Investigating Online Effects of Extremist Incidents on Social Media

A Case Study of Bangladesh

by

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ABSTRACT

Bangladesh is a secular democracy with almost 90% of its population constituting of Muslims and the rest 10% constituting of the minority groups that includes Hindus, Christians, Buddhists, Ahmadi Muslims, Shia, Sufi, LGBT groups and Atheists. In recent years, Bangladesh has experienced an increase in attacks by religious extremist groups, such as IS and AQIS affiliates, hate-groups and politically motivated violence. Attacks have also become indiscriminate, with assailants targeting a wide variety of individuals, including religious minorities and foreigners. According to the telecoms regulator, the number of internet users in Bangladesh now stands at over 66.8 million reaching 41% penetration. Of them, 63 million access the internet through mobile phones. Facebook, with the usage of about 97.2%, is the most used social network in Bangladesh.

In this research, local academics with cultural expertise collaborated to locate and download content from 292 Facebook groups organized under three (3) major umbrella types: Religious Terrorist Violence, Political Intolerance and Issue, and Target-based Intolerance between June2016 - December 2016 period. Dates of real extremist attacks were aligned with corresponding Facebook message streams, identified posts and comments related to the targets and perpetrators of the attacks, and proceeded to use the context of the attacks, their effects, the nature and structure of underlying extremist and counter-violent extremist networks, to study the narratives and trends over time.

DEDICATION

Dedicated to my parents, family and friends

ACKNOWLEDGMENTS

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CHAPTER 1

INTRODUCTION

Bangladesh is country in South Asia formed in 1971 as the result of Liberation war in 1971 between India and Pakistan and identified itself a secular democratic country. The country is a part of the Indian subcontinent and surrounded by India and Myanmar with Dhaka as its capital city. According to the data from the World Bank [1] the population of Bangladesh is approximately 160 million. According to the data from Government of Bangladesh [2] available for 2015, 95% of the people speak Bengali and following is the demographic division of population of Bangladesh by religion.

Religion	% of Population
Muslim	86.6
Hindu	12.1
Buddhist	0.6
Christian	0.4
Other	0.3

Table 1.1 Religious Demographics of Bangladesh

Amongst the Muslims, Sunni Muslims are in majority. The minorities have always been an integral part of the country but in the last few years the minorities have been under constant attack either under communal violence of extremist attacks. These minorities include Hindus, Buddhists, Shia Muslims, Ahmadi Muslims, Atheists, Baul, LGBT groups. The country has also witnessed growth in presence of outside violent

extremist organizations like Islamic State (IS) and Al-Qaeda in the Indian Subcontinent (AQIS) along with its domestic militant organizations like Jamaat-ul-Mujahideen Bangladesh (JMB). In addition, there has been a rise in presence and activities of the orthodox Islamic groups at political level. Since this research deals with political and religious groups in Bangladesh, it is important to know the ideologies of these organizations to understand the project in detail. Following are the Ideology groups that I have covered in this project. The groups were divided three umbrella categories, which are as follows:

1. Religious Terrorist Violence
    a. Islamic State (IS)
    b. Al-Qaeda in the Indian Subcontinent
    c. Domestic proscribed and banned groups
    d. Jihadi groups
2. Political Intolerance
    a. CHT groups – The Chittagong Hill Tract groups represent the ethnic indigenous people groups in Bangladesh and identify themselves separate from the Bengali people in the country. They fight for Hindu and Buddhist rights.
    b. BCL/Jubo – Chhatra League and Jubo are the student wing and youth wing of Awami League respectively. The group believes in nationalism, democracy, secularism and socialism.
    c. Islami Chhatra Shibir (ICS) – Islami Chhatra Shibir is the student wing of Jamaat-e-Islami, which is the largest Islamist party in Bangladesh.

d. BJCD – Jatiotabadi Chatra Dal is the student wing of BNP, which is the second largest political party in Bangladesh and follows Bangladeshi nationalism.

3. Issue and Sentiment based Groups
    a. Qawmi/Hefazat – Qawmi represents one the two major Madrassas educational groups in Bangladesh believe in Sunni Islamic model.
    b. Atheist Groups – This group follows the Atheist ideology and mostly connect with their followers through blogs and social media.
    c. Conservative – They represent the conservative Islamist groups

With presence of diverse ideologies and groups in Bangladesh social media has become an important place for both political groups and minority groups in the country. According to the report by Telecom operators, Bangladesh has 41% internet penetration with approximately 66 million active users on the internet [6]. The most used social media platform is Facebook followed by Twitter.

In this research, I analyzed the Facebook posts and comments to study the opinions of users towards the perpetrators and victims of communal or religious attacks. This research was done at the Cognitive Information Processing Systems lab at Arizona State University towards development of Looking Glass Bangladesh project.

CHAPTER 2

LOOKING GLASS

Looking Glass is a visual intelligence platform developed by Cognitive Information Processing Systems lab at Arizona State University in 2013[3]. The tool is used to study the online diffusion of political groups and content on Social Media. The first Looking Glass studied the political movements in Indonesia and used the data from Social Media pages and accounts, personal and political blogs and Social Media accounts of political leaders and politicians. The tool used Machine Learning to identify the discriminative keywords for every ideology and use these keywords to classify the text from twitter stream into one of the identified categories. The collected and processed data was then represented as an interactive visualization dashboard displaying shift in political ideology of user over time, volume change in data from each ideology over time, pro and anti-sentiment distribution towards an ideology or a group, geographical distribution of incoming data, social media interaction of users, retweet graph, event timeline and viral content on social media. The tool was then expanded to study the political movements in United Kingdom, Latvia, Libya and Bangladesh. While for Indonesia, UK, Latvia and Libya the tool used data available from Twitter stream but Bangladesh Looking Glass was developed on data available from Facebook because of presence of majority of Internet users on Facebook compared to Twitter.

