcare	Quality, availability, access	?, ?, ?, ?, ?
	Housing	Quality, availability, access	?, ?, ?, ?, ?
	Sanitation & Hygiene	Quality, availability, access	?, ?, ?, ?, ?
	Domestic Water Supply	Quality, availability, access	?, ?, ?, ?, ?
Assets/equity exposure	Agricultural Assets	Land tenure, agricultural water supply, livestock, cash crops, etc.	?, ?, ?, ?, ?
	Non-Agricultural Assets	Assets, employment, skills, non-farm income (remittances, pensions, etc.)	?, ?, ?, ?, ?
	Resilience to Shocks	Subjective perceptions of exposure to natural hazards & other risks	?, ?, ?, ?, ?
	Gender Equity	Degree of gender equity – (household and community)	?, ?, ?, ?, ?

Hypothetical MPA for Region X



Appendix

General Summary

The MPA will measure rural poverty as a function of multiple component indicators. You should design survey items that collect broad and accurate pieces of information while providing good overall representation for your component. For example, a combination of objective and subjective data should be collected when appropriate for your component. This document is meant to provide you with general criteria for each survey item you develop and options for how to structure your questions. Essentially, we are looking for you to help us identify appropriate proxy measures to assess your component.

After formulating an operational definition for your component, your first decision is what type of survey item and response scale to use. It is good to use multiple types of items and scales across the five questions. Similarly, you should try to capture both objective and subjective types of information to represent your component. Capturing responses in a structured format with scaled items establishes a better frame of reference for respondents so that they understand exactly what is being asked. It also allows responses to be collected quicker thereby reducing the time to complete the survey. (Note several types of response formats can be used for each type of information; hence these two frameworks are not necessarily mutually exclusive.)

In order for respondents to provide accurate information they must fully understand what you are asking, have access to that information (e.g. memory, knowledge) and provide that information in an understandable way that addresses the question. The criteria and guidelines provided in this document are meant to facilitate the process of developing questions which meet these standards which is achieved through structuring questions and using appropriate language or content in the survey items you develop. The type of response scale you use for each question will be driven by the type of information you are collecting. Here we categorize data response scales into three major types; dichotomous, categorical, and ratio/numerical. Details about criteria and structural component of questions are explained below with examples of good and bad questions for each.

Operational Definition

You can think of an operational definition as a description of what your component is in terms of measureable factors. Hence, the operational definition you develop should both describe what your component is conceptually and which information is representative of that conceptualization. An operational definition is necessary to develop clear and valid measures for your component. It is important to note that a good operational definition may be longer than one sentence, but should not take more than a few sentences to properly and concisely describe your component.

- *Bad example:* "Quality of living is how well a given individual lives."
- *Good example:* "Quality of living represents the degree to which an individual has access to basic resources and how happy they feel."

1. Criteria for all questions

1.1 Simplicity. The information requested should be simple and basic. A simple question is one which respondents can easily understand and helps avoid the need for elaboration or explanation for what is being asked (which reduces potential bias which might be introduced if the enumerator had to clarify the meaning of the question). You should avoid questions that ask for more than one piece of information. Survey questions should be direct, require no clarification and be designed to elicit a single response. Any clarification should be structured and limited to avoid bias from the person collecting the data.

- *Bad example:* "What is the birthday of the head of the household and what is their gender?"
- *Good example:* "How old is the head of the household (best estimate in years)?"

1.2 Clarity. Questions should be written in a clear and direct way so as to avoid misinterpretation by those collecting information about your component and those providing the information. When writing survey items always be specific and include timeframes (e.g. in the past year, in the rainy season) where appropriate. Questions should provide a fixed set of response options (i.e., no open ended questions). Make sure that the question references the household as the unit (otherwise individuals may assume that you mean the individual rather than the household).

- *Bad example:* "How many children live with you?"
- *Good example:* "How many children (15 or younger) live in your household for the majority of the year?"

1.3 Easy to translate. Questions for your component must be fairly easy to translate across languages. Although the translation process will try to account for these differences, writing good questions that are easy to translate will facilitate this process so that translated questions will be interpreted as close to the intended meaning as possible.

- *Bad example:* "When facing situations of extreme physical and psychological stress following the advent of a weather-induced catastrophe which negatively impacts household agricultural production, what coping mechanisms of the selection list are employed?"
- *Good example:* "After a severe weather event which negatively impacts the household's agricultural production, how does the household cope with the loss (see table below)?

1.4 Can be answered quickly. Respondents should be able to answer questions quickly. This means that questions should not require extended calculation or thinking about past events in order to be answered. Of course, in certain cases it will be appropriate to ask questions which require basic calculations or recollection, but generally it should not take more than a minute for respondents to come up with an answer.

- *Bad example:* "In the last 20 years, which 5 years were the worst with respect to droughts?
- *Good example:* "In the last 10 years, which was the worse year as far as droughts?"

1.5 Relevant to any rural context. Using the criteria outlined in this document will facilitate the ease of translation, but you should also stay away from referring to objects or things that may not be relevant in other cultures or countries. This is especially difficult since most experts have a regional focus with their work. However, this problem can be overcome by considering the wide variety of cultural contexts within which questions might one day be asked. While questions should give specific time frames and references for clarity, the objects used should be relevant across countries.

- *Bad example:* "What portion of your crops are usually lost to locusts?
- *Good example:* "What portion of your crops are usually lost to insects?"

2. Types of information you can collect

2.1 Objective information. Objective data is based on quantifiable and measurable events or outcomes. For example, a count of how many times someone goes to collect water for the household each day is objective because it is quantifiable and based on actual events or things that can be observed in the real world. This information could be provided by actually observing the event or by asking the respondent to estimate.

- *Example:* On average, how many alcoholic drinks do you consume in a week?

2.2 Subjective information. Subjective information represents an attitude or opinion. In other words, subjective information cannot be seen or measured through external observation. It is based on how an individual judges something. For example, asking someone to indicate if they are happy is subjective.

- *Example:* Do you drink too much alcohol?

3. Appropriate question & response formats

3.1 Dichotomous. Dichotomous response options discriminate responses into two groups. Dichotomous scales are generally simple and easy to understand, but should not be used to over simplify information that requires additional detail. For example, if you want to know if someone belongs to a specific group this question can be measured with a simple dichotomous response option such as yes/no.

- *Example:* Do you like to eat pizza? (yes/no)

3.2 Categorical. While dichotomous data is informative in many instances it also reduces the amount of information provided because it only allows to group people in two categories rather than multiple categories. Other types of categorical scales provide multiple response options that are not associated with specific values.

- *Example:* Please indicate which foods you like the most? (meat/poultry/vegetables/dairy)

3.3 Ratio/Numerical. A ratio or numerical response format assigns a specific number to a given response. This number represents a value for what you are measuring. Many times a frequency count may need to be grouped in time periods such as "in a week's time" or "every month". These timeframes should always be explicitly stated to respondents so that they do not provide false frequencies as a result of misinterpreting the time period.

A special case of category includes questions aimed at collecting a perception or attitude. For example, you may want to ask if an individual feels they have enough of a particular resource

to support their household. In this case, a scale may be used where the response is in the form of a rating from 1 to 5 where a 1 indicates they don't feel there is enough and a 5 indicates there is enough of the resource to sustain the household. However, while this type of Likert-scale is familiar to most educated people, it will likely not be appropriate in many rural contexts. As such, we recommend using the Likert-scale format, but provide a description of each of the numbers. So, if asking about degree of access to a resource, instead of a "1-2-3-4-5" scale with 5 being complete access, you might use "no access – restricted access – satisfactory access – good access – complete access".

- *Example:* Rate on a scale from 1 to 5 how much you like each food where a 1 indicates you don't like to eat it and a 5 indicates you really like to eat it. [Likert-scale]
- *Example:* How many times a day to you go to the bathroom? [Frequency]

Example of the template emailed to SB members with the above instructions

Food Security		
Suggested operational definition		
Suggested Sub-components		
Suggested MPA survey items		Notes
Expert's notes:		

Annex II MPA Project start-up workshop: Participants and itinerary[64]

Multidimensional Poverty Assessment
Startup Workshop Sept. 24th, 2008 Beijing
2008 年 9 月 24 日中国北京市
农村扶贫综合贫困分析法启动研讨会

Participant	Organization
Cellarosi, Piero Hanyu80@hotmail.com	Food Security Expert & Research Assistant, Multidimensional Poverty Assessment Project, International Fund for Agricultural Development
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Yang, Ling yangling@cpad.org.cn	Project Officer, Foreign Capital Project Management Center, State Council Leading Group Office of Poverty Alleviation & Development

64/ Please note that this was the planned itinerary. The actual proceedings differed in that the entire group remained together in the afternoon session, and the specifics of which questions to use on the survey were not addressed in any depth.

Multidimensional Poverty Assessment
Startup Workshop Sept. 24th, 2008 Beijing
2008 年 9 月 24 日中国北京市
农村扶贫综合贫困分析法启动研讨会

Itinerary

Morning *room 205*

9:00 – 10:00 Opening session

- Opening Address & Introduction — Sun Yinhong (IFAD)
- Background & Message from WFP — Wang Weijing (WFP) on behalf of Anthea Webb (WFP Director)
- MPA overview & workshop goals — Alasdair Cohen (IFAD)

10:00 – 10: 15 Break

10:15 – 12:00 Discussion session

- Discussion session desired output: Agree to subcomponents for each component

12:00 – 13:30 Lunch -Yan Ming Yuan Restaurant (walking distance from workshop)

Afternoon

13:30 – 14:00 –room 205

- Review & break into three expert roundtables to discuss subcomponent questions

14:00 – 15:30 Discussion sessions –rooms 205, 617 & 705

- Three expert roundtables discuss their subcomponents & agree to five questions

15:30 – 15:45 Break -room 205

16:00 – 16:45 Wrap-up discussions

- Roundtables present their subcomponent questions to group for final discussion

16:45- 17:00 Closing remarks

- Closing remarks — Wang Chengwen (Tsinghua Uni.)

Annex III MPA structural evaluation with the Capabilities Approach

Evaluating MPA's structure and utility with the Capabilities Approach

Piero Celarossi[65], January 2009

Introduction

Multidimensional Poverty Assessment (MPA) is a thematic indicator developed starting with an approach centred on basic or human needs which attempts to assess non-income rural poverty by collecting data related to ten main poverty dimensions: food and nutrition security; education; health and healthcare; housing; sanitation and hygiene; domestic water supply; agricultural assets; non-agricultural assets; resilience to shocks; and gender equality.

The main purpose of this evaluative exercise is to examine whether the MPA tool (version 2) components and questions are relevant from a human poverty perspective. Human poverty is defined as "basic deprivations in choices and opportunities". Human poverty occurs when people are denied the ability to lead a long, healthy and creative life and to enjoy a decent standard of living, freedom, dignity, self-respect and respect of others.[66] The theoretical basis of the human poverty perspective stems from Amartya Sen's well-known capabilities approach.

Two key concepts characterizing Sen's capabilities approach are: functionings and capabilities.

> "A functioning is an achievement of a person: what she or he manages to do or be. It reflects, as it were, a part of the state of that person. Achieving a functioning (e.g. being adequately nourished) with a given bundle of commodities (e.g. bread or rice) depends on a range of personal and social factors (e.g. metabolic rate, body size, age, gender, activity level, health, access to medical services, nutritional knowledge and education, climatic conditions). A functioning therefore refers to the use a person makes of the commodities at his or her command. A capability reflects a person's ability to achieve a given functioning (doing or being.). For example, a person may have the ability to avoid hunger, but may choose to fast or go on hunger strike instead."
>
> D. Clark, 2005

The author believes it would be worthwhile to adopt the capabilities approach during MPA's development phase, because it provides a useful perspective for explaining the deep essence and dynamic of poverty. At the time of this writing, the theoretical justification for MPA is not finalized (Cohen, forthcoming)[67] so the author can only put forward his perspective on the utility of using the capabilities approach as an instrument to analyse the utility of MPA.

The capabilities approach defines poverty as deprivations in basic living conditions. Moreover, the approach underlines the differences among means and ends, where means are referred to as

65/ IFAD Multidimensional Poverty Assessment Project, Research Assistant.

66/ UNDP, Human Development Report, 1997.

67/ Although the author has spoken at length with Alasdair Cohen about the theoretical underpinnings of the MPA approach.

instrumentally useful inputs (or outputs), and ends are the achievements in living conditions themselves (outcomes) (A. Sen, 1987, 2001; S. Alkire, 2007).

By adopting this approach, it is possible to identify some basic needs, but they must be understood as minimum standards in living conditions, rather than minimum standards in commodities requirements (both as goods and as services provided).

Making a comparison between the basic needs approach and the capabilities approach, it emerges that the latter is more selective in choosing objects of value, underlying differences between means and ends. According to Amartya Sen, the strategic relevance of basic needs is not controversial. What is controversial is the foundation of this concern.

Sen affirms that the "so-called 'basic' needs in the form of commodities requirements are instrumentally (rather than intrinsically) important". So, he suggests that the 'basic needs' be formulated in line with functionings and capabilities (Sen, 1987).

Following the capabilities approach rationale, it is impossible to define universal basic needs if we consider them as basic inputs needed, because the commodities requirements to guarantee specific living conditions may vary greatly with various physiological, social, cultural and other contingent features. But it is still possible to define basic needs, as basic results people need to meet in order to lead a decent life.

For example, even if it is possible to indicate a minimum standard quantity of food to which people need to have access in order to be well-nourished, the access to this amount of food doesn't guarantee that people will be well nourished. It is a necessary pre-condition, but it isn't a sufficient condition. In other words, the only information we can know for sure is that a lower level of access to food will result in people being undernourished. But a higher level of access could result in people's undernourishment too because a determined amount of food does not yield the same outcome (nutritional status) in all the situations. What the capabilities approach believes to be worthwhile is the result itself, so the nutritional status will be a better indicator of this poverty dimension.

If we accept the theoretical rationale lying behind the capabilities approach, it follows that assessing a specific poverty dimension by a *mean* instead of an *end* may result in misleading information. Therefore, it could be convenient to adopt the simple guiding principle that what is worth measuring are the actual living condition *achievements*, defined by Amartya Sen as "*functionings*". This principle is based on the fact that well-being, according to the capabilities approach, is more an issue of what I can do and what I can be, rather than what I actually have.

Moreover, the MPA tool (MPAT) aims to be universally valid, but, because contingent features usually influence people's capacity to convert commodities possession into basic functioning, adopting a "basic needs approach" based on commodities requirements is expected to lead to unavoidable biases. On the contrary, measuring outcomes or outcomes' proxies is expected to minimize those biases.

In order to avoid misunderstanding regarding the nature and the objectives of this exercise, the author does not intend to argue the relevance of the dimensions chosen to assess rural poverty, nor does he intend to verify the statistical validity of the tool (which, at the moment, is impossible because of the lack of data). On the contrary, his commitment is to analyse whether and how the interpretation of poverty dimensions adopted by the MPAT fits with the capabilities approach, and to determine (in that context) what the tool is actually designed to measure. This step is considered crucial in order to avoid the occurrence of data that, although statistically relevant, are not essentially meaningful regarding people's actual deprivations.

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Analytical methodology

In order to analyse MPA's degree of relevance, the author will proceed as follows:

1. Define the concepts of input, output and outcome (note that definitions adopted here may be different from those usually adopted for project log frames);

Logical framework structure

Project structure	**Objectively verifiable indicators** (Quantifiable data used to demonstrate results)	**Means of verification** (Source of information used to verify project performance)	**Important assumptions** (Factors that influence project performance but are beyond the control of project's management)
Goal (the contribution of the purpose to the wider development goal)			
Outcomes (the contribution of the outputs to the immediate purpose of the project)			
Outputs (results generated by the activities)			
Inputs (project activities)			

Source: Seaga, Project Cycle Management Technical Guide

2. Specify criteria to determine the degree of relevance of components, subcomponents and items;
3. Specify criteria to calculate the overall relevance of the tool;
4. Make a comparison between MPA components and related achievements from a human poverty perspective (as defined above);
5. Elaborate a scheme to assess MPA's degree of relevance by identifying the related level of results;
6. Analyse the MPA components, subcomponents and items in order to evaluate the overall relevance of the tool.

Combining the log frame approach and capabilities approach

The author, in accordance with the capabilities approach point of view, defines concepts of inputs, outputs and outcomes derived from the log frame approach.

The box below contains the definitions adopted in this report.

Definitions

Outcomes: actual achievements in household living conditions (e.g. the household members are well nourished).

Outputs: necessary conditions to obtain specific achievements, but not sufficient to guarantee achievements by themselves.

Inputs: commodities or provided services that are expected to contribute in improving living conditions (only in the case where precise cultural, social and economic conditions occur and/or *a priori* assumptions are verified).

After the definitions of the main concepts, the author will determine the analysis criteria for the MPAT components, subcomponents and items.

Components: according to the description provided by the MPA outline (version 2), determine whether the component tries to measure outcomes, or outputs, or inputs of the related poverty dimension.

Subcomponents: according to the description provided by the MPA outline (version 2), determine whether the subcomponent tries to measure an outcome, an output or an input of an aspect related to the specific poverty dimension.

Items: determine whether every single item is designed to collect information on outcomes, outputs or inputs of the related dimension.

Overall relevance: determine whether items of a single component, considered as a whole, can or cannot collect sufficient information on the related living condition achievements. An arbitrary value will be assigned to each item according to its relevance characteristics (outcome =5; output = 3; input =1). Then, the mean value will be calculated for every component. The overall relevance of the tool is calculated as the mean value of each component value. Different intervals correspond to different degrees of relevance – see Table 1.

Table 1 Degree of relevance and related interval values

Very high	High	Medium high	Medium	Medium low	Low	Very low
5 – 4	3.5 – 3.9	3 – 3.4	2.5 – 2.9	2 – 2.4	1.5 – 1.9	1 – 1.4

Table 2 Comparison between MPA components and related basic functionings

MPA Components	Basic functionings
Food & Nutrition Security	• To be well nourished
Education	• To be able to read and write
Health & Healthcare	• To be in good general health
Housing	• To be well-sheltered
Sanitation & Hygiene	• To be able to escape avoidable morbidity and premature mortality • To be in good general health
Domestic Water Supply	• To be able to escape avoidable morbidity and premature mortality • To be in good general health • To be well-nourished
Agricultural Assets	• To be able to maintain one's life • To be able to realize a meaningful life • To be able to actively engage to meet one's needs
Non-agricultural Assets	• To be able to maintain one's life • To be able to realize a meaningful life • To be able to actively engage to meet one's needs
Resilience to Shocks	• To not be vulnerable to different kinds of shocks and hazards
Gender Equality	(At individual level, Gender Equality, more than an achievement itself, represents equal opportunities for men and women to achieve the same living conditions, as well as the equality in actual achievements. Therefore, Gender Equality can be considered a social achievement in living conditions).

Table 3 Levels of results scheme

	Food and Nutrition Security	Education	Health & Healthcare	Housing	Sanitation & Hygiene	Domestic Water Supply	Agr. Assets	Non-Agr. Assets	Resilience to Shocks	Gender Equality
OUTCOMES	To be well nourished	To be literate	To be healthy	To be well sheltered To live in decent conditions	To be healthy To be able to escape avoidable morbidity	To be healthy To be able to escape avoidable morbidity To be well nourished	To be able to maintain one's life To be able to actively engage to meet one's needs	To be able to maintain one's life To be able to actively engage to meet one's needs	To be not vulnerable to different kinds of shocks and hazards	Equal opportunities for men and women to achieve the same living conditions Equality in actual achievements
OUTPUTS	Access to food Food consumption	Access to education	Access to healthcare	Structure capacity to cope with climate and environment challenges	Decent sanitary conditions Good hygiene practices	Access to safe drinking water Access to sufficient quantity of water to meet daily needs	Production for self-consumption or market sale Affordability	Having enough money to purchase food and other commodities ability of services	Limited exposure Coping strategies Rapid recovery	Equal access to commodities and services provided
INPUTS	Availability of food	Education services provided	Healthcare services provided	Housing facilities Structure quality	Sanitation facilities Hygiene knowledge	Availability of water Water source quality	Access to land Affordability of agricultural inputs	Income Remittances Financial services	Information services Social security nets Good community relationships	(All the inputs of the other 9 components)

The scheme above is an attempt to synthesize concepts of inputs, outputs and outcomes, derived from the log frame approach, and the definitions of means and ends, derived from the capabilities approach, in order to define different levels of results in the achievement of living conditions.

The higher the level of results, the higher the relevance of the item in question. Inputs are the easiest to measure, but also have the poorest degree of relevance. According to the capabilities approach, inputs are considered as means.

Outputs are first-level results. They can be considered as ends when compared to inputs. But they are still considered as means from the capabilities approach perspective, because they are not functionings by themselves.

Outcomes represent the highest level of results that can be measured (usually what can be actually measured are proxies of outcomes). They are understood as ends by the capabilities approach. They correspond to functionings. From a human poverty point of view, if we focus only on outcomes (as defined in box 2) there is a correspondence among basic needs and functionings.

The goal then will be to free people from basic needs deprivation, at least from the capabilities approach perspective.

It is important to underline that even if a link among different levels of results does exist, this is not ruled by a direct cause-effect relation. In other words, an achievement in a lower level of results (e.g. inputs) could be a necessary pre-condition for the achievement in a higher level (e.g. outputs), but it would not assure the achievement in related higher levels.

For this reason, indicators should focus on outcomes instead of other levels of results. During the selection of indicators or questionnaire items (as in the case of MPAT), the considerations about time and budget constraints, as well as difficulties in collecting data, can influence practitioners' choices, suggesting that they shift from the outcomes to a lower level of analysis. In those cases, during the data analysis phase, it is important to keep in mind that data collected give us only partial information on what we are measuring.

In particular, regarding the MPAT, a medium degree in the overall relevance will be considered acceptable for the following reasons:

- The MPAT is designed to provide an overview of those dimensions/sectors that are most in need of interventions.
- The MPAT aims to be simple, quick and inexpensive.
- According to the rural poverty definition adopted, the tool includes components that are inputs by definition (Agricultural and Non-Agricultural Assets). These components are included because they are considered instrumental in the rural poverty context. However, they are unavoidably expected to reduce the overall relevance of the tool from the perspective of the capabilities approach. For the same reason, the author will calculate the overall relevance of the tool first including and then excluding the above-mentioned components.

Results

According to the analytical methodology adopted, the author analysed all the components, subcomponents and items of the MPAT in order to evaluate the overall relevance of every component as well as the relevance of the entire tool.

