Estimating Conflict-Related Mortality in Timor-Leste, 1974-1999: A Comparative Review of Demographic and Statistical Estimation Methods

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Introduction

During 1975, Timor-Leste transitioned from being a colony of Portugal to being occupied by Indonesia. The occupation was characterized by large-scale political violence, including selective and indiscriminate killings, forced migration, famine-related deaths, tortures and acts of ill-treatment.

This paper combines demographic and statistical analysis analyzing the pattern and magnitude of conflict-related mortality in Timor-Leste between 1974 and 1999. This analysis draws on data from three independent data sources collected in collaboration with the Commission for Reception, Truth, and Reconciliation of Timor-Leste (CAVR). We show how combining narrative testimony data, "found data" and survey-based results with available population census information have helped uncover new knowledge about conflict-related mortality in Timor-Leste. We also discuss (i) the applicability of and interaction between survey methods and Multiple Systems Estimation (MSE) in measuring large-scale human rights violations, and (ii) the strengths and limitations of convenience sample data, administrative data and survey-based data. We then present the resulting estimates of conflict-related mortality in Timor-Leste using survey-based methods, MSE and demographic estimation techniques (such as the sibling-survivor method). We conclude by assessing the different strengths and weaknesses of these methods and suggest further extensions to the literature.

This paper is an extension of earlier work developed by two of the authors whilst advising the Commission for Reception, Truth and Reconciliation (CAVR, by its Portuguese acronym).[1]

Background on Conflict-Related Mortality Estimates for Timor-Leste

The scale of conflict-related mortality during Indonesia's occupation of Timor-Leste has been the subject of considerable debate: estimates range from a low of 40,000 to more than 200,000.9 The most informed observers have repeatedly concluded their analyses by recommending that direct evidence be gathered and analyzed.[2]

As the 1980 and 1990 Timorese censuses published population counts without disaggregating the population data by key demographic variables (such as age and sex), the ability of social scientists to apply standard demographic estimation techniques to the official population data was limited. Non-governmental sources of population information were also of limited value due to the severely restricted access independent monitors and humanitarian groups had to Timor- Leste during the

1 Silva, Romesh and Patrick Ball, "The Profile of Human Rights Violations in Timor-Leste, 1974-1999", a Report by the Benetech Human Rights Data Analysis Group to the Commission on Reception, Truth and Reconciliation. 9 February 2006. Available online at http://www.hrdag.org/resources/publications/Benetech-CAVR-statistical-report.pdf

2 Robert Cribb "How Many Deaths? Problems in the statistics of massacre in Indonesia (1965-1966) and Timor-Leste (1975-1980) in Ingrid Wessel and Georgia Wimhoefer, eds. Violence in Indonesia. Hamburg: Abera-Verl, 2001.

conflict.

Thus, a key challenge which researchers have faced in Timor-Leste has been the lack of pre-existing population information that could be used to develop scientifically-defensible estimates of the number of Timor-Lesteese who died due to the conflict with Indonesia. In order to overcome this limitation, we developed three new datasets in partnership with the CAVR as a basis for new empirical analysis of conflict-related mortality in Timor-Leste between 1974 and 1999.

Data Sources on Conflict-Related Mortality in Timor-Leste

The estimates in this paper are based on three data sources which were developed in partnership with CAVR:

1. The Human Rights Violations Database (HRVD): a collection of narrative statements from individuals who were willing to talk to the CAVR,[3]
2. The Graveyard Census Database (GCD): a comprehensive census of public graveyards in each of Timor-Leste's thirteen districts.[4]
3. The Retrospective Mortality Survey (RMS): a random-sample household survey used to measure displacement and mortality during the CAVR's mandate period (1974-1999).[5]

Each data source documents only a small fraction of the total deaths in Timor-Leste, 1975-1999. Even in the absence of conflict, not all of the dead are buried in public graveyards: some people are buried in remote locations or in private family graveyards. When mortality conditions are especially severe, relatively fewer people are buried with formal markers. Markers degrade over time, so that by the time the graveyard census was taken in 2003-2004, many graves could not documented because their information is illegible. Other markers were destroyed entirely in the period between the burial and the time the GCD was collected.

