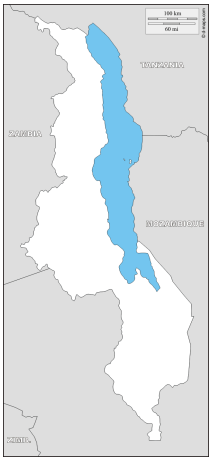
Malawi

EquityTool: Update released October 23, 2026



The EquityTool has been updated based upon new source data. The original version is no longer active but is available upon request.
Previous version released: September 26, 2017

Source data: DHS 2024

# of survey questions in full wealth index: 47
# of variables in full index: 162

# of survey questions in EquityTool: 10
# of variables in EquityTool: 13

Questions:

	Question	Option 1	Option 2	Option 3
Q1	Does your household have a radio?	Yes	No	
Q2	Does your household have a television?	Yes	No	
Q3	Does your household have a bed with mattress?	Yes	No	
Q4	Does any member of this household have an account in a bank or other financial institution?	Yes	No	
Q5	Does your household have electricity?	Yes	No	
Q6	At night, what does your household mainly use to light the home?	Electricity	Battery powered flashlight, torch, or lantern	Other

Q7	In your household, what type of cookstove is mainly used for cooking?	Three stone stove/open fire	Other	
Q8	What type of fuel or energy source is used in this cookstove?	Wood	Other	
Q9	What is the main material of the floor of your dwelling?	Earth/sand	Cement	Other
Q10	What is the main material of the roof of your dwelling?	Thatch, palm leaf, or sod	Metal	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 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 released by ICF.

All variables included in the Malawi EquityTool came from the DHS 2024 household recode file, except for bank account ownership, which was constructed by merging corresponding variables from the individual recode and men's recode files.

Level of agreement:

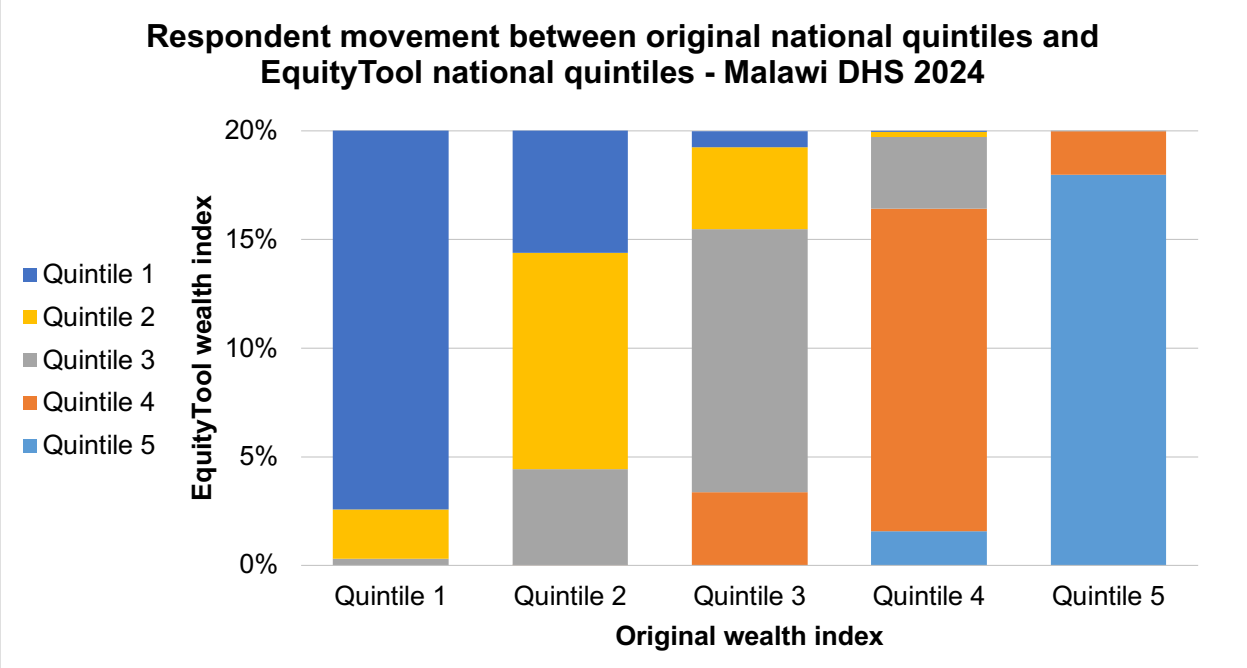
	National Population (n=22,414)	Urban only population (n=4,928)
% agreement	84%	85%
Kappa statistic	.75	.77

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 Malawi DHS 2024. 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 Malawi DHS 2024 wealth index.

