



The Multidimensional Poverty Assessment Tool (MPAT): Robustness issues and Critical assessment

Michaela Saisana and Andrea Saltelli

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Michaela Saisana and Andrea Saltelli

Executive Summary

The Multidimensional Poverty Assessment Project is an international initiative led by the United Nation's International Fund for Agricultural Development (IFAD) to develop, test and pilot a new tool, the Multidimensional Poverty Assessment Tool (termed MPAT) for local-level rural poverty assessment. Since its conception in 2007, the MPAT has gone through a series of revisions and modifications based on the feedback received from Workshops and on site tests in several provinces of China and India. China and India were chosen as the testing grounds for this initiative mainly due to the extent of rural poverty in these nations and in part because one third of the world's population resides in these two countries. However, the MPAT was developed with the view to be of help in rural regions around the globe.

The MPAT is a survey-based thematic indicator that provides an overview of ten fundamental dimensions related to rural poverty and human wellbeing (Cohen, forthcoming). In the MPAT version 6.0, these ten dimensions were

1. *Food & Nutrition Security,*
2. *Domestic Water Supply,*
3. *Health & Healthcare,*
4. *Sanitation & Hygiene,*
5. *Housing & Energy,*
6. *Education,*
7. *Agricultural Assets,*
8. *Non-agricultural Assets,*
9. *Exposure and Resilience to Shocks,* and
10. *Gender Equality*

Together these ten components are considered to encapsulate the key aspects of poverty that are fundamental to human-wellbeing and, by extension, to poverty reduction, in a 21st century rural context. The MPAT is a ten-dimensional Thematic Indicator, in other words a group of ten composite indicators that are presented together since they measure different aspects of the same concept. The ten components are described by subcomponents, which are in turn composed of survey items (roughly 80 survey items in v.6) from household and village questionnaires, developed ad hoc for this project.

The basis for the extensive analysis and the discussions offered in the present report is the version 6.0 of the MPAT, which was tested in 345 households and their respective 23 natural villages in the province of Gansu in China, and in 182 households and their respective 18 natural villages in the province of Uttarakhand in India.

The aims of this validation report are: (a) to suggest eventual conceptual and methodological modifications in the MPAT v.6, (b) to identify a suitable aggregation method for the underlying survey items into subcomponents and components, (c) to assess the internal consistency of the MPAT conceptual framework, and finally, (d) to offer snapshots of the MPAT results based on v.6 and its improved version v.7¹.

The validation and critical evaluation of the MPAT v.6 are hence guided by three key research questions:

- 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?*

A suitable aggregation method is sought to combine the information collected from the on site surveys in China and India into subcomponents and finally into the ten components. It is shown that at the first level of aggregation, the calculation of the

¹ MPAT v.7 is essentially the revision of the MPAT v.6 based on a variety of sources including the recommendations offered in this report.

MPAT subcomponents as a weighted arithmetic average of the survey items responses has the advantage of “compensating” for eventual inconsistencies in the responses. At the second level of aggregation, the calculation of the ten MPAT components as a weighted geometric average of the subcomponents implies that a region should place more effort in improving itself in those subcomponents where it is relatively weak. These two aggregation rules for the two levels of aggregation are shown to be conceptually and methodologically sound and they are relatively easy to communicate to the wider public.

Regarding the second objective, the analysis of statistical consistency of the MPAT is carried out at two different levels. At the first level, each of the ten components is analysed by applying multivariate statistical techniques to the underlying survey questions. At the second level, validity and consistency are assessed by applying statistical techniques at the subcomponents level.

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 normalisation 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-modelling 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.

The overall assessment of the MPAT v.6 Framework by means of multivariate analysis and uncertainty and sensitivity analyses reveals no particular shortcomings in the conceptual structure². In brief, the analyses demonstrate that the MPAT v.6 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

² However, a number of improvements can be made to the MPAT v.6. For concrete recommendations, see Section 9 – Conclusions.

- is robust with respect to alternative weighting and aggregation rules at the subcomponents level.

Data-driven narratives on rural poverty conditions in China and India, where the MPAT v.6 survey took place, are also offered in this report as an example of what type of messages and debates may stem from an index-based analysis of rural poverty. Detailed village profiles that summarize the MPAT v.6 and MPAT v.7 results are also included.

This report has shown the potential of the MPAT v.6, upon some improvements throughout the entire development phase, in reliably identifying weaknesses and possible remedial actions, prioritizing villages or even households with relatively low levels of rural poverty, and ultimately monitoring and evaluating policy effectiveness.

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Part I: Analysis of the MPAT v.6

1. Introduction

The Multidimensional Poverty Assessment (MPA) Project is an international initiative led by the United Nation's International Fund for Agricultural Development (IFAD), in collaboration with other United Nations agencies, international and regional organizations, and universities around the world, to develop, test and pilot a new rapid appraisal tool (termed MPAT) for local-level rural poverty assessment (Cohen, forthcoming). Since its conception in 2007, the MPAT has gone through a series of revisions and modifications based on the feedback received from Workshops and on site tests in several provinces of China and India. China and India were chosen as the testing grounds for this initiative due to the extent of rural poverty in these nations and in part because one third of the world's population resides in these two countries. However, the MPAT is developed with the view to be of help in rural regions around the globe.

The MPAT is a survey-based thematic indicator that provides an overview of ten fundamental dimensions related to rural poverty and human wellbeing. In the MPAT version 6.0, these ten dimensions cover both people's "fundamental needs" and important dimensions of rural poverty in the 21st century context. They are: *Food & Nutrition Security, Domestic Water Supply, Health & Healthcare, Sanitation & Hygiene, Housing & Energy, Education, Agricultural Assets, Non-agricultural Assets, Exposure and Resilience to Shocks, and Gender Equality.*

Table 1 offers a concise rationale for the inclusion of those ten components in the MPAT. Together these ten components are considered to encapsulate the key aspects of poverty that are fundamental to human-wellbeing and, by extension, to poverty reduction, in a 21st century rural context.

Table 1. The ten Multidimensional Poverty Assessment components and their rationale

	Components of the MPAT v.6	Brief rationale
<i>People's fundamental needs</i>	1. Food & Nutrition Security 2. Domestic Water Supply 3. Health & Healthcare 4. Sanitation & Hygiene 5. Housing & Energy 6. Education	These components are largely founded in the Basic Needs theory (Streeten and Burki 1978; Streeten, Burki et al. 1981) and are intuitively fundamental since they are founded upon the notion of <i>need</i> : the need for nourishment, for hydration, for vigour, for cleanliness, for shelter/protection from the elements of nature, and lastly for the nourishment of minds, and with it the expansion of people's capacity to do and to create, and ultimately, to choose the life and livelihoods they desire.
The link between people's fundamental needs and rural poverty aspects in the 21st century: <i>"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".</i> (Narayan, Pritchett et al. 2009: 41).		
<i>Rural poverty in the 21st century</i>	7. Agricultural Assets 8. Non-agricultural assets 9. Exposure & Resilience to Shocks 10. Gender Equality	Four MPAT components go beyond immediate physical and cultural needs and address fundamentally relevant dimensions of rural livelihoods, life, wellbeing and poverty, such as farm assets (Molden 2007; FAO 2008), non-agricultural assets (Narayan, Pritchett and Kapoor, 2009), exposure and resilience to shocks (IPCC 2007, Graham 2007, Ahmed, Vargas-Hill et al. 2007), social and gender equality (Narayan 2005; Vargas-Lundius and Ypeij 2007; Narayan, Pritchett et al. 2009).

Source: Re-arranged from Cohen (in press)

The MPAT developers refrained from aggregating these ten components into a single composite indicator on the reasoning that: *"the resulting number would be of little worth"* (Cohen, in press). Later in this report, we will discuss in detail the statistical implications of an eventual aggregation of the ten components, but we will simply anticipate here that the choice of the MPAT developers not to aggregate further the ten components is justifiable in the context of rural poverty.

The MPAT is hence a ten-dimensional Thematic Indicator, a group of ten composite indicators that measure different aspects of rural poverty. Each component is made of subcomponents which in turn are based on proxy measures – questions from two surveys, undertaken at household and village level, and created ad hoc for this purpose. The unit of analysis in the MPAT is the household.

This report aims to validate and critically assess the version 6 MPAT tool developed by the IFAD, by addressing three key questions:

- 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?*

These three research questions are addressed by analysing the MPAT tool v.6, and the data collected from the ad hoc surveys that were carried out in 345 households and their respective 23 natural villages in the province of Gansu in China, and in 182 households and their respective 18 natural villages in the province of Uttarakhand in India.

The analysis and the subsequent recommendations of the present report follow the guidelines offered in the OECD (2008) Handbook on Composite Indicators and elicit from the lessons learnt from similar assessments carried out on other known composite indicators, such as the Index of African Governance (Saisana, Annoni, Nardo, 2009), the Composite Learning Index (Saisana, 2008), the Environmental Performance Index (Saisana and Saltelli, 2008), the Alcohol Policy Index (Brand, Saisana et al., 2007), the Knowledge Economy Index (Saisana and Munda, 2008) and the University Ranking Systems (Saisana and D'Hombres, 2008).

Section 2 describes the conceptual framework of MPAT v.6 - the ten components, the subcomponents and the survey questions- and the two test sites in China and India. A first assessment of the framework is offered. **Section 3** discusses missing data and

other data issues and provides suggestions on improving data quality aspects. **Section 4** focuses on the normalisation of the responses obtained from the surveys and suggests improvements or simplifications. **Section 5** covers issues of weighting and aggregation and provides, *inter alia*, the reasoning behind the proper aggregation rule in a rural poverty context. **Section 6** studies whether MPAT v.6 is internally sound and consistent from a statistical and conceptual point of view, aiming to fine tune the MPAT by identifying possible shortcomings. A justification of the MPAT developers' choice to develop a ten-dimensional Thematic Indicator, as opposed to an overall composite indicator of rural poverty is also offered. In **Section 7**, we carry out an uncertainty and sensitivity analysis of the MPAT. We aim to examine to what extent the MPAT v.6 results depend on the methods chosen for the aggregation of the collected data. The analysis involves the simultaneous activation of various sources of uncertainty (e.g. normalisation of raw data, the weighting and the aggregation rule at the subcomponents level). **Section 8** discusses data-driven narratives based on the MPAT v.6 results and stresses in which aspects of rural poverty remedial action is needed for the two surveyed provinces in China and India. **Section 9** summarizes the aims, the main findings and the recommendations of the study.

Part II presents the village and province profiles for the ten main components and subcomponents of MPAT v.6.

Part III presents the village and province profiles for the ten main components and subcomponents of MPAT v.7.

Part IV lists the valuations and weighting used for the calculation of scores for the subcomponents and components in MPAT v.6.

2. Conceptual framework & underlying measures

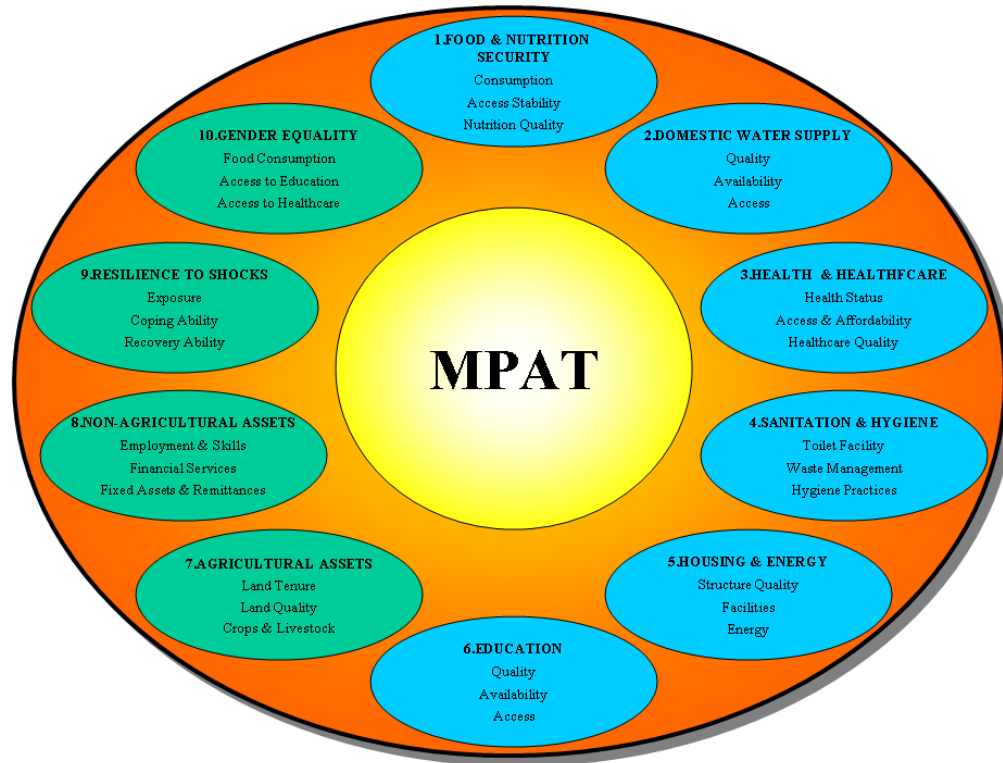
2.1 Developing and testing MPAT v.6

The MPAT developed by IFAD in collaboration with other UN agencies, universities and international organisations, shows how rural poverty can be measured at local level. The “MPAT defines a concrete list of dimensions to be assessed, pragmatically drawing a line at fundamental, relatively universal, domains of rural poverty. MPAT measures people’s capacity *to do* by focusing on key inputs and outcomes 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).

The conceptual framework of the MPAT is made up of ten components that represent not only *people’s fundamental needs* but also important features of *rural poverty the 21st century*. Figure 1 presents the ten main components and subcomponents that make up the conceptual framework for MPAT v.6: Food & Nutrition Security, Domestic Water Supply, Health & Healthcare, Sanitation & Hygiene, Housing & Energy, Education, Agricultural Assets, Non-agricultural assets, Exposure and Resilience to Shocks, and Gender Equality. A brief rationale for the inclusion of these ten dimensions in MPAT v.6 was given previously in Table 1.

With a view to measure at a high resolution each of those ten components, the MPAT team created two ad hoc questionnaires to be undertaken at the household and village level. The survey questions underlying the MPAT v.6 are provided in Part IV.

Figure 1. Conceptual framework for MPAT v.6



The MPAT version 6.0 was tested in China in Gansu province between March and April 2009) and in India in the Uttarakhand province between May and July 2009. Gansu is located northwest of China and Uttarakhand is situated northeast of India (Figure 2). In China, a total of 345 households were surveyed and the respective local authorities in 23 Natural Villages. In India, a total of 182 households were surveyed and the respective local authorities in 18 Natural Villages.

Figure 2. Pilot areas in China (Gansu Province, top left³) and India (Uttarakhand, top right¹) for MPAT v.6 & Typical houses in the pilot areas (China, bottom left; India, bottom right)



2.2 A first assessment of the MPAT structure and survey questions

The MPAT team considered numerous social-psychological factors (Schwartz and Sudman 1996), and gave much importance to testing the MPAT survey instrument for psychometric soundness, in order to arrive at questionnaires that are not particularly susceptible to participant and/or observer bias whether deliberate or not (Schwartz 1999).

³ Map of Gansu province in China, source: <http://z.about.com/>; Map of Uttarakhand province in India, source: <http://upload.wikimedia.org>. Photographs: courtesy of MPA Project Manager.

However, there are few subcomponents in MPAT v.6 that were built based on the responses given to a single question. The following problems were encountered:

(a) A question may be of political nature and of rather subjective character. For example, the subcomponent #6.1 on the Quality of Education consists of a single question from the village questionnaire: *“In the last two school years, how has the overall performance of the majority of the students changed?”* The answer, be it “Improved slightly” or “Improved a lot” or “Worsened a lot” etc, comes from local authorities and it certainly does not suffice to assess the quality of education at the household level. Hence, this subcomponent needs to be strengthened with other questions, for example the teacher/student ratio - a classical measure of the quality of education.

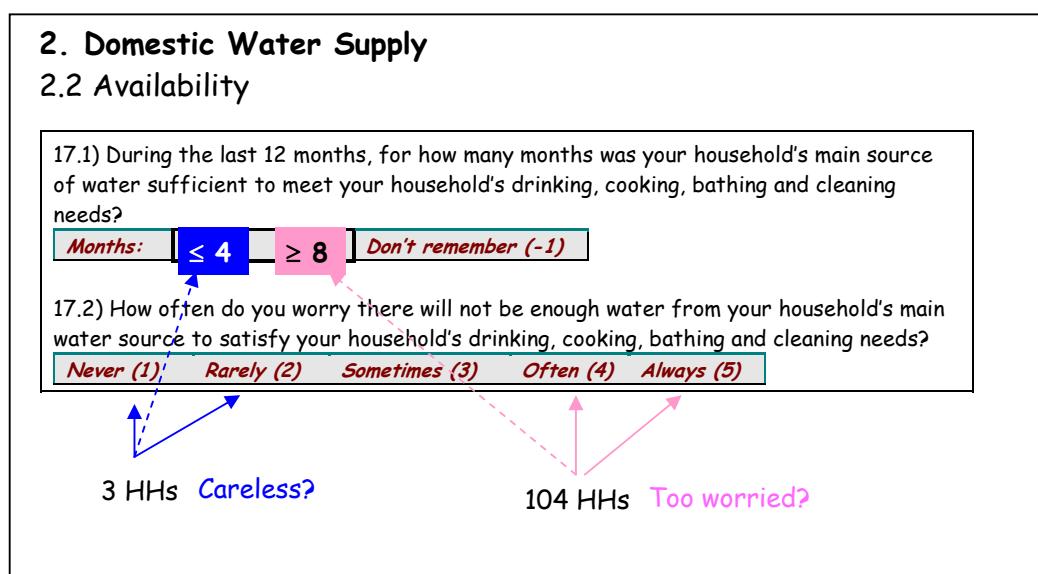
(b) If the answer to a question is “Other”, then it is treated as a missing datum and consequently no score is calculated for the subcomponent, which poses further problems in the calculation of the component score. This is exactly what happened in 161 households in India (88% of those interviewed) and 76 households in China (22% of those interviewed) who reported “other” in the question under subcomponent #10.1 on Food Consumption-Gender Equality: *“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)?”*. As a rule of thumb, in cases where an administrative region has more than 5% of the households reporting “other” in a question, the responses should be re-coded on this case-by-case basis and eventually this particular question should likely be revised or replaced because it elicits so much missing data.

(c) The variance of the responses in a specific question (or else the discriminating power of a question) is a desired feature and should be a determining factor in the inclusion of the question in the MPAT. However, although some questions might appear to have little or no discriminating power among the households surveyed, one may argue that the discriminating power of a question may be country or province specific, and thus the same question might appear to have a strong discriminating power among the households in another province. We suggest, however, that when this phenomenon occurs in single- or two-item subcomponents, that the subcomponent is strengthened with more questions. This suggestions applies for example in subcomponent #1.2 on Access Stability, in which 97% of the households

in India and China reported “*never*” in the question “*During the past 12 months, did your household ever experience one full day with no food to eat?*”.

Another remark relates to the measurement error or unavoidable inconsistencies in the responses. A proper design of a questionnaire is characterised by choosing and grouping questions under the same subcomponent in such a way that the measurement error is reduced. For example, the Domestic Water Supply component includes two questions related to water availability, a question that asks “*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?*” and another question that asks “*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?*”. One would expect that if a household lacks water for most of the year, it should, of course, be often worried that there will not be enough water, and the vice versa; if a household has sufficient water for most of the year then it should not worry too often about an eventual water scarcity. Interestingly, three households reported that the main source of water was sufficient to cover their needs for less than four months, yet they never or rarely ever worried about water scarcity, whilst 104 households reported that the main source of water was sufficient to cover their needs for more than eight months, yet they always or often worried about water scarcity. Would the former three households be deemed as “careless” and the latter households as “too worried”? (see Figure 3 for a schematic presentation of this argument). Yet, the answers to these two questions precisely reflect the way the human mind works, often at partially contradicting terms. The fact that all those households are located in a drought-prone area renders this contradiction expected: water may be available in a given year but not necessarily the next year. Hence, the decision of the MPAT team to include those two questions within the same component is supported by these considerations. In fact, the arithmetic average of the responses from those two questions would result in a subcomponent that has less measurement error than the two questions taken singularly. We generalise this remark and state it as a general recommendation for all MPAT subcomponents, where applicable.

Figure 3. An example of a natural inconsistency in how human mind works



Summing up what has been discussed above, we would **recommend building a subcomponent** using 3-5 survey questions (as opposed to a single question), so as to:

- reduce eventual “measurement error” due to inconsistencies,
- avoid placing too much emphasis on a political/ subjective survey question,
- avoid having subcomponents with little or no discriminating power among households,
- be able to calculate a subcomponent score for a household even if the answer “Other” or “Don’t know” is given in some of the survey questions included of the subcomponent.

3. Data quality issues

The MPAT Project manager has developed and used a Check-Score-Code (CSC) system in order to maximize the quality of data collected from the household and village surveys and entered into spreadsheets. As the developer state: “The CSC is a three part system, which takes slightly longer than traditional methods, but (if done correctly) essentially guarantees that the data entered will be free from data coding and entry errors” (Cohen, forthcoming).

The preliminary analysis of the responses received in China and India shows that the CSC procedure has been efficiently applied in MPAT v.6. Yet, a few issues remain to

be resolved. For example, several survey questions include children-related responses. A quick double-checking of answers might reveal errors (deliberate or not) in filling in the questionnaires. In particular, when checking the quality of the data attention should be given to the following issues:

- Check for numerical errors (answer codes that are not among those listed).
- Cross-check survey question #35.3 (subcomponent # 1.2 on Access Stability to Food & Nutrition) with questions #35.1 and #35.2 (subcomponent # 1.1 on Consumption).
- Cross-check survey questions #17.1 and #17.2 (subcomponent # 2.2 on Availability of Domestic Water Supply). Some “interesting” cases of households may come up (see previous discussion and Figure 3).
- Question #18 (subcomponent #2.3 on Access to Domestic Water Supply) needs better phrasing; it was already perceived differently in China and India.
- Unless questions #54 and #55 (subcomponent 3.3 on Healthcare quality) were perceived differently, results suggest that in China there is less healthcare staff but experienced (0 to 35 years!)⁴ and with many years of formal training (0 to 17 years!), whilst in India there is ten times more healthcare staff but less experienced (2 to 5 years) and with few years of formal training (1 to 5 years).
- If the answer to question #4.1 (subcomponent #6.3 on Access to Education) is “*No school-age children in the household*”, then obviously question #4.2 “*Can your household afford your children’s school fees and school supplies?*” is not relevant and the enumerator should skip it (confusing replies were obtained in the v.6 questionnaire).
- If the answer to question #39.2 (subcomponent #8.2 on Financial Services) is “No”, implying that the household is NOT currently in debt, then question #40 is not relevant and the enumerator should skip it (confusing replies were obtained in the v.6 questionnaire).
- Cross-check answers in questions #32.1, #32.2 and #32.3 (subcomponent #9.2 on Coping Ability) with question #4.1 (subcomponent #6.3 on Access to Education) regarding the existence of children in the household.

⁴ The MPA Project manager has offered a justification for the lengthy experience for some of the healthcare staff in China: many of them were the “barefoot doctors” trained during the cultural revolution of ’66 to ’76.

- Cross-check answers in questions #5.1 and #5.2 (subcomponent #10.2 on Access to Education with respect to Gender Equality) with question #4.1 (subcomponent #6.3 on Access to Education) regarding the existence of children in the household.

Despite these concerns, the dataset obtained by means of the v.6 questionnaires in India and China is characterized by an excellent response rate of 93.7% to the survey questions, largely due to the very good enumerator training and to the clarity of most survey questions.

However, some survey questions in five of the ten subcomponents, namely in subcomponent #6.3 (questions #4.1, #4.2), subcomponent #8.2 (question #40), subcomponent #9.1 (questions #29.5, #29.4), subcomponent #10.1 (question #37) and subcomponent #10.2 (questions #5.1, #5.2), that miss more than one-third of the responses. These survey questions are listed in Table 2 together with the proportion of missing data. We would recommend a review of the formulation of those questions, so as to make sure that such missing data (be it “non applicable” or “don’t know” answers) were not due to lack of clarity of the question. This comment may well go beyond the critical assessment of the MPAT’s framework and rather highlight a virtue of MPAT as a means to spot out problematic areas in the description of rural poverty conditions.

Table 2. Missing data in MPAT v.6

	Number of households surveyed	Missing data (%)		Survey questions with more than 1/3 missing data	Missing data (%)
Gansu (China)	345	6.8	6.3 Access to Education	#4.1	36.1
Uttarakhand (India)	182	5.2		#4.2	35.7
Total	527	6.3	8.2 Financial services	#40	36.2
			9.1 Degree of Exposure to Shocks	#29.5	53.1
				#29.4	42.7
			10.1 Food Consumption	#37	51.2
			10.2 Access to Education	#5.1	49.9
				#5.2	41.9

4. Normalisation of the MPAT survey questions

Compared to the wealth of composite indicators in the fields of economy, environment, competitiveness, human development, and other, the MPAT data have particular features, which we would summarize as follows:

- The MPAT data come from only two sources, the household and the village surveys that were created ad hoc for the purposes of eliciting information on rural poverty at local level.
- The MPAT data are, in most cases, categorical; however, it is not always straightforward how to decide on “the more the better” notion and how much.
- The MPAT data are not intended to create a ranking of the households or villages surveyed but rather to identify where remedies are needed and assess whether progress has been made.

The OECD (2008) Handbook on composite indicators offers a suite of methods to be used in order to render categorical data from survey questions comparable. However, given the particular nature of the MPAT data, none of those methods are suitable, unless prior information is available on the preference relation of the possible responses and the intensity of preference. Just to give an example, within the subcomponent #3.1 on Health Status, in the question “*In the last 12 months, how often has someone in your household been ill (any non-serious illness)?*”, it is intuitive that the preference relation of the answers (from better to worse) would be: “*Never*” > “*Once or twice*” > “*Once a month*” > “*A few times a month*” > “*About once a week*” > “*A few times a week*” > “*Every day*”. It is not clear, however, how to decide upon the intensity of preference, namely: How much better is it to have a “*Never*” as opposed to a “*Once a month*” answer? In other survey questions even the preference relation of the possible answers is not evident. To make the case, under subcomponent #4.1 on Toilet facility, the question “*What type of toilet facility does your household usually use?*” offers the following possible answers:

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.	

The preference relation of the answers is not evident, let alone the intensity of preference. Due to this particular nature of the MPAT, expert opinion becomes a crucial element in helping to identify both the preference relation and the intensity of preference between the possible answers in the survey questions. The MPAT v.6 valuations are given in Part IV. This exercise, in which experts are asked for their feedback on the potential valuations of the responses in survey questions/items, may possibly represent the first example (in the field of composite indicators) in which experts are asked to assign values to indicators of categorical character.

Some recommendations on the normalisation issue are the following:

- In any survey question/item, the best answer should always get the maximum score, e.g. 10. Preferably, the worst answer may also receive the lowest score, e.g. 1, although this is not necessary.
- An adjustment may be needed to the valuations in the responses given in the survey questions #38.1 and #38.2, under subcomponent #8.1 on Employment & Skills, so as to account for the eventual trade-off between the two questions. To be more specific, the two questions ask: “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?” and “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?”. Now consider a small household, where the woman takes care of the family, whilst the man manages its own non-agricultural business. Most likely the man will not have time to provide others a skilled service, in addition to his running the business, as asked in question #38.2. In cases of larger households there is no such time conflicting issue. Hence, the subcomponent #8.1 should not penalise small households. To this end, the answers to the two survey questions should be valued in a combined way as shown in Table 3.

Table 3. Original and suggested valuation of the responses in the questions under the Employment and Skills subcomponent

8.1 Employment & Skills

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)

Original evaluation of the answers

Suggested evaluation of the answers

For question #38.1

For question #38.2

For questions #38.1 & 38.2

Answer code	Value	Answer code	Value	Answer code	Value
1	7	1	1.5	1 in Q38.1 & 2/3/4/5/6 in Q38.2	10
2	3.5	2	2.5	1 in Q38.1 & 1 in Q38.22	9
		3	4	2 in Q38.1 & 1 in Q38.22	1.5
		4	5	2 in Q38.1 & 2 in Q38.22	2.5
		5	7.5	2 in Q38.1 & 3 in Q38.22	4
		6	9	2 in Q38.1 & 4 in Q38.2	5
				2 in Q38.1 & 5 in Q38.2	7.5
				2 in Q38.1 & 6 in Q38.2	9

5. Weighting and aggregating the collected data in MPAT

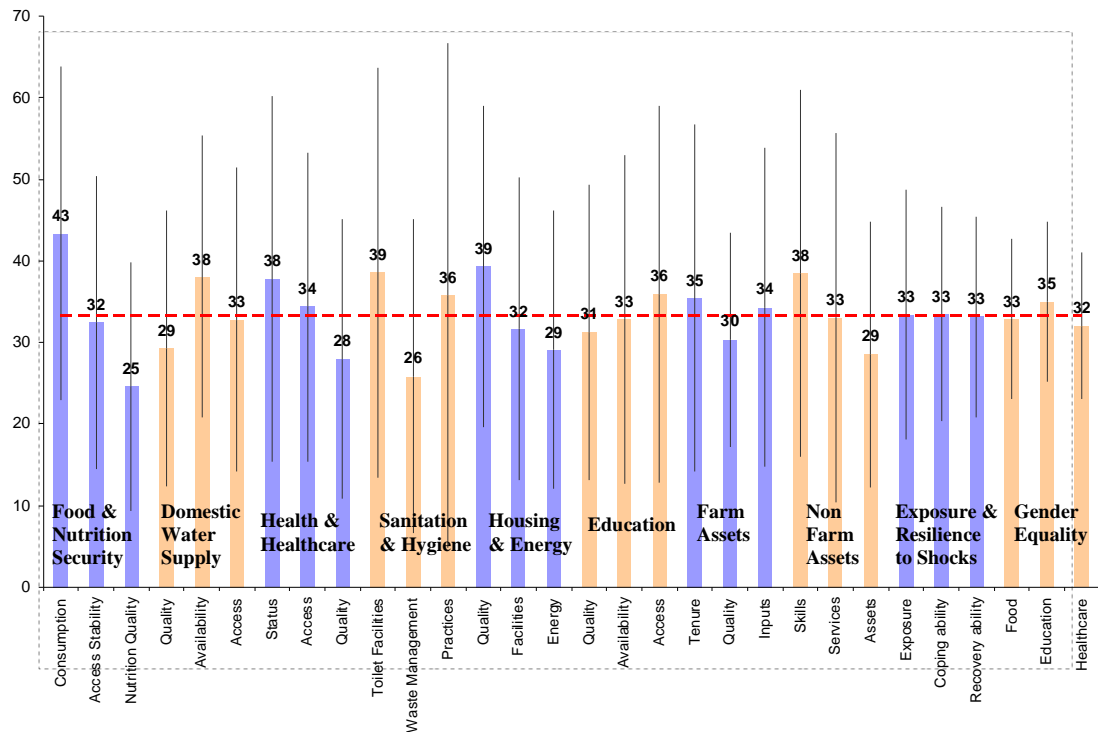
5.1 Weighting issues

The selection of an appropriate methodology was central to the MPAT's attempt to capture and summarize the survey data collected by the household and the village questionnaires. Since its conception, the MPAT was envisaged to have a strongly consultative character, which is evident throughout all the development phases of the MPAT, from the MPAT ten-dimensional character and the design of the questionnaires, to the transformation of the "categorical" answers to a numerical scale. The weights to be attached to the underlying survey questions and then to the subcomponents underlying then ten MPAT components are also based on expert-opinion.

Prior to the 2nd MPA Workshop on May 15, 2009 in New Delhi in India, experts from were invited to assign weights to the MPAT v.6 subcomponents. Figure 4 summarizes the average weight (± 2 st. deviations) for each subcomponent across the experts (42

experts from ten countries and 28 organizations). We note that in four components, namely on Education, Farm Assets, Exposure and Resilience to Shocks, and Gender Equality, the average expert-derived weights are almost equal for all three subcomponents included in the respective components. Hence, an equal weighting approach is a legitimate solution for four of the ten components. For the remaining six components, expert opinion diverged, in particular regarding the *Sanitation & Hygiene* component and two of its subcomponents on “Toilet facilities” and “Practices”. This type of disagreement was expected and is in fact an inherent feature of the MPAT.

Figure 4. Expert opinion on the subcomponents of the MPAT v.6 framework



Although several weighting issues were resolved by the involvement of experts, two issues remained open during the MPAT development.

- (a) How reliable are the subcomponents’ weights that were derived from the 42 experts?

- (b) What weights should be assigned to the three strategies (primary, secondary and tertiary) included in the subcomponent #9.2 on Coping ability (under the Exposure and Resilience to Shocks component)?

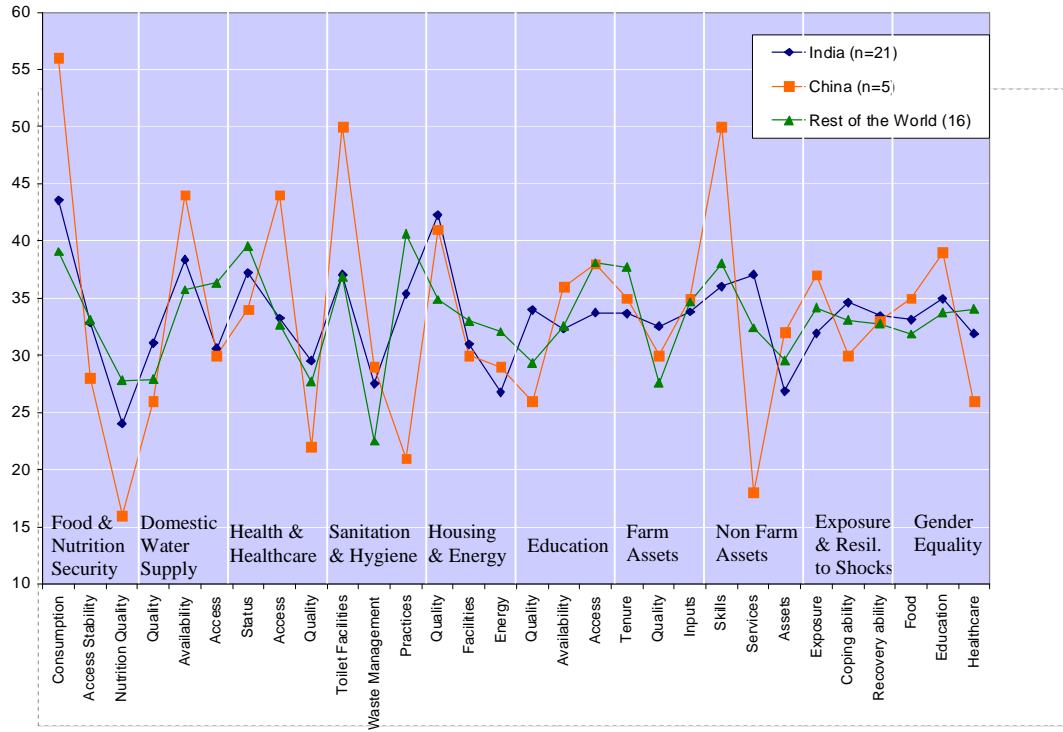
In order to respond to the first question on the reliability of the experts weights, for the purposes of this analysis, the 42 experts were split into three groups based on their origin, be it from India ($n=21$), from China ($n=5$) or the rest of the world ($n=16$).

Figure 5 presents the average weights for each group of experts and shows that the average weights given by the experts from India are very similar to the average weights given by the experts from the rest of the world in almost all subcomponents. However, the average weights provided by the experts from China differ significantly from those of the other experts in ten of the 30 subcomponents (included in six components):

- Consumption, and Nutrition Quality in the Food & Nutrition component,
- Availability in the Domestic Water Supply component,
- Access, and Quality in the Health & Healthcare component,
- Toilet facilities, and Practices in the Sanitation & Hygiene component,
- Skills, and Services in the Non-agricultural Assets component,
- Healthcare in the Gender equality component

There results may flag that either too few experts from China were surveyed (only 6 experts), compared to 16 or 21 experts in the other two groups, or that there might be an eventual bias in the sample of the experts from China. Hence, if one would repeat this exercise with a view to elicit once again the weights for the subcomponents, it would be advisable to either include more experts from China or invite different experts from China to assign the weights, so as to get a clearer idea on the source of those differences in the assignment of the weights to the MPAT subcomponents.

Figure 5. Average expert weight based on the origin of experts



The second issue on the weights to be assigned to the three strategies in subcomponent #9.2 on Coping ability is presented schematically in Figure 6. To this end, we applied a brute force approach and simulated 10,000 sets of weights. Each set of weights respects the preference relation $w_1 > w_2 > w_3$ that first strategy receives greater weight than the second strategy and this in turn greater weight than the third strategy. The households' scores in this subcomponent were thus calculated 10,000 times. The series obtained using any of the sets of weights correlated with more than 0.93 to each other, implying that the choice of the weighting scheme in this subcomponent is not particularly influential under the condition that the preference relation in the three strategies holds.

Figure 6. Illustration of the issue of weights in the Coping ability subcomponent

9. Exposure and Resilience to Shocks

9.2 Coping ability

What weights should be assigned to the three strategies?

w_1

w_2

w_3

$w_1 > w_2 > w_3$

32) If two or three of the five negative events you just mentioned [in question 29] 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	[...]	
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
[...]			36. Other, specify:

The weights elicited by the experts on the MPAT v.6 subcomponents (Figure 4 and Part IV) were used to build the *standardized MPAT* that can be used in any country/region around the world with a view to allow comparison. However, the MPAT developers envisage a *context-specific MPAT* in which users' can provide their own weights to account for context-specificity. These two MPAT versions can then be used according to the purposes of the study and compared side-by-side.

5.2. Aggregation issues

A subsequent decision on how to combine the collected data brings up the issue of the aggregation rule. This decision was left open during the development of MPAT v.6 and it is one of the objectives of this report to contribute to. We do so in the following paragraphs.

The MPAT structure is characterised by two levels of aggregation: in the first level the survey questions/items are aggregated to calculate the subcomponents, and in the second level the subcomponents are aggregated to calculate the components.

Regarding the first level of aggregation, it was already anticipated in Section 2.2 that there are several subcomponents in MPAT v.6 where some form of inconsistency, not

necessarily undesirable, exists among the survey questions. The aggregation rule that is able to reduce this inconsistency (measurement error in some cases) is the arithmetic average. The subcomponent score for a household would thus be calculated as the sum of weighted and normalized responses:

$$\text{Weighted arithmetic average: } y_{jk} = \sum_{i=1}^L w_{ik} x_{ijk}$$

y_{jk} : score for household j in subcomponent k

w_{ik} : weight attached to survey question i in the subcomponent k

x_{ijk} : scaled score for household j in question i in subcomponent k

It holds that $\sum_i w_{ik} = 1$ and $0 \leq w_{ik} \leq 1$.

Regarding the second level of aggregation, the logic behind the choice of the aggregation rule should be the following. Assume that we were to calculate scores in the Domestic Water Supply component, formed by three subcomponents, Quality, Availability and Access, for two households **A** and **B**, household **A** with values 5, 5, 6 and household **B** with values 5, 9, 2. These two households would have equal scores in the Domestic Water Supply component if the arithmetic average is used (assuming equal weights for the three subcomponents just to make the case). Obviously the two households represent very different rural poverty conditions which would not be reflected in the component's score. Hence, whilst the arithmetic average is recommended to be used at the first level of aggregation in order to account for eventual inconsistencies in the responses of the survey questions, it would not be appropriate at the second level of aggregation. Here, a proper aggregation rule would be one that places household **B** in a lower position than household **A** because of the very low score in one of the subcomponents. The geometric average fits this purpose:

$$\text{Weighted geometric average: } y_{jk} = \prod_{i=1}^L x_{ijk}^{w_{ik}}$$

y_{jk} : score for household j in subcomponent k

w_{ik} : weight attached to survey question i in subcomponent k

x_{ijk} : scaled score for household j in question i in subcomponent k .

It holds that $\sum_i w_{ik} = 1$ and $0 \leq w_{ik} \leq 1$.

In the example, household **A** would have a higher geometric average score than household **B** ($y_{Ak} = 5.3$, $y_{Bk} = 4.5$). Furthermore, the marginal utility of increasing a subcomponent score will be much higher when this score is low, implying that a household should place more effort in improving itself in those subcomponents where the performance is relatively weak. Just to give an example, if household **B** would improve its performance in a subcomponent where it has an average score, e.g., increases the Quality score by 5 points, the component score would increase from 4.5 to 5.6 (26% improvement). On the other hand, if household **B** would improve its performance in a subcomponent where it has a low score, e.g., increases the Access score by 5 points, the component score would increase from 4.5 to 6.8 (51.8% improvement). Consequently, a household would have greater incentive to address those subcomponents of poverty where the performance is relatively weak if the aggregation rule is geometric rather than linear. Table 4 illustrates the case just described.

