

Sudan

EquityTool: Released March 3, 2019

Source data: [Sudan MICS 2014](#)

of survey questions in original wealth index: 43

of variables in original index: 140

of survey questions in EquityTool: 10

of variables in EquityTool: 11



Questions:

	Question	Option 1	Option 2	Option 3
Q1	Does your household have... electricity?	Yes	No	
Q2	...a television?	Yes	No	
Q3	...a refrigerator?	Yes	No	
Q4	...a digital receiver?	Yes	No	
Q5	... a washing machine?	Yes	No	
Q6	... a smart phone?	Yes	No	
Q7	Is there a place at your home to wash your hands with water?	Yes	No	
Q8	What is the main material of the floor of your home?	Earth/sand floor	Other floor material	
Q9	What is the main material of the roof of your home?	Thatch/palm leaf roof	Other roof material	

Q10	What type of fuel does your household mainly use for cooking?	Liquefied Petroleum Gas (LPG)	Wood	Other cooking fuel
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Technical notes:

The standard simplification process was applied to achieve high agreement with the original wealth index. Kappa was greater than 0.75 for the national and urban indices. Details on the standard process can be found [in this article](#). The data used to identify important variables comes from the factor weights derived from the reconstruction of the original MICS wealth index using analytical syntax provided to Metrics for Management by UNICEF. The MICS wealth index for Sudan is constructed using the same approach as the DHS wealth index. More information about how the DHS wealth index is constructed can be found [here](#). Factor weights used in the construction of the Sudan MICS 2014 EquityTool are available upon request.

Level of agreement:

	National Population (n=16,801)	Urban only population (n=4,825)
% agreement	86.4%	85.2%
Kappa statistic	0.787	0.761

Respondents in the original dataset were divided into three groups for analysis – those in the 1st and 2nd quintiles (poorest 40%), those in the 3rd quintile, and those in the 4th and 5th quintiles (richest 40%). After calculating their wealth using the simplified index, they were again divided into the same three groups for analysis against the original data in the full wealth index. Agreement between the original data and our simplified index is presented above.

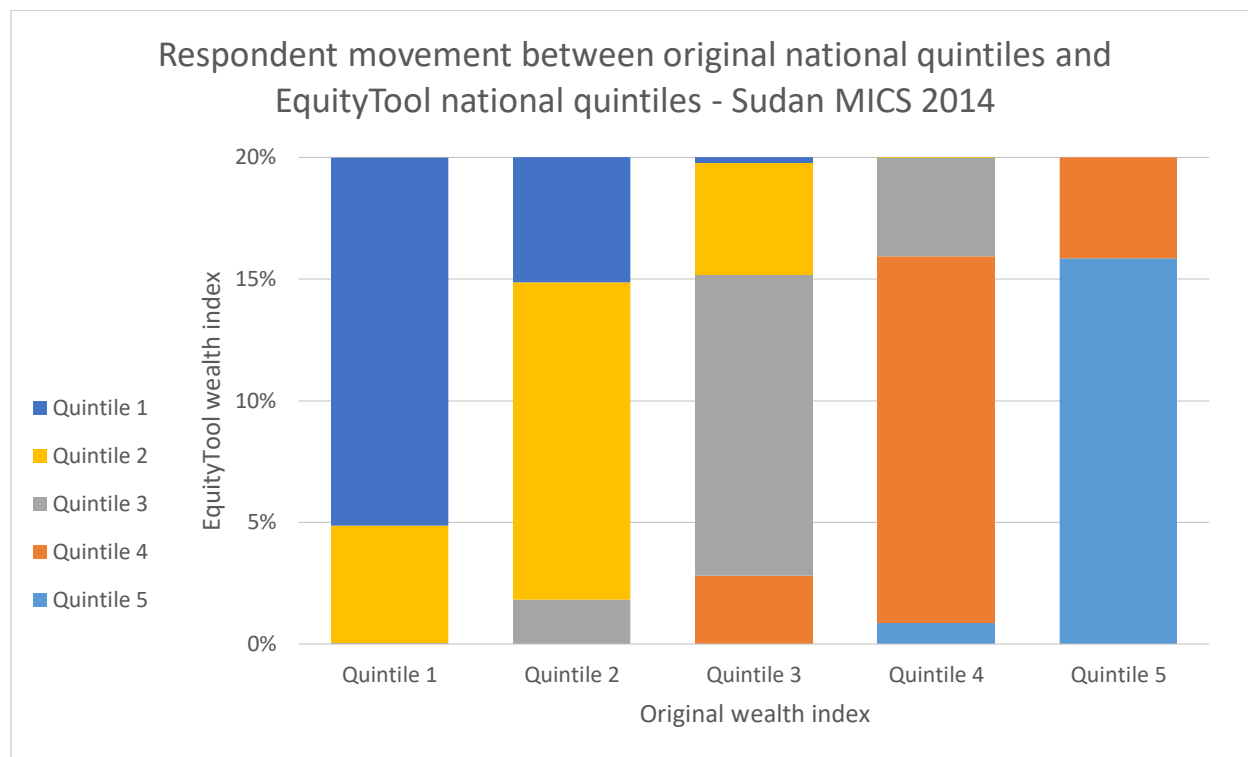
What does this mean?