2.1 Looking Glass Bangladesh

In 2016, The CIPS Lab at Arizona State University worked with local academicians of Bangladesh to understand the political scenario of Bangladesh and identify the social media presence of these groups to develop Looking Glass Bangladesh.

2.1.1 Data Crawling and Collection

292 Facebook pages and groups were identified with the help of local Bangladesh academicians. These pages and groups were found discussing the above-mentioned groups belonging to one of the above mentioned umbrella categories. Along with Facebook pages and groups, we also identified organizations and their leader's twitter accounts and blogs and used to the data to train the classifier for better accuracy. Following are the statistics of data collected from Facebook using the Facebook API, which was made the training corpus.

Pages and Groups	292
Start Date	January 1, 2003
End Date	December 12, 2016
Number of Posts	246,982
Comments	794,197
Likes	3,622,681

Table 2.1 Summary of Crawled Data

While the entire corpus was used in training the classifier for better accuracies, the Looking Glass Bangladesh used data from last six months from the latest post collected for visualization dashboard. Following the statistics of the data used for the visualization dashboard.

Start Date	June 1st, 2016
End Date	December 12th, 2016
Number of Posts	66838
Number of Comments	267,406
Number of Likes	1,146,854

Table 2.2 – Summary of Data used by Looking Glass

2.1.2 User Classification

The collected corpus was used train and classifier and classify a user (poster or commenter) into one of the mentioned ideologies for a particular time period, which is from one volume breakout to the next one. Slicing the classification by time interval help us study the temporal dynamics of ideology evolution and determine whether a particular user is drifting towards radicalization. Detecting the breakout is explained in next sections. The classification used 10- fold cross validation and following are the accuracies with F1 Score, Precision and Recall of the classification task for umbrella categories defined above. The results and labels below are used in this research as ideology of user as opinion holder before and after the event.

Umbrella Group	F1	Precision	Recall
Religious Terrorist Violence	0.74	0.94	0.62
Political Intolerance	0.83	0.90	0.77
Issue and Sentiment based Groups	0.96	0.94	0.99

Table 2.3 Accuracy of Classifier for Umbrella Categories

Sub Group	F1	Precision	Recall
IS	0.89	0.82	0.97
AQIS	0.81	0.94	0.72
Jihadi	0.49	0.74	0.36

Table 2.3 Accuracy of Classifier for sub groups under Religious Violence

Sub Group	F1	Precision	Recall
ICS	0.84	0.79	0.99
BJCD	0.75	0.79	0.71
BCL	0.75	0.90	0.64
Leftists	0.69	0.94	0.55

Table 2.4 Accuracy of Classifier for Sub Groups under Political Intolerance

2.1.3 Issues and Targets

Apart from the religious and political groups, a list of crosscutting issues was identified. These issues are mostly victims of hate crimes or hate speeches and constitute of minority groups or Government organizations. With the help of local academicians from Bangladesh, we were able to map the polarity of political groups and religious organizations towards every crosscutting issue. Using that information every identified Facebook page and group was assigned pro or anti-label towards each of the cross cutting issue. Using the above information and mapping data from corresponding pages with pro and anti-label towards issues, separate models were trained for each cross-cutting issue for classify and label the post/comments as pro or anti-issue. Following is the list of these issues along with the number of posts identified from corresponding Facebook pages with assigned pro or anti-issue label.

Issue Group	Number of Facebook Posts & Comments
Ahmadi	83,798
Atheist	26,373
Baul	6,223
Buddhist	17,659
Christians	7,879
Foreigners	60,247
Government	163,865

Hindus	472,276
LGBT	169,355
Shia	49,991
State	126,255
Sufi	5,222
Women-Rights	483,931

Table 2.5 – Issues and Corresponding Number of Posts and Comments

Sparse Learning with Efficient Projections (SLEP) library [5] was used along with Logistic Regressions to determine discriminative keywords and phrases for every crosscutting issue, which are later used to classify text as pro, or anti-issue depending on presence of discriminative keywords of that particular issue. At convergence of model, the keywords with positive weights are used to determine the pro-issue sentiment and keywords with negative weights are used to determine anti-issue sentiment in posts.

2.1.4 Breakout Detection

For Looking Glass both volume and sentiment breakout were calculated. The volume-based breakouts were calculated for the entire dataset in the time interval of interest while sentiment breakouts were calculated for every crosscutting issue mentioned in the previous section. Breakouts are a general indication of an event resulting in anomalous high volume of data or posts containing sentiment towards a particular target. The events that I studied in this research resulted in breakout for the sentiment towards

the target of that particular group. Following are the figures of both volume and sentiment based breakout

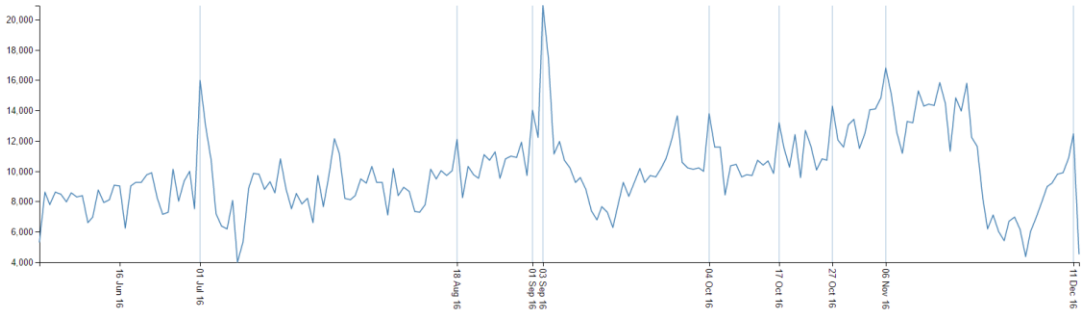


Figure 2.1 - Volume based breakout

Below are the screenshots of sentiment-based breakout of Hindu, Christian, Buddhist, Foreign and State as these are the target of the attacks that I have analyzed in the research.

