
Subject: Re: How to use GPS data

Posted by [hamid](#) on Sat, 20 Mar 2021 09:06:56 GMT

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Dear Jennie,

1. The surveys you are working with are not panel, but cross-sectional, meaning that different individuals were surveyed in each round. You cannot merge the two years to run longitudinal models at the household/individual level (e.g., Fixed Effects regressions).

2. Merging the two surveys to obtain a regional-level panel dataset is usually possible if you have GPS coordinates in both.

I would proceed as follows:

- download a shapefile for the correct administrative level of Uganda;
- generate a dataset with only the DHS individual/household identifiers plus latitude and longitude and create a spatial point dataset
- assign to your spatial point data the same coordinate reference system of the shapefile (i.e., account for earth curvature).
- project the points from your surveys onto the shapefile (spatial polygon data): this will result into a spatial point dataset with a data slot in which you have hh/ind ids and the regional identifier
- merge the spatial point data-slot to the original DHS surveys using hh/ind ids
- consider that if the coordinates provided by DHS have been randomly offset, a small degree of error will apply, but this would be random and thus it only would translate in some degree of attenuation bias (not systematic).

I hope this helps.

Best,
Hamid