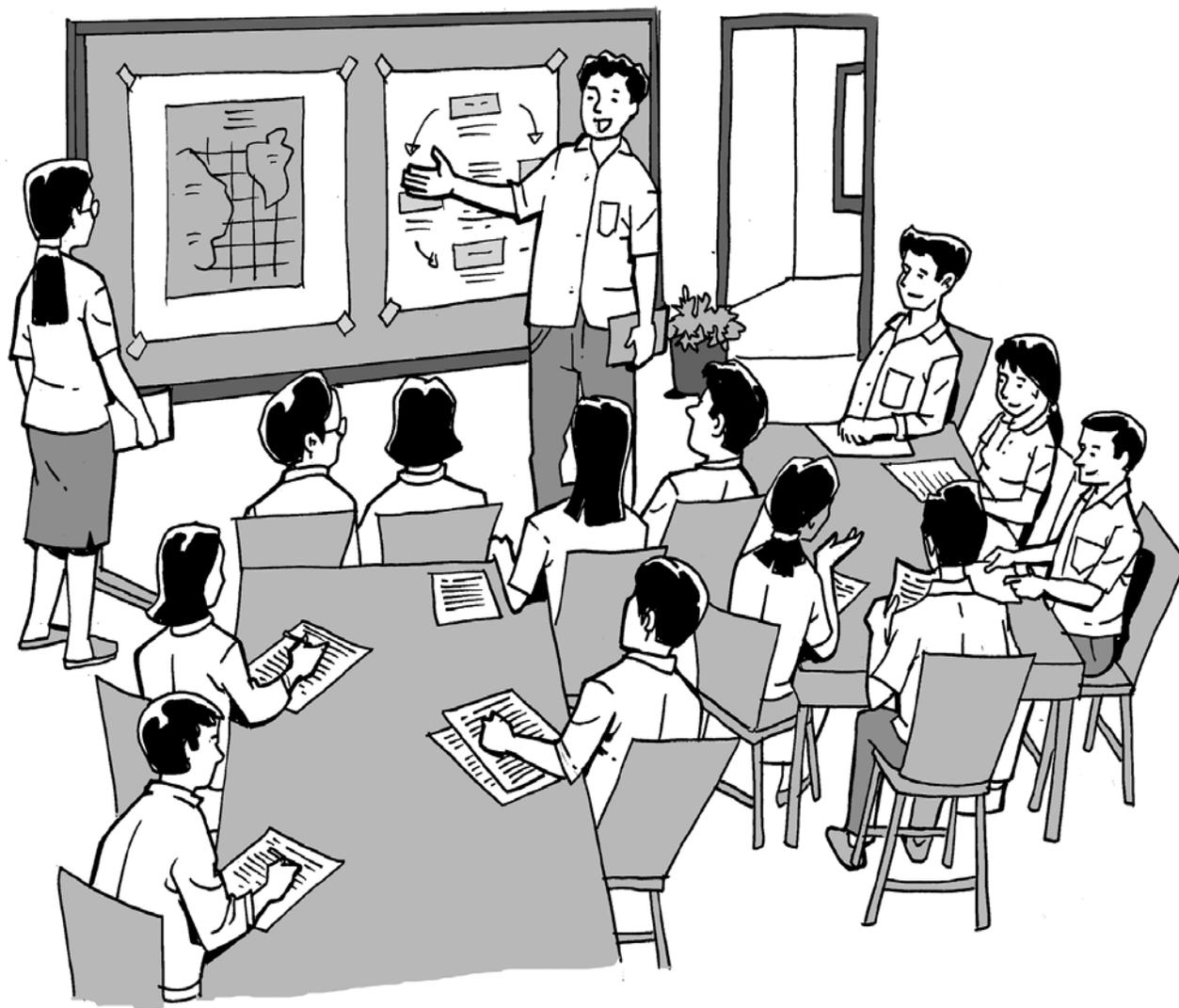# Multidimensional Poverty Assessment Tool

