

## 8 Conclusions

According to the available data, there is considerable variation across time and space in reported enforced disappearances, extrajudicial executions, alleged encounter killings, and “illegal cremations” in the municipal cremation grounds. Further research into the patterns of these violations in time and space is needed. The current analysis, however, suggests that state practices influenced the magnitude and nature of human rights violations. Most notably, this report observes that the intensification of counterinsurgency operations, documented as encounters, were correlated with increased enforced disappearances and extrajudicial executions reported to local human rights groups. This period is when “illegal cremations” also substantially increased. These correlations suggest a modality of state violence whereby security forces secretly disposed of the victims of enforced disappearances and extrajudicial executions, and reported the deaths as encounters.

In this report we have also noted that:

- The available data sources, each collected through substantially different social, political, and legal processes are generally consistent in noting that enforced disappearances and extrajudicial executions in Punjab are overwhelmingly concentrated in the counterinsurgency period of the early 1990s. Such correlation is inconsistent with official claims that human rights violations were random or minor aberrations.
- The data collected by the CCDP and *Tribune* newspaper show that reported enforced disappearances, extrajudicial executions, and lethal violence all shifted from being almost exclusively concentrated in Amritsar district to occurring throughout almost all districts of the state of Punjab after 1992. This pattern suggests that these phenomena were driven by the same underlying causes, and were not random acts of violence but rather part of a specific

plan or set of widespread practices used by security forces during the counterinsurgency.

- The temporal pattern of documented cremations in the Khalra cremation ground records was strongly positively correlated with that of “illegal cremations” acknowledged by the NHRC, suggesting that these two phenomena had a common cause.
- The English-language media reporting of fatal violence in Punjab shifted in 1992 from being mostly involving civilians to mainly involving alleged militants. Encounters remained high as attacks decreased dramatically. The pattern of alleged militant encounter deaths corresponded to the pattern of enforced disappearances and extrajudicial executions reported by the CCDP and PCHR. This correspondence is consistent with the hypothesis that human rights violations were often concealed as encounter deaths.
- The information reported by the *Tribune* show that few security officers were reported to have been killed during “encounters,” and that instead these incidents, on average, involved a lone killing of an alleged “militant” or a “civilian.” This finding is consistent with qualitative findings that reported encounters were often faked, because encounters involving a heavy exchange of gunfire seemed to disproportionately kill alleged militants.
- After April 1992, group encounter killings began substantially outnumbering individual violations, suggesting a shift in state violence from being targeted to being substantially more indiscriminate during 1992 and 1993.
- As state violence increased substantially after Operation Rakshak II, notably fewer bodies of the disappeared and extrajudicially executed were recovered by the next of kin compared with the period prior to 1991. The period after 1991 is also the period where the NHRC

has acknowledged a notable increase in mass “illegal cremations.” This correlation suggests that these two phenomena are driven by the same underlying cause: most likely a change in the modality of violence employed by the state.

- The available data suggest that as state violence increased, state authorities made substantially less effort to return the bodies of victims to the next of kin and, instead, either handed over the bodies of the disappeared for mass cremation in the municipal cremation ground or disposed of the bodies by other means, such as dumping corpses in canals. As state violence intensified, security officials were simply able to spend less time per victim as the number of victims increased. This pattern is inconsistent with official claims that such events were random or minor aberrations.
- The strong, positive correlation between the reported acts of lethal violence and “illegal cremations,” acknowledged by the NHRC, is inconsistent with official claims that these disappeared persons are not dead but instead migrated abroad.
- The age-sex data on reported victims of lethal violence collected by the PCHR, CCDP and NHRC are consistent with the hypothesis that these violations were overwhelmingly targeted against young men between the ages of 18 and 45.

## 9 Future Research Directions

This report describes the existing data on enforced disappearances, lethal violence, and “illegal cremations.” Two main areas of future research include: extensions to the analysis of existing data, and additional data collection on enforced disappearances, extrajudicial executions, encounter killings, and “illegal cremations” throughout Punjab.

The next step in our study of enforced disappearances and extrajudicial executions in Punjab is to match and merge multiple, independent datasets to estimate the true patterns of violence.<sup>121</sup> Given the considerable coverage gaps and reporting biases affecting any quantitative analysis based on any single dataset, it is inappropriate to draw statistical conclusions about the total magnitude and pattern of violence from any single dataset. However, even using the multiple, available data sources, the conclusions that the state’s official explanations for large-scale lethal violence appear implausible, is subject to some uncertainty. This points to the need for further research drawing on demographic and statistical methods which can quantify this uncertainty and clarify the total magnitude and pattern of total lethal violence during the counterinsurgency period.