Table 4. Example on the advantage of a geometric versus arithmetic average at the subcomponents level in the MPAT

Situation/ Household	Subcomponents			Type of averaging		Improvement compared to situation B under the ... average	
	Quality	Availability	Access	Arithmetic Average	Geometric Average	Arithmetic	Geometric
A	5	5	6	5.3	5.3		
B	5	9	2	5.3	4.5		
C	10	9	2	7.0	5.6	32%	26.0%
D	5	9	7	7.0	6.8	32%	51.8%

Upon these considerations on the aggregation rules, the MPAT methodology can be summarized in three simple steps.

1. The responses to the survey questions are first transformed into scores, 1.0 (worst case) to 10.0 (best case), according to the experts valuations (see Part IV).
2. The subcomponent scores are then calculated using the weighted arithmetic average formula, where the weights are assigned by the experts (see Part IV), and scaled to a maximum of 100 points.

3. Finally, the component scores are calculated using the weighted geometric average formula, where the weights are again derived from expert opinion (see Figure 4 and Part IV).

The three-step aggregation procedure for the calculation of the MPAT subcomponents and components is as simple and transparent as possible, and it does not compromise conceptual issues for the sake of simplicity. In addition, the results can be easily understood by non-statisticians.

6. Internal consistency in the MPAT v.6

Indisputably, the “making of” the MPAT demands a sensitive balance between simplifying rural poverty aspects and still providing sufficient detail to detect characteristic differences. Yet, in order to enable informed policy-making and to be useful as policy and analytical assessment tool, the MPAT needs to be assessed with regard to its validity and potential biases. The research question to be answered is:

- *Is the MPAT internally sound and consistent, from a conceptual and statistical point of view?*

6.1. Statistical dimensionality of the framework

The major goal of this analysis is to let the data speak: that is, to assess whether the MPAT framework is supported by the collected data. First, we assess whether the statistical dimensions within a component coincide with the number of subcomponents conceptualised. Second, we repeat this analysis at the subcomponent level and assess whether the subcomponents are statistically split into ten components as conceptualised in the MPAT framework.

In the MPAT v.6, each component is made of three subcomponents. By applying Principal Components Analysis (PCA) within a component and looking at the number of eigenvalues that are greater than 1.0 according to the Kaiser criterion (assumption relaxed to greater than 0.9) (Manly, 1994; Duntelman, 1989) we notice that only for Domestic Water supply, PCA also identifies three latent structures (Table 5). In almost all remaining components, more than three latent structures are identified. Exceptionally for the Education component, only two latent structures are identified.

This result 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.

Table 5. Eigenvalues of the survey items within the MPAT v.6 components

	Food & Nutrition Security		Domestic Water Supply		Health & Healthcare		Sanitation & Hygiene		Housing & Energy	
	Eig.	Cum. (%)	Eig.	Cum. (%)	Eig.	Cum. (%)	Eig.	Cum. (%)	Eig.	Cum. (%)
1	2.7	24.4	2.1	30.5	3.2	26.3	2.1	26.0	3.1	38.5
2	2.3	45.7	1.7	55.4	2.0	42.5	1.8	48.4	1.1	52.3
3	1.1	55.5	0.9	68.1	1.4	54.4	1.0	61.0	1.0	64.7
4	1.0	64.7	0.8	79.7	1.0	62.8	0.9	72.1	0.9	76.0
5	0.8	72.0	0.6	88.7	0.9	70.5	0.8	82.2	0.9	86.8
6	0.7	78.8	0.5	95.3	0.9	77.7	0.8	91.7	0.5	92.9
7	0.6	83.8	0.3	100.0	0.8	84.1	0.5	97.7	0.3	96.6
8	0.5	88.3			0.7	89.5	0.2	100.0	0.3	100.0
9	0.5	92.8			0.5	93.7				
10	0.5	97.1			0.4	96.9				
11	0.3	100.0			0.2	98.8				
12					0.1	100.0				
	Education ⁽¹⁾		Agricultural Assets		Non-agricultural Assets		Exposure & Resilience to Shocks		Gender Equality	
	Eig.	Cum. (%)	Eig.	Cum. (%)	Eig.	Cum. (%)	Eig.	Cum. (%)	Eig.	Cum. (%)
1	2.2	43.5	3.2	26.9	1.6	22.8	1.5	13.3	1.7	34.4
2	1.2	67.2	1.8	41.9	1.4	43.4	1.4	25.8	1.0	55.2
3	0.8	84.1	1.4	53.5	1.1	58.9	1.3	37.7	0.9	74.0
4	0.6	95.5	1.1	62.5	0.9	71.8	1.2	48.4	0.9	91.9
5	0.2	100.0	1.0	71.0	0.9	84.1	1.1	58.3	0.4	100.0
6			0.9	78.6	0.6	92.4	1.0	67.0		
7			0.6	83.9	0.5	100.0	0.9	75.0		
8			0.6	88.7			0.9	82.8		
9			0.4	92.3			0.7	89.5		
10			0.4	95.6			0.7	95.9		
11			0.3	98.0			0.5	100.0		
12			0.2	100.0						

Notes: Eigenvalues greater than 0.9 are highlighted; ⁽¹⁾ two survey questions (#48, #49) show no variance

Even when studying the correlations of the MPAT subcomponents, PCA reveals that there are twelve latent structures in the subcomponents (eigenvalues greater than 0.9) that cumulatively explain only 70% of the total variance (Table 6). The first ten principal components explain only 63.5% of the total variance. These results confirm

the multidimensionality of the MPAT framework and the low correlations between the subcomponents.

Table 6. Eigenvalues of the principal factors for the subcomponents of MPAT v.6

	Eigenvalues	Cumulative (%)		Eigenvalues	Cumulative (%)
1	4.6	15.4	16	0.7	79.5
2	3.4	26.7	17	0.6	81.6
3	2.0	33.3	18	0.6	83.7
4	1.6	38.7	19	0.6	85.7
5	1.5	43.6	20	0.6	87.6
6	1.4	48.5	21	0.5	89.3
7	1.3	52.7	22	0.5	90.9
8	1.2	56.6	23	0.5	92.5
9	1.1	60.2	24	0.4	93.9
10	1.0	63.5	25	0.4	95.2
11	0.9	66.6	26	0.4	96.4
12	0.9	69.5	27	0.3	97.6
13	0.8	72.3	28	0.3	98.6
14	0.8	74.8	29	0.2	99.3
15	0.7	77.2	30	0.2	100.0

PCA aimed to assess to which extent the conceptual framework is confirmed by statistical approaches and to identify eventual pitfalls. However, due to the low correlations between the survey questions, and between the subcomponents, it did not succeed in doing so. It succeeded, however, in confirming the multidimensionality of the MPAT framework. Based on the MPAT v.6 dataset, there are more than three latent structures within each component, and more than ten latent structures in the 30 subcomponents.

6.2. Correlations between the MPAT Components & Subcomponents

An alternative, and even simpler way to assess the internal consistency of the MPAT v.6 conceptual framework, is by means of correlation analysis between the components and subcomponents. Intuitively, one would expect that a subcomponent is more correlated to its own component than to any of the other components. Overall, this expectation is indeed confirmed. To be more specific, the subcomponents included in five of the components, namely in Food & Nutrition Security, Domestic Water Supply, Health & Healthcare, Education and Non-agricultural assets, bear much higher (and positive) correlations to their respective components than to any of the remaining components (Table 7). However, there are four subcomponents that bear

an almost random association to the component they belong to. This is the case for subcomponent #4.2 on Household waste management, #5.3 on Energy, #9.2 on Coping Ability, and #10.3 on Access to Healthcare-Gender Equality. Furthermore, the first three subcomponents do not bear significant correlation to any of the components. Unless there is a theoretical justification, these results suggest that these four subcomponents need to be revised. The subcomponent #10.3 seems to have been misplaced, as it “statically” belongs to the component on Health & Healthcare (component 3). In other words, the subcomponent captures more issues on health rather on gender. Finally, subcomponent #7.1 on land tenure bears the same degree of correlation to its own component, the Agricultural assets, and to two other components, namely Education and Gender Equality. These latter correlations might be spurious, as it is hard to justify them conceptually.

Table 7. Pearson’s correlation coefficients between the 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 ($p < 0.05$, $n = 527$)

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. This is further evident in the non-significant correlations between the ten Components (Table 8).

Table 8. Pearson's correlation coefficients between the ten MPAT 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 ($p < 0.05$, $n = 527$)

These practically random correlations between the ten MPAT components bring up an important issue that had been discussed extensively among the MPAT developers: *presenting MPAT as a thematic indicator of ten composite indicators as opposed to a single composite indicator*. Had one attempted to merge the ten components into a single composite indicator, the result would have been an ill-built index that has no clear correlation to its underlying components (neither in terms of direction of performance nor in terms of the degree of correlation). To make the case, imagine taking ten random variables with little or no correlation between them and calculating their average. The resulting index does not have meaningful information content. These results provide a justification for the MPAT developers' decision not to aggregate further the ten components into a single composite indicator, but rather to offer a Thematic Indicator. The community of composite indicator developers may find appealing this case study, as it suggests that a final composite indicator should not be seen as a goal per se. It is sometimes preferred to stop the aggregation

procedure at the components level and not aggregate further. This was both conceptually and statistically confirmed in the case of the MPAT v.6.

A concern of the MPAT developers on data quality for 106 households in China (codes 241 to 346, see Cohen, forthcoming) was addressed in this part of the analysis. The correlations shown in Table 7 and Table 8 were recalculated without those 106 households, but the results did not change at the second digit of accuracy. Hence, the data from those households coded 241 to 346 from China can be reliably used in conjunction with the remaining dataset.

7. Uncertainty and sensitivity analysis

The creativity evident in the work of composite indicator developers is not only a response to the multiple demands of the user/stakeholder community but also the result of disagreement within the research community on which indicators influence a particular phenomenon, and by how much (Cutter *et al.*, 2003). Notwithstanding recent attempts to establish best practice in composite indicator construction (OECD, 2008) “there is no recipe for building composite indicators that is at the same time universally applicable and sufficiently detailed” (Cherchye *et al.*, 2008). This may be due in part to the ambivalent role of composite indicators in both analysis and advocacy (Saltelli, 2007). As the boundaries between the two functions are often blurred, controversy may be unavoidable when discussing these measures.

When building an index to capture rural poverty at local level, it is necessary to take stock of existing methodologies in order to avoid eventual skewness in the assessment and decision-making. By acknowledging the variety of methodological assumptions involved in the development of an index, one can determine whether the main results change substantially when the main assumptions are varied over a reasonable range of possibilities (Saisana *et al.*, 2005; Saisana and Tarantola, 2002; Saltelli *et al.*, 2000; Saltelli *et al.*, 2008). The advantages offered by considering different scenarios to build the Index could be: to gauge the robustness of the Index scores and ranks, to increase its transparency, to identify those countries whose performance improves or

deteriorates under certain assumptions, and to help frame the debate on the use of the results for policy making.

The main question to be addressed here is:

- *What methodological approaches (models) could be used to build the MPAT and how do the results of these models compare to each other?*

We show below how uncertainty analysis (UA) can contribute to such a reflection. UA involves assessing the impact of alternative models on the MPAT Component scores. Each model is a different composite indicator in which the choice of the normalization method, the weights and the aggregation method has been varied within a plausible range. This approach helps to avert the criticism frequently made on composite measures, namely that they are presented as if they had been calculated under conditions of certainty (while this is rarely the case) and then taken at face value by end-users (Saisana *et al.*, 2005; Saisana and Saltelli, 2008). The objective of UA is not to establish the truth or to verify whether the MPAT is a legitimate tool to capture rural poverty at local level, but rather to test whether the MPAT Component scores and/or the associated inferences are robust or volatile with respect to changes in the methodological assumptions within a plausible and legitimate range.

7.1 Multi-modelling approach

A multi-modelling approach was applied in the present work for the purpose of robustness analysis. It consists of exploring, via a saturated sampling, plausible combinations of three main assumptions needed to build the MPAT:

- (a) the normalisation method of the raw data;
- (b) the weights for the subcomponents; and
- (c) the aggregation rule at the subcomponent level.

(a) Assumption on the normalisation method for the raw data: Expert-based values were associated to the categorical or quantitative responses given in the survey questions/items from the household and village questionnaires of the MPAT v.6. Whilst, the consultative nature of the MPAT was envisaged since the conception of the project, one may cast doubts on those expert-based values and suggest that a linear scaling method is simpler and still suitable. Therefore, we have calculated the

intensity of preference using a linear scaling with equal distances between responses, while assuming that the preference relation of the responses, as it was decided by the experts, holds. To give an example, in the Healthcare subcomponent, a question from the village questionnaire asks:

Does each center usually have enough medical supplies to provide adequate healthcare?
Never (1) Rarely (2) Sometimes (3) Often (4) Always (5)

In both the expert-based and linear scaling, the response codes *Never*(1) and *Always*(5) get 1 and 10 points, respectively. However, the intermediate responses get different scores, for example *Sometimes*(3) receives 4 points under the expert-based valuation but 5.5 points under the linear scaling.

Answer code	Expert value	Linear value
1	1	1
2	2	3.25
3	4	5.5
4	6.5	7.75
5	10	10

(b) Assumption on the weighting scheme for the subcomponents: Expert-based weights were assigned to the subcomponents of the MPAT v.6, yet as with the previous assumption, one may argue that an equal weighting scheme would still be appropriate. The discussion in Section 5.1 has already shown in fact that even experts converged on an equal weighting scheme within four of the ten components. We have further considered an equal weighting scheme within each of the ten components as an alternative. Note that the commonly applied factor analysis to extract statistical weights for the subcomponents (Nicoletti *et al.* 2000) could not be used here because of the very low correlations between the subcomponents (see discussion in Section 6.2).

(c) Assumption on the aggregation rule for the subcomponents: The recommended approach to calculate the components scores from the subcomponents scores employs a geometric aggregation rule and was discussed earlier in Section 5.2. It was selected because it “motivates” regions to improve in those aspects of rural poverty where they have moderate to low performance rather than to those aspects where they have a relatively good performance. However, the arithmetic average rule, which is already used at the first level of aggregation from the raw data to the subcomponents, can not be excluded as an option even at this level of aggregation. To this end, we have

considered the arithmetic average at the subcomponents level as an alternative to the recommended geometric average.

These three assumptions and their two alternatives result in eight different models for the calculation of the components scores (Table 9). The recommended approach to build the MPAT is represented by model 4. In all models, we consider that the survey questions within a subcomponent are combined using a weighted arithmetic average (the logic behind this choice is offered in Section 5.2).

Table 9. Eight different models for the calculation of the MPAT Components 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.

7.2 Uncertainty analysis results

Each of the ten MPAT components is calculated for each household in Gansu (China) and Uttarakhand (India) using the eight alternative models discussed in the previous section, with data from the MPAT v.6. For illustration purposes, we have preferred to discuss the results at the province level. To this end, we have calculated the components scores for the two provinces using the population as a weighing factor. The uncertainty analysis results are shown in Figure 7 at the province level. It is evident that the average household in Uttarakhand (India) has slightly better Food & Nutrition Security conditions than its counterpart in Gansu (China), irrespective of the calculation method employed. On the other hand, in the Domestic Water Supply component, the average household in Gansu is doing much better than its counterpart in Uttarakhand in all models considered. On the Sanitation & Hygiene component, however, the selection of the model makes a difference: although better conditions are found in Gansu, this difference can be small or significant depending on the model.

For three of the components, namely in Housing & Energy, Education, and Exposure & Resilience to Chocks, the average household in Gansu and in Uttarakhand have very similar conditions, confirmed by all eight models. In general, there are small differences in the average component scores across the different models. For example, the Health & Healthcare average conditions in Gansu are estimated to be around 70.9 (model 4), or between 63.9 (model 7) and 72.4 (model 2) in the worst and best case respectively. These narrow intervals between the best and worst case model suggest that robust conclusions can be drawn on the rural conditions of the average household in either Gansu or Uttarakhand. Obviously, the impact of the model selection on the scores calculated at the household level may be more pronounced. We will discuss it in the following section.

Figure 7. MPAT component scores for China and India across eight different models

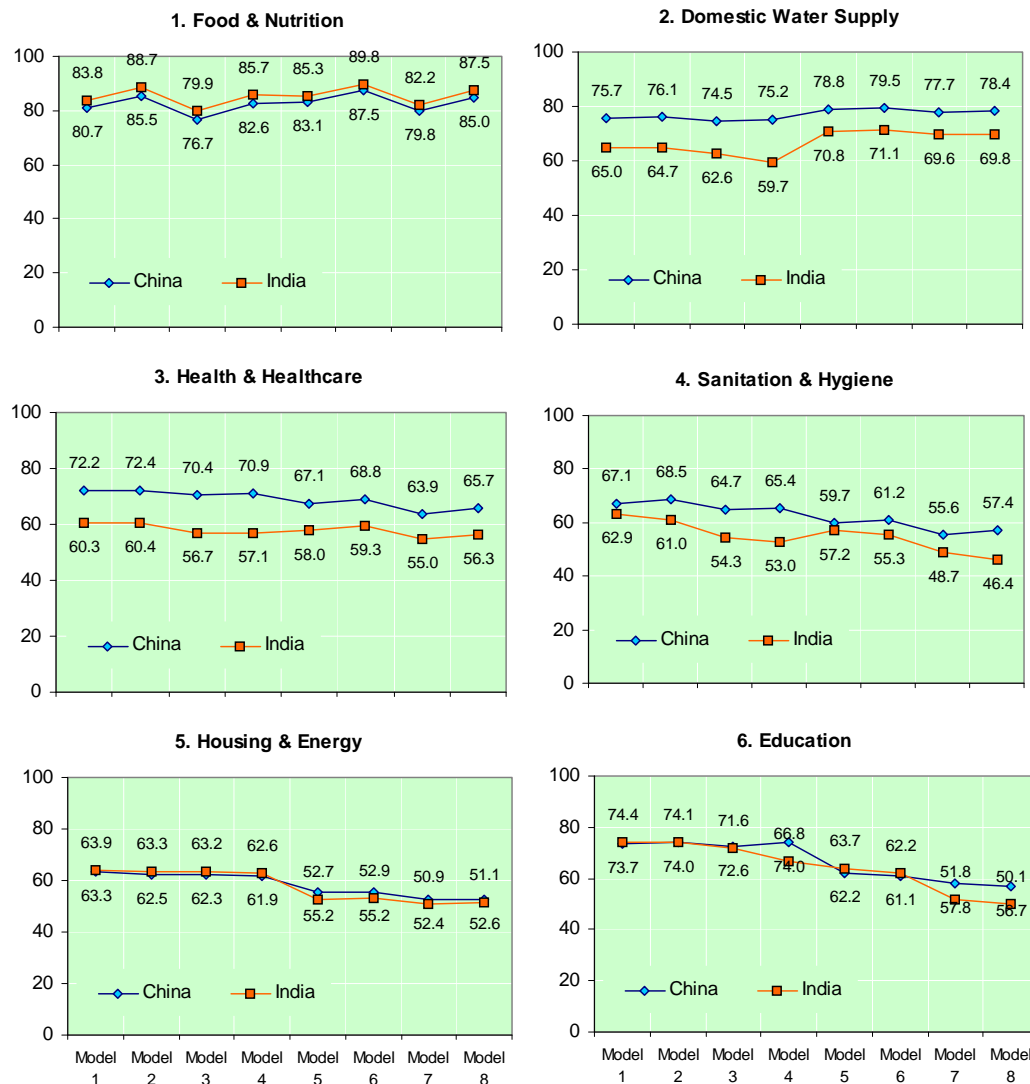
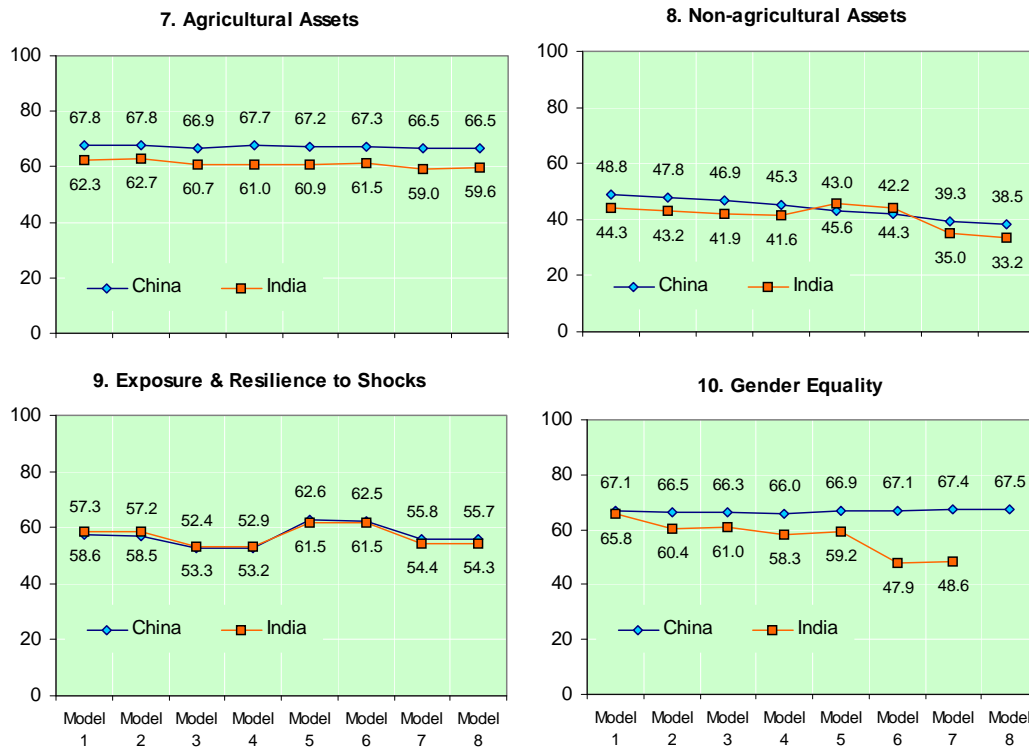


Figure 7 (cont.) MPAT component scores for China and India across eight different models



Note: Gender Equality for India was not calculated because one of its subcomponents - #10.1 on Food- has missing data for 99% of the households surveyed.

Model 1: **Expert**-scaling of raw data, **Equal weights & Arithmetic average** of the subcomponents;
 Model 2: **Expert**-scaling of raw data, **Expert weights & Arithmetic average** of the subcomponents;
 Model 3: **Expert**-scaling of raw data, **Equal weights & Geometric average** of the subcomponents;
 Model 4: **Expert**-scaling of raw data, **Expert weights & Geometric average** of the subcomponents;
 Model 5: **Linear**-scaling of raw data, **Equal weights & Arithmetic average** of the subcomponents;
 Model 6: **Linear**-scaling of raw data, **Expert weights & Arithmetic average** of the subcomponents;
 Model 7: **Linear**-scaling of raw data, **Equal weights & Geometric average** of the subcomponents;
 Model 8: **Linear**-scaling of raw data, **Expert weights & Geometric average** of the subcomponents

Although there might be supporters for each of the models discussed, we believe that model 4, that employs an expert-based valuation of the responses, an expert-based weighting scheme for the subcomponents, and a weighted geometric average of the subcomponents, fits most purposes. A thorough discussion on the selection of model 4 for the calculation of the MPAT components and subcomponents scores was offered earlier in Section 5.2.

These results are mostly presented as a suggestion to the developers. Plots such as these can either be used directly as measures (thus replacing a crisp score) or as part of a robustness analysis.

7.3 Sensitivity analysis results

Complementary to the uncertainty analysis, a sensitivity analysis makes it possible to assess the impact of each of the eight models or the three modelling assumptions (normalisation, weighting and aggregation) on the MPAT components scores. To this end, we compare the households' scores produced by the recommended model 4 with the scores produced by the other seven models for each of the ten Components by means of the Pearson correlation coefficient (Table 10).

For four MPAT components, namely for Food & Nutrition Security, Domestic Water Supply, Agricultural Assets, and Gender Equality, the correlation coefficients between the scores produced by either model and the recommended model are in most cases greater than 0.95, and never below 0.90. This outcome suggests that the choice of the model for the calculation of the households' scores in those four components is not particularly influential.

For the other six MPAT components, the choice of the model is important. The most notable impact is noticed for two components, namely Housing & Energy, and Education, and is due to the assumption of the expert-based versus a linear-scaling of the raw data. Correlation coefficients are in the range of 0.529 to 0.756. The values are particularly low in this context of sensitivity analysis. This implies that for the Housing & Energy and for the Education component, the type of scaling of the raw data is very influential on the scores. These sensitivity analysis results are very helpful and need to be communicated to the MPAT panel experts to render them aware of the impact of their choices and eventually consider whether a revision is needed.

A legitimate question may be raised. Could one relax some of the assumptions of the MPAT model without affecting to a great extent the components scores? Although there are good reasons to select a geometric aggregation rule to combine the subcomponents scores, one may be tempted to render the MPAT as simple as possible, and thus try to relax the other two assumptions on the expert-based scaling

of the raw data and/or on the expert-based weights of the subcomponents. To this end, we compare the correlation coefficients between model 4 and model 3 or 7 or 8. In the cases where these correlation coefficients are greater than 0.95, we can easily relax the assumption either on the scaling and/or on the weighting, for the sake of simplifying the calculation of the component scores.

The comparison of the results from model 4 and model 8 will help in identifying for which components we can relax the assumption on the weights for the subcomponents and simply assume them as equal. The correlation coefficients between model 4 and model 3 are for all components greater than 0.95, in fact close to 0.99 in most cases; hence we can relax the assumption on the weights given that the results will not be affected. This is a very interesting conclusion, as in several components, the subcomponents were not weighted equally by the experts. The most pronounced component is the Food & Nutrition Security, where the three subcomponents receive an expert-based weight of 43.3-32.4-24.5, respectively. As this analysis has shown, the impact of the weighting scheme within a component (under the assumption of a geometric aggregation rule) is not influential. It also provides an argument that there is no need to invite new experts from China to assign the weights (see earlier discussions in Section 5.1) to the subcomponents, as this revision will not have a pronounced impact on the results. However, it could be done for the sake of understanding the source for the discrepancy between the opinions received from the Chinese experts and the rest of the experts involved.

We next compare the scores produced by model 4 and model 8 with a view to identify for which components we can relax the assumption on the expert-based scaling of the raw data and simply assume a linear scaling (of course the preference relation should be determined by the experts). The high correlation coefficients support this argument for three components, namely Food & Nutrition Security, Agricultural Assets, and Non-Agricultural Assets. For the other components, the assumption on the type of scaling for the raw data is very influential and can not thus be relaxed for the sake of simplicity.

Finally, we compare results from model 4 and model 7 to identify for which components we can relax both assumptions on the normalisation and the weighting. The correlation coefficients suggest that these two assumptions can be relaxed

simultaneously for only two components, namely Agricultural and Non-Agricultural Assets. An important issue in sensitivity analysis tests appears at this point: the combined impact of the assumptions. We have already shown that for two components, Agricultural and Non-Agricultural Assets, we can relax the scaling or the weighting or both at the same time, without a notable impact on the results. On the contrary, for Food & Nutrition Security, we can only relax one of the two assumptions at a time, but not simultaneously given that the combined effect is important. This stresses the necessity for studying the combined effect of the assumptions in sensitivity analysis tests, as opposed to the one-at-a time changes that are almost most often carried out in the relevant literature on composite indicators. Table 11 summarises these considerations.

Table 10. Sensitivity analysis results: Pearson correlation coefficients between the “recommended model 4” and other candidate models for the MPAT development

MPAT component	Model 1	Model 2	Model 3	Model 5	Model 6	Model 7	Model 8
1. Food & Nutrition Security	0.991	0.962	0.976	0.968	0.970	0.907	0.964
2. Domestic Water Supply	0.990	0.994	0.997	0.933	0.948	0.919	0.939
3. Health & Healthcare	0.972	0.978	0.993	0.905	0.842	0.894	0.908
4. Sanitation & Hygiene	0.950	0.974	0.994	0.800	0.806	0.911	0.910
5. Housing & Energy	0.980	0.992	0.993	0.721	0.756	0.671	0.718
6. Education	0.964	0.975	0.999	0.593	0.580	0.540	0.529
7. Agricultural Assets	0.993	0.994	0.999	0.957	0.960	0.961	0.966
8. Non-agricultural Assets	0.971	0.985	0.996	0.848	0.869	0.961	0.956
9. Exposure & Resilience to Shocks	0.937	0.939	1.000	0.853	0.854	0.925	0.925
10. Gender Equality	0.989	0.989	1.000	0.975	0.974	0.932	0.933

Notes:

Model 1: **Expert**-scaling of raw data, **Equal weights & Arithmetic average** of the subcomponents;
Model 2: **Expert**-scaling of raw data, **Expert weights & Arithmetic average** of the subcomponents;
Model 3: **Expert**-scaling of raw data, **Equal weights & Geometric average** of the subcomponents;
Model 4: **Expert**-scaling of raw data, **Expert weights & Geometric average** of the subcomponents;
Model 5: **Linear**-scaling of raw data, **Equal weights & Arithmetic average** of the subcomponents;
Model 6: **Linear**-scaling of raw data, **Expert weights & Arithmetic average** of the subcomponents;
Model 7: **Linear**-scaling of raw data, **Equal weights & Geometric average** of the subcomponents;
Model 8: **Linear**-scaling of raw data, **Expert weights & Geometric average** of the subcomponents

Table 11. Sensitivity analysis results: Simplification of the assumptions in the MPAT

MPAT component	Simplify the weighting method for the subcomponents (i.e. assume equal weights instead of the expert-based weights) ⁽¹⁾	Simplify the scaling method for the raw data (i.e. assume linear scaling instead of expert-based) ⁽²⁾	Simplify both the scaling method for the raw data and the weighting method for the subcomponents (i.e. assume linear scaling and equal weights) ⁽³⁾
1. Food & Nutrition Security	YES	YES	NO
2. Domestic Water Supply	YES	NO	NO
3. Health & Healthcare	YES	NO	NO
4. Sanitation & Hygiene	YES	NO	NO
5. Housing & Energy	YES	NO	NO
6. Education	YES	NO	NO
7. Agricultural Assets	YES	YES	YES
8. Non-agricultural Assets	YES	YES	YES
9. Exposure & Resilience to Shocks	YES	NO	NO
10. Gender Equality	YES	NO	NO

Notes: results based on a comparison between model 4 and model 3; (2) results based on a comparison between model 4 and model 8; (3) results based on a comparison between model 4 and model 7.

Having carried out an uncertainty and sensitivity analysis of the MPAT v.6, we conclude that the households' scores produced by the recommended model 4, are overall reliable estimates of rural poverty issues in China and India. Hence, the MPAT v.6, despite eventual improvements that could be made following the recommendations offered in the previous sections, can already be used to substantiate data-driven narratives, as described next.

8. Policy implications

The ten MPAT Component scores capture different aspects of rural poverty and provide useful material for the analysis of rural poverty in the Chinese province of Gansu and in the Indian province of Uttarakhand. A high MPAT component score means that a particular household/village has overcome some of the rural poverty problems encountered in a household/village with a lower score. While a household/village will score higher than some and lower than others, the purpose of the Multidimensional Poverty Assessment tool is not to identify winners and losers.

Instead, the MPAT can hopefully foster discussions on which dimension are likely most in need of support or interventions/assistance.

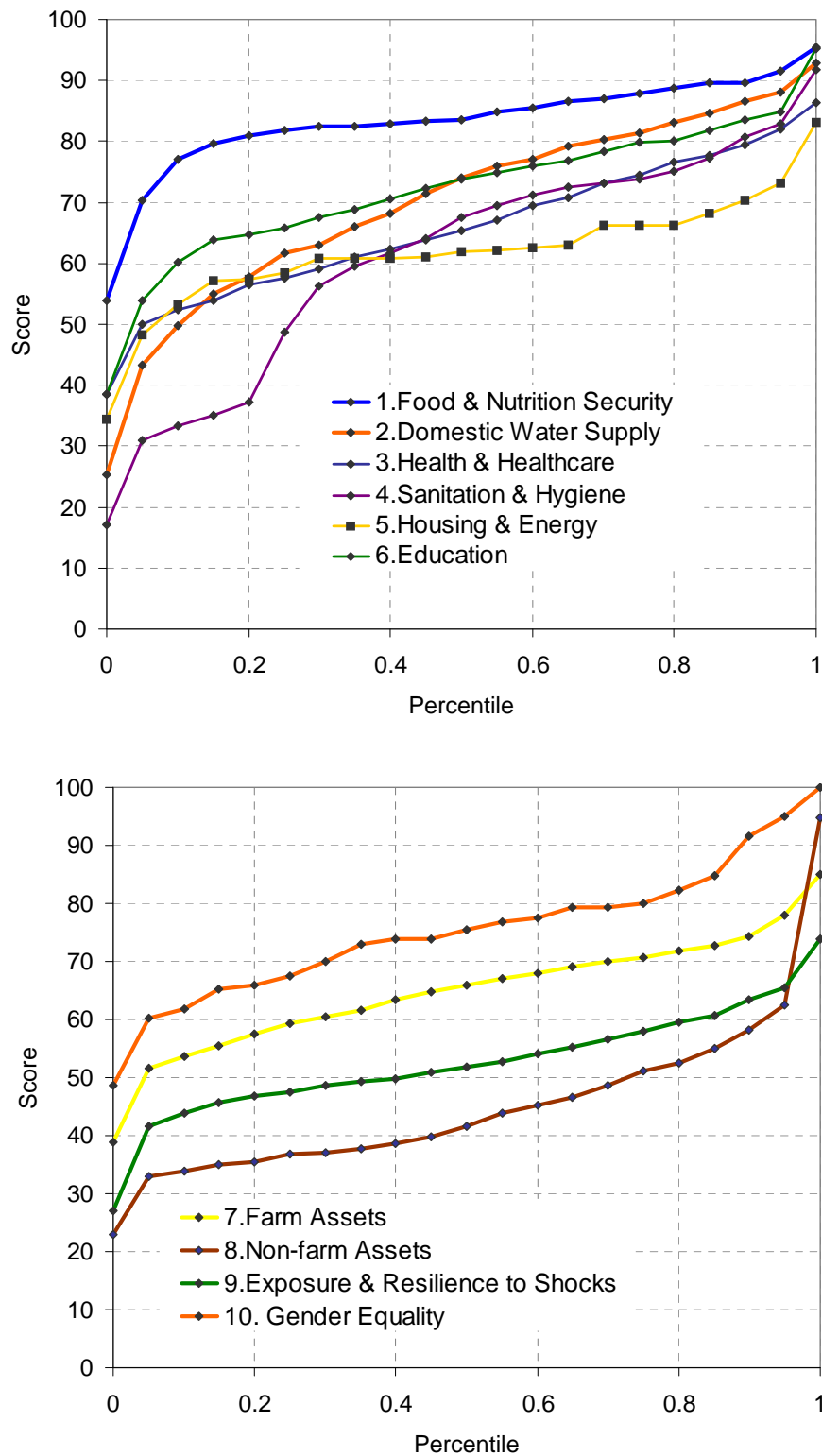
A simple, yet powerful narrative, on the rural conditions captured by the MPAT is offered by studying the cumulative distribution function for the component scores in China and India (Figure 8). We have selected to use the combined dataset for China and India, for the sake of eliciting information on the rural conditions that prevail in the households surveyed in MPAT v.6 rather than comparing the two provinces to each other. This graph offers insight into the nature of policy challenges from the perspective of combating rural poverty. The top graph shows this information for the six MPAT components that are considered to capture fundamental needs, whilst the bottom graph presents the four additional MPAT components.

The best overall performance is found in the Food & Nutrition Security component, in which even the low scoring households reach more than 50 points and 8 in 10 households have score more than 80 points. 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 50 points. Even those households that perform relatively well, they reach a maximum of 82 points. The graph also shows that although the majority of the households have scores greater than 50 points in the six components, no household reaches the target 100.0 at any of the components belonging to the fundamental needs.

Regarding the four other MPAT components, we would note that the levels are much lower than those of the components describing people's fundamental needs. Households perform relatively well in the Gender Equality issues, but under-perform in Exposure & Resilience to Shocks, and Non-Agricultural Assets. In fact, half of the households have scores lower than 50 points in those two components. In this group of components, we find the only 100.0 score reached by four households in China (villages # 3137, #1103, #1111) on the Gender Equality component.

To sum up, two components capturing people's needs, namely Sanitation & Hygiene, and Housing & Energy, and Exposure & Resilience to Shocks, and Non-Agricultural Assets, are those rural poverty issues in China and India where remedial action is needed. Whilst the former two components can be easily dealt with by the governments or international organizations aiming to assist rural areas, the latter two components represent more difficult policy challenges. These results have shown the potential of the MPAT to provide an overview of ten fundamental dimensions related to rural poverty and human wellbeing, quickly revealing which sectors are most in need of interventions/assistance. Hence, the argument of the MPAT developers that this tool “*allows project managers, government officials and others to determine which dimensions likely require support, and whether an enabling environment is in place to allow rural residents to pursue their livelihood goals*” is justified (Cohen, forthcoming).

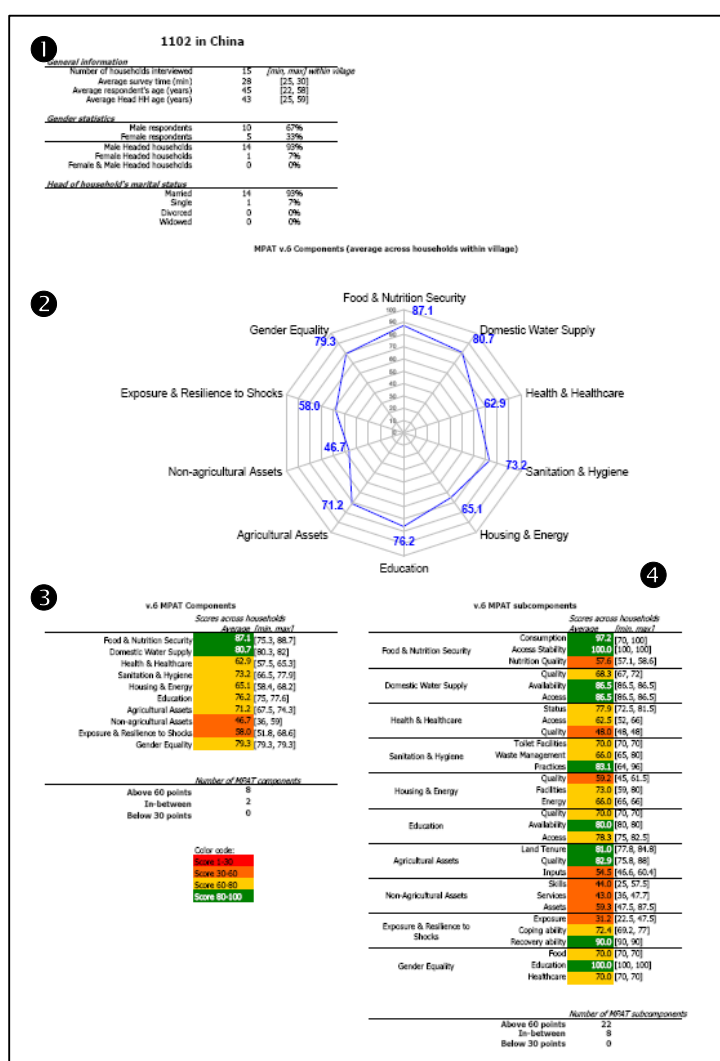
Figure 8. Cumulative distribution functions for the ten MPAT v.6 components



Note: dataset includes 527 households in China and India ; top graph: people's fundamental needs, bottom graph: rural poverty aspects in a 21st century context.

As an illustration of how the MPAT results can be used at the village level, we present in Part II the village and country profiles based on the MPAT v.6 scores for the ten components and subcomponents. Due to a number of political and administrative sensitivities, only codes in place of village names are used in China. Part III presents the village and country profiles for MPAT v.7, which is an improved version of the MPAT v.6 based, among others, on the recommendations of the present study.

To understand the Village Profiles, the following explanations are useful. The Village Profiles present a compilation of the main results for each individual village to which MPAT v.6 and MPAT v.7 were tested.