The table below summarizes the results for components, subcomponents and the specific items to be measured via the MPA questionnaire or interviews (thus, under the "Item" column, "a" refers to question "a" for the given subcomponent). In addition, the expected time consumption for every item was estimated as well (under the "time" column, "L" is for long time required, "S" is for short time required). The last column reports the overall relevance degree calculated for each component and for the tool as a whole. The last two rows report the totals and percentages. The first total includes Agricultural and Non-agricultural Assets. The second one excludes these two components.

Table 4 MPAT: Degree of relevance from the capabilities approach perspective

MPA Component	Subcomponent	Item	Time		Outcome	Output	Input	Overall Relevance for the CA
			L	S				
1. Food and Nutrition Security	1.1 Consumption	a		X		X		Medium high
		b		X	X			
	1.2 Access stability	a		X		X		
		b		X		X		
	1.3 Nutrition quality	a	X			X		
2. Education	2.1 Quality	a		X			X	Medium low
	2.2 Availability	a		X			X	
		b		X			X	
	2.3 Access	a		X		X		
		b		X		X		
		c		X		X		
3. Health & Healthcare	3.1 Health status	a		X	X			Medium high
		b		X	X			
		c	X		X			
	3.2 Access & affordability	a	X			X		
		b	X			X		
		c		X		X		
		d		X		X		
	3.3 Healthcare quality	a		X			X	
		b		X			X	
4. Housing	4.1 Structure quality	a		X			X	Very low
		b		X		X		
	4.2 Facilities	a		X			X	
		b		X			X	
	4.3 Light source	a		X			X	
5. Sanitation & Hygiene	5.1 Quality	a		X			X	Medium
	5.2 Household waste management	a	X			X		
		b	X			X		
	5.3 Hygiene practices	a		X		X		
		b		X		X		
6. Domestic Water Supply	6.1 Quality	a	X				X	Medium
		b		X		X		
	6.2 Availability	a		X		X		
		b	X			X		
	6.3 Access	a	X			X		
		b		X		X		

MPA Component	Subcomponent	Item	Time L	Time S	Outcome	Output	Input	Overall Relevance for the CA
7. Agricultural Assets	7.1 Land tenure & quality	a		X			X	Very low
		b	X				X	
		c		X			X	
		d		X			X	
	7.2 Agricultural inputs	a	X				X	
		b	X				X	
		c		X			X	
		d		X			X	
	7.3 Livestock & crops	a	X				X	
		b	X				X	
8.Non-Agr. Assets	8.1 Employment & skills	a		X			X	Very low
		b		X			X	
	8.2 Financial services	a		X			X	
		b		X			X	
		c		X			X	
	8.3 Fixed assets	a		X			X	
		b		X			X	
9. Resilience to Shocks	9.1 Exposure	a	X			X		Medium
	9.2 Coping ability	a	X			X		
	9.3 Recovery ability	a		X		X		
		b		X		X		
		c		X			X	
10. Gender Equality	10.1 Food consumption	a		X		X		Medium low
	10.2 Access to education	a		X		X		
		b		X		X		
		c		X		X		
	10.3 Access to healthcare	a		X		X		
		b		X			X	
		c		X			X	
Total 1 (including Components #7 and #8)		65*	16	49	4	30	31	Medium low
%		100%	24.6	75.4	8%	46%	46%	
Total 2 (excluding Components #7 and #8)		48**	11	37	4	30	14	Medium
%		100%	22.9	77.1	8.3%	62.5%	29.2%	

* Total number of items including Components 7 and 8.

** Total number of items excluding Components 7 and 8.

Data analysis

The data from table 4 provide information on the degree of relevance that the MPAT has with respect to the capabilities approach. The results are that, except for the Housing component, the tool tries to collect information with a relatively high degree of relevance for all the dimensions considered as fundamental from the capabilities approach perspective (Food Security, Education, Health & Healthcare, Housing, Sanitation & Hygiene, Domestic Water Supply, Resilience to Shocks, Gender Equality). Two of these components present a medium-high degree of relevance, three a medium degree, two a medium-low and only one component shows a very low degree.

As expected, the relevance degree for Agricultural Assets and Non-agricultural Assets is very low because of the nature of the each of the components. This notwithstanding, if we consider the general objectives and characteristics of the tool, the overall relevance presents a relatively high degree (medium-low). This is particularly true if we do not consider components 8 and 9 in calculating the overall relevance. In this case, the overall relevance presents a medium degree.

Whether we include or exclude components 8 and 9, more than half of the items (52 per cent including all components; 70.3 per cent excluding components 8 and 9) have a medium or higher degree of relevance. Moreover, the time required to collect the information is expected to be short for more than 75 per cent of the items on the questionnaire.

Conclusions

After reviewing all the data and tables, I can affirm that the MPAT has an acceptable degree of relevance from a capabilities approach viewpoint. Even though the tool was not developed starting from this approach, I consider it an added value that the tool is also relevant for the capabilities approach.

According to the data reported in table 4, almost every item is expected to require a short time to be collected and, at the same time, presents a relatively high degree of relevance. In fact, this was confirmed during the MPA version 1 pre-testing session in Hebei Province (December, 2008).

Even when the components definition does not reflect the human poverty perspective, (as is the case with the Health & Healthcare component), the component's overall degree of relevance is more than acceptable.

Among the components considered as basic living standard achievements (again, from the capabilities approach perspective), only the Housing component presents a very low degree of relevance. However, it must be underlined that it is very difficult to collect data that refer to outcomes in this poverty dimension.

During the second pre-pilot testing and the pilot phase, I suggest adopting the approach used in this report to further develop the tool. The capabilities approach could also be adopted during the validation phase. In my opinion, it would be useful to verify whether a relation exists between the indicators adopted by the MPAT and outcome indicators of each poverty dimension analysed.

References

Alkire, S., *Choosing dimensions: the capability approach and multidimensional poverty*, CPRC Working Paper 88, University of Oxford, UK, August, 2007.

Anand, P., Beyond GNP and Current HDI: An Overview of The Capabilities Measurement Project, The Open University and HERC, Oxford University, UK, 2008.

Anand, P. et al., Measurement Human Capabilities, Open Discussion Papers in Economics 53, The Open University, Faculty of Social Sciences, Department of Economics, UK, 2007.

Clark, D. A., *The Capability Approach: Its Development, Critiques and Recent Advances*, GPRG Working Paper 32, Universities of Manchester and Oxford, UK, 2005.

Günther, I., Klasen, S., *Measuring chronic non-income poverty*, CPRC Working Paper 79, Germany, May, 2007.

Martinetti, C. E., *A Multidimensional Assessment of Well-Being Based on Sen's Functioning Approach*, Dipartimento Economia Pubblica e Territoriale, Università di Pavia, Italy, 2000.

Raya, R. R., *An Alternative Measure of Poverty and Human Capability*, Action for Economic Reforms, Philippines, 2001.

Schokkaert, E., *The capabilities approach*, Center for Economic Studies – Discussion papers ces0734, Katholieke Universiteit Leuven, Centrum voor Economische Studiën, Belgium, 2007.

Sen, A. K., *The Standard of Living: The Tanner Lectures*, Cambridge, Cambridge University Press, UK, 1987.

Sen, A. K., *Development as Freedom*, Oxford, Oxford University Press, UK, 2001.

Social Watch Report, *Basic Capabilities Index*, 2005.

Social Watch Report, *Basic Capabilities Index*, 2008.

Waglé, U. R., *Multidimensional poverty: an alternative measurement approach for the United States?*, Social Sciences Research, 37(2):559-80, USA, June, 2008.

Annex IV MPAT v.6 outline[68]

Multidimensional Poverty Assessment (MPA) Survey Outline

Household Questionnaire & Village-level Interview Data, organized by MPA Component (Draft v.6)

MPA Outline: Structure & Content

Component	Subcomponents	Household Questionnaire	Village-level Interview
1. Food & Nutrition Security This component measures the stability and availability of sufficient quantities of adequately nutritious food to the household.	**1.1 Consumption** This subcomponent attempts to assess whether or not the household has a sufficient quantity of food most of the time.	35.1) During the last 12 months, how often did any member of your household eat fewer meals, or smaller portions, than usual because there was not enough food? Never (1) | Once or twice (2) | Once a month (3) | A few times a month (4) About once a week (5) | A few times a week (6) | Every day (7) | Don't know (8) 35.2) During the last 12 months, how often did any member of your household go to sleep at night hungry? Never (1) | Once or twice (2) | Once a month (3) | A few times a month (4) About once a week (5) | A few times a week (6) | Every day (7) | Don't know (8)	
	1.2 Access Stability This subcomponent attempts to assess the stability of the household's access to food.	35.3) During the past 12 months, did your household experience a period of time longer than two weeks where there was not enough food? (if "yes", how many such periods)? No (1) | Yes, one (2) | Yes, two (3) | Yes, three (4) Yes, four (5) | Yes, more than four (6) | Don't remember (7) | Other, specify: (8) 35.4) During the past 12 months, did your household ever experience one full day with no food to eat? Never (1) | Once or twice (2) | Approximately once a month (3) Approximately every two weeks (4) | Often (5) | Don't know (6)	
	1.3 Nutrition Quality This subcomponent attempts to assess the diversity of the household's diet as a proxy measure for balanced nutrition intake.	36) During the last 12 months, how often did the majority of your household eat the following foods? 1. Never | 2. Rarely 3. Once a month | 4. A few times a month 5. About once a week | 6. A few times a week 7. Every day 8. Not eaten for religious or cultural reasons Grains (cereals, bread, rice, pasta) Roots &/or tubers (potatoes) Vegetables Fruits Dairy &/or eggs Meat &/or fish-seafood Nuts &/or legumes (&/or derivatives, such as tofu)	

68/ Note to reader: This is the outline of MPAT version 6 (as it appeared when used). The final version is found above in section 9.2.

2. Domestic water supply

This component measures the likely quality of domestic water as well as the stability of supply and household's access to it.

2. 1 Quality

This subcomponent attempts to assess the likely quality of the water the household uses for domestic purposes.

15) What is the **main source** (meaning, the source water comes from immediately before being used) of the water your household uses for drinking, cooking, bathing and cleaning inside the home?

During the rainy season		During the dry season		During most of the year	
No rainy season in our area (-1)		No dry season in our area (-2)		Don't know (-3)	

1. Private* borehole (< 20m deep)	2. Piped from water treatment plant
3. Communal borehole (< 20m deep)	4. Spring
5. Private* borehole (> 20m deep)	6. River
7. Communal borehole (> 20m deep)	8. Stream
9. Private well (< 20m deep)	10. Pond
11. Communal well (< 20m deep)	12. Water vender
13. Private well (> 20m deep)	14. Rainwater harvesting container (open)
15. Communal well (> 20m deep)	16. Rainwater harvesting container (closed)
17. Large dam (built & managed by government, company or collective)	18. Small dam (built & managed by 1-15 households)
19. Irrigation canal	20. Other (specify):

["Private" means used primarily by the household, but may also be shared with 2-4 other households, and is located within 100 meters of the household. "Communal" means it is shared by 5 or more households.]*

16.1) Generally, what do you think the quality of your households' water is?

Don't know (1)	Very bad (2)	Poor (3)	Fair (4)
Satisfactory (5)	Good (6)	Very good (7)	

16.2) Does your household treat water before drinking it (any treatment method: boiling, allowing to settle, filter, chemical treatment, etc.)?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)
Always (5)	No treatment is necessary (6)		

2.2 Availability

This subcomponent attempts to assess the stability and quantity of domestic water supply to the household.

17.1) During the last 12 months, for how many months was your household's main source of water sufficient to meet your household's drinking, cooking, bathing and cleaning needs?

Months:		Don't remember (-1)

17.2) How often do you worry there will not be enough water from your household's main water source to satisfy your household's drinking, cooking, bathing and cleaning needs?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

2.3 Access

This subcomponent attempts to assess the degree of access household's have to their main water source.

18) Approximately how much time (in minutes) does it take a member of your household to gather enough water for your household's drinking, cooking, bathing and cleaning needs for a normal (average) day?
[If water is gathered from a piped supply in the household record "1" minute]

During the rainy season		During the dry season		During most of the year	
No rainy season in our area (-1)		No dry season in our area (-2)		Don't know (-3)	

19) Can your household usually afford to pay the fees (direct payments only, not maintenance fees) for using water from your household's main water source?

No (1)	Rarely (2)	Sometimes (3)	Often (4)
Always (5)	Household does not need to pay for their water (6)		

3. Health & Healthcare

This component measures the quality of healthcare via its output (i.e., health status), people's access to healthcare and the quality of care provided.

3.1 Health Status

This subcomponent attempts to assess the status of people's health (providing a proxy measure of the output of existing healthcare).

6.1) In the last 12 months, how often has someone in your household been ill (any non-serious illness)?

Never (1)	Once or twice (2)	Once a month (3)	A few times a month (4)
About once a week (5)	A few times a week (6)	Every day (7)	Don't know (8)

6.2) In the last 12 months, how often has someone in your household been seriously ill (meaning they are so ill that they stay in bed or lying down for two or more days at a time)?

Never (1)	Once or twice (2)	Once a month (3)	A few times a month (4)
About once a week (5)	A few times a week (6)	Every day (7)	Don't know (8)

6.3) In the last 12 months, how often has someone in your household had any kind of rash or skin disease that remained for more than two weeks?

Never (1)	Once or twice (2)	Once a month (3)	A few times a month (4)
About once a week (5)	A few times a week (6)	Every day (7)	Don't know (8)

56) In the last 24 months, how has the overall health of the majority of the people in your village/area changed?

Improved slightly (1)	Improved moderately (2)	Improved a lot (3)
Worsened slightly (4)	Worsened moderately (5)	Worsened a lot (6)
No significant change (7)	Don't know (8)	Other, specify: (9)

3.2 Access & Affordability

This subcomponent attempts to assess household's access to healthcare centers and the affordability of the healthcare they provide.

7.1) How long does it take (in minutes/hours) for members of your household to reach the nearest health center which can diagnosis simple illness, or treat simple injuries, and proscribe basic medicines?

Household self-diagnoses, self-medicates for minor illnesses (-1)	No health center in the area (-2)
Health center is too far to travel to (-3)	# of minutes =

7.2) How long does it take (in minutes/hours) for members of your household to reach the nearest health center which can diagnosis and treat complicated or serious illnesses or injuries (can perform surgery)?

No health center in the area (-1)	Health center is too far to travel to (-2)	Don't know (-3)	# of minutes =

8.1) Can your household afford professional treatment for non-serious illness or injury (if you chose to)?

No (1)	Yes, if money is borrowed (2)	Yes, with much difficulty (3)	Yes, with some difficulty (4)
Yes, because government or employer helps pay for treatment (5)	Yes, household can afford it (6)		

8.2) Can you household afford professional treatment for serious illness or injury?

No (1)	Yes, if money is borrowed (2)	Yes, with much difficulty (3)	Yes, with some difficulty (4)
Yes, because government or employer helps pay for treatment (5)	Yes, household can afford it (6)		

3.3 Healthcare Quality

This subcomponent attempts to assess the quality of healthcare provided in the village/area.

Information to be collected from interview with village/area's healthcare staff (and/or village leader/s).

41) What are the approximate population and number of households in your village/area?

Population		Number of households		Don't know (-1)

50) How many healthcare centers (public & private) are there within approximately 5km of your village/area's center?

Healthcare Centers	

What are their names (fill in table below)? this is used to ensure data from the same clinic/s are not used more than once

51) How many patients can be treated (attended to) in one day (maximum capacity) at each center?

52) Does each center usually have enough medical supplies to provide adequate healthcare?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

53) How many full-time (work most days a week) and part-time (work 1 to 3 days a week) healthcare staff work in these health center/s?

Full-time staff		Part-time staff	

54) How many years have they been working (total, your village/area and elsewhere)?

55) How many years of formal training have they completed?

4. Sanitation & Hygiene

This component measures the quality of the household's sanitation (toilet facilities), food waste management and personal hygiene.

4.1 Toilet Facility

This subcomponent attempts to assess the general quality of the toilet facilities the household uses.

12.1) What type of toilet facility does your household usually use?

None (open defecation) (1)	Communal-open pit (2)
Communal-enclosed pit (3)	Communal-enclosed improved-ventilation pit (4)
Communal-open compost or biogas (5)	Communal-enclosed compost or biogas (6)
Private-open pit (7)	Private-enclosed pit (8)
Private-enclosed improved-ventilation pit (9)	Private-open compost or biogas (10)
Private-enclosed compost or biogas (11)	Private-enclosed pour-flush toilet (12)
Private-enclosed flush (13)	Other, specify (14):

"Open" means there is no structure, or a structure with no roof. "Enclosed" means there is a structure with any sort of roof. "Communal" means the facility is shared by more than 5 households. "Private" means the facility is used by 1-4 households.

[If the household uses a toilet facility of any kind, ask:]

12.2) How often is the toilet broken or unusable?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Don't know (6)

4.2 Household waste management

This subcomponent attempts to assess how the household manages their waste materials.

13.1) What does your household usually do with meat, fish, egg and/or dairy food waste (any parts not consumed by people in the household)?

13.2) What does your household usually do with vegetable and/or fruit food waste (any parts not consumed by people in the household)?

13.3) What does your household usually do with non-food waste?

1. Discard close to the house [within 25 meters]	2. Discard near the house [between 25 and 75 meters from the house]	
3. Discard far from the house [75 meters or more]	4. Feed to livestock	5. Burn it
6. Feed to pets or guard dogs	7. Compost it	
8. Use for biogas generation	9. Sell to vender	
10. It is collected regularly [organized garbage collection within 75 meters of house]	11. It is collected regularly [organized garbage collection further than 75 meters from the house]	
12. Other, specify:		

4.3 Hygiene practices

This subcomponent attempts to assess the quality of the household's general hygiene practices.

14.1) How many times a week do most members (the majority) of your household brush their teeth?

Never (1)	Rarely (2)	One or two days a week (3)	Most days of the week (4)	
Usually once every day (5)	Usually twice each day (6)	Usually three times each day (7)		

14.2) How often do members of your household wash their hands (with or without soap) before eating a meal?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

14.3) How often do members of your household wash their hands (with or without soap) after defecating?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

5. Housing & Energy

This component measures the general quality of the household's housing structure, the facilities available and the energy sourced used in the home.

5.1 Structure Quality

This subcomponent attempts to assess the physical quality of the housing structure, and its ability to withstand extreme weather events.

10.1) What is the **primary** construction material of the housing unit's exterior walls?

1. Stone & mortar	2. Metal sheeting	3. Reinforced concrete	4. Brick
5. Logs	6. Earth	7. Mud or earth bricks	8. Mud & straw
9. Thin wood	10. Bamboo	11. Thick plastic	12. Thin plastic
13. Reeds	14. Thick fabric	15. Thin fabric	16. Other, specify:

10.3) Does it appear that the housing unit could withstand high winds and/or severe rain and/or hail without significant damage?

No (1)	Yes (2)	Yes, with minor damage (3)	Perhaps, but with significant damage likely (4)
Little to no extreme weather in this region (5)		Unable to determine (6)	

5.2 Facilities

This subcomponent attempts to assess the general availability and quality of the home's facilities for sleeping and food preparation.

1) How many female and male adults (age 15 and older) live and sleep in your home more than 9 months every year, and how many permanent beds, or bedding areas, are in your home?

Female adults		Male adults		Number of beds		Don't know (-1)	

34) What type of food preparation area do you have in your household?

Winter		Rest of the year	
1. No food preparation area		2. Food preparation area outside the home	
3. Food preparation area inside the home with minimal facilities		4. Food preparation area inside the home with a stove [at least one burner, any fuel source]	
5. Food preparation area inside the home with a stove and an oven [any size, any fuel source]		6. Food preparation area inside the home with a refrigerator or freezer [any size]	
7. Both (5) and (6)	8. No winter/cold season in our area		9. Other, specify:

5.3 Energy

This subcomponent attempts to assess the likely quality of the fuel/s the home uses for lighting, cooking and heating.

11.1) What is the **primary** source of light your home uses when it is dark?

11.2) What is the **primary** fuel source your household uses for cooking?

11.3) What is the **primary** fuel source your household uses for heat?

1. None	2. Electricity from a grid [legal or illegal connection]	
3. Electricity from a generator	4. Electricity from solar cells or small, local, hydroelectric dam	
5. Liquid fuel [petrol, kerosene, etc.]	6. Gas fuel [methane from tank, biogas, etc.]	
7. Vegetable or animal based fats or oils	8. Candle, paraffin wax, or battery-powered source	
9. Wood, sawdust, grass or other natural material	10. Coal or charcoal	
11. Don't know	12. Heat is not needed in the region	

6. Education

This component measures the quality of children's formal education, its availability and children's access to it.

6.1 Quality

This subcomponent attempts to assess the likely quality of the education provided in the village/area.

Information to be collected from interview with village/area's head teacher (or the most senior teacher available).

43) How many schools (for students aged 5 to 14) are there in your village/area?
What are their names? this is used to ensure data from the same school/s are not used more than once
What is the total number of **useable** classrooms in each?

48) In the last two school years, how has the overall performance of the majority of the students changed?

Improved slightly (1)	Improved moderately (2)	Improved a lot (3)
Worsened slightly (4)	Worsened moderately (5)	Worsened a lot (6)
No significant change (7)	Don't know (8)	Other, specify: (9)

6.2 Availability

This subcomponent attempts to assess the availability of education.

Information to be collected from interview with village/area's head teacher (or the most senior teacher available).

44) How many full-time (work almost every school day) and part-time (work roughly half the school days) teachers are there?

Full-time teachers		Part-time teachers	

45) What is the total number of female and male students (age 5 to 14) who attend classes regularly (at least 4 days a week)?

Female students		Male students	

46) Do the teachers have adequate teaching supplies to teach effectively?

No (1)	A few teachers do (2)	About half the teachers do (3)
Most teachers do (4)	Yes, all teachers do (5)	Don't know (6)

47) Do the students have adequate school supplies to learn/study effectively?

No (1)	A few students do (2)	About half the students do (3)
Most students do (4)	Yes, all students do (5)	Don't know (6)

49) How many potential-students were the school/s unable to accept due to limited places (or sleeping space in the school dorms) and/or limited school supplies?

None (-1)	Number of potential students		Don't know (-2)

6.3 Access

This subcomponent attempts to assess how easily school-aged children in the household can attend school if they or their household wishes.

4.1) How long does it take, in minutes, for the school-age children (age 5-14) in your household to go to school (by any means: for example, walking, bicycle, scooter, bus, etc.)?
[Enumerator to record the average time if children attend different schools.]