Due to the geographic focus of the currently-available data, our future research agenda includes specific, data-rich estimates on enforced disappearances and extrajudicial executions in Amritsar. Understanding what happened to the victims of political violence in Amritsar is important in its own right. But it also will serve as a guide to future research on enforced disappearances and killings across Punjab.

Our most immediate priority is to collect more data on enforced disappearances and extrajudicial executions from districts other than Amritsar, for which the data are currently too sparse to observe discernible temporal and spatial patterns. Further-

more, we intend to collect new data which contain richer demographic information and more detailed accounts of the incidents resulting in the victim’s death. Such data will allow us to clarify the total magnitude and nature of lethal human rights violations across all of Punjab.

As discussed in Section 3, the connection between deaths in political violence and “illegal cremations” is often ambiguous. For this reason, our second priority is to explore methods to more precisely discern which cremations in municipal cremation grounds represent lethal human rights violations.

With respect to both Amritsar district and Punjab-wide analyses of political violence, we conclude that renewed data collection efforts, by more organizations in more locations, are vital if we are to understand the magnitude, pattern, and nature of the violence. We are currently compiling a Punjabi-language newspaper database of lethal violence, similar to the *Tribune* database which we analyzed in this report. In addition, we are also pilot testing adaptive sampling techniques, which are often used to study elusive populations, and assessing their feasibility for studying enforced disappearances, extrajudicial executions, and “illegal cremations” in Punjab.

We have highlighted the importance of collecting large amounts of detailed quantitative data on individual cases of enforced disappearances and extrajudicial executions. However, such quantitative data needs to be complemented by qualitative information, especially historical, political, and demographic data contextualizing quantitative patterns of violence. Qualitative data frame our understandings of the causes of violence. Together with quantitative analysis, these investigations will provide evidence regarding the magnitude and patterns of violence throughout Punjab, contributing to the debate about human rights and counterinsurgency strategy.

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<sup>121</sup>Patrick Ball, “Making the Case: The Role of Statistics in Human Rights Reporting,” *Statistical Journal of the United Nations*, vol. 18. (2001), pp. 163–173.

## 10 About the Authors

Benetech's Human Rights Data Analysis Group (HRDAG) designs and builds information management solutions and conducts statistical analysis on behalf of human rights projects. With its partners, HRDAG makes transparent and scientifically-defensible arguments based on rigorous evidence. Since 1991, HRDAG has advised nine official truth commissions, the International Criminal Tribunal for the Former Yugoslavia, the International Criminal Court, United Nations Field Missions in Timor-Leste, Guatemala, Cambodia and the Democratic Republic of Congo, and numerous non-governmental human rights groups.<sup>122</sup> HRDAG is part of the Benetech Human Rights Program.<sup>123</sup>

Ensaaf is an international human rights organization dedicated to ending impunity and achieving justice for mass state crimes in Punjab, India by documenting and exposing human rights violations, bringing perpetrators to justice, and organizing survivors to advocate for their rights to truth, justice, and reparations. Ensaaf means "justice" in many South Asian languages. Ensaaf works closely with prominent Indian human rights attorneys and human rights organizations to conduct innovative documentation studies, publish ground-breaking reports, engage international experts, and provide crucial litigation support.

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Romesh Silva, M.A, is a Demographer/Statistician with HRDAG. He has led HRDAG projects in Sri Lanka, Timor-Leste, India, Chad and Bangladesh, and also contributed to projects in Colombia, Sierra Leone, Guatemala and Liberia. Romesh has co-authored a number of policy-related reports and

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Romesh previously served as a Statistical Consultant to the United Nations Development Programme (UNDP) in Laos, where he provided quantitative analysis for the 2001 Lao National Human Development Report, and served as a technical advisor to the Lao Ministry of Finance in the upgrade of its international trade statistics system. He holds a B.Sc. (Hons, Class 1) in Statistics and a B.A. in German Studies from the University of New South Wales (Sydney, Australia), a Masters of International Affairs from Columbia University in the City of New York, and a Masters of Arts in Demography from the University of California, Berkeley. In addition to his work with HRDAG, Romesh is pursuing a Ph.D. in the Department of Demography at the University of California, Berkeley.

