7

A simple method for scoring housing conditions as income proxy in Ethiopia

Mauro Ghirotti

· Introduction

Wealth is a major indicator of the distribution of resources within a community and consequently a major determinant of social and cultural differences. Land and livestock ownership, as well as production strategies, particularly husbandry practices, are strongly associated with wealth (Grandin 1983). Income may influence the distribution of diseases and other factors which result in the lowering of health status (e.g. malnutrition), as well as food production, consumption patterns and utilisation of health services (Victoria and Vaughan 1985; Ghirotti 1988). The estimation of wealth is therefore one of the primary variables to be investigated in household studies. It is, however, a long and difficult task.

Recently, a variety of methods have been developed to quickly estimate wealth ranking, but their application can be jeopardized by the extremely delicate nature of the subject (Grandin 1983). Farmers (and others) are often reluctant to openly discuss their assets. Furthermore, under certain conditions a reliable list of households in the village may not be available, thus making identification of who owns or control which resources difficult. Nevertheless, housing condition is a widely accepted income proxy which is extremely useful when its scoring is based on widely agreed principles and it is not the result of exceedingly subjective evaluations (Abramson 1984; Honadle 1979).

A simple method to housing condition is described here. It was developed on the basis of observations carried out in Ethiopia in 1985-86 among the Oromo and Gurage people of the Central Highlands, and the Hadere and the Dankil of the Rift Valley, as well as in Zambia in 1986-87 among the Ila, the Tonga and the Lozi. It was also tested in Sidamo, Southern Ethiopia, among the Sidamo and Guji people in 1988.

The house classification is based on a few practical principles:

- The house serves primarily for protection against adverse environmental conditions and as social point. Therefore, its condition depends on a combination of practical and cultural factors. Regarding its protective function, the availability and possibility to purchase building materials are fundamental. Such purchased building materials are primarily used for the roof.
- Among rural people of sub-Saharan African, houses of three main types are found: hemispherical, quadrangular and cylindrical with a sloping conical roof. Such archetypes are also followed in most modern house building in the region.
- On average, most types of traditional houses last about 6-8 years (except those of pastoral people which may last much less) so they must be maintained, repaired or rebuilt periodically. The performance and extension of these operations depend on the care exercised by the owner, the availability of money and building materials, and where communal labour is involved, on the social status of the head of the household. Cash availability may influence: (1) the type and quality of the building materials; (2) the number of rooms in the house; (3) the possibility to sub-divide space; and (4) the provision of accessories (e.g. pictures and decorations).

Source: RRA Notes (1992), Issue 15, pp.43–47, IIED London

Tables 1 and 2 show a 5-grade and a 3-grade score classification based on the above principles.

Table 1. A five-grade housing condition scoring

	1	2	3	4	5
Roof in good conditions	-	+	+	+	+
Walls in good conditions	-	-	+	+	+
Good building material	-	-	±	+	++
Well kept	-	-	±	+	++
Large	-	-	-	±	+
Sub-division of the available space	-	-	-	+	+
Presence of decorations	-	-	-	±	+

Table 2. A three-grade housing condition scoring

	1	2	3
Roof and/or walls in good conditions	-	+	+
Good building material	-	±	+
Well kept	-	±	+
Large	-	±	+
Sub-division of the available space	-	-	+
Presence of decoration	-	-	+

· Materials and methods

During a study in Sidamo, the conditions of 102 houses were compared with the estimated household income. The income of each of the different families was estimated by making an inventory of the previous year's agro-forestry and livestock ownership and production, plus other sources of household income such as casual labour or handicrafts (Ghirotti 1988). The inventory was then converted into monetary figures (i.e. Ethiopian Birr (1US $ = 2.05 Ethiopian Birr in 1988).