1 General Information

The top left section reports the number of households that were interviewed in the village, and the average time (also minimum, maximum) needed to complete the survey in a household. Statistics on age, gender and marital status are also reported. For example, in the village #1102 in China, 15 households were surveyed in MPAT v.6 (10 male and 5 female) and the household survey was completed within on 28 minutes on average (survey times ranged between 25 to 30

minutes).

② Radar diagram of the ten MPAT components

The second section presents the radar diagram of the village scores in the ten MPAT components. The average score across the households surveyed is reported. Recall that the first six components from Food & Nutrition to Education describe people's fundamental needs, while the remaining four components from Agricultural Assets to Gender Equality capture rural poverty aspects in a 21st century context. For example, village #1102 performs relatively well in the Food & Nutrition Security component, for which the average score across the households is 87.1 points, whilst in the Non-agricultural Assets component the average household score is merely 46.7 points, indicating a necessity for action on this issue.

③ Performance statistics in the ten MPAT components

The third section reports the average (also minimum and maximum) scores across households for the ten components. The average scores are the same as those shown in the radar diagram. A colour code shows which component scores are above 80.0 (green), between 60.0 and 80.0 (yellow), between 30.0 and 60.0 (orange) or below 30.0 (red). A summary table provides the number of components with scores above 60.0 points, below 30.0 points or in-between. For example, the village #1102 in China has eight components above 80.0 points and two components (Non-agricultural Assets and Exposure & Resilience to Shocks) with scores between 30.00 and 60.0 points. The average household score in Non-Agricultural Assets is 46.7 points, while the minimum and maximum scores across households are 36.0 and 59.0 points, indicating that no household in this village has relatively satisfactory levels of performance in this MPAT component.

④ Performance statistics in the MPAT subcomponents

The fourth section reports the average (also minimum and maximum) scores across households for the subcomponents, in a similar way as for the components in the third section. A colour code is used as above. A summary table provides the number of subcomponents with scores above 60.0 points, below 30.0 points or in-between. For example, in the village #1102, there 22 subcomponents with scores above 60.0 points and eight subcomponents with scores between 30.0 and 60.0 points. There is no subcomponent score under 30.0 points. These results indicate that only few aspects of

rural poverty necessitate action in this village. These are: Nutrition Quality in Food & Nutrition Security, Quality in Domestic Water Supply, Quality in Health & Healthcare, Quality in Housing & Energy, Inputs in Agricultural Assets, all three subcomponents in the Non-Agricultural Assets, and Exposure in Exposure & Resilience to Shocks. Notice that the low component score in Exposure & Resilience to Shocks is due to one of the three subcomponents, which has pulled down the total average score (calculated as the weighted geometric average).

9. Conclusions

The Multidimensional Poverty Assessment Tool (version six) of the UN International Fund for Agricultural Development (Cohen, forthcoming) encapsulates key aspects of rural poverty and human wellbeing in ten dimensions, which in the version 6 MPAT, were: (1) *Food & Nutrition Security*, (2) *Domestic Water Supply*, (3) *Health & Healthcare*, (4) *Sanitation & Hygiene*, (5) *Housing & Energy*, (6) *Education*, (7) *Agricultural Assets*, (8) *Non-agricultural Assets*, (9) *Exposure and Resilience to Shocks*, and (10) *Gender Equality*.

The MPAT does not further aggregate the dimensions into a single summary measure, but it is rather presented as a multi-dimensional Thematic Indicator, in other words a group of ten composite indicators that capture distinct and diverse aspects of the same concept. The ten dimensions (/components) are described by subcomponents, which are in turn composed of survey items (roughly 80 survey items in v.6) from household and village questionnaires, developed ad hoc for this project.

The basis for the extensive analysis and the discussions offered in the present report is the version 6.0 of the MPAT, which was tested in 345 households and their respective 23 natural villages in the province of Gansu in China, and in 182 households and their respective 18 natural villages in the province of Uttarakhand in India. China and India were chosen as the testing grounds for the MPAT primarily due to the extent of rural poverty in these nations and in part because they are home to one third of the world's population.

Important findings of this report suggest that:

- The best overall conditions at the household level in the combined China and India dataset (a total of 527 households) is found in the Food & Nutrition Security component, in which even the low scoring households reach at least 50 points. Remarkably, 8 in 10 households score more than 80 points. At satisfactory levels are also the conditions in three of the components, namely in the Domestic Water Supply, Health & Healthcare and Education.
- However, on the Sanitation & Hygiene component - which summarizes issues of toilet facilities, household waste management and hygiene practices (e.g., brushing teeth, washing hands before eating) - the situation is particularly worrying since 3 in 10 households score less than 50 points. The maximum score is only 82 points.
- In the six components of MPAT that represent people's fundamental needs, namely in Food & Nutrition Security, Domestic Water Supply, Health & Healthcare, Sanitation & Hygiene, Housing & Energy, and Education, there is no single household that scores a perfect 100.
- In the four MPAT components that describe rural poverty in a 21st century context, namely in Agricultural Assets, Non-agricultural Assets, Exposure & Resilience to Shocks, and Gender Equality, the households conditions are in general less satisfactory than those of the components describing people's fundamental needs. Better conditions are found in the Gender Equality, but remedial action is needed in the Exposure & Resilience to Shocks, and Non-Agricultural Assets. In this group of components, we find the only 100 score reached by four households in China (in the villages # 3137, #1103, #1111) on the Gender Equality component.

These results have shown the MPAT potential to summarise ten fundamental dimensions related to rural poverty and human wellbeing, quickly revealing which sectors are most in need of interventions/assistance. Hence, the argument of the MPAT developers, that this tool “*allows project managers, government officials and others to determine which dimensions likely require support, and whether an enabling*

environment is in place to allow rural residents to pursue their livelihood goals” (Cohen, forthcoming) is justified.

We subjected the MPAT v.6 to thorough validity testing. First, we looked into the MPAT questions from the household and village questionnaires and other data quality issues. We noted that there were some subcomponents in the MPAT v.6 that were built based on the responses given to a single question, which was found to be problematic. To mediate, we suggested building a subcomponent using 3-5 survey questions, as opposed to a single question, so as to: reduce eventual “measurement error” due to inconsistencies, avoid placing too much emphasis on a political/subjective survey question, avoid having subcomponents with little or no discriminating power among households, and be able to calculate a subcomponent score for a household even if the answer “Other” or “Don’t know” is given in some of the survey questions included of the subcomponent. We also suggested that when checking the quality of the data, one should check for numerical errors (answer codes that are not among those listed), cross-check survey questions of relevant content (see concrete suggestions in Section 3) with a view to identify inconsistencies or eventual errors, rephrase and/or check the translation for some questions that were perceived differently in China and India, and make sure that no score is assigned to non-relevant questions. Although the v.6 dataset is characterized by an excellent response rate of 93.7% to the survey questions, we spotted a few survey questions in five of the ten subcomponents (see concrete suggestions in Section 3) that have more than 33 per cent of missing data and would need to be reviewed to make sure that missing data were not due to lack of clarity of the question. These comments may well go beyond the critical assessment of the MPAT’s framework and rather highlight a virtue of MPAT as a means to spot problematic areas in the description of rural poverty conditions. We then offered some recommendations on the issue of normalisation of the responses, in particular when there are trade-offs between questions (as in the Employment and Skills subcomponent).

Second, we assessed the expert-based weights on the MPAT v.6 subcomponents. It was shown that the experts agree, on an average basis, to an equal weighting scheme for the subcomponents underlying four of the components, namely on Education, Farm Assets, Exposure & Resilience to Shocks, and Gender Equality. For the

remaining six components, expert opinion diverged, in particular regarding the *Sanitation & Hygiene* component and two of its subcomponents on “Toilet facilities” and “Practices”. This type of disagreement was expected and is in fact an inherent feature of the MPAT. The expert-driven weights were analyzed for eventual bias, and it was found that the average weights given by the experts from India are very similar to the average weights given by the experts from the rest of the world in almost all subcomponents. However, the average weights provided by the experts from China differ significantly from those of the other experts in ten of the 30 subcomponents. This result may flag that either too few experts from China were surveyed (only 6 experts), compared to 16 or 21 experts in the other two groups, or that there might be an eventual bias in the sample of the experts from China. Hence, if one would repeat this exercise with a view to elicit once again the weights for the subcomponents, it would be advisable to either include more experts from China or invite different experts from China to assign the weights, so as to get a clearer idea on the source of those differences in the assignment of the weights to the MPAT subcomponents. A final issue on the weights related to the three strategies in subcomponent #9.2 on Coping ability. A brute force approach and a simulation of 10,000 sets of weights for which the preference relation $w_1 > w_2 > w_3$ holds (i.e. the first strategy receives greater weight than the second strategy and so forth) showed the households scores obtained using any of the sets of weights correlated with more than 0.93 to each other, implying that the choice of the weighting scheme in this subcomponent is not particularly influential under the condition that the preference relation in the three strategies holds.

Third, we dealt with an open issue on the proper aggregation rule to be used to build the MPAT. At the first of aggregation, we suggested to employ a weighted arithmetic average of the normalised survey responses to build the MPAT subcomponents, so as to “compensate” for eventual inconsistencies in the responses. At the second level of aggregation, the suggestion was to employ a weighted geometric average to aggregate the subcomponents into components, so as to provide greater incentive to a region to address those subcomponents of poverty where the performance is relatively weak. This aggregation procedure is as simple and transparent as possible, and it does not compromise conceptual issues for the sake of simplicity. In addition, the results can be easily understood by non-statisticians.

Forth, we conducted internal consistency checks to assess whether the conceptual framework of the MPAT v.6 was confirmed by the statistical analysis and whether there were any potential pitfalls. Within this context, we found that PCA identifies at least four latent structures within each components (with the exception of Domestic Water supply and Education, for which three and two latent structures are identified respectively). This result implies that the survey questions included in the MPAT components capture very distinct and diverse aspects of rural poverty with little or no overlap of information between the survey questions, as suggested by the very low correlations between the responses of the survey questions within a component. PCA results also suggest that there are twelve latent structures among the thirty subcomponents and that the first ten principal components explain only 63.5% of the total variance. These results confirm the multidimensionality of the MPAT framework even at the components level. Furthermore, the expectation that a subcomponent is more correlated to its own component than to any of the other components was confirmed in the majority of the cases. However, there were four subcomponents that had an almost random association to the component they belong to, namely subcomponent 4.2 on Household waste management, subcomponent 5.3 on Energy, subcomponent 9.2 on Coping Ability, and subcomponent 10.3 on Access to Healthcare-Gender Equality. Unless there is a theoretical justification, these results suggest that these four subcomponents need to be revised. The subcomponent 10.3 seems to have been misplaced, as it “statistically” belongs to the component on Health & Healthcare (component 3); the justification for moving this subcomponent is that it captures more issues on health than on gender. Finally, subcomponent 7.1 on land tenure bears the same degree of correlation to its own component, the Agricultural assets, and to two other components, namely Education and Gender Equality. These latter correlations might be spurious, as it is hard to justify them conceptually.

Among the original features of the MPAT, we would stress two points:

- The practically random correlations between the ten components justify the building of the MPAT as a Thematic Indicator of ten composite indicators instead of a single composite indicator of rural poverty. Had one attempted to merge the ten components into a single composite indicator, the result would have been an ill-built index that has no clear correlation to its underlying

components (neither in terms of direction of performance nor in terms of the degree of correlation). The community of composite indicator developers may find appealing this exercise, as it suggests that a final composite indicator should not be seen as a goal per se and that it is sometimes preferred to stop the aggregation procedure at the components level (also called dimensions of the composite indicator).

- The categorical data in the MPAT that derive from the responses to the survey questions do not always have an obvious preference relation neither an obvious intensity of preference. Both these aspects were covered by expert opinion. This exercise, in which experts are asked for their feedback on the potential valuations of the responses in survey questions/items, may possibly represent the first example (in the field of composite indicators) in which experts are asked to assign values to indicators of categorical character.

Fifth, we conducted an uncertainty analysis to assess the impact on the Components scores of simultaneous variations in the methodological assumptions related to the normalisation of the raw responses (be it expert-based or linear scaling), the weighting scheme for the subcomponents (be it expert-based or equal weighting within a component) and the aggregation method for the subcomponents (be it an arithmetic or geometric average). The choice of the model to build the MPAT components is not influential to the province level scores, namely for Gansu and Uttarakhand, but it may be important when discussing households scores.

The choice of the model for the calculation of the households' scores in four of the components is not particularly influential, namely for Food & Nutrition Security, Domestic Water Supply, Agricultural Assets, and Gender Equality (correlation coefficients in most cases greater than 0.95, and never below 0.90). However, the choice of the model is important for the other six components and most notably for Housing & Energy, and Education, in which the type of scaling of the raw data is very influential on the scores. These sensitivity analysis results are very helpful and need to be communicated to the MPAT panel experts to render them aware of the impact of their choices and eventually consider whether a revision is needed.

A legitimate question may be raised. Could one relax some of the assumptions of the MPAT model without affecting to a great extent the components scores? Although there are good reasons to select a geometric aggregation rule to combine the subcomponents scores, one may be tempted to render the MPAT as simple as possible, and thus try to relax the other two assumptions on the expert-based scaling of the raw data and/or on the expert-based weights of the subcomponents. Sensitivity analysis results suggest that the assumption on the weights can be relaxed. This is a very interesting conclusion, as in several components, the subcomponents were not weighted equally by the experts. The most pronounced component is the Food & Nutrition Security, where the three subcomponents receive an expert-based weight of 43.3-32.4-24.5, respectively. As this analysis has shown, the impact of the weighting scheme within a component (under the assumption of a geometric aggregation rule) is not influential. It also provides an argument that there is no need to invite new experts from China to assign the weights (see discussions in Section 5.1) to the subcomponents, as this revision will not have a pronounced impact on the results. However, it could be done for the sake of understanding the source for the discrepancy between the opinions received from the Chinese experts and the rest of the experts involved. The expert-scaling of the responses can be replaced with a simple linear scaling in the case of three components, namely Food & Nutrition Security, Agricultural Assets, and Non-Agricultural Assets. For the other components, the assumption on the type of scaling for the raw data is very influential and can not thus be relaxed for the sake of simplicity. Finally, both assumptions on the weights and the scaling of the raw data can be relaxed simultaneously for only two components, namely Agricultural and Non-Agricultural Assets. An important issue in sensitivity analysis tests appears at this point: the combined impact of the assumptions. We have already shown that for two components, Agricultural and Non-Agricultural Assets, we can relax the scaling or the weighting or both at the same time, without a notable impact on the results. On the contrary, for Food & Nutrition Security, we can only relax one of the two assumptions at a time, but not simultaneously given that the combined effect is important. This stresses the necessity for studying the combined effect of the assumptions in sensitivity analysis tests, as opposed to the one-at-a time changes that are almost most often carried out in the relevant literature on composite indicators.

This report has shown that the 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.

From the point of view of implications, the assessment carried out on the MPAT does not represent merely a methodological or technical appendage. Composite measures are often attached to regulatory mechanisms whereby governments or organizations are rewarded or penalized according to the results of such measurements. The use and publication of composite measures can generate both positive and negative behavioral responses and if significant policy and practice decisions rest on the results, it is important to have a clear understanding of the potential risks involved in constructing a composite and arriving at benchmarking.

The analysis undertaken in this work provides no guarantee of the true ability of the MPAT to describe rural poverty world wide. Yet, it provides enough evidence that the MPAT cannot easily be falsified by methodological cunning.

References

- Ahmed A., Vargas-Hill R., Smith L., Wiesmann D. & Frankenberger T., 2007, *The world's most deprived: Characteristics and causes of extreme poverty and hunger*, International Food Policy Research Institute.
- Brand D. A., Saisana M., Rynn L. A., Pennoni F., Lowenfels A. B., 2007, Comparative Analysis of Alcohol Control Policies in 30 Countries. *PLoS Medicine* 4(4): 752-759.
- Cherchye L., Moesen W., Rogge N., van Puyenbroeck T., Saisana M., Saltelli A., Liska R., Tarantola S., 2008, Creating Composite Indicators with DEA and Robustness Analysis: the case of the Technology Achievement Index. *Journal of Operational Research Society* 59:239-251.
- Cohen, A., forthcoming, The Multidimensional Poverty Assessment Tool: Design, development and application of a new framework for measuring rural poverty. The International Fund for Agricultural Development: Rome.
- Cohen A., in press, The Multidimensional Poverty Assessment Tool: A New Framework for Measuring Rural Poverty. Development in Practice.
- Cutter S. L., Boruff B.J., Shirley, W.L., 2003, Social vulnerability to environmental hazards. *Social Science Quarterly* 84(1):242-261.
- Dunteman G.H., 1989, Principal components analysis. Thousand Oaks, CA: Sage Publications, Quantitative Applications in the Social Sciences Series, No. 69.
- FAO, 2008, Water and the rural poor: Interventions for improving livelihoods in sub-Saharan Africa, Rome, United Nations Food & Agricultural Organization.
- Graham B., 2007, Challenges for Growth and Poverty Reduction in Fragile States. *Inclusive Growth and Poverty Reduction in the New Asia and Pacific*. Manila, Philippines, Asian Development Bank.
- IPCC, 2007, Climate change 2007: Impacts, adaptation and vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. In Parry M., Canziani O., Palutikof J., van der Linden P. & Hanson C. (Eds.) Cambridge, Cambridge University Press.
- Manly B., 1994, Multivariate statistical methods, Chapman & Hall, UK.
- Molden D. (Ed.), 2007, Water for Food, Water for Life: A Comprehensive Assessment of Water Management in Agriculture., London & Colombo, Earthscan & International Water Management Institute.
- Narayan D., Pritchett L. & Kapoor S., 2009, *Moving Out of Poverty: Success from the Bottom Up*, Washington D.C., World Bank.
- Nicoletti G., Scarpetta S., Boyland O., 2000, Summary indicators of product market regulation with extension to employment protection legislation, Economics Department Working Paper no 226, ECO/WKP(99)18.
- OECD, 2008, Handbook on Constructing Composite Indicators. Methodology and user Guide, OECD Publishing, Paris.
- Saisana M., 2008, The 2007 Composite Learning Index: Robustness Issues and Critical Assessment, Report 23274, European Commission, JRC-IPSC, Italy.

- Saisana M., Annoni P., Nardo M., 2009, A robust model to measure governance in African countries, EUR 23773 EN, Joint Research Centre, Institute for the Protection and Security of the Citizen, Italy.
- Saisana M., D'Hombres B., 2008, Higher Education Rankings: Robustness Issues and Critical Assessment, Report 23487, European Commission, JRC-IPSC, Italy.
- Saisana M., Munda G., 2008, Knowledge Economy: measures and drivers, Report 23486, European Commission, JRC-IPSC.
- Saisana M., Saltelli, A., 2008, Sensitivity Analysis for the 2008 Environmental Performance Index, Report 23485, European Commission, JRC-IPSC.
- Saisana M., Tarantola S., 2002, State-of-the-art Report on Current Methodologies and Practices for Composite Indicator Development, Report 20408, European Commission, JRC, IPSC.
- Saisana M., Tarantola S., Saltelli A., 2005, Uncertainty and sensitivity techniques as tools for the analysis and validation of composite indicators. *Journal of the Royal Statistical Society A* 168(2):307-323.
- Saltelli A., Chan K., Scott M., 2000, *Sensitivity Analysis*. John Wiley & Sons Ltd.
- Saltelli A., M. Ratto, T. Andres, F. Campolongo, J. Cariboni, D. Gatelli, M. Saisana, S. Tarantola, 2008, *Global sensitivity analysis. The Primer*, John Wiley & Sons, England.
- Saltelli A., 2007, Composite indicators between analysis and advocacy. *Social Indicators Research* 81(1), 65-77.
- Schwarz N. & Sudman S., 1996, *Answering Questions: Methodology for Determining Cognitive and Communicative Processes in Survey Research.*, San Francisco, Jossey-Bass.
- Schwarz N., 1999, Self-Reports: How the Questions Shape the Answers. *American Psychologist*, 54, 93-105.
- Streeten P. & Burki S. J., 1978, Basic needs: Some issues. *World Development*, 6, 411-421.
- Streeten P., Burki S. J., Haq M. U., Hicks N. & Stewart F. (1981) *First Things First: Meeting Basic Human Needs in Developing Countries*, Oxford University Press.
- Vargas-Lundius R., Ypeij A., 2007, *Polishing the Stone. A Journey through the Promotion of Gender Equality in Development Projects*. Rome: IFAD.

Part II: Village Profiles-MPAT v.6

	Village name/code	Population	Number of households
China	1,102	257	56
	1,103	1999	415
	1,104	2084	432
	1,105	1595	333
	1,106	1474	321
	1,107	1179	277
	1,108	1044	198
	1,109	1324	277
	1,110	1357	307
	1,111	2976	653
	3,133	1034	198
	3,134	1590	297
	3,135	873	135
	3,136	2004	366
	3,137	1226	220
	3,138	1103	188
	3,139	1100	400
	3,140	585	113
	3,449	1460	283
	3,450	1620	325
	3,451	1500	260
	3,452	1369	301
	3,453	576	136
India	Aeri	202	31
	Anouli	249	60
	Baganiya	231	37
	Baliya	214	40
	Bangsil	301	44
	Chanargaon	347	80
	Gair	490	65
	Golimahar	750	190
	Kakru	94	17
	Kaltani	234	81
	Kharsoda	174	52
	Khera Talla	159	27
	Kinshu	229	30
	Papra Talla	178	25
	Saudi	93	22
	Sirsoda	363	52
	Thath	707	121
	Toli	424	66

China

General information

Number of households interviewed	345	[min, max] across households
Average survey time (min)	31	[14, 104]
Average respondent's age (years)	44	[14, 81]
Average Head HH age (years)	38	[20, 85]

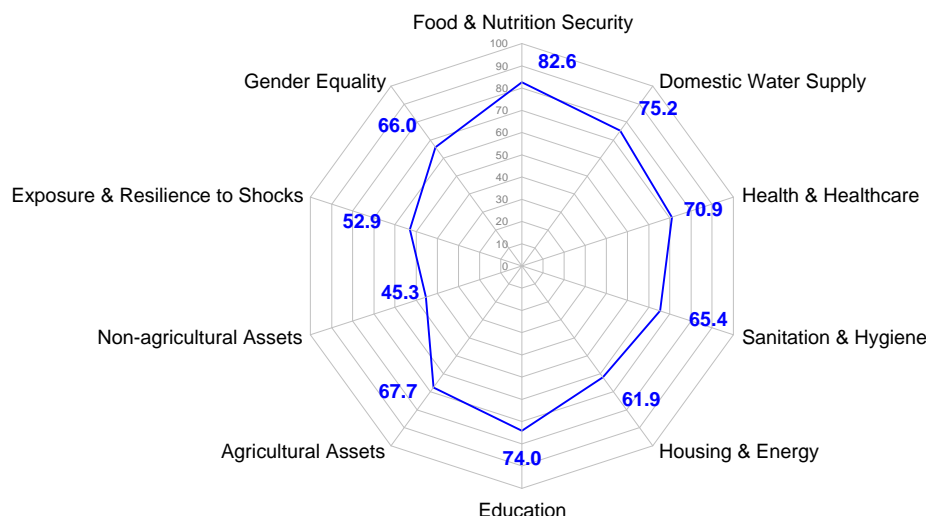
Gender statistics

Male respondents	222	64%
Female respondents	112	32%
Male Headed households	292	85%
Female Headed households	24	7%
Female & Male Headed households	15	4%

Head of household's marital status

Married	302	88%
Single	2	1%
Divorced	1	0%
Widowed	10	3%

MPAT v.6 Components (population weighted average across villages)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	82.6	[70.7, 90.2]
Domestic Water Supply	75.2	[40.7, 89.2]
Health & Healthcare	70.9	[54.4, 80.5]
Sanitation & Hygiene	65.4	[49.4, 77.1]
Housing & Energy	61.9	[52.8, 69.8]
Education	74.0	[57.7, 84.2]
Agricultural Assets	67.7	[51.9, 77.6]
Non-agricultural Assets	45.3	[34.8, 63.6]
Exposure&Resilience to Shocks	52.9	[44.4, 62.9]
Gender Equality	66.0	[60.7, 95]

Number of MPAT components

Above 60 points	8
In-between	2
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

		Average	[min, max]
Food & Nutrition Security	Consumption	96.1	[76.6, 100]
	Access Stability	96.9	[79.4, 100]
	Nutrition Quality	49.8	[40.2, 64.8]
Domestic Water Supply	Quality	69.6	[32.9, 87.4]
	Availability	81.1	[43.8, 100]
	Access	77.5	[29.1, 87.4]
Health & Healthcare	Status	81.6	[69.8, 96.8]
	Access	65.2	[47.3, 82]
	Quality	70.4	[22, 100]
Sanitation & Hygiene	Toilet Facilities	77.4	[60.3, 88.9]
	Waste Management	57.0	[24.4, 74.4]
	Practices	64.5	[27.6, 88.5]
Housing & Energy	Quality	55.8	[38.6, 69.7]
	Facilities	69.3	[62.4, 77.2]
	Energy	65.8	[61.6, 69.2]
Education	Quality	71.1	[60, 100]
	Availability	73.5	[36, 100]
	Access	80.2	[60.5, 90]
Agricultural Assets	Land Tenure	73.6	[59.3, 81.3]
	Quality	69.7	[41, 85.1]
	Inputs	62.4	[41, 85.7]
Non-Agricultural Assets	Skills	39.8	[25.3, 62.2]
	Services	46.7	[31.5, 67.3]
	Assets	58.2	[45.7, 76.5]
Exposure & Resilience to Shocks	Exposure	31.1	[22.5, 45.3]
	Coping ability	74.5	[67.1, 78.8]
	Recovery ability	67.4	[45.7, 90]
Gender Equality	Food	48.1	[42, 75.8]
	Education	89.5	[67.1, 100]
	Healthcare	85.4	[65, 100]

Number of MPAT subcomponents

Above 60 points	22
In-between	8
Below 30 points	0

1102 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	28	[25, 30]
Average respondent's age (years)	45	[22, 58]
Average Head HH age (years)	43	[25, 59]

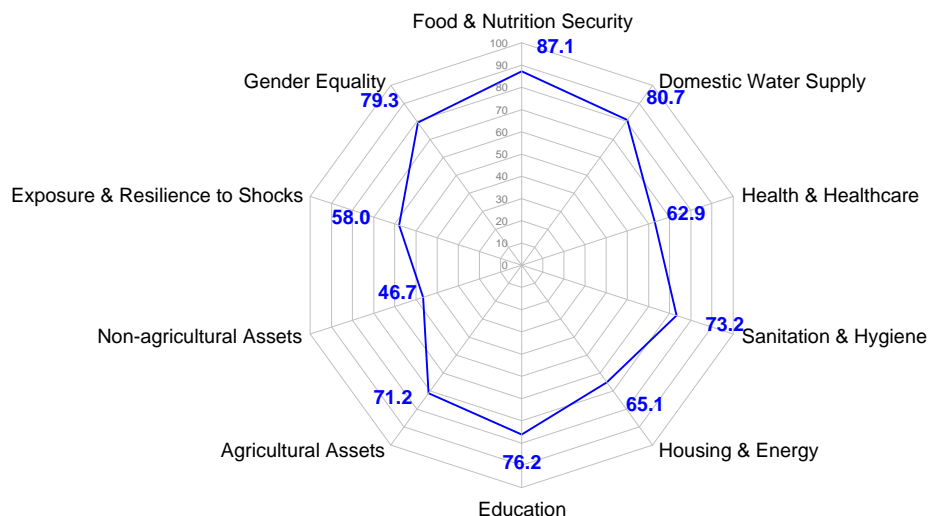
Gender statistics

Male respondents	10	67%
Female respondents	5	33%
Male Headed households	14	93%
Female Headed households	1	7%
Female & Male Headed households	0	0%

Head of household's marital status

Married	14	93%
Single	1	7%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	87.1	[75.3, 88.7]
Domestic Water Supply	80.7	[80.3, 82]
Health & Healthcare	62.9	[57.5, 65.3]
Sanitation & Hygiene	73.2	[66.5, 77.9]
Housing & Energy	65.1	[58.4, 68.2]
Education	76.2	[75, 77.6]
Agricultural Assets	71.2	[67.5, 74.3]
Non-agricultural Assets	46.7	[36, 59]
Exposure & Resilience to Shocks	58.0	[51.8, 68.6]
Gender Equality	79.3	[79.3, 79.3]

Number of MPAT components

Above 60 points	8
In-between	2
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	97.2 [70, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	57.6 [57.1, 58.6]
Domestic Water Supply	Quality	68.3 [67, 72]
	Availability	86.5 [86.5, 86.5]
	Access	86.5 [86.5, 86.5]
Health & Healthcare	Status	77.9 [72.5, 81.5]
	Access	62.5 [52, 66]
	Quality	48.0 [48, 48]
Sanitation & Hygiene	Toilet Facilities	70.0 [70, 70]
	Waste Management	66.0 [65, 80]
	Practices	83.1 [64, 96]
Housing & Energy	Quality	59.2 [45, 61.5]
	Facilities	73.0 [59, 80]
	Energy	66.0 [66, 66]
Education	Quality	70.0 [70, 70]
	Availability	80.0 [80, 80]
	Access	78.3 [75, 82.5]
Agricultural Assets	Land Tenure	81.0 [77.8, 84.8]
	Quality	82.9 [75.8, 88]
	Inputs	54.5 [46.6, 60.4]
Non-Agricultural Assets	Skills	44.0 [25, 57.5]
	Services	43.0 [36, 47.7]
	Assets	59.3 [47.5, 87.5]
Exposure & Resilience to Shocks	Exposure	31.2 [22.5, 47.5]
	Coping ability	72.4 [69.2, 77]
	Recovery ability	90.0 [90, 90]
Gender Equality	Food	70.0 [70, 70]
	Education	100.0 [100, 100]
	Healthcare	70.0 [70, 70]

Number of MPAT subcomponents

Above 60 points	22
In-between	8
Below 30 points	0

1103 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	27	[14, 37]
Average respondent's age (years)	47	[26, 66]
Average Head HH age (years)	56	[36, 76]

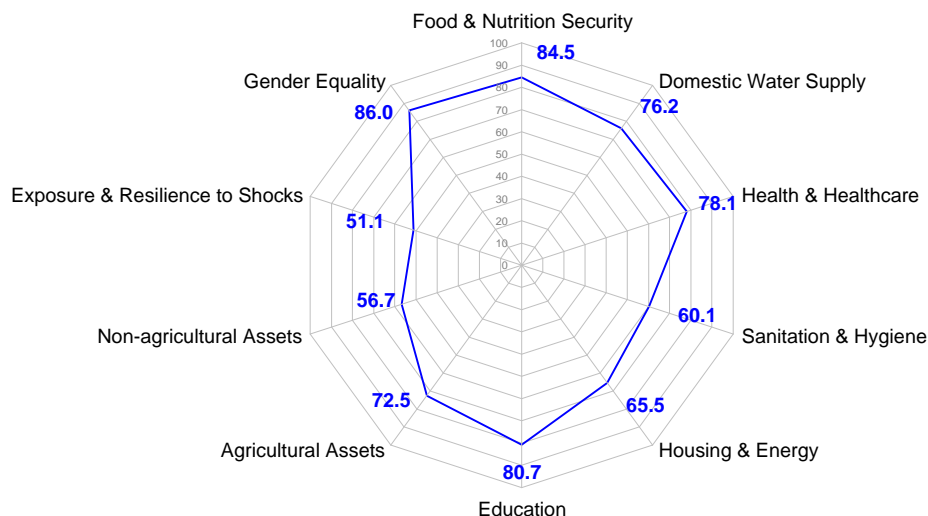
Gender statistics

Male respondents	7	47%
Female respondents	7	47%
Male Headed households	13	87%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	12	80%
Single	0	0%
Divorced	0	0%
Widowed	1	7%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	84.5	[69.9, 93.4]
Domestic Water Supply	76.2	[62.2, 84.3]
Health & Healthcare	78.1	[65.5, 84.4]
Sanitation & Hygiene	60.1	[42.6, 72]
Housing & Energy	65.5	[54.8, 75.9]
Education	80.7	[79.9, 85.3]
Agricultural Assets	72.5	[67.1, 80.4]
Non-agricultural Assets	56.7	[33.4, 94.7]
Exposure & Resilience to Shocks	51.1	[41.3, 66.5]
Gender Equality	86.0	[76.9, 100]

Number of MPAT components

Above 60 points	8
In-between	2
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	93.4 [70, 100]
	Access Stability	93.8 [61.5, 100]
	Nutrition Quality	60.0 [45.7, 72.9]
Domestic Water Supply	Quality	70.3 [67, 79.3]
	Availability	74.1 [42.5, 94]
	Access	86.5 [86.5, 86.5]
Health & Healthcare	Status	86.4 [71.5, 96.5]
	Access	73.5 [54, 81]
	Quality	74.3 [74.3, 74.3]
Sanitation & Hygiene	Toilet Facilities	64.4 [64, 70]
	Waste Management	74.4 [65, 80]
	Practices	49.7 [20, 76]
Housing & Energy	Quality	69.7 [61.5, 79]
	Facilities	62.4 [40, 82]
	Energy	66.0 [66, 66]
Education	Quality	70.0 [70, 70]
	Availability	97.0 [97, 97]
	Access	77.1 [75, 90]
Agricultural Assets	Land Tenure	81.0 [77.8, 81.3]
	Quality	72.3 [70.5, 82.8]
	Inputs	65.3 [52.8, 84.1]
Non-Agricultural Assets	Skills	53.3 [25, 100]
	Services	59.6 [34.6, 100]
	Assets	64.2 [47.5, 82.5]
Exposure & Resilience to Shocks	Exposure	28.0 [22.5, 47.5]
	Coping ability	77.3 [69.2, 80.8]
	Recovery ability	65.3 [40, 90]
Gender Equality	Food	59.2 [40, 100]
	Education	100.0 [100, 100]
	Healthcare	98.0 [85, 100]

Number of MPAT subcomponents

Above 60 points	25
In-between	4
Below 30 points	1

1104 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	27	[15, 30]
Average respondent's age (years)	46	[28, 60]
Average Head HH age (years)	46	[28, 60]

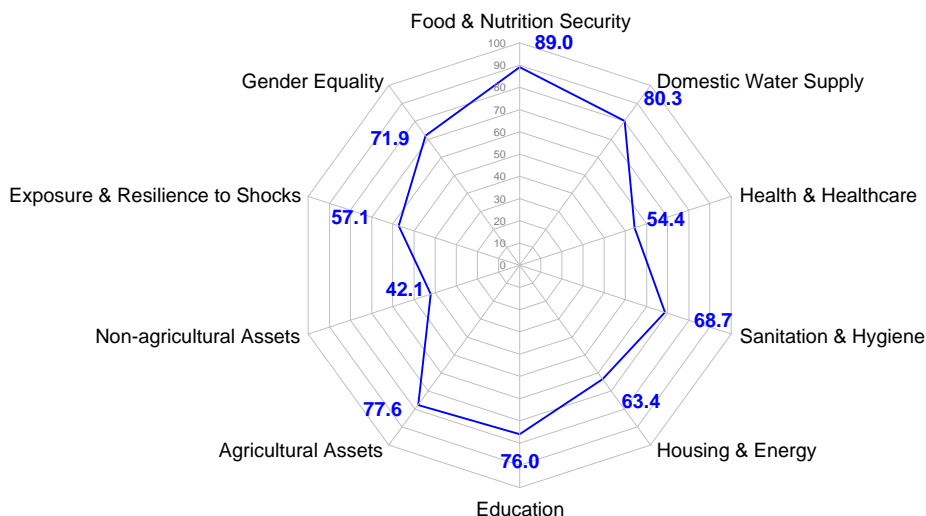
Gender statistics

Male respondents	12	80%
Female respondents	3	20%
Male Headed households	12	80%
Female Headed households	3	20%
Female & Male Headed households	0	0%

Head of household's marital status

Married	13	87%
Single	0	0%
Divorced	0	0%
Widowed	1	7%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	89.0	[74.7, 92.5]
Domestic Water Supply	80.3	[77.3, 81.1]
Health & Healthcare	54.4	[50.3, 57.6]
Sanitation & Hygiene	68.7	[60.7, 72.4]
Housing & Energy	63.4	[51.7, 68.2]
Education	76.0	[75.4, 76.2]
Agricultural Assets	77.6	[73.8, 81.4]
Non-agricultural Assets	42.1	[33.8, 68.5]
Exposure & Resilience to Shocks	57.1	[47.4, 61.2]
Gender Equality	71.9	[65.9, 75.3]

Number of MPAT components

Above 60 points	7
In-between	3
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	97.3 [80, 100]
	Access Stability	98.2 [72.5, 100]
	Nutrition Quality	64.8 [51.4, 70]
Domestic Water Supply	Quality	64.7 [53.4, 67]
	Availability	99.6 [94, 100]
	Access	76.2 [70, 86.5]
Health & Healthcare	Status	89.3 [88, 93]
	Access	66.5 [54, 75]
	Quality	22.0 [22, 22]
Sanitation & Hygiene	Toilet Facilities	88.8 [64, 100]
	Waste Management	61.8 [57, 63]
	Practices	56.1 [44, 66]
Housing & Energy	Quality	60.9 [52.5, 61.5]
	Facilities	65.6 [33.3, 80]
	Energy	66.0 [66, 66]
Education	Quality	60.0 [60, 60]
	Availability	87.5 [87.5, 87.5]
	Access	81.9 [80, 82.5]
Agricultural Assets	Land Tenure	80.8 [77.8, 84.8]
	Quality	82.8 [82.8, 82.8]
	Inputs	70.5 [60.3, 80.3]
Non-Agricultural Assets	Skills	34.7 [25, 100]
	Services	48.1 [36, 72.3]
	Assets	52.5 [47.5, 67.5]
Exposure & Resilience to Shocks	Exposure	31.2 [17.5, 37.5]
	Coping ability	75.0 [70.8, 75.8]
	Recovery ability	81.6 [81, 85.5]
Gender Equality	Food	43.7 [30, 60]
	Education	100.0 [100, 100]
	Healthcare	71.0 [70, 85]

Number of MPAT subcomponents

Above 60 points	23
In-between	6
Below 30 points	1

1105 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	32	[25, 40]
Average respondent's age (years)	45	[29, 65]
Average Head HH age (years)	46	[28, 65]

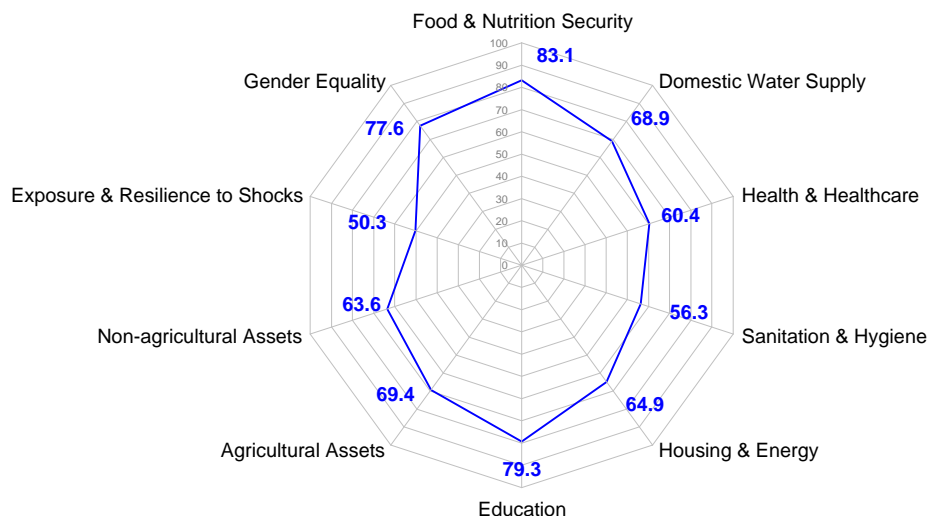
Gender statistics

Male respondents	10	67%
Female respondents	5	33%
Male Headed households	6	40%
Female Headed households	1	7%
Female & Male Headed households	8	53%

Head of household's marital status

Married	15	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	83.1	[79, 86.5]
Domestic Water Supply	68.9	[36.6, 83.1]
Health & Healthcare	60.4	[49.6, 66.4]
Sanitation & Hygiene	56.3	[44.1, 65.2]
Housing & Energy	64.9	[51.7, 75.4]
Education	79.3	[75, 80.1]
Agricultural Assets	69.4	[65.7, 72.8]
Non-agricultural Assets	63.6	[44.6, 71.3]
Exposure & Resilience to Shocks	50.3	[46.9, 51.2]
Gender Equality	77.6	[65.9, 89.2]

