



Ethiopia

EquityTool: Updated release 23 October 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 The original version is no longer active but is available upon request.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: 5 January 2018



Source data: [Ethiopia DHS 2024-25](#)

of survey questions in full wealth index: 36

of variables in full index: 155

of survey questions in EquityTool: 12

of variables in EquityTool: 13

Questions:

	Question	Option 1	Option 2	Option 3
Q1	Does your household have ...a television?	Yes	No	
Q2	...electricity?	Yes	No	
Q3	...a sofa?	Yes	No	
Q4	...a table?	Yes	No	
Q5	...a bed with cotton/sponge/spring mattress?	Yes	No	
Q6	What is the main type of lighting in the household?	Electricity	Other	
Q7	What is the main type of cooking fuel in the household?	Wood/sawdust	Other	



Q8	What is the main type of cookstove in the household?	Tree stone stove/open fire	Electric stove	Other
Q9	What is the main type of floor material in the household?	Earth/sand	Other	
Q10	Does anyone in your household have a bank account?	Yes	No	
Q11	What is the main roof material in the household?	Metal	Other	
Q12	What is the type of toilet facility in the household?	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 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.

Level of agreement:

	National Population (n=21,241)	Urban only population (n=7,324)
% agreement	84.3%	84.5%
Kappa statistic	0.754	0.757

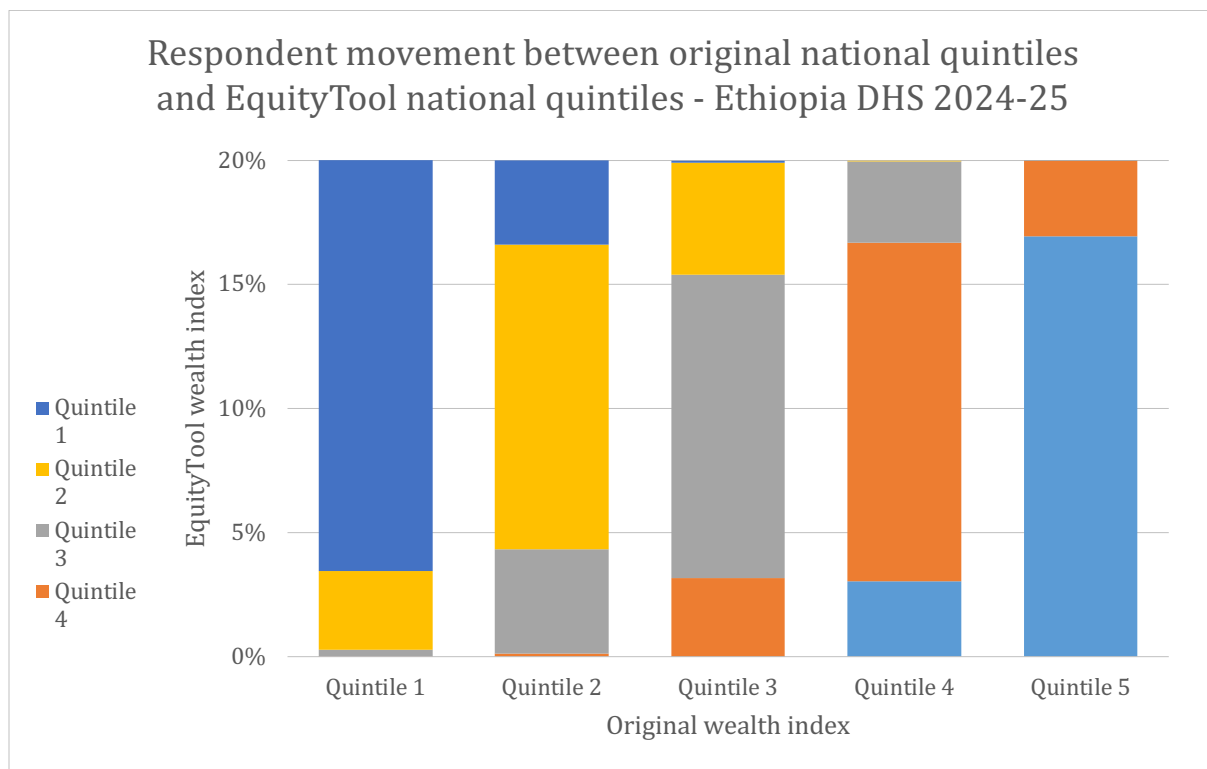
Respondents in the original dataset were divided into three groups for analysis – those in the 1st and 2nd quintiles (poorest 40%), those in the 3rd quintile, and those in the 4th and 5th quintiles (richest 40%). After calculating their wealth using the simplified index, they were again divided into the same three groups for analysis against the original data in the full DHS. 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 DHS wealth index. Among all of those people (20% of the population) originally identified as being in the poorest quintile, approximately 16.6% are still identified as being in the poorest quintile when we use the simplified index. However, approximately 3.2% 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 12 questions produces results that are not identical to using all 36 questions in the original survey.

