



## Presence of Horizontal Education Inequality in the Bodoland Territorial Region of Assam

RUPAN BORO

Department of Economics, Barnagar College, Barpeta, Assam, India.

### Abstract

This paper examined the pattern of horizontal education inequality in the conflict-affected Bodoland Territorial Region (BTR) of Assam, India. Recent literature has identified horizontal inequalities as a significant factor in group-based conflicts. Horizontal education inequality is considered a more systematic form of discrimination, exacerbating conflicts in many conflict-affected multi-ethno-religious societies. Drawing on this literature, I investigated whether horizontal education inequality exists in BTR to inform policies aimed at restoring peace in such regions. Using the group Gini coefficient, I measured horizontal education inequality. Further, I utilized unit-level data from the 61st (2004–2005) and 66th (2009–2010) rounds of the employment and unemployment surveys conducted by the National Sample Survey Organisation (NSSO), which was supplemented by primary data collected from a conflict-affected revenue village in the Kokrajhar district of Assam. The indicators considered for measurement were literacy rate, average year of schooling, and current attendance rate. The literacy rate was calculated for the population ages 7 and above, the current attendance rate for ages 6 to 21, and the average years of schooling for ages 15 and above. The populations were grouped into Muslim, scheduled tribe, scheduled caste, other backward class, and general categories. The estimates reveal significant horizontal education inequality in the BTR, with Muslims and scheduled tribes being the most deprived groups in terms of educational attainment.



### Article History

Received: 08 March 2024

Accepted: 10 December 2024

### Keywords

BTR;  
Ethnic Violence;  
Group Gini;  
Horizontal Inequalities;  
NSSO;  
Socio-Religious Groups.

### Introduction

Educational attainment and, subsequently, better job opportunities enable the expansion of valuable capabilities. Thus, educational attainment has been instrumental in enriching elementary freedoms

(Sen, 2000). In a society composed of different ethnic or religious groups, prolonged inequality in the distribution of educational opportunities results in a deeply unequal society. The benefits of education enjoyed by privileged groups make them more

**CONTACT** Rupan Boro ✉ bororupan71@gmail.com 📍 Department of Economics, Barnagar College, Barpeta, Assam, India.



© 2024 The Author(s). Published by Enviro Research Publishers.

This is an Open Access article licensed under a Creative Commons license: Attribution 4.0 International (CC-BY).

Doi: <https://dx.doi.org/10.12944/CRJSSH.7.2.10>

capable of obtaining better occupations, which, in turn, improve their economic positions. Moreover, the better employment and economic positions of privileged groups enable them to train their children to obtain higher quality and levels of education (Alcorta *et al.*, 2018). Hence, inequality in distribution of educational opportunities leads to a more systemic form of discrimination. Such inequality among culturally defined groups is referred to as horizontal inequality (HI) (Stewart, 2019). It differs from vertical inequality (VI), which refers to the inequality between individuals irrespective of social or ethnic identity.

Through empirical studies, scholars such as Bartusevicius (2014), Hillesund (2019), Stewart (2019), and Hillesund and Ostby (2023) have shown that HI, including education inequalities, can play an important role in the stratification of society and subsequent ethnic conflicts. It is argued that discrimination against underprivileged groups in the provision of educational opportunities leaves them with a strong sense of resentment, and they are compelled to leave schooling with a deep mistrust of government-funded institutions. Additionally, they are more vulnerable in violent situations due to their low levels and poor quality of educational attainment (Alcorta *et al.*, 2018).

Development economics literature and the human development paradigm address the issue of HIs in certain socio-economic settings. The connections of political dimensions with other socio-economic dimensions of human development have emerged as significant research interests. Drawing on this literature, I investigated the presence of horizontal education inequalities (HEI) in the ethnically torn Bodoland Territorial Region (BTR) of Assam, India. What prompted me to undertake this study was the claim that HIs could lead to ethnic and civil conflicts. Since access to education has inter-generational effects, I wanted to determine if BTR would qualify as a region with horizontal inequalities.

