

**Using Global Position System for Land Measurement:
Testing the Farm size-Productivity Relationship**

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There is growing consensus that agriculture statistics are plagued with different types of non-sampling errors which may derive from distortions introduced via data collection methodology and techniques, interviewer's effect, respondents' interpretation of specific questions and their motivation to provide accurate answers, as well as respondents' characteristics like their level of education and gender. A relatively recent addition to the toolbox of farm and household survey practitioners is the use of GPS for the measurement of land areas. Household surveys, particularly multi-purpose surveys like the Living Standards Measurement Study (LSMS), commonly rely on farmers' self-reporting to estimate the area under ownership and cultivation. The use of GPS is increasingly being used in household surveys and preliminary empirical evidence suggest that the differences with self-reporting may be substantial, and that such difference varies by farm size. In this intuition is correct, using GPS may have considerable implication on the much debated and contentious relationship between farm size and productivity. Making use of household surveys from Uganda, Tanzania and Mozambique, in which both self-reported and GPS-based measurement were collected, we propose to systematically analyze the difference in land area measurement using both measurements, and estimate the impact on productivity estimates. The findings may have far-reaching implications for land policy reforms in developing countries.