Number of MPAT components

Above 60 points	8
In-between	2
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	95.2 [88, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	49.0 [45.7, 52.9]
Domestic Water Supply	Quality	75.3 [71.9, 75.5]
	Availability	56.2 [10, 86.5]
	Access	85.8 [75.5, 86.5]
Health & Healthcare	Status	76.3 [46, 88]
	Access	57.4 [46, 67]
	Quality	48.0 [48, 48]
Sanitation & Hygiene	Toilet Facilities	82.0 [70, 88]
	Waste Management	65.7 [57, 71]
	Practices	34.5 [20, 56]
Housing & Energy	Quality	63.2 [52.5, 79]
	Facilities	67.6 [33.3, 80]
	Energy	66.0 [66, 66]
Education	Quality	60.0 [60, 60]
	Availability	92.5 [92.5, 92.5]
	Access	87.8 [75, 90]
Agricultural Assets	Land Tenure	80.1 [77.8, 81.3]
	Quality	75.8 [75.8, 75.8]
	Inputs	55.6 [48.8, 62.8]
Non-Agricultural Assets	Skills	54.2 [25, 62.5]
	Services	67.3 [52, 73.5]
	Assets	76.5 [62.5, 87.5]
Exposure & Resilience to Shocks	Exposure	22.5 [22.5, 22.5]
	Coping ability	76.8 [65, 79.2]
	Recovery ability	74.1 [71.3, 75.8]
Gender Equality	Food	62.7 [30, 100]
	Education	100.0 [100, 100]
	Healthcare	70.0 [70, 70]

Number of MPAT subcomponents

Above 60 points	22
In-between	7
Below 30 points	1

1106 in China

General information

Number of households interviewed	14	[min, max] within village
Average survey time (min)	42	[40, 50]
Average respondent's age (years)	47	[38, 63]
Average Head HH age (years)	47	[38, 63]

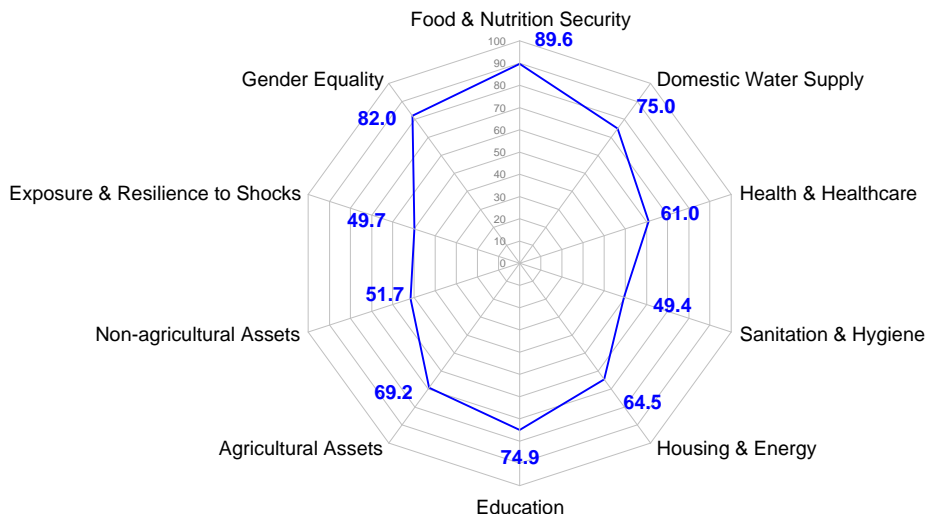
Gender statistics

Male respondents	12	86%
Female respondents	3	21%
Male Headed households	13	93%
Female Headed households	2	14%
Female & Male Headed households	0	0%

Head of household's marital status

Married	14	100%
Single	0	0%
Divorced	0	0%
Widowed	1	7%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	89.6	[88.7, 89.7]
Domestic Water Supply	75.0	[73.3, 75.4]
Health & Healthcare	61.0	[59.3, 64.1]
Sanitation & Hygiene	49.4	[42.7, 57.4]
Housing & Energy	64.5	[51.7, 68.2]
Education	74.9	[72.4, 76.2]
Agricultural Assets	69.2	[67.7, 69.7]
Non-agricultural Assets	51.7	[40.1, 61.1]
Exposure & Resilience to Shocks	49.7	[49, 49.8]
Gender Equality	82.0	[75.5, 94.9]

Number of MPAT components

Above 60 points	7
In-between	3
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	61.2 [58.6, 61.4]
Domestic Water Supply	Quality	53.0 [49, 54]
	Availability	86.5 [86.5, 86.5]
	Access	86.5 [86.5, 86.5]
Health & Healthcare	Status	86.6 [86, 95]
	Access	78.6 [73, 91]
	Quality	28.0 [28, 28]
Sanitation & Hygiene	Toilet Facilities	68.7 [50, 70]
	Waste Management	24.4 [23, 44]
	Practices	57.9 [56, 80]
Housing & Energy	Quality	60.9 [52.5, 61.5]
	Facilities	69.0 [33.3, 80]
	Energy	66.0 [66, 66]
Education	Quality	70.0 [70, 70]
	Availability	84.0 [84, 84]
	Access	71.7 [65, 75]
Agricultural Assets	Land Tenure	79.7 [74.8, 81.3]
	Quality	75.8 [75.8, 75.8]
	Inputs	55.3 [55.3, 55.3]
Non-Agricultural Assets	Skills	36.5 [25, 42.5]
	Services	66.1 [55.5, 100]
	Assets	65.8 [47.5, 82.5]
Exposure & Resilience to Shocks	Exposure	22.5 [22.5, 22.5]
	Coping ability	77.3 [74.2, 77.5]
	Recovery ability	71.3 [71.3, 71.3]
Gender Equality	Food	49.7 [30, 100]
	Education	100.0 [100, 100]
	Healthcare	85.0 [85, 85]

Number of MPAT subcomponents

Above 60 points	22
In-between	5
Below 30 points	3

1107 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	25	[16, 40]
Average respondent's age (years)	42	[35, 50]
Average Head HH age (years)	42	[38, 50]

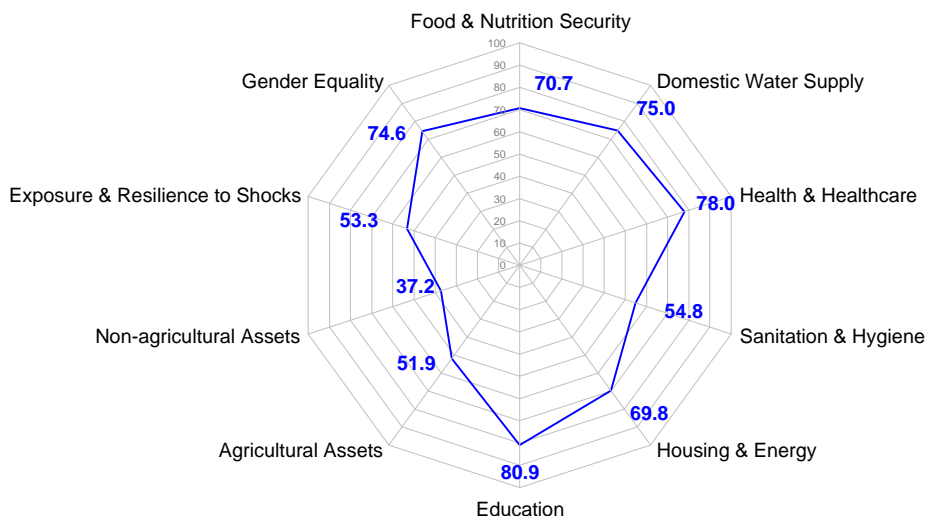
Gender statistics

Male respondents	15	100%
Female respondents	0	0%
Male Headed households	15	100%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	14	93%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	70.7	[59.4, 81.7]
Domestic Water Supply	75.0	[67.4, 80.6]
Health & Healthcare	78.0	[75.1, 83.9]
Sanitation & Hygiene	54.8	[46, 66.8]
Housing & Energy	69.8	[53.5, 72.4]
Education	80.9	[77, 85.3]
Agricultural Assets	51.9	[46.2, 53.6]
Non-agricultural Assets	37.2	[29.1, 44.3]
Exposure & Resilience to Shocks	53.3	[49, 54.5]
Gender Equality	74.6	[61.8, 83.2]

Number of MPAT components

Above 60 points	6
In-between	4
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	76.6 [71, 80]
	Access Stability	79.4 [48, 100]
	Nutrition Quality	55.1 [45.7, 64.3]
Domestic Water Supply	Quality	83.9 [68.3, 91.3]
	Availability	66.7 [59, 76.5]
	Access	79.2 [59, 86.5]
Health & Healthcare	Status	79.3 [78.5, 82.5]
	Access	77.2 [67, 91]
	Quality	77.5 [77.5, 77.5]
Sanitation & Hygiene	Toilet Facilities	86.8 [82, 88]
	Waste Management	41.1 [41, 42]
	Practices	41.3 [26, 70]
Housing & Energy	Quality	68.4 [58, 70]
	Facilities	75.9 [40, 82]
	Energy	66.0 [66, 66]
Education	Quality	70.0 [70, 70]
	Availability	97.0 [97, 97]
	Access	77.9 [67.5, 90]
Agricultural Assets	Land Tenure	81.3 [65, 84.8]
	Quality	41.0 [41, 41]
	Inputs	41.0 [29.1, 43.8]
Non-Agricultural Assets	Skills	30.5 [30, 37.5]
	Services	39.8 [35.3, 50.8]
	Assets	45.7 [20, 47.5]
Exposure & Resilience to Shocks	Exposure	30.0 [30, 30]
	Coping ability	74.8 [61.7, 76.7]
	Recovery ability	67.8 [63.8, 72.2]
Gender Equality	Food	72.0 [70, 100]
	Education	84.8 [82, 94]
	Healthcare	68.0 [40, 70]

Number of MPAT subcomponents

Above 60 points	21
In-between	9
Below 30 points	0

1108 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	21	[20, 30]
Average respondent's age (years)	46	[33, 64]
Average Head HH age (years)	45	[33, 64]

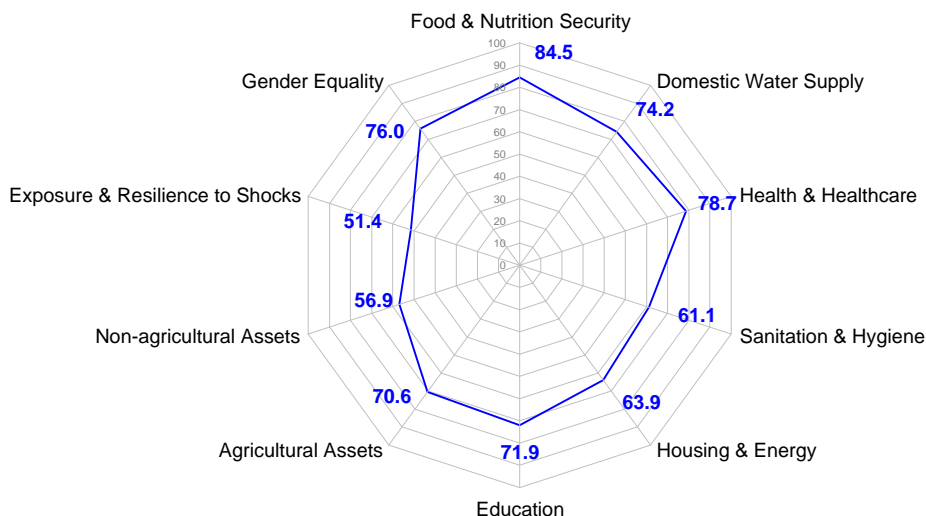
Gender statistics

Male respondents	15	100%
Female respondents	0	0%
Male Headed households	16	107%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	13	87%
Single	0	0%
Divorced	0	0%
Widowed	1	7%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	84.5	[78.9, 88.2]
Domestic Water Supply	74.2	[60.5, 88.8]
Health & Healthcare	78.7	[66.3, 86.4]
Sanitation & Hygiene	61.1	[32.8, 74.7]
Housing & Energy	63.9	[48.6, 80.5]
Education	71.9	[64.8, 76.1]
Agricultural Assets	70.6	[60.4, 79.5]
Non-agricultural Assets	56.9	[44.3, 74.8]
Exposure & Resilience to Shocks	51.4	[40.1, 65.4]
Gender Equality	76.0	[59.6, 92.9]

Number of MPAT components

Above 60 points	8
In-between	2
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	99.3 [88, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	48.8 [35.7, 62.9]
Domestic Water Supply	Quality	73.9 [61.4, 91.3]
	Availability	74.5 [51.5, 100]
	Access	76.0 [67.8, 86.5]
Health & Healthcare	Status	91.9 [81, 100]
	Access	60.9 [35.7, 72]
	Quality	89.5 [89.5, 89.5]
Sanitation & Hygiene	Toilet Facilities	79.1 [30, 100]
	Waste Management	71.8 [65, 80]
	Practices	43.5 [12, 60]
Housing & Energy	Quality	60.9 [40.5, 100]
	Facilities	66.1 [33.3, 73]
	Energy	67.3 [66, 86]
Education	Quality	70.0 [70, 70]
	Availability	68.5 [68.5, 68.5]
	Access	77.3 [57.5, 90]
Agricultural Assets	Land Tenure	79.3 [77.8, 81.3]
	Quality	75.4 [70.5, 75.8]
	Inputs	59.6 [36.6, 85]
Non-Agricultural Assets	Skills	62.2 [30, 100]
	Services	46.9 [28.5, 72.3]
	Assets	66.3 [47.5, 82.5]
Exposure & Resilience to Shocks	Exposure	29.8 [17.5, 52.5]
	Coping ability	75.8 [67.5, 82.5]
	Recovery ability	62.9 [47.8, 85.5]
Gender Equality	Food	61.9 [30, 100]
	Education	93.0 [78, 100]
	Healthcare	78.8 [45, 100]

Number of MPAT subcomponents

Above 60 points	25
In-between	4
Below 30 points	1

1109 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	30	[30, 30]
Average respondent's age (years)	44	[30, 59]
Average Head HH age (years)	45	[30, 59]

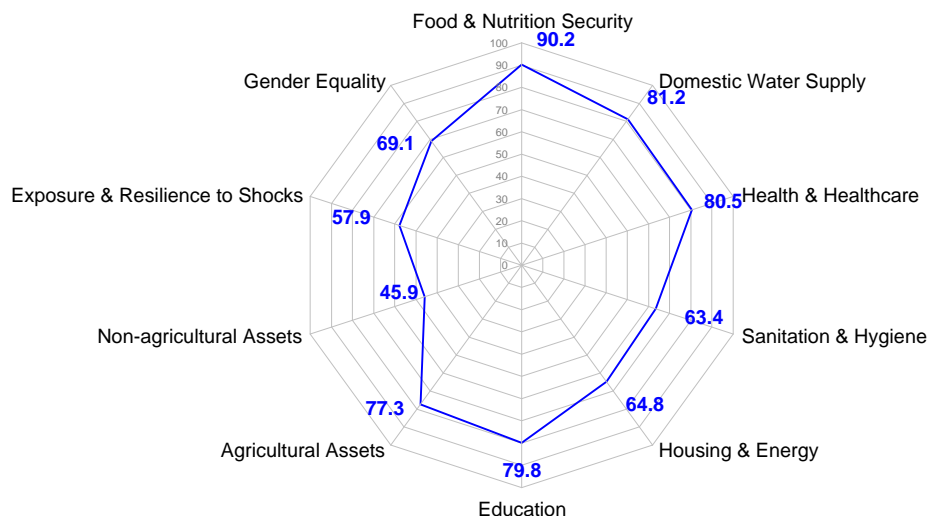
Gender statistics

Male respondents	15	100%
Female respondents	0	0%
Male Headed households	15	100%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	15	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	90.2	[90.2, 90.2]
Domestic Water Supply	81.2	[75.8, 86.6]
Health & Healthcare	80.5	[76.7, 84.4]
Sanitation & Hygiene	63.4	[56.3, 71.8]
Housing & Energy	64.8	[58.4, 66.5]
Education	79.8	[78.9, 81.4]
Agricultural Assets	77.3	[66.2, 84.9]
Non-agricultural Assets	45.9	[36.3, 52.4]
Exposure & Resilience to Shocks	57.9	[54.9, 62.9]
Gender Equality	69.1	[61.5, 80.2]

Number of MPAT components

Above 60 points	8
In-between	2
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	62.9 [62.9, 62.9]
Domestic Water Supply	Quality	60.5 [54, 72]
	Availability	96.3 [73, 100]
	Access	87.4 [86.5, 100]
Health & Healthcare	Status	96.8 [88, 100]
	Access	71.5 [60, 79]
	Quality	73.3 [73.3, 73.3]
Sanitation & Hygiene	Toilet Facilities	71.9 [50, 88]
	Waste Management	60.6 [59, 66]
	Practices	57.9 [44, 70]
Housing & Energy	Quality	60.4 [45, 61.5]
	Facilities	70.3 [59, 74]
	Energy	65.6 [60, 66]
Education	Quality	70.0 [70, 70]
	Availability	84.0 [84, 84]
	Access	85.4 [82.5, 90]
Agricultural Assets	Land Tenure	79.2 [77.8, 81.3]
	Quality	85.1 [75.8, 88]
	Inputs	70.3 [41.6, 85.9]
Non-Agricultural Assets	Skills	31.0 [30, 37.5]
	Services	53.8 [36, 72.3]
	Assets	66.2 [47.5, 77.5]
Exposure & Resilience to Shocks	Exposure	30.3 [25, 37.5]
	Coping ability	71.8 [64.2, 83]
	Recovery ability	90.0 [90, 90]
Gender Equality	Food	45.3 [40, 60]
	Education	98.6 [82, 100]
	Healthcare	72.0 [70, 85]

Number of MPAT subcomponents

Above 60 points	25
In-between	5
Below 30 points	0

1110 in China

General information

Number of households interviewed	14	[min, max] within village
Average survey time (min)	57	[25, 104]
Average respondent's age (years)	44	[28, 58]
Average Head HH age (years)	46	[34, 58]

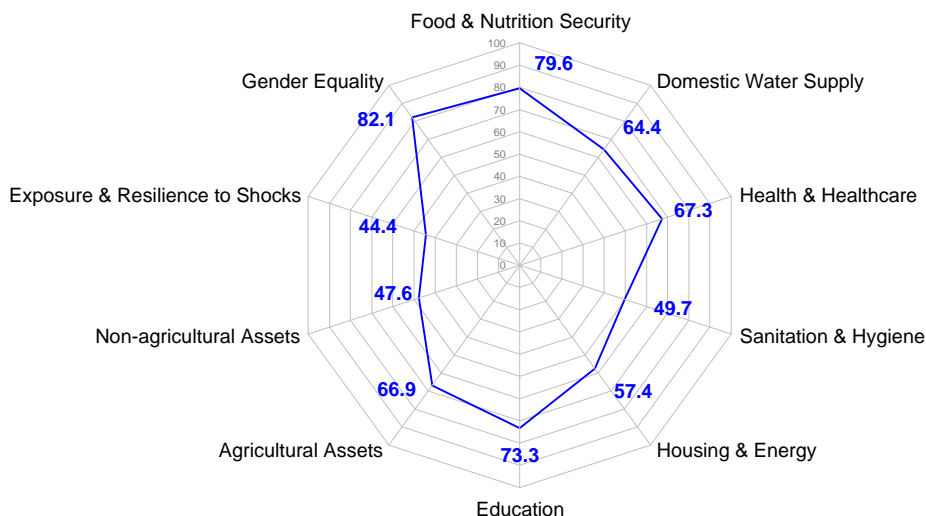
Gender statistics

Male respondents	9	64%
Female respondents	3	21%
Male Headed households	5	36%
Female Headed households	0	0%
Female & Male Headed households	7	50%

Head of household's marital status

Married	13	93%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	79.6	[64.7, 85.5]
Domestic Water Supply	64.4	[45.4, 78.3]
Health & Healthcare	67.3	[50.8, 79.6]
Sanitation & Hygiene	49.7	[37.3, 60.9]
Housing & Energy	57.4	[39.9, 70.9]
Education	73.3	[67, 79.5]
Agricultural Assets	66.9	[55.7, 73.6]
Non-agricultural Assets	47.6	[41.9, 61.4]
Exposure & Resilience to Shocks	44.4	[33.2, 53.6]
Gender Equality	82.1	[67.5, 94.9]

Number of MPAT components

Above 60 points	6
In-between	4
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	95.3 [74, 100]
	Access Stability	91.4 [61.5, 100]
	Nutrition Quality	47.3 [37.1, 58.6]
Domestic Water Supply	Quality	59.6 [40, 86.5]
	Availability	60.1 [21.5, 86.5]
	Access	79.4 [70, 86.5]
Health & Healthcare	Status	92.1 [86, 95]
	Access	57.5 [27.1, 88]
	Quality	55.6 [55.6, 55.6]
Sanitation & Hygiene	Toilet Facilities	70.9 [50, 88]
	Waste Management	68.4 [65, 83]
	Practices	27.6 [18, 44]
Housing & Energy	Quality	49.5 [23, 79]
	Facilities	64.2 [30, 80]
	Energy	66.0 [66, 66]
Education	Quality	70.0 [70, 70]
	Availability	76.0 [76, 76]
	Access	74.4 [57.5, 92.5]
Agricultural Assets	Land Tenure	80.4 [72.5, 84.8]
	Quality	77.4 [70.5, 82.8]
	Inputs	49.6 [27.8, 64.1]
Non-Agricultural Assets	Skills	44.1 [30, 62.5]
	Services	53.6 [34.8, 72.3]
	Assets	50.0 [47.5, 67.5]
Exposure & Resilience to Shocks	Exposure	29.3 [22.5, 37.5]
	Coping ability	68.2 [45.8, 80]
	Recovery ability	45.7 [26, 58.8]
Gender Equality	Food	75.8 [40, 100]
	Education	100.0 [100, 100]
	Healthcare	65.0 [60, 85]

Number of MPAT subcomponents

Above 60 points	18
In-between	10
Below 30 points	2

1111 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	30	[30, 35]
Average respondent's age (years)	43	[34, 57]
Average Head HH age (years)	43	[34, 57]

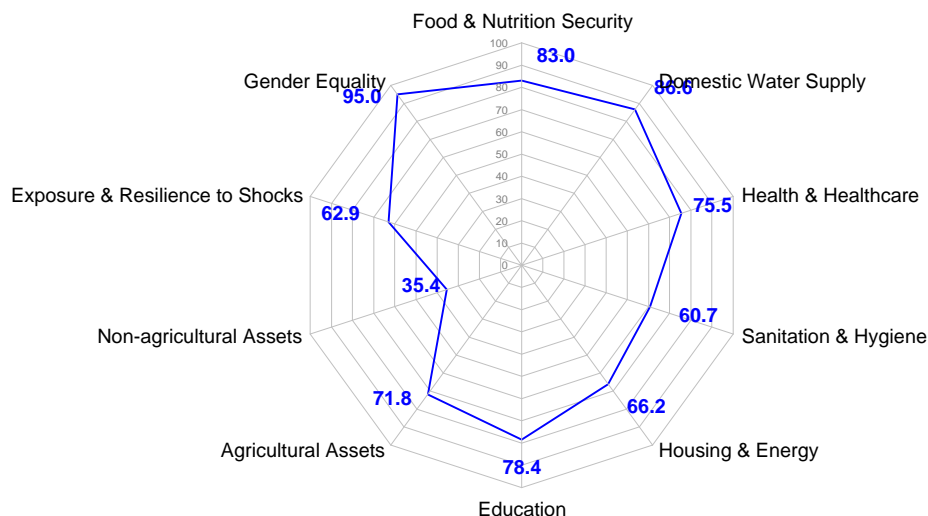
Gender statistics

Male respondents	15	100%
Female respondents	0	0%
Male Headed households	15	100%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	15	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	83.0	[83, 83]
Domestic Water Supply	86.6	[86.6, 86.6]
Health & Healthcare	75.5	[70.9, 76.6]
Sanitation & Hygiene	60.7	[55.2, 62.4]
Housing & Energy	66.2	[66.2, 66.2]
Education	78.4	[78.4, 78.4]
Agricultural Assets	71.8	[70.7, 74.2]
Non-agricultural Assets	35.4	[33.8, 43.3]
Exposure & Resilience to Shocks	62.9	[55.3, 68.6]
Gender Equality	95.0	[79.6, 100]

Number of MPAT components

Above 60 points	9
In-between	1
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households			
		Average	[min, max]
Food & Nutrition Security	Consumption	100.0	[100, 100]
	Access Stability	100.0	[100, 100]
	Nutrition Quality	44.3	[44.3, 44.3]
Domestic Water Supply	Quality	72.0	[72, 72]
	Availability	100.0	[100, 100]
	Access	86.5	[86.5, 86.5]
Health & Healthcare	Status	89.7	[74, 96.5]
	Access	62.8	[58, 64]
	Quality	76.0	[76, 76]
Sanitation & Hygiene	Toilet Facilities	70.0	[70, 70]
	Waste Management	64.0	[44, 71]
	Practices	50.0	[50, 50]
Housing & Energy	Quality	61.5	[61.5, 61.5]
	Facilities	73.0	[73, 73]
	Energy	66.0	[66, 66]
Education	Quality	70.0	[70, 70]
	Availability	75.0	[75, 75]
	Access	90.0	[90, 90]
Agricultural Assets	Land Tenure	81.0	[77.8, 84.8]
	Quality	75.8	[75.8, 75.8]
	Inputs	60.5	[60.3, 63.8]
Non-Agricultural Assets	Skills	25.3	[25, 30]
	Services	38.5	[36, 50]
	Assets	51.5	[47.5, 77.5]
Exposure & Resilience to Shocks	Exposure	45.3	[25, 57.5]
	Coping ability	75.5	[74.2, 75.8]
	Recovery ability	74.9	[58.8, 90]
Gender Equality	Food	71.7	[40, 100]
	Education	98.5	[96, 100]
	Healthcare	95.0	[85, 100]

Number of MPAT subcomponents

Above 60 points	24
In-between	5
Below 30 points	1

3133 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	42	[27, 69]
Average respondent's age (years)	41	[30, 59]
Average Head HH age (years)	43	[30, 58]

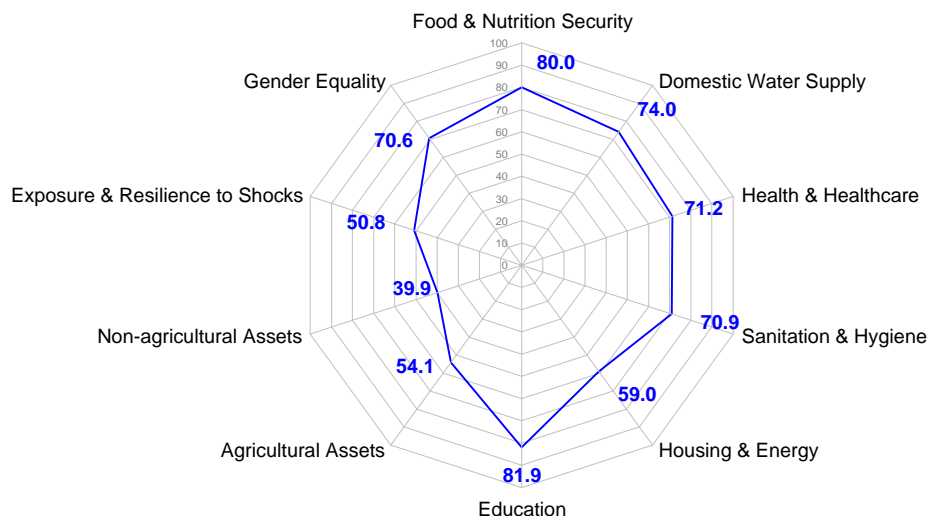
Gender statistics

Male respondents	6	40%
Female respondents	7	47%
Male Headed households	10	67%
Female Headed households	2	13%
Female & Male Headed households	0	0%

Head of household's marital status

Married	9	60%
Single	0	0%
Divorced	0	0%
Widowed	2	13%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	80.0	[66.7, 86.5]
Domestic Water Supply	74.0	[63.7, 82.5]
Health & Healthcare	71.2	[63.1, 78.1]
Sanitation & Hygiene	70.9	[58.3, 76.9]
Housing & Energy	59.0	[50.5, 62.7]
Education	81.9	[68.5, 84.4]
Agricultural Assets	54.1	[41.6, 60.5]
Non-agricultural Assets	39.9	[32.2, 51.2]
Exposure & Resilience to Shocks	50.8	[34.1, 65.2]
Gender Equality	70.6	[52, 94.9]

Number of MPAT components

Above 60 points	6
In-between	4
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	94.3 [62, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	41.0 [14.3, 52.9]
Domestic Water Supply	Quality	87.4 [77.3, 91.3]
	Availability	63.7 [50, 86.5]
	Access	77.5 [59.5, 84.3]
Health & Healthcare	Status	73.8 [72.5, 81.5]
	Access	58.7 [42, 75]
	Quality	87.5 [87.5, 87.5]
Sanitation & Hygiene	Toilet Facilities	71.3 [50, 82]
	Waste Management	67.3 [56.9, 71]
	Practices	74.3 [62, 76]
Housing & Energy	Quality	49.9 [40.5, 61.5]
	Facilities	69.5 [40, 75]
	Energy	63.6 [62, 66]
Education	Quality	70.0 [70, 70]
	Availability	100.0 [100, 100]
	Access	78.8 [47.5, 85]
Agricultural Assets	Land Tenure	64.2 [59.3, 71.5]
	Quality	58.3 [58.3, 58.3]
	Inputs	43.5 [20.3, 60.3]
Non-Agricultural Assets	Skills	34.0 [25, 57.5]
	Services	44.5 [31, 53.8]
	Assets	47.5 [47.5, 47.5]
Exposure & Resilience to Shocks	Exposure	32.8 [22.5, 55]
	Coping ability	70.1 [43.3, 76.7]
	Recovery ability	61.0 [24, 76.5]
Gender Equality	Food	51.4 [40, 100]
	Education	79.5 [38, 100]
	Healthcare	85.0 [70, 100]

Number of MPAT subcomponents

Above 60 points	20
In-between	10
Below 30 points	0

3134 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	31	[26, 38]
Average respondent's age (years)	38	[25, 64]
Average Head HH age (years)	39	[22, 65]

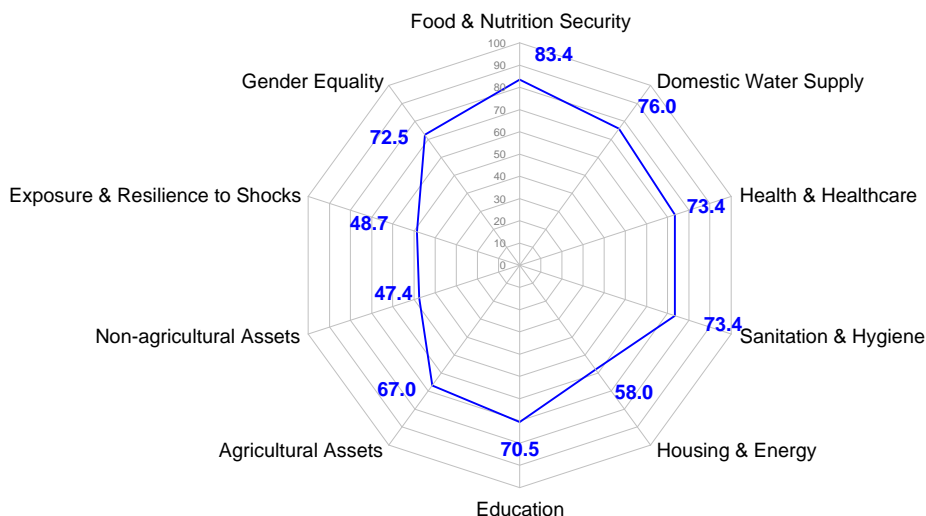
Gender statistics

Male respondents	5	33%
Female respondents	9	60%
Male Headed households	13	87%
Female Headed households	1	7%
Female & Male Headed households	0	0%

Head of household's marital status

Married	14	93%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	83.4	[66.1, 95.4]
Domestic Water Supply	76.0	[72.3, 83.9]
Health & Healthcare	73.4	[61.9, 85.5]
Sanitation & Hygiene	73.4	[64.1, 84]
Housing & Energy	58.0	[50.1, 62]
Education	70.5	[70.5, 70.5]
Agricultural Assets	67.0	[61.2, 71.4]
Non-agricultural Assets	47.4	[34.3, 62.4]
Exposure & Resilience to Shocks	48.7	[43.3, 59.5]
Gender Equality	72.5	[58.1, 88.3]

Number of MPAT components

Above 60 points	7
In-between	3
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	97.5 [62, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	48.6 [41.4, 80]
Domestic Water Supply	Quality	67.9 [63, 75.3]
	Availability	79.6 [77.5, 100]
	Access	79.9 [75.3, 100]
Health & Healthcare	Status	73.9 [51.5, 100]
	Access	67.5 [54, 93]
	Quality	82.0 [82, 82]
Sanitation & Hygiene	Toilet Facilities	86.0 [82, 88]
	Waste Management	50.4 [44, 65]
	Practices	82.3 [50, 96]
Housing & Energy	Quality	44.2 [30, 51]
	Facilities	74.1 [61, 82]
	Energy	65.7 [62, 66]
Education	Quality	70.0 [70, 70]
	Availability	58.0 [58, 58]
	Access	85.0 [85, 85]
Agricultural Assets	Land Tenure	65.8 [62.8, 71.5]
	Quality	57.3 [53, 65.3]
	Inputs	78.8 [62.5, 90]
Non-Agricultural Assets	Skills	41.7 [15, 57.5]
	Services	51.3 [32.7, 72.3]
	Assets	56.8 [47.5, 82.5]
Exposure & Resilience to Shocks	Exposure	23.8 [22.5, 40]
	Coping ability	77.5 [75.8, 83.3]
	Recovery ability	63.8 [47.8, 80.3]
Gender Equality	Food	49.6 [30, 100]
	Education	77.1 [50, 100]
	Healthcare	100.0 [100, 100]

Number of MPAT subcomponents

Above 60 points	20
In-between	9
Below 30 points	1

3135 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	38	[23, 49]
Average respondent's age (years)	45	[18, 70]
Average Head HH age (years)	47	[31, 70]

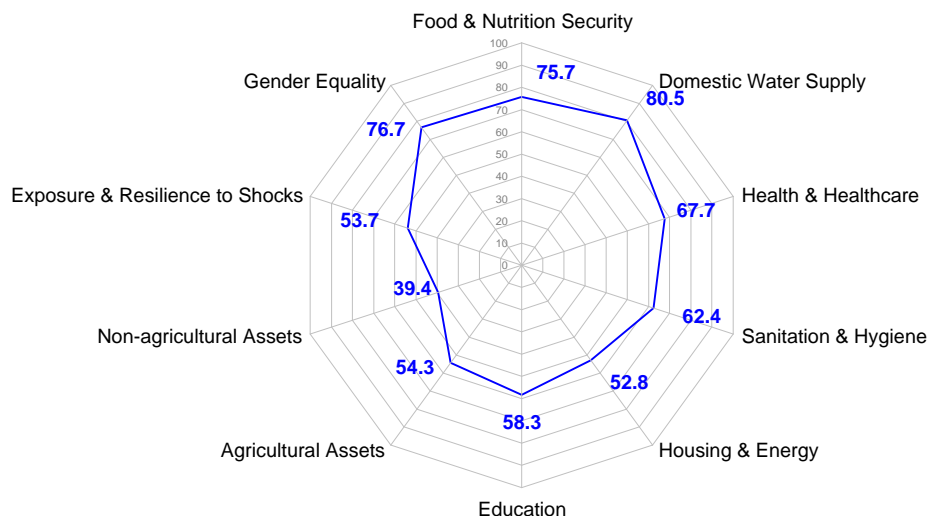
Gender statistics

Male respondents	8	53%
Female respondents	6	40%
Male Headed households	12	80%
Female Headed households	2	13%
Female & Male Headed households	0	0%

Head of household's marital status

Married	11	73%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	75.7	[54, 86.5]
Domestic Water Supply	80.5	[55, 91.2]
Health & Healthcare	67.7	[57.7, 78.6]
Sanitation & Hygiene	62.4	[28.5, 75.2]
Housing & Energy	52.8	[40.5, 65.9]
Education	58.3	[49.8, 63.9]
Agricultural Assets	54.3	[41.1, 62.3]
Non-agricultural Assets	39.4	[32.2, 59.8]
Exposure & Resilience to Shocks	53.7	[35.5, 66.7]
Gender Equality	76.7	[53.8, 94.9]

Number of MPAT components

Above 60 points	5
In-between	5
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	92.5 [70, 100]
	Access Stability	92.9 [50.5, 100]
	Nutrition Quality	40.2 [13.3, 52.9]
Domestic Water Supply	Quality	72.3 [64.3, 75]
	Availability	87.5 [38, 100]
	Access	87.0 [70, 100]
Health & Healthcare	Status	75.6 [54.5, 91.5]
	Access	49.0 [35, 64]
	Quality	89.5 [89.5, 89.5]
Sanitation & Hygiene	Toilet Facilities	60.3 [10, 82]
	Waste Management	56.5 [23, 71]
	Practices	74.3 [62, 96]
Housing & Energy	Quality	41.2 [30, 61.5]
	Facilities	66.4 [26, 83.8]
	Energy	61.6 [36, 66]
Education	Quality	70.0 [70, 70]
	Availability	43.0 [43, 43]
	Access	67.1 [42.5, 85]
Agricultural Assets	Land Tenure	67.9 [62.8, 71.5]
	Quality	59.7 [57.5, 75.8]
	Inputs	41.0 [18.1, 57.5]
Non-Agricultural Assets	Skills	29.7 [25, 57.5]
	Services	44.3 [31, 55.5]
	Assets	52.8 [47.5, 82.5]
Exposure & Resilience to Shocks	Exposure	38.2 [22.5, 65]
	Coping ability	67.1 [45.8, 75.8]
	Recovery ability	63.8 [32.5, 85]
Gender Equality	Food	52.5 [30, 100]
	Education	89.7 [38, 100]
	Healthcare	81.0 [70, 100]

Number of MPAT subcomponents

Above 60 points	18
In-between	11
Below 30 points	1

3136 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	38	[23, 89]
Average respondent's age (years)	40	[18, 61]
Average Head HH age (years)	50	[23, 72]

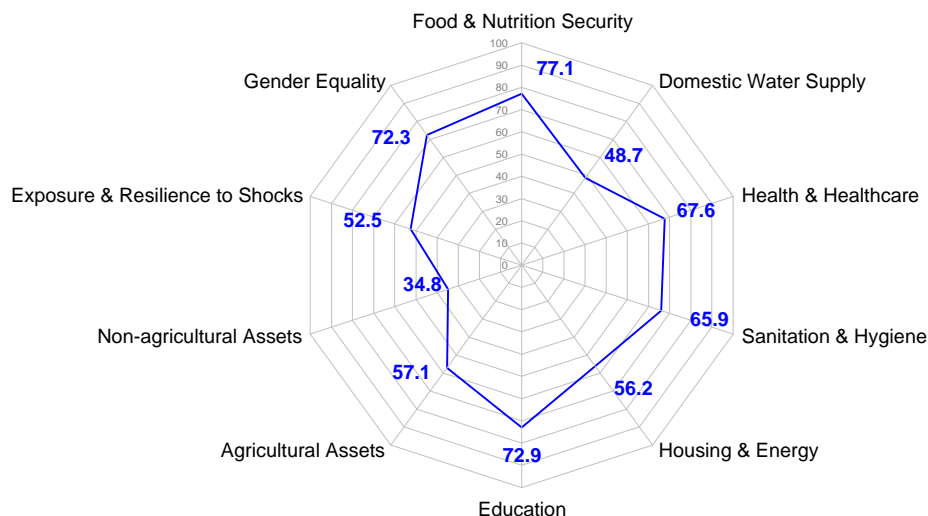
Gender statistics

Male respondents	9	60%
Female respondents	4	27%
Male Headed households	12	80%
Female Headed households	1	7%
Female & Male Headed households	0	0%

Head of household's marital status

Married	11	73%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	77.1	[54, 83.6]
Domestic Water Supply	48.7	[37.4, 59.7]
Health & Healthcare	67.6	[58.6, 78.7]
Sanitation & Hygiene	65.9	[58.1, 72.7]
Housing & Energy	56.2	[46.3, 66.8]
Education	72.9	[53.9, 80.9]
Agricultural Assets	57.1	[52.5, 62.1]
Non-agricultural Assets	34.8	[27.8, 52.9]
Exposure & Resilience to Shocks	52.5	[44, 67.5]
Gender Equality	72.3	[60.5, 80.2]