When shortening and simplifying the index to make it easier for programs to use to assess equity, it no longer matches the original index with 100% accuracy. At an aggregate level, this error is minimal, and this methodology was deemed acceptable for programmatic use by an expert panel. However, for any given individual, especially those already at a boundary between two quintiles, the quintile the EquityTool assigns them to may differ to their quintile according to the original DHS wealth index.

The graph below illustrates the difference between the EquityTool generated index and the full MICS wealth index. Among all of those people (20% of the population) originally identified as being in the poorest quintile, approximately 75% are still identified as being in the poorest quintile when we use the simplified index. However, approximately 24% of those people are now classified as being in Quintile 2. From a practical standpoint, all of these people are



relatively poor. Yet, it is worthwhile to understand that the simplified index of 10 questions produces results that are not identical to using all 43 questions in the original survey.

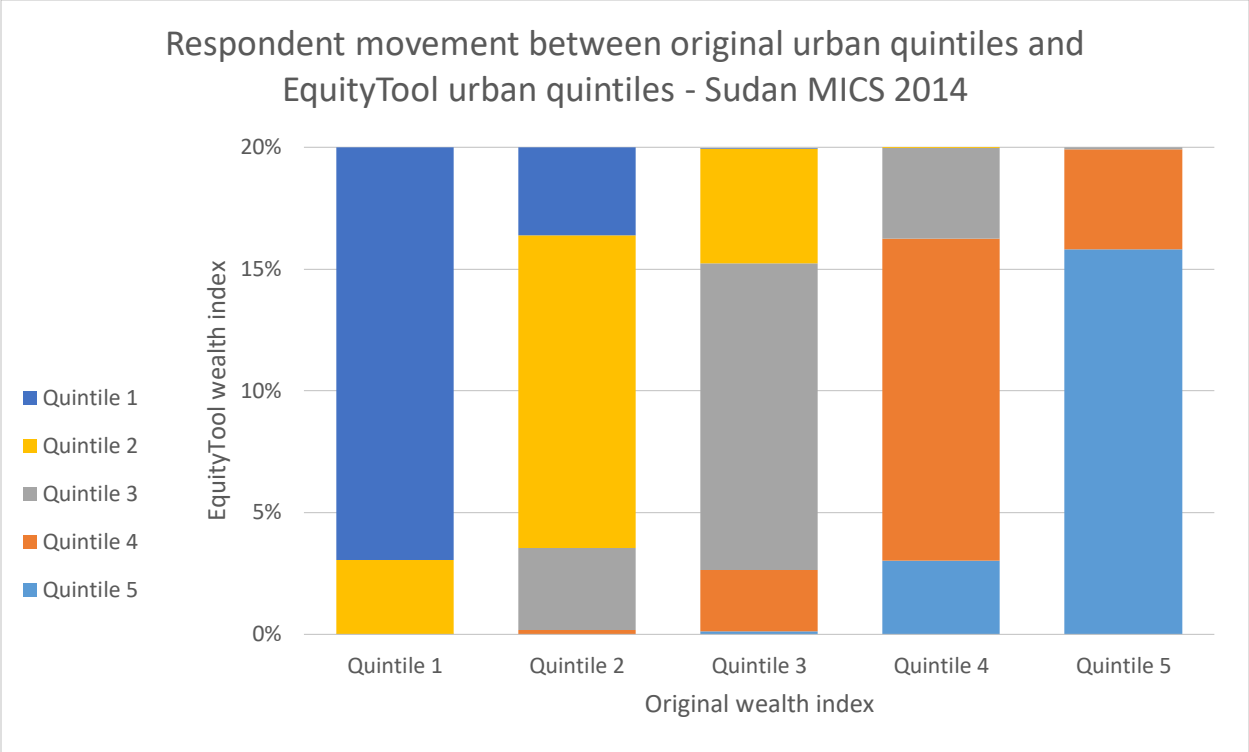


The following table provides the same information on the movement between national quintiles when using the EquityTool versus the original DHS wealth index:

		EquityTool National Quintiles					Total
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	
Original DHS National Quintiles	Quintile 1	15.13%	4.83%	0.04%	0.00%	0.00%	20.00%
	Quintile 2	5.15%	13.04%	1.81%	0.01%	0.00%	20.01%
	Quintile 3	0.24%	4.61%	12.35%	2.81%	0.00%	20.01%
	Quintile 4	0.00%	0.02%	4.05%	15.08%	0.85%	20.00%
	Quintile 5	0.00%	0.00%	0.00%	4.16%	15.84%	20.00%
	Total	20.52%	22.50%	18.25%	22.06%	16.69%	100.0%

The following graph provides information on the movement between urban quintiles when using the EquityTool versus the original DHS wealth index:





The following table provides the same information on the movement between urban quintiles when using the EquityTool versus the original DHS wealth index:

		EquityTool Urban Quintiles					Total
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	