No school-age children in the household (-1)	Children usually live at school (-2)
# of minutes =	Don't know (-3)

4.2) Can your household afford your children's school fees and school supplies?

No (1)	Rarely (2)	Sometimes (3)	Usually (4)
Yes (5)	Household does not pay the fees and cannot afford supplies (6)		
Household does not pay fees, but can afford supplies (7)	Household does not pay fees or supply costs (8)		

7. Agricultural Assets

This component measures the household's general ability to produce food and/or create agriculture-based income.

7.1 Land Tenure

This subcomponent attempts to assess the household's land tenure status.

20) Does your household have access to land for agriculture (for crops, grass, trees, etc.)?

Yes (1)	No (2)	*[If "No" skip to question 27]*

21.1) How much land does your household have for agriculture (for crops, grass, trees, etc.)?

Hectares:		Don't know (-1)	*[Enumerator to convert local measurement to hectares]*

24) What kind of ownership does your household have for this land?

1. Illegal access, squatting	2. Leasehold between 10-20 years
3. Share-cropping arrangement	4. Leasehold between 21-30 years
5. Rented for less than 12 months	6. Leasehold between 31-40 years
7. Leasehold less than 5 years	8. Leasehold for period of more than 40 years
9. Leasehold less than 10 years	10. Freehold (legally owned)

7.2 Land Quality

This subcomponent attempts to assess the likely quality of the household's land and soil.

25.1) Is the majority of your household's land flat, gently-sloping or steep?

Don't know (1)	Steep (2)	Gently sloping (3)	Flat (4)	Terraced (5)	Mixed (6)

25.2) What kind of soil covers the majority of your household's land?

Don't know (1)	Stony-gravely (2)	Clay (3)	Loamy [mixed clay, sand &/or silt] (4)	
Sandy (5)	Wet (6)	Droughty (7)	Mixed, specify (8):	Other, specify (9):

25.3) What is the average depth of the topsoil?

Don't know (1)	Thin [< ~15cm] (2)	Medium [~20cm to 40cm] (3)	Thick [> ~45cm] (4)

7.3 Crop/Livestock/Fishery Inputs

This subcomponent attempts to assess the availability of water, compost/manure/fertilizer, seeds and food for the household's production of crops and/or livestock and/or fish.

22) During the dry season, is there usually enough water for your household's crops and livestock?

Crops		Little, or no, crops (1)	Little, or no, livestock (2)	Never (3)	Rarely (4)
Livestock		Sometimes (5)	Often (6)	Always (7)	No dry season in our area (8)

23) During the rest of the year, is there usually enough water for your household's crops and livestock?

Crops		Little, or no, crops (1)	Little, or no, livestock (2)	Never (3)	Rarely (4)
Livestock		Sometimes (5)	Often (6)	Always (7)	

26.1) During the last two years, was your household able to make, or buy, enough compost/manure or artificial fertilizer for each growing season?

Household does not think they need to use compost/manure or fertilizer (1)				
No (2)	Rarely (3)	Sometimes (4)	Often (5)	Always (6)

26.2) During the last two years, was your household able to afford enough seeds for each growing season?

Not necessary because household saved seeds (1)	No (2)	Rarely (3)	Sometimes (4)
Often (5)	Always (6)	Other, specify (7):	

26.3) Does your household usually have enough people to manage/work your farm land?

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

8. Non-Agricultural Assets

This component measures the household's non-agricultural income-generating ability, access to credit and household wealth.

8.1 Employment & Skills

This subcomponent attempts to assess the household's income earning potential from small business and/or skilled service provision.

38.1) During the last 12 months, has anyone in your household managed/ran their own non-agricultural business for at least 6 months in total?

Yes (1)	No (2)

38.2) During the last 12 months, has anyone in your household provided others a skilled service (for example, equipment repair, tailoring, construction) for money or barter?

No (1)	Yes, a few times (2)	Yes, about once a month (3)	Yes, a few times a month (4)	
Yes, a few times a week (5)		Yes, usually every day (6)		

8.2 Financial Services

This subcomponent attempts to assess household's access to financial services.

39.1) If your household wanted to borrow money from a bank or other financial service provider (not including friends or relatives) would it be easy to borrow money?

No (1)	Probably not (2)	Probably yes (3)	Yes, definitely (4)	Don't know (5)

39.2) Is your household currently in debt?

No (1)	Yes, a little (2)	Yes a moderate amount (3)	Yes, a lot (4)

40) To whom is the majority of this debt owed?

1. Relatives	2. Friends	3. Village fund	
4. Village government	5. Rural credit cooperative	6. Private money lender	
7. Microfinance institution	8. Government bank	9. Private Bank	
10. Joint village & bank fund	11. Joint development project & bank fund	12. Other, specify:	

8.3 Fixed Assets & Remittances

This subcomponent attempts to assess the household's likely wealth.

2) How many of these adults live and work **outside** your household for more than 9 months every year?

Adults		None (-1)

10.2) What is the **primary** construction material of the housing unit's main roof?

1. Stone & mortar	2. Tiles or shingles	3. Synthetic roofing material	4. Metal sheeting
5. Reinforced concrete	6. Thin wood	7. Thick wood	8. Bamboo
9. Thick plastic	10. Thin plastic	11. Straw or reeds	12. Other, specify:

9. Exposure & Resilience to Shocks

This component measures the household's exposure to natural and socioeconomic shocks and their ability to cope and recover from such shocks.

9.1 Degree of Exposure

This subcomponent attempts to assess the severity of exposure the household faces from natural and/or socioeconomic shocks/hazards.

29) Of all the possible negative **events**, natural or socioeconomic, which could occur in the next 12 months, which five are you most worried about (as far as negative impacts to your household, household member's livelihoods and/or the household's agriculture/livestock)?
*[Enumerator to list up to five events, from "most worried about" (1) to "less worried about". Enumerator can provide examples of specific events **only** if respondent does not understand the question once it is read twice.]*

30) For these events, **how damaging** would each be for your household? *["likely severity"]*

31) For these events, **how likely** is it that the event will occur in the next 12 months? *["likely frequency"]*

Don't know (-1)	Not very worried about any negative events (-2)		
Likely severity=	Low-minor (1)	Medium-moderate (2)	High-major (3)
Likely frequency=	Unlikely (1)	Likely (2)	Very likely (3)

1.Drought	2.Dry spell	3.Flood	4.Erratic rainfall
5.Acid rain	6.Frost	7.Hail	8.Snow or blizzard
9.Earthquake	10.Volcanic eruption	11.Typhoon/hurricane	12.Tornado
13.Strong wind	14.Dust storm	15.High temperatures	16.Low temperatures
17.Subzero temperatures	18.Fire	19.Insect attack	20.Crop pests
21.Lack of fertilizer &/or too expensive	22.Bad seeds	23.Soil problems	24.Livestock disease
25.Irrigation problems	26.Labor shortage	27.Theft	28.Low market prices for crops / livestock
29.Poor market access	30.Family sickness	31.Debt	32.Local conflict
33.National conflict	34.Taxes	35.Unemployment	36.Lose house
37.Personal violence	38.Corruption	39.Imprisonment	40.Other, specify:

9.2 Coping Ability

This subcomponent attempts to assess the household's ability to cope with natural and/or socioeconomic shocks/hazards.

32) If two or three of the five negative events you just mentioned *[in question 29]* where to occur in the next 12 months, what are the three main ways your household would likely react (cope)?

Don't know (-1)	Primary strategy		Secondary strategy		Tertiary strategy

1.Seek off-farm work	2.Children help more than usual with household work	3.Ask friends to help with farm labor or business	4.Ask family to help with farm labor or business
5.Reduce healthcare spending	6.Reduce alcohol consumption	7.Reduce meat consumption	8.Reduce fuel consumption
9.Use savings	10.Sell livestock	11.Sell stored grain	12.Sell durable goods
13.Plant fewer crops next growing season	14.Postpone payment of debts	15.Borrow money from relatives	16.Borrow money from friends
17.Send children to work outside the household	18.Borrow money from bank or other financial service provider	19.Borrow money from cooperative or village fund (community-based source)	20.Take children out of school so they can work
21.Lease farmland	22.Sell farmland	23.Sell business	24.Beg for money/food
25.Sell/leave home (live with relatives in area)	26.Sell/leave home (move to another area)	27.Rely on group insurance	28.Rely on private insurance
29.Rely on local government	30.Rely on national government	31.Rely on aid organizations	32.Seek technical assistance
33. Work two jobs	34. Start a business	35. Seek medical treatment	36. Other, specify:

9.3 Recovery Ability

This subcomponent attempts to assess the household's ability to recover from natural and/or socioeconomic shocks/hazards.

33.1) If one or two of the negative events you just mentioned *[in question 29]* where to occur in the next 12 months, how long do you think it would take for your household to return to a satisfactory situation?
[Record answer in months (for example, 2 years = 24 months)]

Don't know (-1)	Less than one month (-2)	Months=		Our household could not recover (-3)

33.2) If in an extreme disaster (of any sort) your household's home was completely destroyed, but your family members were not injured, how long do you think it would take for your household to rebuild your home? *[Record answer in months (for example, 2 years = 24 months)]*

Don't know (-1)	We would move (-2)	Months =		Our household could not rebuild (-3)

33.3) If one or two of the negative events you just mentioned *[in question 29]* were to occur in the next 12 months, who do you think would be most likely to assist your household?

No one (1)	Family (2)	Friends (3)	Insurance company (4)
Financial institution (5)	Local government (6)	National govt. (7)	Government (general) (8)
Aid organizations (9)	Don't know (10)	Other, specify (11):	

10. Gender Equality

This component measures the equality of access to food, education and healthcare for females & males.

10.1 Food consumption

This subcomponent attempts to assess the equality of food consumption.

37) During the last six months, when there were not enough of the **best tasting foods** for everyone in your household, who usually ate the most (of the best tasting food)?

1. Females age 4 or less	2. Males age 4 or less	3. Females age 5-14	4. Males age 5-14
5. Young female adults	6. Young male adults	7. Middle-age females	8. Middle-age males
9. Elderly females	10. Elderly males	11. (1) and (2)	12. (1) and (3)
13. (2) and (4)	14. (3) and (4)	15. Don't know	16. Other, specify:

10.2 Access to education

This subcomponent attempts to assess the equality of children's access to education.

5.1) What is the highest level of schooling the female children in your household will **likely** achieve?

No female children (-1)	Don't know (-2)
Highest likely level =	

5.2) What is the highest level of schooling the male children in your household will **likely** achieve?

No male children (-1)	Don't know (-2)
Highest likely level =	

1. No formal education
2. Primary school (age 5 or 6 until age 11 or 12)
3. Junior school (age 11 or 12 until age 14 or 15)
4. High school (age 14 or 15 until age 18 or 19)
5. Technical or vocational school (post Junior school or High school, usually 2 years)
6. College or university (post high school, 3 to 5 years)
7. Advanced degree (Masters or PhD)

10.3 Access to healthcare

This subcomponent attempts to assess the equality of access to healthcare.

9.1) For the majority of the households in your village/area, do you think there is a better chance for a woman or a man to receive healthcare when needed?

Women (1)	Men (2)	About the same (3)	Don't know (4)

9.2) Do you think the healthcare centers in your village/area (within two hours distance from your home) are **usually** able to provide women with adequate healthcare when they seek it?

There are no healthcare centers in our village-area (1)	No (2)	Rarely (3)	Sometimes (4)
Often (5)	Always (6)	Yes, but since the doctor is male, women prefer not to go (7)	

Data collected to aid projects, but not for MPA calculation

3) How many children (age 0 to 14) live in your household more than 9 months every year (this includes children that spend the week sleeping at school, and return home for the weekend)?

Female children		Male children		No children in the household (-1)

21.2) How much of this land is irrigated?

Hectares:		Don't know (-1)	*[Enumerator to convert local measurement to hectares]*

27) Of the kinds of foods your household **consumed** during the last 12 months, did the majority come from your household's own production or was most purchased? *[enumerator to ask for each group below]*

Grains Vegetables & tubers/potatoes Fruits Meat, fish, tofu, dairy, eggs	Produced (1)	Purchased (2)	About half & half (3)
	Produced mostly, but also a lot purchased (4)		
	Purchased mostly, but also a lot produced (5)		
	Household does not consume this (6)		Don't know (7)

28) Does your household receive more income (monetary, or barter for goods/services) from crops or from livestock?

Crops (1)	Livestock (2)	About half & half (3)	Crops mostly, but also a lot of livestock (4)
Livestock mostly, but also a lot of crops (5)		Little to no income from crops or livestock (6)	

Data verification related

42) Of all the negative **events**, natural or socioeconomic, which occurred in the region over the **last five years**, which five were the most damaging to people in your area (as far as negative impacts to their households, livelihoods and/or agriculture/livestock)?

Annex V MPA Project second workshop: Participants and itinerary[69]

Multidimensional Poverty Assessment Project
2nd Workshop May 15th, 2009: New Delhi

Primary Participants

Name/Email	Organization
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69/ Please note that this was the planned itinerary. The actual itinerary was similar to that listed here, but there was not enough time for the roundtables to go through all ten components.

Multidimensional Poverty Assessment Project
2nd Workshop May 15th, 2009: New Delhi

MPA 2nd Workshop - Itinerary

Morning (9:00 to 12:15)

9:00 – 10:15 Opening Session

Opening address	Mihoko Tamamura (Director, WFP)
Introduction	Caroline Sullivan (Prof., SCU & Oxford)
MPA overview & workshop goals	Alasdair Cohen (Adviser, IFAD & Fulbright)

10:15 – 10:30 Tea Break

10:30 – 11:45 Subcomponent Weighting Discussion

Chair	Shaheel Rafique (Implementation Specialist, IFAD)

Brief presentation (Cohen) on MPA Sounding Board & expert's suggested weightings

Open discussion on the weightings for each MPA component (in order of MPA components)

11:45 – 12:15 Consensus building on subcomponent weightings schemes

Lunch & Break (12:15 to 14:00)

Afternoon (14:00 to 17:30)

14:00 – 14:30 Component valuations overview

Presentation (Cohen) on MPA Sounding Board & expert's suggested valuations (Q&A / Discussion)

14:30 – 15:45 Roundtables by MPA component/s

Roundtables discuss the suggested valuations for their MPA component/s

15:45 – 16:00 Tea Break

16:00 – 17:00 Consensus building on component valuations

Chair	Chengwen Wang (Prof., Tsinghua University)

Roundtables present their consensus; group discusses component valuations which roundtables were unable to agree upon (in order of MPA components)

17:00 – 17:30 Wrap-up and closing remarks

Wrap-up	Alasdair Cohen (Adviser, IFAD & Fulbright)
Closing remarks	Mattia Prayer Galletti (Country Programme Manager, IFAD)

Annex VI China in-field validation report (for MPAT v.6)

Multidimensional Poverty Assessment (MPA): China in-field validation report

Piero Celarossi

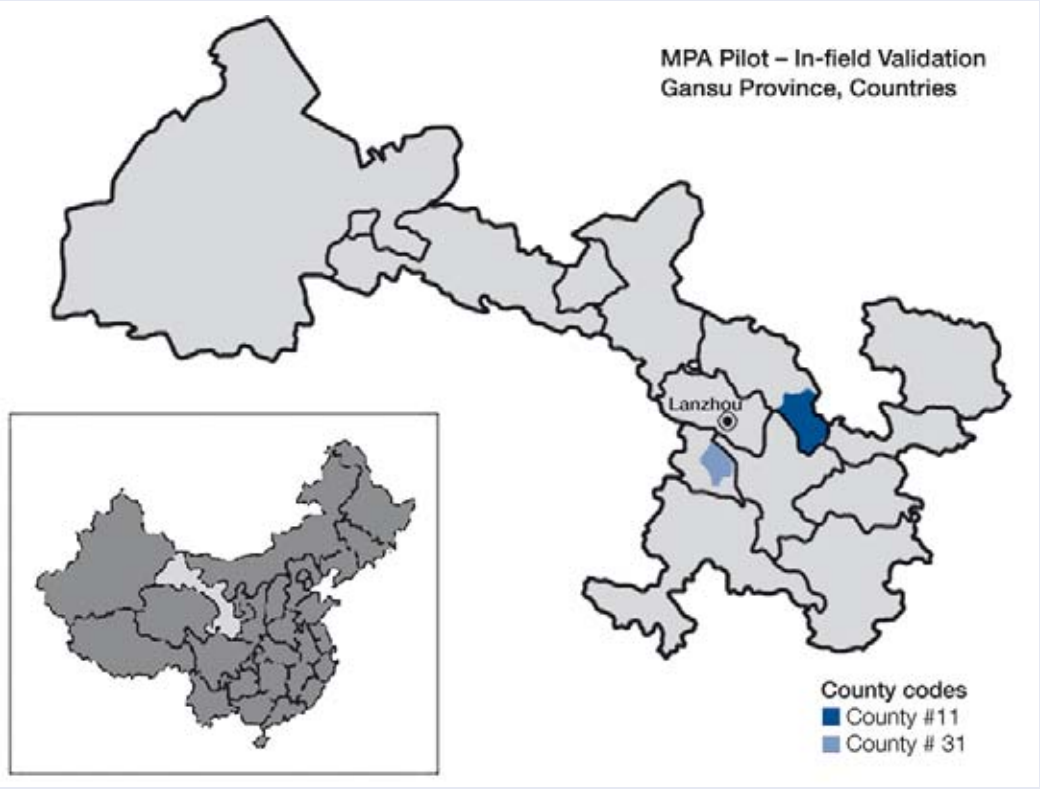
Piero Cellarosi

Figure 1
Beneficiaries seeding a field, Gansu Province

MPA pilot project – In-field validation

The MPAT pilot in China was conducted in March and April 2009 in Gansu Province, in collaboration with the Gansu Provincial Project Management Office, Gansu Provincial Department of Agriculture (DOA). The pilot was conducted in 23 villages in four counties, where data were collected from 345 households (more than 345 households were surveyed, but it was decided to utilize only data that were most likely reliable).

The MPA project team conducted an in-field validation in April 2009, in four villages in two counties of Gansu province (see map below). The counties visited were chosen in accordance with the Director of Gansu Provincial Project Management Office, DOA. The counties and villages selected for the visit were chosen so as to represent different topographical areas (Loess plateau hills in county #31 and Loess steep-sided plateau in county #11). Moreover, different ethnic groups inhabit the villages visited in the two counties: Han ethnic group in county #11 and Dongxiang (Muslim) ethnic minority in county #31.



Map created by Piero Cellarosi

Figure 2
In-field validation counties

In-field validation methodology

The purpose of this exercise was to validate the MPA tool (MPAT) by comparing information collected through the MPAT surveys (used to calculate the MPA indicators) with the data collected directly in the field. The ultimate goal was to compare the findings from the in-field assessments with those from the calculated MPA indicators, with the hope that the four villages in questions would rank similarly across both exercises. That is, there was no expectation that the calculated values would be the same, but if the values of the ten components rank similarly this will provide further credence to the robustness of the MPA tool.

The steps of the overall in-field validation process were:

1. In field collection of data through semi-structured interviews with informed people and direct observation
2. Determination of values for the data collected
3. Calculation of subcomponent and component scores, based on the values determined in step two
4. Analysis of survey data collected in field
5. Comparison of data collected in field with data collected during the pilot survey (calculated indicators).

Step 1 – Data collection

For each subcomponent the MPA project team collected information through discussions with a variety of beneficiaries and/or through direct observation (based on a methodology developed by the MPA Project Manager and the author). In this way, the team attempted to triangulate information, in order to gather data that were as accurate as possible. The sources of information were selected in order to rapidly obtain reliable data on all the poverty dimensions assessed by the MPA components and subcomponents.

After a thorough analysis, the MPA project team decided to interview the following people in each village: the village leader, one village shopkeeper (when available), the village/township healthcare staff, one village teacher, and at least one village farmer.

The **village leaders** were included because they are typically the ones in the village who are most familiar with local poverty issues. Because of their status, they also have access to the village's basic statistical information (e.g. population, number of households). At the same time, because of their semi-official role, some of the information given by the village leaders could be biased for different reasons (e.g. political). Therefore it was necessary to integrate the information collected from this source with other sources.

Shopkeepers are key informants for two main reasons: they have information on price variations that could be used as proxies of access and stability of access to goods (i.e. fluctuations in food prices); and they can provide information on villagers' consumption habits (e.g. information related to households' hygiene practices, such as the number of people buy a toothbrush or sanitary pads, if available) as well as access to farm inputs. Moreover, shopkeepers are usually local, so they should have knowledge of village poverty conditions and problems. In this regard, they were also asked questions regarding more general issues, such as household exposure to shocks.

Healthcare staff are very familiar with the quality of healthcare provided. Moreover, they have key information regarding the health status of the population in the village/township as well as some knowledge of local nutritional status. Some of the information collected from this source is also utilized as proxies of other components (e.g. some diseases have strong links with specific poverty dimensions).

Village **teachers** are very familiar with the conditions of the school where they teach. For instance, they know whether the school provides sufficient teaching materials, or classrooms are big enough and well equipped. Moreover, working every day with village children, they can provide important information regarding households' socio-economic conditions (e.g. access to education, water and financial services), as well as hygiene habits.

Farmers as direct beneficiaries can provide valuable information on access to public services (e.g. education, healthcare). They can also provide crucial information on households' food and nutrition security (e.g. stability of access to food, nutrition quality). Moreover, farmers are key sources of information about household waste management practices, as well as activities related to agriculture and livestock. Most of the information on agricultural assets was collected through interviews with farmers.

Direct observation is a rapid and likely reliable means of determining the *quality* dimension of many of the components surveyed. For instance, the MPA project team assessed the level of healthcare quality provided according to the number of beds available as well as cleanliness/hygiene conditions, medical supplies, etc. The MPA project team conducted the assessment of

the sanitation quality by observing the type of toilet facilities used in the villages. Central to the observation efforts was the assessment of MPA's Housing & Energy component; in each village, the team observed housing structure quality (walls, roofing, facilities, etc.). The MPA project team constantly kept notes and took photographs in order to document and verify the information collected during the interviews and through observation.

The MPA project team attempted to interview each respondent individually, or as few people as possible (since a translator was used). This is because people usually feel freer to say what they actually know or think when they are not subjected to the influence or judgment of others. This is especially true when they are asked sensitive questions. Unfortunately, it wasn't always possible to conduct interviews adopting this criterion.

In particular, during the interviews in village #14, the doctor interviewed seemed to be influenced by the presence of the township leader and other provincial officials (and their video-taping of the interview).

