

Poverty maps from unsatisfied basic needs indicators in Latin America

In the late 1970's the United Nation's Economic Commission for Latin America and the Caribbean (ECLAC) developed and promoted the concept of unsatisfied basic needs (UBN) as indicators of poverty for the region (Feres and Mancero, 2001). Several countries adopted the approach in the 1980s, and most Latin American countries used the method in conjunction with the 1990 and 2000 census rounds. More recently, Schuschny and Gallopin (2004) produced region-wide maps of UBN to analyze poverty and environment in the region.

UBN are measures of goods or services that a household possesses that are associated with wellbeing. They are referred to as direct measures of poverty since they can be measured straightforwardly from factors requiring little or no interpretation. In Latin America, most countries use measures of household conditions, access to sanitary services, access to education and economic capacity of the household (Table 1).

Table 1. The basic needs and related variables found in the census. Adapted and modified from Feres and Mancero, 2001

Basic Needs	Dimensions	Census variables
Housing conditions	a) quality of shelter b) size of house in relation to number of people living there	<ul style="list-style-type: none"> • Construction materials used in the floor, walls and roof • Number of persons in the household; number of rooms in the household
Access to sanitary services	a) availability of potable water b) system for elimination of human wastes	<ul style="list-style-type: none"> • Water source in the household • System for elimination of human wastes
Access to education	Enrollment of school-age children in school	<ul style="list-style-type: none"> • Age of household members • School attendance
Economic capacity	Probability of income sufficiency of household	<ul style="list-style-type: none"> • Age of household members • Highest educational level reached • Number of persons in the household • Condition of economic activity of head of household

For each of the variables in Table 1, criteria are chosen that indicate whether a household is considered lacking or not in a basic need. For example, roofing materials such as branches and leaves may be considered lacking the basic need for adequate shelter. Households without indoor plumbing may be considered lacking in the basic need of sanitary services. Other criteria are assigned to each of the basic needs in Table 1. Feres and Mancero (2001) explain these criteria in detail. UBN indicators are normally representative of wellbeing, consumption and income. Statistical associations have also been found with nutritional status (Montilva et al., 2003).

Typically UBN indicators are reported for administrative units as the proportion of households that have one, two, three or four basic needs unmet. Schuschny and Gallopin (2004) mapped a poverty intensity indicator based on weighted averages of the percentage of households with one, two, three and four UBN. They also calculated the density of population with UBN.

The application of the UBN method has both beneficial aspects and limitations (Katzman, 1996). On the positive side, the indicators can be calculated from typical census data. Since the questions are direct, it would be relatively easy to add questions to a census program. The greatest advantage of the UBN method is that it yields geographically disaggregated data for areas as small as the census agency is willing to report. This aspect makes the method good for targeting development aid. The method also is stable over relatively long periods of time since many of the indicators do not change over short time periods.

On the downside, the UBN method has some severe limitations that have led some to caution that it is a method to characterize the population in terms of basic needs, not a poverty measure in itself (Feres and Mancero, 2001). Users of UBN are limited by the time between census dates, usually 10 years, but often more in many countries. UBN measures are inputs to poverty, not outcomes. Some indicators don't work well for many type of households. For example, the education and economic capacity measures do not work for households without children. Since a household either has an UBN or does not, the measures cannot characterize the depth of poverty. The method performs poorly for cases of recent poverty, where UBN has not changed, but income and consumption may have changed. The UBN method underestimates poverty in urban areas since factors such as sanitary services are highly correlated according to whether a household is rural or urban. While individual UBN can be compared in time, the composite indicator would not tell you what the conditions are that have changed. The method also has other limitations that you find in other indicators. For example, the non-poor may receive benefits from a targeting program in places that otherwise have high concentrations of the poor.

Given past use of the UBN method, it is likely that countries will continue to employ it in future assessments. However, techniques like small area estimation and the human development index, which have been implemented recently in Latin America, are likely to become more widely used in the region.

References

Feres, Juan Carlos y Xavier Mancero. 2001. El método de las necesidades básicas insatisfechas y sus aplicaciones en América Latina. Serie Estudios Estadísticos y Prospectivos. División de Estadística y Proyecciones Económicas. CEPAL-ECLAC: Santiago de Chile. Febrero.

Katzman, Ruben. 1996. Virtudes y limitaciones de los mapas censales de carencias críticas. Revista de la CEPAL. 58:Abril.

Montilva, Mariela, Maria Ferrer, Ramfis Nieto et al. 2003. Uso del método Necesidades Básicas Insatisfechas en la detección de comunidades con riesgo de desnutrición. *An Venez Nutr.* 16(1):16-22.

Schuschny, Andres Ricardo y Gilberto Gallopin. 2004. La distribución espacial de la pobreza en relación a los sistemas ambientales en América Latina. Serie Medio Ambiente y Desarrollo. División de Desarrollo Sostenible y Asentamientos Humanos. CEPTL-ECLAC: Santiago de Chile. Junio.