The RMS reflects the experiences reported in 1,396 households but omits the experiences of nearly 190,000 households not sampled. The HRVD reflects the experience of 7,668 respondents, but approximately 940,000 other Timor-Lesteese did not give testimonies to CAVR. However, even if the HRVD and RMS did reflect the experience of every living person in Timor-Leste, many deaths would still remain undocumented because all the people who could remember them have died, left the country, or were psychologically or physically unable to recount the stories during the data collection period. In villages where mortality was especially heavy, there may have been no witnesses who survived until 2002-2003. Other families may have left Timor entirely, taking with them their social memory of the deaths. Still other families may have decided to keep secret their past experiences, so it may not be possible to directly document deaths in their family. Social memory is always partial.

Presentation & Discussion of Estimates of Conflict-Related Mortality in Timor-Leste

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3 Commission for Reception, Truth and Reconciliation & Benetech Human Rights Data Analysis Group. "Human Rights Violations Database." published 9 February, 2006. http://www.hrdag.org/resources/timor-leste_data.shtml

4 Commission for Reception, Truth and Reconciliation & Benetech Human Rights Data Analysis Group. "Graveyard Census Database." published 9 February, 2006. http://www.hrdag.org/resources/timor-leste_data.shtml

5 Commission for Reception, Truth and Reconciliation & Benetech Human Rights Data Analysis Group."Retrospective Mortality Survey Database." published 9 February, 2006. http://www.hrdag.org/resources/timor-leste_data.shtml

The classical demographic methods to estimate adult mortality can be classified into three groups. The first group, Intercensal Survivors Method, uses information from two censuses to estimate mortality risks for successive cohorts. The survivorship from age X at the first census to age X+10 at the second census estimates the life table function Lx (Preston, 1983).

A second method uses age distributions from two censuses, the second method, can also be used to estimate mortality risks using intercensal growth rates and in combination with an age pattern of mortality (Hill, 1987; Preston, 1983; Timaeus, 1991). The application of these techniques to Timor-Leste between 1974 and 1999 are not possible since relevant census information is not disaggregated by age and sex.

In addition to the survey-based estimates based on our RMS and Multiple Systems Estimates using the matched data from the RMS, GCD and HRVD, we develop indirect demographic estimates from the RMS data. We apply these indirect methods, proposed by Brass and Hill, for estimating life-table functions from proportion of respondents of successive cohorts with mother of father alive. The age group of the respondent represents survival time of the mother, so that proportions of respondents at an age groups approximates the survivorship of the mother (or father) from an average age at childbearing plus the age of the respondents. The proportions of brother and sisters surviving by age of the respondent is also a clear indicator of survivorship, it approximates survivorship from birth to the age of the respondent.

We then review the strengths, weaknesses and limitations of these three sets of estimates compiled. In particular, we present the adaptations to the respective methods which were employed and discuss the implications of the assumptions and the precision and robustness of these methods.

Conclusions

Sample surveys, multiple systems estimation and indirect demographic techniques are complementary. Furthermore, these different methodological techniques can leverage wide-ranging data sources (such as narrative testimonies, “found data”, existing population census data and survey-based data). In certain circumstances, data collected using standard sampling techniques may be more appropriate (such as when estimating conflict-related deaths which are common amongst the general population) whereas in other situations MSE may be more appropriate (such as when the phenomena are less common, even elusive, amongst the general population). Structured questionnaires, which are developed using cognitive interviewing and survey pre-testing techniques, can aide in the establishment of better quality cause-specific mortality data than is sometimes available from open-ended, narrative testimony data and administrative records (e.g. graveyard data). The combined use of diverse data sources and complementary estimation techniques can be adapted to provide researchers a comprehensive means to clarify conflict-related mortality in situations where classical population data systems are damaged, incomplete or non-existent.