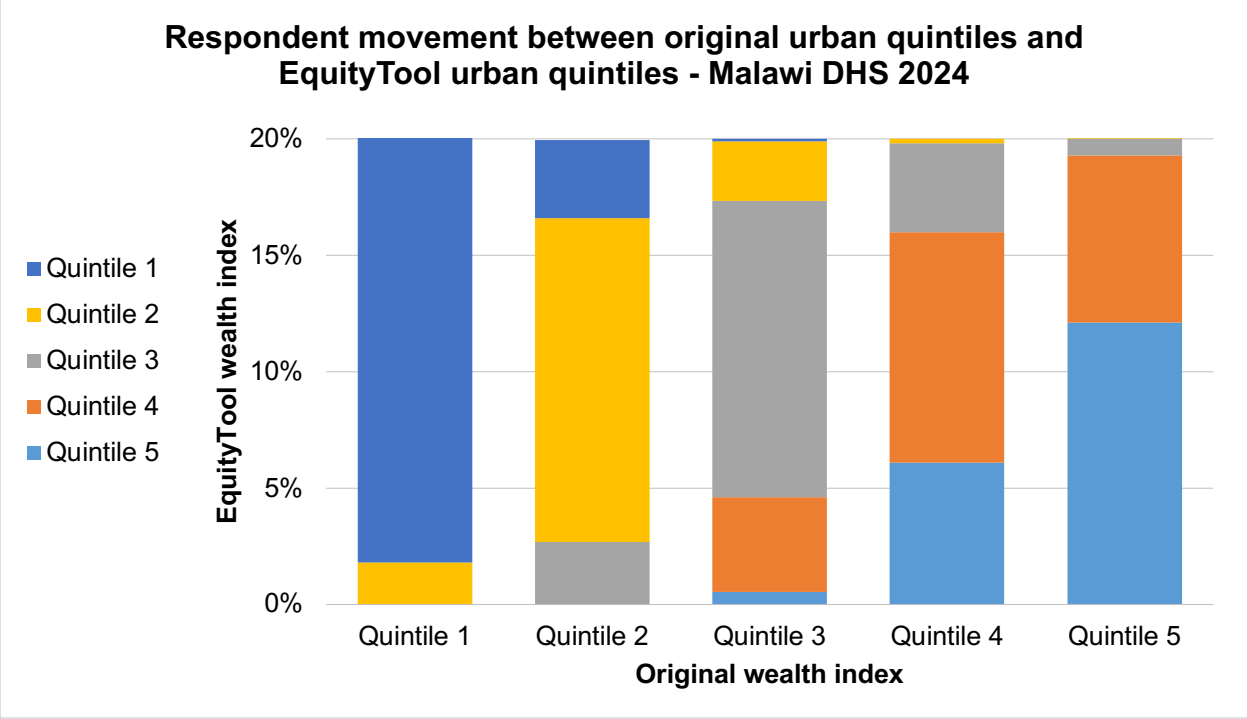
The graph below illustrates the difference between the EquityTool generated index and the full DHS wealth index. Among all of those people (20% of the population) originally identified as being in the poorest quintile, approximately 17% are still identified as being in the poorest quintile when we use the simplified index. However, approximately 2% 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 10 questions produces results that are not identical to using all 47 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 Malawi DHS 2024 wealth index:

		EquityTool National Quintiles					
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Original DHS National Quintiles	Quintile 1	17.4%	2.3%	0.3%	0.0%	0.0%	20%
	Quintile 2	5.6%	9.9%	4.4%	0.0%	0.0%	20%
	Quintile 3	0.8%	3.8%	12.1%	3.4%	0.0%	20%
	Quintile 4	0.1%	0.2%	3.3%	14.9%	1.6%	20%
	Quintile 5	0.0%	0.0%	0.0%	2.0%	18.0%	20%
	Total	23.8%	16.2%	20.1%	20.2%	19.5%	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					
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Original DHS Urban Quintiles	Quintile 1	18.2%	1.8%	0.0%	0.0%	0.0%	20%
	Quintile 2	3.4%	13.9%	2.7%	0.0%	0.0%	20%
	Quintile 3	0.1%	2.5%	12.7%	4.1%	0.0%	20%
	Quintile 4	0%	0.2%	3.8%	9.9%	6.1%	20%
	Quintile 5	0%	0.0%	0.7%	7.2%	12.1%	20%
	Total	21.7%	18.5%	19.9%	21.1%	18.8%	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 75% of people in Malawi live below $3.00/day [1]. 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 Malawi, 74% of people living in urban areas are in the richest national quintile, compared to only 12% of those living in rural areas [2].
3. 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.
4. 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.
5. Some districts in Malawi are wealthier than others. It is important to understand the country context when interpreting your results.
6. 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.

Changes from the previous EquityTool

We released an EquityTool on September 26, 2017 which compared user data to a benchmark of 2015-2016. A new source survey, the DHS 2024, was recently released, and allows us to benchmark results to a more recent population. This is important, because wealth generally increases over time, and comparing your respondents to an old benchmark population will lead to overestimating the relatively wealthy in your survey. The new EquityTool was generated using the exact same methodology as the previous version, and in generating the new EquityTool, no attempt was made to account for the fact that a previous version existed. In other words, we did not explicitly try to keep the same questions or response options as the previous tool.

Practical Considerations

For those who have not previously conducted an EquityTool based study in Malawi, the remainder of this section is not particularly relevant. For those who have used the previous EquityTool, you may be interested to know how the two versions compare.

	Previous	Current
Source Data	DHS 2015-2016	DHS 2024
# of questions in EquityTool	10	10
# of questions in full wealth index	39	47
# of variables in EquityTool	12	13
# of variables in full wealth index	141	162
Kappa statistic (EquityTool vs full wealth Index) for 3 groups	National: 0.755 Urban: 0.813	National: .75 Urban: .77

Compared to the previous EquityTool some of the questions and variables included have changed.

The previous EquityTool included 12 variables. Of those 12 variables, 10 are still included in the current EquityTool.

1. Has electricity	6. Main material of floor – Earth/sand
2. Has radio	7. Main material of floor – Cement
3. Has television	8. Main material of roof – Thatch/palm leaf/sod

4. Has bed with mattress	9. Main material of roof – Metal
5. Any household member has bank account	10. Type of fuel used for cooking - Wood

3 variables are included in the new EquityTool that were not included in the previous EquityTool.

1. Type of cookstove used for cooking - Three stone stove/open fire
2. Light source used to light the home - Electricity
3. Light source used to light the home - Battery powered flashlight, torch, or lantern

It is generally best to use the current version of the EquityTool, since it will give a more accurate quintile estimate. If you are currently collecting data, it is best to continue to use the previous tool. Note that if you have created a survey in the EquityTool web application using the previous EquityTool, that survey will continue to use the previous EquityTool.

If conducting a follow-up survey to a baseline that used the previous EquityTool, and the most important result is change from the baseline, it may be preferable to continue to use the previous EquityTool for comparability. If you need to do this, please contact us at support@equitytool.org.

Contextualizing Changes in the EquityTool

Comparing the results of surveys that used the previous EquityTool against those that use the current EquityTool is difficult. It will not always be clear whether any difference is because of actual differences in the wealth level of the respondents or because the EquityTool has changed.