After the conclusion of the in-field validation, at least one piece of information for each MPA subcomponent had been collected (for the majority of the subcomponents, two or more types of information from different sources had been collected).

Step 2 – Assigning values to the data collected

Most of the data collected are qualitative by nature. In order to construct an indicator, values need to be assigned to each subcomponent, according to the information collected. In this report, codes are used instead of the actual village names, due to a variety of sensitivities in the project areas.

Values were assigned in the following way:

- A weight scheme was created, according to the source of information's degree of knowledge relative to the subcomponent.
- After comparisons were made among the four villages, for each subcomponent a value to each information source was assigned.

The table below shows the weight scheme adopted for this evaluative exercise. The values that a subcomponent can assume vary from zero to ten. Each information source was assigned a different weight according to the degree of knowledge that the source had relative to the specific subcomponent.

For example: in order to assign a value to the Food and Nutrition Security "Access stability" subcomponent, it was decided to assign to the information collected from the shopkeeper a range of value variables from zero to six (0-6). This is because shopkeepers should provide a great variety of information regarding villagers' stability of access, since villagers are usually their clients. The information collected from farmers can assume a value from zero to four (0-4). This was decided because farmers can provide more detailed information regarding their own household stability of access, but they probably have poorer information regarding the other households. Moreover, statistically speaking, the farmers interviewed during the in-field validation were not a representative sample of the village population (see Table 1 for details).

Table 1 Source of information weight scheme

Component	Subcomponent	Village Leader	Shop Keepers	Healthcare Staff	Teachers	Farmers	Direct Observation
1. Food & Nutrition Security	1. Consumption 2. Access Stability 3. Nutrition Quality	9	1 4	C.V.[70]		6 10	
2. Education	1. Quality 2. Availability 3. Access	4	2 1		6 4 5	4	4
3. Health & Healthcare	1. Health Status 2. Access 3. Quality	5 3	2	10 3 2		3	2
4. Housing	1. Quality 2. Facilities 3. Energy	6 10					10 4 C.V.[71]
5. Sanitation & Hygiene	1. Toilet Facilities 2. Waste Management 3. Hygiene Practices	5	2	4	4	5	5 5
6. Domestic Water Supply	1. Quality 2. Availability 3. Access	7 6 8	2 2				3 2
7. Agricultural Assets	1. Land Tenure 2. Land Quality 3. Farm Inputs 4. Livestock & Crops	4 6	5			6 5 4	10
8.Non-Agricultural Assets	1. Employment & Skills 2. Financial Services 3. Fixed Assets	8 7 4	2		3		6
9. Resilience	1. Exposure Degree 2. Coping Ability 3. Recovery Ability	4 1 4	1 1 1	1 1 1	1 1 1	3 6 3	
10. Gender Equity	1. Food Consumption 2. Access to Education 3. Access to Healthcare			10 10	10		

After assigning a value to each subcomponent's source of information unit, the subcomponent's overall value was calculated. According to the weight scheme, values were given to the information collected during the in-field validation. For each subcomponent, values are disaggregated by the source of information. The values are assigned by comparing the information collected through the semi-structured interviews in the four villages. As a consequence, the indicators developed are relative, rather than absolute, poverty indicators. However, they are still useful for the purpose of this exercise: namely, comparing validation and survey results in order to verify whether the two approaches collect similar information (although values are of course not directly comparable since the methodologies are not the same).

Table 2 below shows for each subcomponent (Sub.) the value assigned according to the information collected from different sources. The second row of the table shows which village the information refers to. When information was not available for some reason, the abbreviation "n/a" (not applicable) was inserted instead of a value. In some cases, information collected from some sources was used to verify the accuracy of other sources of information (see sub. #8.1, #8.2). The scale used has a range from zero to ten, where zero is the lowest value and ten the highest.

70/ Control variable used to verify accuracy of dietary diversity question.

71/ Control variable used to verify accuracy of information collected from village leaders.

Table 2 Values assigned to information collected from different sources

	Village Leader				Shopkeeper				Healthcare Staff				Teachers				Farmers				Observation			
V#	14	18	1	8	14	18	1	8	14	18	1	8	14	18	1	8	14	18	1	8	14	18	1	8
Sub.																								
1.1	9	4.5	5	2.7	0.8	0.7	n/a	0.1																
1.2.					2.8	0.8	0.8	0.8									4.2	1.2	1.2	1.2				
1.3																	3.56	3.66	3.16	2.66				
2.1													6	6	6	4					3	3	3.5	2.5
2.2	2.5	3	3	2.5									4.5	5	5	4.5								
2.3													4	4.7	7.25	2.3	4	4	n/a	3				
3.1									5	5	4	n/a												
3.2	2	1	2	4					2	3	3	n/a												
3.3	1.5	1.5	2	3					1	2	1.5	n/a					1	2	1.5	1	n/a	1.5	2	n/a
4.1																					6.15	6.15	5.55	5.55
4.2	3	3	3	3																	2	1.67	1.67	1.67
4.3	8.13	8.13	8.13	8.13																				
5.1	3	3	2	1.5																	3	2.5	2	1.5
5.2																	5	4	5	5	5	5	3	5
5.3					1	2	n/a	1	0.5	2	2	n/a	3.5	1	3.5	0								
6.1	8.5	4	5	4																	n/a	1.5	1.5	2
6.2	1.2	3	3	2	1	1	n/a	1					1.4	0.6	n/a	0								
6.3	9	8	5.5	4																				
7.1	8	8	6	8																				
7.2																					5	5	4.5	5
7.3					3.5	3	3.5	3									4	3	3.5	3				
7.4	8	6	3	4																				
8.1.	4	5	7	3	cv	cv	n/a	cv																
8.2.	5	5	4	3									n/a	cv	cv	cv								
8.3	4	3.5	2.5	2																	5	4	5	3.5
9.1	1.5	1.5	1	0.8	0.2	0.3	n/a	0.2	0.3	0.4	0.5	n/a	n/a	0.3	n/a	0.2	1	1	1	0.8				
9.2	0.2	0.5	1.5	0.8	0.2	0.5	n/a	0.2	0.2	n/a	1	n/a	n/a	n/a	n/a	0.2	1.4	1.5	3.5	0.8				
9.3	2.5	2.5	2	2	n/a	0.3	n/a	0.5	n/a	0.4	0.5	n/a	n/a	0.3	n/a	0.5	1.5	1.5	1.5	1				
10.1									10	10	3	n/a												
10.2													9	8	3	8								
10.3									5	4	8	n/a												

Step 3 – Calculating subcomponents and components scores

In order to determine subcomponents scores, the values, assigned after reviewing the interviews with different sources of information, were summed. In order to determine component scores, subcomponent scores of each component were aggregated by simple mean (see Table 3 below).

Table 3 Subcomponent and component scores (aggregated by simple mean)

Village#	14	18	1	8	14	18	1	8
Subc.	Subcomponent scores				Component scores (simple mean)			
1.1 1.2 1.3	9.8 7 3.56	5.2 2 3.66	5 2 3.16	2.8 2 2.66	6.79	3.62	3.39	2.49
2.1 2.2 2.3	9 7 8	9 8 8.7	9.5 8 7.25	6.5 7 5.3	8	8.57	8.25	6.27
3.1 3.2 3.3	5 4 3.5	5 4 7	4 5 7	n/a 4 4	4.2	5.3	5.3	4
4.1 4.2 4.3	6.15 5 8.13	6.15 4.67 8.13	5.55 4.67 8.13	5.55 4.67 8.13	6.43	6.32	6.12	6.12
5.1 5.2 5.3	6 10 5	5.5 9 4	4 8 6.5	3 10 3	7	6.2	6.2	5.3
6.1 6.2 6.3	8.5 3.6 9	8.5 4.6 8	7 3 5.5	6.75 2 1	7.03	7.03	5.17	3.25
7.1 7.2 7.3 7.4	8 5 7.5 8	8 5 6 6	6 4.5 7 3	8 5 6 4	7.1	6.3	5.1	5.8
8.1. 8.2. 8.3	4 5 9	5 5 7.5	7 4 7.5	3 3 5.5	6	5.8	5.8	3.8
9.1 9.2 9.3	3 2 4	3 2.5 5	2.5 6 4	2 2 4	3	3.5	4.1	2.7
10.1 10.2 10.3	10 9 5	10 8 4	3 3 7	n/a 8 n/a	8	7.3	4.3	8
# Component scores less than 5					2	2	3	5
# Component scores between 5 & 6					0	2	4	2
Total					2	4	7	7

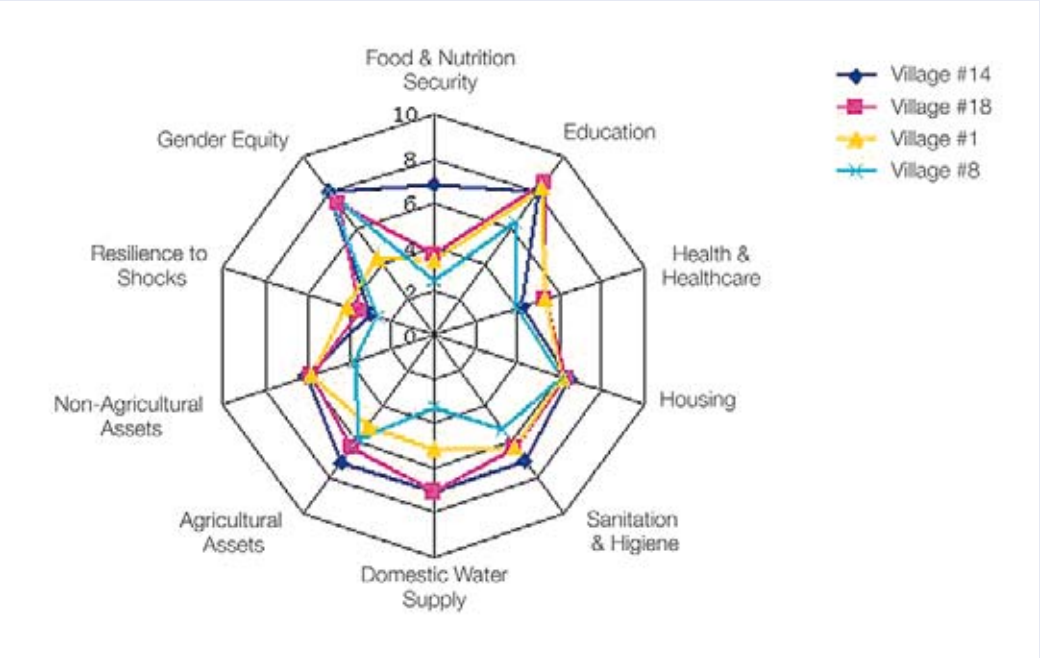


Figure 3
Scores of all components compared among the four villages (simple mean aggregation)

Step 4 – Data analysis

Initial analysis of results

- **Component 1** – Food & Nutrition Security: All villages, except village #14, show very low levels of food and nutrition security. All villages have very low scores in the Nutrition Quality subcomponent because of a very low degree of dietary diversity (households usually eat only wheat, wheat-derivates and/or potatoes).
- **Component 2** – Education: Village #14, village #18 and village #1 have an overall high score. Village #8 has a medium score. The main reason for these scores is that all the schools visited were new and relatively well equipped, except for the school in village #8.
- **Component 3** – Health & Healthcare: Village #18 and village #1 have a medium-low score in this component. Village #14 and village #8 have a low score. The four villages visited show similar conditions in this component. Even if some of them perform better than others, they share the same problems: a relative lack of access because of distance (it was reported that on average one hour is needed to reach the village clinic or the township hospital); although there are government policies and village cooperative organizations to help households pay the cost of healthcare, a relatively high percentage of households can't afford it. Moreover, healthcare staff reported that healthcare quality provided is usually acceptable just for minor illness.
- **Component 4** – Housing: All villages have medium-high score in this component. The average house size is relatively large; almost all households have basic furnishings. Even if the main building materials were earth and/or earth bricks, housing structure seems to be resistant and able to withstand extreme weather events.

- **Component 5 –** Sanitation & Hygiene: Only village #8 has a relatively low score in this component. All villages have very a high score in waste management. Almost all villages visited produce very little waste and recycle most of what they do produce. The households usually use private, simple pit latrines that seem to be in relatively good condition. Hygiene practices are also relatively good, except for village #8.
- **Component 6 –** Domestic Water Supply: village #14 and village #18 have a medium-high score in this component. Village #1 and village #8 have a low score. The main problem, common to all the four villages, was related to the Availability subcomponent.
- **Component 7** – Agricultural Assets: Almost all villages (except for village #1, which has a medium-low score) have medium-high values in this component. Because of national policy, all the households in the four villages have free access to land (owned by the government). In some cases the land assigned is not enough to satisfy households' needs, so they need to rent more land for their livelihood. Almost no households produce cash crops and they have very little or no livestock (usually small animals). In all villages, households produce food crops for own consumption (subsistence agriculture), showing little or no problem with respect to the affordability of agricultural inputs.
- **Component 8** – Non-Agricultural Assets: Almost all villages (except for village #8, which has a low score) have a medium value in this component. Almost each household has at least one adult working outside the village providing the main income source. Very few households have small businesses inside the village. Financial services are provided by RCC in each village. In villages #14 and #18 approximately 30-40 per cent of households owe debts to RCC. The percentage is higher in village #1 and village #8 (about 70-80 per cent). In all villages households own very few assets, but villages #14 and 18# (about 80-90 per cent of households own a TV) perform better than the other two villages (about 30 per cent of households own a TV).
- **Component 9** – Resilience to Shocks: All villages have very low scores in this component. Village #8 is the worst among the other villages. Only village #1 shows a medium score in the Coping Ability subcomponent. Component low scores are mostly due to the fact that the two counties, as well as Gansu province, are subject to drought most of the year.
- **Component 10** – Gender Equity: Almost all villages (except for village #1, which has a low score) have medium-high values in this component. The relatively high values in this components are very likely due to a campaign promoted by the national government.

Moreover, it must be underlined that some sectors may appear to be, or are perceived by the village leaders (one of the main sources of information during the in-field validation for components such as, food and nutrition security and domestic water supply) to be, most in need of interventions. However, after a more detailed study they may actually perform better than others that are apparently in good condition. The added value of the MPAT is indeed its triangulation of information collected in order to provide a more reliable evaluation (certainly more reliable than might be achieved by just speaking with a few village officials).

See the photos in Figure 4 below for a better understanding of the conditions in these villages.

Piero Cellarosi

Figure 4
1 Village #14, houses; **2** village #18, household heating and cooking system; **3** village #14 cooking facilities; **4** village #18, simple pit latrine; **5** village #14, fodder and fuel storage; **6** village #8, underground water storage tank; **7** village #18, village clinic; **8** village #18, farmers; **9** village #8, classroom; **10** village #14, landscape; **11** village #1, livestock; **12** village #18, classroom.

Based on the data collected and aggregated by the simple mean, village #8 shows the worst conditions. It results poor in five components out of ten (Food and Nutrition Security, Resilience to Shocks, Domestic Water Supply, Non-Agricultural Assets, Health and Healthcare). Moreover, it shows medium-low scores in two other components.

Village #1 shows slightly better conditions than village #8, but is still not very good. Three of the ten component scores are under the score considered acceptable, and four component scores just over the acceptable score.

Villages #14 and #18 achieved the highest scores, although in some poverty dimensions they show low scores too. Village #14 shows low scores in the Health and Healthcare component and in Resilience to Shocks. Village #18 shows low scores in Food and Nutrition Security and Resilience to Shocks. Moreover, both of them show very low values in the Domestic Water Supply Availability subcomponent.

Final analysis

Table 4 below shows the overall village ranking. In the first column the village code is reported; the second column shows the total number of components considered in need of intervention; the third column shows the number of components considered borderline; and the fourth column reports the villages' poverty ranking.

Table 5 below shows the ranking of MPA components for each village, where "1" indicates the component with higher value and "10" the component showing the lowest value. Shaded cells contain components with composite scores lower than 5, considered most in need of intervention.

Table 4 Village poverty ranking (on a scale of 1-6)

Village #	# Composite scores showing a value lower than 5	# Composite scores showing a value between 5 and 6	Rank
14	2	0	1
18	2	2	2
1	3	4	3
8	5	2	4

Table 5 Village component ranking

Rank	Village #14	Village #18	Village #1	Village #8
1	Gender Equity	Education	Education	Gender Equity
2	Education	Domestic Water Supply	Sanitation & Hygiene	Education
3	Domestic Water Supply	Gender Equity	Housing	Housing
4	Agricultural Assets	Housing	Non-Agricultural Assets	Agricultural Assets
5	Sanitation & Hygiene	Agricultural Assets	Health & Healthcare	Sanitation & Hygiene
6	Food & Nutrition Security	Sanitation & Hygiene	Domestic Water Supply	Health & Healthcare
7	Housing	Non-Agricultural Assets	Agricultural assets	Non-Agricultural Assets
8	Non-Agricultural Assets	Health & Healthcare	Gender Equity	Domestic Water Supply
9	Health & Healthcare	Resilience	Resilience	Resilience
10	Resilience	Food & Nutrition Security	Food & Nutrition Security	Food & Nutrition Security

Table 6 Component average rankings across all four villages

	MPAT Indicators		MPAT In-Field	
Rank	Component	Score (average)	Component	Score (average)
1	Food & Nutrition Security	82.9	Education	77.7
2	Education	74.9	Gender Equality	69.0
3	Gender Equity	73.9	Housing	62.5
4	Domestic Water Supply	73.8	Sanitation & Hygiene	61.7
5	Housing	68.2	Agricultural Assets	60.8
6	Health & Healthcare	65.9	Domestic Water Supply	56.2
7	Agricultural Assets	65.4	Non-Agricultural Assets	53.5
8	Sanitation & Hygiene	61.6	Health & Healthcare	47.0
9	Resilience to Shocks	52.1	Food & Nutrition Security	40.7
10	Non-Agricultural Assets	51.1	Resilience to Shocks	33.25

Step 5 – Data comparison

After the conclusion of the pilot survey, data were compared with the in-field validation results in order to verify their mutual coherence. The expected and ideal result of this evaluation would be at least to have the same village poverty ranking and the same component ranking for each village, both from the in-field validation and pilot survey.

The following pages provide the results of this comparison and a brief analysis.
Table 6 above shows, for each component, the average ranking among the four villages, based on the MPAT Indicator (column on the left) and the In-Field Validation (column on the right). Average scores are also reported for the purpose of reference. Comparing the villages' average scores for each component and relative ranking, the correlation is evident for most of the components. The two assessments show very close values and ranking for seven components out of ten (shaded cells).

Differences arose for those components that were more difficult to assess during a rapid appraisal. Indeed, the MPA staff were already aware that the households interviewed during the in-field validation were not statistically representative (initially it was planned to visit more households or meet with farmers' groups, but because of time limits it was not possible). On the contrary, for those components where information collected during the in-field validation was more reliable (most of it collected by direct observation), the two assessments show very similar results. (As two different approaches were adopted, scores were not meant to be similar. However, in some cases, they almost match perfectly.)

Moreover, it must be underlined that some dimensions may appear to be, or are perceived by the village leaders (one of the main sources of information for those components during the in-field validation) to be, most in need of interventions. However, after a more detailed study they may actually perform better than others that are apparently in good condition. The added value of the MPAT is indeed its triangulation of information collected in order to provide a more reliable evaluation (certainly more reliable than might be achieved by just speaking with a few village officials).

Table 7 Comparison of different components rankings (components are listed from worst to best)

MPAT Indicator	Village #14 MPAT In-Field	Village Leader	MPAT Indicator	Village #18 MPAT In-Field	Village Leader	MPAT Indicator	Village #1 MPAT In-Field	Village Leader	MPAT Indicator	Village #8 MPAT In-Field	Village Leader
Non-Agricultural Assets	Resilience to Shocks	Education	Resilience to Shocks	Food & Nutrition Security	Food & Nutrition Security	Non-Agricultural Assets	Food & Nutrition Security	Food & Nutrition Security	Resilience to Shocks	Food & Nutrition Security	Food & Nutrition Security
Resilience to Shocks	Health & Healthcare	Health & Healthcare	Housing	Resilience to Shocks	Health & Healthcare	Resilience to Shocks	Resilience to Shocks	Domestic Water Supply	Non-Agricultural Assets	Resilience to Shocks	Gender Equity
Health & Healthcare	Non-Agricultural Assets	Food & Nutrition Security	Health & Healthcare	Health & Healthcare	Domestic Water Supply	Agricultural Assets	Gender Equity	Housing	Sanitation & Hygiene	Domestic Water Supply	Domestic Water Supply
Sanitation & Hygiene	Housing	Domestic Water Supply	Non-Agricultural Assets	Non-Agricultural Assets	Education	Sanitation & Hygiene	Agricultural Assets	Education	Domestic Water Supply	Non-Agricultural Assets	Housing
Agricultural Assets	Food & Nutrition Security	Resilience to Shocks	Sanitation & Hygiene	Sanitation & Hygiene	Housing	Gender Equity	Domestic Water Supply	Health & Healthcare	Agricultural Assets	Health & Healthcare	Health & Healthcare
Housing	Sanitation & Hygiene	Non-agricultural Assets	Education	Agricultural Assets	Agricultural Assets	Housing	Health & Healthcare	Sanitation & Hygiene	Gender Equity	Sanitation & Hygiene	Sanitation & Hygiene
Domestic Water Supply	Agricultural Assets	Agricultural Assets	Agricultural Assets	Housing	Resilience to Shocks	Health & Healthcare	Non-Agricultural Assets	Agricultural Assets	Health & Healthcare	Agricultural Assets	Education
Gender Equity	Domestic Water Supply	Sanitation & Hygiene	Gender Equity	Gender Equity	Sanitation & Hygiene	Education	Housing	Resilience to Shocks	Housing	Housing	Agricultural Assets
Education	Education	Gender Equity	Domestic Water Supply	Domestic Water Supply	Non-Agricultural Assets	Food & Nutrition Security	Sanitation & Hygiene	Non-Agricultural Assets	Education	Education	Non-Agricultural Assets
Food & Nutrition Security	Gender Equity	Housing	Food & Nutrition Security	Education	Gender Equity	Domestic Water Supply	Education	Gender Equity	Food & Nutrition Security	Gender Equity	Resilience to Shocks

Table 7 above shows, for each village, three different component rankings based on the MPAT Indicator (first column), the in-field validation (second column) and village leader perception (third column). In order to facilitate the comparison, the components are listed for each village from worst to best and, considering the different level of precision of the three assessments, gathered in three groups (worst three components, followed by the four intermediate components and, lastly, the best three).

