The Limitations of Household Surveys

Methodological Considerations in the Selection of the Unit of Analysis

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Introduction

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The household is frequently considered as the default unit of statistical analysis in many socioeconomic studies conducted at the international level. An example for the case of development is the Living Standards Measurement Study Survey, established by the World Bank to foster increased use of household data as a basis for policy decision-making. These surveys are intended to produce comprehensive measures of consumption, income, and a variety of issues as a means of assessing how households behave in response to changes in the economic environment or government programs (Grosh and Muñoz 1996: 4, 419). Another example related to environmental conservation is a study intended to assess the effects of protected areas on human welfare in Gabon, tracking the welfare of 1,000 households that traditionally have used protected area resources and comparing their livelihoods with those of an equal sample of control households (Wilkie et al. 2006: 248). In a similar way, a study in Vietnam sought to assess the way cash incentives encouraged upland farmers to forgo clear-

cutting of forests by conducting surveys among households (Ferraro and Pattanayak 2006: 484).

A common factor in these types of studies is that they do not discuss the adequacy of the household as the unit of analysis in the specific sociocultural context in which they are applied. These surveys take it for granted that the household is usually the most appropriate unit of analysis, regardless of their variability. By doing so, however, these studies might be contributing to the reproduction of a narrative that legitimates their research results based more on issues of public credibility than on empirical evidence.

This situation is particularly significant because the anthropological literature on households has been consistently showing that the household is a highly complex entity. This complexity is reflected in the way of conceptualizing the household and in the variability of households in practice. The following sections address these issues in more detail, including a discussion about the adequacy of the household as unit of analysis in survey research.

Conceptualizing the Household

Conceptualizing the Household

One of the biggest challenges when defining the household is its multidimensionality. As a result, authors have defined the household in different ways, according to the sociocultural context. In urban settings, the household has been defined as the person or people who occupy a housing unit, which could be a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied as separate living quarters (Groves et al. 2004: 68). In rural societies, the household has been defined as a group of kin, which eats from the same cooking pot, lives under the same roof, cultivates the same land, and is commonly based on at least one conjugal unit (Hill 1986: 78). In this context, the idea of pooling resources is central to the activities of the household, in the sense that the household is expected to place at the disposition of its members what is indispensable to them (Sahlins 1972: 94).

At a more general level, households are also defined as domestic groupings of kin with a corporate character and an identity that is recognized in the use of terms like family,

house, and hearth (Netting 1993: 58). In this context, a household is also understood as a person or a group of people who live together in one or more structures, who carry out daily activities necessary for the maintenance and social reproduction of the group –within a specific space associated with the residence– and who interact with other households (Anderson 2004: 111).

These definitions provide a wide range of parameters to understand the conformation of a household. However, conceptualizing the household requires more than adding these features together. In some cases, the inclusion of additional parameters might be required to address the complexity of some households. For example, the term *nested households* might be useful to understand co-residential groups that contain more than one household or are part of a larger household (Anderson 2004: 112). In other cases, it might be necessary to remove some tasks from the household context because they do not happen in practice, like the formal education of children, and even the cooking of meals (Netting 1993: 59). The fact that people often live in the same building without sharing the activities that normally define a household also calls for the differentiation between households and residential groups (Anderson 2004: 112). Similarly, households do not necessarily have the structure of a nuclear family. They might be monogamous or polygynous, patrilocal or matrilocal, nuclear or extended, and in some cases, they may have servants (Netting 1993: 58). They may also

include lodgers and cover several generations of relatives (Russell and Harshbarger 2003: 228).

Under such diverse circumstances, the household cannot be considered as a homogenous unit, but must instead be acknowledged as a highly diverse entity. Based on this recognition, some anthropologists' efforts to address this diversity have included the definition of household typologies. The assumption here is that lacking some degree of subdivision, empirical findings related to the household might be considerably defective, mainly collections of figures having no structure or innate logic (Hill 1986: 82). Thus, to increase research accuracy, it might be necessary to break up the concept of the household into several subcategories. For example, in the case of a study among Mexican urban households, this concept was broken down into four constituent types: singleton households, matrilocal households, nuclear households, and complex households (Selby et al. 1990: 87). Likewise, a study on households in West Africa used a different classification: ordinary conjugal households, joint households, households headed by widows, households headed by sons with living fathers, and conjugally split households (Hill 1986: 82).

The issues surrounding the definition of the household provide an idea about the inconsistency of this concept, and the difficulties involved in its operationalization. Household conformation is so diverse that no universal common functions or activities seem even to

exist (Netting 1993: 58). This variability is especially evident in the case of non-Western societies. Thus, acknowledging the great variability of the household concept should be a first step in adopting a methodologically prudent attitude that prevents its oversimplistic usage. Deciding if the household should be used as a unit of analysis in socioeconomic studies should be an important consideration with implications on the internal validity of a research project.