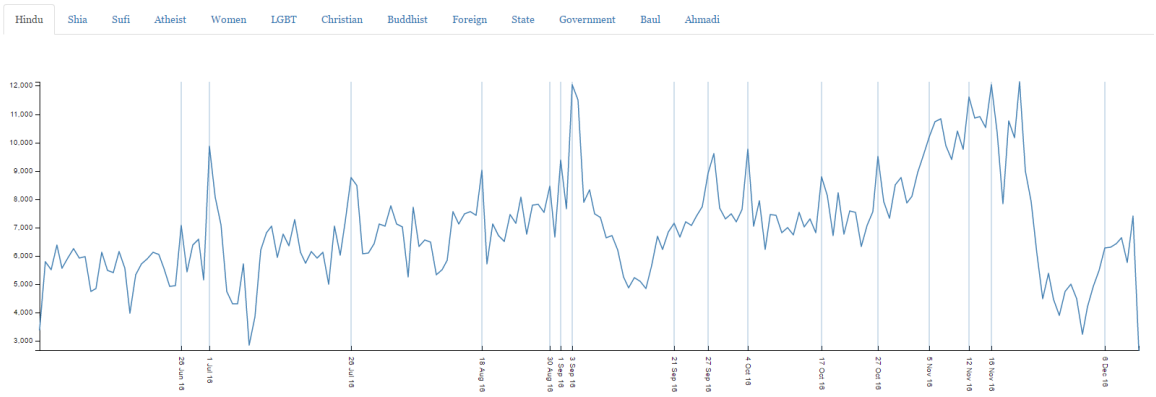


Figure 2.2 - Hindu sentiment breakouts

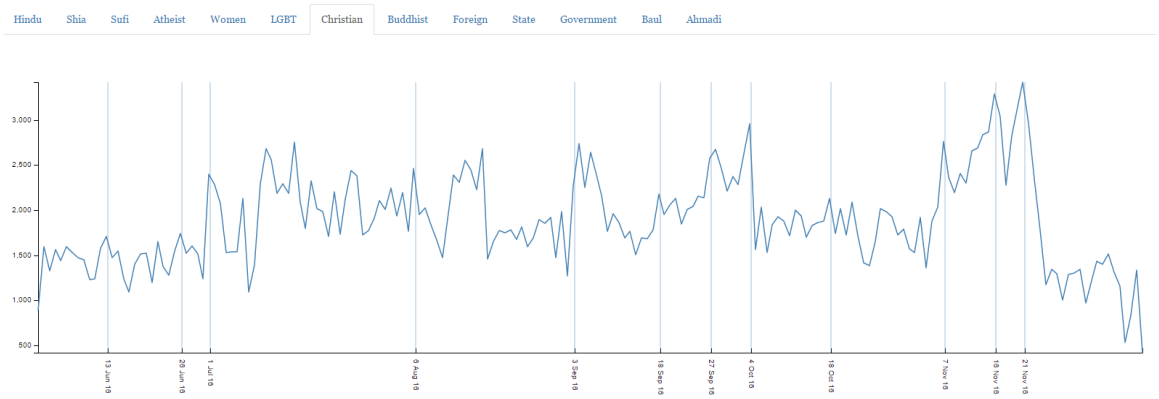


Figure 2.3 - Christian Sentiment Breakout

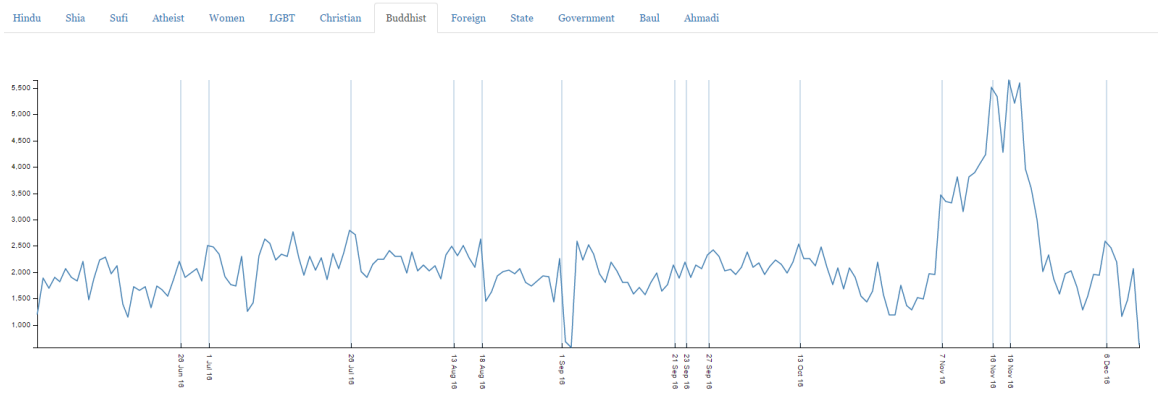


Figure 2.4 - Buddhist Sentiment Breakout

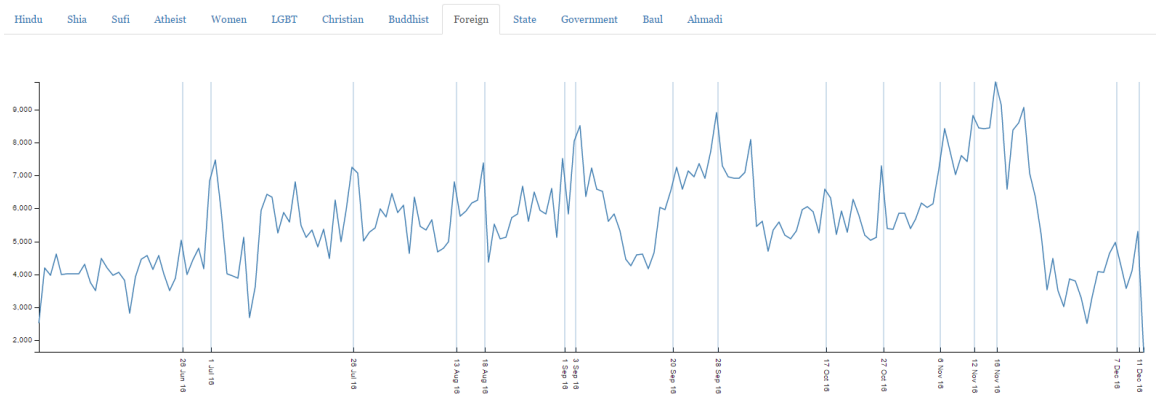


Figure 2.5 - Foreign Sentiment Breakouts

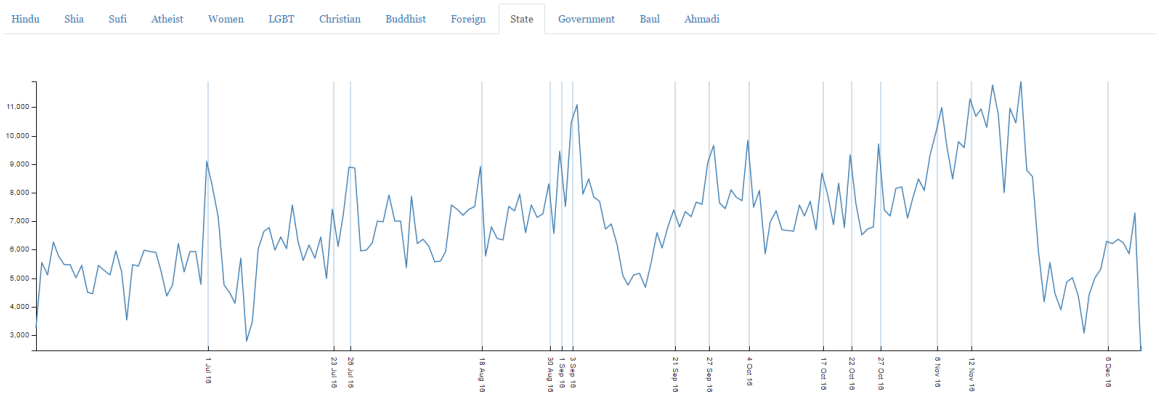


Figure 2.6 - State Sentiment Breakouts

CHAPTER 3

OPINION MINING

An opinion is a sentiment expressed towards a subject, product or an event. In this research, I studied the opinions of groups towards the perpetrator of the attacks and victims of the attack. A positive opinion would mean the user is sympathizing towards the subject and a negative opinion would be taken a criticism. Here are the components that constitute an opinion:

1. Opinion Holder - In this research, political groups that post on Facebook and the users who comment under those posts are opinion holders. Opinion holder is important because the opinions can be weighted by who is saying it. Opinion from a political leader will carry much more weight and value than a normal citizen of the country. In this research, every user who is an opinion holder has been classified in one of the political ideologies and all ideologies have been given equal weights.
2. Opinion Target - In this research, organization or perpetrators of the attack or groups involved in communal violence are the target of the opinion holders or the subjects on which the opinion is posted. In most of the events that I have covered, the opinion target is IS or Jamaat-e-Islami
3. Sentiment - Sentiment is positive or negative polarity shown toward the opinion target by the opinion holder. How to calculate the polarity and strength of the sentiment is explained in later sections.

4. Time - In opinion mining time plays a very important role because one of the major aims of opinion mining is to study how the opinion has changed or is changing over time. An opinion about a target may not be same the opinions a year ago. In this research, I have defined two time slices for every event, 3-days before and 3-days after an event.

An opinion is a quadruple and can written as [4]

$$(g,s,h,t)$$

