Economic Clustering Summary Report: Liberia 2019-2020

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# Summary of Data

**Country Code-year:** LB1920

**Number of observations:** 9068

**Number of clusters:** 5

**Number of variables used:** 21

**Distance used:** Hamming

**Variables used in the algorithm:** hv206, hv207, hv208, hv227, hv237, hv243a, hv243b, hv244, hv246, hv247, hv252, sh121i, sh121j, sh121k, sh121l, water, toilet, floor, roof, cookfuel, wall

# Top Variable Groupings (Sorted by ASW)

| Group | ASW | Var. 1 | Var. 2 | Var. 3 | Var. 4 |
| --- | --- | --- | --- | --- | --- |
| 1 | 0.8749 | has television | cupboard | mattress | roof |
| 2 | 0.8716 | has television | has mobile telephone | mattress | roof |
| 3 | 0.8714 | has television | has bank account | mattress | roof |
| 4 | 0.8712 | has bank account | cupboard | mattress | roof |
| 5 | 0.871 | has television | mattress | roof | cookfuel |
| 6 | 0.8706 | has electricity | has television | mattress | roof |
| 7 | 0.868 | has electricity | cupboard | mattress | roof |
| 8 | 0.8666 | has electricity | has bank account | mattress | roof |
| 9 | 0.8641 | has television | mattress | floor | roof |
| 10 | 0.8635 | table | cupboard | mattress | roof |

# Marginal Distributions

| Variable | Description | % Time in Top Clusters | Distribution |
| --- | --- | --- | --- |
| hv208 | has television | 60% | Binary, 10.5% 1s (or yes) |
| hv247 | has bank account | 30% | Binary, 14.3% 1s (or yes) |
| hv206 | has electricity | 30% | Binary, 12.6% 1s (or yes) |
| sh121i | table | 10% | Binary, 76.5% 1s (or yes) |
| sh121k | cupboard | 40% | Binary, 15.7% 1s (or yes) |
| hv243a | has mobile telephone | 10% | Binary, 61.7% 1s (or yes) |
| sh121l | mattress | 100% | Binary, 83.4% 1s (or yes) |
| roof | roof | 100% | Categorical, 0 (finished) = 82.7%,   1 (natural) = 15.6%,   2 (rudimentary) = 1.6% |
| floor | floor | 10% | Categorical, 0 (finished) = 44.8%,   1 (natural) = 54.9%,   2 (rudimentary) = 0.3% |
| cookfuel | cookfuel | 10% | Categorical, 0 (electricity) = 0.4%,   1 (fire coal/charcoal) = 31.8%,   2 (gas cylinder) = 0.4%,   3 (kerosene stove) = 0.2%,   4 (no food cooked in house) = 1.6%,   5 (straw/shrubs/grass) = 0%,   6 (wood) = 65.7% |

# Cluster #1 Configuration

| Cluster Group | has television | cupboard | mattress | roof | Proportion (%) |
| --- | --- | --- | --- | --- | --- |
| 1 | 0 | 0 | 1 | finished | 57.00 |
| 1 | 0 | 0 | 1 | rudimentary |  |
| 1 | 1 | 0 | 1 | finished |  |
| 1 | 1 | 0 | 1 | rudimentary |  |
| 2 | 0 | 0 | 1 | natural | 11.18 |
| 2 | 1 | 0 | 1 | natural |  |
| 3 | 0 | 0 | 0 | finished | 16.12 |
| 3 | 0 | 0 | 0 | natural |  |
| 3 | 0 | 0 | 0 | rudimentary |  |
| 3 | 1 | 0 | 0 | finished |  |
| 4 | 0 | 1 | 0 | finished | 7.10 |
| 4 | 0 | 1 | 0 | natural |  |
| 4 | 0 | 1 | 1 | natural |  |
| 4 | 0 | 1 | 1 | rudimentary |  |
| 4 | 1 | 1 | 0 | finished |  |
| 4 | 1 | 1 | 1 | finished |  |
| 4 | 1 | 1 | 1 | natural |  |
| 4 | 1 | 1 | 1 | rudimentary |  |
| 5 | 0 | 1 | 1 | finished | 8.59 |