Household Variability in Practice

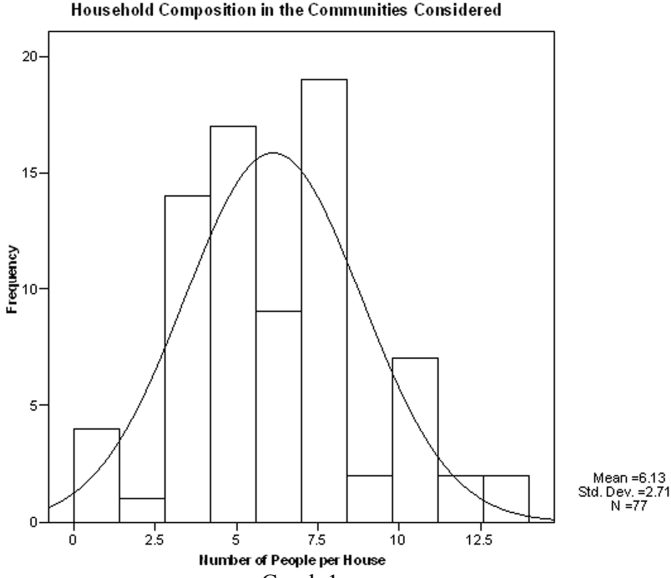
Household Variability in Practice

This chapter addresses the variability of the household in practice. I examine the household composition in three indigenous communities located in the Peruvian rainforest: Sawientsa, Sukutin, and Shushug. These communities belong to the ethnolinguistic group Awajún, located in the tropical montane rainforest of the northern part of the country. The analysis conducted here focuses on identifying distribution patterns among a sample of 77 cases. By employing techniques to assess measures of distribution, I use a statistical approach to illustrate the variability of indigenous households.

The data for this analysis comes from an ethnographic study I conducted as part of a socioeconomic assessment. The goal was to evaluate the degree of involvement of the local population in the creation of a new protected area. The unit of analysis, in this case, was the individual, but the survey also included information on people's households and family groups. For operational purposes, only one dimension of the household was considered in

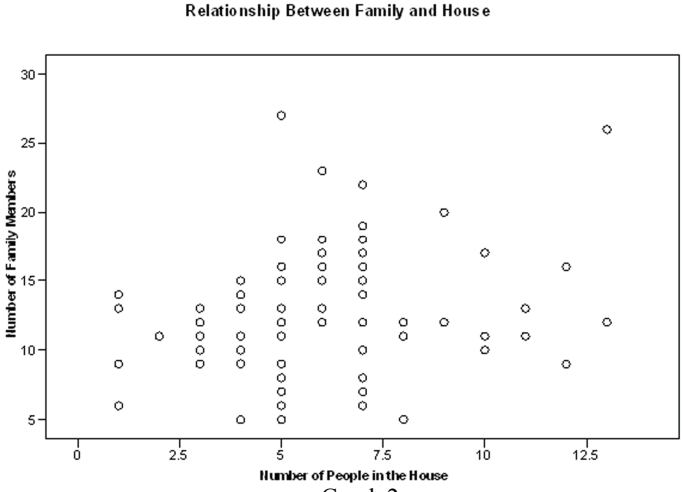
this analysis. This dimension refers to the "house," understood as a spatially bounded residential structure and its inhabitants. The house was not intended to be considered as representative of the indigenous household; it was meant to serve as a proxy variable to understand the variability of the residential units' composition in the communities studied.

Among these communities, the average number of people per house was 6.13, which was not very different from the median value of 6.0 people per house. However, when considering the number of people per house, the results showed that it varied from one to 13 persons. Among these, the standard deviation was 2.7, which does not necessarily indicate high dispersion. However, when examining the frequencies of occurrence, in 55% of the cases there were between five and seven people per house. The remaining 45% of the houses had less than five or more than seven inhabitants. This means that in 35 out of 77 houses the number of individuals per house was not concentrated around the mean, implying a considerable amount of variability in the number of people per house. These characteristics can be more clearly appreciated in Graph 1.


Household Composition in the Communities Considered
Frequency
20
15
10
5
0
0
2.5
5
7.5
10
12.5
Number of People per House
Mean =6.13
Std. Dev. =2.711
N =77

Graph 1.

Another important aspect to consider is that the number of people living in a house did not always coincide with the number of members in a family. As depicted in Graph 2, the overlap between these two factors was minimal ($r = 0.2$, or 20%) and lacked a clear pattern of association, which indicates that the family should be considered as a different entity than the household.


Relationship Between Family and House
Number of Family Members
30
25
20
15
10
5
0
2.5
5
7.5
10
12.5
Number of People in the House

Graph 2.

