

## Senegal

**EquityTool: Update released December 19, 2025**



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 The original version is no longer active but is available upon request.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: December 9, 2015**

**Source data:** [Senegal DHS 2023](#)

**# of survey questions in full wealth index: 50**

**# of variables in full index: 184**

**# of survey questions in EquityTool: 12**

**# of variables in EquityTool: 13**



### Questions:

	<b>Question</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
Q1	Does your household have a refrigerator?	Yes	No	
Q2	... a television?	Yes	No	
Q3	... a computer?	Yes	No	
Q4	... a CANAL television subscription?	Yes	No	
Q5	... internet at home?	Yes	No	
Q6	Does any member of this household have an account in a bank or other financial institution?	Yes	No	
Q7	In your household, what type of cookstove is mainly used for cooking?	Liquefied petroleum gas (LPG)/Gas stove	Other	



Q8	What type of fuel or energy source is used in the cookstove?	Wood	Other
Q9	In this household, when it's dark, what do you usually use for light?	Electricity	Other
Q10	What is the main source of drinking water for members of your household?	Tap water inside the dwelling	Other
Q11	What is the main material of the floor of your dwelling?	Ceramic tiles	Other
Q12	What is the main material of the roof of your dwelling?	Cement	Zinc/ fiber cement

#### 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=8423)	Urban only population (n=3884)
% agreement	85%	84.7%
Kappa statistic	0.767	0.757

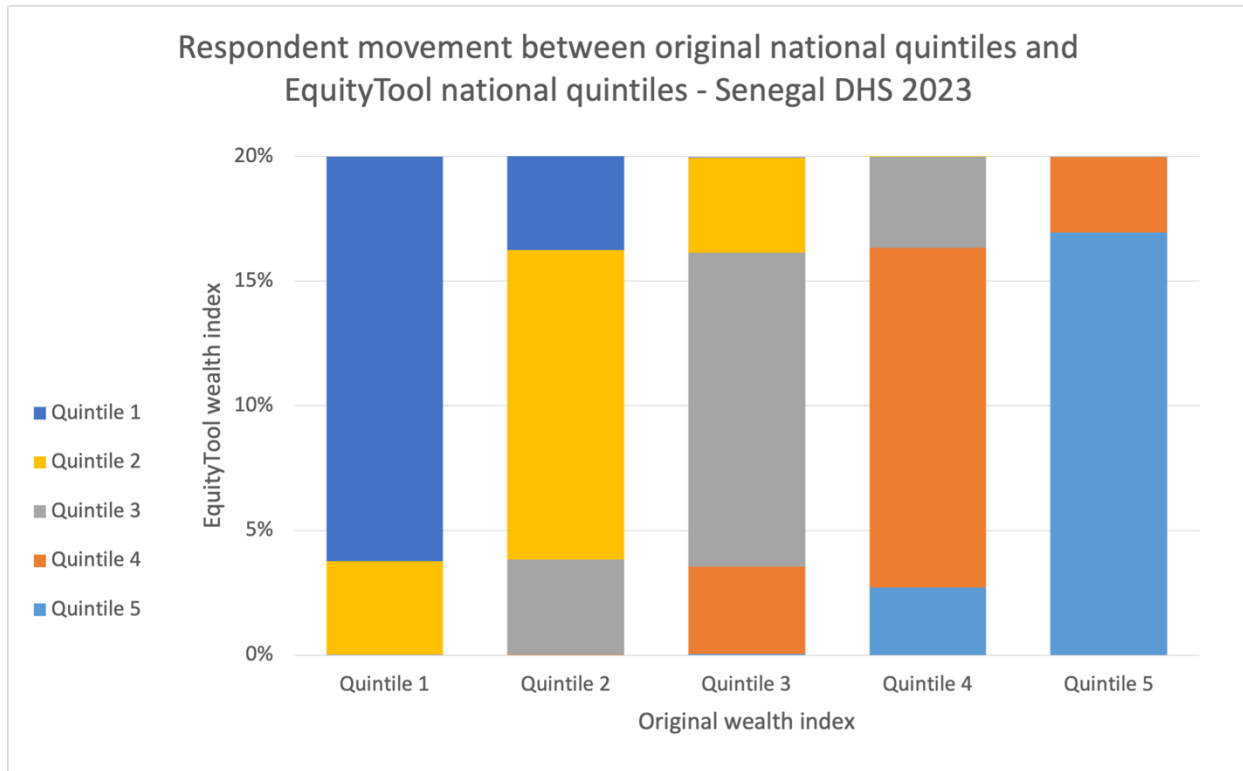
Respondents in the original dataset were divided into three groups for analysis – those in the 1<sup>st</sup> and 2<sup>nd</sup> quintiles (poorest 40%), those in the 3<sup>rd</sup> quintile, and those in the 4<sup>th</sup> and 5<sup>th</sup> quintiles (richest 40%). After calculating their wealth using 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 81% are still identified as being in the poorest quintile when we use the simplified index. However, approximately 19% 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 50 questions in the original survey.