# Validation Tables

## a.1) Using Children Deceased (Sorted by proportion of 0%)

| Cluster ID/Children Deceased | 0% | 1-33% | 34-66% | 67+% |
| --- | --- | --- | --- | --- |
| 1\* | 619 (85.4%) | 67 (9.2%) | 32 (4.4%) | 7 (1.0%) |
| 3 | 278 (81.8%) | 36 (10.6%) | 17 (5.0%) | 9 (2.6%) |
| 2 | 687 (76.3%) | 132 (14.7%) | 66 (7.3%) | 15 (1.7%) |
| 4 | 3,578 (71.3%) | 996 (19.9%) | 348 (6.9%) | 94 (1.9%) |
| 5 | 717 (66.1%) | 239 (22.0%) | 110 (10.1%) | 18 (1.7%) |
| Total | 5,879 (72.9%) | 1,470 (18.2%) | 573 (7.1%) | 143 (1.8%) |
| \*The chi-squared p-value is 0 | | | | |

## a.2) Aggregating proportions greater than 0%

| Cluster ID/Children Deceased | 0% | >0% |
| --- | --- | --- |
| 1\* | 619 (85.4%) | 106 (14.6%) |
| 3 | 278 (81.8%) | 62 (18.2%) |
| 2 | 687 (76.3%) | 213 (23.7%) |
| 4 | 3,578 (71.3%) | 1,438 (28.7%) |
| 5 | 717 (66.1%) | 367 (33.9%) |
| Total | 5,879 (72.9%) | 2,186 (27.1%) |
| \*The chi-squared p-value is 0 | | |

## b) Using Individual Education Level Attained (Sorted by weighted average by row)

| Cluster ID/Education | 0 | 1 | 2 | 3 | 4 | 5 | W. Avg. |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1\*a | 96 (13.2%) | 89 (12.3%) | 18 (2.5%) | 237 (32.7%) | 161 (22.2%) | 124 (17.1%) | 2.90 |
| 3 | 79 (23.2%) | 57 (16.8%) | 14 (4.1%) | 111 (32.6%) | 57 (16.8%) | 22 (6.5%) | 2.22 |
| 2 | 247 (27.4%) | 189 (21.0%) | 40 (4.4%) | 291 (32.3%) | 94 (10.4%) | 39 (4.3%) | 1.90 |
| 4 | 1,985 (39.6%) | 1,452 (28.9%) | 201 (4.0%) | 1,085 (21.6%) | 237 (4.7%) | 56 (1.1%) | 1.26 |
| 5 | 578 (53.3%) | 294 (27.1%) | 35 (3.2%) | 155 (14.3%) | 18 (1.7%) | 4 (0.4%) | 0.85 |
| Total | 2,985 (37.0%) | 2,081 (25.8%) | 308 (3.8%) | 1,879 (23.3%) | 567 (7.0%) | 245 (3.0%) | 1.47 |
| \*The chi-squared p-value is 0 | | | | | | | |
| a0=none,1=incomplete primary, 2=primary, 3=incomplete secondary, 4=secondary, 5=higher | | | | | | | |

## c) Using Primary Healthcare Source (Sorted by % enrolled in public healthcare [ascending order])

| Cluster ID/Primary Healthcare Source | 0 | 1 | 2 |
| --- | --- | --- | --- |
| 1\*a | 90 (45.7%) | 92 (46.7%) | 15 (7.6%) |
| 3 | 56 (55.4%) | 40 (39.6%) | 5 (5.0%) |
| 2 | 165 (65.2%) | 83 (32.8%) | 5 (2.0%) |
| 5 | 197 (73.8%) | 52 (19.5%) | 18 (6.7%) |
| 4 | 1,171 (74.6%) | 338 (21.5%) | 60 (3.8%) |
| Total | 1,679 (70.3%) | 605 (25.3%) | 103 (4.3%) |
| \*The chi-squared p-value is 0 | | | |
| a0=public/government, 1=private, 2=other | | | |