### Jasmine Marwaha

Jasmine Marwaha, Program Associate at Ensaaf, is a 2006 graduate of Harvard Law School (HLS) and recipient of the Irving R. Kaufman Fellowship from HLS. During her time at HLS, she was President of the National South Asian Law Students Association and Coordinator for the Asia Initiative of the HLS Advocates for Human Rights. Jasmine served as a Primary Editor of the *Harvard Human Rights Journal*, where she published the comment "Twenty Years Later: Recent Reports Highlight the Continuing Struggle for Sikh Human Rights." Jasmine graduated from the University of Washington with honors in 2003, and from Harvard Law School in 2006.

<sup>122</sup>For more information about other projects and publications by HRDAG, see <http://www.hrdag.org/>.

<sup>123</sup>Benetech is a Silicon Valley non-profit organization which builds science and technology for the benefit of humanity. Benetech is comprised of a Human Rights Program, Literacy Program and Environment Program. To read more about Benetech, please see <http://www.benetech.org> for more information.

## Jeff Klingner

Jeff Klingner, M.S., is a Data Analysis and Visualization Consultant for HRDAG. He contributed to the data analysis and led the data graphics work on HRDAG's Chad project. He also leads HRDAG's research and implementation on machine-learning

based record-linkage techniques.

Jeff is pursuing a Ph.D. in Computer Science at Stanford University. He holds a M.S. in Computer Science from Stanford University and B.S. degrees in Computer Science and Biology from the University of Texas at Austin.

## 11 Acknowledgments

The analysis in this report builds on the work of the People's Commission on Human Rights Violations in Punjab, the Committee for Coordination on Disappearances in Punjab, and the National Human Rights Commission. This project would not have been possible without the courage of the families of the disappeared and extrajudicially executed to tell their stories.

The data analyzed in this report were compiled by Ensaaf staff and volunteers. Ensaaf staff and Hansdeep Singh electronically scanned the articles from the *Tribune* newspaper. Ensaaf staff and Vanessa Pon entered the information from the

scanned *Tribune* articles into a database. Jay Singh, Karandeep Singh, Ashveer Pal Singh, and Jasmine Marwaha deduplicated the individual datasets.

Romesh Silva, Jasmine Marwaha, and Jeff Klingner wrote the report. Jeff Klingner, Patrick Ball, and Romesh Silva wrote the statistical code which produces the graphs, charts, tables, and maps. The data preparation was conducted by Romesh Silva, Jeff Klingner, Patrick Ball, and Scott Weikart. Jaskaran Kaur, Sukhman Dhani, and Mie Lewis edited the report. Patrick Ball, and Ram Narayan Kumar reviewed the report.

## A Methods Appendix

This appendix describes the main data editing and data processing techniques which we used to prepare the datasets for analysis. Most of the data processing and charting for this report was done using the *R* statistical computing environment.<sup>124</sup>

### A.1 Data Standardization

#### A.1.1 Standardization of Date Information

In many of the datasets, dates were recorded in multiple ways. Sometimes date information was encoded in “DD/MM/YY” format, other times they were encoded “MM/DD/YY,” “DD/MM/YYYY,” “MM/DD/YYYY,” “DD/month-name/YYYY,” or “month-name/DD/YYYY” format; periods and hyphens were also found in place of slashes. We first converted all the date values to system dates in *R*.<sup>125</sup> We then converted each system date to a date in the ISO date format standard, “YYYY-MM-DD.”

#### A.1.2 Standardization of Place Information

Geographic places in the different datasets were represented in various ways, from full addresses to simply the name of the village, tehsil, or district. The transcription of place names into English often varied. For each dataset we mapped the geographic place information into a standard set of spellings of Punjabi districts. Geographic locations outside of Punjab were simply mapped to a category of “Other.” For the CCDP dataset, some records recorded the location of the violation as “Residence” or with a village name which occurs in multiple districts. In such cases, we used the residence district of the victim as the location of the violation. This processing of geographic place information facilitated spatial analysis at the level of districts.