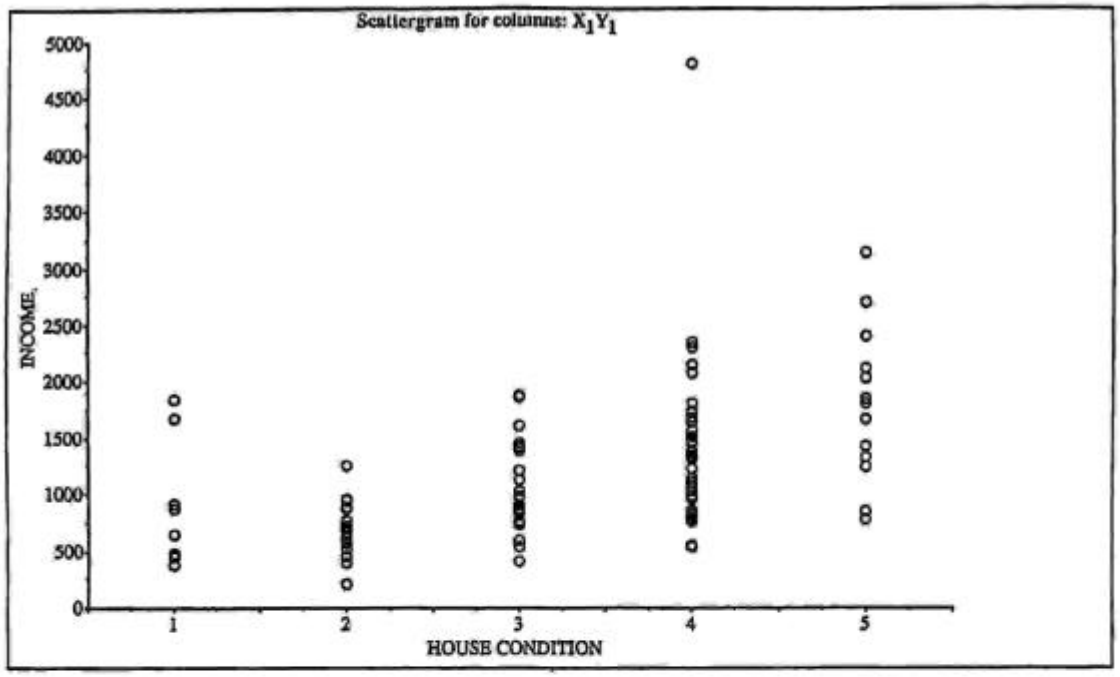
· Results and discussion

In Figures 1 and 2, household income expressed in Ethiopian Birr is plotted against a 5-grade and 3-grade score house conditions, respectively. The difference between the recorded means is more significant in the latter ($p<.001$ versus $p<.0001$).

The advantage of this method for income estimation is that it does not involve questioning people on delicate matters but requires only quick, methodical observations on the house conditions during household visits. A more straightforward division in three groups of house conditions (poor, average and good) which correspond to three income levels (low, average and high) appears to be preferable to the 5-grade score one since it shows less overlap among the different categories and more significant differences. Therefore, Table II could be used as a simple guide for estimating household income through dwelling scoring following the order of priorities given in the table. For example, a large house with some space division but with a roof or the walls in poor condition would be ranked as poor.

