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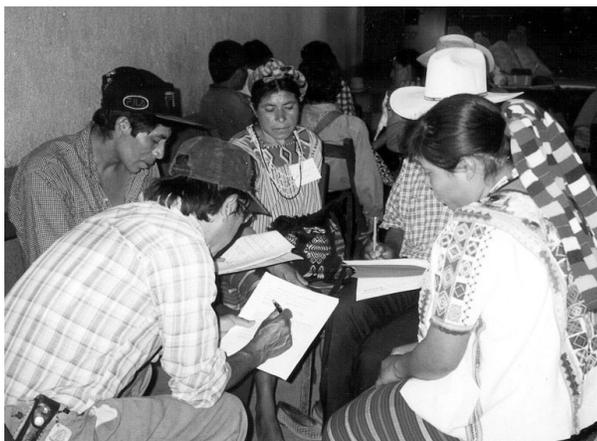
THE IMPACT OF VULNERABILITY AND SHOCKS ON THE POOR THE GUAPA PROGRAM IN GUATEMALA

Emil Tesliuc and Kathy Lindert

"As for the earthquake (of 1976), it affected the families because the majority of houses were destroyed. Most had to build shelters between the fields and in the road.... Many still haven't repaired their houses."

- Kaqchiquel villagers in Guatemala

The Guatemala Poverty Assessment report was part of a broader, multi-year program of analytical work and technical assistance that signals the commitment of the World Bank to poverty reduction and seeks to: (a) contribute to filling the crucial information gaps on poverty and living conditions; (b) deliver timely outputs on a regular and on-going basis in response to the Government's requests and data availability; and (c) provide longer-term partnering and collaboration on poverty analysis and strategy.



This program is collectively called the Guatemala Poverty Assessment Program (GUAPA program, see Box 1), which is intricately linked to the World Bank's support for the MECOVI program in Guatemala. The main counterpart agencies for the GUAPA program have been the Instituto Nacional de Estadística – Guatemala (INE) and the general planning secretariat under the presidency (SEGEPLAN) in collaboration with the university of Rafael Landívar (URL).

One of the major components of the study examined how the limited assets of the poor make them particularly vulnerable to adverse shocks. In the wake of recent shocks in Guatemala (Hurricane Mitch in 1998, the recent coffee crisis, droughts and deaths from extreme acute malnutrition), the issue of vulnerability has taken center stage in policy discussions. As such, the World Bank conducted a Risk and Vulnerability Assessment (RVA) as part of the broader GUAPA. The RVA brings a "vulnerability lens" to poverty analysis. Instead of a passive, reactive approach (given poverty, what can be done to reduce it?), it takes a dynamic,

proactive approach (given vulnerability, poverty and risks, what can be done to get help poor people escape poverty and reduce the likelihood that others will fall into poverty?).

Using a combination of qualitative and quantitative data, the RVA analyzed both vulnerability to shocks and vulnerable groups.

Combining Qualitative and Quantitative Data

A unique feature of the RVA work in Guatemala was the combination of quantitative and qualitative data on vulnerability. First, since quantitative

panel data were not available, a module on risks and shocks was introduced into the first Living Standards Measurement Survey (ENCOVI 2000). This module included retrospective questions to try to capture dynamic issues via cross-sectional data. These data include information on: (a) 26 types of shocks (economic, social, life-cycle, natural); (b) whether the shocks triggered a loss in consumption, income or wealth; (c) the main coping strategies used to compensate for these losses; (d) whether the households were able to compensate for the welfare loss; and (e) the estimated time until successful resolution of the situation. Second, a complementary qualitative study was conducted in 10 rural villages from the ENCOVI sample, covering 5 different ethnicities. This Qualitative Poverty and Exclusion Study (QPES 2000) included a module of open-ended questions on perceptions of shocks (occurrence, main coping strategies/response, and types of assistance received if any).

Vulnerability to Shocks

The concept of vulnerability has two elements: (a) a person or household's resilience to shocks, which is largely based on their assets (higher resilience means lower vulnerability); and (b) the severity of the shock's impact (the more severe the impact, the higher the vulnerability).

The ENCOVI 2000 reveals that poor households are more exposed to natural shocks, reflecting their dependence on agriculture as a source of living and their location (e.g., more likely to live in marginal areas). The non-poor are more often the victims of economic shocks.

The ENCOVI also shows that poor have lower resilience than the rich. Some 88 percent of the extremely poor and 86 percent of the poor suffered losses in response to shocks, compared with 83 percent of the non-poor. This is particularly notable for natural shocks, which caused welfare losses for half of the top quintile and two thirds of the bottom quintile of affected people. The probability of restoring incomes to pre-shocks levels rises with income.

Shocks: characteristics and effects

While Guatemala was spared major "macro" shocks in the year 2000, households reported a high incidence of localized

(idiosyncratic) shocks. Most households experienced multiple shocks (shocks tend to hit in bunches). Strong empirical evidence shows that the impact of a shock on household welfare is worse if there are other shocks as well (see Figure 1).

