

PATTERNS OF CONFLICT IN NORTHEAST INDIA

ANALYZING SPATIAL DISTRIBUTION OF CONFLICT DENSITY

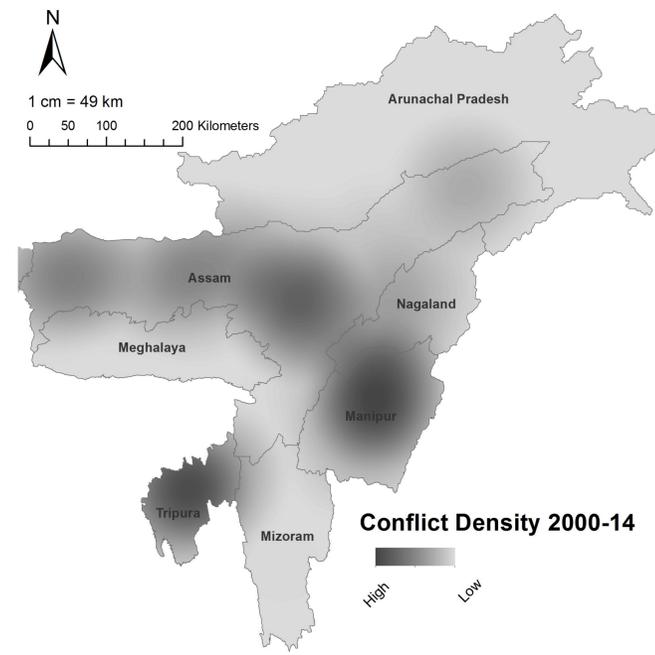
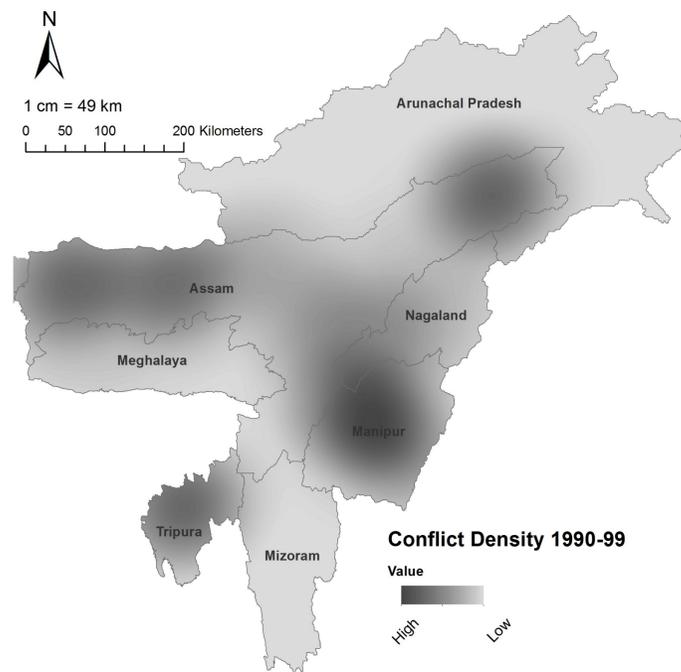
INTRODUCTION



The northeastern states – Arunachal Pradesh, Assam, Manipur, Nagaland and Tripura—is connected to the rest of India by the Silliguri Corridor, a strip of land as narrow as 23km. The region is incredibly diverse with a population of about 45 million, and is home to almost 500 ethnic groups and over 400 languages. The region shares borders with Bangladesh, Bhutan, China, Myanmar and Nepal. The seven states are home to some of Asia's

longest insurgencies, yet there is very little discussion about the region's conflict. The northeast region of India is also home to several insurgencies and on-going conflicts. The conflicts themselves are varied in nature—ranging from tensions between the central government and the states to migrant issues to separatist movements.

This project aims to explore a sliver of the region's complex history of conflict. The focal analysis of this project is to understand and visualize the spatial distribution of conflict density in Northeast India over time and by the 'type' of conflict. This analysis is driven by the idea that the patterns and distribution of conflict is dynamic, rather than static. In addition, it is important to note that this analysis is not taking into account the myriad of actors in the conflict and is providing a very generalized interpretation of the spatial distribution of conflict density.



RESULTS

Looking at the kernel density maps can help understand the spatial distribution of conflict density in the region. The first two maps show the density difference between 1990-99 and 2001-14. Conflict density was more spatially distributed in the first time period than the second.

The density maps for 'state-based' conflict also show a change in spatial distribution in density. Between 1990-1999 we observed points of conflict density in Assam, Manipur and Tripura, but between 2000-2014 we observe the highest density concentration in Manipur. For 'non-state based' conflicts we can observe the spatial movement of conflict density from Assam's border with West Bengal and Manipur to the a region between the borders of Assam, Manipur and Nagaland. We can observe an increased spatial distribution of conflict density for 'one-sided' violence. This means that violence targeted towards civilians saw an increase after 2000 in more states. In both time periods, Tripura has the highest conflict density.

The analysis shows there is time variation component to the geographic distribution of conflict density. In addition, this conflict density itself is dependent on the particular type of conflict and the actors involved in them. Only 'one-sided' conflict saw a greater spatial dispersion of high density areas. Overall, the second time period has higher rates of conflict density. When looking at the change in highest density value, we can observe the highest change in state-based conflict, followed by non-state based and one-sided conflicts.

DATA AND METHODOLOGY

This project uses the Uppsala Conflict Data Program Georeferenced Event Dataset (UCDP GED) from the years 1989-2014. The UCDP collects annual data on armed conflicts with 1+ fatalities from around the world. Their dataset is meticulously detailed and useful in even very localized analyses. In addition, their geocoded data points made the analysis on ArcGIS a lot faster.