Original DHS Urban Quintiles	Quintile 1	16.94%	3.04%	0.02%	0.00%	0.00%	20.00%
	Quintile 2	3.61%	12.83%	3.38%	0.17%	0.00%	19.99%
	Quintile 3	0.05%	4.70%	12.59%	2.51%	0.13%	19.98%
	Quintile 4	0.00%	0.04%	3.72%	13.23%	3.02%	20.01%
	Quintile 5	0.00%	0.00%	0.09%	4.11%	15.80%	20.00%
	Total	20.60%	20.60%	19.80%	20.02%	18.95%	100.0%

Data interpretation considerations:

1. This tool provides information on relative wealth – ‘ranking’ respondents within the national or urban population. The most recent available data from the WorldBank



indicates that 46.5% of people in Sudan live below \$1.90/day¹. This information can be used to put relative wealth into context.

2. People who live in urban areas are more likely to be wealthy. In Sudan, 42% of people living in urban areas are in the richest national quintile, compared to only 10% of those living in rural areas².
 - a. If your population of interest is predominantly urban, we recommend you look at the urban results to understand how relatively wealthy or poor they are, in comparison to other urban dwellers.
 - b. If the people you interviewed using the EquityTool live in rural areas, or a mix of urban and rural areas, we recommend using the national results to understand how relatively wealthy or poor they are, in comparison to the whole country.
3. Some states in Sudan are wealthier than others. It is important to understand the country context when interpreting your results.
4. In most cases, your population of interest is not expected to be equally distributed across the five wealth quintiles. For example, if your survey interviewed people exiting a shopping mall, you would probably expect most of them to be relatively wealthy.

Metrics for Management provides technical assistance services to those using the EquityTool, or wanting to collect data on the wealth of their program beneficiaries. Please contact equitytool@m4mgmt.org and we will assist you.

¹ From povertydata.worldbank.org, reporting Poverty headcount ratio at \$1.90/day at 2011 international prices.

² From the Sudan MICS 2014 dataset household recode, available at <http://mics.unicef.org/surveys>