Where *g* is sentiment target, *s* is the sentiment of the opinion, *h* is opinion holder and t is the time of the opinion. Generally, the opinion target is split into entity and aspect. Entity is the bigger subject and opinion is expressed on a feature of it, which is called aspect. For example, a review of a product like "the microwave is good but heavy" the opinion is expressed on the weight feature (aspect) of the entity microwave. Therefore, a more general representation of an opinion is a quintuple [4].

$$(e,a,s,h,t)$$

Where *e* and *a* are the entity and aspect respectively. In this research while the entity is the extremist or a communal organization or target of the attack, I did not consider any leader or specific person related to it. Therefore, I used the quadruple representation of the opinion.

3.1 Determining the Opinion Sentiment

Sentiment of opinion consists of three components – Type, Orientation (or Polarity) and Intensity. While type of the sentiment may vary, orientation or polarity can

be positive, neutral or negative. The intensity of sentiment is dependent on the approach used to determine the sentiment. In this research, I have used lexicon-based approach to calculate the intensity. A list of positive Bengali words and Negative Bengali Words [7][8] was used and each positive and negative word was assigned polarity of +1 and -1 respectively. For every document of interest related to an event, the opinion target was searched and checked for positive or negative Bengali words in the vicinity of the target. Based on the distance of the word the intensity is calculated using the following formula.

$$\text{Intensity or Sentiment Score} = \frac{Polarity\ of\ keyword}{Distance\ of\ keyword\ from\ target}$$

The distance is generally limited to five, which is a good estimate to ensure the positive or negative keyword is linked to the opinion target. In addition, sentiment shifters are checked before assigning the polarity. For Bengali the word 'না' (which is the equivalent of 'not' in English) is considered as sentiment shifter and if present between the opinion target and the keyword, the sentiment polarity is then reversed.

Using the approach all sentiment scores are calculated for opinion target in the corpus and these scores are then aggregated to determine the strength of opinion in the entire corpus.

Similar approach was used for English text with using negation words like not, never, do not and but as the sentiment shifter. The intensity calculated from both Bengali text and English text was then added to get a final intensity of the sentiment and the polarity of the sentiment determined the polarity of opinion holder towards opinion target.