The BTR is one of the most conflict-prone regions of India. Severe massacres and group-based conflicts have occurred in this region since the 1990s, in addition to the movement for a separate state of Bodoland launched by the indigenous Bodo people in the 1960s. There is a perception that HIs based on socio-economic indicators exist in this region. While many studies have examined conflicts in BTR, they

have not measured HIs based on socio-economic indicators. This paper investigated whether HEI exists in this region. However, it is also true that while HIs might exist, there need not necessarily be a causal relationship with conflicts. Therefore, while seeking to establish if there were significant HIs in this region, this paper did not attempt to establish a causal link with conflicts, as that would require analysis of a more robust dataset. There was no other source of data on schooling outcomes by social Groups at the unit level other than the National Sample Survey Organisation (NSSO). I also measured HEI based on primary data collected from a conflict-affected village in the Kokrajhar District of BTR.

I used the population-weighted group Gini coefficient (GGini) following the studies by Canelas and Gisselquist (2019) and Chawla (2019) to measure the HEIs. To estimate HEIs, I relied on NSSO's unit-level data of 61st (2004–2005) and 66th (2009–2010) round employment and unemployment surveys. Specific parameters used for the estimations were literacy rate, average years of schooling, and current attendance rate. The literacy rate was calculated for the population ages 7 and above, the current attendance rate for ages 6 to 21, and the average year of schooling for ages 15 and above. NSSO's socio-religious classification was followed to group the populations in this study, namely, general caste, scheduled caste (SC), scheduled tribe (ST), and other backward class (OBC).

### Demographic Profile of Assam

Between the census of 2001 and 2011, the population in Assam rose from 26.6 million to 31.2 million. They are broadly classified into general caste, SC, ST, and OBC households. Among the social groups, the OBC and general caste populations form the majority, speaking Assamese, Bengali, and a mix of other languages. As per the 2011 census, ST and SC populations in Assam constitute 12% and 7% of the population, respectively. There are 23 notified tribes—including Bodo, Mising, Karbi, Rabha, Deori, Naga, and Khasi—who speak their own languages. Similarly, the SCs consist of Bansphor, Banya, Dhupi, Hira, Kaibarttra, Nasundra, and so on. Among the tribal population, Bodo constitute 41% of the population, followed by Mising (18%) and Karbi (11%). Hence, the Bodos constitute a numerically large group among the tribal population.

The population of Assam is classified into six major religious groups: Buddhist, Christian, Hindu, Jain, Muslim, and Sikh. The Hindus (61%) form the largest group, followed by Muslims (34.22%) and Christians (3.74%), while the rest constitute less than 1% based on the 2011 census.

Within the state of Assam the BTR was created through the Peace Bodo Accord of 2020. It consists of various ethno-linguistic and religious groups. According to the 2011 census, it has a population of 3.15 million, constituting 10.09% of the total population in Assam. Among them, ST and SC constitute 33.50% and 5.57% respectively. The Bodos constitute 85.24 % of total tribal population in BTR followed by the Rabha (7.12%) and the Garo (1.53%). Other tribal populations are Barman, Deori, Hajong, Kachari, Mech, Mising, and Lalung, each constitutes less than one per cent. The SC populations of this region are Bansphor, Banya, Bhuinmali, Dhupi, Hira, Jalkeot, Kaibartra, Muchi, Namasudra, Sutradhar, and so on. Based on religious group classification, Hindu (70.54%) is the largest group followed by Muslim (19.51%) and Christian (9.45%) in 2011. Other religious groups are Buddhist, Jain and Sikh, each of them is less than one per cent.

### **Ethnicity Issue in BTR**

The state of Assam is inhabited by various ethno-linguistic groups, each with its own culture and identity, which they all strive to preserve. However, Mahanta (2014) claims that the greater Assamese community has attempted to assimilate linguistic minorities with the mainstream by imposing the Assamese language on them. The enactment of the Assam Official Language Bill of 1960 to introduce Assamese as the official language and the Government's circular issued in February 1986, making Assamese a compulsory language in all schools of Assam, bear evidence of this (Mahanta, 2014). These language policies left linguistic minorities feeling that they had no chance of preserving their distinct identities or improving their socio-economic and political positions, including cultural status. The fear of losing their identities led them to compete for resources and political power (Pathak, 2013; Mahanta, 2013; Motiram and Sarma, 2014). Competition among the diverse groups of the state has resulted in an ethno-political conflict (Pathak, 2013). Ethnic clashes between Bodo–

Muslim, Bodo–Santhal, and Rabha–non-Rabha groups that occurred between 1993 and 2014 in the Western Plains region of Assam are examples of conflicts arising from such competition. These conflicts have resulted in numerous casualties, massive internal displacement of populations, and considerable property loss (Department of Home Affairs, Government of Assam, cited in Saikia, 2015; Boro and Bedamatta, 2017).