Number of MPAT components

Above 60 points	5
In-between	5
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	88.5 [50, 100]
	Access Stability	98.0 [70, 100]
	Nutrition Quality	42.6 [40, 45.7]
Domestic Water Supply	Quality	66.4 [52, 68]
	Availability	62.8 [35.5, 73]
	Access	29.1 [19, 45]
Health & Healthcare	Status	73.2 [54.5, 83.3]
	Access	47.3 [33, 72]
	Quality	98.0 [98, 98]
Sanitation & Hygiene	Toilet Facilities	69.5 [50, 82]
	Waste Management	53.5 [44, 57]
	Practices	74.5 [64, 96]
Housing & Energy	Quality	44.1 [30, 61.5]
	Facilities	69.4 [61, 75]
	Energy	64.7 [62, 66]
Education	Quality	70.0 [70, 70]
	Availability	97.0 [97, 97]
	Access	60.5 [25, 77.5]
Agricultural Assets	Land Tenure	64.2 [59.3, 75]
	Quality	58.3 [58.3, 58.3]
	Inputs	50.5 [40, 65]
Non-Agricultural Assets	Skills	26.8 [15, 62.5]
	Services	36.9 [31, 47.7]
	Assets	48.5 [47.5, 62.5]
Exposure & Resilience to Shocks	Exposure	30.3 [17.5, 55]
	Coping ability	73.8 [56.7, 79.2]
	Recovery ability	68.6 [58.3, 76.9]
Gender Equality	Food	45.0 [30, 60]
	Education	94.0 [70, 100]
	Healthcare	85.3 [70, 100]

Number of MPAT subcomponents

Above 60 points	18
In-between	10
Below 30 points	2

3137 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	26	[20, 32]
Average respondent's age (years)	43	[14, 75]
Average Head HH age (years)	45	[28, 75]

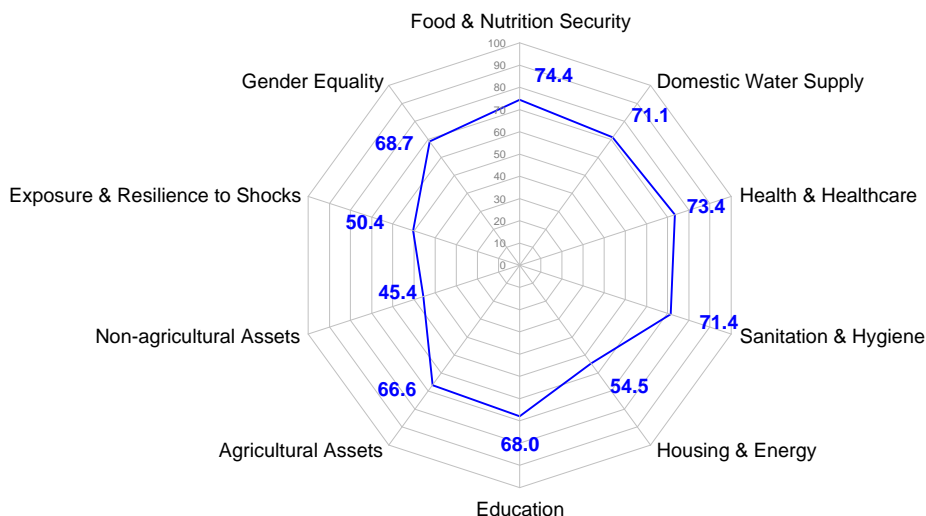
Gender statistics

Male respondents	14	93%
Female respondents	0	0%
Male Headed households	14	93%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	12	80%
Single	1	7%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	74.4	[66.1, 86.5]
Domestic Water Supply	71.1	[56.4, 76.2]
Health & Healthcare	73.4	[68.9, 81]
Sanitation & Hygiene	71.4	[64, 73.1]
Housing & Energy	54.5	[46.9, 63.7]
Education	68.0	[67.6, 69.7]
Agricultural Assets	66.6	[59.5, 73.1]
Non-agricultural Assets	45.4	[27.4, 57.7]
Exposure & Resilience to Shocks	50.4	[44.9, 55.4]
Gender Equality	68.7	[48.6, 100]

Number of MPAT components

Above 60 points	7
In-between	3
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	88.9 [62, 100]
	Access Stability	81.7 [72.5, 100]
	Nutrition Quality	46.9 [41.4, 68.6]
Domestic Water Supply	Quality	45.7 [34.5, 51.8]
	Availability	91.8 [77.5, 100]
	Access	79.6 [45, 84.3]
Health & Healthcare	Status	77.0 [68.5, 96.5]
	Access	64.3 [57, 67]
	Quality	81.5 [81.5, 81.5]
Sanitation & Hygiene	Toilet Facilities	83.1 [64, 88]
	Waste Management	44.0 [44, 44]
	Practices	85.9 [84, 86]
Housing & Energy	Quality	38.6 [24, 51]
	Facilities	72.7 [61, 82]
	Energy	66.0 [66, 66]
Education	Quality	70.0 [70, 70]
	Availability	51.0 [51, 51]
	Access	86.4 [85, 92.5]
Agricultural Assets	Land Tenure	60.1 [59.3, 68]
	Quality	56.9 [53, 70.5]
	Inputs	85.7 [66.3, 93.4]
Non-Agricultural Assets	Skills	49.8 [25, 100]
	Services	37.4 [26.9, 55.5]
	Assets	55.8 [20, 82.5]
Exposure & Resilience to Shocks	Exposure	26.8 [22.5, 37.5]
	Coping ability	78.8 [75, 83]
	Recovery ability	61.5 [47.8, 71.8]
Gender Equality	Food	48.0 [30, 100]
	Education	75.3 [30, 100]
	Healthcare	94.3 [55, 100]

Number of MPAT subcomponents

Above 60 points	19
In-between	10
Below 30 points	1

3138 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	27	[24, 32]
Average respondent's age (years)	39	[17, 77]
Average Head HH age (years)	44	[30, 85]

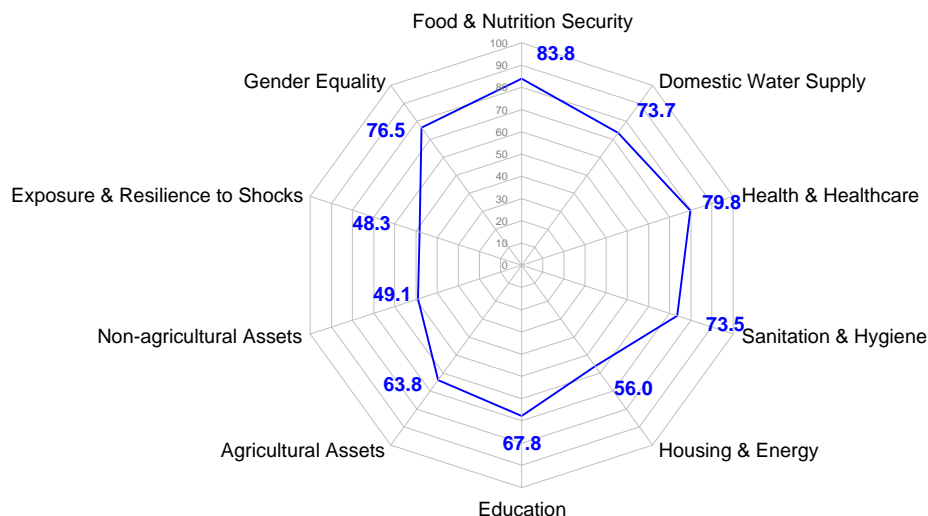
Gender statistics

Male respondents	11	73%
Female respondents	4	27%
Male Headed households	15	100%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	14	93%
Single	0	0%
Divorced	0	0%
Widowed	1	7%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	83.8	[81.7, 89.2]
Domestic Water Supply	73.7	[64.3, 83.9]
Health & Healthcare	79.8	[74.4, 85.2]
Sanitation & Hygiene	73.5	[69.5, 78.6]
Housing & Energy	56.0	[42.9, 63.7]
Education	67.8	[65.8, 70.5]
Agricultural Assets	63.8	[55.4, 68.1]
Non-agricultural Assets	49.1	[32.7, 61.2]
Exposure & Resilience to Shocks	48.3	[44.1, 54.5]
Gender Equality	76.5	[66.4, 92.5]

Number of MPAT components

Above 60 points	7
In-between	3
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

		Average	[min, max]
Food & Nutrition Security	Consumption	100.0	[100, 100]
	Access Stability	100.0	[100, 100]
	Nutrition Quality	46.5	[41.4, 60]
Domestic Water Supply	Quality	67.7	[58, 75.3]
	Availability	78.4	[73, 100]
	Access	74.8	[45, 84.3]
Health & Healthcare	Status	81.4	[68.5, 91.5]
	Access	71.5	[64, 76]
	Quality	89.5	[89.5, 89.5]
Sanitation & Hygiene	Toilet Facilities	85.6	[70, 88]
	Waste Management	45.4	[44, 65]
	Practices	88.5	[86, 96]
Housing & Energy	Quality	41.8	[24, 51]
	Facilities	71.3	[61, 82]
	Energy	66.0	[66, 66]
Education	Quality	70.0	[70, 70]
	Availability	58.0	[58, 58]
	Access	76.1	[70, 85]
Agricultural Assets	Land Tenure	64.9	[62.8, 68]
	Quality	54.4	[53, 58.3]
	Inputs	73.1	[50.9, 85]
Non-Agricultural Assets	Skills	48.8	[25, 57.5]
	Services	43.3	[26.9, 54.3]
	Assets	61.8	[47.5, 82.5]
Exposure & Resilience to Shocks	Exposure	25.0	[22.5, 42.5]
	Coping ability	77.2	[73.3, 83]
	Recovery ability	60.4	[42.2, 68.3]
Gender Equality	Food	60.8	[30, 100]
	Education	72.7	[42, 100]
	Healthcare	100.0	[100, 100]

Number of MPAT subcomponents

Above 60 points	22
In-between	7
Below 30 points	1

3139 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	36	[26, 45]
Average respondent's age (years)	47	[20, 80]
Average Head HH age (years)	48	[20, 72]

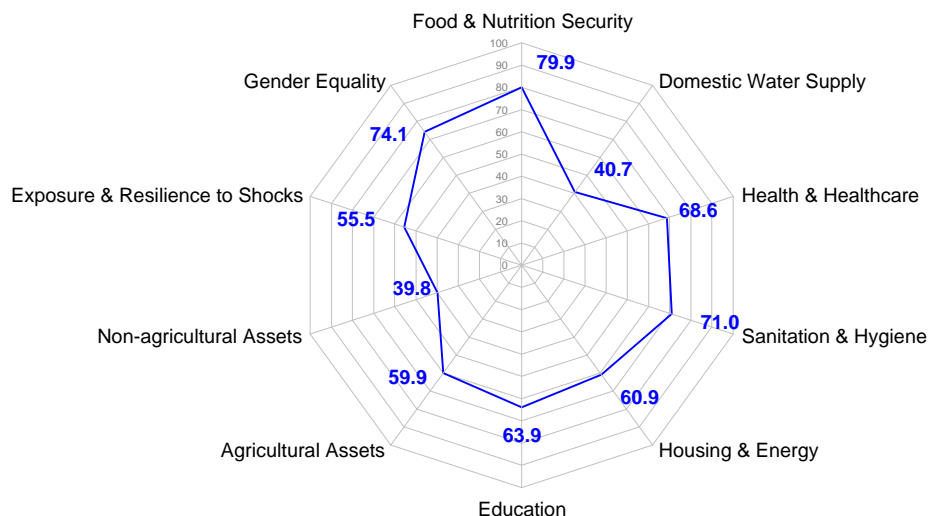
Gender statistics

Male respondents	7	47%
Female respondents	8	53%
Male Headed households	13	87%
Female Headed households	2	13%
Female & Male Headed households	0	0%

Head of household's marital status

Married	14	93%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	79.9	[59.3, 88.7]
Domestic Water Supply	40.7	[36.6, 49.8]
Health & Healthcare	68.6	[58, 77.5]
Sanitation & Hygiene	71.0	[51.2, 76.9]
Housing & Energy	60.9	[50.1, 72.5]
Education	63.9	[63.9, 63.9]
Agricultural Assets	59.9	[51.6, 73.2]
Non-agricultural Assets	39.8	[26.2, 66.9]
Exposure & Resilience to Shocks	55.5	[46.6, 71.3]
Gender Equality	74.1	[61.2, 80.2]

Number of MPAT components

Above 60 points	6
In-between	4
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	95.7 [70, 100]
	Access Stability	96.7 [50.5, 100]
	Nutrition Quality	43.7 [40, 58.6]
Domestic Water Supply	Quality	32.9 [32.3, 37.3]
	Availability	43.8 [35.5, 60]
	Access	45.8 [37, 59]
Health & Healthcare	Status	72.8 [63.5, 86.5]
	Access	56.2 [39, 66]
	Quality	82.0 [82, 82]
Sanitation & Hygiene	Toilet Facilities	78.0 [38, 88]
	Waste Management	58.1 [57, 71]
	Practices	74.5 [66, 76]
Housing & Energy	Quality	50.7 [30, 79]
	Facilities	73.6 [61, 82]
	Energy	65.3 [62, 66]
Education	Quality	70.0 [70, 70]
	Availability	43.0 [43, 43]
	Access	85.0 [85, 85]
Agricultural Assets	Land Tenure	59.3 [59.3, 59.3]
	Quality	70.0 [58.3, 88]
	Inputs	53.9 [36.6, 93.8]
Non-Agricultural Assets	Skills	34.7 [25, 62.5]
	Services	40.2 [31, 55.5]
	Assets	51.2 [20, 95]
Exposure & Resilience to Shocks	Exposure	37.5 [22.5, 67.5]
	Coping ability	69.7 [51.7, 76.7]
	Recovery ability	69.0 [53.5, 75.8]
Gender Equality	Food	48.0 [40, 60]
	Education	95.0 [50, 100]
	Healthcare	87.0 [70, 100]

Number of MPAT subcomponents

Above 60 points	15
In-between	15
Below 30 points	0

3140 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	27	[20, 45]
Average respondent's age (years)	42	[20, 65]
Average Head HH age (years)	45	[23, 65]

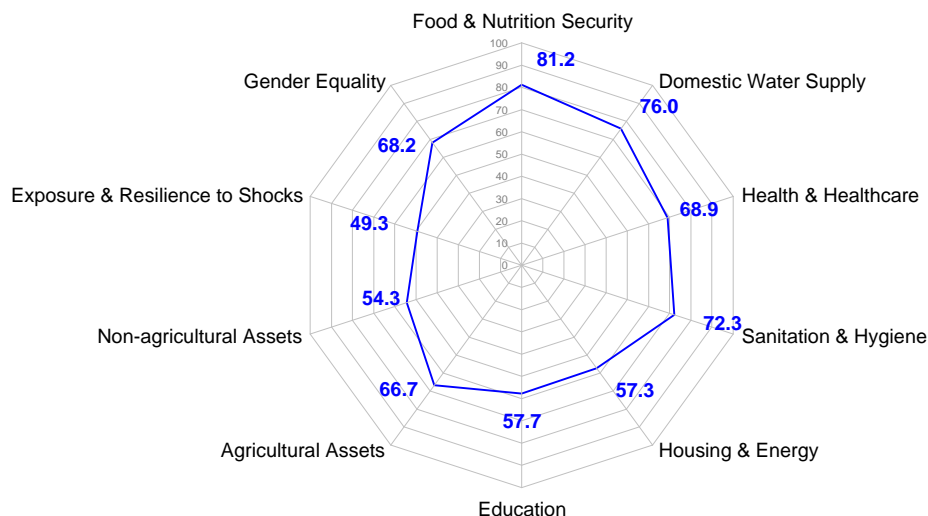
Gender statistics

Male respondents	8	53%
Female respondents	7	47%
Male Headed households	14	93%
Female Headed households	1	7%
Female & Male Headed households	0	0%

Head of household's marital status

Married	15	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	81.2	[70.3, 92]
Domestic Water Supply	76.0	[48.4, 84.6]
Health & Healthcare	68.9	[56.8, 76.7]
Sanitation & Hygiene	72.3	[58.6, 80.8]
Housing & Energy	57.3	[50.1, 62]
Education	57.7	[56.2, 60.2]
Agricultural Assets	66.7	[60.6, 72.6]
Non-agricultural Assets	54.3	[35, 72.3]
Exposure & Resilience to Shocks	49.3	[45.6, 64.8]
Gender Equality	68.2	[54.8, 76.9]

Number of MPAT components

Above 60 points	6
In-between	4
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	96.8 [88, 100]
	Access Stability	91.9 [61.5, 100]
	Nutrition Quality	49.0 [41.4, 68.6]
Domestic Water Supply	Quality	73.5 [72, 84.3]
	Availability	74.0 [25, 94]
	Access	82.8 [70, 86.5]
Health & Healthcare	Status	69.8 [46.2, 92.3]
	Access	50.9 [39, 66]
	Quality	100.0 [100, 100]
Sanitation & Hygiene	Toilet Facilities	80.7 [50, 88]
	Waste Management	48.2 [44, 65]
	Practices	87.2 [84, 96]
Housing & Energy	Quality	41.3 [30, 51]
	Facilities	77.2 [75, 87]
	Energy	66.0 [66, 66]
Education	Quality	70.0 [70, 70]
	Availability	36.0 [36, 36]
	Access	75.6 [70, 85]
Agricultural Assets	Land Tenure	67.4 [62.8, 71.5]
	Quality	54.4 [44.3, 58.3]
	Inputs	79.8 [62.5, 90]
Non-Agricultural Assets	Skills	51.0 [25, 57.5]
	Services	50.9 [26.9, 100]
	Assets	68.3 [47.5, 82.5]
Exposure & Resilience to Shocks	Exposure	24.7 [22.5, 55]
	Coping ability	77.8 [73, 81.7]
	Recovery ability	64.7 [51.8, 80.3]
Gender Equality	Food	42.0 [30, 55]
	Education	76.0 [38, 100]
	Healthcare	95.0 [67.5, 100]

Number of MPAT subcomponents

Above 60 points	20
In-between	9
Below 30 points	1

3449 in China

General information

Number of households interviewed	14	[min, max] within village
Average survey time (min)	35	[25, 55]
Average respondent's age (years)	47	[20, 78]
Average Head HH age (years)	49	[32, 78]

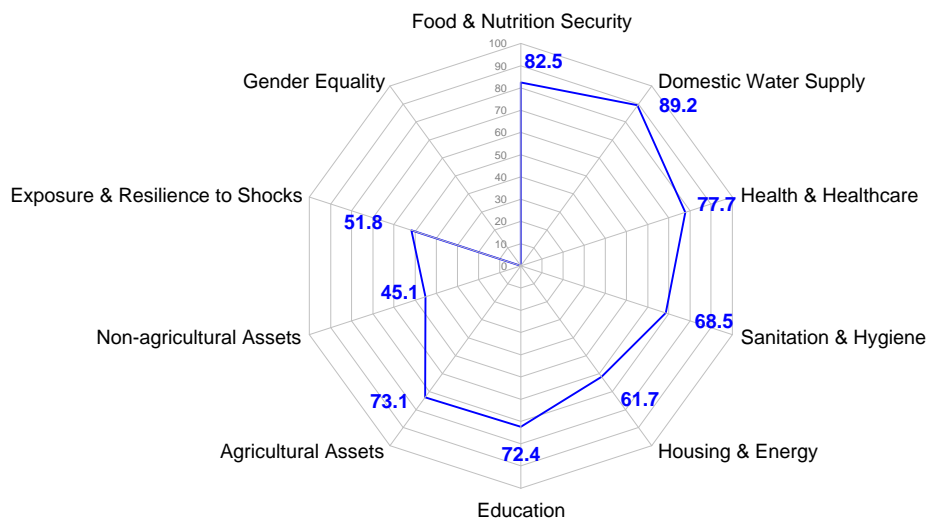
Gender statistics

Male respondents	9	64%
Female respondents	6	43%
Male Headed households	14	100%
Female Headed households	1	7%
Female & Male Headed households	0	0%

Head of household's marital status

Married	11	79%
Single	0	0%
Divorced	0	0%
Widowed	1	7%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	82.5	[68.8, 86.5]
Domestic Water Supply	89.2	[82.7, 92.8]
Health & Healthcare	77.7	[72.1, 83]
Sanitation & Hygiene	68.5	[57.2, 83.6]
Housing & Energy	61.7	[34.3, 83.2]
Education	72.4	[68.1, 73.4]
Agricultural assets	73.1	[62.7, 82.6]
Non-agricultural assets	45.1	[29.6, 59.8]
Exposure&Resilience to shocks	51.8	[41.6, 61.5]
Gender Equality		

Number of MPAT components

Above 60 points	7
In-between	2
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	43.7 [20, 52.9]
Domestic Water Supply	Quality	82.5 [61.5, 91]
	Availability	97.7 [77.5, 100]
	Access	86.5 [86.5, 86.5]
Health & Healthcare	Status	81.4 [66.5, 91.5]
	Access	74.8 [55, 83.5]
	Quality	77.5 [77.5, 77.5]
Sanitation & Hygiene	Toilet Facilities	80.8 [52, 100]
	Waste Management	45.2 [20, 71]
	Practices	82.0 [64, 96]
Housing & Energy	Quality	60.2 [24, 100]
	Facilities	65.5 [30, 89.5]
	Energy	64.0 [39, 66]
Education	Quality	60.0 [60, 60]
	Availability	69.0 [69, 69]
	Access	89.0 [75, 92.5]
Agricultural Assets	Land Tenure	70.6 [69, 72.5]
	Quality	75.0 [70.5, 88]
	Inputs	74.7 [48.8, 89.1]
Non-Agricultural Assets	Skills	41.0 [15, 57.5]
	Services	41.1 [15, 57.3]
	Assets	67.3 [47.5, 82.5]
Exposure & Resilience to Shocks	Exposure	33.7 [25, 42.5]
	Coping ability	76.0 [56, 100]
	Recovery ability	56.9 [22, 76.9]
Gender Equality	Food	
	Education	78.2 [38, 100]
	Healthcare	90.7 [60, 100]

Number of MPAT subcomponents

Above 60 points	23
In-between	6
Below 30 points	0

3450 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	33	[25, 47]
Average respondent's age (years)	44	[18, 80]
Average Head HH age (years)	48	[28, 80]

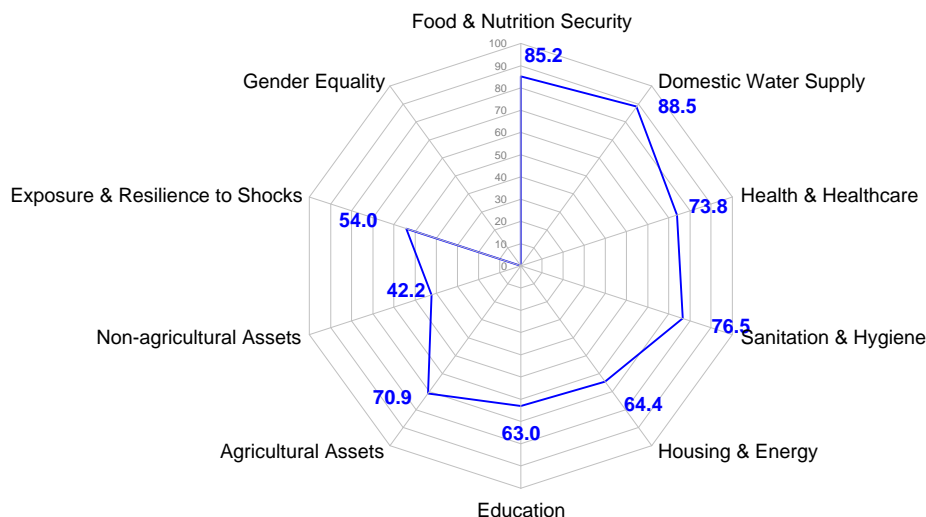
Gender statistics

Male respondents	8	53%
Female respondents	7	47%
Male Headed households	14	93%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	13	87%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	85.2	[81.7, 91.6]
Domestic Water Supply	88.5	[80, 92.5]
Health & Healthcare	73.8	[61.1, 83.4]
Sanitation & Hygiene	76.5	[62.8, 88.1]
Housing & Energy	64.4	[48, 73.8]
Education	63.0	[59.7, 64.2]
Agricultural assets	70.9	[61.3, 78.9]
Non-agricultural assets	42.2	[22.9, 62.8]
Exposure&Resilience to shocks	54.0	[46.8, 58.4]
Gender Equality		

Number of MPAT components

Above 60 points	7
In-between	2
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	49.9 [41.4, 67.1]
Domestic Water Supply	Quality	86.7 [77.3, 93]
	Availability	96.2 [77.5, 100]
	Access	82.4 [65, 84.3]
Health & Healthcare	Status	79.0 [54.5, 96.5]
	Access	82.0 [63, 95.5]
	Quality	60.0 [60, 60]
Sanitation & Hygiene	Toilet Facilities	88.9 [70, 100]
	Waste Management	59.9 [44, 71]
	Practices	78.9 [56, 96]
Housing & Energy	Quality	63.7 [51, 79]
	Facilities	64.0 [30, 82.5]
	Energy	69.2 [66, 86]
Education	Quality	70.0 [70, 70]
	Availability	45.0 [45, 45]
	Access	78.6 [67.5, 82.5]
Agricultural Assets	Land Tenure	72.9 [69, 77.8]
	Quality	74.0 [70.5, 88]
	Inputs	67.5 [42.5, 89.1]
Non-Agricultural Assets	Skills	33.8 [15, 57.5]
	Services	49.1 [15, 100]
	Assets	58.8 [47.5, 77.5]
Exposure & Resilience to Shocks	Exposure	33.0 [25, 42.5]
	Coping ability	77.2 [63.3, 80]
	Recovery ability	63.4 [44.5, 76.9]
Gender Equality	Food	
	Education	94.3 [66, 100]
	Healthcare	90.0 [70, 100]

Number of MPAT subcomponents

Above 60 points	22
In-between	7
Below 30 points	0

3451 in China

General information

Number of households interviewed	13	[min, max] within village
Average survey time (min)	36	[27, 50]
Average respondent's age (years)	45	[29, 70]
Average Head HH age (years)	47	[31, 70]

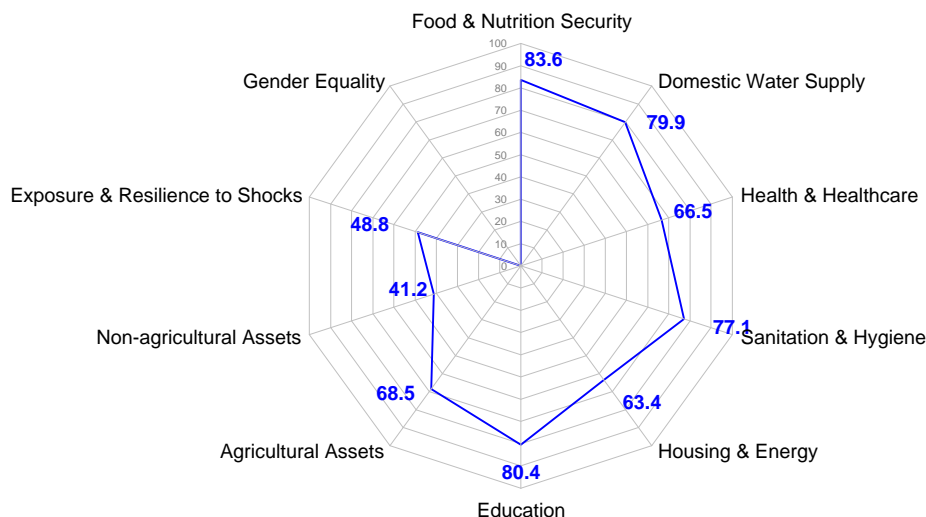
Gender statistics

Male respondents	5	38%
Female respondents	10	77%
Male Headed households	14	108%
Female Headed households	1	8%
Female & Male Headed households	0	0%

Head of household's marital status

Married	13	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	83.6	[81.7, 92]
Domestic Water Supply	79.9	[57.6, 90.5]
Health & Healthcare	66.5	[58.1, 76.3]
Sanitation & Hygiene	77.1	[67.3, 82.9]
Housing & Energy	63.4	[57, 76.1]
Education	80.4	[75, 84.3]
Agricultural assets	68.5	[57.3, 75.1]
Non-agricultural assets	41.2	[30.5, 53.5]
Exposure&Resilience to shocks	48.8	[36.6, 58]
Gender Equality		

Number of MPAT components

Above 60 points	7
In-between	2
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	46.0 [41.4, 68.6]
Domestic Water Supply	Quality	81.6 [70.5, 86.3]
	Availability	81.1 [31, 100]
	Access	80.8 [67.8, 84.3]
Health & Healthcare	Status	71.1 [59, 82.5]
	Access	63.6 [46, 83.5]
	Quality	65.5 [65.5, 65.5]
Sanitation & Hygiene	Toilet Facilities	87.6 [70, 94]
	Waste Management	60.9 [43, 71]
	Practices	80.5 [60, 96]
Housing & Energy	Quality	54.4 [42, 79]
	Facilities	74.5 [61, 82.5]
	Energy	67.1 [62, 86]
Education	Quality	100.0 [100, 100]
	Availability	67.0 [67, 67]
	Access	79.4 [65, 90]
Agricultural Assets	Land Tenure	70.1 [30, 84.8]
	Quality	76.3 [53, 88]
	Inputs	63.7 [37.5, 86.7]
Non-Agricultural Assets	Skills	43.8 [15, 57.5]
	Services	31.5 [15, 47.7]
	Assets	62.0 [47.5, 90]
Exposure & Resilience to Shocks	Exposure	27.2 [22.5, 40]
	Coping ability	70.3 [20, 80]
	Recovery ability	62.2 [39.1, 80.5]
Gender Equality	Food	
	Education	76.0 [38, 100]
	Healthcare	82.7 [55, 100]

Number of MPAT subcomponents

Above 60 points	24
In-between	4
Below 30 points	1

3452 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	36	[21, 51]
Average respondent's age (years)	46	[27, 81]
Average Head HH age (years)	49	[30, 74]

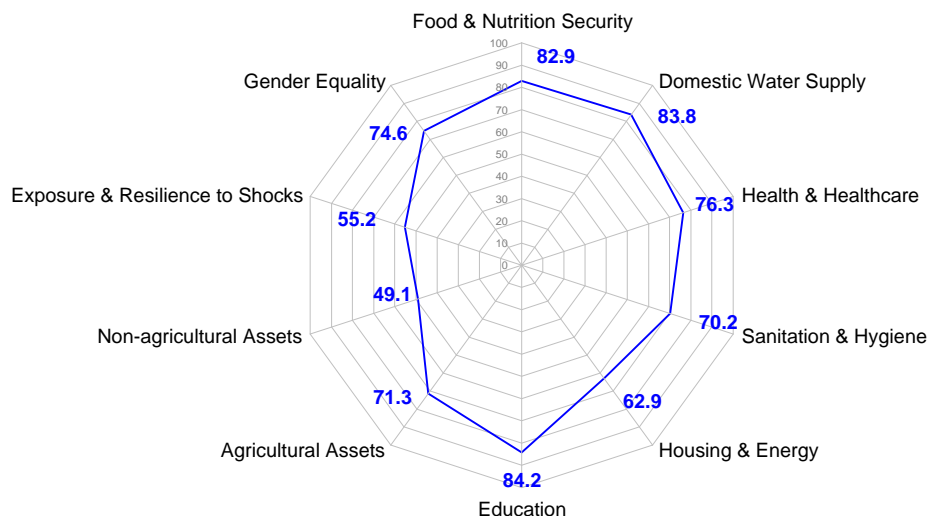
Gender statistics

Male respondents	6	40%
Female respondents	9	60%
Male Headed households	11	73%
Female Headed households	4	27%
Female & Male Headed households	0	0%

Head of household's marital status

Married	13	87%
Single	0	0%
Divorced	1	7%
Widowed	1	7%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	82.9	[63.7, 88.2]
Domestic Water Supply	83.8	[62, 90.5]
Health & Healthcare	76.3	[67.5, 83.5]
Sanitation & Hygiene	70.2	[32.2, 83.3]
Housing & Energy	62.9	[42.5, 73.8]
Education	84.2	[81.7, 85.2]
Agricultural Assets	71.3	[51.6, 80.7]
Non-agricultural Assets	49.1	[25.3, 69.8]
Exposure & Resilience to Shocks	55.2	[43.5, 65.2]
Gender Equality	74.6	[74.6, 74.6]

Number of MPAT components

Above 60 points	8
In-between	2
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	99.2 [88, 100]
	Access Stability	98.2 [72.5, 100]
	Nutrition Quality	46.2 [28.6, 57.1]
Domestic Water Supply	Quality	77.6 [59.3, 89.2]
	Availability	93.2 [44.5, 100]
	Access	80.5 [65, 84.3]
Health & Healthcare	Status	79.5 [63, 95]
	Access	72.4 [62.5, 86.5]
	Quality	78.0 [78, 78]
Sanitation & Hygiene	Toilet Facilities	77.6 [10, 94]
	Waste Management	54.7 [23, 71]
	Practices	81.5 [64, 96]
Housing & Energy	Quality	57.4 [24, 79]
	Facilities	71.6 [30, 91.3]
	Energy	66.0 [66, 66]
Education	Quality	100.0 [100, 100]
	Availability	67.0 [67, 67]
	Access	89.6 [82.5, 92.5]
Agricultural Assets	Land Tenure	72.9 [69, 77.8]
	Quality	73.1 [63.8, 88]
	Inputs	70.1 [29.1, 91.3]
Non-Agricultural Assets	Skills	51.3 [25, 62.5]
	Services	40.7 [15, 72.3]
	Assets	60.8 [47.5, 87.5]
Exposure & Resilience to Shocks	Exposure	38.7 [30, 57.5]
	Coping ability	70.8 [43.3, 80]
	Recovery ability	64.4 [39.5, 87.3]
Gender Equality	Food	60.0 [60, 60]
	Education	67.1 [50, 100]
	Healthcare	96.0 [85, 100]

Number of MPAT subcomponents

Above 60 points	24
In-between	6
Below 30 points	0

3453 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	36	[29, 45]
Average respondent's age (years)	39	[18, 78]
Average Head HH age (years)	42	[25, 56]

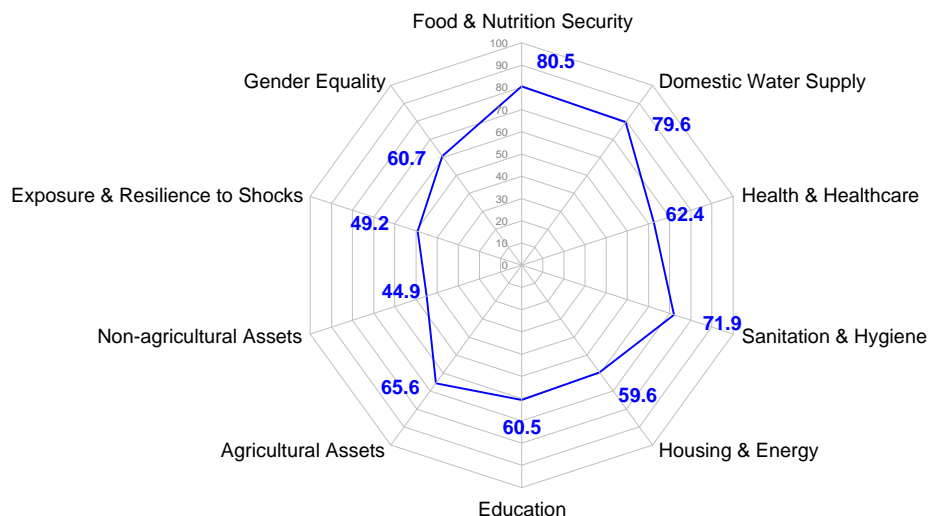
Gender statistics

Male respondents	6	40%
Female respondents	9	60%
Male Headed households	12	80%
Female Headed households	2	13%
Female & Male Headed households	0	0%

Head of household's marital status

Married	14	93%
Single	0	0%
Divorced	0	0%
Widowed	1	7%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	80.5	[68.8, 89.2]
Domestic Water Supply	79.6	[47.5, 87.8]
Health & Healthcare	62.4	[40.5, 73.9]
Sanitation & Hygiene	71.9	[59, 86.4]
Housing & Energy	59.6	[36.4, 73.8]
Education	60.5	[52, 66.7]
Agricultural Assets	65.6	[55.9, 82.5]
Non-agricultural Assets	44.9	[26.4, 55.2]
Exposure & Resilience to Shocks	49.2	[32.7, 60.2]
Gender Equality	60.7	[60.7, 60.7]

Number of MPAT components

Above 60 points	7
In-between	3
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	99.2 [88, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	40.4 [20, 60]
Domestic Water Supply	Quality	75.1 [54.8, 91]
	Availability	85.2 [35.5, 100]
	Access	79.1 [56.8, 86.5]
Health & Healthcare	Status	75.6 [58, 90]
	Access	47.8 [18, 63]
	Quality	69.5 [69.5, 69.5]
Sanitation & Hygiene	Toilet Facilities	79.2 [46, 94]
	Waste Management	53.8 [23, 66.2]
	Practices	83.2 [66, 96]
Housing & Energy	Quality	56.3 [24, 79]
	Facilities	63.0 [23, 79]
	Energy	64.0 [39, 66]
Education	Quality	70.0 [70, 70]
	Availability	41.0 [41, 41]
	Access	77.2 [50, 100]
Agricultural Assets	Land Tenure	72.6 [66, 77.8]
	Quality	71.2 [44.3, 100]
	Inputs	57.0 [32.5, 81.6]
Non-Agricultural Assets	Skills	43.8 [15, 57.5]
	Services	39.2 [31, 72.3]
	Assets	60.8 [47.5, 82.5]
Exposure & Resilience to Shocks	Exposure	27.8 [22.5, 45]
	Coping ability	77.2 [59, 86.7]
	Recovery ability	57.8 [24.5, 74.1]
Gender Equality	Food	50.0 [50, 50]
	Education	72.0 [46, 100]
	Healthcare	84.3 [55, 100]

Number of MPAT subcomponents

Above 60 points	19
In-between	10
Below 30 points	1

Aeri in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	34	[20, 50]
Average respondent's age (years)	49	[28, 65]
Average Head HH age (years)	54	[28, 72]

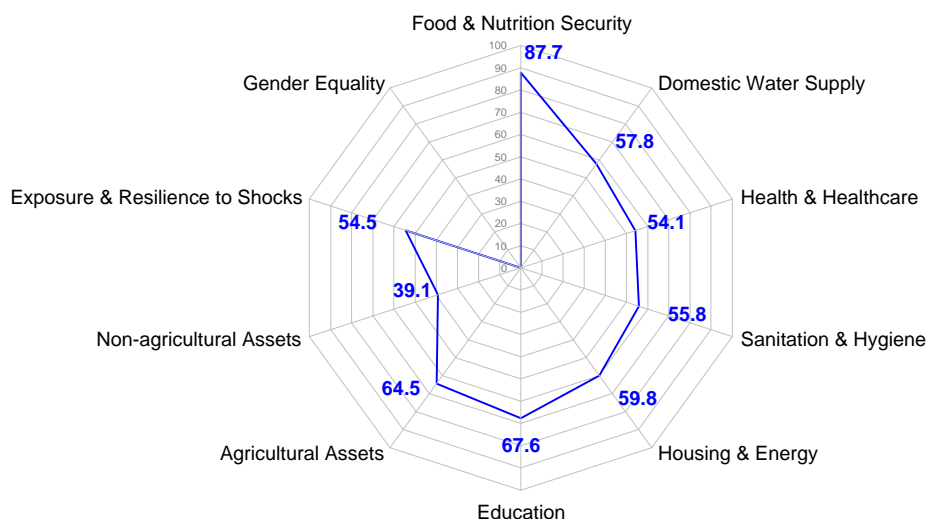
Gender statistics

Male respondents	5	50%
Female respondents	5	50%
Male Headed households	9	90%
Female Headed households	1	10%
Female & Male Headed households	0	0%

Head of household's marital status

Married	9	90%
Single	0	0%
Divorced	0	0%
Widowed	1	10%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	87.7	[86.5, 91.1]
Domestic Water Supply	57.8	[51.5, 60.4]
Health & Healthcare	54.1	[50.7, 57.5]
Sanitation & Hygiene	55.8	[32.4, 82.9]
Housing & Energy	59.8	[46, 62.6]
Education	67.6	[64.7, 76.1]
Agricultural assets	64.5	[56.1, 67.7]
Non-agricultural assets	39.1	[28.3, 56.9]
Exposure&Resilience to shocks	54.5	[48.7, 62.7]
Gender Equality		

