



## Evaluating Risk and Vulnerability to Poverty Using Community Based Monitoring System Data The Case of Concepción in Bolivia

by

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In 2012, with support of the UK Department of International Development (DFID) and the International Development Research Centre (IDRC)- Canada, PEP launched a new program to support and build capacities in “Policy Analyses on Growth and Employment” (PAGE) in developing countries.

This brief summarizes the main features and outcomes of one of the projects supported under the 1st round of the PAGE initiative (2013-2014). The full paper is available at the PEP website.

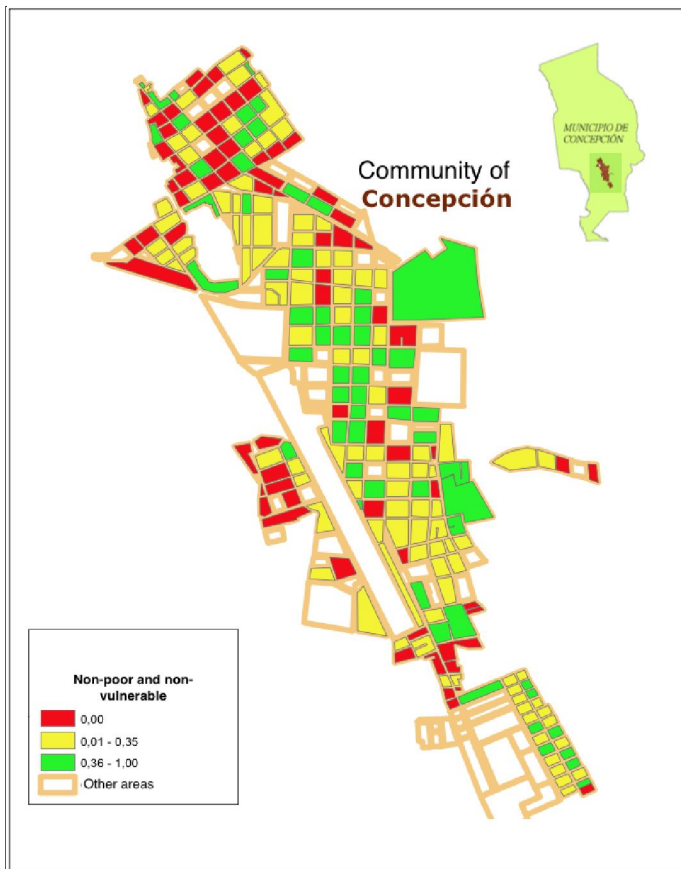
In this research document, the authors attempt to document the profile of risk exposure and poverty vulnerability in Concepción -a small community in Bolivia. The objective is to analyze the risk management strategies in the community, the relationship between different types of risks and its relationship with being vulnerable to poverty.

Vulnerability is defined as the probability that a currently non-poor household falls into poverty or that an already poor household remains poor. The framework of the analysis is based on the social risk management approach (Morduch, 2001) and later adopted by the World Bank (Holzman et al., 2003), and the data comes from an innovate source based on the engagement of the community itself in the data collection process known as Community Based Monitoring System.

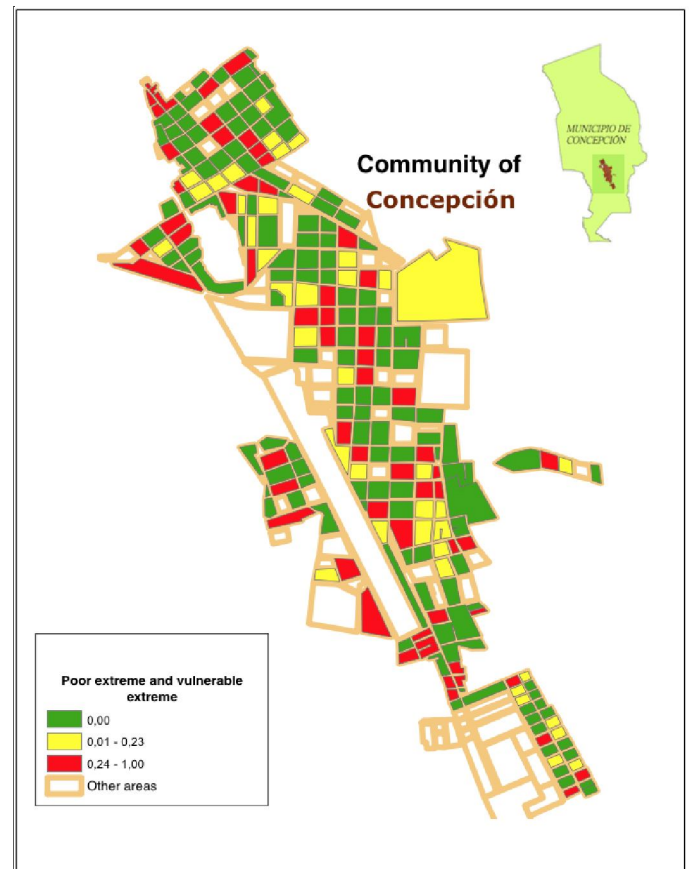


CBMS implementation in Concepcion, Bolivia.  
(Photo courtesy of the CBMS Bolivia team)

**Figure 1: Map of Estimates of Poverty and Vulnerability by Community Geographic Zones**



**(a)** Proportion of nonpoor and non-vulnerable population



**(b)** Proportion of extreme poor and extreme vulnerable population

Source: CBMS Census in Concepción, Bolivia, 2013

### CBMS in Concepción-Bolivia

The community-based monitoring system (CBMS) is based on a simple idea that the community should be involved in the data collection which will ultimately be used to improve local public policies. One of the major advantages of such system is that offers the possibility of collecting data tailored to the specific reality of the entire community. Although this sounds like a simple census for a small community, the system enables public actors and researchers to monitor and evaluate a richer and comprehensive set of indicators such as risk management strategies.