Source: RRA Notes (1992), Issue 15, pp.43–47, IIED London

Figure 1. Five scores house condition



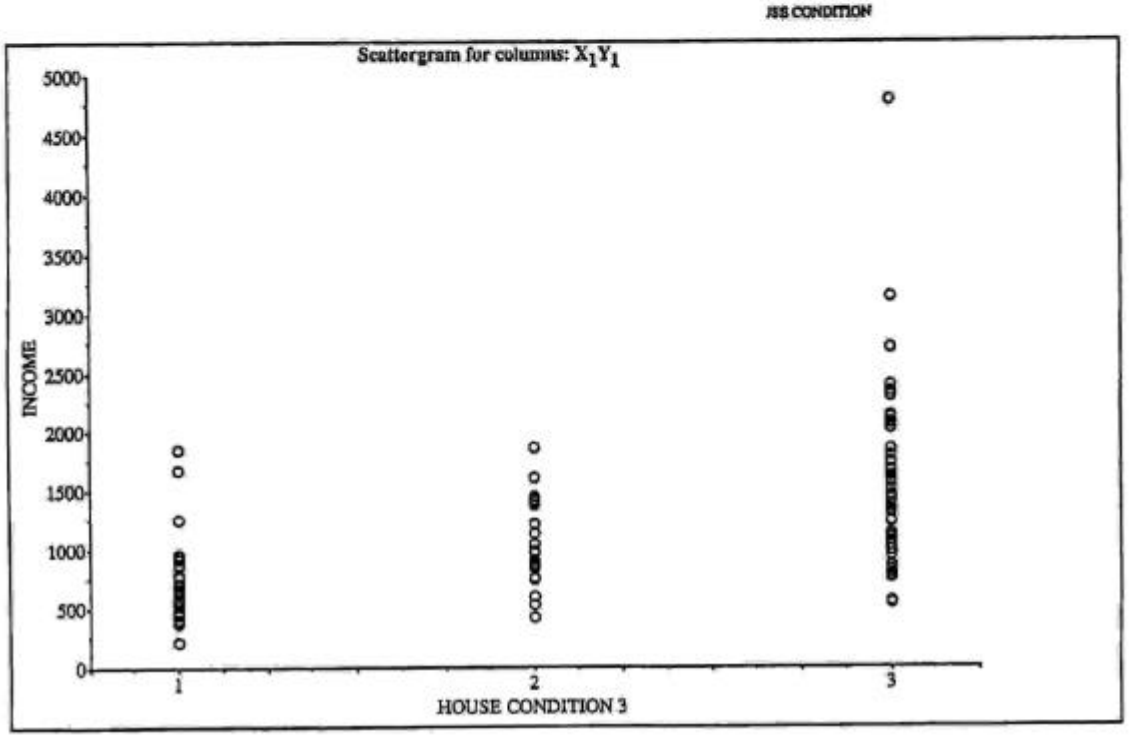


Figure 2. Three scores house condition

Source: RRA Notes (1992), Issue 15, pp.43–47, IIED London

It must be remembered that the state of housing is an ambiguous proxy for income since it depend snot only on the availability of money (and other resources) but also on the willingness of the head of household to invest in the dwelling. Nevertheless since it is also an indicator of the physical well-being of the family, the housing condition can be quite useful, for example, when investigating risk factors in malnutrition for income-related husbandry practices. In Sidamo, we found that it was a very good and easy indicator for identifying households at risk of malnutrition (Ghirotti 1980). If one is more interested in cash availability, housing conditions should be coupled with other income indicators (e.g. number of livestock or ownership of some luxury items).

Although this method was developed in tropical Africa, I believe it can be adapted to household studies in other cultures. In such cases, the categories should be based on the people's own perspectives and local conditions. Honadle (1979) for example, found the method useful in rural Java. Before a survey, local key informants could provide information on which features are considered essential to a good house or on how many levels of wealth exist in that community. The direct observation of this indicator need not exclude a participative analysis of the mechanisms involved in wealth distribution within a particular community.

- **Mauro Ghirotti,** Central Technical Unit, General Directorate for Development Cooperation, Ministry of Foreign Affairs, via S. Contarini 25, Rome, Italy.

ACKNOWLEDGEMENTS

Dr D Nabarro, London School of Hygiene and Tropical Medicine, provided practical comments on the results, and Ms S Z Babsa typed the original script.

REFERENCES

Abramson J H. 1984. *Survey Methods in Community Medicine*. Third edition, Churchill Livingstone, Edinburgh.

Ghirotti M. 1988. *Farming Systems, Household Economics and Child Malnutrition in Sidamo*, Istituto Superiore di Sanita, Rome.

Grandin B. 1983. The importance of wealth in pastoral production: a rapid method of wealth ranking. In: Pastoral Systems Research, ILCA, Addis Ababa.

Honadle G. 1979. Rapid reconnaissance approaches to organisational analysis for development administration. Conference on Rapid Rural Appraisal held at the Institute of Development Studies, University of Sussex, December 1979.

Victoria C G and Vaughan P J. 1985. Land tenure patterns and child health in Southern Brazil: the relationship between agricultural production, malnutrition and child mortality. *International Journal of Health Services*, 15, 253-274.