Comparing the first two columns for each village (MPAT Indicator and In-Field Validation), it results that the overall percentage of correlation[72] is about 58. The higher correlation is observed in village #14 (80 per cent), followed by village #18 (70 per cent), village #8 (50 per cent) and village #1 (30 per cent). It is notable that where the MPAT indicator and the in-field validation differ most, the latter seems to reflect a bias introduced by the village leader's perception.

Table 8 shows the villages poverty ranking based on the MPAT Indicator (first column) and the In-Field Validation (second column). The two rankings match perfectly, demonstrating the high precision of MPAT as a targeting tool.

Table 8 Village poverty rankings

MPAT Indicators	MPAT In-Field
Village #14	Village #14
Village #18	Village #18
Village #1	Village #1
Village #8	Village #8

Conclusions

The main objective of this evaluation was to verify, according to the information collected directly in field, whether the MPAT Indicator reliably reflects poverty conditions in rural areas.

After comparing the results of the two assessments, it appears that the MPAT indicator does effectively reflect poverty conditions in rural areas. Indeed, after comparing the MPAT Indicators with the in-field assessment, it turns out they share almost the same results. Specifically, the two assessments show the same villages poverty ranking (see table 8), proving the reliability of the MPAT as a targeting tool. They show very similar outcomes with respect to components ranking in each village as well. Table 6 points out the results of this comparison with seven components out of ten having very close values and ranking.

Although some discrepancies were found, they are likely due to the limits of the in-field validation (and specifically bias introduced by village officials) rather than inaccuracy of MPAT. As mentioned above, local officials' perceptions may introduce bias into the final scores. The main task of the MPAT is to go behind these context-specific perceptions by triangulating information and providing an absolute universal scale ranking for poverty dimensions.[73] This is particularly true for those components that include a certain degree of subjectivity owing to circumstances and indicators adopted.

In order to avoid any possible residual inaccuracy, for those components showing the biggest differences (Food & Nutrition Security, Domestic Water Supply, Health & Healthcare), it would be worthwhile to conduct a similar analysis in the future to quantitatively determine the bias introduced by officials (intentionally or not) impacts the final scores.

72/ For each village, it was counted, based on percentage scores, how many components occupy a similar ranking position (worst, intermediate, best).

73/ Also for this reason it was decided that, although MPAT was conceived as a standardize tool, it can be adapted for *context-specific* implementation as well (see MPAT User's Guide).

Annex VII Forms for MPA subcomponent weightings and component valuations[74]

Multidimensional Poverty Assessment (MPA)
Form for expert inputs on subcomponent weighting schemes

Introduction The MPA tool is primarily designed for rural poverty assessment and Monitoring & Evaluation support, but can also be used for targeting and prioritization (it is not a measure of income poverty). MPA provides an overview of the sectors most in need of interventions/assistance at a local-level; thus, there is a strong focus on the fundamental sectors related to human wellbeing and quality of life. As per the diagram below (page 3), MPA consists of 10 components, each consisting of three subcomponents. By developing a standardized MPA methodology and survey, the tool can be used to make comparisons within one project/area over time (e.g., every three years), with other projects/areas in other regions/countries, or even with project and non-project areas (control–experiment). MPA is easy to use and understand, yet multidimensional. Moreover, data collection (via household questionnaires/interviews and village-level interviews) is relatively fast and cheap (~25 min/household) and requires little capacity from enumerators.

As of this writing (April, 2009), MPA's development & testing phase is mostly finished (tested in China and India), and MPA is being piloted in Gansu Province (China) and Uttarakhand (India). The *2nd MPA Workshop* will be held in Delhi, on May 15th: the primary purpose is to discuss the various weighting schemes suggested for aggregating MPA's subcomponents (and other scaling/valuation issues). Once the methodology is finalized, MPA will be used to augment the Baseline or Mid-Term surveys for IFAD projects in China and India. Afterwards, the results will be compiled and an edited book prepared; this MPA User's Guide will be published by early 2010 when IFAD plans to hold a dissemination event in Rome, and at other international forums thereafter as possible. Once published, MPA will be made available to all online, free of charge.

How to assign weights This form provides blank, yellow-shaded boxes, for you to fill in your suggestions on how the subcomponents of each MPA component should be weighted. MPA is a Thematic Indicator, this means that the 10 components (each being a composite indicator) are presented together, but not aggregated to form an index. Hence, for every MPA component (10) there are three subcomponents which need to be combined to yield one value for the component. Equal weights, for example, would mean assigning a weight of 33.33% to each of the three subcomponents. However, it is not necessarily the case that equal weights are legitimate in all cases. You are kindly asked to review each component below, and suggest how the subcomponents should be weighted, based on the overarching premise that MPA is a tool for assessing/measuring rural poverty (absolute, not relative, poverty) in a wide variety of contexts and countries (so please think beyond the specific conditions of your area/country). Within this context, experts are requested to determine which subcomponents deserve more weight (more influence) for each component. Once finished, please double check that the subcomponent weights add up to 100% for each component.

1. Food & Nutrition Security measures the stability and availability of sufficient quantities of adequately nutritious food to the household.	1.1	1.2	1.3

1.1 Consumption attempts to assess whether or not the household has a sufficient quantity of food most of the time.	**1.2 Access Stability** attempts to assess the stability of the household's access to food.	**1.3 Nutrition Quality** attempts to assess the diversity of the household's diet, as a proxy measure for balanced nutrition intake.

2. Domestic water supply measures the likely quality of domestic water as well as the stability of supply and household's access to it.	2.1	2.2	2.3

2. 1 Quality attempts to assess the likely quality of the water the household uses for domestic purposes.	**2.2 Availability** attempts to assess the stability and quantity of domestic water supply to the household.	**2.3 Access** attempts to assess the degree of access household's have to their main water source.

74/ With respect to the component valuation forms, a similar form was created for each component, but in the interests of saving space, only one is provided below as an example. It should also be noted that in these forms respondents were asked to provide valuations on a 0-10 scale, when the actual scales eventually used were, and are, 1-10 or 10-100.

3. Health & Healthcare measures the quality of healthcare via its output (i.e., health status), people's access to healthcare and the quality of care provided.			3.1	3.2	3.3
3.1 Health Status attempts to assess the status of people's health (providing a proxy measure of the output of existing healthcare).	**3.2 Access & Affordability** attempts to assess household's access to healthcare centers and the affordability of the healthcare they provide.	**3.3 Healthcare Quality** attempts to assess the quality of healthcare provided in the village/area.			
4. Sanitation & Hygiene measures the quality of the household's sanitation (toilet facilities), food waste management and personal hygiene.			4.1	4.2	4.3
4.1 Toilet Facility attempts to assess the general quality of the toilet facilities the household uses.	**4.2 Household waste management** attempts to assess how the household manages their waste materials.	**4.3 Hygiene practices** attempts to assess the quality of the household's general hygiene practices.			
5. Housing & Energy measures the general quality of the household's housing structure, the facilities available and the energy sourced used.			5.1	5.2	5.3
5.1 Structure Quality attempts to assess the physical quality of the housing structure, and its ability to withstand extreme weather events.	**5.2 Facilities** attempts to assess the general availability and quality of the home's facilities for sleeping and food preparation.	**5.3 Energy** attempts to assess the likely quality of the fuel/s the home uses for lighting, cooking and heating.			
6. Education measures the quality of children's formal education, its availability and children's access to it.			6.1	6.2	6.3
6.1 Quality attempts to assess the likely quality of the education provided in the village/area.	**6.2 Availability** attempts to assess the availability of education.	**6.3 Access** attempts to assess how easily school-aged children in the household can attend school if they or their household wishes.			
7. Agricultural Assets measures the household's general ability to produce food and/or create agriculture-based income.			7.1	7.2	7.3
7.1 Land Tenure attempts to assess the household's land tenure status.	**7.2 Land Quality** attempts to assess the likely quality of the household's land and soil.	**7.3 Crop/Livestock/Fishery[1] Inputs** attempts to assess the availability of water, compost/manure/fertilizer, seeds and food for the household's production of crops and/or livestock and/or fish.			
8. Non-Agricultural Assets measures the household's non-agricultural income-generating ability, access to credit and household wealth.			8.1	81.2	8.3
8.1 Employment & Skills attempts to assess the household's income earning potential from small business and/or skilled service provision.	**8.2 Financial Services** attempts to assess household's access to financial services.	**8.3 Fixed Assets & Remittances** attempts to assess the household's likely wealth.			
9. Exposure & Resilience to Shocks measures the household's exposure to natural and socioeconomic shocks and their ability to cope and recover.			9.1	9.2	9.3
9.1 Degree of Exposure attempts	**9.2 Coping Ability** attempts to	**9.3 Recovery Ability** attempts to			

[1] The MPA version piloted in China and India does not include data on fishery inputs; this will be added to MPA after the pilot is completed.

to assess the severity of exposure the household faces from natural and/or socioeconomic shocks/hazards.	assess the household's ability to cope with natural and/or socioeconomic shocks/hazards.	assess the household's ability to recover from natural and/or socioeconomic shocks/hazards.

10. Gender Equality measures the equality of access to food, education and healthcare for females & males.	10.1	10.2	10.3
10.1 Food consumption attempts to assess the equality of food consumption.	**10.2 Access to education** attempts to assess the equality of children's access to education.	**10.3 Access to healthcare** attempts to assess the equality of access to healthcare.	

Thank you for taking the time to give us your suggestions for MPA's component weightings.

Please enter your personal data in the boxes below, so that we can later acknowledge your contribution to the MPA Project (note: we will not cite your specific weighting suggestions, but rather your overall contribution to the MPA initiative):

Name (last name, first name)	
Current position	
Organization	
Area/s of expertise	
Country of origin	
Email	
Phone	

MPA: Food & Nutrition Security

Form for expert inputs on subcomponent data valutation

How MPA will be constructed As discussed in the last exercise, MPA is a Thematic Indicator with 10 components that are presented together, but not aggregated to form an index. For each of MPA's 10 components there are three subcomponents which are combined to yield one value for the component. Each subcomponent is created by combing survey data from household-questionnaires and village-interviews. In many cases, there is more than one question for a subcomponent, and so the values from the multiple questions must be combined to provide one value for the subcomponent. Some of the answers respondents provide are ordinal, most are categorical. For all data collected, values must be assigned. Given that MPA is a tool for assessing/measuring absolute (not relative) rural poverty in a wide variety of contexts and countries, the task is to determine what these values should be.

How to assign values to answers We wish to collect opinions from a variety of experts in this sector and then use the information to decide what the absolute values for each question's answer choices will be. This exercise is relatively subjective – as such there are no "correct" answers, only your professional opinion which we value very highly. The subcomponent questions are presented as they appear in the MPA questionnaire or MPA interview. This form provides blank, yellow-shaded boxes, for you to fill in your suggestions on how the answer choices of each question in a given subcomponent should be valued. If there is more than one question which makes up a subcomponent, we also ask you to suggest how they should be weighted (the same task as in the first exercise). You are asked to provide values on a 0-10 scale, with 10 being the high, or positive value. You can also decide that instead of a value, a particular answer choice should be marked "missing data". Even though the requested scale is 0 to 10, you do not necessarily need to include the values of "0" and "10"; so too, you can use the same values multiple times for one set of answers. In addition, for fine distinctions between values you can use half-point intervals if desired (e.g., "3.5", "8.5"). Please see the examples below.

For example, a hypothetical question on TV reception quality (categorical data), and the suggested values:

Example Question: Generally, what do you think the quality of your households' Television reception is?

Don't know (1)	Very bad (2)	Poor (3)	Fair (4)
Satisfactory (5)	Good (6)	Very good (7)	Perfect (cable connection) (8)

Answer code	Suggested value (0-10)
1	Missing Data
2	1
3	3
4	5
5	7
6	8
7	10
8	10

Another example: if a question asked for an ordinal measure of "minutes of time needed to arrive at the office" and we wanted to create an absolute scale of values, we might decide that: less than 15 minutes of travel time was *very good*, 16 to 30 minutes *okay*, 31 to 60 minutes *acceptable* and more than 61 minutes *unacceptable*. We would then create a simple 0-10 scale to value these categories, one might decide that:

Unit (minutes) interval	Suggested value (0-10)
1 - 15	10
16 - 30	7
31 - 60	5
61 or more	1.5

1.1 Consumption This subcomponent attempts to assess whether or not the household has a sufficient quantity of food most of the time.

35.1) During the last 12 months, how often did any member of your household eat fewer meals, or smaller portions, than usual because there was not enough food?

Never (1)	Once or twice (2)	Once a month (3)	A few times a month (4)
About once a week (5)	A few times a week (6)	Every day (7)	Don't know (8)

35.2) During the last 12 months, how often did any member of your household go to sleep at night hungry?

Never (1)	Once or twice (2)	Once a month (3)	A few times a month (4)
About once a week (5)	A few times a week (6)	Every day (7)	Don't know (8)

For 35.1, how should the responses be valued (0-10 scale, with 10 being the best with respect to rural poverty)?

Answer code	Suggested value (0-10)
1	
2	
3	
4	
5	
6	
7	
8	

For 35.2, how should the responses be valued (0-10 scale, with 10 being the best with respect to rural poverty)?

Answer code	Suggested value (0-10)
1	
2	
3	
4	
5	
6	
7	
8	

For **subcomponent 1.1**, how should the data from the questions be combined?

35.1	
35.2	
Total	*100%*

1.2 Access Stability This subcomponent attempts to assess the stability of the household's access to food.

35.3) During the past 12 months, did your household experience a period of time longer than two weeks where there was not enough food? (if "yes", how many such periods)?

No (1)	Yes, one (2)	Yes, two (3)	Yes, three (4)
Yes, four (5)	Yes, more than four (6)	Don't remember (7)	Other, specify: (8)

35.4) During the past 12 months, did your household ever experience one full day with no food to eat?

Never (1)	Once or twice (2)	Approximately once a month (3)	
Approximately every two weeks (4)		Often (5)	Don't know (6)

For 35.3, how should the responses be valued (0-10 scale, with 10 being the best with respect to rural poverty)?

Answer code	Suggested value (0-10)
1	
2	
3	
4	
5	
6	
7	

For 35.4, how should the responses be valued (0-10 scale, with 10 being the best with respect to rural poverty)?

Answer code	Suggested value (0-10)
1	
2	
3	
4	
5	
6	

For **subcomponent 1.2**, how should the data from the questions be combined?

35.1	
35.2	
Total	*100%*

36) During the last 12 months, how often did the majority of your household eat the following foods?

36.1) Grains (cereals, bread, rice, pasta)
36.2) Roots &/or tubers (potatoes)
36.3) Vegetables
36.4) Fruits
36.5) Dairy &/or eggs
36.6) Meat &/or fish-seafood
36.7) Nuts &/or legumes (&/or derivatives, such as tofu)

1. Never	2. Rarely
3. Once a month	4. A few times a month
5. About once a week	6. A few times a week
7. Every day	
8. Not eaten for religious or cultural reasons	

For 36.1, how should the responses be valued (0-10 scale, with 10 being the best with respect to rural poverty)?

Answer code	Suggested value (0-10)
1	
2	
3	
4	
5	
6	
7	
8	

For 36.2, how should the responses be valued (0-10 scale, with 10 being the best with respect to rural poverty)?

Answer code	Suggested value (0-10)
1	
2	
3	
4	
5	
6	
7	
8	

For 36.3, how should the responses be valued (0-10 scale, with 10 being the best with respect to rural poverty)?

Answer code	Suggested value (0-10)
1	
2	
3	
4	
5	
6	
7	
8	

For 36.4, how should the responses be valued (0-10 scale, with 10 being the best with respect to rural poverty)?

Answer code	Suggested value (0-10)
1	
2	
3	
4	
5	
6	
7	
8	

For 36.5, how should the responses be valued (0-10 scale, with 10 being the best with respect to rural poverty)?

Answer code	Suggested value (0-10)
1	
2	
3	
4	
5	
6	
7	
8	

For 36.6, how should the responses be valued (0-10 scale, with 10 being the best with respect to rural poverty)?

Answer code	Suggested value (0-10)
1	
2	
3	
4	
5	
6	
7	
8	

For 36.7, how should the responses be valued (0-10 scale, with 10 being the best with respect to rural poverty)?

Answer code	Suggested value (0-10)
1	
2	
3	
4	
5	
6	
7	
8	

Thank you for taking the time to give us your suggestions for MPA's subcomponent valuations (and weightings as needed). We understand that this was a relatively time-consuming task, and are very grateful for your contribution.

If you have not already done so in the last form, please enter your personal data in the boxes below, so that we can later acknowledge your very significant contribution to the MPA Project (note: we will not cite your specific valuation suggestions, but rather your overall, and especially significant, contribution to the MPA initiative):

If you've already provided us this information, please enter your name only.

Name (last name, first name)	
Current position	
Organization	
Area/s of expertise	
Country of origin	
Email	
Phone	

Annex VIII UNDP Solutions Exchange report on MPA

Poverty

Microfinance Community Solution Exchange for the Microfinance Community Consolidated Reply

For comments: Multi Dimensional Poverty Assessment Tool of IFAD

Compiled by Navin Anand, Resource Person and Monika Khanna,
Research Associate with additional inputs from
Alasdair Cohen, Lead Adviser – Multidimensional Poverty Assessment Project
Issue Date: 23 June 2009

From Shaheel Rafique, International Fund for Agricultural Development – India Country Office, New Delhi (posted 24 April 2009)

I work as Implementation Support Specialist in International Fund for Agriculture Development (IFAD) India Country Office, New Delhi. We have designed a Multidimensional Poverty Assessment (MPA) tool, primarily for the purpose of monitoring and evaluation (M&E) such as baseline surveys, mid term surveys and impact evaluations of IFAD projects. It can also be used for targeting and prioritizing activities of the projects. IFAD has completed the testing of MPA in China and India. It is piloted in Gansu province of China and Uttarakhand, India. Since IFAD has variety of NGO partners in its different poverty alleviation and livelihood projects, therefore getting views of development practitioners on Multidimensional Poverty Assessment tool development is important for us. IFAD consider this initiative as a process of standardization of tools for M&E and capacity building of NGO partners. In context of the above, we request members of Microfinance Community to go through the MPA tool (Available at: http://www.solutionexchange-un.net.in/mf/cr/res23040901.doc; Size: 432 KB) and give your comments/feedback on the tool.

Further, we request you to give your views and suggestions keeping in view the overarching premise that MPA is a tool for assessing rural poverty in a wide variety of contexts and countries:

- To what extent the key components included in MPA tool are relevant?
- Do we need to add any other component which is important in the present socio-economic scenario?
- How the subcomponents of each MPA component, should be weighted? Which subcomponents deserve more weights (more influence)?

Note: Once finished, please double check that the subcomponent weights add up to 100% for each component.

Your valuable inputs will help us to modify MPA tool. The summary of the discussion would be included as a major input in a workshop on the MPA tool.

Responses were received, with thanks, from

1. **Sanjeev Kumar**, The Goat Trust, Lucknow
2. **Mani Arul Nandhi**, Jesus and Mary College, Delhi University, New Delhi
3. **N. Srinivasan**, Consultant, Pune
4. **T. Keyzom Ngodup**, Consultant, Mumbai
5. **Smita Bhatnagar**, Self Employed Women's Association (SEWA), Ahmedabad
6. **Nikhil Mathur**, Kaarak Enterprise Development Services Private Limited, Bhubaneshwar
7. **P. S. M. Rao**, Rural Livelihoods and Microfinance Consultant, Hyderabad
8. **David Thomas**, India Nirman Sangh, Kodaikanal, Tamil Nadu
9. **Tara Sinha**, Independent Consultant, Ahmedabad
10. **Sushanta Kumar Sarma**, Institute of Rural Management Anand, Gujarat
11. **Sanjay Verma**, PrimeNET Consulting Group, Lucknow
12. **Yamini Atmavilas**, Administrative Staff College of India, Hyderabad
13. **Damodar Jena**, Tata-Dhan Academy, Madurai
14. **Shailja Kishore**, Aga Khan Rural Support Programme (India), Ahmedabad
15. **Abhijeet Bhandari**, HeadStrong, New Delhi
16. **Kuldeep Sharma**, Suruchi Consultants, Noida
17. **Joy Deshmukh Ranadive**, Indian School of Microfinance for Women, Ahmedabad
18. **Indu Chandra Ram**, Iraq Personnel Support Services (Iraq PSS) Project, Baghdad, Iraq
19. **Rajesh Kapoor**, Cohesion Foundation Trust, Ahmedabad
20. **Arif Moqueem Akhtar**, Uttarakhand Parvatiya Aajeevika Sanvardhan Company, Tehri Garhwal
21. **Jaya**, World Food Programme, Uttarkashi, Uttrakhand
22. **Jai Pal Singh**, Centre for microFinance, Jaipur
23. **Srinivas**, Independent Consultant, Hyderabad
24. **Atanu Thakur**, Vivekananda College, Kolkata
25. **Pankaj Kumar Shrivastav**, United Nations Development Programme, New Delhi
26. **Oliver Schmidt**, Sa-Dhan, Hyderabad
27. **Swagata Bhattacharya**, Organization for Livelihood and Advancement, Kolkata
28. **Narendra Baduni**, Agricultural Finance Corporation Ltd., New Delhi
29. **T. Balasubramanian**, Mudhal Inclusive Growth Foundation, Chennai*
30. **Girija Srinivasan**, Consultant, Pune*

*Offline Contributions

Further contributions are welcome!

Summary of Responses

At the onset of this exercise, members were provided a two-page document with a relatively general description of the MPA Project and the MPA Tool, and space for their suggestions on the weightings of MPA's subcomponents (i.e., there were no details as to MPA's theoretical foundations, subcomponent architecture, support role to RIMS, etc.). This was done to encourage responses (due to the conciseness of the request form), and in order to ensure that members would feel free to provide a range of opinions and suggestions based on the "big picture" of MPA provided.

Overall, members recognized the Multidimensional Poverty Assessment Tool (MPAT), whose development is supported by the International Fund for Agriculture Development (IFAD), as an effective, holistic and useful tool for the purpose of monitoring and evaluation (M&E) as well as for targeting and prioritizing activities in poverty reduction and livelihood promotion projects. Members considered it a 'Framework for Poverty Assessment' as it provides the conceptual underpinnings leading to designing different methods and tools for collecting data. Members found this tool appropriate for potential application in different contexts and countries and useful for a variety of development practitioners. They appreciated the use of multiple and integrated indicators in it.

