Introduction

There are a number of major epistemological challenges to clarifying basic questions about the magnitude and pattern of conflict-related mortality during armed conflict situations. Such challenges stem from issues associated with the measurement of elusive phenomena, the unsettled nature of the population, the difficulties in gaining access to the affected population, and potential security and safety concerns for both enumerators and respondents.

Background

Human rights groups and media reports have documented that, in the process of carrying out its counterc insurgency between 1984 and 1996 against suspected Sikh insurgents, security forces engaged in torture, extrajudicial executions, and enforced disappearances in Punjab, India. Indian authorities have downplayed reports of abuses in Punjab as “aberrations” that have been addressed according to appropriate procedures.

These documentation reports, however, are yet to conclusively clarify whether the government’s counterc insurgency reports were, in fact, a model security operation or an example of the state suspending the rule of law and carrying out mass human rights violations against insurgents and suspected opponents.

We have drawn on an adaptive sampling design, given that we are trying to indirectly measure an elusive population hidden within a large settled population (of approx. 5 million).

Aim

We seek to contribute new empirical evidence and defensible statistical findings to this important human rights debate, by moving beyond some of the limitations of existing data and placing this debate on stronger empirical and methodological footing.

Our aim is to clarify whether the alleged enforced disappearances and extrajudicial executions committed by police and security authorities were “widespread” and/or systematic. Widespread in that such lethal violence was committed on a large-scale at the population-level, and systematic in the sense that the pattern of these events is consistent with a systemic process that can be observed as a deviation from a specific plan or set of social practices.

We develop a quasi-adaptive sampling strategy, which combines both probability-based random sampling (at the first sampling stage) and adaptive sampling (at the second stage) in order to measure the random data omissions of lethal violence in Amritsar.

Method

We conducted our survey in July and August 2009. We designed the survey to study the following reference population: victims of lethal counterinsurgency violence who were killed or disappeared any time between 1984 and 1995 and who were residents of rural Amritsar at the time of their death or disappearance.

Given the effects of migration between 1996 and the time of the survey, this sampling plan is expected to result in a downward bias when estimating the magnitude of lethal counterinsurgency violence in rural Amritsar between 1984 and 1996.

We used a referral-based sampling plan. We first randomly selected 190 village clusters proportional to population size. In each sampled village, we then interviewed at least two primary referral points which included local village officials or elders.

Primary referral points included:

- Sarpanches: elected chief administrator of the village
- Bazurs: village-level government officials who record vital events within the village
- Chowkidars: village-level government officials who recorded vital events within the village

We then attempted to interview all such families still resident in the village. The survey field team then documented the details of any lethal violence incidents which this family experienced and also asked them for further referrals to other families resident in the sampled village.

These primary referral points were asked for referrals to families who experienced an enforced disappearance and/or extrajudicial execution between 1984 and 1995, and were resident in the sampled village during that time.

The survey team then attempted to interview all such families still resident in the village. The survey field team then documented the details of any lethal violence incidents which this family experienced and also asked them for further referrals to other families resident in the sampled village who had experienced acts of lethal violence. All referrals from both primary referral points and families were followed exhaustively.

Results

By applying the Horvitz-Thompson estimator (Horvitz & Thompson, 1952), we estimated that a lower bound of approximately 1865 (95% C.I. (1588, 2142)) on the number of people killed or disappeared in rural parts of Amritsar between 1984 and 1996 by the Indian and Punjab state authorities as part of the State’s counterc insurgency campaign against Sikh non-state armed actors.

Conclusio

We find that the use of referral-based sampling to measure elusive phenomenon, such as direct lethal violence during the counterinsurgency in Amritsar, India, leads to efficient sample sizes which can be used for calculation of conservative, lower-bound mortality estimates. In contrast to Roberts et al. (2010), we find our estimates to be reasonably stable for the choice of different primary referral points. However, we find the secondary referral process to be characterized by notable bias, thus making unbiased network-based estimation challenging.

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