Rural poverty has many causes and dimensions and these are often specific to a country and a particular context. Because poverty is multifaceted and highly complex, it is challenging to assess and measure aspects of poverty in a useful way. Yet, the root causes of poverty need to be understood in order to 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. Generally speaking, fostering an enabling environment that allows people to create the type of life

All of the resources needed to implement MPAT are available for interested users free of charge on the MPAT website at: www.ifad.org/mpat

they choose is, arguably, the overarching goal of many rural poverty reduction initiatives. This requires a combination of essential social services, access to information and productive assets, skills training, social and physical infrastructure, etc. Yet, 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 livelihoods. That is, it is arguably crucial to first acquire an understanding of the status of core poverty-related sectors (e.g., water and sanitation, food security) before moving forward with project design.

The multidimensional poverty assessment tool (MPAT)

In 2008, the Multidimensional Poverty Assessment (MPA) Project, a collaborative, international initiative led by IFAD, was begun to develop, test and pilot a new tool for local-level rural poverty assessment.
The aim was to design a simple, efficient yet robust tool that could provide an overview of fundamental and relatively universal dimensions that are integral to rural livelihoods and rural life, and thus to rural poverty. 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 are therefore likely in a position to more successfully pursue their higher needs and, ultimately, their wants.

MPAT's 10 components measure fundamental dimensions of rural life, livelihoods, and human well-being (see Figure 1).

After several years of development, intensive field testing in real project and poverty situations in China and India and technical input by national and international experts, A working paper on multidimensional poverty assessment tool (MPAT) was released in early 2010.

MPAT is a survey-based thematic indicator primarily designed to assist project design, monitoring and evaluation (M&E), targeting and prioritisation efforts at a local level. Household and village-level surveys are used to collect data, which are then assigned values on the same scale so that they can then be organised by way of indicators.

MPAT provides an overview of 10 fundamental dimensions related to human well-being and rural livelihoods (see Figure 1). The first six dimensions—food and nutrition security; domestic water supply; health and healthcare; sanitation and hygiene; housing, clothing and energy, and education—are largely based on the *Basic Needs* theory and can be considered *fundamental needs.* These six dimensions were drawn from decades of experience and research around the work that link these components, and their synergistic interconnections, to rural poverty alleviation and human well-being. The last four dimensions address fundamental aspects of rural livelihoods, life and well-being—farm assets; non-farm assets; exposure and resilience to shocks, and gender and social equality. They were developed through the exchange of ideas among practitioners, academics, and other experts involved in the MPA project. These four dimensions reflect the way in which rural life, livelihoods and poverty have changed in recent years—a "new rurality" as some have termed it—that is largely the result of an increasingly complex world within which poor rural people tend to be on the losing end of new institutional, climatic and socio-political realities.