Indicators for Assessment – Components and Subcomponents

Aside from this general support, members voiced a variety of suggestions as to what possible additions could be made to the MPA framework. Appreciating IFAD's – Results and Impact Monitoring System (RIMS), members recommended using some of its tools to enrich the MPA framework further, and also suggested that MPA should refer to poverty assessment reports produced by IFAD (in fact, from the onset MPA has been designed as a support tool for RIMS). Members stressed on giving due importance to the methodology of assessing different indicators. They suggested following indicators which could potentially be added to the MPA tool:

- Sustainability of occupation
- Access to information and technology (such as computers)
- Affordability (as a subcomponent in – Food and Nutrition Security, Housing & Energy and Education)
- Consumption/expenditure pattern of the households and arrangement of clothing
- Access to family assets including property (with regard to women empowerment) and Women's rights
- Decision making at the households and society level
- Institutional membership and social capital of the family
- Social strength and network of community/area
- Mind sets/dependency of community on Government/External sources
- Commitment and participation of target groups in project implementation M&E and documentation for sustainability of the project

For specific views of the members on various components and subcomponents, please visit: http://www.solutionexchange-un.net.in/mf/cr/res23040922.doc (Size: 64 KB)

However, another point of view by members was using a few selected indicators such as – food and nutrition, affordable access to health care, water, housing, asset holding, access to incomes and level of debt. Members expressed that the tool needs to be such that it does not require an expert support. Moreover, the socio-economic situation may vary from place to place, which may require customization of the tool. The issue was clarified in the face to face workshop wherein it was communicated that a detailed User's Guide will be published by 2010 to guide people undertaking the assessment (and that only the development-and-testing phase of the MPA Project will require extensive expertise; once ready for implementation, project's

will be able to use a software package such as Microsoft Excel to compile the data and calculate the indicators). Members suggested disaggregating the results of the assessment for the disadvantaged group categories like women headed households, single women, old people, disabled people, landless laborers and different categories of socially backward class people. A number of subcomponents cover the aspect of empowerment in MPA tool, but respondents recommended for adding a new component on 'Empowerment'. They gave example of a possible question – do users have a say in setting up, budgeting and running the facilities provided under the projects? Members also stressed on having a clear plan and methodology for the assessment of the new component. In light of these suggestions, the MPA component on Gender Equality will likely be expanded to include measures of Social Equality (reasons why it is not feasible to disaggregate the data were explained at the workshop).

On the technical part of MPA, discussants expressed that the greatest challenge will be to quantify the quality parameters successfully without distorting the situation captured. They suggested taking special care in – sampling procedures, process to deal with the variation in weights, inter-relationship of variables, interpretation of the results and validation for different situations and use of results in decision making as well as policy formulation. Giving due importance to the suggestions on methodology, the outputs of workshop revealed the fact that the tools for data collection are developed and tested in project areas. Based on the survey done, sampling and survey administration methodology is to be standardized. An extensive enumerator training program has already been develop and tested, just as the survey methodology has likewise been tested on a number of occasions in rural China, and India (again, members were not aware of these details when initially providing feedback – which is why it is especially useful to see that these issues are stressed as priorities, a further validation of the MPA Project efforts to date).

Respondents cautioned that assessment of different aspects without comparing the income/asset context and choices made by households could lead to wrong results. Members recommended for assigning different level of importance/weight across the broader components in the survey, in addition to the sub components. They stressed that some of the subcomponents in the broad component are linked directly/indirectly and influenced by other subcomponents. The effect of these relationships and its impact will have to be adequately explored. (As with other issues raised above, these valid points were incorporated into the planning stages, and will be addressed in detail in forthcoming papers and the MPAT User's Guide.)

The respondents mentioned the Planning Commission's 13 scorable indicators for determining people living Below Poverty Line and suggested adopting some of these important points to strengthen the MPA tool. Members also gave examples of methods like wealth ranking being used by various development agencies and referred to *poverty scorecards* which have limited number of indicators. They opined that these tools are good for relative poverty assessment and therefore endorsed alternative methods and tools like MPA which can be used irrespective of the geographic diversities for absolute measurement.

Respondents recommended designing a participatory poverty assessment methodology such as the pictorial methodology tried by *Pratham* and UNDP using the 13 scorable indicators identified by the Planning Commission. In this regard, members referred – *Human Development Report Cards* for District Planning. They also informed about a recent study by UNDP undertaken in 16 districts of 7 states of India on the perceptions of poorest and marginalized populations on their inclusion in decision-making at community level (especially in Panchayats) and their

satisfaction with Government's poverty reduction programmes. (As was discussed at the workshop, MPA is not a relativistic ranking exercise – though the types of tools and approaches member's mentioned are certainly valuable means for further exploring the domains MPA measures).

Respondents also shown serious concern about the rigorous process and cost involved in the assessments using the MPA tool. The workshop provided clarity regarding the cost aspects and it was clarified that the survey administration takes approximately 20 to 25 minutes per household and is low cost. It was further revealed that extensive training to enumerators and psychometrics consultant on the MPA tool will reduce observer/participant bias. In addition, it was clarified that the Standard MPA expert weightings will be used in the assessments; however different projects can customize the standard MPA tools by having different weights. In this way, both the need for standardization and context-specificity can be addressed.

Members opined that all dimensions of poverty are equally important and therefore if we get an aggregated index which gives equal weightage to all factors, it will help in assessing the poverty levels. It was clarified in the workshop that MPA is a thematic indicator, not designed to be aggregated – since too much resolution is lost if all 10 components are aggregated to an index.

Members also mentioned that the factors of assessment are interconnected and therefore change in one factor may result in affecting the other factors. Respondents felt the need of incorporating the issue of disadvantaged people's ability to access and influence National and State Government schemes. It was clarified in the workshop (for workshop summary, please visit: http://www.solutionexchange-un.net.in/mf/cr/res23040923.pdf, Size: 33 KB) that the point of disadvantaged people has already been covered in MPA survey, but that it may be expanded further if possible (given that MPA's development-and-testing phase is nearing completion).

Giving various examples, members also emphasized to unpack the word "access" used a number of times in the MPA Framework; however, these concerns were largely addressed at the workshop, once participants were able to examine the subcomponents and the details of their composition.

In the nutshell, based on the suggestions of discussants related to new indicators, methodology, and weightings, the Multipurpose Poverty Assessment tool will be strengthened so that it becomes a 'State of Art' tool for all poverty reduction projects.

Related Resources

Recommended Documentation

From Pankaj Kumar Shrivastav, United Nations Development Programme, New Delhi

- *Results and Impact Management System: Practical Guidance for Impact Surveys (Draft)*
  Guidebook; International Fund for Agricultural Development; January 2005
  Available at http://www.ifad.org/operations/rims/guide/e/part1_e.pdf (PDF; Size: 2.45 MB)
  Provides guidance to project management staff on conducting and analyzing surveys that measure changes over time in the circumstances and livelihoods of rural poor
- *Human Development: Tool Kit and Report Cards*
  Presentation; Pratham India; October 2007
  Available at http://www.cgdev.org/doc/events/10.23.07/10.22.07/Paheli_oct22.pdf
  (PDF; Size: 633 KB)
  Details the PAHELI exercise – sectors covered, sampling procedures, size of sample, data collection and analysis tools used and the indicators captured
- *A Simple Poverty Score Card for India* (from Oliver Schmidt, Sa-Dhan, Hyderabad)
  Paper; by Mark Schreiner; Center for Social Development and Microfinance Risk Management; United States of America; 27 January 2007
  Available at http://www.microfinance.com/English/Papers/Scoring_Poverty_India_2006.pdf
  (PDF Size:295 KB)
  Paper presents an easy to use, objective poverty scorecard by using 10 simple indicators that field workers can quickly collect and easily verify

From Monika Khanna, Research Associate

- *Microfinance Poverty Assessment Tool (PAT)*
  Technical Guide; by Carla Henry, Manohar Sharma, Cecile Lapenu, Manfred Zeller; International Food Policy and Research Institute; The World Bank and CGAP; September 2003
  Available at http://www.cgap.org/gm/document-1.9.3004/TechnicalTool_05.pdf
  (PDF; Size: 1.4 MB)
  PAT aims to improve transparency on the depth of MFI poverty outreach, also used for standardized set of poverty indicators
- *Reaching the Poor with Poverty Projects: What is the Evidence on Social Returns*
  Paper; by John Weiss; Asian Development Bank Institute (ADBI), Asian Development Bank; 9 June 2004
  Available at http://www.adbi.org/files/2004.06.09.dp009.poverty.projects.pdf
  (PDF; Size: 188 KB)
  Paper surveys the evidence on the problems faced in the projects by sometimes missing large numbers of the poor or finding that their benefits leak to those who are better off

Recommended Organizations and Programmes

- **Pratham, New Delhi** (from Pankaj Kumar Shrivastav, United Nations Development Programme, New Delhi)
  Pratham Resource Centre, Basement floor, A-1/7 Safdarjung Enclave (Near Kamal Cinema Complex) New Delhi – 110029; Tel: 91-11-26716083; info@pratham.org; http://www.pratham.org/paheli/paheli.php
  Developed a participatory assessment of the status of human development covering life and livelihoods, water and sanitation, mother and child health, and education and literacy
- **Census of India 2001- Data Dissemination Wing, New Delhi** (from Monika Khanna, Research Associate)
  Office of the Registrar General, India 2A, Man Singh Road, New Delhi 110011; Tel: 91-11-23070629; Fax: 91-11-23383145; rgoffice@ndf.vsnl.net.in; http://www.censusindia.gov.in/
  Provides demographic information of the villages, districts and state wise, as a data product has books, CD ROMS, Data Sheets and Census Tables

Recommended Portals and Information Bases

- **Results and Impact Management System (RIMS), International Fund for Agriculture Development, Italy** (from Pankaj Kumar Shrivastav, United Nations Development Programme, New Delhi)
  http://www.ifad.org/operations/rims/; Contact impact@ifad.org
  Portal provides tools and information to assist project management teams in reporting on RIMS related results
- **Microfinance: A Way to Help the Poor Build Assets, Host organization (if any), Location** (from Oliver Schmidt, Sa-Dhan, Hyderabad)
  http://www.microfinance.com/; Contact Mark Schreiner; Director; Tel: 1-816-359-3545; mark@microfinance.com
  Portal provides easy to use poverty score cards used in different countries, score cards uses simple indicators that can be easily collected and verified

From Monika Khanna, Research Associate

- **USAID Poverty Assessment Tools**
  http://www.povertytools.org/
  Portal provides the poverty assessment tool certified by USAID, also provides survey and a data entry template country wise
- **Participatory Tools for Micro-Level Poverty and Social Impact Analysis, World Bank**
  http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTSOCIALDEVELOPMENT/EXTTOPPSISOU/0,,contentMDK:21421096~menuPK:4028954~pagePK:64168445~piPK:64168309~theSitePK:1424003,00.html
  Illustrates a range of participatory tools that can be used to describe and analyze the micro-level poverty and distributional impacts of policy reform
- **Ministry of Rural Development, New Delhi**
  http://bpl.nic.in/bplmenu.php?bpl=
  Provides the complete household survey reports at block district and state wise of people living below poverty line as per the census 2002

Related Consolidated Replies

- **Developing Indicators to Assess Client Size, from Shubhankar Sengupta, Arohan, Kolkata (Experiences). Microfinance Community, Solution Exchange India,**
  Issued 1 May 2008. Available at http://www.solutionexchange-un.net.in/mf/cr/cr-se-mf-01040801.pdf (PDF, Size: 117 KB)
  Discussed methods, indicators and models used for assessing client size provides tools to new and growing MFIs for identifying the target groups, assessing the client's size

Responses in Full

Sanjeev Kumar, The Goat Trust, Lucknow

The effort of developing a Multi Dimensional Poverty Assessment tool is praiseworthy and useful for all of us. The most used and accepted assessment tool in India has been Below Poverty Line (BPL) criteria but it is quite controversial on the ground. Wealth ranking is the other tool used by most of development agencies, but it is only relative poverty assessment and becomes difficult when we look at the diversity of the regions.

I have appreciation for putting multiple and integrated indicators in the tool. Here I would like to suggest two things. First is to look into institutional membership and social capital of the family. Secondly I would like to state that sustainability of occupation itself has been a new challenge and poor are depending on income through manual querying and deforestation which are good for the time being but highly unsustainable livelihoods.

Most important issue in assessment is who and how does one assess rather than the tool itself. Many times we have failed to use the simplest indicator in our poverty assessment. So it is important to plan the process of assessment, to avoid the most common error, we have faced in designing many of our large programs.

My views on how subcomponents of each MPA component, should be weighted can be read at: http://www.solutionexchange-un.net.in/mf/cr/res23040902.doc (Size: 428 KB)

Mani Arul Nandhi, Jesus and Mary College, Delhi University, New Delhi

The Multidimensional Poverty Assessment (MPA) tool includes most of the indicators of assessing poverty. Also it is comprehensive enough to measure poverty in different context and countries. As poverty is multidimensional, I feel there are some more variables which need to be considered to measure poverty in totality. Three of them that could be included are:

- Ethnic/indigenous background/social backwardness – an important correlate that needs to be weighed
- Female headed households- single women (widows and separated) face social discrimination and their access to resources and opportunities is limited. It is critical to include this factor into consideration in the MPA
- Land tenure is important, an equally important correlate is landlessness, it puts large sections of agricultural labour households in distress

Further, I wish to draw attention to a component – domestic water supply. I perceive it as a critical input. However, what needs to be factored is the availability of water supply in the village/area of residence. If drinking water/potable water is a major issue in the village, then availability, access and quality of water for domestic uses will be a problem for both non-poor and poor households. Though, non-poor would have the means to overcome its domestic availability.

N. Srinivasan, Consultant, Pune

The Multi Dimensional Poverty Assessment (MPA) tool is a good attempt, but it is too comprehensive to be used in all places by all people. It tries to capture all aspects relevant to measure poverty, however all the aspects cannot be measures easily and objectively. Therefore, tool has to address fewer but core and measurable aspects such as food and nutrition, affordable access to health care, water, housing asset holding, access to incomes and level of debts. The tool ignores the debt levels totally, which is the cause of distress in most rural situations and for poor people. By failing to include indebtedness levels in the tool, there is a danger of underestimating poverty.

Even though experts design such instruments with due care, it would be used by several people who are not experts. For such use, the instruments should not be complicated but simple and use a lesser number of aspects.

Further, for almost all the aspects one should look at whether the household has the income/assets (such as to pay for water, medical services, insurance, etc). In some situations, while people can improve their quality of life, they refrain from doing so preferring instead to build assets or spend on other activities. In such cases, the household cannot be considered poor. Assessment of different aspects without comparing the income/asset context and choices made by households could lead to wrong results.

T. Keyzom Ngodup, Consultant, Mumbai

The components/sub-components highlighted seems right for the goal of poverty assessment and comparing regions and districts for a broader understanding of needs on a priority basis.

However, I agree with the point raised by Mr. Sanjeev Kumar – "Most important issue in assessment is who and how does one assess rather than the tool itself."

Secondly, I would suggest assigning different level of importance/weight across the broader components in the survey in addition to the sub components. Also some of the subcomponents in the broad component are linked directly/indirectly and influenced by subcomponents under another broad component. Therefore, the effect of these relationships and its impact will have to be adequately explored to further refine – how survey results will guide broader regional level programmes. Also this goes back to the initial point – importance of survey methodology/mode of assessment which is influenced by a multi dimensional analysis of a survey of district/region in a broader ecosystem.

Smita Bhatnagar, Self Employed Women's Association (SEWA), Ahmedabad

Please visit – http://www.solutionexchange-un.net.in/mf/cr/res23040903.doc (Size: 427 KB) to read my feedback on the MPA tools.

Nikhil Mathur, Kaarak Enterprise Development Services Private Limited, Bhubaneshwar
I feel this is a well rounded tool and the sub-components put together will yield a fair assessment of the poverty situation of a household/region. I do not think any more components need to be added to the tool.

However, I am interested to know how the data for this tool will be collected, who will collect it, what kind of human and other resources will be necessary? It is critical that an equal amount of thinking goes into designing the process of data collection.
Please visit – http://www.solutionexchange-un.net.in/mf/cr/res23040904.doc (Size: 427 KB) for my suggestions on weights for the sub components.

P. S. M. Rao, Rural Livelihoods and Microfinance Consultant, Hyderabad
The MPA, in my view, with its ten most relevant components ideally captures all most of all the dimensions of poverty. Also the tool is intended to measure the absolute, not relative poverty. I think it would have been apt to include access to credit (both formal and informal) to the MPA since the asset less poor are not able to get credit from both the sources even during the time of distress.

The weights that I have given to each of the ten components can be viewed at – http://www.solutionexchange-un.net.in/mf/cr/res23040905.doc (Size: 427 KB)

David Thomas, India Nirman Sangh, Kodaikanal, Tamil Nadu
In addition to the components, I will suggest to include access to technology (example computers), access to information and family structure stability as components. My feedback on the MPA tool with sub component weights can be read at:
http://www.solutionexchangeun.net.in/mf/cr/res23040906.doc (Size: 479 KB).

Tara Sinha, Independent Consultant, Ahmedabad
The tool seems comprehensive. I have filled in the weights to the best of my understanding. Hope it is helpful. My views can be read at:
http://www.solutionexchangeun.net.in/mf/cr/res23040907.doc (Size: 426 KB)

Sushanta Kumar Sarma, Institute of Rural Management Anand, Gujarat
Please visit: http://www.solutionexchange-un.net.in/mf/cr/res23040908.doc (Size: 71.5 KB) to read my views on the details of weights to be given to each of the subcomponent. Moreover, I would also like to raise few points regarding the assessment tool.

- Component 3- The component in the format proposed to measure the accessibility of healthcare services. My concern is how the accessibility will be measured? Is it based on secondary data or based on the household survey? In both the cases there will be biases in the response, leading to incorrect findings. So how we will limit the biases?
- Component 6-The component on education does not cover perception on education. How education is perceived by people defines their notion of quality and availability. So can we have some measure to capture the perception of education?
- Component 7- The quality of land may not be known in an objective manner simply by interacting with the household. The concept of quality depends on a certain benchmark and such benchmarks are always context specific. In that case can we generalize our findings on land quality for household? If we want to generalize for the whole project area, then we can

collect the data from the secondary sources rather than collecting it from primary sources. Component 9- To some extent the ability to cope up with shock depends on the social capital and strength of the social network of the concerned household. May be we can modify the subcomponent to capture social capital and network strength for the household.

Sanjay Verma, PrimeNET Consulting Group, Lucknow

It is always good to evolve comprehensive methods, of which MPA is one of the results. However, it is very difficult to arrive at exhaustive list of indicators decided on the basis of importance and how valuable are they, in general, for making appropriate assessment. The greatest challenge in social sciences is to quantify the quality parameters successfully without distorting the situation captured. Alternatively a very rigorous process is required to interpret quality parameters, if we do not opt to quantify.

The way indicators/sub-indicators have been constructed for MPA, appears to be very complex. It may not be easy to understand by everyone who would actually use it at the field level for eliciting information. Thus, very rigorous training will be required for field personnel to make respondent understand the way MPA tool desires. Also, we would further need to understand if all are measurable/quantifiable and capturing the data/information in a cost effective manner.

On the other hand we must also not forget about the knowledge and educational level of the respondent who need to understand and assimilate the questions in right perspective and respond accurately. He/she may not be interpreting the questions in same manner as the person who has designed MPA.

On the technical part of MPA one should be very clear about:

- Sampling procedure
- How variation in weighs affect the results – equal weights vs. combination of weights
- Justification for considering a set of weights and its applicability in all situations
- How each indicator has influence on others – the relationship amongst variables and ways to eliminate Confounding
- Interpretation of the results and validation for different situations
- How the results facilitates decision making and policy formulation

We would eagerly be looking forward to know the final shape MPA takes and published as per the indicated timeline. We would be happy to contribute during its development phase. I would like to thank Mr. Shaheel Rafique for sharing the tool.

Yamini Atmavilas, Administrative Staff College of India, Hyderabad

Please visit: http://www.solutionexchange-un.net.in/mf/cr/res23040909.doc (Size: 420 KB) for the document assigning weights to each of the subcomponent.

Also I would like to share my concerns over some of the indicators and their subcomponents. It appears that the subcomponents pertain to 3 key dimensions: availability – access, including affordability and quality. While the 3 are broadly inter-related, they are also for heuristic purposes, distinguishable. However, there are some subcomponents that have a more complicated, and interdependent relationship. For instance, 8.2 is really a function of asset ownership, so also 3.2 and 3.3 contribute to 3.1. At the same time 3.1 is a more encompassing subcomponent, as health is also determined by a number of factors outside of its subcomponents. With reference to fourth component, I am not convinced that this is as much an objective indicator for poverty, like the others.

Finally, I am interested in understanding the application and methodologies associated with this tool. I believe it is hard to assess a tool without due regard to its application and the context of its application. So I would be interested in seeing a more comprehensive guide for the use of the tool, an assessment (based on its use in China and India thus far) of its potential for use in participatory, culturally sensitive (i.e. takes into account – objective as well as subjective, locally defined/appropriate, and class as made up of the various capitals – economic, social, and symbolic) assessment.

Damodar Jena, Tata-Dhan Academy, Madurai

Few comments on the questions raised in the query are given below:

- To what extent the key components included in MPA tool are relevant? – Three out of ten components of multidimensional poverty assessment (MPA) viz. Food & Nutrition Security, Agricultural Assets and Non-Agricultural Assets deal with economic aspects. It is good that economic related components have been prioritized. But there is an apprehension of over emphasizing some sub-components such as the 9.2 – Coping Ability and 9.3 – Recovery Ability, which are not independent of other components. The other components of MPA, which have potential influence on Coping Ability and Recovery Ability, are housing and energy, agricultural assets, non-agricultural assets, food security, education, health and health care.
- Do we need to add any other component which is important in the present socio-economic scenario? – The MPA is silent about the availability of and accessibility to common properties. How the subcomponents of each MPA component, should be weighted? Which subcomponents deserve more weights (more influence)?
  To see my views on the weights of the subcomponents, please visit:
  http://www.solutionexchange-un.net.in/mf/cr/res23040910.doc (Size: 430 KB).
  With regard to the component of Food & Nutrition Security, the first subcomponent, i.e. 1.1 Consumption should get more weight as it speaks about the household's food sufficiency. Accessibility is inclusive here, because sufficiency depends on accessibility. Therefore I have given 50 per cent weight to it. Similarly, referring to the first sub-component of Education, i.e. 6.1 – Quality includes availability to some extent. Therefore, I have given 50 per cent weight to the first sub-component itself. Similar is the case of Health & Healthcare.

