

Online Supplementary Document

Table S1. Household sample descriptives.

	<i>N</i>	%
<i>Type of residence</i>		
Urban	2,776	27.1%
Rural	7,456	72.9%
<i>Electricity in household</i>		
No	8,119	83.2%
Yes	1,642	16.8%
<i>Household source of water</i>		
In own dwelling	72	0.9%
In own yard/plot	400	5.0%
Elsewhere	7,604	94.2%
<i>Type of cooking fuel</i>		
Electricity	34	0.4%
Bottled gas/paraffin/kerosene	201	2.1%
Solid fuel or other source	9,523	97.6%
<i>Household flooring</i>		
Natural or rudimentary	6,330	64.8%
Finished	3,432	35.2%
<i>Household walls</i>		
Natural or rudimentary	2,281	23.4%
Finished	7,481	76.6%
<i>Household roof</i>		
Natural or rudimentary	2,930	30.0%
Finished	6,832	70.0%
<i>Treated enteric parasite within last 6 months</i>		
No	6,244	65.7%
Yes	3,259	34.3%
<i>Cough in last 2 weeks</i>		
No	7,949	83.8%
Yes	1,539	16.2%
<i>Diarrhea in last 2 weeks</i>		
No	8,293	87.9%
Yes	1,142	12.1%
<i>Signs and symptoms of malaria: fever</i>		
No	1,178	12.3%
Yes	8,385	87.7%

Table S2. Latent class model fit comparisons.

Models	BIC	ssa-BIC	Entropy
One-class solution	97,276.7	97,235.4	-
Two-class solution	85,447.9	85,362.1	0.862
Three-class solution	84,249.1	84,118.8	0.714
Four-class solution	84,103.8	83,929.0	0.814
Five-class solution	84,063.2	83,843.9	0.824
Six-class solution	84,100.1	83,836.4	0.755
Seven-class solution	84,153.9	83,845.6	0.786

Notes. BIC = Bayesian information criterion

ssa-BIC = sample size adjusted Bayesian information criterion

Table S3. Conditional probabilities of infrastructural characteristics from 5-class solution model.

	Class 1	Class 2	Class 3	Class 4	Class 5
	Rural Finished Walls Households	Rural Rudimentary Households	Finished Material Households	Urban Households	Rural Finished Roof/Walls Households
	40.2% N=4,111	20.9% N=2,134	22.5% N=2,302	14.4% N=1,469	2.1% N=216
<i>Type of residence</i>					
Urban	0.058	0.059	0.384	0.920	0.231
Rural	0.942	0.941	0.616	0.080	0.769
<i>Electricity in household</i>					
No	1.000	0.995	0.891	0.067	0.995
Yes	0.000	0.005	0.109	0.933	0.005
<i>Household source of water</i>					
In own dwelling	0.002	0.007	0.004	0.071	0.000
In own yard/plot	0.018	0.033	0.095	0.151	0.024
Elsewhere	0.980	0.960	0.900	0.778	0.976
<i>Type of cooking fuel</i>					
Electricity	0.000	0.000	0.000	0.023	0.000
Bottled fuels	0.000	0.000	0.005	0.127	0.019
Solid fuel or other	1.000	1.000	0.995	0.849	0.981
<i>Household flooring</i>					
Natural or rudimentary	0.998	0.984	0.218	0.008	0.747
Finished	0.002	0.016	0.782	0.992	0.253
<i>Household walls</i>					
Natural or rudimentary	0.000	0.976	0.058	0.006	0.130
Finished	1.000	0.024	0.942	0.994	0.870
<i>Household roof</i>					
Natural or rudimentary	0.418	0.652	0.003	0.001	0.171
Finished	0.582	0.348	0.997	0.999	0.829

Table S4. Multinomial logistic regression of covariates to assess profile membership using Class 4 Urban Households as reference.

Covariates	Class 1			Class 2			Class 3			Class 5		
	Rural Finished Walls Households			Rural Rudimentary Households			Finished Material Households			Rural Finished Roof/Walls Households		
	95% CI			95% CI			95% CI			95% CI		
	OR	Lower	Upper	OR	Lower	Upper	OR	Lower	Upper	OR	Lower	Upper
Child slept under bed net	0.29	0.15	0.58	0.26	0.13	0.50	0.49	0.27	0.88	0.58	0.19	1.75
Middle/Wealthier/Wealthiest*	0.00	0.00	0.16	0.00	0.00	0.10	0.00	0.00	0.34	0.00	0.00	0.44
Knows ways to avoid malaria	0.00	0.00	0.09	0.00	0.00	0.07	0.01	0.00	0.17	0.00	0.00	0.07
Mother w/ no formal education	21.1	5.96	74.7	24.5	7.02	85.2	8.77	2.55	30.2	15.1	1.27	179.7
Moved from town	2.66	0.58	12.2	0.48	0.20	1.15	1.24	0.63	2.41	0.62	0.13	3.04
Moved from countryside	37.5	9.73	144.4	7.32	3.53	15.2	5.39	2.98	9.75	2.54	0.75	8.65
Central†	2.11	0.66	6.75	0.80	0.23	2.77	0.71	0.27	1.89	0.42	0.00	295.9
Coastal†	0.00	0.00	0.04	0.03	0.01	0.10	0.07	0.03	0.17	0.01	0.00	0.15
Northern Highlands†	0.80	0.24	2.64	1.98	0.71	5.52	1.10	0.50	2.39	0.96	0.18	5.22
West†	1.13	0.09	13.6	0.53	0.05	6.15	0.39	0.04	4.16	1.02	0.05	20.55
Lake†	1.35	0.56	3.27	0.55	0.20	1.52	0.81	0.36	1.80	1.06	0.20	5.78
Southern Highlands†	0.19	0.06	0.62	0.03	0.01	0.12	0.37	0.15	0.90	0.05	0.00	0.69

Notes: CI = confidence interval

OR = odds ratio

*poorest/poorer as reference

†Zanzibar as reference