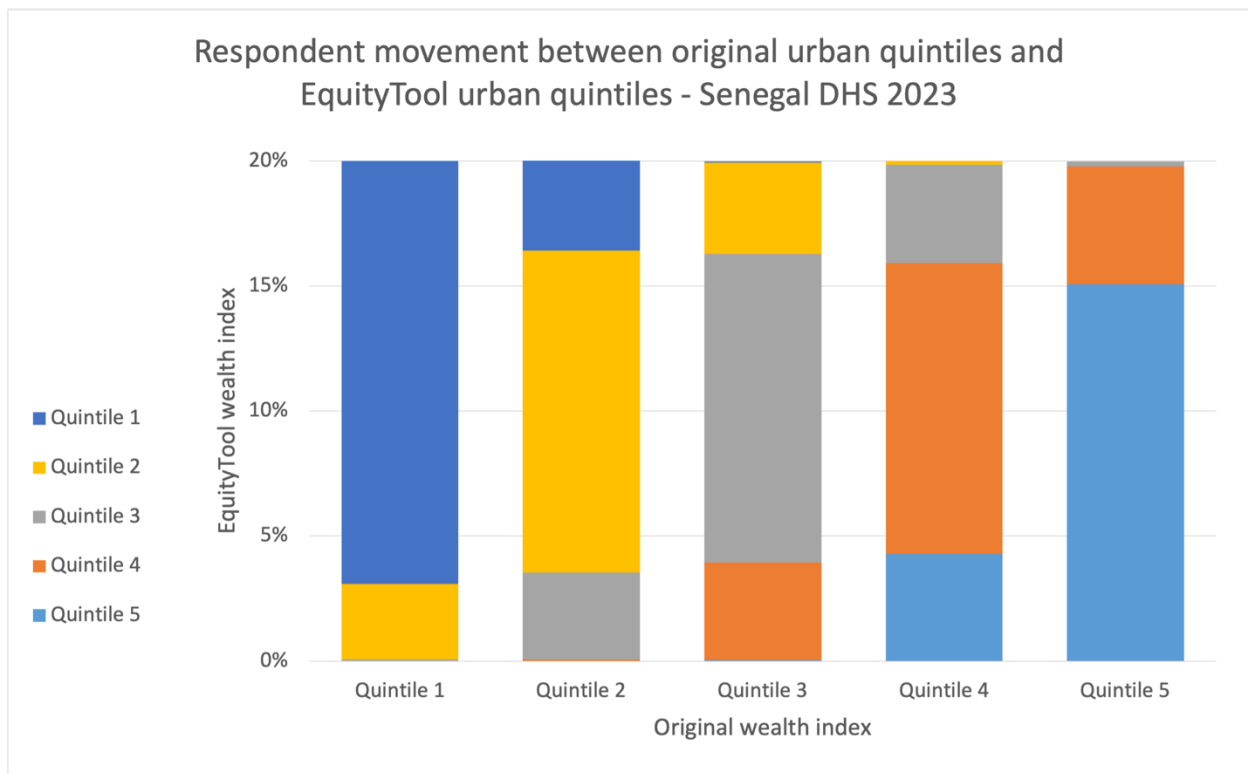


The following table provides the same information on the movement between national quintiles when using the EquityTool versus the original DHS wealth index:



		EquityTool National Quintiles					
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Original DHS National Quintiles	Quintile 1	16.2%	3.8%	0.0%	0.0%	0.0%	20%
	Quintile 2	3.8%	12.4%	3.8%	0.0%	0.0%	20%
	Quintile 3	0.0%	3.8%	12.6%	3.5%	0.0%	20%
	Quintile 4	0.0%	0.0%	3.6%	13.6%	2.7%	20%
	Quintile 5	0.0%	0.0%	0.0%	3.0%	17.0%	20%
	Total	20.0%	20.0%	20.1%	20.2%	19.7%	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	16.9%	3.0%	0.1%	0.0%	0.0%	20%
	Quintile 2	3.6%	12.9%	3.5%	0.1%	0.0%	20%
	Quintile 3	0.0%	3.7%	12.3%	3.9%	0.1%	20%
	Quintile 4	0.0%	0.1%	3.9%	11.6%	4.3%	20%
	Quintile 5	0.0%	0.0%	0.2%	4.7%	15.1%	20%
	Total	20.6%	19.7%	20.1%	20.3%	19.4%	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 World Bank indicates that 17.89% of people in Senegal 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 Senegal, 38.9% of people living in urban areas are in the richest national quintile, compared to only 4.6% 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 regions in Senegal 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 December 9, 2015, which compared user data to a benchmark of 2013. A new source survey, the Senegal DHS 2023, 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 Senegal, 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	Continuous DHS 2013	Continuous DHS 2023
# of questions in EquityTool	18	12
# of questions in full wealth index	36	50
# of variables in EquityTool	26	13
# of variables in full wealth index	112	184
Kappa statistic (EquityTool vs full wealth Index) for 3 groups	National: 0.785 Urban: 0.767	National: 0.770 Urban: 0.757

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

The previous EquityTool included 26 variables. Of those 26 variables, 10 are still included in the current EquityTool.

1. CANAL television subscription	5. Refrigerator
----------------------------------	-----------------



2. Computer	6. Roof material: cement
3. Floor material: ceramic tiles	7. Roof material: Zinc/cement fiber
4. Internet at home	8. Television
5. Drinking water source: tap water inside the dwelling	10. Bank account

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

1. Cooking stove: Liquified Petroleum gas (LPG)/ Gas stove	3. Cooking fuel: wood
2. Light at home: electricity	

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](mailto: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.

