



Tropentag, October 5-7, 2011, Bonn

“Development on the margin”

## Providing Safe Drinking Water in Guatemala: Comparing the Role of Local Governments, Communities and the Private Sector

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### Abstract

Supply of safe drinking water is one of the most important services that governments need to ensure for their citizens. Yet, supplying reliable water services has remained a major challenge, especially in rural areas, and there is a controversial policy debate on the institutional arrangements that are best suited to meet this challenge. This paper compares three types of service provision which co-exist for drinking water supply in Guatemala: the management of water supply by local municipalities, by local community groups, and by private enterprises. A conceptual framework based on concepts of the New Institutional Economics, in particular Oliver Williamson's transaction costs approach, is used to identify the comparative advantages of the three systems, depending on contextual factors such as government capacity, community social capital, and households' income levels.

The empirical part of the paper is based on two sources of data: the 2006 Living Standards Measurement Survey, which provides nationally representative household data, and a community-level survey that was conducted in 200 rural communities in Guatemala in 2010. The analysis of the household level survey shows that access to water is far from being universal, particularly in rural areas, and existing water systems are often unreliable to provide safe drinking water. Hedonic models are estimated to investigate the value that households assign to the three institutional options considered in this study: municipal, private and community-managed water supplies. Rental prices and households' choice of water provider are modeled simultaneously using maximum simulated likelihood estimation (with 200 simulation draws per observation) in order to control for the potential endogeneity of access to different types of water services. The findings indicate that households in both urban and rural areas value municipal water services. Urban households also value private water supply, although the estimated value for private services is lower than for municipal supply. Contradicting a major trend in providing water services, there seems to be resistance to community-managed water systems in both urban and rural areas, which may be linked to the efforts required in managing such systems.

The community-level survey confirms the problems of rural drinking water supply found in the household level data analysis. The community survey entailed an empirical measurement of contamination levels of drinking water, using a special test kit. The analysis showed that more than half of the rural communities do not have access to portable drinking water. Moreover, even where water services exist, contamination levels are high across the different management systems. Based on the analysis, the paper draws policy implications regarding the institutional arrangements for drinking water supply in Guatemala.

The paper highlights the role that an effective public sector needs to play to ensure safe drinking water for all citizens.

**Keywords:** Decentralisation, drinking water supply, Guatemala, institutional arrangements