CHAPTER 4

EVENTS

4.1 List of Events Analyzed

In this research, I analyzed the attacks on the minority groups that happened during June 2016 – December 2016 that correlated with our volume and sentiment breakout. I analyzed posts and comments of users with labelled ideology using the labels from Looking Glass classification and mined their opinions on the victim of the attack and perpetrators of the attack during time slice of event time + 3 days and event time -3 days of the attack. Following are the events that I analyzed in this research.

Date	Name	Role	Attack	Perpetrator	Dead/ Injured
5 June'16	Sunil Gomes	Attack on 65-year-old Christian.	Unidentified attackers hacked man to death at his grocery store.[10]	IS	1/0
7 June'16	Ananda Gopal Ganguly	Attack on Hindu Priest	74-year-old Hindu priest hacked (almost decapitated) [11]	IS	1/0
10 June'16	Nityaranjan Pande	Hindu Monastery Worker at Shri Shri Thakur Anukulchandra Ashram	No witnesses, early morning as he went for a morning walk[12]	IS	1/0

30 June'16	Mong Shoila Marma	Local AL leader, farmer, Buddhist	Unknown assailants attacked with a machete around 9:45pm as he returned from Baishari Bazar to his home in Dabangkhali [13]	IS	1/0
1-2 July'16	Multiple	Foreign, non-Muslims	Armed group (6-9) armed with explosives, handguns, swords and AK 22s. 9 Italian, 7 Japanese, 1 Indian, 1 American, 5 Bangladeshi killed. Foreigners targeted. 2 Police died. 5 terrorists killed. Over 50 wounded.[9]	IS	25/50
7 July'16	Multiple – Sunni Eid Worshippers	Attack on the State. (ie police). Attack on Sholakia Eid prayers	Numerous assailants attack police posts using firearms, bombs and sharp weapons. 2 police killed 1 woman and 1 attacker. Over 100,000 worshippers present, largest religious gathering in	N/A	4/13

			Bangladesh [14]		
30 Oct-14 Nov'16	Hindu Temples and Communities Attacked	Numerous	Muslims protest Hindu man posting on Facebook a picture of Shiva atop the Kabba. 1-2 dozen temples ransacked [15]	Government blames Jamaat-e-Islam	0/100-150

Table 4.1 – List of Events Analyzed

4.2 Finding Corpus for Event

For every event, as mentioned, I looked for the data in event time + 3 days and event time -3 days. For post-event analysis, every document was considered that had any one of the following mentioned in them.

1. Name of the victims
2. Name of the perpetrator (if known)
3. Name of the organization claiming the attack (if known)
4. Location of the attack if mentioned particularly (like Holy Artisan Bakery for Dhaka attack)
5. Attributes that lead to the event

For pre-event data, I used the all posts and comments containing mentions of target or perpetrator, posted 3 days before the event.

4.3 Calculating Opinion and Sentiment

After preparing the pre and post event corpus for every event, I calculated opinion of users towards the target of the attack and the perpetrator. Since the target belonged to one of cross cutting issues group and I calculated the sentiments towards the group in development of Looking Glass, I used the same results and aggregate them before and after the event to analyze the shift in polarity towards the target.

For the perpetrator or the claiming organization, sentiment was not calculated during the looking glass development; therefore, I used lexicon based distance sentiment calculation approach to determine the sentiment towards the perpetrator. Once I got the opinions towards the perpetrator from a corpus, I aggregated the sentiment scores to get the final polarity score and use the pre and post-event score to study the shift in opinion. **Note**: Aggregated sentiment value 0 may be observed because of two reasons. Either there are 0 corpuses with any positive or negative word in near the target word, or no mention of target word or the net aggregated of sentiment score for positive and negative sentiment is equal resulting in a net value of 0. While in former case 0 or no opinion may be used but for latter case we can judge the polarity by frequency of positive and negative words. If there are more positive words in the corpus difference in frequency could be assigned as the label score. In case of equal frequency and sentiment score, polarity can then be assigned using a human annotator. In this thesis all the zeros were observed because of the former case where no polar keyword was found near the target or no mention of target in the corpus. If zero is observed in both and after cases, I have marked them as no opinions.

4.4 Analysis of Events

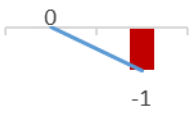
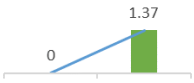
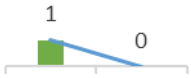
In this section, I have analyzed the events one by one and summarized the sentiment shift before and after the event grouped by the political ideologies discussed above. On these results, I propose the following assumptions in behavior of groups:

A1: Extremist organizations will go higher in negative sentiment towards the target of the attack, counter extremist will sympathize and non-violent radicals will criticize the target.

A2: Extremist Organizations will go higher positive towards the attacker, counter extremists will criticize the attacker and non-violent radicals will criticize the attacker.

The obtained results are tested against the above proposed assumptions and marked as **P** as Pass or **F** as Fail, and summarized in the tables below.

4.4.1 Killing of Sunil Gomes

Ideology	Christian Opinion (Target) Pre Event Post Event	IS Opinion (Perpetrator) Pre Event Post Event	Assumption A1 A2
AQIS			P P
Atheist		No Opinions	F F

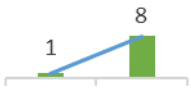
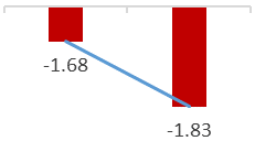
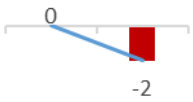
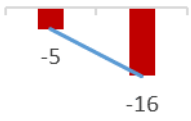
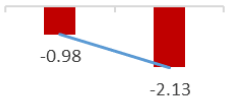
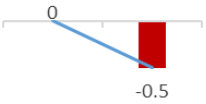
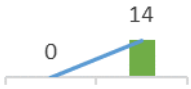
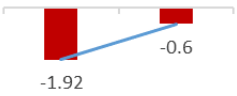
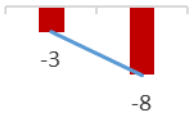
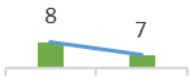
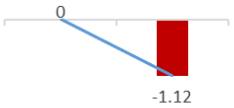
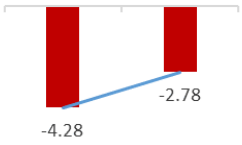
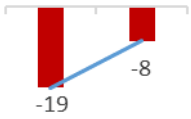
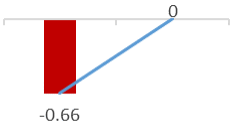
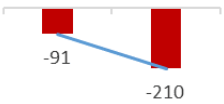
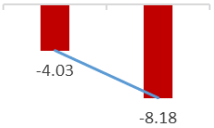
CHT			P P
Conservative			P P
ICS			P P
BCL	No Opinions		F P
BJCD			P F
Qawmi		No Opinions	F F

