

Kenya

EquityTool: Originally released June 2016

Updated on October 17, 2016 to correct the translation

Updated on January 24, 2017 to correct quintile cutoff points

Source data: [2014 DHS](#)

Note that a more recent national survey – the 2015 Malaria Indicator Survey - is also available. However, the 2014 DHS sample size is much larger, and precedes the 2015 MIS by only about 10 months. For this reason, Kenya’s current EquityTool is based on the 2014 DHS.



of survey questions in original wealth index: 38

of variables in original index: 135

of survey questions in EquityTool: 13

of variables in EquityTool: 15

Questions:

| | Question | Option 1 | Option 2 | Option 3 |
|-----|-------------------------------------------------------------------|---------------------|-----------------|----------|
| Q1 | Does your household have: electricity? | Yes | No | |
| Q2 | a television? | Yes | No | |
| Q3 | a sofa? | Yes | No | |
| Q4 | a cupboard? | Yes | No | |
| Q5 | a DVD player? | Yes | No | |
| Q6 | a radio? | Yes | No | |
| Q7 | a table? | Yes | No | |
| Q8 | a clock? | Yes | No | |
| Q9 | What is the main material of the floor of your dwelling? | Cement | Earth, sand | Other |
| Q10 | What is the main material of the external walls of your dwelling? | Dung/mud/soil | Other | |
| Q11 | What is the main material of the roof of your dwelling? | Thatch/grass/makuti | Other | |
| Q12 | What type of fuel does your household mainly use for cooking? | Wood | LPG/Natural gas | Other |

Q13

What kind of toilet facility do members of your household usually use?

No facility/bush/field

Other

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 urban indices. For the national indices, the kappa was 0.749. Rather than add another question in order to achieve a kappa above 0.75, the kappa of 0.749 was deemed acceptable through rounding, and because it allowed for a shorter questionnaire. Details on the standard process can be found [in this article](#). The data used to identify important variables comes from the [factor weights](#) released by ICF.

Level of agreement:

Respondents in the original dataset were divided into 3 groups – 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 3 groups. Agreement between the original data and our simplified index is presented below.

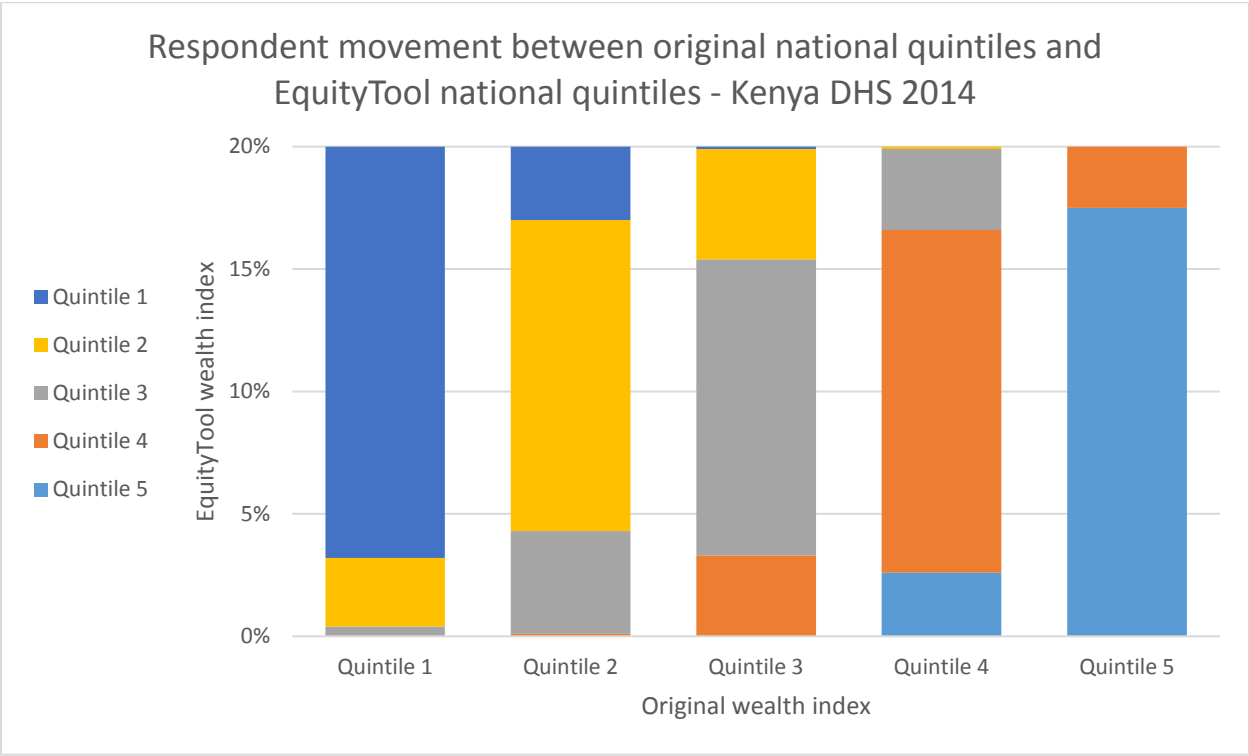
| | National Population (n=36,430) | Urban only population (n=13,914) |
|-----------------|-----------------------------------|-------------------------------------|
| % agreement | 83.9% | 84.2% |
| Kappa statistic | 0.749 | 0.752 |

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 DHS wealth index. Among all of those people (20% of the population) originally identified as being in the poorest quintile, approximately 84% are still identified as being in the poorest quintile when we use the simplified index. However, approximately 16% of 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 13 questions produces results that are not identical to using all 38 questions in the original survey.