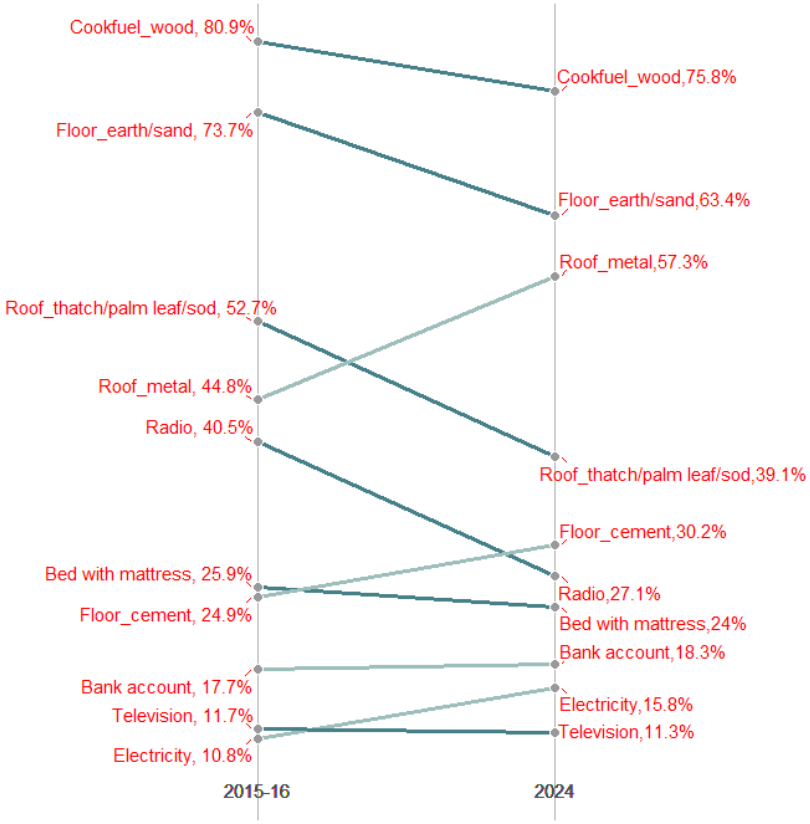
The section below provides relevant contextual information that may help a user understand why the EquityTool has changed from the previous tool.

Changes in Asset Ownership

Over time, patterns of asset ownership change. This may reflect the fact that an asset which previously was quite expensive has become more affordable over time, making it more accessible to a large population or that the population has grown wealthier and now a larger portion of the population is able to afford more expensive goods. Likewise, some assets may simply become more or less prevalent due to technological changes. As asset ownership patterns change, their ability to help us distinguish between wealth quintiles may also change.

In Figure 1 we show how ownership of the assets in the original benchmark survey and the current benchmark survey have changed [2]. Variables that are not included in both DHS surveys are not shown in this graph. Assets in red appear in both the current and previous versions of the EquityTool.

Figure 1: Change in Asset Ownership from 2015-16 to 2024



From 2016 to 2024, radio ownership decreased by the largest amount, from 40.5% to 27.1%. There were also notable changes in materials used for roofing and flooring. Ownership of metal roofs increased from 44.8% in 2015-16 to 57.3% in 2024, while ownership of thatch/palm leaf/sod roofs decreased from 52.7% to 39.1% over the same period. Ownership of cement floors increased from 24.9% to 30.2% while ownership of earth/sand floors decreased from 73.7% to 63.4%.

Changes in Country Context

Changes in the EquityTool often reflect changes in the economic well-being of the population. As the population wealth changes, the prevalence of different assets may change.

The following table provides a summary of some key indicators that illustrate how the economic well-being of the population of Malawi has changed from 2015-16 to 2024.

	Previous Survey: DHS 2015-16	Current Survey: DHS 2024
Percent of the population living below the poverty line [1]	71.7% (2016)	75.4% (2019)
Percent of the population that is multidimensionally poor [3]	53.7% (2017)	49.9% (2024)
GDP per capita [4]	$1594 (2016)	$1634 (2024)
Average annual GDP growth from 2016 to 2024 [5]	2.9%	

The Malawian economy grew between 2016 and 2024. While the most recent World Bank data indicate that the percent of the population below the poverty line increased from 2016 to 2019 (the most recent data available from the World Bank), data from 2024 reflect a decrease in the poverty headcount as measured by a different indicator, the Multidimensional Poverty Index. These economic changes will reduce the previous Malawi EquityTool's ability to accurately assign households to their most correct wealth quintiles.

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

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[1] From pip.worldbank.org, reporting poverty headcount ratio at $3.00/day at 2021 international prices.
[2] From the Malawi dataset household recode, available at http://dhsprogram.com/
[3] From Oxford Poverty and Human Development Initiative (October 2024). "Malawi Country Briefing", Oxford Poverty and Human Development Initiative, University of Oxford.
[4] From data.worldbank.com, reporting GDP per capita, PPP (constant 2021 international $)
[5] From data.worldbank.com, reporting average GDP growth (annual %)