Table 4.2 –Opinion Shift after Christian Killing

4.4.2 Killing of Ananda Gopal Ganguly (Hindu Priest)

Ideology	Hindu Opinion (Target)		IS Opinion (Perpetrator)		Assumption	
	Pre Event	Post Event	Pre Event	Post Event	A1	A2
AQIS			No Opinions		P	F
Atheist					F	P
CHT					P	F
Conservative					F	F
ICS					P	P

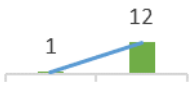
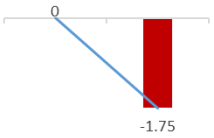
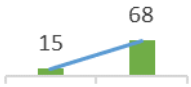
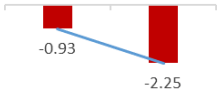
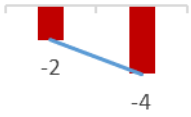
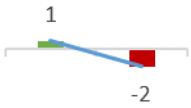
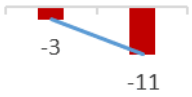
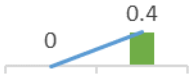
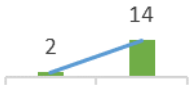
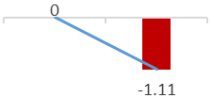
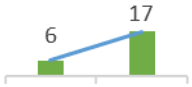
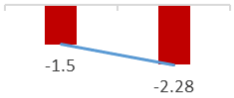
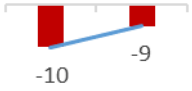
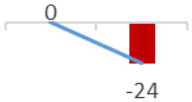
BCL			P P
BJCD			P P
Jihadi		No Opinions	P F
Qawmi		No Opinions	P F

Table 4.3 Opinion Shift after Hindu Priest Ananda Gopal Killing

4.4.3 Attack on Nityaranjan Pande (Hindu Monastery Worker)

Ideology	Hindu Opinion (Target)		IS Opinion (Perpetrator)		Assumption	
	Pre Event	Post Event	Pre Event	Post Event	A1	A2
AQIS					P	P
Atheist					P	P
CHT					P	P
Conservative			No Opinions		F	F
IS			No Opinions		P	F

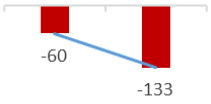
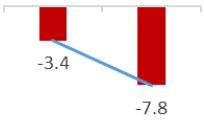
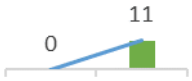
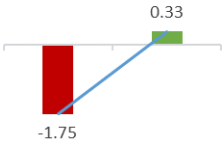
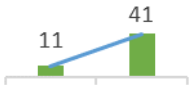
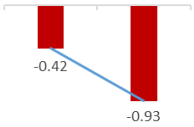
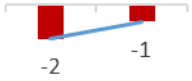
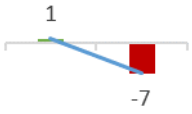
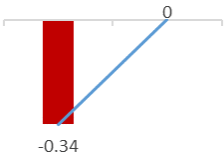
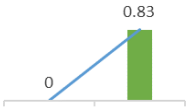
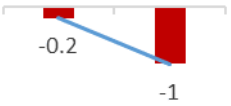
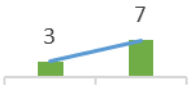
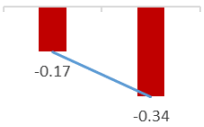
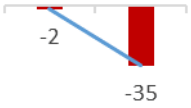
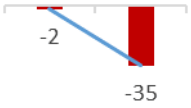
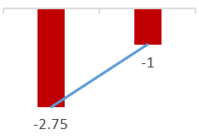
ICS			P P
BCL			P F
BJCD			P P
Jihadi		No Opinions	F F
Qawmi			P F

Table 4.4 Opinion Shift after Hindu Monastery Worker Killing

4.4.4 Killing of Mong Shoila Marma (Buddhist Farmer and Local AL Leader)

Ideology	Buddhist Opinion (Target) Pre Event	Buddhist Opinion (Target) Post Event	IS Opinion (Perpetrator) Pre Event	IS Opinion (Perpetrator) Post Event	Assumption A1	Assumption A2
AQIS	No Opinions				F	P
Atheist	No Opinions				F	P
CHT					P	P
Conservative			No Opinions		P	F
ICS					P	F

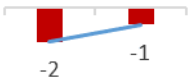
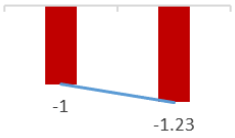
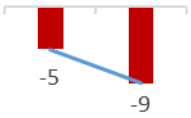
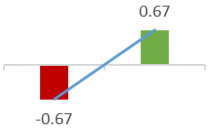
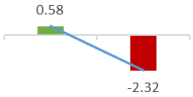
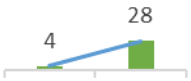
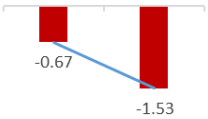
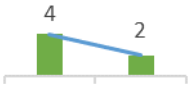
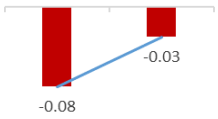
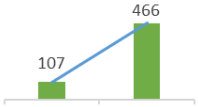
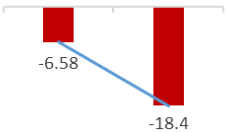
BCL		No Opinions	P F
BJCD			F P