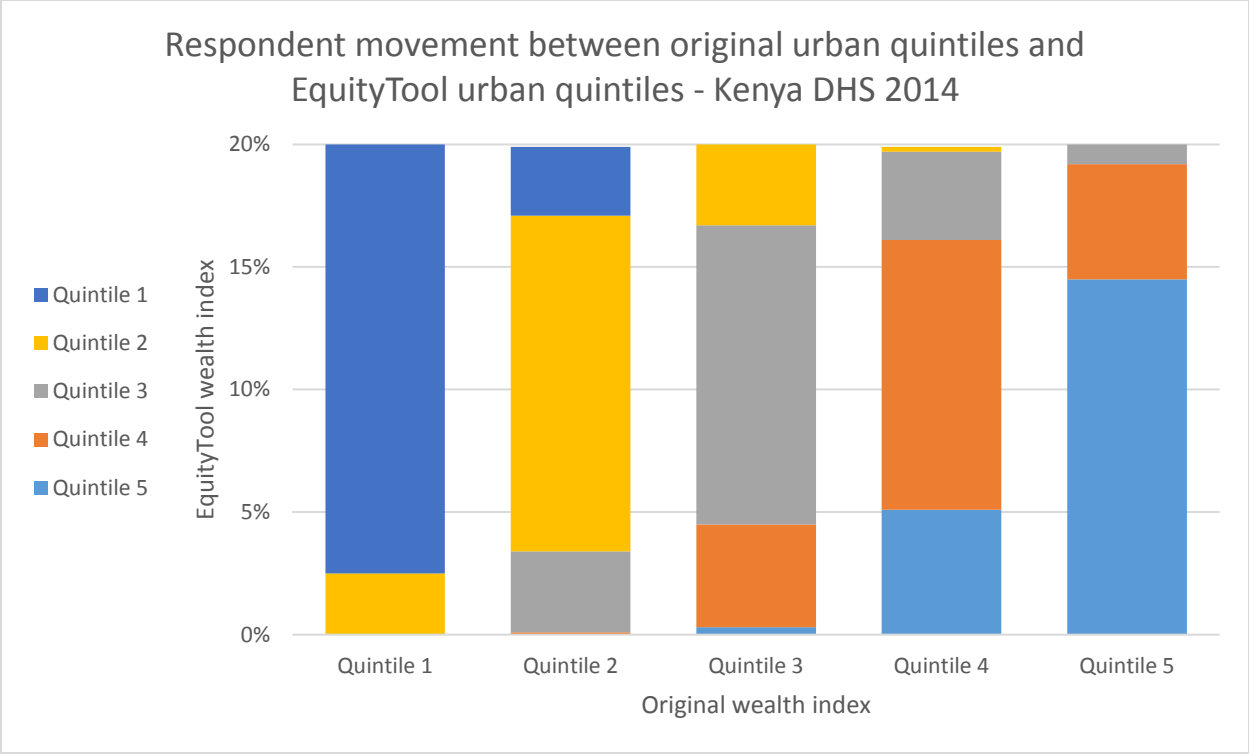


The following table provides the same information on the movement between national quintiles when using the EquityTool versus the original DHS wealth index:

| | | EquityTool National Quintiles | | | | | Total |
|---------------------------------|------------|-------------------------------|------------|------------|------------|------------|-------|
| | | Quintile 1 | Quintile 2 | Quintile 3 | Quintile 4 | Quintile 5 | |
| Original DHS National Quintiles | Quintile 1 | 16.8% | 2.8% | 0.4% | 0% | 0% | 20% |
| | Quintile 2 | 3.0% | 12.7% | 4.2% | 0.1% | 0% | 20% |
| | Quintile 3 | 0.1% | 4.5% | 12.1% | 3.3% | 0% | 20% |
| | Quintile 4 | 0% | 0.1% | 3.3% | 14.0% | 2.6% | 20% |
| | Quintile 5 | 0% | 0% | 0% | 2.5% | 17.4% | 20% |
| | Total | 19.9% | 20.1% | 20% | 19.9% | 20.1% | 100% |

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 | 17.50% | 2.50% | 0.00% | 0.00% | 0.00% | 20% |
| | Quintile 2 | 2.80% | 13.80% | 3.30% | 0.10% | 0.00% | 20% |
| | Quintile 3 | 0.00% | 3.30% | 12.20% | 4.20% | 0.30% | 20% |
| | Quintile 4 | 0.00% | 0.20% | 3.60% | 11.00% | 5.10% | 20% |
| | Quintile 5 | 0.00% | 0.00% | 0.80% | 4.70% | 14.50% | 20% |
| | Total | 20.30% | 19.80% | 19.90% | 20.20% | 19.80% | 100% |

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 33.6% of people in Kenya 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 Kenya, 49% of people living in urban areas are in the richest national quintile, compared to only 4.9% 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 counties in Kenya 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 Kenya DHS 2014 dataset household recode, available at <http://dhsprogram.com/>

