

# Comment on: A nationally representative economic survey five months after the Haitian earthquake: Radical changes in household members and gender discrepancy in employment retention by R.S. Kim, J.D. Ashley and M.E. Corcoran

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The paper by Kim et al. on “A Nationally Representative Economic Survey Five Months after the Haitian Earthquake” presents the findings of a unique effort. Responding to the magnitude 7.0  $M_W$  earthquake that struck Haiti on January 12, 2010, Jean Orelien, a Haitian-American statistician living the United States, contacted the American Statistical Association (ASA) for help with the design and implementation of a survey to assess the earthquake’s impact [1]. He was referred to Statistics Without Borders (SWB), an outreach group within the ASA that provides pro bono consulting to not-for-profit groups and projects that lack the resources for statistical services [2]. Orelien and a team of SWB volunteers soon determined that while immediate needs and impacts on outcomes such as mortality and morbidity were being addressed by multiple agencies, little data were being gathered on economic impact, though such information would be vital for designing effective interventions during the complex process of long-term recovery. In June 2010, just five months after the disaster, Orelien and the SWB team partnered with two professors, Robert Philippe and Wesner Antoine, and a team of university students

in Haiti to conduct a nationally representative survey using random digit dialing (RDD) of mobile phones.

As described by Kim et al., the survey found dramatic changes in household composition and high loss of employment, particularly among women. Those displaced by disaster are physically and socially vulnerable [3], in particular children and moreover children who are orphaned or separated from parents [4]. Coupled with the loss of employment and consequently income, household composition changes can pose significant burdens, particularly on female-headed households. The survey highlights the vulnerability of specific groups – children, women, female-headed households – and the need for targeted interventions and aid in the longer term following a shock.

While RDD has the potential for bias, given lower mobile phone penetration and signal in rural areas [5], it also offers several benefits in the aftermath of a disaster, when displacement, restricted access, and safety concerns pose challenges for constructing a sampling frame and sampling. Using RDD, the survey was implemented in less than one week using limited funds donated from Orelien’s business, SciMetrika, and the

central location for data collection allowed greater supervision and quality control, cost and time savings, and greater safety for data collectors in an unstable and changing environment. Such a method could be useful in other countries with similar or higher levels of mobile phone penetration, provided that the information required does not significantly vary by rural or urban status.

Emergency situations present great challenges to generating rapid and reliable estimates of needs that can guide the design and implementation of interventions and aid in ways that are appropriate, correctly targeted, effective, and equitable. The economic survey in Haiti illustrated the potential for a volunteer organization, SWB, operating within a professional statistical association, ASA, to respond quickly at minimal cost with a high level of technical expertise. The large team effort was key, with statisticians working both on the ground and remotely. More broadly, the 2010 earthquake in Haiti was one of the first examples of volunteer technical communities remotely providing tangible assistance to relief efforts during an unfolding emergency [6,7].

In the SWB survey, key steps including study design, questionnaire development, calculation of weights, data entry, and analysis were divided among smaller teams. However, valid, high quality data would have been impossible without serious partnership with statisticians in Haiti, who worked despite facing personal

adversity. Partnerships between developed and developing countries have the potential for capacity building and mutual learning; however, this potential is often not realized and can especially be ignored in an emergency. In this survey, however, a more effective collaboration led to a more valid tool for data collection as well as objectives informed by locally identified needs.

## References

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