Number of MPAT components

Above 60 points	3
In-between	6
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	56.1 [52.9, 65.7]
Domestic Water Supply	Quality	67.1 [66.3, 75]
	Availability	37.5 [37.5, 37.5]
	Access	83.8 [59.5, 86.5]
Health & Healthcare	Status	74.2 [69, 79]
	Access	28.0 [25, 31]
	Quality	82.0 [82, 82]
Sanitation & Hygiene	Toilet Facilities	48.4 [10, 94]
	Waste Management	74.9 [73.5, 77]
	Practices	72.0 [56, 86]
Housing & Energy	Quality	49.9 [24, 59]
	Facilities	73.4 [58, 79]
	Energy	63.0 [63, 63]
Education	Quality	60.0 [60, 60]
	Availability	87.0 [87, 87]
	Access	59.7 [52.5, 82.5]
Agricultural Assets	Land Tenure	79.7 [75.5, 87.8]
	Quality	50.6 [41, 53]
	Inputs	64.8 [55, 72.2]
Non-Agricultural Assets	Skills	32.0 [25, 62.5]
	Services	40.6 [24.3, 57.8]
	Assets	52.5 [40, 60]
Exposure & Resilience to Shocks	Exposure	28.5 [25, 40]
	Coping ability	73.1 [57.5, 79.2]
	Recovery ability	80.8 [51.5, 90]
Gender Equality	Food	
	Education	85.3 [70, 100]
	Healthcare	55.5 [55, 60]

Number of MPAT subcomponents

Above 60 points	17
In-between	10
Below 30 points	2

India

General information

Number of households interviewed	182	[min, max] across households
Average survey time (min)	37	[15, 75]
Average respondent's age (years)	42	[17, 80]
Average Head HH age (years)	53	[25, 88]

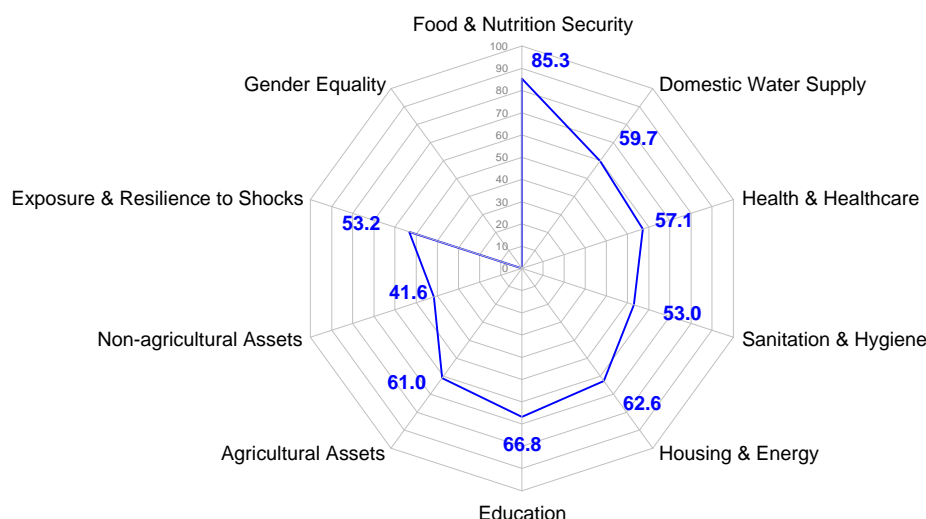
Gender statistics

Male respondents	121	66%
Female respondents	61	34%
Male Headed households	152	84%
Female Headed households	30	16%
Female & Male Headed households	0	0%

Head of household's marital status

Married	160	88%
Single	2	1%
Divorced	0	0%
Widowed	20	11%

MPAT v.6 Components (population weighted average across villages)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	85.3	[79.4, 89.2]
Domestic Water Supply	59.7	[41.7, 83.7]
Health & Healthcare	57.1	[49.8, 67.4]
Sanitation & Hygiene	53.0	[27.6, 76.7]
Housing & Energy	62.6	[59.8, 65.4]
Education	66.8	[50.9, 85]
Agricultural Assets	61.0	[55, 66.1]
Non-agricultural Assets	41.6	[36.7, 49.1]
Exposure&Resilience to Shocks	53.2	[41.6, 64.6]
Gender Equality		

Number of MPAT components

Above 60 points	4
In-between	5
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

		Average	[min, max]
Food & Nutrition Security	Consumption	99.8	[97.1, 100]
	Access Stability	99.7	[97.3, 100]
	Nutrition Quality	50.9	[39, 60.3]
Domestic Water Supply	Quality	59.9	[31.7, 74.2]
	Availability	53.0	[36.2, 100]
	Access	75.0	[59.5, 86.5]
Health & Healthcare	Status	78.3	[69.1, 86.4]
	Access	42.6	[26.2, 69.1]
	Quality	59.1	[48, 82]
Sanitation & Hygiene	Toilet Facilities	42.1	[18.4, 78.7]
	Waste Management	73.3	[64.7, 81.7]
	Practices	74.8	[26.4, 92.8]
Housing & Energy	Quality	56.0	[49.9, 62.8]
	Facilities	73.9	[71.5, 76.9]
	Energy	61.8	[59.4, 67]
Education	Quality	66.2	[60, 100]
	Availability	92.2	[60.6, 100]
	Access	63.9	[25.6, 78.9]
Agricultural Assets	Land Tenure	78.0	[71.9, 81.5]
	Quality	53.0	[44.6, 65.1]
	Inputs	55.9	[45.3, 68]
Non-Agricultural Assets	Skills	31.5	[25, 51]
	Services	54.1	[40.6, 66.6]
	Assets	50.4	[42, 55]
Exposure & Resilience to Shocks	Exposure	30.9	[17.5, 51.5]
	Coping ability	76.5	[67.3, 81.4]
	Recovery ability	68.7	[52.9, 83.4]
Gender Equality	Food		
	Education	86.9	[64.7, 100]
	Healthcare	61.5	[52.5, 73.3]

Number of MPAT subcomponents

Above 60 points	16
In-between	13
Below 30 points	0

Anouli in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	54	[30, 60]
Average respondent's age (years)	44	[23, 62]
Average Head HH age (years)	48	[30, 62]

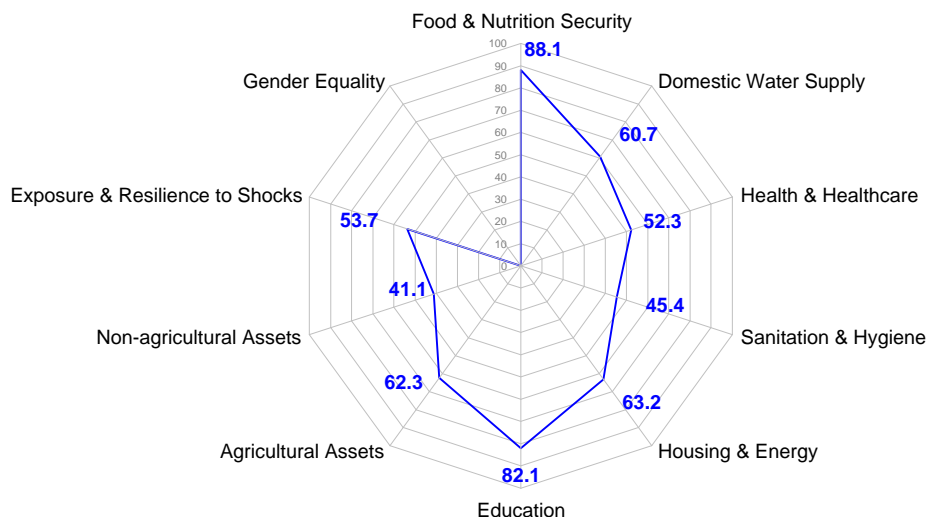
Gender statistics

Male respondents	10	100%
Female respondents	0	0%
Male Headed households	9	90%
Female Headed households	1	10%
Female & Male Headed households	0	0%

Head of household's marital status

Married	10	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	88.1	[81.7, 93.8]
Domestic Water Supply	60.7	[50.6, 68.1]
Health & Healthcare	52.3	[48.5, 63.5]
Sanitation & Hygiene	45.4	[32.8, 75.3]
Housing & Energy	63.2	[60, 73.4]
Education	82.1	[75.3, 91.8]
Agricultural assets	62.3	[54.3, 66.4]
Non-agricultural assets	41.1	[37.7, 60.4]
Exposure&Resilience to shocks	53.7	[42.9, 64]
Gender Equality		

Number of MPAT components

Above 60 points	5
In-between	4
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	57.9 [41.4, 74.3]
Domestic Water Supply	Quality	68.8 [54.5, 75]
	Availability	43.1 [23.5, 51.5]
	Access	82.7 [75.3, 86.5]
Health & Healthcare	Status	79.7 [55.5, 96.5]
	Access	37.0 [24, 54]
	Quality	48.0 [48, 48]
Sanitation & Hygiene	Toilet Facilities	26.0 [10, 74]
	Waste Management	71.6 [71, 77]
	Practices	80.0 [70, 90]
Housing & Energy	Quality	59.3 [52, 86]
	Facilities	72.0 [58, 79]
	Energy	61.2 [54, 63]
Education	Quality	100.0 [100, 100]
	Availability	95.0 [95, 95]
	Access	61.1 [47.5, 82.5]
Agricultural Assets	Land Tenure	78.5 [75.5, 87.8]
	Quality	55.7 [52.5, 67.5]
	Inputs	55.1 [40, 68.8]
Non-Agricultural Assets	Skills	32.5 [25, 100]
	Services	55.3 [47.7, 59]
	Assets	46.8 [40, 70]
Exposure & Resilience to Shocks	Exposure	34.3 [17.5, 50]
	Coping ability	77.3 [65.8, 83]
	Recovery ability	63.1 [50.8, 76]
Gender Equality	Food	
	Education	77.7 [70, 100]
	Healthcare	55.5 [55, 60]

Number of MPAT subcomponents

Above 60 points	16
In-between	12
Below 30 points	1

Baganiya in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	56	[30, 60]
Average respondent's age (years)	42	[19, 60]
Average Head HH age (years)	56	[40, 80]

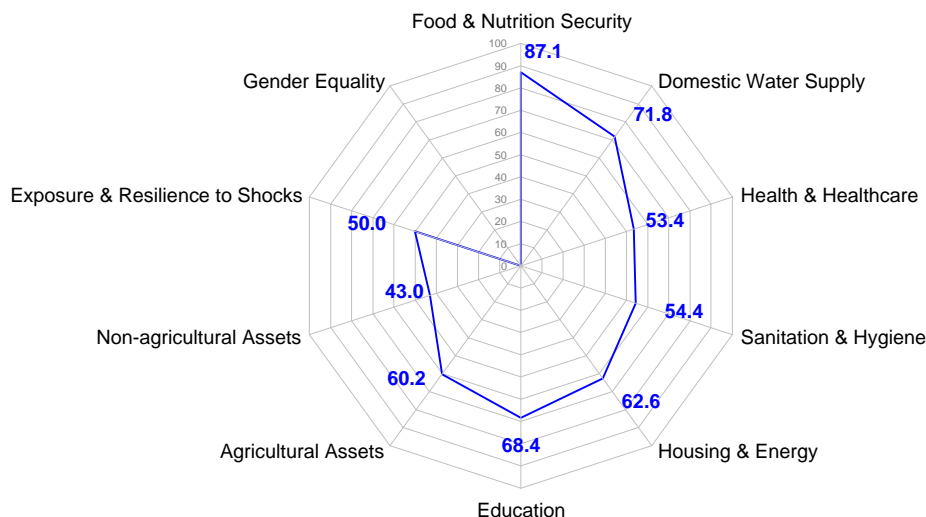
Gender statistics

Male respondents	10	100%
Female respondents	0	0%
Male Headed households	9	90%
Female Headed households	1	10%
Female & Male Headed households	0	0%

Head of household's marital status

Married	10	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	87.1	[84.2, 90.3]
Domestic Water Supply	71.8	[62.1, 80.9]
Health & Healthcare	53.4	[50.3, 57.3]
Sanitation & Hygiene	54.4	[33.5, 87.4]
Housing & Energy	62.6	[54.4, 70.6]
Education	68.4	[62.2, 73]
Agricultural assets	60.2	[54.3, 63.5]
Non-agricultural assets	43.0	[37.9, 48.5]
Exposure&Resilience to shocks	50.0	[40.5, 60.7]
Gender Equality		

Number of MPAT components

Above 60 points	5
In-between	4
Below 30 points	0

Color code:

Score 1-30	
Score 30-60	
Score 60-80	
Score 80-100	

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	54.4 [47.1, 63.3]
Domestic Water Supply	Quality	57.1 [54.5, 75]
	Availability	75.8 [51.5, 100]
	Access	86.5 [86.5, 86.5]
Health & Healthcare	Status	79.8 [66.5, 87.5]
	Access	38.3 [33, 45]
	Quality	48.0 [48, 48]
Sanitation & Hygiene	Toilet Facilities	43.4 [10, 88]
	Waste Management	75.8 [65, 83]
	Practices	73.0 [60, 90]
Housing & Energy	Quality	57.7 [52, 73]
	Facilities	72.0 [58, 79]
	Energy	61.2 [54, 63]
Education	Quality	70.0 [70, 70]
	Availability	60.6 [60.6, 60.6]
	Access	75.3 [57.5, 90]
Agricultural Assets	Land Tenure	76.6 [75.5, 79]
	Quality	52.5 [52.5, 52.5]
	Inputs	53.7 [40, 63.1]
Non-Agricultural Assets	Skills	25.0 [25, 25]
	Services	66.6 [57.8, 72.3]
	Assets	55.0 [40, 75]
Exposure & Resilience to Shocks	Exposure	30.5 [17.5, 47.5]
	Coping ability	77.0 [70, 88]
	Recovery ability	56.8 [48, 67.3]
Gender Equality	Food	
	Education	79.8 [70, 100]
	Healthcare	55.0 [55, 55]

Number of MPAT subcomponents

Above 60 points	16
In-between	12
Below 30 points	1

Bangsil in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	23	[15, 30]
Average respondent's age (years)	37	[24, 50]
Average Head HH age (years)	47	[38, 60]

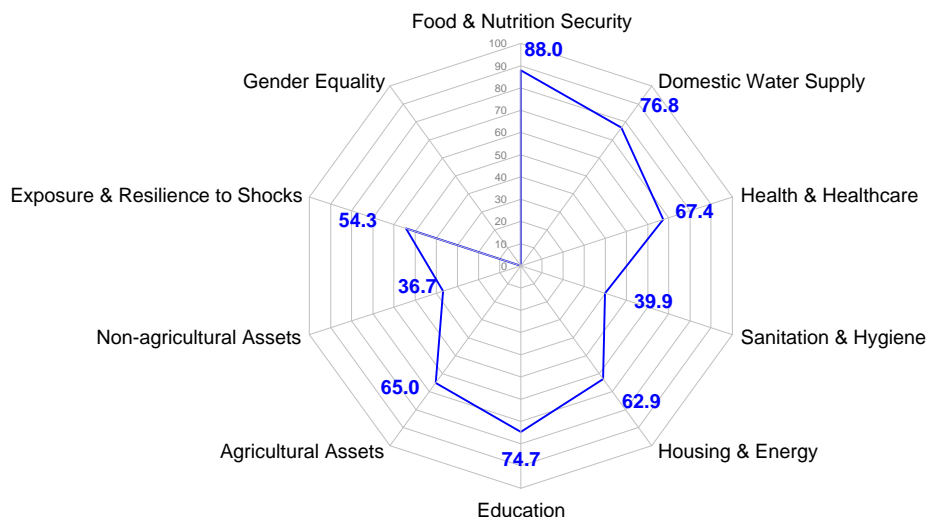
Gender statistics

Male respondents	3	30%
Female respondents	7	70%
Male Headed households	9	90%
Female Headed households	1	10%
Female & Male Headed households	0	0%

Head of household's marital status

Married	9	90%
Single	0	0%
Divorced	0	0%
Widowed	1	10%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	88.0	[87.1, 91.6]
Domestic Water Supply	76.8	[70.8, 82]
Health & Healthcare	67.4	[63.8, 69.8]
Sanitation & Hygiene	39.9	[28.6, 77.6]
Housing & Energy	62.9	[57.1, 74.1]
Education	74.7	[66.8, 76.1]
Agricultural assets	65.0	[55.5, 72.9]
Non-agricultural assets	36.7	[26.8, 52.4]
Exposure&Resilience to shocks	54.3	[45.1, 67.4]
Gender Equality		

Number of MPAT components

Above 60 points	6
In-between	3
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	56.7 [54.3, 67.1]
Domestic Water Supply	Quality	68.1 [66.3, 84.3]
	Availability	90.6 [86.5, 100]
	Access	71.2 [59.5, 84.3]
Health & Healthcare	Status	80.8 [69, 88]
	Access	47.6 [44, 48]
	Quality	82.0 [82, 82]
Sanitation & Hygiene	Toilet Facilities	23.0 [10, 88]
	Waste Management	78.5 [73.5, 80]
	Practices	61.8 [46, 76]
Housing & Energy	Quality	57.4 [52, 79]
	Facilities	76.9 [72, 79]
	Energy	59.5 [28, 63]
Education	Quality	60.0 [60, 60]
	Availability	87.0 [87, 87]
	Access	78.9 [57.5, 82.5]
Agricultural Assets	Land Tenure	81.5 [79, 87.8]
	Quality	50.0 [41, 65.3]
	Inputs	66.3 [50.9, 83.8]
Non-Agricultural Assets	Skills	28.3 [25, 57.5]
	Services	43.1 [20.8, 59]
	Assets	46.5 [40, 70]
Exposure & Resilience to Shocks	Exposure	33.8 [25, 47.5]
	Coping ability	67.3 [52.5, 82.5]
	Recovery ability	74.2 [40, 90.8]
Gender Equality	Food	
	Education	93.3 [82, 100]
	Healthcare	55.0 [55, 55]

Number of MPAT subcomponents

Above 60 points	18
In-between	9
Below 30 points	2

Baliya in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	53	[35, 65]
Average respondent's age (years)	38	[21, 61]
Average Head HH age (years)	51	[32, 77]

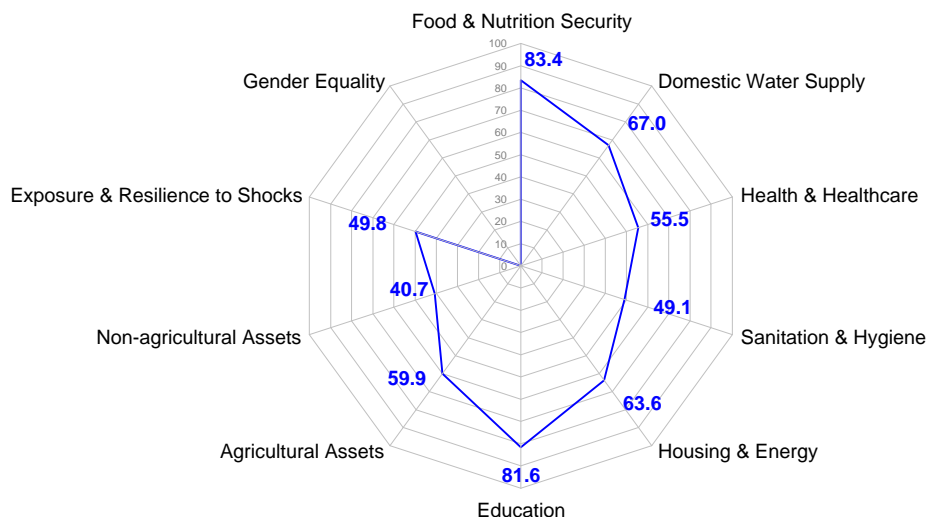
Gender statistics

Male respondents	10	100%
Female respondents	0	0%
Male Headed households	9	90%
Female Headed households	1	10%
Female & Male Headed households	0	0%

Head of household's marital status

Married	10	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	83.4	[78.9, 92]
Domestic Water Supply	67.0	[62.2, 68.1]
Health & Healthcare	55.5	[46.7, 60.9]
Sanitation & Hygiene	49.1	[30.4, 81.3]
Housing & Energy	63.6	[60.8, 74.1]
Education	81.6	[73.1, 83.3]
Agricultural assets	59.9	[46.1, 67]
Non-agricultural assets	40.7	[37.2, 45]
Exposure&Resilience to shocks	49.8	[41, 67.9]
Gender Equality		

Number of MPAT components

Above 60 points	4
In-between	5
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	45.9 [35.7, 68.6]
Domestic Water Supply	Quality	74.2 [66.3, 93]
	Availability	49.9 [42.5, 51.5]
	Access	86.5 [86.5, 86.5]
Health & Healthcare	Status	76.7 [65.5, 91.5]
	Access	44.9 [25, 51]
	Quality	48.0 [48, 48]
Sanitation & Hygiene	Toilet Facilities	38.4 [10, 94]
	Waste Management	71.6 [65, 80]
	Practices	68.6 [60, 76]
Housing & Energy	Quality	57.4 [52, 79]
	Facilities	74.1 [72, 79]
	Energy	63.0 [63, 63]
Education	Quality	70.0 [70, 70]
	Availability	99.0 [99, 99]
	Access	78.3 [57.5, 82.5]
Agricultural Assets	Land Tenure	78.3 [75.5, 87.8]
	Quality	51.5 [42.8, 52.5]
	Inputs	53.3 [30, 63.4]
Non-Agricultural Assets	Skills	25.0 [25, 25]
	Services	63.5 [55.5, 72.3]
	Assets	48.0 [40, 75]
Exposure & Resilience to Shocks	Exposure	29.5 [17.5, 50]
	Coping ability	73.3 [60, 82.5]
	Recovery ability	61.7 [48, 76]
Gender Equality	Food	
	Education	94.0 [82, 100]
	Healthcare	60.0 [45, 85]

Number of MPAT subcomponents

Above 60 points	18
In-between	9
Below 30 points	2

Chanargaon in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	27	[20, 40]
Average respondent's age (years)	56	[42, 80]
Average Head HH age (years)	56	[42, 80]

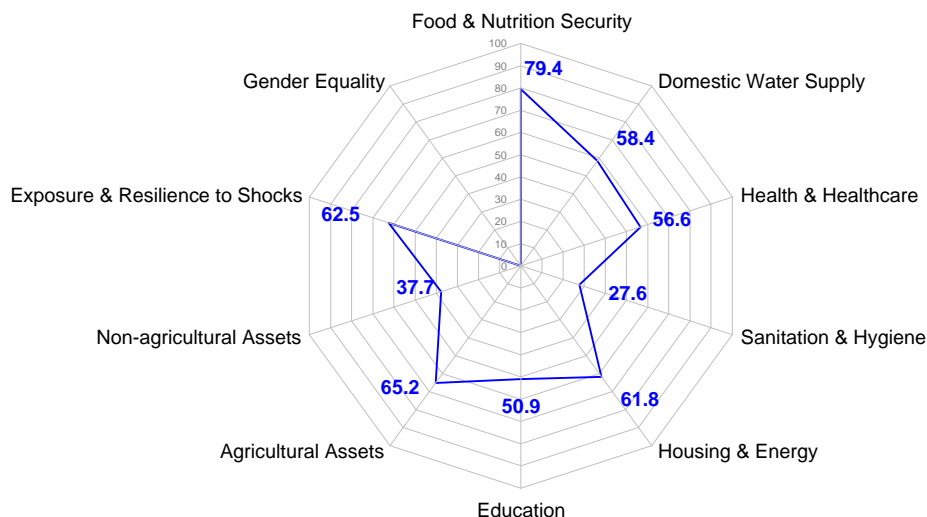
Gender statistics

Male respondents	10	100%
Female respondents	0	0%
Male Headed households	10	100%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	8	80%
Single	2	20%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	79.4	[68.8, 84.2]
Domestic Water Supply	58.4	[51.5, 68.2]
Health & Healthcare	56.6	[44.5, 66.7]
Sanitation & Hygiene	27.6	[17, 81.3]
Housing & Energy	61.8	[58.2, 71.9]
Education	50.9	[42.8, 64.7]
Agricultural assets	65.2	[51.3, 71.4]
Non-agricultural assets	37.7	[35.2, 43.8]
Exposure&Resilience to shocks	62.5	[55.6, 65.6]
Gender Equality		

Number of MPAT components

Above 60 points	4
In-between	4
Below 30 points	1

Color code:

Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	97.3 [72.5, 100]
	Nutrition Quality	39.0 [20, 47.1]
Domestic Water Supply	Quality	66.3 [66.3, 66.3]
	Availability	43.6 [35.5, 58]
	Access	74.4 [59.5, 84.3]
Health & Healthcare	Status	78.0 [57, 93]
	Access	30.7 [19, 48]
	Quality	82.0 [82, 82]
Sanitation & Hygiene	Toilet Facilities	18.4 [10, 94]
	Waste Management	80.0 [80, 80]
	Practices	26.4 [10, 70]
Housing & Energy	Quality	56.8 [52, 79]
	Facilities	72.0 [72, 72]
	Energy	59.4 [54, 63]
Education	Quality	60.0 [60, 60]
	Availability	97.0 [97, 97]
	Access	25.6 [15, 47.5]
Agricultural Assets	Land Tenure	77.3 [75.5, 79]
	Quality	54.2 [53, 65.3]
	Inputs	66.3 [33.8, 84.4]
Non-Agricultural Assets	Skills	25.0 [25, 25]
	Services	51.7 [47, 69.5]
	Assets	46.5 [40, 75]
Exposure & Resilience to Shocks	Exposure	48.5 [35, 50]
	Coping ability	76.8 [69.2, 80.8]
	Recovery ability	65.8 [63.1, 70]
Gender Equality	Food	
	Education	92.0 [58, 100]
	Healthcare	68.5 [55, 100]

Number of MPAT subcomponents

Above 60 points	16
In-between	9
Below 30 points	4

Gair in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	34	[20, 50]
Average respondent's age (years)	40	[21, 60]
Average Head HH age (years)	51	[30, 68]

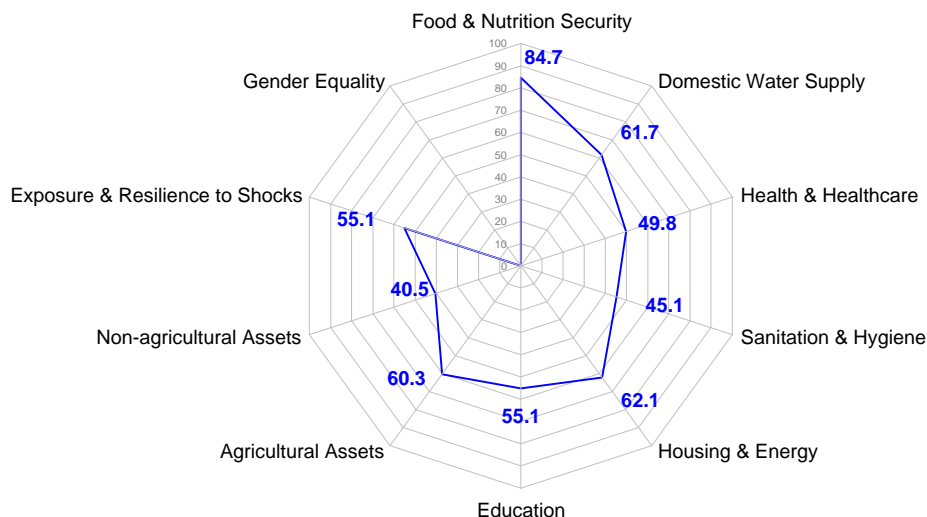
Gender statistics

Male respondents	0	0%
Female respondents	10	100%
Male Headed households	9	90%
Female Headed households	1	10%
Female & Male Headed households	0	0%

Head of household's marital status

Married	9	90%
Single	0	0%
Divorced	0	0%
Widowed	1	10%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	84.7	[81.7, 87.1]
Domestic Water Supply	61.7	[57.8, 68.2]
Health & Healthcare	49.8	[38.6, 58.6]
Sanitation & Hygiene	45.1	[23.9, 88.2]
Housing & Energy	62.1	[60.8, 69.7]
Education	55.1	[38.5, 75.4]
Agricultural assets	60.3	[54.7, 66.5]
Non-agricultural assets	40.5	[28.3, 48.8]
Exposure&Resilience to shocks	55.1	[42.1, 67.6]
Gender Equality		

Number of MPAT components

Above 60 points	4
In-between	5
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	48.3 [41.4, 54.3]
Domestic Water Supply	Quality	66.3 [66.3, 66.3]
	Availability	45.2 [37.5, 58]
	Access	83.4 [75.3, 84.3]
Health & Healthcare	Status	73.0 [57, 83]
	Access	30.7 [19, 42]
	Quality	56.0 [56, 56]
Sanitation & Hygiene	Toilet Facilities	34.6 [10, 94]
	Waste Management	81.7 [69, 90]
	Practices	56.0 [26, 86]
Housing & Energy	Quality	54.1 [52, 73]
	Facilities	73.4 [72, 79]
	Energy	63.0 [63, 63]
Education	Quality	70.0 [70, 70]
	Availability	95.0 [95, 95]
	Access	30.8 [10, 65]
Agricultural Assets	Land Tenure	77.7 [69, 79]
	Quality	49.4 [41, 65]
	Inputs	57.0 [43.8, 75.9]
Non-Agricultural Assets	Skills	30.0 [25, 57.5]
	Services	48.0 [24.3, 72.3]
	Assets	55.0 [40, 75]
Exposure & Resilience to Shocks	Exposure	33.8 [17.5, 50]
	Coping ability	79.4 [68.3, 88.3]
	Recovery ability	67.9 [63.1, 70]
Gender Equality	Food	
	Education	93.4 [70, 100]
	Healthcare	65.5 [55, 100]

Number of MPAT subcomponents

Above 60 points	15
In-between	14
Below 30 points	0

Golimahar in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	41	[30, 46]
Average respondent's age (years)	46	[27, 77]
Average Head HH age (years)	56	[36, 77]

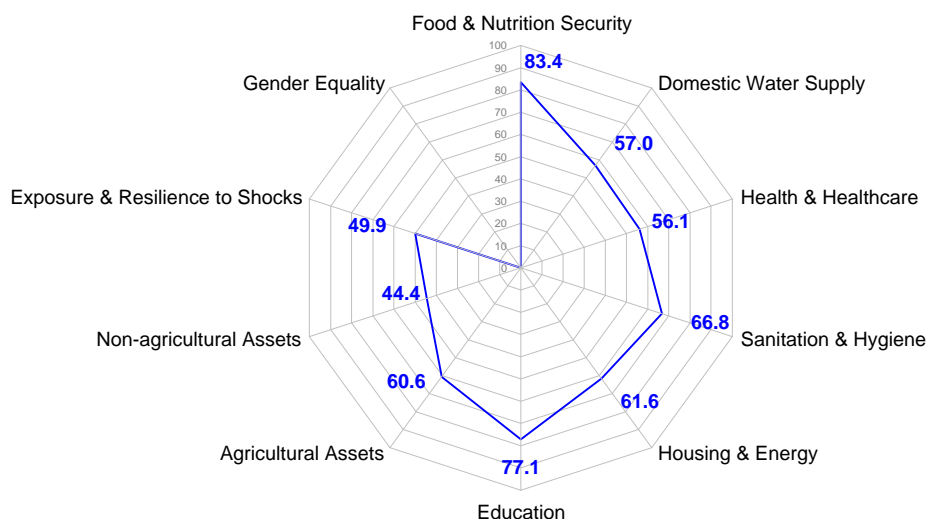
Gender statistics

Male respondents	10	100%
Female respondents	0	0%
Male Headed households	9	90%
Female Headed households	1	10%
Female & Male Headed households	0	0%

Head of household's marital status

Married	9	90%
Single	0	0%
Divorced	0	0%
Widowed	1	10%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	83.4	[76.6, 88.7]
Domestic Water Supply	57.0	[31.2, 76.7]
Health & Healthcare	56.1	[49.6, 63.1]
Sanitation & Hygiene	66.8	[32.1, 86.2]
Housing & Energy	61.6	[54.4, 74.1]
Education	77.1	[65.6, 85.7]
Agricultural assets	60.6	[51.3, 82]
Non-agricultural assets	44.4	[35.3, 56]
Exposure&Resilience to shocks	49.9	[43.8, 65.5]
Gender Equality		

Number of MPAT components

Above 60 points	5
In-between	4
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	99.2 [92, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	46.4 [31.4, 58.6]
Domestic Water Supply	Quality	65.3 [44.8, 75]
	Availability	50.0 [10, 100]
	Access	67.6 [59.5, 86.5]
Health & Healthcare	Status	86.2 [62.5, 96.5]
	Access	41.3 [28, 64]
	Quality	48.0 [48, 48]
Sanitation & Hygiene	Toilet Facilities	60.8 [10, 94]
	Waste Management	71.4 [65, 80]
	Practices	84.4 [60, 96]
Housing & Energy	Quality	54.7 [52, 79]
	Facilities	72.0 [58, 79]
	Energy	62.3 [54, 83]
Education	Quality	70.0 [70, 70]
	Availability	87.5 [87.5, 87.5]
	Access	76.3 [47.5, 100]
Agricultural Assets	Land Tenure	76.6 [75.5, 79]
	Quality	65.1 [52.5, 100]
	Inputs	46.9 [27.5, 82.5]
Non-Agricultural Assets	Skills	31.5 [25, 57.5]
	Services	65.0 [47.3, 100]
	Assets	50.5 [40, 80]
Exposure & Resilience to Shocks	Exposure	24.5 [17.5, 50]
	Coping ability	77.9 [70, 87.5]
	Recovery ability	69.0 [60.3, 76]
Gender Equality	Food	
	Education	85.2 [80, 100]
	Healthcare	63.5 [45, 100]

Number of MPAT subcomponents

Above 60 points	20
In-between	8
Below 30 points	1

Kakru in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	30	[20, 104]
Average respondent's age (years)	40	[22, 81]
Average Head HH age (years)	50	[30, 88]

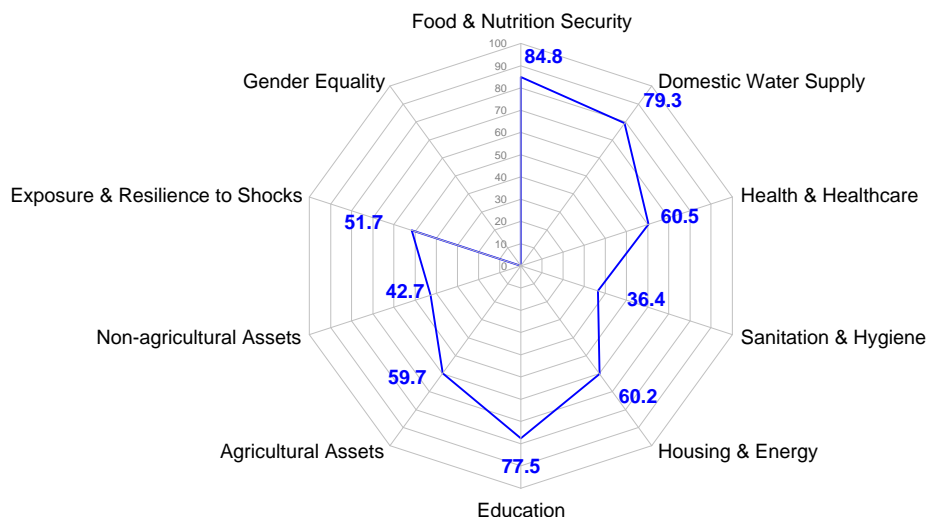
Gender statistics

Male respondents	0	0%
Female respondents	10	100%
Male Headed households	6	60%
Female Headed households	4	40%
Female & Male Headed households	0	0%

Head of household's marital status

Married	5	50%
Single	0	0%
Divorced	0	0%
Widowed	5	50%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	84.8	[81, 95.4]
Domestic Water Supply	79.3	[77.1, 92.8]
Health & Healthcare	60.5	[58.8, 86.4]
Sanitation & Hygiene	36.4	[31, 91.7]
Housing & Energy	60.2	[44.6, 83.2]
Education	77.5	[74.5, 95.3]
Agricultural assets	59.7	[55.5, 84.9]
Non-agricultural assets	42.7	[30.8, 94.7]
Exposure&Resilience to shocks	51.7	[38.8, 73.8]
Gender Equality		

Number of MPAT components

Above 60 points	5
In-between	4
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

		Average	[min, max]
Food & Nutrition Security	Consumption	100.0	[100, 100]
	Access Stability	100.0	[100, 100]
	Nutrition Quality	48.9	[40, 80]
Domestic Water Supply	Quality	53.7	[48.3, 93]
	Availability	100.0	[100, 100]
	Access	86.5	[86.5, 100]
Health & Healthcare	Status	81.7	[79, 100]
	Access	34.6	[33, 95.5]
	Quality	82.0	[82, 100]
Sanitation & Hygiene	Toilet Facilities	18.4	[10, 100]
	Waste Management	78.2	[73.5, 90]
	Practices	61.4	[56, 100]
Housing & Energy	Quality	51.0	[24, 100]
	Facilities	72.7	[58, 91.3]
	Energy	63.0	[63, 86]
Education	Quality	70.0	[70, 100]
	Availability	100.0	[100, 100]
	Access	67.5	[60, 100]
Agricultural Assets	Land Tenure	79.5	[75.5, 91.3]
	Quality	44.6	[41, 100]
	Inputs	58.5	[53.4, 93.8]
Non-Agricultural Assets	Skills	45.0	[25, 100]
	Services	43.2	[25.5, 100]
	Assets	42.0	[40, 95]
Exposure & Resilience to Shocks	Exposure	30.5	[25, 67.5]
	Coping ability	73.5	[48.3, 100]
	Recovery ability	66.8	[34.6, 90.8]
Gender Equality	Food		
	Education	69.2	[50, 100]
	Healthcare	55.0	[55, 100]

Number of MPAT subcomponents

Above 60 points	17
In-between	11
Below 30 points	1

Kaltani in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	42	[30, 45]
Average respondent's age (years)	31	[20, 66]
Average Head HH age (years)	58	[30, 70]

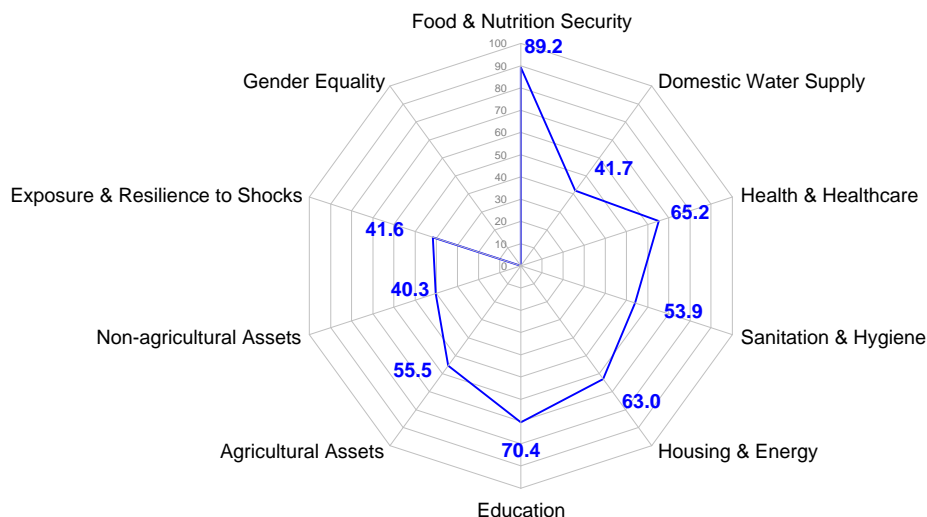
Gender statistics

Male respondents	10	100%
Female respondents	0	0%
Male Headed households	6	60%
Female Headed households	4	40%
Female & Male Headed households	0	0%

Head of household's marital status

Married	10	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	89.2	[87.6, 88.7]
Domestic Water Supply	41.7	[25.4, 84.6]
Health & Healthcare	65.2	[52.8, 65.5]
Sanitation & Hygiene	53.9	[34.6, 73.5]
Housing & Energy	63.0	[60, 70.6]
Education	70.4	[59.9, 86.2]
Agricultural assets	55.5	[50.3, 62.2]
Non-agricultural assets	40.3	[33.9, 56.5]
Exposure&Resilience to shocks	41.6	[31.5, 68.3]
Gender Equality		

Number of MPAT components

Above 60 points	4
In-between	5
Below 30 points	0

Color code:

Score 1-30	
Score 30-60	
Score 60-80	
Score 80-100	

v.6 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	60.3 [55.7, 58.6]
Domestic Water Supply	Quality	35.5 [16.4, 66.3]
	Availability	37.7 [17, 100]
	Access	62.2 [59.5, 86.5]
Health & Healthcare	Status	77.3 [59.5, 88]
	Access	54.3 [39, 40]
	Quality	66.0 [66, 82]
Sanitation & Hygiene	Toilet Facilities	40.6 [10, 94]
	Waste Management	65.5 [61.5, 83]
	Practices	92.2 [76, 66]
Housing & Energy	Quality	57.4 [52, 70]
	Facilities	74.1 [72, 79]
	Energy	61.6 [54, 63]
Education	Quality	70.0 [70, 70]
	Availability	75.0 [75, 100]
	Access	68.2 [42.5, 90]
Agricultural Assets	Land Tenure	77.1 [75.5, 84.3]
	Quality	48.3 [44.5, 53]
	Inputs	46.0 [36.3, 70.9]
Non-Agricultural Assets	Skills	33.3 [25, 75]
	Services	49.3 [42, 47.7]
	Assets	44.0 [40, 60]
Exposure & Resilience to Shocks	Exposure	17.5 [17.5, 40]
	Coping ability	79.9 [69.2, 90]
	Recovery ability	52.9 [22, 90]
Gender Equality	Food	
	Education	79.4 [46, 90]
	Healthcare	57.0 [55, 55]

Number of MPAT subcomponents

Above 60 points	16
In-between	12
Below 30 points	1

Kharsoda in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	45	[30, 60]
Average respondent's age (years)	41	[24, 55]
Average Head HH age (years)	51	[32, 85]

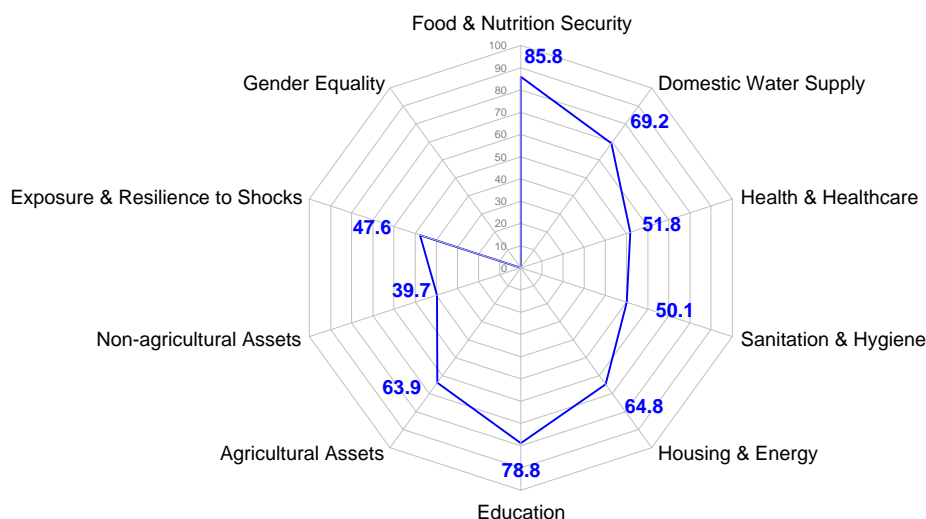
Gender statistics

Male respondents	10	100%
Female respondents	0	0%
Male Headed households	10	100%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	10	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	85.8	[81.8, 92]
Domestic Water Supply	69.2	[58.5, 64.9]
Health & Healthcare	51.8	[45, 70.6]
Sanitation & Hygiene	50.1	[32.8, 84]
Housing & Energy	64.8	[58.2, 68.9]
Education	78.8	[72.2, 76]
Agricultural assets	63.9	[60.4, 62.3]
Non-agricultural assets	39.7	[37.7, 50.8]
Exposure&Resilience to shocks	47.6	[40.4, 45.7]
Gender Equality		

Number of MPAT components

Above 60 points	5
In-between	4
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

		Average	[min, max]
Food & Nutrition Security	Consumption	100.0	[100, 100]
	Access Stability	100.0	[100, 100]
	Nutrition Quality	51.8	[41.7, 68.6]
Domestic Water Supply	Quality	69.9	[54.5, 54.5]
	Availability	60.5	[44.5, 80]
	Access	84.3	[75.3, 86.5]
Health & Healthcare	Status	69.1	[51.5, 91.5]
	Access	41.6	[31, 64]
	Quality	48.0	[48, 66]
Sanitation & Hygiene	Toilet Facilities	37.6	[10, 88]
	Waste Management	75.3	[65, 76.5]
	Practices	72.0	[70, 96]
Housing & Energy	Quality	60.7	[52, 79]
	Facilities	76.2	[72, 79]
	Energy	60.3	[54, 79]
Education	Quality	70.0	[70, 70]
	Availability	95.0	[95, 75]
	Access	74.2	[57.5, 82.5]
Agricultural Assets	Land Tenure	78.7	[75.5, 84.3]
	Quality	52.3	[44.5, 56.5]
	Inputs	62.4	[53.8, 66.3]
Non-Agricultural Assets	Skills	25.5	[25, 57.5]
	Services	58.4	[40.5, 54]
	Assets	48.0	[40, 60]
Exposure & Resilience to Shocks	Exposure	21.5	[17.5, 17.5]
	Coping ability	77.1	[66.7, 82.5]
	Recovery ability	67.9	[48, 67.3]
Gender Equality	Food		
	Education	90.7	[70, 100]
	Healthcare	55.0	[55, 70]

Number of MPAT subcomponents

Above 60 points	19
In-between	8
Below 30 points	2

Khera Talla in India

General information

Number of households interviewed	11	[min, max] within village
Average survey time (min)	24	[15, 60]
Average respondent's age (years)	48	[26, 60]
Average Head HH age (years)	57	[28, 85]

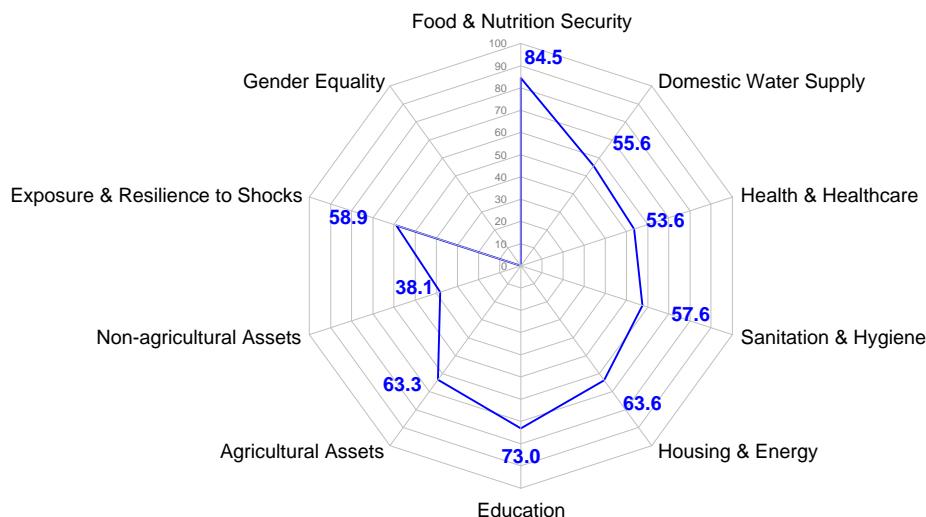
Gender statistics

Male respondents	2	18%
Female respondents	9	82%
Male Headed households	10	91%
Female Headed households	1	9%
Female & Male Headed households	0	0%

Head of household's marital status

Married	10	91%
Single	0	0%
Divorced	0	0%
Widowed	1	9%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	84.5	[69.7, 92]
Domestic Water Supply	55.6	[47.6, 87.7]
Health & Healthcare	53.6	[52.1, 57.8]
Sanitation & Hygiene	57.6	[29.5, 81.3]
Housing & Energy	63.6	[60.8, 71.8]
Education	73.0	[63, 82.1]
Agricultural assets	63.3	[52.2, 66.8]
Non-agricultural assets	38.1	[34.2, 44.4]
Exposure&Resilience to shocks	58.9	[50.3, 55.4]
Gender Equality		

Number of MPAT components

Above 60 points	4
In-between	5
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

		Average	[min, max]
Food & Nutrition Security	Consumption	97.1	[80, 100]
	Access Stability	97.5	[72.5, 100]
	Nutrition Quality	52.5	[41.4, 68.6]
Domestic Water Supply	Quality	57.4	[44.8, 75]
	Availability	42.0	[30.5, 100]
	Access	76.7	[59.5, 86.5]
Health & Healthcare	Status	77.0	[69, 96.5]
	Access	26.2	[24, 58]
	Quality	82.0	[82, 48]
Sanitation & Hygiene	Toilet Facilities	47.5	[10, 94]
	Waste Management	80.8	[77, 80]
	Practices	73.6	[46, 80]
Housing & Energy	Quality	57.7	[52, 79]
	Facilities	73.5	[72, 79]
	Energy	63.0	[63, 63]
Education	Quality	70.0	[70, 70]
	Availability	100.0	[100, 95]
	Access	58.8	[37.5, 82.5]
Agricultural Assets	Land Tenure	78.4	[75.5, 84.3]
	Quality	47.7	[41, 55]
	Inputs	66.6	[44.7, 67.5]
Non-Agricultural Assets	Skills	28.0	[25, 30]
	Services	46.8	[43, 72.3]
	Assets	48.6	[40, 75]
Exposure & Resilience to Shocks	Exposure	36.6	[25, 35]
	Coping ability	73.0	[54.2, 82.5]
	Recovery ability	80.8	[67.3, 80.5]
Gender Equality	Food		
	Education	97.8	[82, 100]
	Healthcare	52.5	[22.5, 55]

Number of MPAT subcomponents

Above 60 points	16
In-between	11
Below 30 points	2

Kinshu in India

General information

Number of households interviewed	11	[min, max] within village
Average survey time (min)	23	[15, 40]
Average respondent's age (years)	42	[22, 80]
Average Head HH age (years)	48	[25, 88]

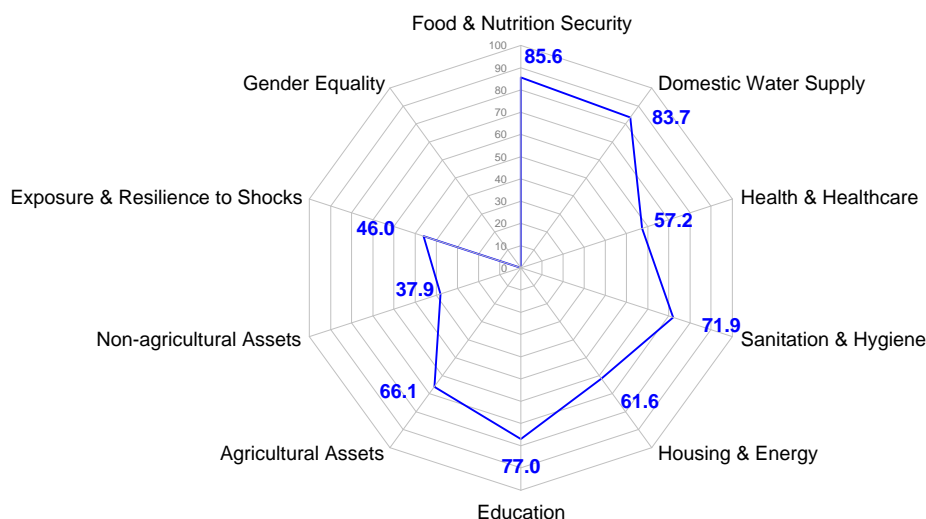
Gender statistics

Male respondents	5	45%
Female respondents	6	55%
Male Headed households	10	91%
Female Headed households	1	9%
Female & Male Headed households	0	0%

Head of household's marital status

Married	8	73%
Single	0	0%
Divorced	0	0%
Widowed	3	27%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	85.6	[78.9, 88.7]
Domestic Water Supply	83.7	[74.8, 61.6]
Health & Healthcare	57.2	[41.2, 57]
Sanitation & Hygiene	71.9	[30.6, 84.5]
Housing & Energy	61.6	[60.8, 69.7]
Education	77.0	[71, 86.2]
Agricultural assets	66.1	[64.9, 69.3]
Non-agricultural assets	37.9	[35.4, 48.8]
Exposure&Resilience to shocks	46.0	[26.9, 73.8]
Gender Equality		

Number of MPAT components

Above 60 points	6
In-between	3
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

		Average	[min, max]
Food & Nutrition Security	Consumption	100.0	[100, 100]
	Access Stability	98.8	[86.5, 100]
	Nutrition Quality	51.6	[35.7, 58.6]
Domestic Water Supply	Quality	66.3	[66.3, 66.3]
	Availability	100.0	[100, 44.5]
	Access	84.0	[59.5, 84.3]
Health & Healthcare	Status	86.4	[79, 88]
	Access	28.4	[12, 33]
	Quality	82.0	[82, 82]
Sanitation & Hygiene	Toilet Facilities	78.7	[10, 94]
	Waste Management	78.1	[77, 83]
	Practices	68.0	[54, 86]
Housing & Energy	Quality	52.0	[52, 73]
	Facilities	74.8	[72, 79]
	Energy	63.0	[63, 63]
Education	Quality	70.0	[70, 70]
	Availability	95.0	[95, 100]
	Access	69.6	[55, 90]
Agricultural Assets	Land Tenure	78.4	[75.5, 84.3]
	Quality	53.0	[53, 54.5]
	Inputs	68.0	[66.9, 92.2]
Non-Agricultural Assets	Skills	25.0	[25, 57.5]
	Services	47.7	[47.7, 47.7]
	Assets	52.7	[40, 75]
Exposure & Resilience to Shocks	Exposure	28.2	[25, 65]
	Coping ability	77.1	[70, 77.5]
	Recovery ability	53.8	[10, 90]
Gender Equality	Food		
	Education	92.9	[78, 100]
	Healthcare	55.0	[55, 60]

Number of MPAT subcomponents

Above 60 points	19
In-between	7
Below 30 points	3

Papra Talla in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	28	[20, 45]
Average respondent's age (years)	34	[17, 65]
Average Head HH age (years)	53	[37, 65]

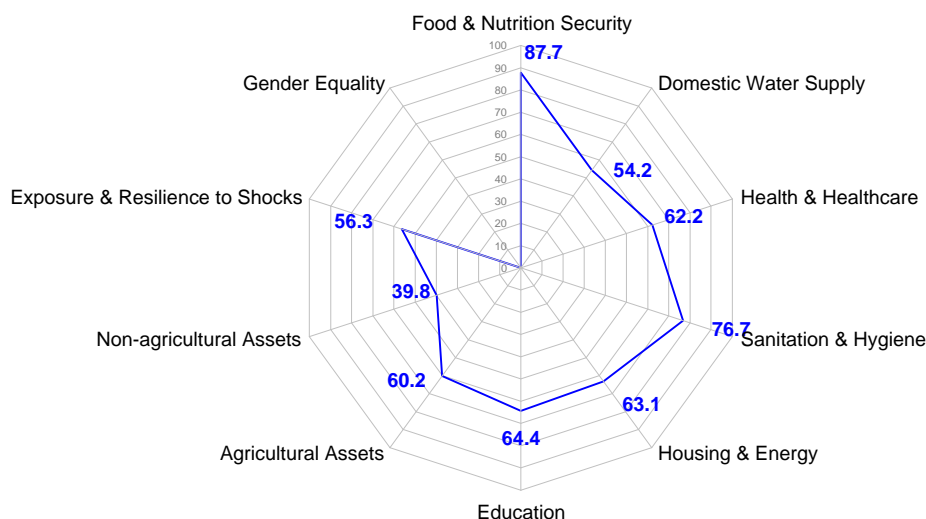
Gender statistics

Male respondents	2	20%
Female respondents	8	80%
Male Headed households	8	80%
Female Headed households	2	20%
Female & Male Headed households	0	0%

Head of household's marital status

Married	7	70%
Single	0	0%
Divorced	0	0%
Widowed	3	30%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	87.7	[81, 87.6]
Domestic Water Supply	54.2	[47, 84.6]
Health & Healthcare	62.2	[56.9, 64.9]
Sanitation & Hygiene	76.7	[34.5, 86.6]
Housing & Energy	63.1	[60.8, 62.6]
Education	64.4	[59.8, 84.7]
Agricultural assets	60.2	[42.7, 67.7]
Non-agricultural assets	39.8	[35.4, 43]
Exposure&Resilience to shocks	56.3	[46.5, 58.7]
Gender Equality		

Number of MPAT components

Above 60 points	6
In-between	3
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	56.6 [40, 55.7]
Domestic Water Supply	Quality	63.3 [37, 66.3]
	Availability	38.9 [37.5, 100]
	Access	71.0 [59.5, 86.5]
Health & Healthcare	Status	79.9 [79, 88]
	Access	38.7 [30, 39]
	Quality	82.0 [82, 82]
Sanitation & Hygiene	Toilet Facilities	77.2 [10, 94]
	Waste Management	80.3 [77, 83]
	Practices	84.0 [76, 86]
Housing & Energy	Quality	54.1 [52, 52]
	Facilities	73.4 [72, 79]
	Energy	67.0 [63, 63]
Education	Quality	70.0 [70, 70]
	Availability	100.0 [100, 95]
	Access	40.0 [32.5, 90]
Agricultural Assets	Land Tenure	71.9 [25.8, 84.3]
	Quality	49.4 [41, 53]
	Inputs	63.9 [52.2, 74.4]
Non-Agricultural Assets	Skills	28.3 [25, 25]
	Services	49.3 [43, 47.7]
	Assets	53.0 [40, 80]
Exposure & Resilience to Shocks	Exposure	30.0 [25, 40]
	Coping ability	73.6 [45, 87.5]
	Recovery ability	83.4 [63.8, 90]
Gender Equality	Food	
	Education	100.0 [100, 100]
	Healthcare	55.0 [55, 55]

Number of MPAT subcomponents

Above 60 points	18
In-between	10
Below 30 points	1

Saudi in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	30	[20, 40]
Average respondent's age (years)	38	[26, 69]
Average Head HH age (years)	51	[35, 75]

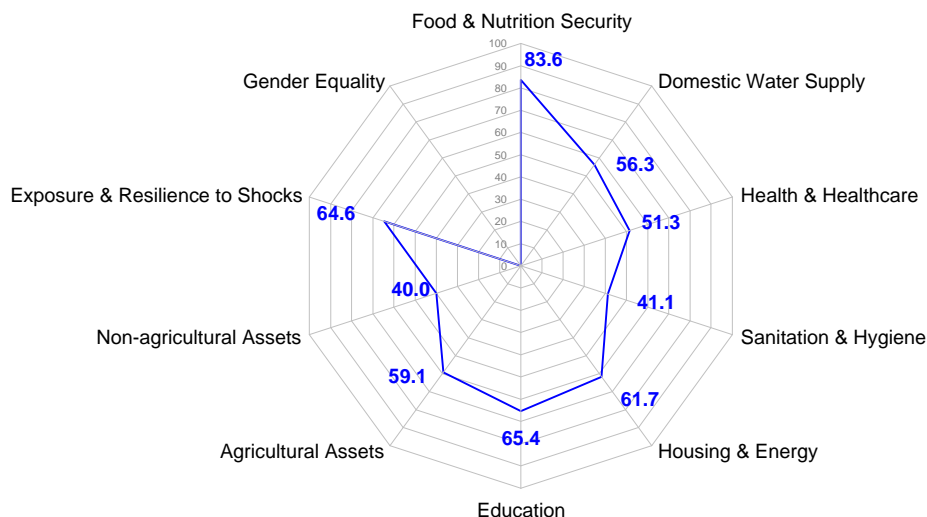
Gender statistics

Male respondents	10	100%
Female respondents	0	0%
Male Headed households	10	100%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	10	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	83.6	[80.3, 92.5]
Domestic Water Supply	56.3	[48.8, 58.1]
Health & Healthcare	51.3	[43.5, 69.9]
Sanitation & Hygiene	41.1	[19.2, 91.7]
Housing & Energy	61.7	[47.8, 69.7]
Education	65.4	[47.7, 65.8]
Agricultural assets	59.1	[49.7, 67.6]
Non-agricultural assets	40.0	[34.9, 52.8]
Exposure&Resilience to shocks	64.6	[59.7, 65.2]
Gender Equality		

Number of MPAT components

Above 60 points	4
In-between	5
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	45.9 [38.6, 70]
Domestic Water Supply	Quality	66.9 [66.3, 66.3]
	Availability	37.8 [23.5, 51.5]
	Access	78.4 [59.5, 84.3]
Health & Healthcare	Status	74.7 [57, 88]
	Access	32.0 [22, 54]
	Quality	58.0 [58, 82]
Sanitation & Hygiene	Toilet Facilities	26.8 [10, 94]
	Waste Management	81.5 [80, 83]
	Practices	61.0 [14, 96]
	Quality	54.8 [34.5, 73]
Housing & Energy	Facilities	71.5 [69, 79]
	Energy	63.5 [48, 83]
	Quality	60.0 [60, 70]
Education	Availability	99.0 [99, 100]
	Access	51.0 [20, 42.5]
	Land Tenure	77.6 [75.5, 87.8]
Agricultural Assets	Quality	50.7 [41, 53]
	Inputs	52.5 [38.8, 67.2]
	Skills	25.0 [25, 57.5]
Non-Agricultural Assets	Services	54.1 [45.8, 57.8]
	Assets	55.0 [40, 80]
Exposure & Resilience to Shocks	Exposure	51.5 [50, 40]
	Coping ability	77.6 [67.5, 80.8]
	Recovery ability	67.9 [63.1, 90]
Gender Equality	Food	
	Education	88.0 [50, 100]
	Healthcare	55.0 [55, 55]

Number of MPAT subcomponents

Above 60 points	15
In-between	12
Below 30 points	2

Sirsoda in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	39	[30, 45]
Average respondent's age (years)	44	[23, 50]
Average Head HH age (years)	49	[38, 68]

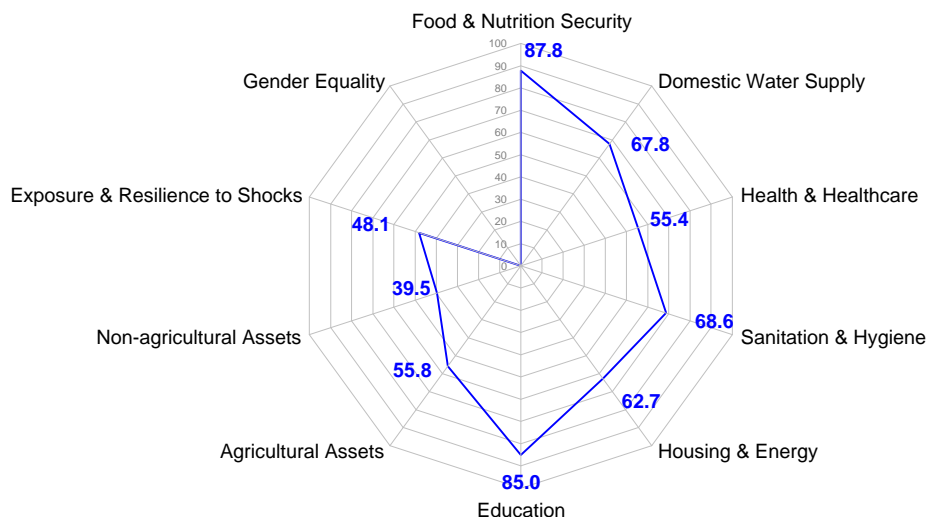
Gender statistics

Male respondents	10	100%
Female respondents	0	0%
Male Headed households	6	60%
Female Headed households	4	40%
Female & Male Headed households	0	0%

Head of household's marital status

Married	9	90%
Single	0	0%
Divorced	0	0%
Widowed	1	10%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	87.8	[83.6, 86.5]
Domestic Water Supply	67.8	[51.9, 62.2]
Health & Healthcare	55.4	[45.2, 59.1]
Sanitation & Hygiene	68.6	[33.1, 81.3]
Housing & Energy	62.7	[60.8, 74.4]
Education	85.0	[69.6, 79.4]
Agricultural assets	55.8	[38.8, 72.1]
Non-agricultural assets	39.5	[33.4, 45.5]
Exposure&Resilience to shocks	48.1	[45.7, 69.2]
Gender Equality		

Number of MPAT components

Above 60 points	5
In-between	4
Below 30 points	0

Color code:

Score 1-30	
Score 30-60	
Score 60-80	
Score 80-100	

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	56.6 [45.7, 52.9]
	Quality	56.2 [38.6, 72.3]
Domestic Water Supply	Availability	73.7 [44.5, 44.5]
	Access	77.3 [59.5, 86.5]
	Status	78.3 [48.5, 93]
Health & Healthcare	Access	44.0 [31, 45]
	Quality	48.0 [48, 58]
	Toilet Facilities	65.2 [10, 94]
Sanitation & Hygiene	Waste Management	66.5 [65, 83]
	Practices	85.0 [70, 86]
	Quality	54.7 [52, 73]
Housing & Energy	Facilities	74.8 [72, 72]
	Energy	63.0 [63, 83]
	Quality	100.0 [100, 60]
Education	Availability	97.0 [97, 99]
	Access	67.1 [37.5, 82.5]
	Land Tenure	74.2 [46.3, 84.3]
Agricultural Assets	Quality	51.7 [44.5, 65.3]
	Inputs	46.0 [28.8, 72.5]
	Skills	31.5 [25, 25]
Non-Agricultural Assets	Services	49.6 [40, 72.3]
	Assets	45.0 [40, 75]
Exposure & Resilience to Shocks	Exposure	20.3 [17.5, 65]
	Coping ability	81.4 [79.2, 87.5]
	Recovery ability	70.2 [58.3, 72.5]
	Food	
Gender Equality	Education	64.7 [50, 100]
	Healthcare	67.0 [55, 55]

Number of MPAT subcomponents

Above 60 points	18
In-between	10
Below 30 points	1

Thath in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	42	[23, 60]
Average respondent's age (years)	46	[22, 60]
Average Head HH age (years)	59	[45, 60]

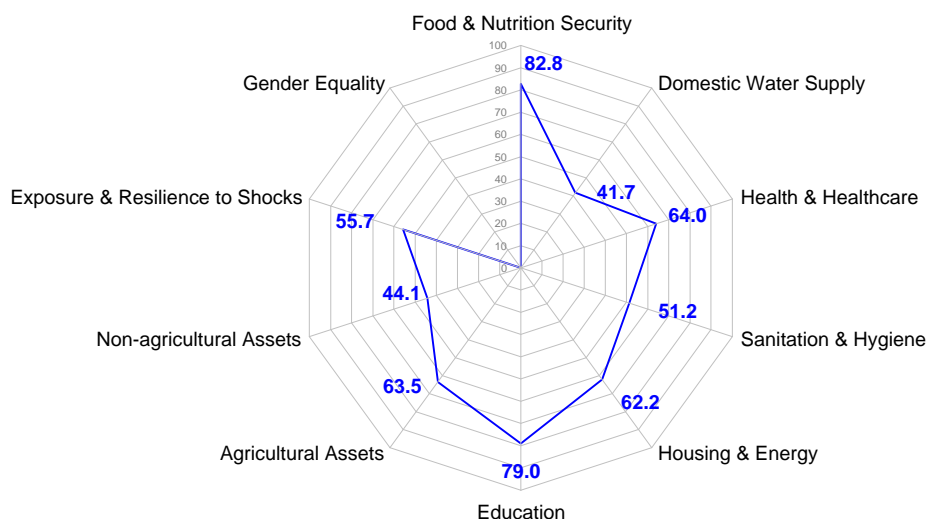
Gender statistics

Male respondents	8	80%
Female respondents	2	20%
Male Headed households	10	100%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	7	70%
Single	0	0%
Divorced	0	0%
Widowed	3	30%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	82.8	[77.4, 93.4]
Domestic Water Supply	41.7	[29.7, 84.6]
Health & Healthcare	64.0	[54.2, 64.6]
Sanitation & Hygiene	51.2	[33.1, 84]
Housing & Energy	62.2	[58, 74.1]
Education	79.0	[72.7, 95.3]
Agricultural assets	63.5	[46.1, 70]
Non-agricultural assets	44.1	[36.9, 48.1]
Exposure&Resilience to shocks	55.7	[50.5, 56.6]
Gender Equality		

Number of MPAT components

Above 60 points	5
In-between	4
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	44.7 [32.9, 72.9]
Domestic Water Supply	Quality	31.7 [10, 66.3]
	Availability	40.6 [31, 100]
	Access	59.5 [59.5, 86.5]
Health & Healthcare	Status	75.4 [48.5, 87.5]
	Access	69.1 [50, 64]
	Quality	48.0 [48, 48]
Sanitation & Hygiene	Toilet Facilities	33.6 [10, 88]
	Waste Management	68.0 [65, 80]
	Practices	90.8 [76, 96]
Housing & Energy	Quality	54.7 [52, 79]
	Facilities	76.2 [72, 79]
	Energy	60.3 [48, 63]
Education	Quality	70.0 [70, 100]
	Availability	97.0 [97, 97]
	Access	73.2 [57.5, 90]
Agricultural Assets	Land Tenure	80.2 [75.5, 84.3]
	Quality	54.2 [44.5, 85]
	Inputs	59.4 [27.5, 68.8]
Non-Agricultural Assets	Skills	32.5 [25, 57.5]
	Services	62.8 [38, 57.8]
	Assets	54.5 [40, 60]
Exposure & Resilience to Shocks	Exposure	33.3 [25, 37.5]
	Coping ability	74.1 [64.2, 83]
	Recovery ability	73.1 [58.3, 74.5]
Gender Equality	Food	
	Education	89.3 [50, 82]
	Healthcare	73.3 [50, 100]

Number of MPAT subcomponents

Above 60 points	17
In-between	12
Below 30 points	0

Toli in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	37	[30, 75]
Average respondent's age (years)	42	[24, 72]
Average Head HH age (years)	55	[42, 85]

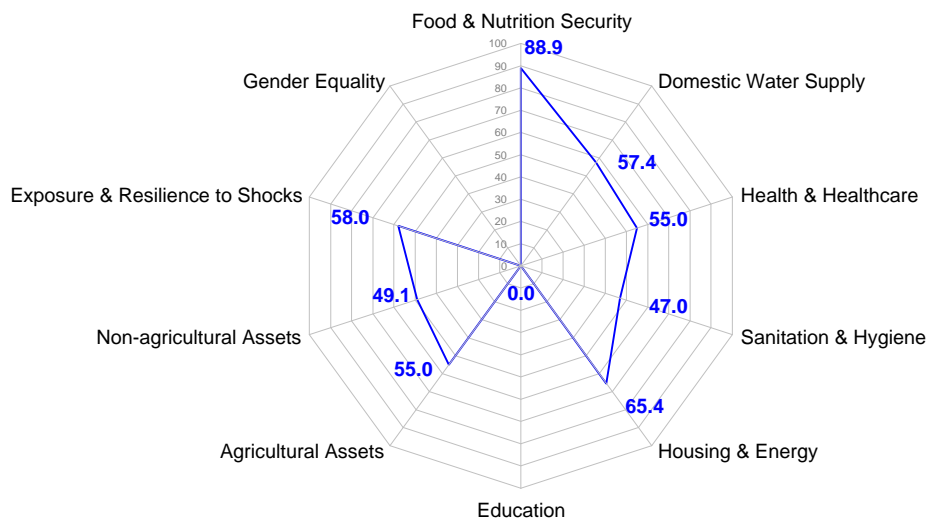
Gender statistics

Male respondents	6	60%
Female respondents	4	40%
Male Headed households	3	30%
Female Headed households	7	70%
Female & Male Headed households	0	0%

Head of household's marital status

Married	10	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.6 Components (average across households within village)



v.6 MPAT Components

	Average	[min, max]
Food & Nutrition Security	88.9	[84.8, 90.2]
Domestic Water Supply	57.4	[49.7, 57.2]
Health & Healthcare	55.0	[46.1, 72.1]
Sanitation & Hygiene	47.0	[33.7, 84.2]
Housing & Energy	65.4	[58, 74.1]
Education	NaN	[0, 83.6]
Agricultural assets	55.0	[45.2, 76.4]
Non-agricultural assets	49.1	[36.8, 60.4]
Exposure&Resilience to shocks	58.0	[46.3, 64.6]
Gender Equality		

Number of MPAT components

Above 60 points	2
In-between	6
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.6 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	Consumption	100.0 [100, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	59.4 [48.6, 62.9]
Domestic Water Supply	Quality	73.6 [54.5, 62.8]
	Availability	36.2 [31, 55]
	Access	81.1 [59.5, 59.5]
Health & Healthcare	Status	75.2 [52.5, 82.5]
	Access	44.4 [39, 91]
	Quality	48.0 [48, 48]
Sanitation & Hygiene	Toilet Facilities	27.0 [10, 94]
	Waste Management	64.7 [61.5, 80]
	Practices	92.8 [80, 100]
Housing & Energy	Quality	62.8 [52, 79]
	Facilities	75.1 [68, 79]
	Energy	60.6 [48, 72]
Education	Quality	0.0 [0, 70]
	Availability	97.0 [97, 97]
	Access	76.9 [67.5, 85]
Agricultural Assets	Land Tenure	79.9 [75.5, 91.3]
	Quality	45.6 [44.5, 65.3]
	Inputs	45.3 [27.2, 87.2]
Non-Agricultural Assets	Skills	51.0 [25, 100]
	Services	46.4 [42, 100]
	Assets	52.5 [40, 75]
Exposure & Resilience to Shocks	Exposure	33.8 [17.5, 42.5]
	Coping ability	80.1 [70.8, 83]
	Recovery ability	73.5 [67.3, 90]
Gender Equality	Food	
	Education	88.8 [58, 100]
	Healthcare	56.5 [55, 100]

Number of MPAT subcomponents

Above 60 points	16
In-between	11
Below 30 points	2

Part III: Village Profiles-MPAT v.7

	Village name/code	Population	Number of households
China	1	703	134
	2	1179	262
India	Bhentala	558	102
	Lwarkha	540	112
	Naag	898	120

China

General information

Number of households interviewed	30	[min, max] across households
Average survey time (min)	26	[23, 29]
Average respondent's age (years)	44	[27, 63]
Average Head HH age (years)	44	[27, 63]

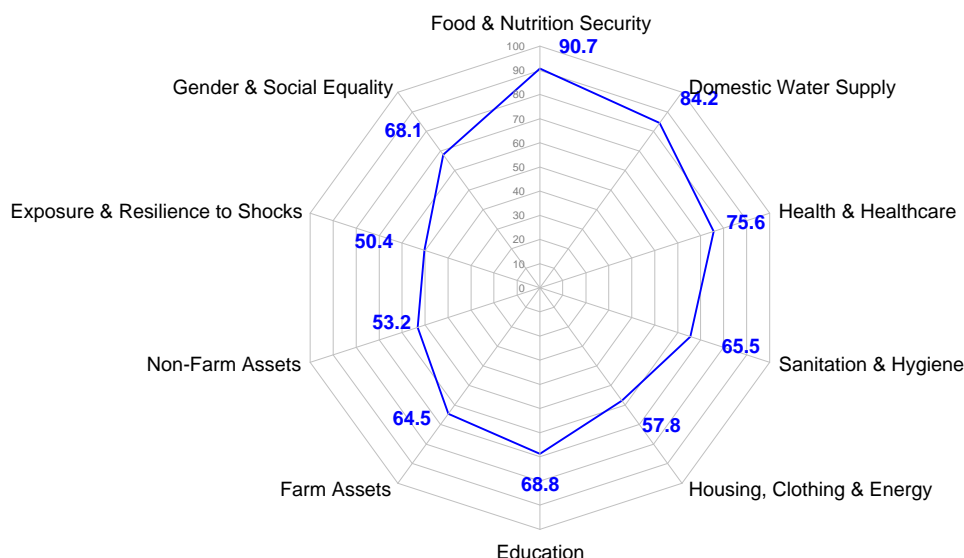
Gender statistics

Male respondents	28	93%
Female respondents	2	7%
Male Headed households	28	93%
Female Headed households	2	7%
Female & Male Headed households	0	0%

Head of household's marital status

Married	29	97%
Single	0	0%
Divorced	0	0%
Widowed	1	3%

MPAT v.7 Components (population weighted average across villages)



v.7 MPAT Components

	Average	[min, max]
Food & Nutrition Security	90.7	[90.5, 91]
Domestic Water Supply	84.2	[82.5, 87.2]
Health & Healthcare	75.6	[72.6, 77.4]
Sanitation & Hygiene	65.5	[64, 66.4]
Housing, Clothing & Energy	57.8	[54.3, 59.9]
Education	68.8	[62.4, 79.5]
Farm Assets	64.5	[64.5, 64.5]
Non-Farm Assets	53.2	[51.9, 54]
Exposure & Resilience to Shocks	50.4	[47.9, 51.8]
Gender & Social Equality	68.1	[64.5, 74.1]

Number of MPAT components

Above 60 points	7
In-between	3
Below 30 points	0

Color code:
Score 1-30
Score 30-60
Score 60-80
Score 80-100

v.7 MPAT subcomponents

		Average	[min, max]
Food & Nutrition Security	Consumption	96.8	[96.8, 96.8]
	Access Stability	97.0	[96.3, 98.2]
	Nutrition Quality	74.7	[74.6, 74.8]
Domestic Water Supply	Quality	71.9	[66.7, 80.8]
	Availability	91.5	[91.5, 91.5]
	Access	88.7	[88.5, 88.8]
Health & Healthcare	Health Status	80.7	[75.5, 83.8]
	Access & Affordability	68.3	[62.3, 71.8]
	Healthcare Quality	80.2	[76.7, 86]
Sanitation & Hygiene	Toilet Facilities	77.5	[71.2, 81.2]
	Household Waste Management	44.1	[43.6, 45]
	Hygiene Practices	73.7	[73.3, 74.5]
Housing, Clothing & Energy	Housing Structure-Quality	50.6	[45.3, 53.7]
	Clothing		
	Energy Sources	70.0	[70, 70]
Education	Quality	57.5	[50, 70]
	Availability	68.3	[60.6, 81.3]
	Access	95.0	[95, 95]
Farm Assets	Land Tenure	63.5	[62.6, 64]
	Land Quality	51.7	[50, 54.5]
	Crop Inputs	63.6	[58.2, 66.8]
Non-Farm Assets	Livestock/Aquaculture Inputs	90.6	[88.9, 93.3]
	Skills	45.3	[44.5, 46.7]
	Services	57.6	[49.5, 62.5]
Exposure & Resilience to Shocks	Assets	64.2	[62.7, 66.7]
	Exposure	25.9	[23, 27.6]
	Coping ability	79.4	[79.3, 79.5]
Gender & Social Equality	Recovery ability	63.0	[61.6, 63.8]
	Access to Education	35.5	[31.1, 43.1]
	Access to Healthcare	88.6	[86, 93]
	Social Equality	100.0	[100, 100]

Number of MPAT subcomponents

Above 60 points	22
In-between	7
Below 30 points	1

1 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	26	[24, 29]
Average respondent's age (years)	50	[30, 63]
Average Head HH age (years)	50	[30, 63]

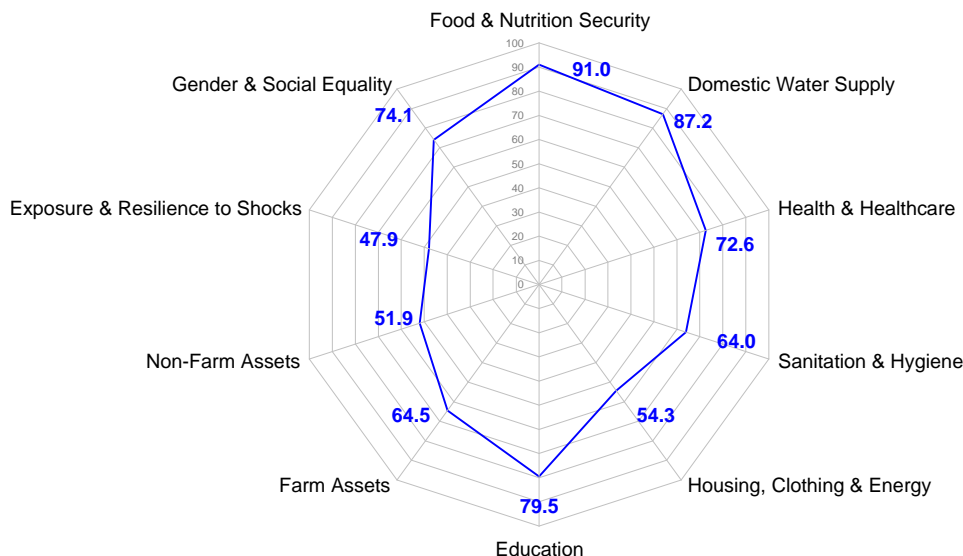
Gender statistics

Male respondents	13	87%
Female respondents	2	13%
Male Headed households	13	87%
Female Headed households	2	13%
Female & Male Headed households	0	0%