This situation implies that many households have family members that do not live in the same place, and some individuals may be considered as part of more than one household, especially in a cultural context where visits to relatives involving long stays are frequent. This is a culturally institutionalized behavior deeply encroached in the social organization of the Awajún. Their Dravidian kinship system meant that a man who wished to marry had to pick either the daughter of his father's sister, or the daughter of his mother's brother. This man was expected to approach their future father-in-law, who was also his uncle, and establish a closer relationship with him. This process involved visits to his future father-in-law's house, having stays ranging from a few weeks at a time to stays of up to two years. His stays implied the provision of labor services for free, as a way of contributing to the welfare of his prospective father-in-law's household. It was also a process of showing his dependability, personality traits, and ability to work, aspects which would later be considered to evaluate his marriage proposal.

Considering the implications of this common spatial mobility between households, we can estimate that at any given time a high percentage of the young male population would be affiliated to a household only on a temporary basis. This cultural practice, for instance, is likely to be missed in standardized instruments of data collection like household surveys, unless specific data on temporality is included. Still, the

interpretation of the variation in the levels of inter-household mobility would be significantly more challenging, and it would likely have to take into account other factors such as seasonal labor practices and changes in their residential patterns as a result of cultural change. Excluding the mobility of the population could be a simple statistical solution, but this action would involve sacrificing important data that should be taken into account to capture the actual conditions.

There were also differences among the communities studied. While Sukutin and Sawientsa presented some resemblances, like having a median value of five people per house, and standard deviations of 2.1 and 2.2, respectively, the community of Shushug had a median value of six people per house and a standard deviation of 2.9, implying a higher population density and a greater degree of variability in the number of people per house. As the scale of analysis expands, these small differences become increasingly relevant as significant sources of *variation*. They also increase the possibility of creating *selection effects*, due to the limited sensitivity of the measurement instruments typically employed in household surveys. This creates a situation where the unit of analysis is oversimplified and, as a result, it provides data that might be inaccurate or misleading, increasing the possibilities of *measurement error*, a term that refers to the difference between measured values and actual values.

In a linguistic sense, the translation of the term "household" is also a limiting factor. For example, the Spanish translation of household as "*hogar*" (Selby et al. 1990: 87) may be oversimplistic when we apply it to indigenous communities because it does not reflect the multiple dimensions of the household. *Hogar* can be a term related to abstract feelings of belonging, and in that sense is closer to the idea of "home" than to the idea of "household." Operationalizing the household concept represents a significant challenge that is oftentimes oversimplified by using the term "casa," or house. However, this definition is restricted by spatial limits. The household is seen as a bounded unit, when in practice it transcends the spatial boundaries of a residential dwelling, creating a situation where the human interactions surrounding the household might be missed in the analysis (Anderson 2004: 109).

Changes in household composition through time are also important. As Fortes explained, the household goes through a cycle of development analogous to the growth cycle of a living organism, where the household members and the activities that unite them go through a regular sequence of changes (1962: 2). A given household configuration only represents the specific stage it is experiencing at the time surveys are conducted. As a result, newly formed households and declining households are likely to be misinterpreted in general survey accounts, since the differences between

households and the social inequalities associated with them are usually not captured. This is especially relevant in the case of households headed by widows and single mothers, who are usually among the most vulnerable sector of the population, especially in societies where women are subject to strong gender discrimination.

Methodological Considerations

Methodological Considerations

The analysis of household variability illustrates a number of limitations in the accuracy of household surveys, supporting the idea that households are often not an appropriate unit of analysis for survey research. Russell and Harshbarger state that "understanding patterns of investment, lines of power and authority, and resource management requires looking beyond the household at networks, kinship units, neighborhoods, and beyond" (2003: 229). This is especially relevant in the case of indigenous peoples, where household conformation presents high degrees of complexity and variability. As Hill pointed out, so many households in the rural tropical world do not conform to the Western stereotype of the integrated nuclear group that usually defines statistical analyses based on household surveys (1986: 78).

In some cases, the household might not be the most representative unit of social organization. The Matsigenka Indians in Peru, for example, have been ethnographically characterized as a family-level society, a term used to describe societies where the

sociocultural integration is mainly experienced at the family level (Johnson 2003: 1). In such circumstances, the household might not be the best unit of analysis to understand socioeconomic patterns.

An additional concern when defining the household as a unit of analysis in socioeconomic surveys is that the internal variability of the household may be missed. This includes key factors such as gender inequalities and generational differences. The exclusion of these factors ignores the differential access to resources and the internal decision-making processes. These are critical areas for monitoring the socioeconomic status of a population, assessing policy effectiveness, conducting evaluation processes, and determining the success or failure of conservation and development interventions in a way that is not oversimplistic.