The MPAT structure

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 household and village surveys have been analysed and tested to reduce bias by carefully choosing the wording and ordering of the questions and by developing a thorough enumerator training programme. So too, the indicators were subjected to rigorous, independent statistical analysis, as well as an in-field validation exercise.
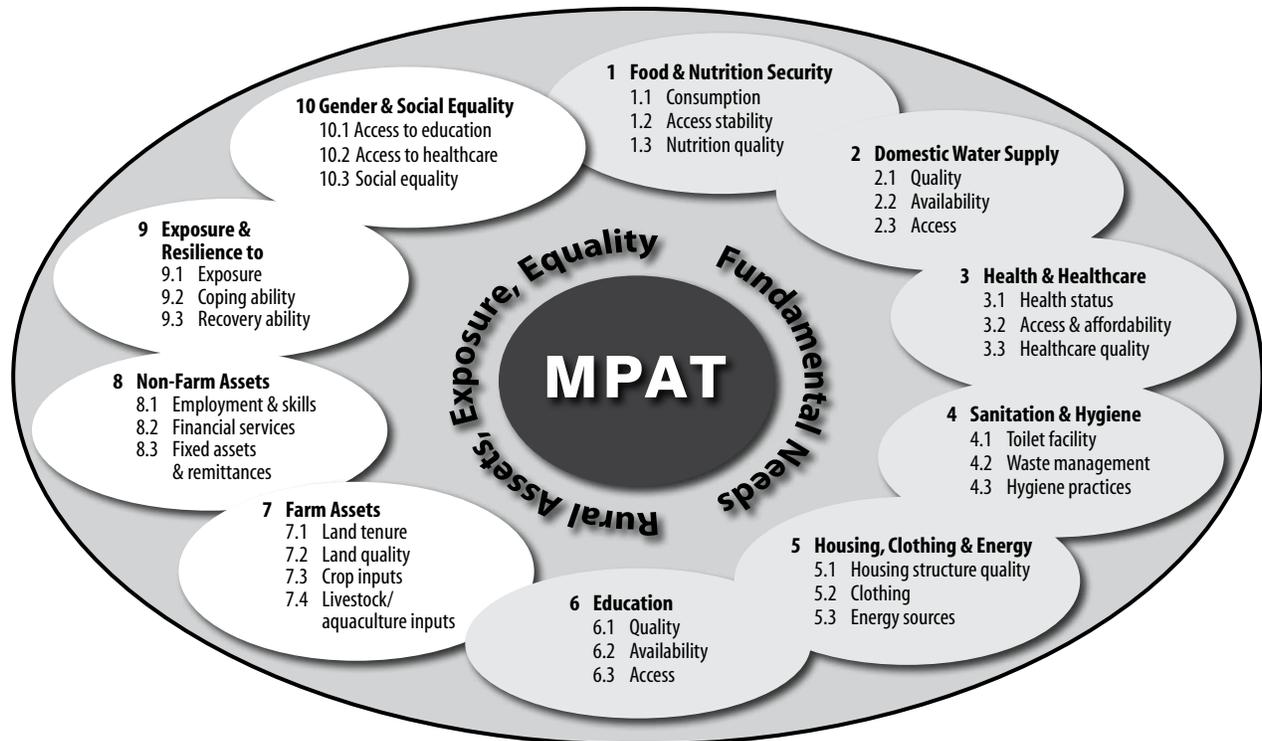

Figure 1.   Organisational diagram of MPAT components and subcomponents.

MPAT's data are organised 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.

When it comes 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 standardisation, which is especially difficult to achieve when using relatively open-ended participatory approaches.

> **MPAT can be used to make comparisons across space and time.**

Standardisation 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. 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, standardised assessment tool can support project M&E, by being implemented at project start-up (for a baseline assessment) or beforehand to support design, 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 standardisation of the surveys, as well as the way in which they are administered.

Once the data are collected, survey responses are assigned values that 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. 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 become blurred. A thematic indicator, on the other hand, is a grouping of indicators that measures values similar to a common theme or concept. 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.
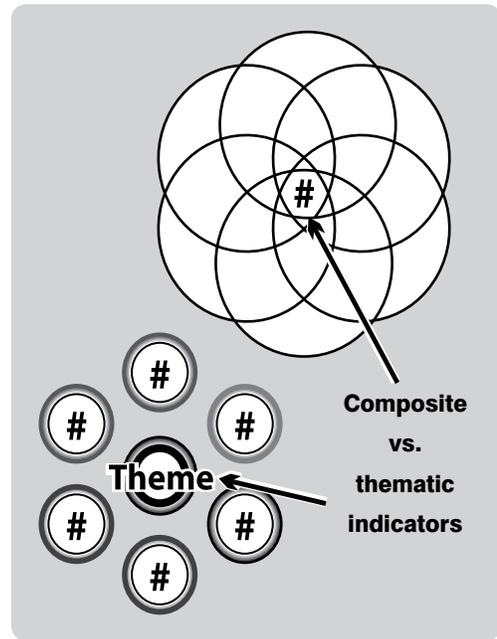
How it works: the MPAT survey and indicator architecture

