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Discussion Paper 91

COMPARING VILLAGE CHARACTERISTICS DERIVED FROM RAPID APPRAISALS AND HOUSEHOLD SURVEYS: A TALE FROM NORTHERN MALI

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Many empirical studies of household behavior in developing countries rely on probability sample surveys. Provided the sampling is random, such surveys reduce costs of gathering data while allowing valid inferences of the characteristics of the underlying population to be made. A prerequisite for the drawing of a random sample is a sampling frame, a list of the units in the population from which the units that will be enumerated are selected. In practice, this is often an actual list, a set of index cards, a map, or data stored in a computer.

But unlike sampling issues such as the choice of sample size or the mechanism for randomly selecting units, the construction of the sample frame rarely receives much attention. This is unfortunate. For example, a sample frame that excludes the poorest households in a locality will lead to biased inferences regarding the incidence and severity of poverty in that community, irrespective of the quality of the data collection or the sophistication of the subsequent statistical analysis.

The starting point for constructing a sampling frame is often an administrative list. These extant lists are regularly flawed. They may include units that do not belong to the population of interest (overcoverage), exclude a unit that does belong to the population of interest (undercoverage), or list the same unit several times. Although careful crosschecking can rectify these flaws, doing so is not a trivial exercise. Moreover, the need to validate these lists increases the costs of undertaking household surveys.

Even if the sample frame is carefully constructed, there exists a view that the information collected subsequently will be unreliable. Motivated by this and other concerns, the last several years have seen the development of new methods for obtaining information on the socioeconomic characteristics of communities. One such approach falls under the very broad rubric of participatory rural appraisal (PRA). PRA is "a family of approaches and methods to enable rural people to share, enhance, and analyze their knowledge of life and conditions, to plan and to act." The PRA approach is predicated on the notion that local people have a wealth of knowledge that they can articulate. Furthermore, the claim is made that a particular PRA method—participatory village mapping—can be used to obtain data on demographic characteristics and measures of well-being more accurately than standardized household surveys and at a fraction of the cost.

In an environment where everyone is aware that most outsiders are associated with financial resources that are to be disbursed, data may be as much the outcome of social interactions as they are immutable facts.

Purpose of the Study

This paper speaks to these issues. It investigates whether inferences drawn about a population are sensitive to the manner by which those data are obtained. Specifically, we started with a common sample unit (the household) and a common universe (five villages in northern Mali). In these villages, we conducted two types of surveys. One was a household survey based on the random selection of respondents from a locally constructed administrative list that had been carefully checked. The second was the outcome of participatory activities—the construction of a detailed village map—in these communities. We sought to determine whether these two methods yielded comparable characterizations of these villages.

Methodology and Results

We began by considering coverage error. We examined how a sample frame, based on official census lists and revised in discussion with local people, compared with one derived from a participatory mapping approach. We found that the revised official census suffered from a slightly higher level of undercoverage than the participatory map. However, the mapping exercise tended to lead to larger errors of overcoverage. We then investigated if these errors led to different conclusions with respect to certain characteristics of the underlying population. We controlled for the survey instrument used and found that households sampled from the revised official census appear, on average, to be larger and wealthier. If we characterized the villages in terms of total size or total wealth, we obtained larger estimates from the participatory village mapping because of the overcoverage associated with this technique. Finally, we examined if the characterization of these villages was sensitive to the survey technique used. In particular, we compared results obtained from the same households, but drawn from different survey instruments. We found that the participatory village mapping by which information on the households is obtained in a public setting, produced higher estimates of household size and lower estimates of household wealth than the

household survey, in which households are surveyed in private.

Discussion and Conclusions

We must be careful not to over generalize from these findings. They pertain to a particular region. Whether they are replicable elsewhere is an empirical question. Second, even if outsiders and participants agree on concepts and definitions, there can still remain differences in interpretation and application. Although we adopted local definitions of households, there will always be borderline cases. In the context of household surveys, our enumerators had criteria by which they could adjudicate, for example, the definition of a "migrant." By contrast, in the participatory mapping exercise, respondents undertook this adjudication. This is not to say that one set of criteria was more valid, but rather that the same criteria can be used in different ways by different actors. Similar considerations can be attributed to the notion of a village.

Mindful of these caveats, these results can be read in a number of ways. They can be used to support the claim that participatory mapping is *more* accurate than a sample of households randomly drawn from an ROC because it is less likely to exclude poorer, smaller households. Conversely, participatory mapping could be regarded as *less* accurate due to the overcoverage we observe and the apparent underreporting of assets.

Our interpretation is somewhat different. We surmise that these results are principally driven by the particular dynamics of these different activities. Despite our best efforts to remain "invisible" during the participatory mapping exercise, we suspect that even our minimal presence was sufficient to induce households to alter their responses. In an environment where everyone is aware that most outsiders are associated with financial resources that are to be disbursed, data may be as much the outcome of social interactions as they are immutable "facts." Thus, for example, the "number of people resident in a household" is not just a figure to be measured, but also possibly part of a negotiation with a respondent, who perceives that financial gain may come from proposing a higher figure than is actually the case. A different set of social interactions affected our household survey. Here, there were repeated measurements of these data conducted in a private, rather than public gathering, and often interviewing was supplemented with direct observation and triangulation with other information in the questionnaire.

If our supposition is correct—that different survey techniques generate different social dynamics between research teams and their respondents, then it is incorrect to claim the "superiority" of one method over another. Instead, it is important to carefully examine and acknowledge the biases that may result from the particular method being used. It also points to the importance of triangulating, or cross-checking, information that is obtained. We further stress that our use of both techniques was not driven so much by a desire to determine the "right method," but rather by our desire to enrich our understanding of these villages. The participatory appraisal techniques allowed us to interact with certain groups, such as women, in a way that was simply infeasible when visiting individual households. They also allowed us to observe the dynamics of these villages literally "at work," and led to a more nuanced understanding of dynamics within these villages (such as relations between different ethnic groups) as well as their relationships with outsiders such as ourselves. Our quantitative surveys enabled us to complement these understandings with a more detailed, in-depth look at a wide variety of measures of deprivation.

Keywords: survey methodology, household surveys, participatory rural appraisal, Mali

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