### A.2 Spatial Representation of Data using Maps

In order to generate the Punjab maps shown in Figures 5 and 6, we first counted up the number of reported incidents of lethal violence in the tribune and CCDP datasets which fell in each district and period of the conflict. Dates outside the period of analysis of 1984–1996 or outside of Punjab were classified as *Other*, and records with missing or uninterpretable date or location information were classified as *Unknown*. Records with other or unknown dates or places do not appear in the maps, though their counts are shown in Tables 2 and 3.

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<sup>124</sup>R Development Core Team, “R: A language and environment for statistical computing,” 2008, <http://www.R-project.org> (accessed January 18, 2009).

<sup>125</sup>A system date in *R* is an integer representing the number of days since 1970-01-01.

Once the mappable counts of lethal violence for each district and time period were determined, the data were rendered using the `maptools`<sup>126</sup> and `spatial processing`<sup>127</sup> packages of *R*. The Punjab map data are from the 2001 Census of India.<sup>128</sup> The color scale is interpolated from the perceptually-based 9-class sequential Yellow-Orange-Red scale invented by Cynthia Brewer,<sup>129</sup> modified in both cases to concentrate more color variation in the lower range of the scale and make districts with low but different levels of violence more visually distinguishable.

	1984-1987	1988-1989	1990-1992	1993-1996	Other	Unknown	Total
Amritsar	0	1700	4477	232	1	46	6456
Bathinda	0	87	590	31	0	4	712
Faridkot	0	154	660	62	0	3	879
Fatehgarh Sahib	0	17	36	16	0	0	69
Firozpur	0	393	856	28	1	5	1283
Gurdaspur	0	527	1419	80	2	14	2042
Hoshiarpur	0	101	266	30	1	1	399
Jalandhar	0	288	562	43	0	6	899
Kapurthala	0	122	263	38	0	3	426
Ludhiana	0	167	1261	187	1	12	1628
Mansa	0	1	76	27	0	1	105
Moga	0	25	13	2	0	0	40
Muktsar	0	0	2	0	0	0	2
Nawanshahr	0	3	0	1	0	0	4
Patiala	0	143	432	34	0	6	615
Rupnagar	0	99	463	62	0	2	626
Sangrur	0	58	801	95	1	6	961
Other/Unknown	1	203	83	13	0	136	436
Total	1	4088	12260	981	7	245	17582

Table 2: Counts of Lethal Violence Reported in the *Tribune* Newspaper, 1984–1996. These data are mapped in Figure 5.

The map used in Figures 5 and 6 reflects the the district boundaries at the time of the 2001 Indian census, depicting seventeen districts. Prior to 1992, Punjab consisted of 13 districts that were subsequently redistricted into 17 by the late 1990s. Districts with low levels of reported violence, therefore, may be explained by the redistricted Punjab map, as no reported violence would take place in a district that had not been delineated at the time. Specifically, Mansa district in the southern region of Punjab was created in April 1992 from Bathinda district. Fatehgarh Sahib district was also established April 1992 from Patiala district.

<sup>126</sup>Nicholas J. Lewin-Koh, Roger Bivand, contributions by Edzer J. Pebesma, Eric Archer, Stéphane Dray, David Forrest, Patrick Giraudoux, Duncan Golicher, Virgilio Gómez Rubio, Patrick Hausmann, Thomas Jagger, Sebastian P. Luque, Don MacQueen, Andrew Nicolai and Tom Short, “`maptools`: Tools for reading and handling spatial objects,” 2008, R package version 0.7-15.

<sup>127</sup>E.J. Pebesma and R.S. Bivand, “Classes and methods for spatial data in R,” *R News*, vol. 5:2 (2005), <http://cran.r-project.org/doc/Rnews/>.

<sup>128</sup>Office of the Registrar General, India, “Census Map of Punjab,” 2001, <http://www.censusindia.gov.in/>, stored and provided by GeoCommons, <http://finder.geocommons.com/overlays/4378>, accessed November 19, 2008.

<sup>129</sup>Cynthia A. Brewer, “ColorBrewer,” 2002, <http://www.ColorBrewer.org> (accessed January 19, 2009).