Shailja Kishore, Aga Khan Rural Support Programme (India), Ahmedabad

It is a good attempt and it captures all the points which over a point of time can state the impact on the household or the community. Here I have to mention two points:

- In different areas, the nature of the issue affecting the beneficiary/household varies. Hence the focus on 1-10 components will vary. Should we weight them also to suit different conditions?
- Instead of focusing on the housing structure quality, subcomponent 5.1 should focus on proper light and ventilation of the structure. This generally misses out in the traditional concepts.

Please visit – http://www.solutionexchange-un.net.in/mf/cr/res23040911.doc (Size: 434 KB) to read my feedback on the MPA tools.

Abhijeet Bhandari, HeadStrong, New Delhi

I have a suggestion on relative weights assigned to each group. The relative weights assigned will be critical as 10 different parameters might get different results and it will be difficult to get an assessment on overall poverty.

I feel that the following section should also be added in the Multi Dimensional Poverty Assessment (MPA) tool: Safety and Security – How safe people feel at their respective places? Do women get abused often?

Further, I believe that the tool sections 1-6 are highly relevant but 7-10 are somewhat repetitive and may need modifications. I would also like to keep health insurance as one part in 7, 8 or 9 section. The reason for this is that research indicates that most families get into abject poverty just because one family member gets ill. They take loan for that from a landlord and keep paying the loan for their entire life.

Moreover, I would like to give more weight to education (which does not measure current poverty levels) as it measures the ability of poor to rise and prosper. In point 5, I think it will be more relevant to ask the quantity/availability rather than quality as most people do not have energy/housing facility (nearly 70 percent in India do not have house/electricity). Also there is a need to also ask about number of cloth (especially in winters) as many people die due to lack of blankets in winter.

Please visit: http://www.solutionexchange-un.net.in/mf/cr/res23040912.doc (Size: 434 KB) to read weights assigned for the subcomponents.

Kuldeep Sharma, Suruchi Consultants, Noida

Before I submit my comments on the 10 point tool for Multidimensional Poverty Assessment, I would like to share a little learning which I gained during a conference on Panchayati Raj Institution at Vigyan Bhavan, New Delhi. Honorable minister raised an open house query to all the representatives of Panchayati Raj from all over the country to set their priorities on the three critical factors required for rural development and poverty eradication. The three factors were Education, Electricity and Roads. To the surprise of all there was a unanimous submission by the participants on giving them roads and rest will automatically follow.

My reason for citing this example is to understand that poverty is not a function of prioritization, rather it is an outcome of ignorance to some key constraint. I firmly believe in theory of constraints and therefore look at all the variables on the basis of their qualification for being considered as a major constraint. Once the constraint is understood and accordingly dealt, other factors automatically die a natural death.

Coming back to this tool, I am giving my comments on all the ten points and trying to find out the highest weight age component with each of them.

- In Food and Nutrition Security: I feel that access stability could be considered as a constraint.
- In Domestic Water Supply it is the availability than access
- In Health and Healthcare again access and affordability may score high as constraint
- Sanitation and Hygiene sound a bit luxurious and at times over and above the factors. Given the subculture part or values, few tribes are known to be more hygiene and sanitation friendly than their rural counterparts
- Housing and Energy: I feel that Energy is a major constraint and the moment they have access to quality energy source then other issues follow the suit
- Education – I feel availability may play a major role however values and culture may also play their role in getting maximum benefit out of available facilities
- Agriculture assets – I feel the land quality not only in holding but of the surrounding areas also be considered as pivotal
- Non- Agricultural Assets – I feel the kind of assets considered are no more required to assess the poverty as these assets enter in life once the poverty has gone . Still some other important assets like animals etc. may be considered. But that too depend on the type of soil, availability of water and nature of agriculture – flora present in that area
- Exposure and Resilience to shocks – I am a firm believer of the fact that the more one is exposed to such shocks the better the chances for him to recover and come out of poverty, provided he agrees to rehabilitate or relocate. So the constraint again becomes more of values and cultural nature than just having coping abilities or recovery abilities.
- Gender Equality – I do not buy this idea of bringing gender at core level as this thought of gender discrimination itself is a very being constraint in viewing the true picture of the society. What about the matriarchal societies wherein the fairer gender has more advantage in accessing the facilities mentioned

Over and above these points I feel that the following three points must also be considered in this assessment tool:

- Availability of basic infrastructure (roads, electricity, medical, agriculture and veterinary supports etc) in proximity to the respondents under study
- Structure of the group in which the respondents are living together (formal/informal/traditional/) and vintage of such group
- Availability of any potential activity in and around their area which could be commercialized to create a turn around

My comments are an outcome of my limitations so thus should not be considered as a critical remark to anybody's thoughtful deliberations. Please visit: http://www.solutionexchangeun.net.in/mf/cr/res23040913.doc (Size: 435 KB) to read my weights to the sub components

Joy Deshmukh Ranadive, Indian School of Microfinance for Women, Ahmedabad
The tool is interesting and relevant. However I have a concern, the household is taken as an amorphous whole and hence it completely blankets the fact that the intra household distribution of poverty is gender biased. A gender neutral tool is by definition, gender biased. Having one component for gender is inadequate. For example, access to water has huge gender ramifications for women. Further, poverty is experienced differently by women in the household. Since it is women who have the larger burden of shouldering the consequences of poverty and coping with it, I would have liked to see a gender sensitive tool.

Anyways, since it is a tool that takes the household as an amorphous whole, hence I have placed weights in such a way that there can be some slant towards sensitivity for the women in the household. Please read my feedback on the MPA tools at http://www.solutionexchangeun.net.in/mf/cr/res23040914.doc (Size: 434 KB).

Indu Chandra Ram, Iraq Personnel Support Services (Iraq PSS) Project, Baghdad, Iraq
The MPA tool has come out very nice with near 100 percent perfection. However, I would like to suggest the following for addition:

- The process of empowerment of target groups needs to be included
- The level of access to family assets with regard to women empowerment
- The level of commitment and participation of target groups in project implementation, M&E and documentation for sustainability of the project
- Quantifiable output and outcome in reduction of various social evils of the project areas
- Level of ownership among target groups to carry on the success of the project.

Rajesh Kapoor, Cohesion Foundation Trust, Ahmedabad
Please accept my congratulations for designing MPA tool and sharing with others for feedback. This is really a very appreciating initiative. The key components included in MPA tool are relevant.

However, the means of verification for sub components – 8.1, 10.1 and 10.3 need to be objective for correct assessments. The analysis should differentiate between different households, as marginalization is not uniform.

The analysis should highlight status of women headed households, single women, old people, disabled people etc.

My feedback on weights for different sub-components can be read at: http://www.solutionexchange-un.net.in/mf/cr/res23040915.doc (Size: 72.5 KB)

Arif Moqueem Akhtar, Uttarakhand Parvatiya Aajeevika Sanvardhan Company, Tehri Garhwal
The concept of Multi Dimensional Poverty Assessment (MPA) is indeed very interesting. I think it is a very effective tool to identify the activities on which we will have to target our work. Once activities are selected, I think a detailed exercise would be needed to undertake the proposed services for the target community.

Anyways, I have concentrated on the weight to be given to the sub-component which can be read at: http://www.solutionexchange-un.net.in/mf/cr/res23040901.pdf (Size: 35 KB). Moreover, I have tried to give rationale before giving any weight to the sub-component.

Jaya, World Food Programme, Uttarkashi, Uttrakhand

The MPA in my view, with its ten components has covered most of the important dimensions of poverty. In addition to the given components and their sub-components, I would like to suggest for including:

- Social strength and network of community/area and mind sets/dependency of community on Government/outsiders
- Component 10 seems silent for decision making in households and society. Also property rights/access to property should also be addressed in some way to evaluate the impact of poverty on women.

Overall I found this tool very useful for all the development practitioners. I would like to appreciate Mr. Shaheel's effort for sharing the tool with the community for suggestions. Moreover, I also agree with members who have raised their concerns for making this tool more user friendly for its applications and data collection processes.

To read my response regarding MPA tools and it weights to sub-components, please visit: http://www.solutionexchange-un.net.in/mf/cr/res23040916.doc (Size: 432 KB).

Jai Pal Singh, Centre for microFinance, Jaipur

The MPA is a good attempt. But I am sure that it can be improved further. It has total thirty items, on which data needs to be generated three times (in beginning, mid term and at the end of the intervention). Therefore it will be very cumbersome for implementers to assess the poverty. I feel that it will give a complete picture but there will be a very high cost for that. A lot more difficult will be, to design the tools for gathering the data on each parameter. Also I am not very sure that it can be easily comprehended by a large number of people who are engaged in poverty alleviation/eradication at the grass root level. In my opinion, the need is that they (who are largely 10th pass or at the most graduates) and the community (who are largely illiterate or barely literate) should be able to understand the poverty assessment framework and tools.
If I have to design poverty assessment framework, I will restrict to simple questions like:

- Whether the household has sufficient food for all the family members for 365 days?
- Whether the family has enough cloths for all family members for all seasons?
- Whether the family has shelter for all members in all weathers? (These are the basic needs – what we call Food, Clothing and Shelter)
- Whether the family is able to send their children to school?
- Whether the family is able to buy medical facilities for all the members as and when required/when any family member fall sick?
- Whether the family is perpetually in debt? – in fact the rate of interest and source of credit itself is a good indicator of poverty
- Whether family has access to safe drinking water?
- Whether family has access to community resources and community institutions

I would also suggest that the present framework can be given to a 10^{th} pass boy/girl and if s/he is able to comprehend it fully then it is ok, otherwise it could be simplified.
Please visit: http://www.solutionexchange-un.net.in/mf/cr/res23040918.doc (Size: 428 KB) to read weights assigned to the sub-components.

Srinivas, Independent Consultant, Hyderabad

I would like to congratulate to all who have developed Multi Dimension Poverty Assessment Tool. Please visit: http://www.solutionexchange-un.net.in/mf/cr/res23040919.doc (Size: 427 KB) to see the weights assigned to the components of the tool. Moreover, I would like to suggest following:

- Food, shelter and clothing are considered the dire basic needs of a human being. While Food and shelter are covered in the tool, there is no coverage for clothing
- Attempt to assess affordability may also be included in Food and Nutrition Security, Housing & Energy and Education
- Poverty is also assessed based on the consumption/expenditure pattern of the households.

For example, if the primary earning member of a household spend a huge sum of money on the alcohol, even though the family is above the poverty line is pushed to the below poverty line. Therefore, I would like to suggest that an attempt to assess the expenditure pattern of a household should also be included in the tool.

Each sub-component might be having a set of questionnaires/sub-elements which also needs to be weighed upon, this will help in making the tool more comprehensive.

Atanu Thakur, Vivekananda College, Kolkata

There are two basic concepts regarding poverty: income poverty and access poverty mainly championed by Mr. Sen. Both these concept nested within the Neo-classical development economics paradigm. In this particular paradigm every thing is determined by the professionals, economist, social scientists and many others like us. We actually determine the weights of different factors which cause poverty and also fix the factors of poverty. On the basis of our understanding of the weights, we try to prescribe policy for the betterment of the poor. In the whole process, poor has no voice. It is clearly a top-down approach. Our planning process is clearly based on this paradigm.

Actually the economists like to operate within this paradigm as it is well shaped, tools are well recognized sometimes attach with computer packages and also easy to handle in respect of time and complexity. But failure in this process is inevitable. A somewhat new paradigm is coming up and this is not well shaped till now.

Interestingly this paradigm comes from the shear dissatisfaction regarding neo-classical development paradigm. In this paradigm the people for whom policy will be prescribed are placed at the centre and they have a voice. It is basically a bottom-up approach. Here the poor people can say what weights they like to attach to different factors which cause poverty, here poverty also becomes heterogeneous. In your process you want to make poverty as a homogeneous category and that is true in case of H-index and P-index of poverty. But it is now well recognized that poverty is heterogeneous in nature. So my opinion is if it is possible, ask the people how much weight they like to attach with different factors. And if possible ask them about the factors. In that case weight may be assigned on a scale of 1 to 10 where 1 means lowest weight and 10 implies highest. It is bit time consuming and complicated and demands high commitment from the surveyors/data collectors, but I am sure it could produce a different cartography regarding poverty. I already used this process in one of my project regarding empowerment and microfinance and result is saying something different which is impossible within existing development paradigm.

Pankaj Kumar Shrivastav, United Nations Development Programme, New Delhi
Congratulations to IFAD on the hard work put into designing the MPA Tool. I feel it is definitely a step in the right direction to understand and track poverty.

Having worked in IFAD and currently in UNDP on Monitoring and Evaluation, I felt I must share my thoughts on the subject. I start with some fundamental questions on the MPA Tool and later come to specific questions:

Firstly, it would be correct if we call this a framework, rather than a tool, as by itself it cannot be used for Poverty Assessment, but provides the conceptual underpinnings leading to designing the tool. A correlated question then (also raised by other members) is – which tools will actually be used to collect information against the mentioned heads? If you are thinking of questionnaire based surveys, it would be nice to formulate and share the actual questions that you will ask the household. You may also consider designing and using a participatory poverty assessment methodology, such as the pictorial methodology tried by Pratham and UNDP using the 13 scorable indicators identified by the Planning Commission. In this regard, please visit: http://www.solutionexchange-un.net.in/decn/cr-public/cr-se-decn-07120701-public.pdf (Size: 118 KB) for more details.

Secondly, I did not understand the need to provide weights to sub-components. All dimensions of poverty are equally important, and even if we get an aggregated index which gives equal weightage to all factors, it helps us assess the poverty levels, which is good enough. Why complicate a good framework by unnecessarily adding weights and complicating the calculations?

In my opinion, leave the weightage out, as every aspect of poverty is crucial, interconnected and liable to cause a change in other factors. For example, malnutrition increases the susceptibility of the poorest towards diseases caused by infected water. It may be aggravated by poor literacy and awareness levels of the household on sanitation, or poor living conditions, especially during monsoons. Now, how can we say which of these factors need to be given a higher weightage? In short, where does the circle start and where does it end? In the recent past, a number of studies have tried to assess the perception of the poorest towards poverty. Most of these studies have traced the psycho-social dimensions of deprivation and have revealed that loss of dignity, voice and power are viewed by the poor as important dimensions/outcomes of poverty. However, the MPA framework does not talk about these issues. On gender dimensions, the framework says "Gender Equality measures the equality of access to food, education and healthcare for females and males" and goes on to state:

10.1 Food consumption attempts to assess the equality of food consumption.
10.2 Access to education attempts to assess the equality of children's access to education.
10.3 Access to healthcare attempts to assess the equality of access to healthcare.

While it is not yet clear how the above will be measured. It must be emphasized that there are other gender equality dimensions that need to be looked at, such as the difference in power between men and women to take decisions at household and community level and the deeply ingrained cultural and societal gender biases that govern design of development programmes. I suggest that these can also be included.

In a recent study that I coordinated for UNDP in 16 districts in 7 states of India on the perceptions of poorest and marginalized populations on:

- Their inclusion in decision-making at community level (especially in Panchayats) and
- Their satisfaction with Government's poverty reduction programmes

We found that the poorest populations had very high expectations from Government programmes and schemes to help them in their struggle against poverty. The MPA framework appears to be silent on this whole approach of the ability of disadvantaged communities to access and influence National and State Government schemes targeted at them. I believe that this is a global framework, so it would be difficult to cover this dimension separately. However, the poverty assessment framework must be placed in the context of developing capabilities and opportunities of the poor as claim holders for Rights to Work, Education, Health, etc.

The word "access" is used a number of times in the MPA Framework. This word needs to be unpacked. I give below a limited list of what "Access" could mean:

- Poor communities are unable to "access" schemes targeted at them because they are geographically remote and service providers do not reach there (example – Uttarakhand)
- Poor communities do not have "access" to water sources, vaccination, etc. due to elite capture of these resources (example hand pumps are installed only in high caste settlements) and lack of information on what is their right (Panchayat Pradhan does not tell the budget to the poorest, especially to people of SC category – example many states in the BIMARU belt)
- Poor girls are unable to "access" toilet facilities in schools because of lack of a gender sensitive budget in Panchayats and School allocations and deeply established cultural norms which do not stress the importance of toilets for girls
- Poor populations are not able to influence decision making in their favour, because they are not able to sit on the same platform as higher castes.

There is a wealth of information and tools in IFAD's own Results and Impact Monitoring System (RIMS). You may like to use some of the tools/ questions used in RIMS to enrich the MPA Framework. Additionally, the intensive Poverty Assessment reports produced by IFAD in the recent past could provide good directions.

Although members have stated that the Planning Commission's 13 scorable indicators for determining Below Poverty Level populations is controversial, it still contains many important points that can help improving the MPA framework, and must be looked at.

Finally, the Framework is a good beginning. However, it is some steps away from becoming a Multi-Dimensional Poverty Assessment Tool. Other experiments/methodologies tried in this country (and perhaps elsewhere in the world) can deeply enhance and enrich the framework.

Oliver Schmidt, Sa-Dhan, Hyderabad

Thanks for the MPA initiative which looks like a fair balance between capturing the various components/drivers of rural poverty, and retaining a manageable scope. I like that it consequently builds on the capability approach.

May be the experiences of the poverty scorecards (see http://www.microfinance.com) might be of interest. As I understand it, they work with a rather limited number of indicators which are tested for their statistical relevance. However, the approach seems to be less promising in the context of varied regional environments and conditions of India. Thus, I guess it is a robust and practical approach to go with the 3 x 10 MPA indicators as suggested and adjusting as experience with data-availability and correlation. It might be useful to set the adjustment goal (after so much time, or so much use/data inflow) beforehand. I would like to underline the observations from other respondents that the empowerment perspective – we might also call it accountability or good governance – is under-represented.

Indeed, this might cause issues with the second and third column of the 10 thematic indicators. Often times on paper, access and/or quality of education or health care is just fine, in reality it is not. How are you going to capture that difference and how are you going to interpret it? One could consider introducing empowerment – perspective here. For example, do users have a say in setting up, budgeting and running the said facilities? Is there traceable accountability of the providers towards the users? However, this is probably hard to measure in a standardized set up.

Alternatively, non discrimination might be regarded as a proxy for empowerment, that is, one would apply the gender perspective and maybe some others like minorities etc, as cross-cutting perspective on each of the other 9 thematic indicators.

I feel that this will not help in making the tool more manageable but rather inflates it. So for practical reasons, one might ultimately like to stick to the existing frame. From an economist's point of view, a feasible alternative would be to assess the availability of choice within a given range. Accordingly questions can pretty easily be inbuilt. However, the problem of capturing on paper versus reality might prevail here.

I am quite uneasy with the approach to gather the weights of the indicators. Obviously, the weights will determine the shape of the ultimate finding, but it will not necessarily be very transparent. In fact, the ultimate result will already be an interpretation of the findings, and the basis of that interpretation will not at all be clear. I strongly believe that the weights should be based on hypotheses that are founded in theory. This critical responsibility must not be transferred to an anonymous expert-panel. Ensuring transparency and accountability at this level, combined with a set of rules and how these hypothesis and thus weights would be altered over time is a crucial success factor for the tool.

As an illustration of the previous paragraph's argument, I believe that poverty is the reflection of institutions that cause lack of – assets, income stability and accountability. Most of the MPAindicators address assets, with No. 1 and No. 9 indicating income stability, and No. 10 – accountability.

Wrapping up, the tool is a fine achievement and a solid starting point to collect and collate relevant data. In the course of its application, weaknesses might be addressed in the area of accountability both in capturing it and in embedding it in its way of the tool's application.

Swagata Bhattacharya, Organization for Livelihood and Advancement, Kolkata
Please visit: http://www.solutionexchange-un.net.in/mf/cr/res23040920.doc (Size: 434 KB) to read the weights assigned to the sub-components.

Narendra Baduni, Agricultural Finance Corporation Ltd., New Delhi
As per my experience I am trying to give some suggestions. To read the weights assigned to the sub-components, please visit: http://www.solutionexchange-un.net.in/mf/cr/res23040921.doc (Size: 427 KB)

After going through the MPA tool I would like to suggest following:

In Point 2.3 – In Uttarakhand, to access water, most of the people living in villages depends on natural sources i.e. dhara, nala etc. Each villager has right to fetch water from their natural water sources. The biggest problem faced by the villagers is distance they have to travel to fetch water. People spend their maximum time in collecting the water from the sources. During summers the condition is worse, as the quantity of water in these sources reduce. So, I suggest to include time spent by people in collecting water or distance of water source from the household.

In Point 7.2 – We may elaborate here the land availability in terms of irrigated land and land coming under rainfed region. In hills, if people are having irrigated land then it is clear that they have sufficient food and are living in good condition. Although, few people in the region have irrigated land (Talauon). Per nali (200 sq. meter area) production of irrigated land is considered good. So quantification of land under irrigation/rainfed will give a fair idea.

In Point 7.3 – Under this we are focusing on availability of inputs for sustained agriculture production. For livestock we must mentioned a separate head in the name of Livestock or Cattle Rearing. Most of the households in Uttarakhand or elsewhere too, solely depend on cattle rearing. Also, with the help of different centrally sponsored schemes/programmes, the state has done well. A number of Mahila Dugadh Samitis are working in different milk routes in thirteen districts of the state. We should assess the availability of the vaccination, cattle health and availability of fodder.

T. Balasubramanian, Mudhal Inclusive Growth Foundation, Chennai*
The basic needs shown in the Assets – Exposure – Equality MPA Structure draft is a very good attempt and is exhaustive holding all the relevant basic needs. Further the reply to the 3 Questions are as follows:

I. To what extend the key components included are relevant?

The key components included in the basic structure will definitely enable

- Poverty assessment
- Monitoring
- Evaluation support only to some extent
- Comparison of projects
- Study quality of life
- Components of well being

II. Do we need to add any other component which is important in the present socio economic scene? Yes we need to add:
- Component 3 – Health & Health Care – Show Access and Affordability as 2 separate components because we cannot measure both together –Affordability includes value of money whereas Access may even be free to avail, easy to reach.
- Components 8 – make it 4 components. Change name of component 1 as Earnings from Employment & Skills/Financial Services /Fixed Assets /Remittances

III. How the sub component of each MPA component should be weighted? Which component deserve more weight age?
1. Consumption deserves more weightage 60% as it is a basic necessity without which we cannot live for many days as it pertains to human well being
2. Quality needs more weight age 40% as it is the measurement for quality of life
3. Health Status needs more weight age 40% as we are measuring the quality of life
4. Toilet Facility is given 50% as we are dealing with human well being
5. Structure Quality is given weight age 50% as we are dealing with human well being
6. Quality is given 50% weight age as we are dealing with quality of life
7. Land tenure is given 50% weight age as in rural area the land is owned/taken on lease for tenure
8. Employment and Skills can renamed as Earnings from employment and skills. Example a mason can earn in his capacity as mason also earn as a painter etc. High weight age is given to earnings from employment and skills – 40 %(more than one earning). Financial services are given 20 %. Fixed Assets taken as separate component and weight age 20%. Remittance taken as separate component and given a weight age of 20%
9. Degree of Exposure is given weight age of 40% as it deals with human well being 10. Food Consumption/Access to Education /Access to Health are given equal weightage as it is only a counter check for component No. 1, 3 and 6.