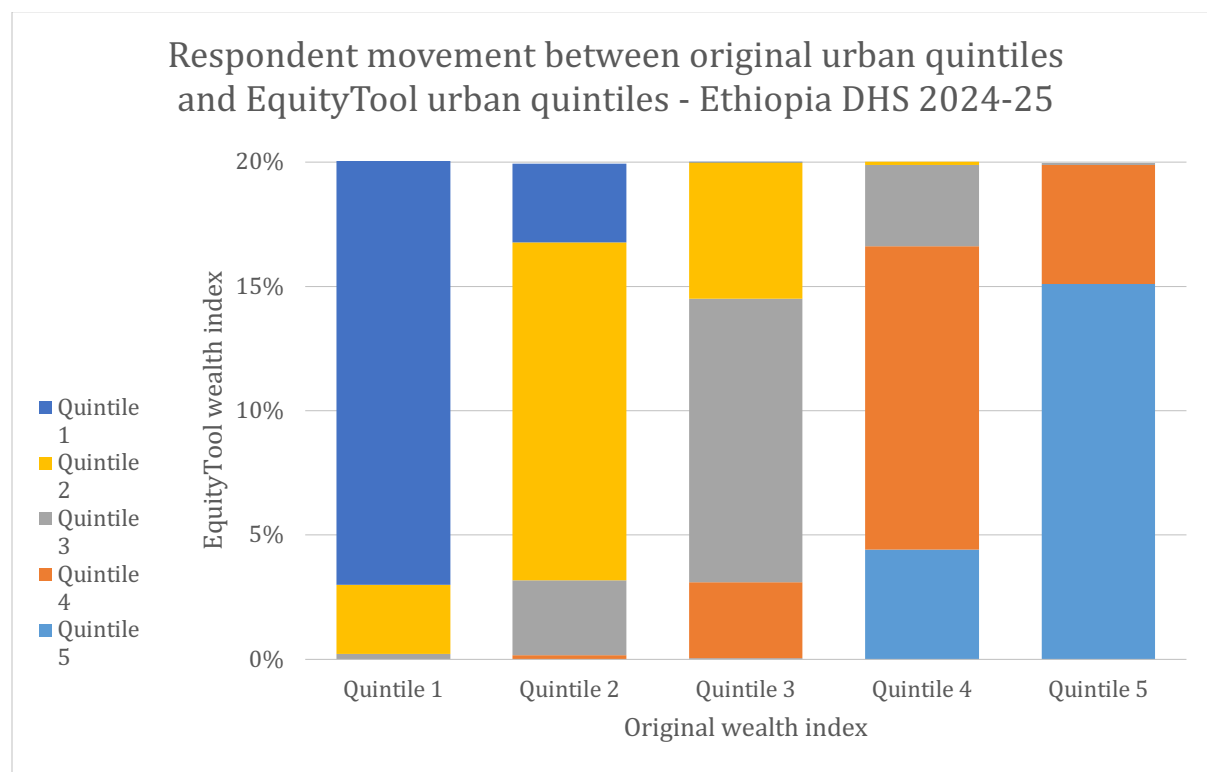


The following table provides the same information on the movement between national quintiles when using the EquityTool versus the original DHS wealth index:



		EquityTool National Quintiles					
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Original DHS National Quintiles	Quintile 1	16.56%	3.15%	0.29%	0.00%	0.00%	20%
	Quintile 2	3.41%	12.27%	4.20%	0.13%	0.00%	20%
	Quintile 3	0.08%	4.52%	12.21%	3.18%	0.00%	20%
	Quintile 4	0.00%	0.04%	3.26%	13.66%	3.04%	20%
	Quintile 5	0.00%	0.00%	0.00%	3.05%	16.95%	20%
	Total	20.05%	19.99%	19.96%	20.01%	19.99%	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	17.07%	2.77%	0.22%	0.00%	0.00%	20%
	Quintile 2	3.17%	13.60%	3.01%	0.17%	0.00%	20%
	Quintile 3	0.02%	5.46%	11.41%	3.07%	0.03%	20%
	Quintile 4	0.00%	0.14%	3.25%	12.21%	4.41%	20%
	Quintile 5	0.00%	0.00%	0.09%	4.80%	15.10%	20%
	Total	20.25%	21.98%	17.98%	20.25%	19.54%	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 10.8% of people in Ethiopia 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 Ethiopia, 67% of people living in urban areas are in the richest national quintile, compared to only 2% 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 states in Ethiopia 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 5 January 2018 which compared user data to a benchmark of DHS 2016. A new source survey, the DHS 2024-25 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 over-estimating 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 Ethiopia, 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 2016	DHS 2024-25
# of questions in EquityTool	15	12
# of questions in full wealth index	37	36
# of variables in EquityTool	17	13
# of variables in full wealth index	108	155
Kappa statistic (EquityTool vs full wealth Index) for 3 groups	National:0.76 Urban: 0.771	National: 0.754 Urban: 0.757

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

The previous EquityTool included 17 variables. Of those 17 variables, 9 are still included in the current EquityTool.

1. Household has a television	6. Main floor type in the household is earth/sand
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2. Household has electricity	7. At least one household member has a bank account
3. Household has a table	8. Main roof type in the household is metal
4. Household has a bed with cotton/sponge/spring mattress	9. Household does not have a toilet facility/bush
5. Main type of cooking fuel in the household is wood/sawdust	

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

1. Main type of lighting in the household is electric	3. Main type of cookstove in the household is three-stone stove or open fire
2. Main type of cookstove in the household is an electric stove	4. Household has a sofa

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.