Specifically, the MPAT surveys collect data from two sources: households and village-level leaders, educators and healthcare staff. Thus, there are two MPAT surveys, the MPAT *Household Survey* and the MPAT *Village Survey.* The vast majority of the data collected come from the household 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 and their beliefs about the key domains that 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 organised by household. The
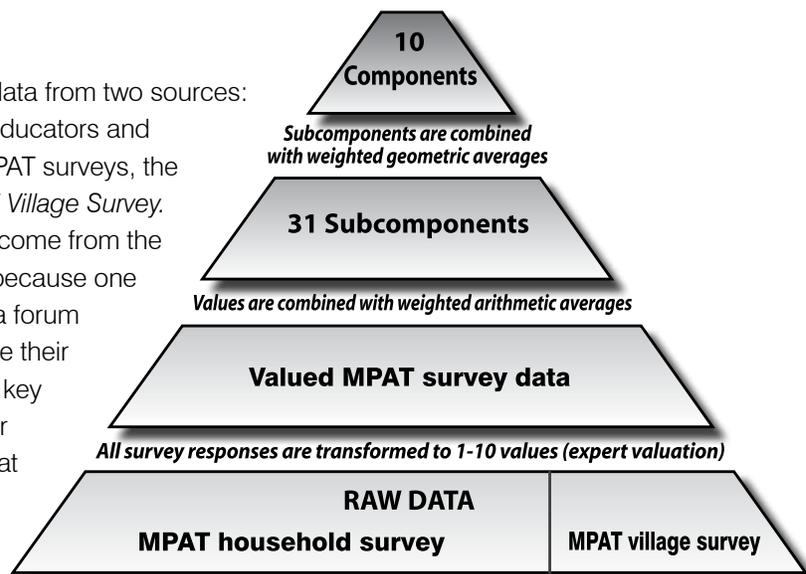
Figure 2. How MPAT's data are converted into component scores.

household survey is administered more like an interview than a questionnaire, which allows enumerators to engage respondents in a meaningful way but also quickly record respondents' answers (by selecting pre-coded answers on the household survey); This saves time and is one of the reasons MPAT can be administered in 35 minutes per household, on average. The village surveys are structured the same way and are used to capture information on village-level changes and conditions.

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)]. Once the data pass quality control and are entered into the Excel Spreadsheet, there are three steps used to convert the data into component scores (see Figure 2). First, survey question responses are assigned values on a scale of 1 to 10, with 10 being the high, or more desirable, score. That is, for each survey question, each possible response is assigned a value from 1 to 10. Next, the values from the survey responses are aggregated to yield subcomponent scores. Different expert-weightings are used for this aggregation process (all of the values and weights are available in the MPAT User's Guide and Excel spreadsheet). Finally, these subcomponents are themselves combined to create component values since each is a composite indicator. As data move up this information pyramid, resolution is increasingly lost, but the complexity of the situation the data represent is simplified in step.

The weighting scheme helps ensure that 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 maximised. If one project is to be compared to another, then both must use the standardised MPAT survey item valuations and weighting 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 with a water-rich one). Therefore, before collecting the MPAT data, users are encouraged to think about and 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 standardised 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 that should, for the most part, be universally applicable, this will not always be the case. Thus, the user should first calculate the standardised MPAT (to compare with other projects and with their own project at other times) and then may change the valuations and/or weightings as appropriate, in order to calculate a context-specific MPAT, ideally providing documentation justifying these changes. (The reason this should be done before collecting the data is so that there is less of a risk of possibly manipulating the weights or values to provide better results.)

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 standardised MPAT surveys. However, questions can only be added to the end of the MPAT survey (for both the household 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 with MPAT surveys used elsewhere. It perhaps goes without saying that if a context-specific MPAT is calculated, it cannot be compared with the standardised MPAT indicators calculated in other project/regions.