Head of household's marital status

Married	14	93%
Single	0	0%
Divorced	0	0%
Widowed	1	7%

MPAT v.7 Components (average across households within village)



v.7 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	91.0	[100, 100]
Domestic Water Supply	87.2	[79.1, 93.4]
Health & Healthcare	72.6	[82.4, 95]
Sanitation & Hygiene	64.0	[63.6, 83.9]
Housing, Clothing & Energy	54.3	[57.3, 69.3]
Education	79.5	[43.3, 76.8]
Farm Assets	64.5	[75.6, 82.1]
Non-Farm Assets	51.9	[59.4, 68.7]
Exposure & Resilience to Shocks	47.9	[33.3, 61]
Gender & Social Equality	74.1	[39.7, 54.9]

Number of MPAT components

Above 60 points	7
In-between	3
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.7 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	96.8 [88, 100]
	Access Stability	98.2 [72.5, 100]
	Nutrition Quality	74.6 [73.4, 76.2]
Domestic Water Supply	Quality	80.8 [77.3, 91]
	Availability	91.5 [86.5, 94]
	Access	88.5 [78, 100]
Health & Healthcare	Health Status	75.5 [48, 91.5]
	Access & Affordability	62.3 [50, 75]
	Healthcare Quality	86.0 [65, 100]
Sanitation & Hygiene	Toilet Facilities	71.2 [56, 82]
	Household Waste Management	45.0 [45, 45]
	Hygiene Practices	74.5 [60, 86]
Housing, Clothing & Energy	Housing Structure-Quality	45.3 [30, 82.5]
	Clothing	
	Energy Sources	70.0 [70, 70]
Education	Quality	70.0 [70, 70]
	Availability	81.3 [81.3, 81.3]
	Access	95.0 [95, 95]
Farm Assets	Land Tenure	62.6 [59.3, 68]
	Land Quality	54.5 [50, 57.5]
	Crop Inputs	58.2 [46.5, 68.5]
Non-Farm Assets	Livestock/Aquaculture Inputs	93.3 [75, 100]
	Skills	46.7 [25, 57.5]
	Services	49.5 [34.3, 54.5]
Exposure & Resilience to Shocks	Assets	66.7 [48, 86]
	Exposure	23.0 [13, 35.5]
	Coping ability	79.3 [76, 85]
Gender & Social Equality	Recovery ability	61.6 [51.8, 72.3]
	Access to Education	43.1 [22, 70]
	Access to Healthcare	93.0 [85, 100]
	Social Equality	100.0 [100, 100]

Number of MPAT subcomponents

Above 60 points	22
In-between	7
Below 30 points	1

2 in China

General information

Number of households interviewed	15	[min, max] within village
Average survey time (min)	26	[23, 29]
Average respondent's age (years)	38	[27, 54]
Average Head HH age (years)	38	[27, 54]

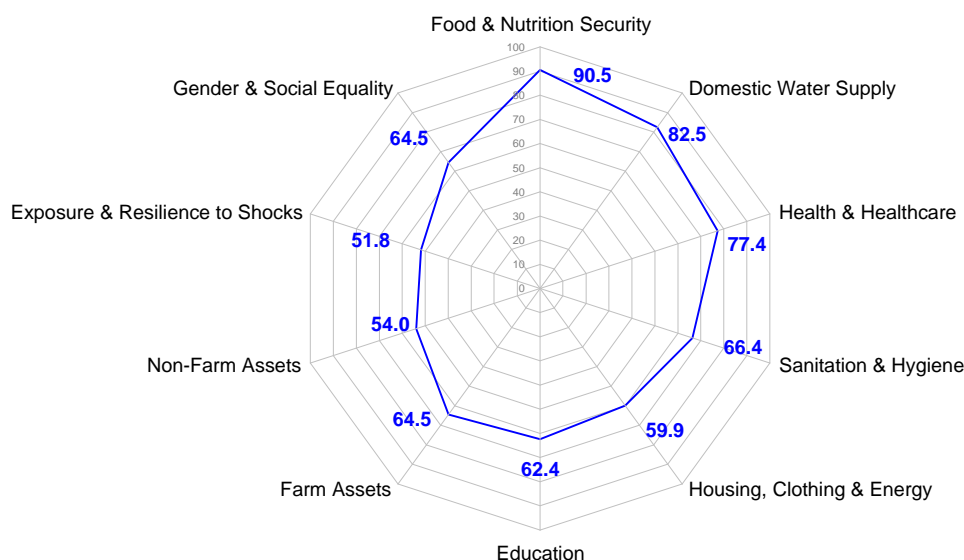
Gender statistics

Male respondents	15	100%
Female respondents	0	0%
Male Headed households	15	100%
Female Headed households	0	0%
Female & Male Headed households	0	0%

Head of household's marital status

Married	15	100%
Single	0	0%
Divorced	0	0%
Widowed	0	0%

MPAT v.7 Components (average across households within village)



v.7 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	90.5	[100, 100]
Domestic Water Supply	82.5	[79.1, 95.3]
Health & Healthcare	77.4	[79.3, 87.3]
Sanitation & Hygiene	66.4	[69.5, 84.9]
Housing, Clothing & Energy	59.9	[55.7, 70.8]
Education	62.4	[54.5, 76.8]
Farm Assets	64.5	[55.2, 67.1]
Non-Farm Assets	54.0	[57.2, 70.7]
Exposure & Resilience to Shocks	51.8	[38.5, 70]
Gender & Social Equality	64.5	[42.7, 59.5]

Number of MPAT components

Above 60 points	7
In-between	3
Below 30 points	0

Color code:

Score 1-30	
Score 30-60	
Score 60-80	
Score 80-100	

v.7 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	96.8 [88, 100]
	Access Stability	96.3 [72.5, 100]
	Nutrition Quality	74.8 [73.4, 82.4]
Domestic Water Supply	Quality	66.7 [63.8, 72.5]
	Availability	91.5 [77.5, 100]
	Access	88.8 [88, 100]
Health & Healthcare	Health Status	83.8 [66, 97.5]
	Access & Affordability	71.8 [64, 85]
	Healthcare Quality	76.7 [74, 97.1]
Sanitation & Hygiene	Toilet Facilities	81.2 [76, 82]
	Household Waste Management	43.6 [24, 45]
	Hygiene Practices	73.3 [63.3, 84]
Housing, Clothing & Energy	Housing Structure-Quality	53.7 [45, 82.5]
	Clothing	
	Energy Sources	70.0 [70, 70]
Education	Quality	50.0 [50, 50]
	Availability	60.6 [60.6, 60.6]
	Access	95.0 [95, 95]
Farm Assets	Land Tenure	64.0 [62.8, 71.5]
	Land Quality	50.0 [50, 50]
	Crop Inputs	66.8 [57, 74]
Non-Farm Assets	Livestock/Aquaculture Inputs	#DIV/0! #DIV/0!
	Skills	44.5 [25, 57.5]
	Services	62.5 [48, 77.3]
Exposure & Resilience to Shocks	Assets	62.7 [48, 86]
	Exposure	27.6 [17.5, 36]
	Coping ability	79.5 [77.3, 80.8]
Gender & Social Equality	Recovery ability	63.8 [56.8, 72.3]
	Access to Education	31.1 [10, 54]
	Access to Healthcare	86.0 [85, 100]
	Social Equality	100.0 [100, 100]

Number of MPAT subcomponents

Above 60 points	22
In-between	7
Below 30 points	1

India

General information

Number of households interviewed	30	[min, max] across households
Average survey time (min)	33	[20, 60]
Average respondent's age (years)	51	[20, 75]
Average Head HH age (years)	53	[30, 75]

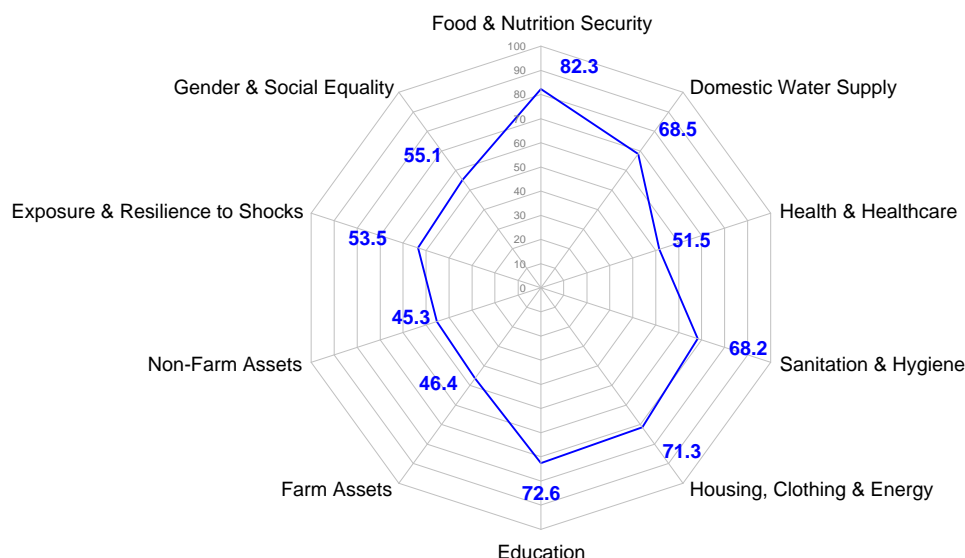
Gender statistics

Male respondents	13	43%
Female respondents	17	57%
Male Headed households	19	63%
Female Headed households	11	37%
Female & Male Headed households	0	0%

Head of household's marital status

Married	21	70%
Single	0	0%
Divorced	0	0%
Widowed	9	30%

MPAT v.7 Components (population weighted average across villages)



v.7 MPAT Components

	Average	[min, max]
Food & Nutrition Security	82.3	[82.1, 82.8]
Domestic Water Supply	68.5	[56.1, 73.9]
Health & Healthcare	51.5	[49, 54.4]
Sanitation & Hygiene	68.2	[64.3, 71.3]
Housing, Clothing & Energy	71.3	[70, 72.9]
Education	72.6	[68.9, 79.2]
Farm Assets	46.4	[33.1, 60.4]
Non-Farm Assets	45.3	[37.9, 54.1]
Exposure & Resilience to Shocks	53.5	[43.6, 57.9]
Gender & Social Equality	55.1	[50.7, 60.4]

Number of MPAT components

Above 60 points	5
In-between	5
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.7 MPAT subcomponents

	Average	[min, max]
Food & Nutrition Security	80.0	[79, 81.1]
Consumption	100.0	[100, 100]
Access Stability	68.4	[65.6, 71.2]
Nutrition Quality	50.9	[49.6, 52.8]
Domestic Water Supply	72.9	[41, 87.3]
Quality	86.2	[85.6, 88]
Availability	76.7	[71.9, 83.6]
Access	43.2	[40.6, 48.3]
Health & Healthcare	39.0	[37.5, 43.2]
Health Status	76.3	[54.4, 90.8]
Access & Affordability	63.6	[60, 72.4]
Healthcare Quality	67.2	[60.4, 80]
Sanitation & Hygiene	71.9	[69.5, 73.3]
Toilet Facilities	71.6	[69, 73]
Household Waste Management	70.8	[47.3, 81.3]
Hygiene Practices	82.3	[66.3, 100]
Housing, Clothing & Energy	69.6	[63, 77.8]
Housing Structure-Quality	37.8	[10, 63.6]
Clothing	84.2	[82, 85]
Energy Sources	47.0	[42.7, 57.7]
Quality	62.0	[46.6, 69.8]
Availability	35.5	[25, 45.5]
Access	53.3	[47.1, 66]
Farm Assets	56.7	[53.4, 62.8]
Land Tenure	37.6	[34.3, 40.1]
Land Quality	79.9	[75.1, 82.8]
Crop Inputs	55.4	[34, 65.9]
Livestock/Aquaculture Inputs	35.3	[25.2, 42.8]
Skills	62.9	[59.5, 65]
Services	84.0	[79.3, 87.7]
Assets		
Exposure & Resilience to Shocks		
Exposure		
Coping ability		
Recovery ability		
Gender & Social Equality		
Access to Education		
Access to Healthcare		
Social Equality		

Number of MPAT subcomponents

Above 60 points	19
In-between	11
Below 30 points	0

Bhentala in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	32	[20, 40]
Average respondent's age (years)	55	[34, 70]
Average Head HH age (years)	55	[34, 70]

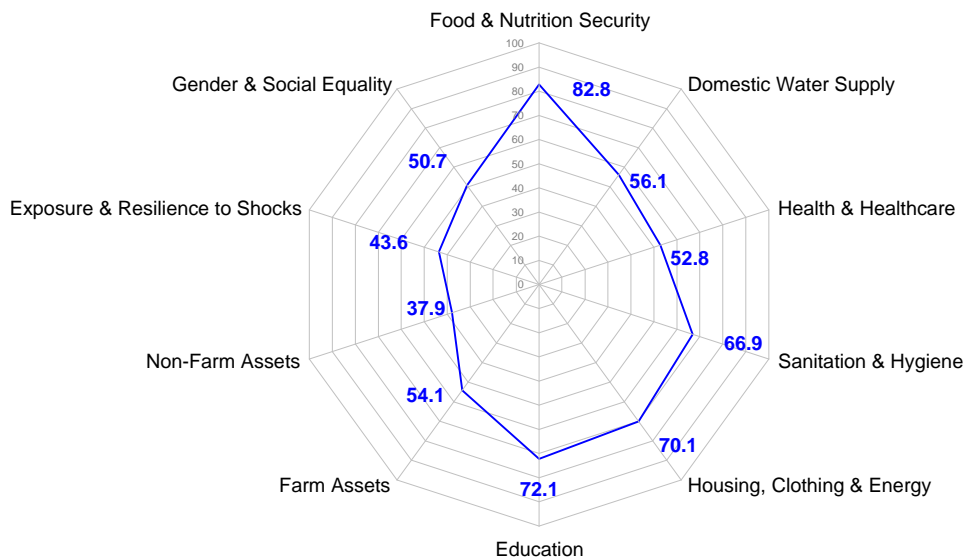
Gender statistics

Male respondents	7	70%
Female respondents	3	30%
Male Headed households	7	70%
Female Headed households	3	30%
Female & Male Headed households	0	0%

Head of household's marital status

Married	7	70%
Single	0	0%
Divorced	0	0%
Widowed	3	30%

MPAT v.7 Components (average across households within village)



v.7 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	82.8	[82.6, 82.6]
Domestic Water Supply	56.1	[77.1, 87.5]
Health & Healthcare	52.8	[52.7, 58.5]
Sanitation & Hygiene	66.9	[45.7, 56.3]
Housing, Clothing & Energy	70.1	[58.5, 73.9]
Education	72.1	[57.4, 84.1]
Farm Assets	54.1	[64.9, 79.3]
Non-Farm Assets	37.9	[19.5, 73.2]
Exposure & Resilience to Shocks	43.6	[34.9, 42.9]
Gender & Social Equality	50.7	[28.4, 50.3]

Number of MPAT components

Above 60 points	4
In-between	6
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.7 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	79.0 [79, 79]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	71.2 [53, 87.9]
Domestic Water Supply	Quality	52.8 [52.8, 52.8]
	Availability	41.0 [37.5, 44.5]
	Access	85.6 [64, 88]
Health & Healthcare	Health Status	83.6 [75.5, 89]
	Access & Affordability	42.3 [28, 49]
	Healthcare Quality	37.5 [33, 42]
Sanitation & Hygiene	Toilet Facilities	54.4 [46, 62]
	Household Waste Management	72.4 [60, 93]
	Hygiene Practices	80.0 [58, 90]
Housing, Clothing & Energy	Housing Structure-Quality	71.9 [51, 100]
	Clothing	
	Energy Sources	69.0 [67, 87]
Education	Quality	47.3 [47.3, 47.3]
	Availability	100.0 [100, 100]
	Access	77.8 [57.5, 100]
Farm Assets	Land Tenure	57.6 [10, 79]
	Land Quality	85.0 [85, 85]
	Crop Inputs	57.7 [49.9, 69.8]
Non-Farm Assets	Livestock/Aquaculture Inputs	46.6 [20.3, 72.3]
	Skills	25.0 [25, 25]
	Services	47.1 [33.5, 53]
Exposure & Resilience to Shocks	Assets	53.4 [42, 80]
	Exposure	34.3 [27.5, 39.5]
	Coping ability	75.1 [65.5, 79.5]
Gender & Social Equality	Recovery ability	34.0 [10, 40]
	Access to Education	25.2 [22, 30]
	Access to Healthcare	59.5 [55, 60]
	Social Equality	82.6 [82.6, 82.6]

Number of MPAT subcomponents

Above 60 points	14
In-between	14
Below 30 points	2

Lwarkha in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	32	[20, 50]
Average respondent's age (years)	46	[20, 64]
Average Head HH age (years)	51	[30, 64]

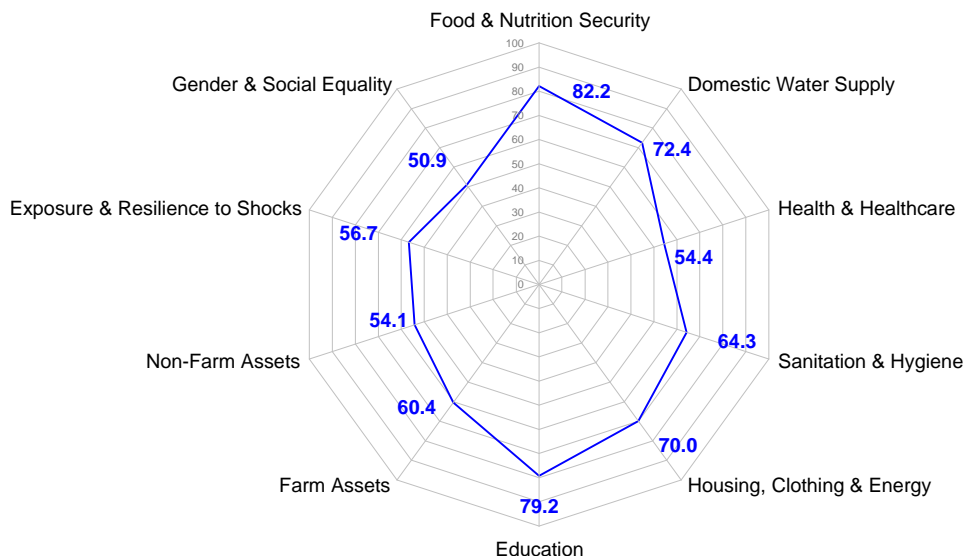
Gender statistics

Male respondents	3	30%
Female respondents	7	70%
Male Headed households	8	80%
Female Headed households	2	20%
Female & Male Headed households	0	0%

Head of household's marital status

Married	8	80%
Single	0	0%
Divorced	0	0%
Widowed	2	20%

MPAT v.7 Components (average across households within village)



v.7 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	82.2	[69.1, 80.4]
Domestic Water Supply	72.4	[78.4, 91.4]
Health & Healthcare	54.4	[60.7, 75.4]
Sanitation & Hygiene	64.3	[46.5, 71]
Housing, Clothing & Energy	70.0	[49.3, 84.1]
Education	79.2	[54, 78.8]
Farm Assets	60.4	[68.5, 86.2]
Non-Farm Assets	54.1	[30.8, 75]
Exposure & Resilience to Shocks	56.7	[37, 80.5]
Gender & Social Equality	50.9	[33.6, 64.5]

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	

v.7 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	81.1 [79, 100]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	65.6 [56.8, 73.1]
Domestic Water Supply	Quality	49.6 [49.3, 52.8]
	Availability	82.1 [51.5, 86.5]
	Access	88.0 [88, 88]
Health & Healthcare	Health Status	77.6 [38, 95]
	Access & Affordability	48.3 [31, 59]
	Healthcare Quality	43.2 [36, 60]
Sanitation & Hygiene	Toilet Facilities	74.8 [46, 94]
	Household Waste Management	60.5 [60, 65]
	Hygiene Practices	60.4 [46, 90]
Housing, Clothing & Energy	Housing Structure-Quality	69.5 [55.5, 73]
	Clothing	
	Energy Sources	71.9 [46, 87]
Education	Quality	77.8 [77.8, 77.8]
	Availability	90.6 [90.6, 90.6]
	Access	72.3 [47.5, 90]
Farm Assets	Land Tenure	63.6 [10, 84.3]
	Land Quality	82.0 [55, 85]
	Crop Inputs	43.2 [30.4, 65.8]
Non-Farm Assets	Livestock/Aquaculture Inputs	69.8 [50, 90]
	Skills	45.5 [25, 95]
	Services	66.0 [48, 77.3]
Exposure & Resilience to Shocks	Assets	62.8 [42, 80]
	Exposure	37.1 [29.5, 48]
	Coping ability	80.1 [69, 87]
Gender & Social Equality	Recovery ability	65.9 [10, 89.1]
	Access to Education	33.4 [10, 88]
	Access to Healthcare	63.0 [60, 70]
	Social Equality	79.3 [69.1, 80.4]

Number of MPAT subcomponents

Above 60 points	23
In-between	7
Below 30 points	0

Naag in India

General information

Number of households interviewed	10	[min, max] within village
Average survey time (min)	36	[25, 60]
Average respondent's age (years)	53	[38, 75]
Average Head HH age (years)	54	[38, 75]

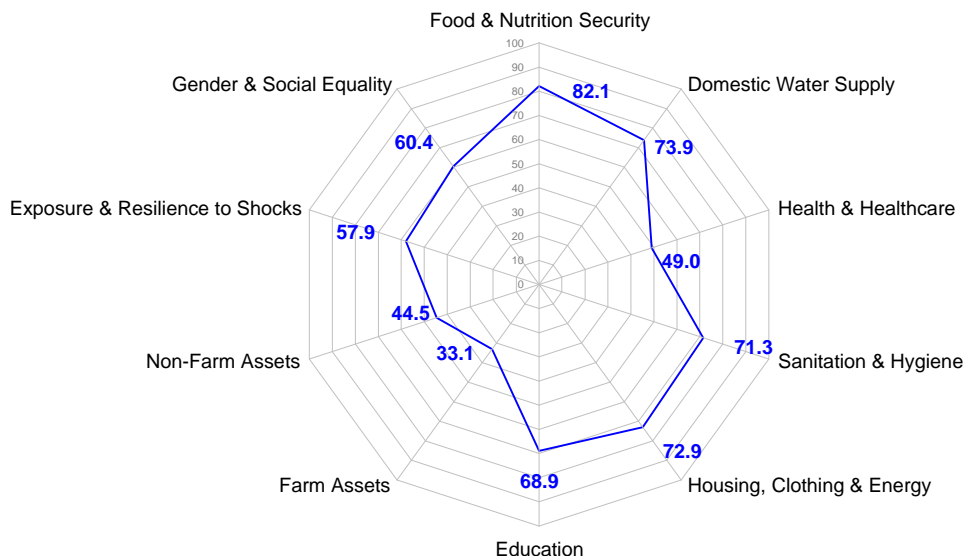
Gender statistics

Male respondents	3	30%
Female respondents	7	70%
Male Headed households	4	40%
Female Headed households	6	60%
Female & Male Headed households	0	0%

Head of household's marital status

Married	6	60%
Single	0	0%
Divorced	0	0%
Widowed	4	40%

MPAT v.7 Components (average across households within village)



v.7 MPAT Components

Scores across households		
	Average	[min, max]
Food & Nutrition Security	82.1	[78.1, 89.4]
Domestic Water Supply	73.9	[77.1, 88.8]
Health & Healthcare	49.0	[67.9, 77.8]
Sanitation & Hygiene	71.3	[39, 93.2]
Housing, Clothing & Energy	72.9	[64.2, 77.5]
Education	68.9	[60.2, 94.2]
Farm Assets	33.1	[62.6, 76.4]
Non-Farm Assets	44.5	[30.9, 34.8]
Exposure & Resilience to Shocks	57.9	[36, 59.1]
Gender & Social Equality	60.4	[30.8, 65.6]

Number of MPAT components

Above 60 points	6
In-between	4
Below 30 points	0

Color code:

Score 1-30	Red
Score 30-60	Orange
Score 60-80	Yellow
Score 80-100	Green

v.7 MPAT subcomponents

Scores across households		
	Average	[min, max]
Food & Nutrition Security	Consumption	79.9 [79, 88]
	Access Stability	100.0 [100, 100]
	Nutrition Quality	68.3 [53, 93.2]
Domestic Water Supply	Quality	50.6 [38.6, 52.8]
	Availability	87.3 [86.5, 94]
	Access	85.6 [64, 88]
Health & Healthcare	Health Status	71.9 [54.5, 95]
	Access & Affordability	40.6 [26, 47]
	Healthcare Quality	37.5 [33, 49.5]
Sanitation & Hygiene	Toilet Facilities	90.8 [62, 94]
	Household Waste Management	60.0 [60, 60]
	Hygiene Practices	63.4 [46, 76]
Housing, Clothing & Energy	Housing Structure-Quality	73.3 [55.5, 100]
	Clothing	
	Energy Sources	73.0 [67, 87]
Education	Quality	81.3 [81.3, 81.3]
	Availability	66.3 [66.3, 66.3]
	Access	63.0 [47.5, 82.5]
Farm Assets	Land Tenure	10.0 [10, 10]
	Land Quality	85.0 [85, 85]
	Crop Inputs	42.7 [29.2, 46.7]
Non-Farm Assets	Livestock/Aquaculture Inputs	66.9 [56.2, 77.7]
	Skills	36.0 [25, 62.5]
	Services	49.6 [48, 53]
Exposure & Resilience to Shocks	Assets	55.0 [42, 74]
	Exposure	40.1 [34.5, 50.5]
	Coping ability	82.8 [79.5, 89]
Gender & Social Equality	Recovery ability	62.5 [10, 90]
	Access to Education	42.8 [10, 62]
	Access to Healthcare	65.0 [55, 85]
	Social Equality	87.7 [78.1, 89.4]

Number of MPAT subcomponents

Above 60 points	20
In-between	9
Below 30 points	1

Part IV: MPAT v.6 valuations and Weightings

1. Food and Nutrition Security

1.1 Consumption

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	For #35.2
Weights	0.60	0.40
Answer code	Value	Value
1	10	10
2	8	8
3	6.5	6.5
4	5	5
5	4	4
6	2	2
7	1	1
8	MD	MD

1.2 Access Stability

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	For #35.4
Weights	0.55	0.45
Answer code	Value	Value
1	10	10
2	5	7
3	3	5
4	2	3
5	1	1
6	1	MD
7	MD	

1.3 Nutrition Quality

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	For #36.2	For #36.3	For #36.4	For #36.5	For #36.6	For #36.7
Weights	1/7	1/7	1/7	1/7	1/7	1/7	1/7
Answer code	Value	Value	Value	Value	Value	Value	Value
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	4	3
4	4	4	4	4	4	5	5
5	5	5	6	6	6	8	7
6	7	7	9	8	8	9	10
7	9	9	10	9	10	6	10
8	MD	MD	MD	MD	MD	MD	MD

2. Domestic Water Supply

2.1 Quality

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)		

	For #15	For #16.1	For #16.2
Weights	0.45	0.35	0.20
<i>Answer code</i>	<i>Value</i>	<i>Value</i>	<i>Value</i>
1	7	MD	1
2	10	1	2
3	6	2	4
4	6	4.5	6.5
5	9	5.5	9
6	3.5	8	10
7	7	10	
8	3.5		
9	6		
10	1.5		
11	5.5		
12	6.5		
13	8		
14	4.5		
15	6.5		
16	8.5		
17	4		
18	5		
19	2.5		
20	MD		

2.2 Availability

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)

	For #17.1		For #17.2
Weights	0.70		0.30
<i>Unit (months) interval</i>	<i>Value</i>	<i>Answer code</i>	<i>Value</i>
0 - 2	1	1	10
3-4	2	2	8
5-6	3	3	5.5
7-8	4	4	2.5
9-10	5	5	1
11	7.5		
12	10		

2.3 Access

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)		

	For #18		For #17.2
Weights	0.55		0.45
Unit (months) interval	Value	Answer code	Value
1-10	10	1	1
11-20	8	2	3
21-30	7	3	4.5
31-60	5	4	6.5
61-90	2	5	10
91+	1	6	7

3. Health and Health Care

3.1 Health Status

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)

	For #6.1	For #6.2	For #6.3	For #56
Weights	0.25	0.30	0.10	0.35
Answer code	Value	Value	Value	Value
1	10	10	8.5	8
2	8	7	6	9
3	6	5	5	10
4	4	3	4	4
5	2	2	3	2
6	1	1	2	1
7	1	1	1	5
8	MD	MD	MD	MD

3.2 Access & Affordability

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 = <input type="text"/>

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 = <input type="text"/>
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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)	

	For #7.1		For #7.2		For #8.1	For #8.2
Weights	0.20		0.30		0.20	0.30
Answer code	Value	Answer code	Value	Answer code	Value	Value
-1	3	-1	1	1	1	1
-2	1	-2	1	2	4	3
-3	1			3	5	4
Unit (minutes) interval		Unit (minutes) interval		4	7	6
1-10	10	1-10	10	5	8	8.5
11-30	9	11-30	9	6	10	10
31-60	8	31-60	7			
61-120	7	61-120	6			
121-180	6	121-180	4			
181-240	3	181-240	2			
241-360	2	241+	1			
361+	1					

3.3 Healthcare Quality

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

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

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

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

Please note: these questions are from the village-level interview (not from the household questionnaires).

	For #52		For #53		For #54		For #55
Weights	0.30		0.20		0.10		0.40
Answer code	Value	Years of experience (intervals)	Value	Ratio interval	Value	Years of training	Value
1	1	0-5	4	1:3000	1	1	1
2	2	6-7	6	1:2500	2	2	3
3	4	8-9	8	1:2000	4	3	5
4	6.5	10+	10	1:1500	6	4	6
5	10			1:1000	7	5	7
				1:500	8	6	8
				1:250	9	7	9
				1:100	10	8+	10

4. Sanitation & Hygiene

4.1 Toilet Facility

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)
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	For #12.1	For #12.2
Weights	0.60	0.40
Answer code	Value	Value
1	1	10
2	2	8.5
3	3	5
4	7	2
5	6	1
6	8	MD
7	5	

8	8	
9	9	
10	8	
11	10	
12	9	
13	9	
14	MD	

4.2 Household waste management

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)?	1. Discard close to the house [within 25 meters]	2. Discard near the house [between 25 and 75 meters from the house]
13.2) What does your household usually do with vegetable and/or fruit food waste (any parts not consumed by people in the household)?	3. Discard far from the house [75 meters or more]	4. Feed to livestock
13.3) What does your household usually do with non-food waste?	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:

	For #13.1	For #13.2	For #13.3
Weights	0.35	0.35	0.30
Answer code	Value	Value	Value
1	2	2	3
2	4	4	5
3	7	7	7
4	8	8	MD
5	6.5	6.5	3
6	8	8	MD
7	MD	10	MD
8	9	9	7
9	8	8	9.5
10	9	9	9
11	8	8	8
12	MD	MD	MD

4.3 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)			

	For #14.1	For #14.2	For #14.3
Weights	0.20	0.40	0.40
Answer code	Value	Value	Value
1	1	1	1
2	2	2	2
3	3	5	5
4	5	7.5	7.5
5	8	10	10
6	10		
7	10		

5. Housing & Energy

5.1 Structure Quality

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)

	For #10.1	For #10.3
Weights	0.70	0.30
<i>Answer code</i>	<i>Value</i>	<i>Value</i>
1	7	1
2	8	9
3	8.5	7
4	7	3
5	4	8
6	3	MD
7	4.5	
8	2	
9	2	
10	4	
11	3	
12	2	
13	1	
14	2	
15	1	

5.2 Facilities

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:

	For #1		For #34
Weights	0.70		0.30
<i>Ratio interval</i>	<i>Value</i>	<i>Answer code</i>	<i>Value</i>
1:1	9	1	1
1:2	7	2	2
1:3	4	3	3
1:4	2	4	4

		5	6.5
		6	8
		7	9.5
		8	MD
		9	MD

5.3 Energy

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

	For #11.1	For #11.2	For #11.3
Weights	0.30	0.40	0.30
Answer code	Value	Value	Value
1	1	1	1
2	10	10	9
3	8	8	7
4	9	9	5
5	7	6	8
6	8	9	8
7	5	7	3
8	5	1	1
9	3	4	7
10	2	6	8
11	MD	MD	MD
12	MD	MD	9

6. Education

6.1 Quality

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)

Please note: these questions are from the village-level interview (not from the household questionnaires).

	For #48
Weights	1
Answer code	Value
1	6
2	7
3	10
4	4
5	3

6	1
7	5
8	MD
9	MD

6.2 Availability

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	
--------------------	--	--------------------	--

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)
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Please note: these questions are from the village-level interview (not from the household questionnaires).

	For #44		For #46	For #47		For #49
Weights	0.20		0.30	0.30		0.20
Ratio interval (teacher/student)	Value	Answer code	Value	Value	Number of potential students (intervals, % of actual student population at the school)	Value
1:1-10	10	1	1	1	0	10
1:11-15	9.5	2	2	2	1-5%	6
1:16-20	8.5	3	5	5	6-10%	4
1:21-25	7.5	4	7.5	7.5	11-20%	2.5
1:26-30	5.5	5	10	10	21+%	1
1:31-40	3.5	6	MD	MD		
1:41-50	2					
1:51+	1					

6.3 Access

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 = <input type="text"/>	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)	

	For #4.1		For #4.2
Weights	0.50		0.50
Answer code	Value	Answer code	Value
-2	8.5	1	1
Unit (minutes) interval	Value	2	2
1-15	10	3	3
16-30	8.5	4	6.5
31-45	7	5	8
46-60	5.5	6	5
61-90	3.5	7	8.5
91-120	2	8	10
120+	1		

7. Agricultural Assets

7.1 Land Tenure

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)

	For #21.1		For #24
Weights	0.35		0.65
Unit (hectares) interval	Value	Answer code	Value
0	1	1	1
0-0.2	3	2	6.5
0.2-0.5	4	3	3.5
0.5-1	5.5	4	7.5
1.1-2	6.5	5	2
2.1-4	7.5	6	8
4.1-6	8.5	7	4
6.1+	10	8	9
		9	5.5
		10	10

7.2 Land Quality

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

Don't know (1)	Stony-gravelly (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)
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	For #25.1	For #25.2	For #25.3
Weights	0.35	0.35	0.30
Answer code	Value	Answer code	Value
1	MD	MD	MD
2	2.5	2	2
3	6.5	5	6
4	10	10	10
5	8.5	2.5	
6	5	3.5	
7		5	
8		5	
9		MD	

7.3 Crop/Livestock/Fishery Inputs

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)
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	For 22 and 23 for CROPS	For 22 and 23 for LIVESTOCK	For #26.1	For #26.2	For #26.3
Weights	0.125	0.125	0.25	0.25	0.25
Answer code	Value	Value	Value	Value	Value
1	2	3	3	7.5	1
2	2	3	1	1	2
3	1	1	3	2	4
4	1	1	5	5	7
5	5	5	8	8	10
6	9	9	10	10	
7	10	10		MD	
8	5				

8. Non-Agricultural Assets

8.1 Employment & Skills

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)

	For #38.1	For #38.2
Weights	0.50	0.50
Answer code	Value	Value
1	7	1.5
2	3.5	2.5
3		4
4		5
5		7.5
6		9

8.2 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:

	For #39.1	For #39.2	For #40
Weights	0.40	0.25	0.30
Answer code	Value	Value	Value
1	1.5	8	5
2	2.5	5	5
3	5.5	4.5	5
4	8.5	3	4
5	3.5		6
6			2
7			6.5
8			7
9			8
10			7
11			4
12			MD

8.3 Fixed Assets & Remittances

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:

	For #2		For #10.2
Weights	0.50		0.50
<i>Ratio interval</i>	<i>Value</i>	<i>Answer code</i>	<i>Value</i>
61-100%	9	1	6
41-50%	8	2	7.5
31-40%	6	3	8
11-30%	5	4	7.5
0-10%	3	5	9.5
none	2	6	4
		7	6
		8	3.5
		9	4.5
		10	3.5
		11	2
		12	MD

9. Exposure & Resilience to Shocks

9.1 Degree of Exposure

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" (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.]

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:

	For #29		For #29
Weights			
<i>Answer code</i>	<i>Value</i>	<i>Answer code</i>	<i>Value</i>
1	1.5	21	6
2	2	22	5.5
3	2	23	7.5
4	4.5	24	5
5	6	25	8
6	5.5	26	6
7	3	27	4.5
8	3.5	28	5.5

9	8	29	7
10	8	30	3
11	3	31	4.5
12	3	32	2.5
13	5	33	3.5
14	4	34	8.5
15	5	35	5
16	5	36	3
17	5	37	1.5
18	6.5	38	4
19	3	39	3
20	3.5	40	MD

9.2 Coping Ability

32) If two or three of the five negative events you just mentioned [in question 29] 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	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:

	For #32		For #32
Weights			
Answer code	Value	Answer code	Value
1	8.5	21	4
2	4	22	1.5
3	7.5	23	2
4	8	24	1.5
5	3	25	2
6	9	26	3.5
7	7	27	8
8	5	28	9
9	6	29	7.5
10	4.5	30	6.5
11	4.5	31	6.5
12	3.5	32	8
13	4.5	33	8
14	6	34	9
15	8	35	MD
16	7	36	MD
17	3		
18	7		
19	7		
20	1		

9.3 Recovery Ability

33.1) If one or two of the negative events you just mentioned [in question 29] 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)

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):	

	For #33.1		For #33.2		For #33.3
Weights	0.45		0.35		0.30
Answer code	Value	Answer code	Value	Answer code	Value (1-10)
-2	10	-2	6.5	1	1
-3	1	-3	1	2	7
Unit (months) interval	Value (1-10)	Unit (months) interval	Value (1-10)	3	5
2-3	8	1-3	10	4	10
4-6	7	4-6	9	5	8
7-12	6	7-12	7.5	6	9
13-24	4	13-24	6.5	7	9
25-48	2.5	25-48	4.5	8	9
48+	1	48+	1	9	5.5
-2	10	-2	6.5	10	4
-3	1	-3	1		

10. Gender Equality

10.1 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:

	For #37
Weights	0.45
Answer code	Value
1	4
2	4
3	6
4	5
5	4
6	3
7	4

8	3
9	5.5
10	4.5
11	7
12	7.5
13	6.5
14	10
15	MD
16	MD

10.2 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 = <input type="text"/>	

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 = <input type="text"/>	

- | |
|--|
| 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) |

	For #5.1	For #5.2
Weights	0.60	0.40
<i>Answer code</i>	<i>Value</i>	<i>Value</i>
1	1	1
2	3	3
3	5	5
4	7	7
5	9	9
6	10	10
7	10	10

10.3 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)
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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)	

	For #9.1	For #9.2
Weights	0.50	0.50
<i>Answer code</i>	<i>Value</i>	<i>Value</i>
1	8	MD
2	3.5	1
3	10	2
4	5	4
5		7
6		10
7		7

Expert Weights for the MPAT v.6 Subcomponents

Subcomponent	Weight	Subcomponent	Weight
Sub1.1	0.44	Sub6.1	0.31
Sub1.2	0.32	Sub6.2	0.33
Sub1.3	0.24	Sub6.3	0.36
Sub2.1	0.29	Sub7.1	0.35
Sub2.2	0.38	Sub7.2	0.31
Sub2.3	0.33	Sub7.3	0.34
Sub3.1	0.37	Sub8.1	0.39
Sub3.2	0.35	Sub8.2	0.33
Sub3.3	0.28	Sub8.3	0.28
Sub4.1	0.39	Sub9.1	0.34
Sub4.2	0.26	Sub9.2	0.33
Sub4.3	0.35	Sub9.3	0.33
Sub5.1	0.40	Sub10.1	0.33
Sub5.2	0.31	Sub10.2	0.35
Sub5.3	0.28	Sub10.3	0.32

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Abstract

The Multidimensional Poverty Assessment Tool (MPAT) was developed by the UN International Fund for Agricultural Development with a view to assess local-level poverty in rural regions around the globe. The MPAT is a survey-based thematic indicator of ten dimensions, from Food & Nutrition Security to Domestic Water Supply, Health & Healthcare, to Gender Equality.

The aims of this validation report are: (a) to spot eventual conceptual and methodological shortcomings in the MPAT, (b) to identify suitable aggregation methods for the survey items, (c) to assess the internal consistency of the MPAT conceptual framework, and finally, (d) to offer snapshots of the MPAT results. The results show that the MPAT, 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. The analysis undertaken in this work provides no guarantee of the true ability of the MPAT to describe rural poverty world wide. Yet, it provides enough evidence that the MPAT cannot easily be falsified by methodological cunning.

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