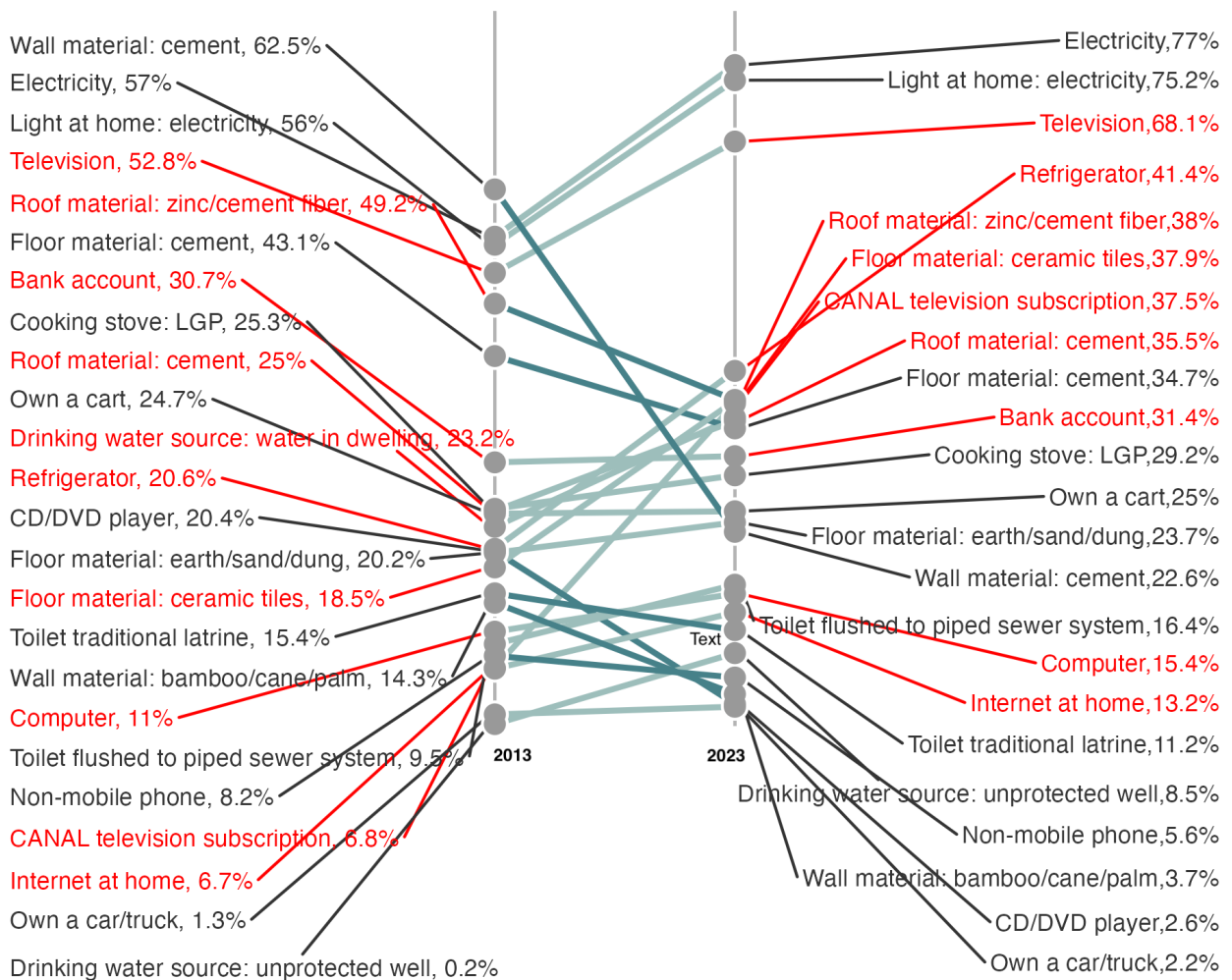
#### ***Changes in Asset Ownership***



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 2013 DHS to 2023 DHS**





Between 2013 and 2023, there were some notable changes in Senegal’s ownership rate. For example, the percentage of households with CANAL television subscription increased by 30 percentage points. However, the percentage of households with exterior walls made of cement declined by 40 percentage points.

***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 Senegal has changed from 2013 to 2023.

	Previous Survey: DHS 2013	Current Survey: DHS 2023
Percent of the population living below the poverty line [1]	53.29 (2011)	17.89% (2021)
Percent of the population that is multidimensionally poor [3]	52.36% (DHS 2017)	50.30% (DHS 2019)
GDP per capita [4]	\$3385	\$4305
Average annual GDP growth from 2013 to 2023 [5]	5.05%	

The Senegalese economy grew between 2013 and 2023. Accompanying this economic growth has also been a decrease in the poverty headcount as measured by both the international poverty line and the Multidimensional Poverty Index. This economic improvement, over time, will reduce the previous Senegal 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](mailto:support@equitytool.org) and we will assist you.



---

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

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

[3] From Oxford Poverty and Human Development Initiative (October 2024). “Senegal Country Briefing”, Oxford Poverty and Human Development Initiative, University of Oxford.

[4] From [data.worldbank.com](http://data.worldbank.com), reporting GDP per capita, PPP (constant 2021 international \$)

[5] From [data.worldbank.com](http://data.worldbank.com), reporting average of GDP growth (annual %)

---