The perception of households as homogeneous entities can obfuscate gender inequalities, reproducing a discourse that legitimizes gender exploitation (Greenhalgh 1994: 746). Since gender is one of the most frequently discussed aspects of the division of labor in a household (Anderson 2004: 110), an accurate depiction of the household should include an analysis of gender relationships, evaluating the assumptions surrounding marriage and the construction of the dominant gender (Blackwood 2005: 13). This analysis should also consider the assumptions underlying gender typologies, including hierarchy and complementarity (Gero and Scattolin

2002: 156). An example of a gender-sensitive study is the stratified time-allocation survey about household variation and gender inequality in Ariaal pastoral production (Fratkin 1989: 437).

Generational differences also pose a challenge that is usually overlooked in household surveys. This involves issues regarding the labor exploitation of children. As Netting pointed out for farming households, unpaid labor inside the household is often a required factor for its economic feasibility (Netting 1993: 296). This situation raises concerns not only because of the reduced accuracy of economic assessments of households that do not take into account children's labor but also because of the ethical issues surrounding the complicity of researchers in reproducing a narrative that ignores patterns of children's exploitation. The treatment of elders is also an important factor, since keeping non-productive elders at home generates additional demands for household resources. As Netting stated, different configurations of the consumer/worker ratio affect the productive capacity of households (1993: 301).

Discussion and Conclusions

Discussion and Conclusions

The elements of analysis provided so far question the adequacy of the household as a unit of statistical analysis. The variability of the household across different contexts raises doubts about the representativeness of models that perceive the household as a homogeneous entity, since they do not capture its complexity. A serious risk of employing household surveys in a standardized way is the exclusion of significant population sectors, especially the most vulnerable ones. By focusing on the measures of central tendency, critical issues like gender discrimination and child exploitation inside the household might be missed. Thus, surveys that fail to capture the internal and external variability of households are expected to overlook the analysis of these critical issues, and in that sense, they contribute to the reproduction of the *status quo*. Development and conservation interventions are generally the result of problems being identified, but if no problem is reported, it is unlikely that actions will be taken to address issues that do not appear among the findings of household survey studies.

Attempts to incorporate the variability of households in statistical analyses include the establishment of subcategories of households. Defining different types of households might provide new insights for conducting comparative analyses between the main household types and the ones traditionally excluded, allowing a better assessment of their different degrees of vulnerability. Household analysis could be approached using cluster sampling, stratified sampling, and other similar techniques. This approach would still allow the use of random sampling within each cluster or strata, maintaining an appropriate level of statistical rigorosity and being more representative than survey research that uses non-stratified sampling. The main difference would be the need to conduct not only one but multiple analyses: one for each of the clusters identified, plus one about the relationships among them. In sum, using subcategories would cause the analytic process to be more complex and would require greater analytical care.

Another alternative to the single-household-type survey is the initial collection of data at the level of individuals. As Russell and Harshbarger pointed out, oftentimes it is more appropriate to use the individual as a unit of analysis than the household because households can be varied in composition and it can be difficult or misleading to compare them (2003: 152). However, focusing on the individual does not mean giving up on the analysis of the household. As Bernard suggested, we can collect

data with a unit of analysis defined at the lowest level possible, because we can always aggregate data collected on individuals but we cannot disaggregate data collected on groups (2006: 51). This is also a feasible alternative, but again, it will make the process of data collection and analysis more complex, particularly since this process might also involve the need to establish household subcategories to adequately capture the variability of the households.

The issues presented here are intended to be addressed as methodological challenges to overcome, not to completely discourage the employment of the household as a unit of analysis. After all, households can be important units of labor, investment, and production within a village, indicating differentiated levels of wellbeing, use of resources, skills, and economic activities (Russell and Harshbarger 2003: 153). The general idea is to take into account the potential limitations of the household as a unit of statistical analysis, and the need to properly adapt our measurement instruments before conducting household surveys. In any event, household variability should be an important consideration to take into account when defining the unit of analysis of socioeconomic studies that use survey research.

This concludes the main body of the present book. If you found the information contained in this book valuable, then I encourage you to please consider leaving a review. As an author, I would like to hear from you, even if it is just a few words. Your ideas and opinions about the book may help other people benefit from the content provided in these pages as well.

If you are interested in understanding the relationship between biological factors, cultural aspects and socioeconomic processes, using a methodologically sound approach to analyze their combined effect in shaping the environmental behavior of indigenous peoples, you may want to consider my book *Indigenous Peoples and Tropical Biodiversity: Analytical Considerations for Conservation and Development*. The practical application of this approach in a specific setting can be found in my book *Hunting Practices of the Wachiperi: Demystifying Indigenous Environmental Behavior*. Both books are available in print and electronic versions.

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