The system was applied in at least 20 countries and in the case of Bolivia, Concepción took part in the project. Concepción is a small community that was founded in 1709. The community is 290 km (180 miles) away from Santa Cruz, the main city in the region, and it is mainly populated by mestizos and Chiquitanos, an ancient indigenous group. The economy of Concepción is mainly based on agriculture, due to the fertile lands on which the community was established, and the breeding of cows and other types of cattle is very common as well. The full engagement of the community made it possible to collect data from 1,720 households and 7,643 people. The questionnaires of the survey

focused broadly on collecting consumption and income data, dwelling and individual characteristics, and risk coping strategies.

### Poverty and Vulnerability

The results show that 52 percent of Concepción's population live in poverty as of 2013. The probability of being vulnerable to poverty is higher in Concepcion which is estimated at 68 percent. These levels are higher than the estimated level of poverty and vulnerability in Bolivia at 48 percent and 41 percent, respectively.

Since CBMS data covers the entire population of Concepción, it is possible to estimate poverty and vulnerability measures for specific zones and analyze the disparities in such measures. Focusing on extreme cases, poverty ranges from 35 percent to 90 percent and vulnerability ranges from 49 percent to 83 percent in Concepción.

Figure 1 shows the estimates of poverty and vulnerability for each zone of Concepción. As we can observe, the non-poor and non-vulnerable segment of the population live mainly in the northern area of Concepción. On the other side, the most needed people, those who are already poor and have a high probability of remaining poor, is distributed in the entire community and not just a specific sector.

### Risk-Vulnerability Relationship

The distribution of risk suffered in the community shows that 8.6 percent of the households was shocked by a serious illness; 7.6 percent of the households dealt with decreases in income purchasing power; 5.7 percent suffered accidents or became physically handicapped. The less frequent risks in the community are divorce (couple break up), crime, and domestic violence<sup>1</sup>.

**Table 1: Chosen Social Risk Management Strategies in Concepción, 2013**

<b>Risk Mitigation</b>	
<b>Informal</b>	Proportion (%)
Household members with multiple jobs	18.98
Investments on human, and physical resources	8.93
Investments on social capital (associations)	5.98
Marriage	5.37
Arrangements with the Community	7.19
Share goods ownership	7.02
Ask for job payments in advance	11.09
Increase size of household	5.29
Family contracts	5.81
<b>Market based</b>	
Investments on financial assets (saving accounts, bonds, etc.)	21.40
Micro financial institutions	18.11
Old-age rents	5.03
Get insurance for accidents and others	11.79
<b>Public</b>	
Affiliation to the system pension	8.58
Participate in assets transfer for the household	9.19
Participate in protection of poor's rights	17.59
Ask for financial support for people with low income	16.98
Ask the government for unemployment, old-age and other types of insurance	18.20

Source: CBMS Census in Concepcion, Bolivia, 2013

<sup>1</sup>It must be born in mind, though, that some of these estimates may be prone to underestimation due to social pressure.

To analyze the contribution of such risks to vulnerability to poverty the authors use a parametric estimation and find that births explain 1.1 percent of total vulnerability to poverty. The other significant variables are increases in food and energy prices (0.7%), and death, domestic violence and decreased purchasing power (0.6%)

### Risk Management and Vulnerability to Poverty

Finally, the data collected with CBMS shows that households in Concepción mitigate risks using a variety of strategies. Table 1 show that having multiple jobs is among the preferred informal strategy for dealing with risks. Financial assets are the prominent market based risk management strategy, and the petition of government insurances is the most common public type of risk mitigation<sup>2</sup>.

### Final Comments and Policy Implications

Although nowadays, almost every country collects national representative data on income, consumption, labor markets, etc. the estimation for a small domain such as cities or rural communities is scarce. The community-based monitoring system offers an innovative way of collecting data at a local level (communities) on topics important to policy design such as vulnerability to poverty and risk management profiles.

In the specific case of Concepción, the Community Based Monitoring System makes it possible to design specific policies based on the needs of each member of the community. On the other side, the system increases the empowerment of community members because they get a better idea of the needs of specific areas of the community.

Policies that put evidence above ideology, group interests (politics), equity and fairness arguments

and moral views are hard to imagine, specially for those of us who live in low-income countries and fragile states. But, there may be a role for knowledge in the political equilibrium

***“Concepcion is now a Comunidad-i\*. Whenever I am in a meeting discussing the best use of investment funds for a community or neighborhood, I just have to check my cell phone, access the website ([comunidad-i.info](http://comunidad-i.info)) and I have all the information I need. Now, the problem is, that they (community members and grass roots representatives) also have cell phones!!!”***  
— Carlos Cuasace Surubi, Former Major of the Municipality of Concepción



CBMS presented to the departmental authorities in Santa Cruz city.  
(Photo courtesy of the CBMS Bolivia team)

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<sup>2</sup>It is worth mentioning that the risk management strategies use by households refer to potential and not the actual ones they used.

\*Comunidad-i, unlike other information systems, is community based, i.e. it collects information of the community, for the community and by the community.