Table 4.5 Opinion Shift after Buddhist Farmer Killing

4.4.5 Dhaka Café Attack (Biggest Attack in 2016)

Ideology	Foreign Opinion (Target)		IS Opinion (Perpetrator)		Assumption	
	Pre Event	Post Event	Pre Event	Post Event	A1	A2
AQIS					P	P
Atheist					P	P
CHT					P	P
Conservative					P	F
ICS					F	P

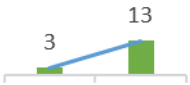
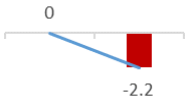
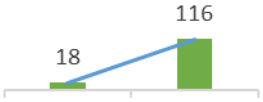
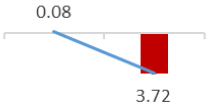
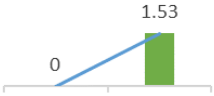
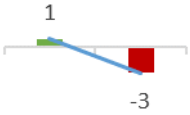
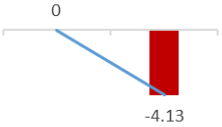
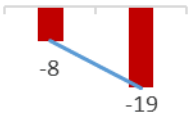
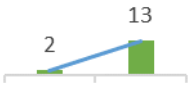
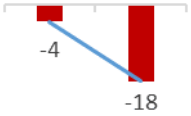
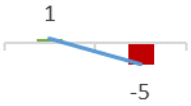
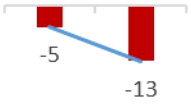
BCL			P P
BJCD			P P
Jihadi			F P
Qawmi			P P

Table 4.6 – Opinion Shift after Militant Attack in Dhaka

4.4.6 Bombing at Largest Eid Gathering

Ideology	State Opinion (Target) Pre Event Post Event	Assumption A1
AQIS		P
Atheist		P
CHT		F
Conservative		P
IS		P

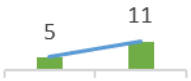
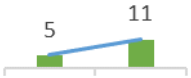
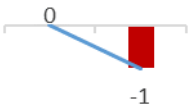
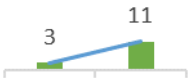
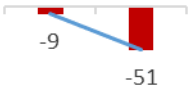
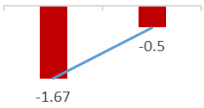
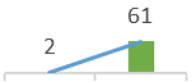
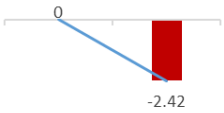
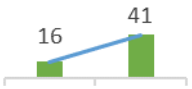
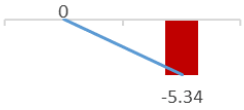
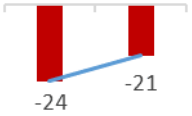
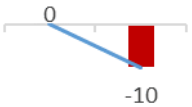
ICS		F
BCL		P
BJCD		P
Jihadi		P
Qawmi		F

Table 4.7 Opinion Shift after Blast at Eid Prayer Site

4.4.7 Hindu Temples Vandalism and Houses Burned

Ideology	Hindu Opinion (Target)		Jamaat Opinion (Perpetrator)		Assumption	
	Pre Event	Post Event	Pre Event	Post Event	A1	A2
AQIS					P	P
Atheist					P	P
CHT					P	P
Conservative					F	F
IS			No Opinions		P	F

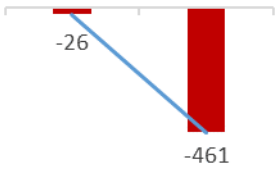
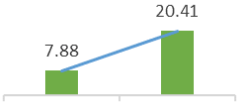
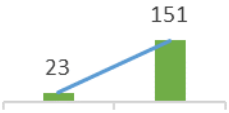
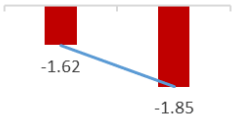
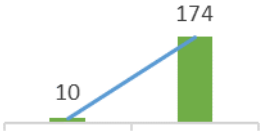
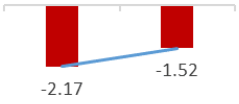
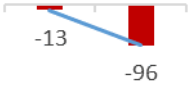
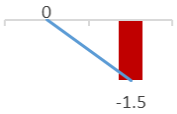
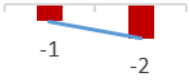
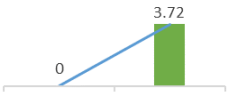
ICS			P P
BCL			P P
BJCD			P F
Jihadi			P F
Qawmi			P P

Table 4.8 – Opinion Shift after Hindu Temples Vandalized

4.5 Assumption Results

In the above work, I defined two Assumption to predict the shift in opinions and sentiments of extremist, counter extremist and non-violent radical groups towards the target and perpetrator of the attacks. While Assumption A1 was tested for all seven events, Assumption A2 was tested for six events because perpetrators of one event are not known. For each Assumption, I obtained the following results:

Assumption A1	Number of Cases
Total	63
Pass	47
Fail	16
Pass Percentage	74.6%

Table 5.1 – Results of Assumption A1

Assumption A2	Number of Cases
Total	53
Pass	32
Fail	21
Pass Percentage	60.37%

Table 5.1 – Results of Assumption A2

CHAPTER 5

CONCLUSION AND FUTURE WORK

The above analysis has helped us understand the inclination of different political groups in Bangladesh towards the minority groups like Hindus, Buddhists, Christians, and Foreigners, but also towards violent extremist organizations and non-violent radical groups. Since many events correlate with breakouts, the timeline can be divided into episodes around breakouts and this analysis can be used to study the episodes around every event. Repeating the same process for events around a long time interval can help us understand the evolution of political groups over time and study shift in opinions over time. This research can be added to Issue analysis section of Looking Glass, where so far we just see the distribution of groups according to pro or anti-issue over the entire timeframe but do not study the immediate consequences of an event. Below is the screenshot of the present Looking Glass dashboard for issue analysis.

