
Subject: Re: Level-weights calculation

Posted by [Bridgette-DHS](#) on Thu, 18 Nov 2021 15:22:34 GMT

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Following is a response from DHS Senior Sampling Specialist, Mahmoud Elkasabi:

The calculations for the multilevel weights for Nigeria is a special case due to the lack of data about number of households. In the census frame only EA-population is available. Therefore the calculation based on the population not the households can be done as below.

```
*****
* Stage A *** Compile parameters/inputs for Level-weights calculations
*****
* a_c_h completed clusters by strata
gen a_c_h=.
quietly levelsof v022, local(lstrata)
quietly foreach ls of local lstrata {
tab v021 if v022==`ls', matrow(T)
scalar stemp=rowsof(T)
replace a_c_h=stemp if v022==`ls'
}
* A_h total number of census clusters by strata
gen A_h = 0
*Urban
replace A_h = 2452 if v022 == 3
replace A_h = 2006 if v022 == 1
replace A_h = 5492 if v022 == 5
replace A_h = 11715 if v022 == 7
replace A_h = 2008 if v022 == 9
replace A_h = 5126 if v022 == 11
replace A_h = 3949 if v022 == 13
replace A_h = 2820 if v022 == 15
replace A_h = 2761 if v022 == 17
replace A_h = 7798 if v022 == 19
replace A_h = 1955 if v022 == 21
replace A_h = 1657 if v022 == 23
replace A_h = 3053 if v022 == 25
replace A_h = 2293 if v022 == 27
replace A_h = 9529 if v022 == 29
replace A_h = 16957 if v022 == 31
replace A_h = 6874 if v022 == 33
replace A_h = 2621 if v022 == 35
replace A_h = 2548 if v022 == 37
replace A_h = 3090 if v022 == 39
replace A_h = 2106 if v022 == 41
replace A_h = 18409 if v022 == 43
replace A_h = 11911 if v022 == 45
```

replace A_h = 9774 if v022 == 47
replace A_h = 10006 if v022 == 49
replace A_h = 908 if v022 == 51
replace A_h = 2628 if v022 == 53
replace A_h = 1410 if v022 == 55
replace A_h = 9008 if v022 == 57
replace A_h = 7964 if v022 == 59
replace A_h = 12480 if v022 == 61
replace A_h = 9438 if v022 == 63
replace A_h = 23922 if v022 == 65
replace A_h = 7085 if v022 == 67
replace A_h = 8588 if v022 == 69
replace A_h = 19810 if v022 == 71
replace A_h = 22405 if v022 == 73

*Rural

replace A_h = 1138 if v022 == 4
replace A_h = 20850 if v022 == 2
replace A_h = 10354 if v022 == 6
replace A_h = 4556 if v022 == 8
replace A_h = 7211 if v022 == 10
replace A_h = 18319 if v022 == 12
replace A_h = 11930 if v022 == 14
replace A_h = 9988 if v022 == 16
replace A_h = 17124 if v022 == 18
replace A_h = 16288 if v022 == 20
replace A_h = 7539 if v022 == 22
replace A_h = 8943 if v022 == 24
replace A_h = 11870 if v022 == 26
replace A_h = 18900 if v022 == 28
replace A_h = 12263 if v022 == 30
replace A_h = 19402 if v022 == 32
replace A_h = 26442 if v022 == 34
replace A_h = 14020 if v022 == 36
replace A_h = 10231 if v022 == 38
replace A_h = 13942 if v022 == 40
replace A_h = 9463 if v022 == 42
replace A_h = 3498 if v022 == 44
replace A_h = 1977 if v022 == 46
replace A_h = 4223 if v022 == 48
replace A_h = 9567 if v022 == 50
replace A_h = 16205 if v022 == 52
replace A_h = 6379 if v022 == 54
replace A_h = 14912 if v022 == 56
replace A_h = 9201 if v022 == 58
replace A_h = 4829 if v022 == 60
replace A_h = 12381 if v022 == 62
replace A_h = 2123 if v022 == 64
replace A_h = 1502 if v022 == 66

```
replace A_h = 7408 if v022 == 68
replace A_h = 10667 if v022 == 70
replace A_h = 6097 if v022 == 72
replace A_h = 8701 if v022 == 74
```

