

# Experiences with the Development and Use of Poverty Maps

## Case Study Note for PANAMA\*

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### 1. Background information on the poverty mapping initiative

The World Bank provided technical assistance to the Panamanian Ministry of Economy and Finance to develop the *Encuesta de Niveles de Vida* (ENV), a survey resembling the a Living Standard Measurement Survey (LSMS). This process raised awareness of the possibility of developing a poverty map in Panama based on consumption indicators. While the Panamanian government had since 1970 developed basic needs indicators to estimate poverty (especially for its Social Investment Fund, or SIF), there was increasing recognition that these indicators were crude and required updating. The availability of a high-resolution map was envisioned to help improve targeting of poor areas in Panama's SIF (see Section 3).

There was substantial interest—particularly on the part of the Ministry of Economy and Finance's Social Policy Department, which was already involved in developing poverty data (see below)—in creating a high-resolution poverty map for Panama. A poverty map based on census and survey data was developed in 1998-99 using the Hentschel and Lanjouw (1996) methodology (see Section 2). The World Bank agreed to provide technical assistance for developing a high-resolution map, while the Government of Panama covered staff time involved in the poverty mapping initiative. The Ministry of Economy and Finance, involved in developing the ENV survey, became the key collaborating agency (see Section 2).

### 2. Process of poverty mapping

A high-resolution poverty map was developed in 1998-99 using data from the 1997 LSMS-like ENV survey—and the 1990 census. The Hentschel and Lanjouw (1996) methodology was used to develop a prediction model of consumption. The model's predicted parameters were in turn applied to the census data to derive household-level poverty statistics for Panama. The poverty map estimated the number of people in poverty at a district level and for some districts at a *corregimiento* (county) level.<sup>1</sup>

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<sup>1</sup> Note that Panama contains 75 districts and 510 *corregimientos* (counties).

The poverty mapping initiative in Panama heavily emphasized capacity development. This approach was intentionally used to strengthen country capacity, while critically building ownership of poverty map results. With technical assistance from the World Bank, approximately six individuals at the Ministry of Economy and Finance's Social Policy Department were trained to develop a high-resolution poverty map for Panama. The group consisted of individuals with primarily statistical and computer backgrounds.

The development of the statistical estimations and poverty map took approximately six months (April to September 1998) and resulted in the creation of two poverty indicators: percentage poor and percentage extreme poor. The group involved in the poverty mapping effort gained substantial confidence in their capacity to construct, with some technical assistance, future poverty maps.

With technical assistance from the World Bank, the group developed a technical report describing poverty map results and the steps used to develop the map. In addition, various presentations were given on the poverty map and assessment results to numerous agencies, including line ministries and universities. There are plans to create an updated poverty map based on the 2000 census and 1997 ENV survey using the Hentschel et al. (2000) methodology.

### **3. Use and impact**

The most notable use of the poverty maps in Panama has been by the Social Investment Fund (SIF). An agency created by the Panamanian presidency in 1990, the SIF has used the poverty maps to help allocate its funds, especially to those districts with the greatest number of people under the national poverty level. The SIF provides funds for the development of, for example, roads, health centers, and schools. The agency has emphasized community participation in further allocating funds by organizing meetings to define project priorities within each *corregimiento*. The SIF is currently distributing approximately US\$150 million over a four-year period (1997-2001).

Under the SIF, one specific use of the poverty map has been to help target areas for a school lunch program. Results show that this program is one of the most effectively targeted programs in Panama, reaching the extreme poor at impressive rates and by a disproportionate percentage. An estimated 120,000 students in 1,500 schools have been beneficiaries of this program, with a budget of approximately US\$2 million.

In addition to the SIF, the poverty map has guided the work of the Nutrition Department (within the Ministry of Health). Programs concerning micronutrient supplements and nutritional strengthening used the poverty map as an initial means of identifying the poorest districts. Thereafter, the Nutrition Department conducted specific community-based nutrition surveys to get more detailed information at the *corregimientos* level. In conjunction with community-based survey data, this use of the poverty map has helped the Nutrition Department to assess and monitor nutrition programs in Panama.

Aside from in-country users, donors have also used the poverty map. The Inter-America Development Bank (IDB) has recently required the use of the poverty map as a condition of *all* loan requests in Panama. IDB loans currently in negotiation (e.g., to complement the four-year SIF and for a new health and nutrition program) will be required to use the poverty map to help target activities.

The overall sentiment of poverty map users is that the map has helped guide and improve project development and planning. Specifically, the use of the poverty maps has made funding decisions in various programs and projects more equitable, effective, and transparent. In particular, SIF officials have stated that the use of the poverty map allowed them to resist political pressure to alter funding decisions once these were made. The use of the poverty maps resulted in improved targeting of poor areas (e.g., SIF's use of the poverty maps resulted in the allocation of funds to those districts with the highest poverty levels) and helped provide additional and often complementary information for research and monitoring (e.g., by the Nutrition Department).

A notable impact of the production and use poverty maps has been its institutional effects. The Ministry of Economy and Finance has, for example, been regarded as having increased credibility since developing the poverty map (e.g., an increasing number of international institutions have collaborated with this institution since their development of the poverty map). Furthermore, SIF's use of the poverty map has strengthened its institutional image. The agency is currently viewed with credibility and trust not only by Panamanians but also by the donor community. Such increased credibility is facilitating negotiation of future loans, including a loan to complement the development of the four-year SIF plan.

While the poverty map has been favorably looked upon, the scale of the district-level poverty map has in some instances been a concern. For example, the Nutrition Department indicated that a higher-resolution poverty map at a *corregimiento* level would be more useful. There have been discussions concerning development of an updated, higher-resolution poverty map for Panama. The government has stated its intention to finance (or find funding for) a majority of this work, suggesting that the level of interest in such a project is quite high.

## **Bibliography**

- Hentschel, J., J. Lanjouw, P. Lanjouw, and J. Poggi. 2000. "Combining Census and Survey Data to Trace the Spatial Dimensions of Poverty: A Case Study of Ecuador." *The World Bank Economic Review* 14(1): 147-65.
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