Shocks are difficult to predict, but key future sources of vulnerability include worsening terms-of-trade, reduced remittances, and natural disasters – all shocks that could hurt the poor. Coffee shocks and lost remittances would have severe and lasting impact. Natural disasters would have high and lasting impact, particularly for the poor.

The effects of shocks are multi-dimensional. In addition to economic effects on wealth and income, reported impacts in the QPES include: (a) psychological, such as the demoralizing

impact of job loss, the traumatic impact of violence (fear, post-traumatic stress syndrome or *susto*); (b) social, destroying trust and social capital within villages; (c) damage or destruction of community assets (loss of road access, school destroyed, water tank damaged); and (e) impacts on health (death, illness) and education (children cannot attend school). Idiosyncratic shocks are almost always associated with income or wealth losses. Social shocks (e.g., violence, unrest) are less likely to cause income or wealth losses but clearly have psychological and social impact. Some shocks,

Box 1 - The four main interconnected "prongs" of the GUAPA program include:

1. "GUAPA collaborative," which seeks to foster institutional development and capacity building in counterpart agencies for greater ownership and sustainability of the analysis and results. As such, the program adopts a collaborative approach, providing technical assistance and hands-on training to counterpart agencies for poverty measurement, data collection, analysis, and policy and strategy formulation;
2. "GUAPA analytical," which seeks to conduct a thorough, multi-dimensional analysis of poverty building on the framework of the 's world development report for 2000/2001 using both quantitative and qualitative data (the main product is this present report);
3. "GUAPA policy," which seeks to contribute to the design of the bank's upcoming country assistance strategy (CAS), as well as the upcoming country economic memorandum (cem), the government's poverty reduction policies and strategies, and the poverty-effectiveness of interventions and policies in Guatemala
4. "GUAPA operational," which seeks to forge linkages to lending operations currently under preparation to improve their poverty focus, such as those in social protection, education, and transport

like earthquakes, fire, or hurricanes, mainly affect household wealth and community assets. Other natural shocks primarily affect income.

The duration of impact varies by type of shock. Many QPES villages report that families still live in homes that were badly damaged by the Earthquake of 1976 (over 25 years later). The shock worsened household living conditions that were already poor; there has been no recovery. Hurricane Mitch had catastrophic consequences on some villages, completely wiping out their main productive base. The social and psychological impact of the conflict of the 1980s is also clearly long-lasting.

Main Coping Strategies

Guatemalan households rely on their own assets and collective (community) action as their main coping strategy; few receive public assistance. For most shocks, the main coping strategies include reducing consumption, and self-help (supplying more labor, selling or mortgaging assets, drawing down savings). Few households reported receiving Government or NGO/donor assistance. Lower consumption was the main coping strategy in the face of falling household incomes (earnings) and public protests. Informal coping mechanisms (“social capital”), such as borrowing or receiving help from friends, relatives or neighbors, were the primary coping strategy for family disputes, accidents or death of household members. Formal insurance and credit were most common for insurable risks, such as fire, earthquakes, hurricanes, and land slides.

The poor are less equipped than the rich to fight shocks. For some shocks, such as income or job losses, poorer households are more likely to reduce consumption than to use other strategies.

Not all income or wealth losses result in a reduction in consumption. Most households are able to smooth their consumption even when faced with shocks. In fact, just over a quarter of all shocks that resulted in income or asset losses forced households to cut their consumption as a way of coping. In most cases, households were able to mitigate the effects of shocks or use coping strategies other than reducing consumption. In terms of severity, economic shocks had the highest negative impact on household income, consumption and wealth.

The cost of shocks can be significant. The most severe impact is associated with economic shocks, with an average

income loss of 28 percent for job loss, 19 percent for accidents of the breadwinner, and 17 percent for lower earnings and bankruptcy. Natural agricultural shocks had an important but less severe impact on household income: 11 percent for harvest loss, 10 percent for pest infestation, and 9 percent for drought and worsened terms-of trade.

Vulnerable Groups in Guatemala

Certain characteristics of households can indicate which groups (or characteristics) might be more vulnerable to shocks (due to structural features or lower resilience). A “vulnerability profile” predicts the probability that households will be poor in the future.

Chronic vs. Transient Poverty and Vulnerability

The profile of vulnerability is similar to that of poverty, but there are differences particularly for urban areas. Vulnerability to consumption-poverty was estimated using a stochastic model of consumption and its variance, taking into account household characteristics and the likelihood of experiencing shocks. The analysis reveals that 56 percent of the population was poor in 2000, but 64 percent had a greater than 50 percent probability of being poor in the future (or ‘vulnerable to consumption poverty’). Most notably, higher vulnerability-poverty ratios were observed in the Metropolitan region (2.2 times higher) and urban areas (33 percent higher). In other words, poverty is lower in urban

Table 1 - Classification of Poverty and Vulnerability: Transient vs. Chronic?
Numbers = % of total population