Potential uses of MPAT

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 that require support for reducing rural poverty and improving livelihoods. It also provides an objective means of justifying resource allocation or planning priorities. One way to present data is to summarise them in one graph as seen in Figure 3. The closer to the outside edge of the graph, the better the score. It is evident with even a quick glance that some fundamental needs like sanitation and hygiene, housing clothing and energy are severely unmet. Non-farm assets and exposure to shocks also call for close attention.
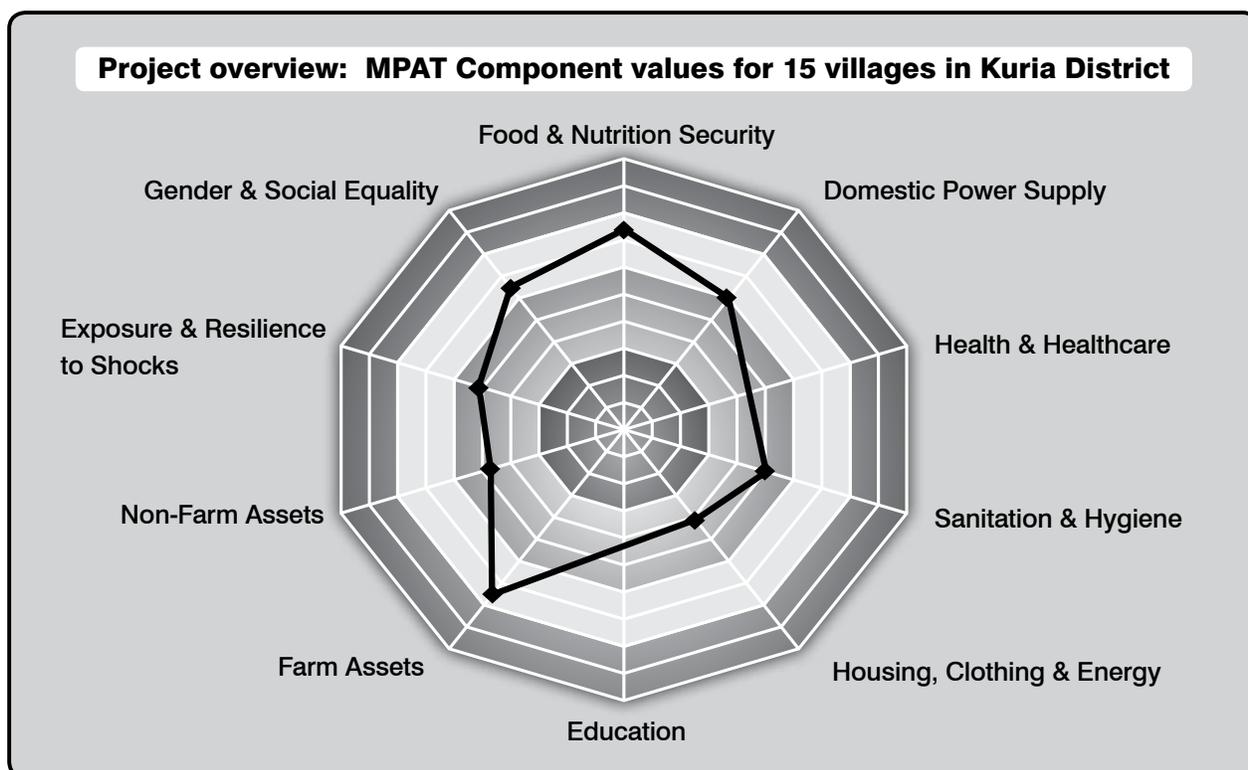

Project overview: MPAT Component values for 15 villages in Kuria District

Figure 3. 2011 data from rural Kenya—480 households across 15 villages.

Raising awareness

The use of MPAT at the design stage of a project can help shed light on whether the conditions are right for a specific development intervention—especially those that are more advanced or sophisticated.