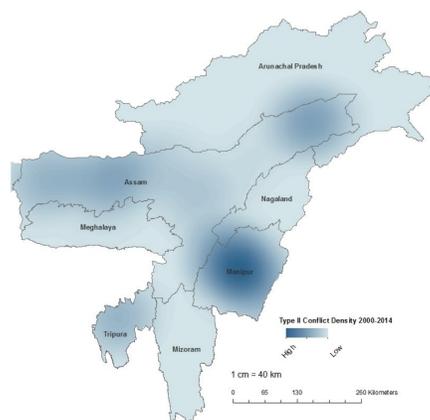
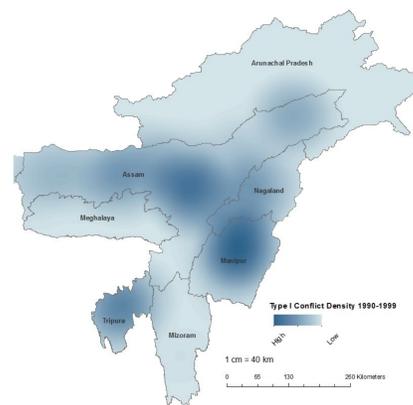
This dataset was particularly well-suited for this project since it disaggregates all conflicts into three categories. The types are described as follows—

- **TYPE I (State-based):** Armed conflict between the government of state and another government (inter-state), or between the government and an organized opposition groups (intra-state)
- **TYPE II (Non-State Based):** Armed conflict between two organized opposition groups
- **TYPE III (One-Sided):** Carried out by organized groups, either governments or opposition groups, targeting civilians.

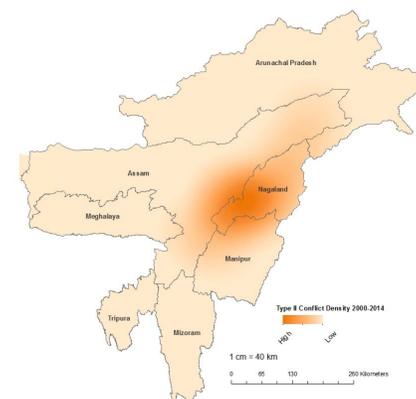
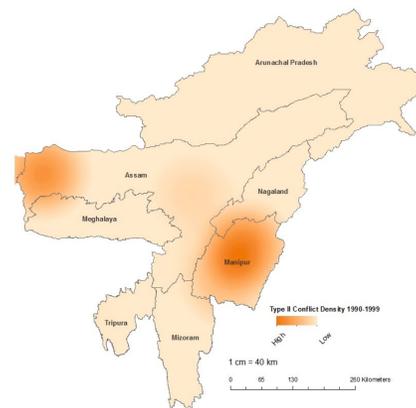
This categorization fit perfectly the project's research objective: To explore changes in conflict density distribution by type and over time. The dataset was then divided into two groups according to the event's year: (1) 1990-99 and (2) 2000-14.

The first step of the analysis was to create two kernel density maps for each time period. The analysis used 0.01 raster cell size and radius '1', and this was kept constant for the rest of the analysis. The second step was to divide each time period by the conflict type. Then, the first step was executed to the six new subgroups.

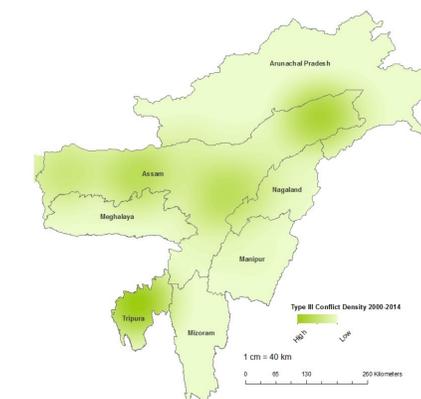
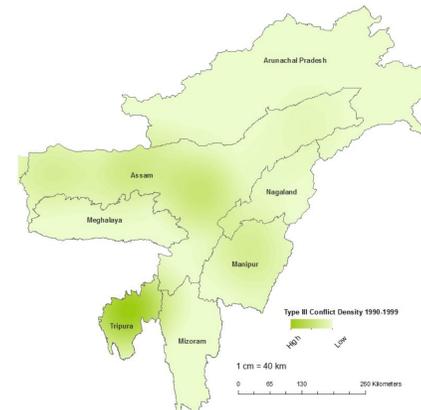
TYPE I (State-Based)



TYPE II (Non-State Based)



TYPE III (One-Sided)



	Highest Kernel Density Value		% change
	1990-1999	2000-2014	
All	92.1203	340.121	269.2
TYPE I	48.629	282.842	481.6
TYPE II	27.4625	92.2908	236.1
TYPE III	50.9889	83.0444	62.9

LIMITATIONS

There are several limitations and caveats to this analysis. As mentioned briefly in the introduction, this project does not provide a robust understanding of the variation in conflict in Northeast India. The map analysis does not take into account the intensity of the conflict recorded, and the analysis is unweighted. Although these maps are helpful in understanding the 'points of conflicts density' it fails to translate that Assam has the highest number of conflict incidents among the seven states. In addition, the analysis did not take population density into account. Manipur often had the highest conflict density points since one of its districts has the highest population

References: Forsberg, E. (2011). *Sons-of-the-Soil and Local Insurgencies: Assessing the Impact of Migration on Civil Conflict in Northeast India Using the UCDP Georeferenced Event Dataset (GED)*.

Sources: Uppsala Conflict Data Program Geographic Events Database (UCDP GED 1989-2014); India Census (2001, 2011)

Projection: GCS_WGS_1984
Cartographer: Samira Manzur
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