

Following is a response from Senior DHS staff members, Fred Arnold and Tom Pullum:

First, users should always identify the survey they are asking about. You had previous posts about the NFHS-5, so I will assume that's the survey you are asking about.

Generally, it's very difficult to correctly convert local units to acres since there are so many different local units in India. Although Bighas and Gunthas are the most common units aside from acres, other local units include square meters, katha, and cent. Note that the size of the local units varies among the states and even within a state. Therefore, we can't be 100% certain that the any conversions that were made by the interviewers or team leaders accurately come up with the correct number of hectares. For any household, the total number of acres owned is from Question 65 and the number of acres owned that are irrigated is from Question 66.

Below is the relevant section of the NFHS-5 Interviewer's Manual:

**"Qs. 63-66: OWNERSHIP OF AGRICULTURAL LAND**

Ownership of agricultural land is another important indicator of the socioeconomic status of the household. First ask Q. 63 to find out whether any member of the household owns any land that can be used for agriculture. The land does not have to be near to where the household lives. For example, a household living in the middle of a big city may own some agriculture land in a rural area. 'Agricultural land' here includes only land which is being used or can be used for agricultural purposes. Land used for grazing, brick kilns, etc. and waste or barren land that cannot be cultivated should not be considered as 'agricultural land'. If the household does not own any agricultural land, skip to Q. 67. If the answer is YES, ask Q. 64 to record who owns the land. Then ask Q. 65 for the size of this land. The answer should be rounded to the first decimal place. For example, if the measure given is 3.75 acres, enter '003.8' in the boxes [u]provided. If the household owns exactly 3 acres, enter '003.0'. If the response is not in acres, write the units in the space provided making sure to specify clearly the name (e.g., hectares, bighas, or gunthas) and if known, the conversion factor to acres. When using a paper questionnaire, the supervisor will later convert the answer into acres and enter the correct number into the boxes provided. In CAPI, the conversion must be done in the field after consultation with the team supervisor/FA personnel. Ask Q. 66 to those who reported that their household owns agricultural land. Only agricultural land which is irrigated by one or more sources of irrigation such as a canal, pond/tank, well, tube well, or river is to be recorded here. Land which depends only on rain for irrigation is not to be included as irrigated land. If the respondent is unable to give the size in acres, then write on the line provided after the question the number in local units, but be sure to specify the unit used. The units will be the same as in Q. 65.

When using a paper questionnaire, the units should be specified. The supervisor will convert the measure in local units into acres in all such cases. In CAPI, the conversion must be done in the field after consultation with the team supervisor/FA personnel. If none of the land owned by the household is irrigated, then record '9995'."

For some reason, these questions imply that the areas are to be converted to acres, but the label

for hv245 implies hectares.

The distributions of hv245 and sh66 in the HR file are questionable. In particular, sh66 does not appear to have been converted to the same units as hv245, because it does not show the same pattern of heaping as hv245. It is often a larger number than hv245, which should not be possible. Also it does not appear to be a proportion, multiplied by 100 or even by 1000 (as is often done in India).

We suggest that you search for any earlier analyses that may have been done with these variables in the NFHS-5 or even the NFHS-4. You could also search for other surveys in India that have collected the same kind of information. hv245 is a standard DHS variable, but the initiative for including sh66, which is survey-specific, would have come from IIPS or other users in India. sh66 is not a standard DHS variable.