Beneficiary empowerment and advocacy

MPAT provides a tool for starting dialogue with would-be beneficiaries to understand their perceptions and concerns *before* project design. For example, by asking beneficiaries to rank MPAT's components and subcomponents from their point, one can quickly see the concerns and priorities of different groups. Once MPAT is implemented, these concerns can then be "married" with the data from design and planning surveys when negotiating project specifics with government agencies. This could also be done in the reverse order: first calculate the MPAT indicators for a given region and then share the results with focus groups of beneficiaries to elicit their responses. Afterwards, one could see how well they identify with the findings, and then share the combined data with government agencies to refine project design.

Policy dialogue and national programme support

At a national level, MPAT provides a means of stimulating discussion around country-level poverty-reduction strategies. It also provides a framework for dialogue with government ministries concerning their priorities at the country level. For IFAD (and other donors), this provides a way to discuss how such goals/objectives might be better incorporated into *country strategic opportunities programmes* (COSOPs). MPAT also serves as a mechanism to help government agencies cooperate on shared poverty-reduction goals. MPAT is also of relevance to local governments as it can help depict key issues in their constituency and critical action areas.

Targeting and prioritisation

MPAT provides a means of quickly identifying key problem sectors in a region, with a resolution as precise as the household level if needed. This is especially useful in areas where the general poverty level is known to be low, but there is not enough information to determine how to use finite resources to benefit those areas and sectors most in need. Thus, MPAT is a highly useful resource for the first steps of a targeting or prioritisation effort.

Design

MPAT could aid project planners significantly at the design phase 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.

Monitoring and evaluation

Monitoring and evaluation support was one of the primary uses envisioned for MPAT. It can be used at the design and/or baseline stage of a project, then again for the mid-term assessment and finally for the project
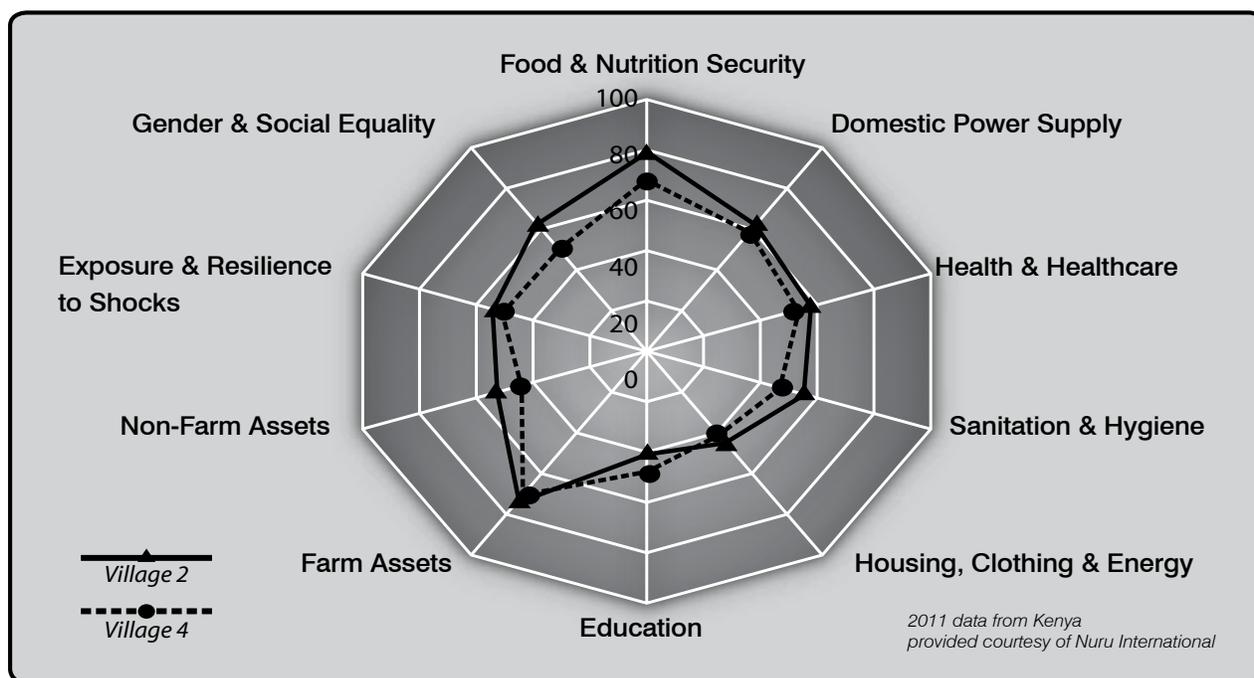

