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Subject: HR Files

Posted by [Lubana](#) on Wed, 24 Apr 2024 15:36:43 GMT

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Hello,

I am a new DHS data user and I am not familiar with programming languages. Therefore, for my analysis, I am using ArcGIS Pro. My apologies for any inconvenience this may cause.

I am conducting a social vulnerability assessment to climate change impacts using DHS data for Kenya. I am encountering some difficulties in calculating DHS indicators. The following DHS datasets are being utilized for the analysis: KEHR8BSD.zip, KEGC8AFL.zip, and sdr\_subnational\_boundaries.shp.

I attempted to calculate the percentage of various indicators, such as the percentage of female-headed households (HHs), households with a population aged 65 and over, households with a population aged 13 to 18 years, literate households, households with access to improved water and sanitation, and the wealth index.

It's worth noting that the Humanitarian Data Exchange (HDE) contains the percentage of a range of demographic and socioeconomic indicators at the subnational administrative level 1 for Kenya, derived from DHS 2022 data.

However, upon completing the calculations, I noticed discrepancies between the results obtained from GIS analysis and the percentages provided on the HDE website. I am unsure why these differences exist. I did not apply any weight to my dataset because the process was confusing to me. Despite watching videos and reading resources from the DHS website, I still lack clarity on this matter.

Therefore, I have several questions:

--Why am I getting different results?

--Do I need to apply weight to calculate the percentage of households with access to improved water and sanitation?

--If weight application is necessary, how can I accomplish this in GIS software?

I would greatly appreciate your assistance with this matter. I have attached a document outlining the steps I followed to join DHS Census Data with DHS Spatial Data, aggregate at the subnational administrative level 1, and calculate two indicators as examples (i.e., the percentage of households with access to improved water and the percentage of households with access to improved sanitation). This document also includes results obtained from ArcGIS Pro and the HDE website. I have also attached excel files data downloaded from HDE website for the year 2022 for your convenience.

Any help will be highly appreciated. I need it urgently. Please let me know if you need any other clarification.

Thank you.

## File Attachments

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- 1) [Results.xlsx](#), downloaded 175 times
  - 2) [Spatial join and calculation steps.docx](#), downloaded 154 times
  - 3) [Toilet Facility\\_subnational Ken\\_2022\\_HDE.xlsx](#), downloaded 151 times
  - 4) [Water\\_Subnational\\_Kenya\\_2022\\_HDE.xlsx](#), downloaded 134 times
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Subject: Re: HR Files

Posted by [Bridgette-DHS](#) on Thu, 25 Apr 2024 11:41:31 GMT

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Following is a response from Senior DHS Stata Specialist, Tom Pullum:

Very sorry, but this request goes way beyond the level of support that DHS staff can provide on the user forum. We have a GIS team, and they are familiar with ArcGIS, of course, but they are too busy with survey work. The analysis team does not use ArcGIS.

I hope you have looked at the DHS Spatial Analysis Reports. Here is a link to one that may be relevant: <https://www.dhsprogram.com/pubs/pdf/SAR21/SAR21.pdf>. Here is the most recent one: <https://www.dhsprogram.com/pubs/pdf/SAR23/SAR23.pdf>. I also hope you have looked at the final report on the Kenya survey you are using. National and admin level 1 estimates are included there. In fact, this Kenya report has many more tables with county level estimates than is typical. We would not recommend going below that level without the kind of spatial smoothing that you probably want to do.

All DHS estimates should be weighted with v005 or hv005. You will not get agreement with other published estimates unless you use weights.

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Subject: Re: HR Files

Posted by [Lubana](#) on Thu, 25 Apr 2024 13:40:42 GMT

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Hi Bridgette,

Thank you so much for your prompt response. I understand. regarding programming languages and my current inability to grasp them. I appreciate for sharing some resources. I will take a look at it and try again to figure this out. I wish I could discuss this issue with someone from the DHS GIS group. I understand they are all busy, but if you know anyone who is willing to help and with whom I can connect, please let me know. I will greatly appreciate it.

Thank you once again.

Kind regards,  
Lubana

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Subject: Re: HR Files

Posted by [Bridgette-DHS](#) on Fri, 26 Apr 2024 15:09:37 GMT

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Following is a response from Senior DHS Staff Member, Tom Pullum:

If I correctly understand your question, your goal is to develop estimates of the outcomes / indicators for regions of each country. ArcGIS is not a good program for this purpose. Stata or SPSS or R are better for developing such estimates (my preference is Stata). But most, if not all, of the estimates you want are available at [www.statcompiler.com](http://www.statcompiler.com). In the data files, region is v024 or hv024.

ArcGIS is a mapping package, and at first I thought your goal was to construct maps. You can actually produce maps with Stata, if you have the admin 1 shape files for a country. There are probably other ways to do this without getting into ArcGIS. Hope this helps.

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