
Subject: Level-weights calculation
Posted by [Ugonna](#) on Wed, 17 Nov 2021 04:11:09 GMT
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Hello,

I'm trying to calculate and approximate level-weights for multilevel analysis using 2018 Nigeria Demographic and Health Survey, but the total number of households in the country and the average EA size (i.e. average number of households per cluster) are missing from the report.

Please how do I get these information.

Thank you.

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

Subject: Re: Level-weights calculation
Posted by [Ugonna](#) on Thu, 18 Nov 2021 20:51:48 GMT
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Hello Bridgette and Mahmoud Elkasabi,

Thank you so much for this. It's such a huge relief

Subject: Re: Level-weights calculation
Posted by [jessy](#) on Thu, 01 Sep 2022 15:13:39 GMT
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hello everyone, I am working on my thesis using the 2016 Uganda demographic and health survey.as am doing the level weight calculations at both steps of getting A_h and M_h, am getting some missing values.it seems the V022 variable is not matching with the EAs recorded in the final report. is there any thing am doing wrong?

Subject: Re: Level-weights calculation
Posted by [Bridgette-DHS](#) on Fri, 02 Sep 2022 11:18:15 GMT
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Following is a response from DHS Research & Data Analysis Director, Tom Pullum:

v022, which is usually the same as v023, gives the strata. The clusters or EAs are given by v021, which is usually the same as v001.

Subject: Re: Level-weights calculation

Posted by [jessy](#) on Fri, 02 Sep 2022 17:28:07 GMT

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thank you for the timely response.

actually my biggest challenge is that the number of EAs recorded in table A.2 (30) are less by four those listed in v022 (34).so we i go ahead and generate total number of census clusters by strata, I get 86 MISSING VALUES. i actually feel iam doing something wrong.

*** 1.1: Calculating the total number of completed clusters a_{h^c} in stratum h for all strata.

```
gen a_c_h=.
```

```
quietly levelsof v023, local(lstrata)
```

```
quietly foreach ls of local lstrata {
```

```
tab v021 if v023==`ls', matrow(T)
```

```
scalar stemp=rowsof(T)
```

```
replace a_c_h=stemp if v023==`ls'
```

```
}
```

*** 1.2:

* A_h total number of census clusters by strata***found in Table A.2 in the survey final report

```
gen A_h = 0
```

```
replace A_h = 3125 if v023 == 1
```

```
replace A_h = 2597 if v023 == 2
```

```
replace A_h = 5944 if v023 == 3
```

```
replace A_h = 1547 if v023 == 4
```

```
replace A_h = 6608 if v023 == 5
```

```
replace A_h = 865 if v023 == 6
```

```
replace A_h = 5978 if v023 == 7
```

```
replace A_h = 1078 if v023 == 8
```

```
replace A_h = 2635 if v023 == 9
```

```
replace A_h = 795 if v023 == 10
```

```
replace A_h = 6975 if v023 == 11
```

```
replace A_h = 301 if v023 == 12
```

```
replace A_h = 3275 if v023 == 13
```

```
replace A_h = 179 if v023 == 14
```

```
replace A_h = 2170 if v023 == 15
```

```
replace A_h = 482 if v023 == 16
```

```
replace A_h = 4947 if v023 == 17
```

```
replace A_h = 581 if v023 == 18
```

```
replace A_h = 3320 if v023 == 19
```

```
replace A_h = 509 if v023 == 20
```

```
replace A_h = 5100 if v023 == 21
```

```
replace A_h = 609 if v023 == 22
replace A_h = 3016 if v023 == 23
replace A_h = 883 if v023 == 24
replace A_h = 4394 if v023 == 25
replace A_h = 966 if v023 == 26
replace A_h = 5894 if v023 == 27
replace A_h = 440 if v023 == 28
replace A_h = 3249 if v023 == 29
```

*** 1.3: Add the average number of households per cluster by sampling strata according to the

* M_h average number of households per cluster by sampling strata

```
gen M_h = 0
replace M_h = 132 if v023 == 1
replace M_h = 147 if v023 == 2
replace M_h = 111 if v023 == 3
replace M_h = 143 if v023 == 4
replace M_h = 94 if v023 == 5
replace M_h = 139 if v023 == 6
replace M_h = 99 if v023 == 7
replace M_h = 48 if v023 == 8
replace M_h = 115 if v023 == 9
replace M_h = 83 if v023 == 10
replace M_h = 43 if v023 == 11
replace M_h = 111 if v023 == 12
replace M_h = 88 if v023 == 13
replace M_h = 127 if v023 == 14
replace M_h = 65 if v023 == 15
replace M_h = 93 if v023 == 16
replace M_h = 75 if v023 == 17
replace M_h = 108 if v023 == 18
replace M_h = 70 if v023 == 19
replace M_h = 110 if v023 == 20
replace M_h = 81 if v023 == 21
replace M_h = 124 if v023 == 22
replace M_h = 115 if v023 == 23
replace M_h = 115 if v023 == 24
replace M_h = 98 if v023 == 25
replace M_h = 140 if v023 == 26
replace M_h = 74 if v023 == 27
replace M_h = 106 if v023 == 28
replace M_h = 81 if v023 == 29
```

Subject: Re: Level-weights calculation

Posted by [Bridgette-DHS](#) on Tue, 06 Sep 2022 11:56:43 GMT

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Following is a response from DHS Research & Data Analysis Director, Tom Pullum:

If you enter "label list V023" you will see that two strata (strata 2 and 3) have the same name, "South Buganda". In Tables A1 and A2 they are combined as "South Central". Another two strata (strata 4 and 5) have the same name, "North Buganda", and they are combined as "North Central". It looks like v023= 30 and 31 have also been aggregated with South Central and v023=32 and 33 have also been aggregated with North Central. It looks like v023=34 has been aggregated with Busoga. (You can confirm this with "tab v023 if v024<=3"

I think the best option for you would be to redefine v023 to match up with the combinations of v024 and v025, for which you have the necessary numbers in A2 and A3, and then proceed. Ideally you would have more numbers in A2 and A3, and wouldn't have to do this.

In general, that is, in most surveys, v023 is the same as the combinations of v024 and v025. This survey appears to be an exception to that, probably because North Central, South Central, and Busoga have large populations and there was a desire to subdivide them.

Subject: Re: Level-weights calculation

Posted by [jessy](#) on Mon, 12 Sep 2022 13:56:30 GMT

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thaks dear,this has been a life saver