Figure 4.   Comparison overlay of MPAT indicators for two villages in rural Kenya.

completion assessment (usually this involves intervals of 3 or 4 years). In this way, MPAT can provide detailed information on how sectors are changing (for better or for worse) at different scales (from the household 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 4) or even two projects, or two villages or two households, at the same time or at different times. However, MPAT is not by itself sufficient for a thorough project M&E; rather it is envisioned as a primary support tool, which can lend perspective and provide guidance to support evaluations efforts.

In-country and cross-country comparisons

MPAT provides a standardised means of comparing areas and projects, which in turn can help stimulate improvement at a regional, country or even cross-country level. Used in this way, MPAT can help stimulate efforts to increase component scores via on-the-ground action in response to comparisons with other projects/areas.

Additional data analysis with a large, comprehensive dataset

While the main use of data captured via the MPAT surveys is to create the MPAT indicators, the great wealth of data collected can be used for other forms of analysis. Since MPAT data are collected and calculated at the household level, one could run many types of correlation analysis, for example, by first disaggregating households based on female and male-headed households. Clearly then, the wealth of data collected via the MPAT surveys provides numerous and essentially limitless possibilities with respect to additional data analysis that 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 performed at the household level. This is indeed *added value*.

Important considerations when using MPAT

Once MPAT is calculated for an area, if one wishes to better understand the results, that is, the values of the components and subcomponents, it is crucial to look at the data behind the numbers. Furthermore, and this perhaps goes without saying, it is necessary to adequately take the local context into consideration when evaluating MPAT's results and indeed to get at the "whys" behind the MPAT results. Participatory approaches should be employed.

In addition, it should be remembered that since the household is the primary unit of analysis, MPAT misses the transient poor (i.e., those without fixed residences). The importance of this caveat will vary by region. Finally, it ought to be kept in mind that MPAT is an imperfect tool. Indeed, any such poverty indicator is–necessarily–imperfect. Understanding MPAT's limitations provides a means of ensuring its optimal use. Thus, the valuations for the survey item responses will be relevant most of the time in most areas, but they will not always be appropriate or accurate. Outliers can make valuations inaccurate. 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.

MPAT Value Added	How it helps
Gives a voice to local communities and helps project leaders make more informed decisions	Accurate information, directly from the people you are working for and with, leads to better decisionmaking and better project results over time.
Standardisation across countries, time and project types	This allows you to learn from colleagues in other regions or countries and to showcase your successes so that others can learn from you, when appropriate.
Developed by a group of rural development experts	The MPAT developers are much like you and have experience in the same types of villages that you work in everyday. They have done their best to develop a tool that will help you in your work, and they are completely transparent as to how they developed the tool—this allows you to check their assumptions.
A field-tested data collection tool	It is almost always better to use tested data collection methodologies to avoid biases, leading questions, inaccurate data, etc. "Newly designed data collection strategies, proposed specifically for the intervention, add an additional burden and risk for the project or evaluation team and should be relied on only as a last resort" (Independent Evaluation Group, 2012:32).
Much of the work already done for you	This User's Guide provides a robust data collection tool tested by IFAD staff, specific instructions on sampling in rural areas, a training guide for enumerators, a data entry method to ensure accuracy, the data analysis spreadsheet that "does the math" for you and a visual way to display the data so that staff and community members alike can understand the results. Your job is to understand and implement it well, but you don't have to start from scratch.
Designed for organisations of all sizes and budgets	This is high-quality data collection, designed for rural areas and local staff. It will take some hard work, but it does not have to "break the bank" of the organisation or require outside expertise.