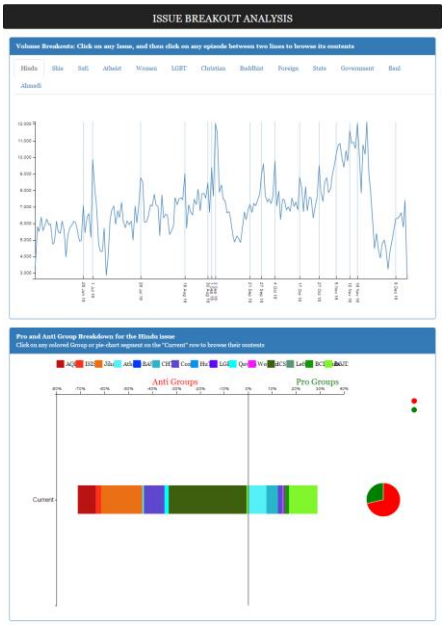


Figure 5.1 – Screenshot of Looking Glass Issue Breakout Analysis

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APPENDIX A

BENGALI STOP WORDS

অবশ্য	করায়	নাকি	সেটা	এরা	তাঁকে	ব্যাপারে	জে
অনেক	করে	নাগাদ	সেটি	এঁরা	তাই	ভাবে	বেশ
অনেকে	করেই	নিতে	সেটাই	এস	তেমন	ভাবেই	দেন
অনেকেই	কাছ	নিজে	সেটাও	এত	তাকে	মধ্যে	তুলে
অন্তত	কাছে	নিজেই	সম্প্রতি	এতে	তাহা	মধ্যেই	ছিলেন
অথবা	কাজে	নিজের	সেখান	এসে	তাহাতে	মধ্যেও	চান
অথচ	কারণ	নিজেদের	সেখানে	একে	তাহার	মধ্যভাগে	চায়
অর্থাত	কিছু	নিয়ে	সে	এ	তাদের	মাধ্যমে	চেয়ে
অন্য	কিছুই	নেওয়া	স্পষ্ট	ঐ	তারপর	মাত্র	মোট
আজ	কিন্তু	নেওয়ার	স্বয়ং	ই	তারা	মতো	যথেষ্ট
আছে	কিংবা	নেই	হইতে	ইহা	তারৈ	মতোই	টি
আপনার	কি	নাই	হইবে	ইত্যাদি	তার	মোটেই	করেন
আবার	কী	পক্ষে	হৈলে	উনি	তাহলে	যখন	করবেন
আমরা	কেউ	পর্যন্ত	হইয়া	উপর	তিনি	যদি	নয়
আমাকে	কেউই	পাওয়া	হচ্ছে	উপরে	তা	যদিও	নানা
আমাদের	কাউকে	পারেন	হত	উচিত	তাও	যাবে	সহিত
আমার	কেন	পারি	হতে	ও	তাতে	যায়	সেই
আমি	কে	পারে	হতেই	ওই	তো	যাকে	
আরও	কোনও	পরে	হবে	ওর	তত	যাওয়া	
আর	কোনো	পরেই	হবেন	ওরা	তুমি	যাওয়ার	
আগে	কোন	পরেও	হয়েছিল	ওঁর	তোমার	যত	
আগেই	কখনও	পর	হয়েছে	ওঁরা	তথা	যতটা	
আই	ক্ষেত্রে	পেয়ে	হয়েছেন	ওকে	থাকে	যা	
অতএব	খুব	প্রতি	হয়ে	ওদের	থাকা	যার	
আগামী	গুলি	প্রভৃতি	হয়নি	ওঁদের	থাকায়	যারা	
অবধি	গিয়ে	প্রায়	হয়	ওখানে	থেকে	যাঁর	
অনুযায়ী	গিয়েছে	ফের	হয়েই	কত	থেকেও	যাঁরা	
আদ্যভাগে	গেছে	ফলে	হয়তো	কবে	থাকবে	যাদের	
এই	গেল	ফিরে	হল	করতে	থাকেন	যান	
একই	গেলে	ব্যবহার	হলে	কয়েক	থাকবেন	যাচ্ছে	
একে	গোটা	বলতে	হলেই	কয়েকটি	থেকেই	যেতে	
একটি	চলে	বললেন	হলেও	করবে	দিকে	যাতে	
এখন	ছাড়া	বলেছেন	হলো	করলেন	দিতে	যেন	
এখনও	ছাড়াও	বলল	হিসাবে	করার	দিয়ে	যেমন	
এখানে	ছিলেন	বলা	হওয়া	কারও	দিয়েছে	যেখানে	
এখানেই	ছিল	বলেন	হওয়ার	করা	দিয়েছেন	যিনি	
এটি	জন্য	বলে	হওয়ায়	করি	দিলেন	যে	
এটা	জানা	বহু	হন	করিয়ে	দু	রেখে	
এটাই	ঠিক	বসে	হোক	করার	দুটি	রাখা	
এতটাই	তিনি	বার	জন	করাই	দুটো	রয়েছে	

এবং	তিনঐ	বা	জনকে	করলে	দেয়	রকম
একবার	তিনিও	বিনা	জনের	করলেন	দেওয়া	শুধু
এবার	তখন	বরং	জানতে	করিতে	দেওয়ার	সঙ্গে
এদের	তবে	বদলে	জানায়	করিয়া	দেখা	সঙ্গেও
এঁদের	তবু	বাদে	জানিয়ে	করেছিলেন	দেখে	সমস্ত
এমন	তাঁদের	বার	জানানো	করছে	দেখতে	সব
এমনকী	তাঁাহারা	বিশেষ	জানিয়েছে	করছেন	দ্বারা	সবার
এল	তাঁরা	বিভিন্ন বিষয়টি	জন্য	করেছেন	ধরে	সহ
এর	তাঁর	ব্যবহার	জন্যওজে	করেছে	ধরা	সুতরাং