Observed Poverty Status Based on Consumption					
Vulnerability		Poor 56.2%	Non-Poor 43.8%		Consumption
	Vulnerable >50% chance of being poor in future 64.2% (LM = 51.4%) (HV = 12.8%)	Chronic Poor (LM vulnerable) 44.4%	Vulnerable to Chronic Poverty (LM vulnerable) 6.9%	Expected consumption < poverty line 51.3%	Consumption
		Frequently Poor (HV vulnerable) 4.1%	Vulnerable to frequent poverty (HV vulnerable) 8.7%	Expected consumption > poverty line = 12.8 (frequently poor) + 35.9 (non-vulnerable) = 48.7%	
	Non-Vulnerable < 50% chance 35.8%	Infrequently Poor 7.7%	Non-vulnerable non-poor 28.2%		

Poor = Chronic poor + transient poor; transient poor = frequently poor + infrequently poor. Vulnerable group = LM vulnerable + HV vulnerable. LM vulnerability group = chronic poor + vulnerable to chronic poverty; HV vulnerability group = frequently poor + vulnerable to frequent poverty. Classification scheme adapted from Bidani and Richter (2001). Estimates from World Bank calculations using data from the ENCOVI 2000, Instituto Nacional de Estadística - Guatemala. Numbers may not add exactly to 100% due to rounding.

areas and the capital but a significant share of the urban population is vulnerable to poverty.

Poverty can be: (a) chronic, with a mass of people statically living in poverty and transmitting it across generations; (b) transient, with many moving in and out of poverty; or (c) affect a specific set of sub-groups that are chronically poor and vulnerable due to specific features or circumstances. Each has different implications for policy and targeting.

For policy formulation purposes, the pool of vulnerable were divided into two mutually exclusive groups: (a) those made vulnerable by low expected mean consumption (79 percent) (labeled ‘LM vulnerable’) and (b) those vulnerable to high volatility of consumption (13 percent) (labeled the ‘HV vulnerable’). The HV vulnerable are divided further between the ‘frequently poor’ among the current poor and the ‘vulnerable to frequent poverty’ among the current non-poor.

- Chronic poverty dominates: 56 percent of Guatemala’s population was poor in 2000, the majority of these (79 percent) were chronically poor (44 percent of the total population), a fifth were transient poor (12 percent of the total population).
- Chronic vulnerability dominates: 64 percent of Guatemala’s population was estimated to be vulnerable to poverty in the future; the main reason for their vulnerability is low expected mean consumption, which accounted for 79 percent of total vulnerability (or 51 percent of the total population), whereas only a fifth are vulnerable due to high volatility of consumption (13 percent of the total population).

The chronic nature of poverty and vulnerability has important policy implications: interventions should build the assets of the poor, as emphasized in the Peace Accords and in the Government’s poverty reduction strategy.

Chronically Vulnerable Groups and the Life-Cycle Approach

Certain groups are highly vulnerable due to special circumstances. There are other sources of vulnerability in Guatemala besides consumption poverty. The RVA classifies risks over the life-cycle (by age group), assessing vulnerability in nutrition, education, health, access to basic services and exposure to natural disasters. It also looks at the number of poor people at risk and whether the risks or circumstances are likely to have lasting, even inter-generational effects on poverty (e.g., education and malnutrition-related risks). Among the risks of particular concern are: malnutrition; low school enrollment, late school entry and grade repetition; child labor; low earnings; low health coverage of the elderly; lack of access to basic services among the poor; and higher exposure to natural disasters. Seasonal migrants and their families also appear to have higher poverty and vulnerability rates than those who migrate permanently or the general (non-migrating) population.

Policy Implications

The analysis suggests that strategies to reduce vulnerability should emphasize:

- Children. A strategic emphasis on children – particularly child-focused interventions to reduce malnutrition

and promote early childhood development — is crucial to avoid inter-generational transmission of poverty and vulnerability;

- Building the assets of the poor. The chronic nature of poverty and vulnerability implies that interventions should aim to build the assets of the poor, as emphasized in the Peace Accords and the Government’s poverty reduction strategy. Social protection programs can play an important role. Specifically, when designed properly, conditional cash transfer programs can be quite effective in helping ease demand-side constraints, which have been shown to constitute important limitations for improved coverage of key assets, such as education and health.

Disaster management and relief should be expanded and improved, given the disproportionate exposure of the poor and vulnerable to natural disasters and agriculture-related shocks. The introduction of catastrophic insurance may also merit consideration. Interventions should be well-targeted to the poor and delivered in a timely manner. Since exposure to some natural disasters seems to be largely determined by location and geography, maps of vulnerability to natural disasters could be useful for risk management planning. Their use, in conjunction with poverty maps, would greatly enhance ability to target limited funds for disaster relief. Since natural disasters often damage or destroy community infrastructure (in addition to income and wealth losses at the household level), social funds could be an institutional channel for relief and infrastructure rehabilitation.

More Information

Learn more about GUAPA and our work in Guatemala here:

<http://www.worldbank.org/gt>

Visit the Bank’s Social Protection Website at

<http://www1.worldbank.org/sp/>

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