MPAT Value Added	How it helps
Includes safeguards to minimise poor data quality	Collecting accurate data is extremely important but not always easy. The MPAT has built-in methods that will help you do this well (such as the CSC data entry method).
Standardized, but can be customised	MPAT offers a way to standardise the results so you can compare your work with other areas and learn from each other. It also allows you to customise the computations specific to your community situation, if you feel that there is something particular to your community context that needs to be taken into account. If you do this, you want to do both standardised and customised in order to compare the two.
Uses locally collected data	You will get data directly from your local area that are sampled and collected in such a way that they will tell an accurate story of the specific region within which you work. You will not have to compare information about your (possibly) small project area to national-level databases.
Can look at data in both big and small ways	By household, by village, by project. Over time, villages within the same project to one another. Projects on different continents compared with one another. Endless possibilities.
Includes automatic visual communication aids (radar graphs and color coding) of MPAT data	The MPAT spreadsheet automatically creates an MPAT profile that shows data visually by component. It also includes a color-coding scheme that offers a quick glance option for seeing the high and low scores in each area.

MPAT resources

All of the resources needed to implement MPAT are available for interested users free of charge on the MPAT website: www.ifad.org/mpat. These resources include

- **The MPAT user's guide** provides step-by-step instructions for using MPAT, with a focus on training enumerators and supervisors and on data entry, as well as advice on customising MPAT. The user's guide is targeted toward practitioners and project management staff. The 2009 version of this publication was released as a "working document" and is in the process of being revised. It is anticipated that a finalised version will be available in late 2013 or early 2014.

- **The MPAT Excel spreadsheet** is designed so that users can simply enter in the survey data and it will automatically calculate the MPAT subcomponent and component scores/results. All of the data on valuations and weightings are provided here, as well as in the user's guide. The Excel sheet provides the MPAT results for each individual household, as well as summaries for each village, and for the entire project.

- **The MPAT book (2009**) outlines the methodological foundation for the MPAT, giving the reader a clear understanding of the *why*, *how* and *for what purpose* MPAT was created; it provides a description of MPAT's initial design, development and piloting/testing in rural China and India.

- **The MPAT household and village surveys** are provided in the user's guide but have also been translated into a number of languages, which are available for download from the MPAT website.

- **An independent assessment of MPAT** conducted by the European Commission's Joint Research Centre is also available, a link is provided on the MPAT website.

- **A journal paper,** Cohen (2010) *The Multidimensional Poverty Assessment Tool: A new framework for measuring rural poverty* describes the theoretical foundations for MPAT, it is available in the journal Development and Practice.

Check the IFAD website (www.ifad.org.mpat) for updates and forthcoming publications.

Conclusion

MPAT is equally relevant and applicable at a large or small scale (e.g., from a few villages to donor-supported projects covering thousands of households); it is therefore hoped that MPAT will benefit governments, NGOs, international financial institutions (IFIs), research institutions, universities and many others who have vested interests in understanding and addressing rural poverty around the world. 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. It can also provide a forum for rural people to communicate their perceptions about key dimensions of their lives and livelihoods enabling them to be further involved in the process and to become empowered. It is hoped that the 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.

Acronyms and abbreviations

COSOPs   country strategic opportunities programmes

CSC   check-score-code

IFAD   International Fund for Agricultural Development

IFI   international financial institution

MPAT   multidimensional poverty assessment tool

M&E   monitoring and evaluation

NGOs   non government organisations

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Assistance for the compilation of this article came from Ms. Angela Orlando.

Bio-sketch and contact details

Most of the material presented here comes from the MPAT book and other resources prepared by Alasdair Cohen who managed the development of MPAT. He works and does research in the fields of drinking water, environmental health and poverty metrics. In addition to IFAD, Alasdair has worked with FAO and WFP, among others. He can be reached at alasdair.cohen@linacre.oxon.org.