	1984-1987	1988-1989	1990-1992	1993-1996	Other	Unknown	Total
Amritsar	49	73	385	70	3	86	666
Bathinda	0	1	33	4	0	4	42
Faridkot	2	0	2	3	0	0	7
Fatehgarh Sahib	0	2	6	5	0	2	15
Firozpur	0	0	21	8	0	10	39
Gurdaspur	8	16	48	18	0	9	99
Hoshiarpur	2	10	12	2	0	5	31
Jalandhar	2	8	17	8	0	2	37
Kapurthala	1	6	25	3	0	0	35
Ludhiana	5	11	44	33	1	14	108
Mansa	0	0	3	0	0	0	3
Moga	2	0	12	1	0	7	22
Muktsar	1	0	3	0	0	1	5
Nawanshahr	0	1	2	1	0	0	4
Patiala	1	2	17	8	0	4	32
Rupnagar	0	5	45	14	0	8	72
Sangrur	2	1	69	32	0	9	113
Other/Unknown	11	24	158	59	3	106	361
Total	86	160	902	269	7	267	1691

Table 3: Counts of Lethal Violence Recorded by the CCDP. These data are mapped in Figure 6.

In November 1995, Nawanshahr district in eastern Punjab was created from Hoshiarpur and Jalandhar districts. Also in November 1995, Faridkot district was trifurcated into the districts of Faridkot, Moga and Muktsar. It should also be noted that part of Amritsar district recently became the new district of Tarn Taran. Figures in this report for Amritsar include events and deaths reported in Tarn Taran.

### A.3 Deduplication of Data Sources

The information collected by the CCDP, PCHR, NHRC, *Tribune*, and the cremation ground records are essentially convenience samples. Each of these data collection projects collected information pertinent to enforced disappearances, extrajudicial executions, and mass cremations. PCHR, CCDP, and NHRC each collected information from relatives (and sometimes friends) of the victims. The *Tribune* reported about encounter killings, inter-gang killings, and enforced disappearances, as press releases were distributed by security forces or based on the research of their journalists. Jaswant Singh Khalra obtained copies of the official logbooks from the municipal cremation grounds.

Within a dataset, a person may be identified by multiple witnesses. In the testimony-based processes of the PCHR, CCDP and NHRC different relatives (e.g. the victim’s spouse and the victim’s sibling) may have reported about the death. Whereas, in the *Tribune*, an incident may have been reported multiple times.

Intra-system matching links records that identify the same person to generate a list of unique named

persons to prevent over-counting, and thus, over-estimations. Intra-system matching is very complex and difficult to perform in a database as a person can match to  $n$  other records in the dataset. Therefore, the data are manipulated in a spreadsheet which makes it easier to order and reorder the data in multiple ways to locate linkages that need to be made. Intra-system matching a dataset before merging its records with other datasets can reveal patterns inherent in that data collection project. Some of these patterns may be systematic errors in data collection, coding, or data entry, or may be the result of the structure of the data collection. The observation of patterns within each dataset allows for the investigation, and if necessary, the correction of the underlying errors.

First, intra-system matching on records in the individual data sources was performed to link records that described the same victim. The records were imported into a spreadsheet and sorted on first name, last name, Place-Of-Death, and Date-of-Death (when available), to find records that matched.

As records were linked, a “rep rec” (i.e. a representative record) was chosen. After each sort, a matching pass was performed and the linked records within a match group hidden (but not dropped) from the outputted data file, leaving just its “rep rec.” This reduced the noise within the data. Noise can be defined as the “non-rep rec” records in a match group that distract the matcher from the potential relationships of the “rep rec” to other candidate matches. The smaller the list of unique records, the easier it is to see potential matches and other patterns within the data. Each subsequent pass identifies additional matches, and finally, a list of unique records is distilled from the entire dataset. A minimum of three passes are done on each dataset. The matched records were linked back to the “rep rec” for analysis when all matching was completed.

## B Corrections to the Printed Version of this Report

Since this report went to press, we have made the following corrections:

- We made several minor wording changes in the executive summary.
- We made several minor wording changes in Section 6.3.
- We replaced the term “Assassination” with the term “Lethal Attack” in Figure 3 and Table 1.
- We replaced the term “Fatal Violations” with the term “Deaths” in the y-axis labels of Figures 3, 4, and 8 and the caption of Table 1.
- We added the phrase “extrajudicial executions” to the second sentence of Section 6.3 and the fourth sentence of Section 7.
- We changed the phrase “Fatal Violations” to “Fatal Violence” in the captions of Figures 3, 4, and 8.
- We changed the y-axis labels of Figure 2 from to “Number of Reported Fatal Violations” to “Number of Reported Cremations.”