* M_h average number of population per cluster by strata
gen M_h = 0

*Urban

```
replace M_h = 367 if v022 == 3
replace M_h = 231 if v022 == 1
replace M_h = 202 if v022 == 5
replace M_h = 138 if v022 == 7
replace M_h = 205 if v022 == 9
replace M_h = 182 if v022 == 11
replace M_h = 221 if v022 == 13
replace M_h = 278 if v022 == 15
replace M_h = 222 if v022 == 17
replace M_h = 178 if v022 == 19
replace M_h = 276 if v022 == 21
replace M_h = 214 if v022 == 23
replace M_h = 161 if v022 == 25
replace M_h = 197 if v022 == 27
replace M_h = 294 if v022 == 29
replace M_h = 231 if v022 == 31
replace M_h = 159 if v022 == 33
replace M_h = 190 if v022 == 35
replace M_h = 288 if v022 == 37
replace M_h = 186 if v022 == 39
replace M_h = 262 if v022 == 41
replace M_h = 184 if v022 == 43
replace M_h = 153 if v022 == 45
replace M_h = 234 if v022 == 47
replace M_h = 181 if v022 == 49
replace M_h = 132 if v022 == 51
replace M_h = 156 if v022 == 53
replace M_h = 283 if v022 == 55
replace M_h = 213 if v022 == 57
replace M_h = 229 if v022 == 59
replace M_h = 193 if v022 == 61
replace M_h = 189 if v022 == 63
replace M_h = 358 if v022 == 65
replace M_h = 264 if v022 == 67
replace M_h = 187 if v022 == 69
replace M_h = 132 if v022 == 71
replace M_h = 177 if v022 == 73
```

*Rural

```
replace M_h = 445 if v022 == 4
```

```

replace M_h = 182 if v022 == 2
replace M_h = 213 if v022 == 6
replace M_h = 164 if v022 == 8
replace M_h = 202 if v022 == 10
replace M_h = 165 if v022 == 12
replace M_h = 196 if v022 == 14
replace M_h = 240 if v022 == 16
replace M_h = 236 if v022 == 18
replace M_h = 171 if v022 == 20
replace M_h = 242 if v022 == 22
replace M_h = 217 if v022 == 24
replace M_h = 154 if v022 == 26
replace M_h = 207 if v022 == 28
replace M_h = 270 if v022 == 30
replace M_h = 282 if v022 == 32
replace M_h = 178 if v022 == 34
replace M_h = 197 if v022 == 36
replace M_h = 290 if v022 == 38
replace M_h = 194 if v022 == 40
replace M_h = 242 if v022 == 42
replace M_h = 226 if v022 == 44
replace M_h = 176 if v022 == 46
replace M_h = 234 if v022 == 48
replace M_h = 221 if v022 == 50
replace M_h = 233 if v022 == 52
replace M_h = 203 if v022 == 54
replace M_h = 167 if v022 == 56
replace M_h = 239 if v022 == 58
replace M_h = 292 if v022 == 60
replace M_h = 225 if v022 == 62
replace M_h = 290 if v022 == 64
replace M_h = 358 if v022 == 66
replace M_h = 254 if v022 == 68
replace M_h = 174 if v022 == 70
replace M_h = 133 if v022 == 72
replace M_h = 185 if v022 == 74

```

* m_c total number of completed households (added from the HR dataset)
* For Nigeria we use instead: number of de-jure population (hv012) from HR file
gen m_c= 186450
* M total number of households in country
* For Nigeria we use instead: number of population in frame
gen M = 140444528
* S_h households selected per stratum
*For Nigeria we use instead: population selected per stratum
gen S_h = 138

*gen DHS weight
gen DHSwt = v005 / 1000000