As the tool enables the poverty assessment, monitoring & evaluation support, used for targeting & prioritization related to study of human well being and quality of life, we cannot give equal weight age of 33.33% to each component. It will vary according to the sub components-

1.1 For Consumption Weight age of 60% is given because in any household they will definitely have food the basic need
1.2 Access Stability-this may differ that Food may be taken everyday or alternate day -20%
1.3 Nutrition Quality – 20% not all will have quality food
2.1 Quality weightage of 40%. The quality will vary
2.2 Availability 30% depending on sources
2.3 Access weightage 30% as there will be different sources
3.1 Health Status weightage 40% as the government has given welfare plans, Multi benefits, free medical check ups, free spectacles for old, egg & fruits in schools, aid for heart operations etc.

3.2 Access can be taken as a separate component with weight age of 20%.
3.3 Affordability can be a separate component with weight age of 20%.
3.4 Health Care Quality with weight age of 20 %(taken as 4 subcomponents)
4.1 Toilet Facility weight age 50% as the Government has taken steps to ensure Public Toilet facility
4.2 Household waste weight age 25% as schemes of Sewage has not reached semi urban and rural areas
4.3 Hygiene practices weight age 25%
5.1 Structure Quality 40% weightage
5.2 Facilities 30% weightage
5.3 Energy weightage 30 %
6.1 Quality weight age 50 %
6.2 Availability weight age 30%
6.3 Access weight age 20%
7.1 Land tenure weight age 50% as most rural are still tenuring land
7.2 Land Quality weight age 25% as here 2 types of land agricultural/non agricultural.
7.3 Crops/livestock /fishery weight age can be 25%
8.1 Employment weight age 40%
8.2 Skill Equal weight age may be given i.e. 15%
8.3 Financial Services weight age may be 15%
8.4 Fixed Assets weight age may be 15%
8.5 Remittances weight age may be 15 % (taken as 5 sub components)
9.1 Degree of Exposure weight age 40%
9.2 Coping Ability weight age 30%
9.3 Recovery Ability 30%
10.1 Food Consumption weight age 33.33%
10.2 Access to education 33.33%
10.3 Access to healthcare weight age 33.33%

Girija Srinivasan, Consultant, Pune*

Thanks for sharing this tool which is quite comprehensive and seeking the observations of members to improve it.

- On reading the document, it appears that we are in the first stage of developing a tool. This document highlights the different parameters which should be considered in determining the poverty level of household. It cannot be used as a tool unless a set of questions and scoring for the same are arrived at.
- I will take the case of financial services. First of all we need to define financial services to mean savings, credit, insurance, remittance; check the access to each of these services from institutional and informal sources. Each of them plays a role in building household resilience and asset building. Access to credit alone is not a good measure. Net credit versus net assets also needs to be included since several farmers are severely indebted but have access to credit from several sources.
- Access to social and political networks also needs to be included

Many thanks to all who contributed to this consultation!

If you have further information to share on this topic, please send it to Solution Exchange for the Microfinance Community in India at se-mf@solutionexchange-un.net.in with the subject heading "Re: [se-mf] FOR COMMENTS: Multi Dimensional Poverty Assessment Tool of IFAD. Additional Reply."

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Annex IX MPA survey design and validation report

Technical report: Multidimensional Poverty Assessment Tool Survey design, enumerator training and psychometrics review

Moshe Feldman, PhD – MPA Psychometrics & Training Adviser

Overview

My role as an adviser to the Multidimensional Poverty Assessment (MPA) Project was to provide guidance and advice in the areas of measurement design (i.e. questionnaire construction and testing), statistical validation efforts, and overall methods for development and validation as outlined in the plan of work for the MPA Project. This work was conducted in consultation with the lead MPA advisor (Alasdair Cohen) over the course of the project.

The Multidimensional Poverty Assessment Tool (MPAT) is designed to enhance policy decisions for rural poverty alleviation projects. Specifically, the MPAT is a thematic indicator that measures ten fundamental dimensions of rural poverty. Special attention was given to the overall design of the MPAT survey items because of the goal of creating an instrument that will be used across languages and cultures. This report addresses issues related to the survey structure (e.g. survey items, scale construction) and enumerator training. Recommendations are provided for each stage in the development process of the MPAT.

This report will focus on the following tasks that were undertaken:

- Task 1: Reviewed MPA Plan of Work and proposed methodology (before project start-up)
- Task 2: Assisted in preparing a primer on test items and scale construction for the start-up workshop
- Task 3: Reviewed MPAT during the development process and advised on psychometric characteristics.
- Task 4: Advised on and contributed to the development of training workshops and enumerator training programme design.
- Task 5: Provided support on assessment plan and review of statistical analysis as needed.

MPA plan of work

A Plan of Work (POW), which was developed by the MPA lead advisor and submitted for review, was developed to outline the major tasks and milestones for the project. The POW provided a GANTT chart outlining the timeline for major tasks, an example of the MPA tool, and descriptions of each task. The general scope of information provided was broad, and appropriate details were provided. The POW listed eight tentative MPAT components including food security, land equity, education, health, sanitation, domestic water access, agricultural water access and environment. The characteristics and purpose of the MPAT should leverage the strengths and minimize the limitations of composite indicators to maximize validity. As a

thematic indicator of rural poverty, the MPAT presents these components without aggregating them into a single indicator to preserve specificity of the tool (Cohen, *in press)*. The value of an indicator is a function of the degree to which it provides a comprehensive representation of what it intends to measure and the degree to which the tool leads to more optimal policy decisions. Hence, the MPAT is meant to ultimately serve as a useful decision support tool. The initial proposed MPA components, indices and sub-indices appeared appropriate for the measures being developed.

The POW of work outlined 14 major tasks, organized by a design and training phase and an execution phase, that were to be completed over the course of 2008-2009. The overall POW and project timeline were well designed and written. Detailed information was provided about each task, which gave clarity about the scope and amount of time that should be required for completion. Important activities that are conducive to the success of the project were included such as a comprehensive information dissemination plan and team building. These steps are critical to build shared mental models between project members and enhance collaborative work efforts (Mathieu et al., 2000). The POW outlined a thorough validation plan that included separate pilot, decision and generalizability studies for validating the MPA survey items (Shavelson and Webb, 1991). Each study allowed sufficient time for enumerator training to facilitate standardization. Standardizing survey items and the process of data collection are especially important in cross-cultural research to avoid confounded, biased, or unreliable data. Overall, the validation plan seemed appropriate and followed suggested psychometric guidelines (Nunnaly, 1994).

Recommendation 1: Allow sufficient time to accomplish milestones. The POW was comprehensive and accomplished many tasks. The only general issue was that it would be difficult to collect so much data and accomplish all proposed tasks in the 1.5 years allotted for the project. It was agreed that the planned team building and workshops would facilitate the multi-national effort so that progress could be made in parallel.

Recommendation 2: Develop clear and concise operational definitions. It was recommended that a critical step would be to emphasize and allow time for subject matter experts to develop clear and concise operational definitions of each component. It was important to agree on these during the start-up workshop before developing the indicators.

Start-up workshop, China

The goals of the start-up workshop were to review the project timeline, decide on components for the MPAT (which was at the time called MPA) and develop survey items to measure these components. A primary goal was to create operational definitions and measures for each component. This step was crucial because of the MPAT's reliance on sound survey items that could be translated accurately across languages and cultures. I supported the lead advisor in developing a set of guidelines for writing operational definitions and question development, which was sent to participants prior to the workshop. These instructions focused on criteria for developing survey items, types of information you can collect, and appropriate question-and-response formats. This was intended to facilitate the method and process for creating sound survey items and scales. The following recommendations were provided to prepare for and improve the start-up workshop.

Recommendation 3: Provide clear operational definitions to guide question development. An operational definition for each index that can be interpreted reliably across languages was considered critical for the utility of the MPAT. The operational definition is meant to define the construct in a way that describes how it will be measured. For example, an operational definition for the education component was operationalized as the quality, availability and access of education in the community. Metrics or scales are then developed that capture this operationalization. This was facilitated by a pre-workshop which was held to identify a first draft of components and operationalizations. In addition, subject matter experts responsible for choosing and describing components prepared a summary prior to the start-up workshop.

Recommendation 4: Provide well-written and poorly written examples of survey items and scales. Survey items should be developed soon after operational definitions are developed. Poorly written items or inappropriate scales are likely to bias data (Schwartz, 1996). A review was provided to start-up workshop participants that described how to write questions, what types of information to collect to represent each component, and appropriate scales or response formats to use for the MPAT. The MPAT was meant to be delivered through a structured interview by trained enumerators and expected to be administered in under 30 minutes. Survey items and response scales must be developed that are conducive to these goals in order to improve quality of subsequent data collected. At the same time, items must adequately capture what they intend to measure. The following guidelines were given to participants before the start-up workshop and were used while developing questions.

1. **Criteria for all questions**
   - **1.1 Simplicity** (only try and capture one piece of information per question, and as concisely as possible)
   - **1.2 Clarity** (make sure questions are unambiguous and cannot be misinterpreted)
   - **1.3 Easy to translate** (keep the language as simple as possible)
   - **1.4 Can be answered quickly** (do not ask questions that require extended thinking or calculation)
   - **1.5 Relevant to any rural context** (make sure the question applies to any rural context in any country)

2. **Types of information you can collect**
   - **2.1 Objective information** (captures measurable data – even if based on people's estimates) *[e.g. number of minutes waiting, quantity of water collected, area of land cultivated]*
   - **2.2 Subjective information** (people's perceptions of a situation) *[e.g. degree of access to a resource, satisfaction with services provided]*

3. **Appropriate question-and-response formats:**
   - **3.1 Dichotomous** (discriminates between two groups or choices, e.g. yes/no/don't know, male/female…)
   - **3.2 Categorical** (types or categories, e.g. rice/corn/wheat, no toilet/open pit/latrine…)
   - **3.3 Ratio/numerical** (time, quantities, distances, e.g. frequency of a behaviour, number of adults…)

Summary

The preparation efforts of the start-up workshop and instructions allowed for a productive workshop and afforded the needed time to complete the first-draft list of components and measures. Steps were taken to thoroughly review MPAT components and survey items. An initial set of five items per component was refined to three through active discussion until a consensus was reached. This helped ensure agreement and a shared understanding between project participants, which is important towards reducing cultural variance of the MPAT (Behling, 2000).

MPAT draft (v.6) survey structure and content

Before the pilot, a draft of the MPAT was reviewed for survey item structure, item scales, and overall psychometric issues (Schwarz, 1999). The guidelines provided to participants as well as comments during the start-up workshop as discussed with the lead advisor were used to guide the review. Recommendations were provided for strengthening the validity, standardization and quality of responses. Recommendations were organized into survey structure (e.g. item order, item wording), item content (e.g. standardization, bias, cultural differences) and scales (e.g. values, behavioural anchoring). Comments targeted enhancing the quality and validity of the MPA and I advised that any changes to the MPAT should be considered in view of other factors such as time, feasibility and cost.

Recommendation 5: Order items that may elicit negative attributions or perceptions of the survey at the end of the MPA. For items 1.1, 1.2, 2.3, the respondent may feel shame about or threatened by these questions if the response choice is indicative of failing to provide adequate food to the household. Respondents may skew responses so that lack of food is underreported. Also, these questions may elicit a negative perception of the survey, which could lead to reluctance to respond accurately for future items. This section should be moved towards the end of the survey. Also, respondents may underreport instances where food sanitation practices go against local laws or village norms.

Recommendation 6: Avoid using general terms in question stems such as 'most'. General terms may be interpreted differently across respondents For example, some communities would interpret 'most' to mean five out of eight household members, while others may consider 'most' to be seven out of eight. For example, asking for information about 'most' of something (e.g. how often does most of your household shower?) is too general a term and may be biased by cultural norms. If confident that this is not a significant variant, then using 'most' should not deter from question integrity. Question stems should try to reference specific ranges such as 'everyone but children under two' to strengthen interpretation invariance across respondents and cultures.

Recommendation 7: Ask 3.1b before 3.1a so you define non-serious and serious illness. Emphasize the need to define serious illness in enumerator training. This will provide a better common frame of reference across respondents, enumerators and cultures.

Recommendation 8: Account for major historical events. Consider accounting for information related to historical events that may significantly impact responses occurring in the past 12 months. This could be done with an additional question under the 'resilience to shock' component *(section 9)*. For example, you could ask if any severe weather such as floods,

typhoons or earthquakes have occurred in the past 12 months. A second option would be to collect this data based on local news reports or archival data from the past year.

Recommendation 9: Use simple and clear wording for question stems. Cross-cultural translation errors are more likely when wording is unclear, leading to possible misinterpretations. For example, consider rewording *item 10.1* to have a more direct meaning and clearer wording. Phrases such as 'best-tasting foods' in this context is vague and likely to be interpreted differently across cultures.

Recommendation 10: Keep scaling consistent. Try to keep the scaling as consistent as possible for similar response types. This will prevent confusion among respondents and help enumerators more efficiently collect responses. For example, in *item 3.1* the scale is anchored from values of 'never' to 'always'. Previous questions asking similar response types use a similar scale but have specific time periods (e.g. once a week, once a month). Asking specific time references for scale anchors will help with retrieval of specific instances and keep the scaling more standardized across the survey.

Recommendation 11: Don't provide quantitative values for categorical scales. For example, *in section 3.2* values of -1, -2 and -3 should not be listed. Also, don't put value for 'don't know' response option (*section 4)*. This will help to avoid misinterpretation by the enumerator when coding responses. In addition, make certain that this is addressed when training enumerators.

Recommendation 12: Language rules across cultures may change response ordering. Pay attention when translating response scales when the direction in which a dialect is read changes to right to left.

Recommendation 13: Avoid long response lists. Long response lists from which enumerators must categorize responses make it difficult to categorize verbal responses quickly because they must listen to the response, while considering many response choices. It may be easier to write a response down and then translate after the interview (*item 9.2)*.

Summary

The MPAT draft was well developed and comprehensive. It provided operational definitions and survey items that captured broad components in a reliable way. Recommendations highlighted changes to survey structure, item wording and scaling to enhance psychometric properties of the MPA and were generally minor. Final issues to consider included:

- Use general questions first, to provide cognitive reference, and then more specific questions.
- Provide specific time references when asking about frequency about events.
- Avoid embarrassing or culturally awkward questions until the end of the questionnaire.
- Be specific about the object of the survey item. For example, when referencing children describe the age range because cultures may define children under different age ranges.
- Provide behaviourally anchored scale examples for enumerator training. It is important to standardize examples according to meaning rather than direct translation for cultural invariance.
- Consider historical events (e.g. floods, droughts, earthquakes) that are unusual and are likely to impact responses.

These suggestions were discussed with the lead advisor and subsequent modifications were made over several revisions and consultations.

MPAT draft (v.7) survey structure and content

Version 7 of the MPAT was reviewed for psychometric structure and content. Overall, this version was much improved and adopted most of the suggestions provided from version 6. The following recommendations focus on the scale structure and are aimed to improve reliability and avoid erroneous responses and interpretations of the scale values.

Recommendation 14: Standardize presentation of categories (e.g. 10.1-10.3; 12.1-12.3). Reformat the list of categories so columns are uniform. It may be difficult or confusing for enumerators because category display is mixed between one, two and three columns. Answer choices and their corresponding values are confusing and prone to mismatch errors.

Recommendation 15: Avoid objective and subjective scale values in the same question. For example, in question 33.4 scale values that reference a specific amount, such as 'once a week', are mixed with values that are more subjective, such as 'often'. In this case, 'often' may mean the same thing to the respondent as 'approximately every two weeks'. Instead, change 'often' to read 'more than every two weeks' to be consistent within the scale.

Enumerator and rater training

The contribution of the MPA as a valuable and effective tool is contingent on the delivery of the survey instrument and interpretation of responses. This is especially true given that a key purpose of this tool is to compare data across communities and cultures. One method to standardize and improve survey delivery and interpretation is through effective enumerator training (Behling 2000). Enumerator training should also reduce the time needed to correct enumerator errors in the analysis phase. A draft enumerator training plan was submitted by the lead advisor for review. Recommendations were given and I was consulted throughout enumerator training development.

Enumerator and/or rater training was developed to strengthen the intra- and inter-rater reliability of the MPAT. Enumerator training has been shown to help prevent rater errors and enhance shared mental models regarding how to code responses, which is especially important when surveys are conducted in different languages and cultures.

Recommendation 16: Allow adequate time for enumerator training. Important steps for enumerators are to become familiar with and understand survey items, discuss any issues or questions, practise administering and collecting data and receive corrective feedback. One concern was whether all training objectives could be completed in the allotted time.

Recommendation 17: Have enumerators practise delivering the MPAT and recording responses. The MPAT is meant to be delivered quickly, reliably and accurately. The ability of enumerators to accomplish this requires them to be familiar with the survey items and be able to quickly and accurately record responses. This requires active practice for enumerators to ensure that mistakes are prevented before the field data are collected. Knowing the survey may not be enough to prepare enumerators. Respondents may answer survey items in different ways; exposing enumerators to these variations will help with their interpretation skills.

Recommendation 18: Provide corrective feedback. Corrective feedback should be provided that identifies enumerator errors and offers ways for enumerators to correct themselves.

Summary

Enumerator training was delivered to enhance rater reliability and accuracy through active practice and shared operational definitions. The first session introduced and familiarized enumerators with the MPAT. The second session allowed enumerators to ask questions and practise delivering the survey. The third session was meant to allow participants to practise in the field, but instead additional practice was given with other enumerators due to field site limitations. The fourth session allowed for a final review with the group. Feedback from other enumerators and project supervisors was given throughout the training.

Overall, the enumerator training proved useful in helping to train enumerators and improve their performance. A post-training survey in China completed by 21 enumerators showed overwhelming support: that the training was considered good, provided adequate materials and provided sufficient time for the training and for practice. Only three enumerators reported that the training provided more than was needed. Several enumerators called for more training, indicating that they saw the training as important. Overall, the enumerator training was an important process to enhance the quality of data and utility of the MPAT.

Conclusions

An MPAT Validation Report was prepared that outlined specific analyses performed to evaluate a suitable method for aggregating survey items, assuring internal reliability and construct validity, and to test the utility of multiple models in the area of prediction power and sensitivity to fluctuations in standard error rates (Saisana, 2009). This report showed support for the MPAT, but found inconsistencies in the hypothesized factor structure of MPAT v.6. These issues were incorporated into v.7. This report served as a means of assessing survey items and cultural differences between survey responses across data collection sites. Overall, survey items were fairly clear and response scales were appropriate. The report concluded that well-designed survey items and enumerator training helped to prevent potential biases.

The MPAT v.6 has shown support for the utility of using a multidimensional structure for measuring key factors of rural poverty, but data were inconsistent with the proposed factor structure. This may be partly due to the low number of items used for each component. In addition, many of the components may naturally co-vary across factors. The validation efforts for the MPAT have supported the MPAT as a decision-making aid in visualizing and evaluating multiple factors that impact poverty alleviation policy decisions. Future work should continue assessing the predicative validity and utility of the MPAT as a decision aid. Longitudinal data could be collected to follow the sensitivity of the tool to newly set poverty alleviation efforts.

References

Behling, O. and Law, K. S. (2000). *Translating questionnaires and other research instruments: Problems and solution.* London: Sage.

Mathieu, J.E., Heffner, T.S., Goodwin, G.F., Salas, E. and Cannon-Bowers, J.A. (2000). The influence of shared mental models on team process and performance. *Journal of Applied Psychology, 85*, 273-283.

Nunnally, J. and Bernstein, I. (1994). *Psychometric Theory (3rd edition)*. New York, McGraw Hill.

Saisana, M. (2009). The multidimensional poverty assessment tool (MPAT): Robustness issues and critical assessment. *JRC Scientific and Technical Reports.*

Saisana, M., Saltelli, A. and Tarantola, S. (2005). Uncertainty and sensitivity analysis techniques as tools for the quality assessment of composite indicators. *Journal of the Royal Statistical Society, 168*, 307-323.

Schwarz, N. (1999). How the questions shape the answers. *American Psychologist, 54*, 93-105.

Shavelson, R.J. and Webb, N.M. (1991). *Generalizability theory: A primer.* Newbury Park, CA: Sage.

Annex X MPA Project third workshop: Participants and itinerary

Multidimensional Poverty Assessment Project
Final Workshop, September 11th, 2009: Rome

Participants

Moses Abukari	Consultant, IFAD
Jamie Anderson	Technical Adviser, IFAD
Rudolph Cleveringa	Senior Technical Adviser, IFAD
Alasdair Cohen	MPA Project Manager & Lead Adviser, IFAD
Jean-Marc Faurès	Senior Water Resources Management Officer, FAO
Sean Kennedy	Technical Adviser, IFAD
Mattia Prayer Galletti	India Country Program Manager, IFAD
Thomas Rath	China Country Program Manager, IFAD
Francesco Rispoli	Technical Adviser, IFAD
Michaela Saisana	MPA Lead Technical Adviser, European Commission JRC
Roxana Samii	Web, Knowledge & Distribution Manager, IFAD
Guido Santini	Water Resources Management Officer, FAO

Multidimensional Poverty Assessment Project
Final Workshop, September 11th, 2009: Rome

Itinerary

9:00 – 10:15 Opening Session

Introduction — Thomas Rath

Presentation: MPA Project overview & workshop goals — Alasdair Cohen

Presentation: MPA Pilot data analysis & recommendations — Michaela Saisana

10:15 – 10:30 Coffee Break

10:30 – 12:00 Discussion Section

-Dr. Saisana's Statistical Analysis & Recommendations

-Address feedback on MPAT Publication zero draft

-Discuss key points from 2009-09-10 MPAT Presentation

-Next steps? (ahead of planned January 2010 Launch)

12:00 - 12:15 Coffee Break

12:15 to 13:00 Discussion & Wrap-up

-Consensus building on next steps

Closing remarks — Thomas Rath

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