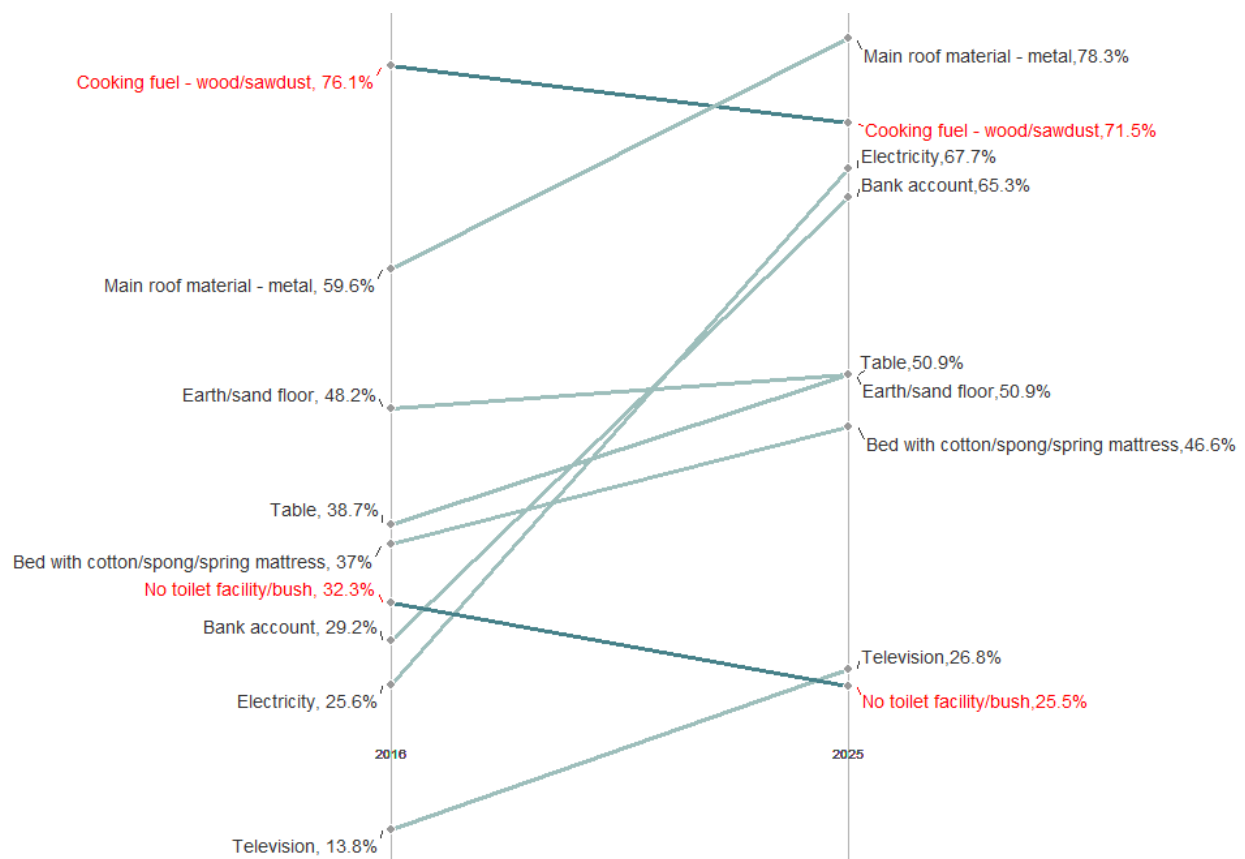
Changes in Asset Ownership



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 DHS 2016 to DHS 2024-25



Households using wood/sawdust as their main cooking fuel and not having a toilet facility/bush reduced in prevalence between 2016 and 2024-25. All other assets increased in ownership,



most notably, owning a television doubled and both electricity and having a bank account tripled in ownership rates between 2016 and 2024-25.

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 Ethiopia has changed from 2016 to 2024-25.

	Previous Survey: DHS 2016	Current Survey: DHS 2024-25
Percent of the population living below the poverty line [1]	33% (2015)	38.6% (2021)
Percent of the population that is multidimensionally poor [3]	87.3%	68.7%
GDP per capita [4]	2,085	3,095
Average annual GDP growth from 2016 to 2024-25 [5]	7.52%	

The Ethiopia economy grew between 2016 and 2025. Accompanying this economic growth, there has also been a slight increase in percent of the poverty headcount in the international poverty line but a decrease in the Multidimensional Poverty Index. This economic improvement, over time, will reduce the previous Ethiopia 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.

[1] From pip.worldbank.org, reporting poverty headcount ratio at \$3.00/day at 2021 international prices.

[2] From the Ethiopia dataset household recode, available at <http://dhsprogram.com/>

[3] From Oxford Poverty and Human Development Initiative (October 2024). "Ethiopia 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 of GDP growth (annual %)