Such conflicts got exacerbated when external agencies assisted and encouraged various fighting groups. Researchers claim, with the objective of destabilising India, foreign agencies including China keenly observed and encouraged ethno-political conflicts and insurrections against the Government of India (Reddy and Sasikala, 2016). Rivalrous China was reported to be involved in providing material and moral support to various insurgent groups in Northeast India. The Nationalist Council of Nagaland (NSCN), the United Liberation Front of Assam (ULFA) and the National Democratic Front of Bodoland (NDFB), which fought for separate or sovereign states, are some of the insurgent groups that received moral and material supports from China. The assistance they received range from supply of arms and ammunitions, logistic support and training facilities. The insurgents were also imparted with knowledge of arms and guerrilla tactics. The Sino-India war of 1962 that broke out due to the border disputes was regarded as the primary reason for China's anti-India stance (Raganathan, 2016). It also resulted in China lending support to insurgent groups in Northeast India. China claimed that huge areas of Arunachal Pradesh in the Eastern Sector, and those in Ladakh were her integral part.

The BTR and its adjacent districts in Western Assam are among the regions most severely affected by violent conflicts in the state. Apart from the Bodoland movement for a separate state launched by the Bodo people in the 1960s, these regions have experienced massacres and ethno-religious conflicts since the 1990s (Boro and Bedamatta, 2017). Such conflicts led to peace accords being signed between the Government of India, the Government of Assam, and the representatives of Bodo Organisations including insurgent groups in 1993, 2003 and 2020. The first Bodo Accord was signed between the Government of Assam, All Bodo Students' Union (ABSU), and the Bodo People's Action Committee (BPAC) in

1993, creating the Bodoland Autonomous Council (BAC). However, the BAC Accord could not fulfill the aspirations of the Bodos. A revival movement for separate state of Boland was launched by the ABSU and Bodo Liberation Tiger (BLT), an insurgent group formed in 1996. The NDFB also indulged in various insurrections and violence for a sovereign state. The revival movement led to the second Bodo Peace Accord of 2003 signed by the Government of India, the Government of Assam and the BLT. It resulted in formation of the Bodoland Territorial Council (BTC), to administer the BTAD with jurisdiction over four districts of Assam: Baksa, Chirang, Kokrajhar and Udalguri. But, the NDFB that had strong base and was active in Bodo dominated areas of western Assam, was outside the purview of peace process with the BLT. Besides, non-Bodo people the majority of the population in the BTAD were not taken into consideration in the accord. Because of such lack of inclusive policy, the accord failed to attain permanent and lasting solutions to the problem (Das and Sarma, 2016). The BTAD witnessed several post accord insurrections and large-scale violence, leading to the third Bodo Peace Accord of 2020, signed between the Government of India, the Government of Assam, and the representatives of Bodo Organisations. The Bodo organisations include ABSU, United Bodo People's Organisation (UBPO), and four factions of NDFB. The accord proposed a change from the BTAD to the BTR and its territory as well. It promised the inclusion of territorial boundary contiguous villages with a majority of Bodo people in the BTR and exclusion of such villages with a majority of non-Bodo people from it. Although it did not fulfill the principal demand of the movement i.e. separate statehood for Bodos, it was signed with the expectation that it could bring upliftment of socio-economic and political positions, including cultural status in the BTR. However, several movement leaders and ex-NDFB members were dissatisfied over their being excluded from the political sphere in the post accord political configuration; their founder leader and one of the signatories of the accord, Ranjan Daimary, still serving the sentence to him, ignoring the principal demand and so on (Borgoyary, 2022). Misunderstanding of such critical factors and resultant dissatisfaction led to the formation of a new militant group named National Liberation Front of Bodoland (NLFB) by a small number of ex NDFB members. However, they surrendered later and were inactive. The Bodoland Students' Union (BONSU),

an organization of the BTR also had raised the issue of separate state in post accord days. Hence, there still is the possibility of engendering post-agreement conflicts in the BTR if the provisions of the accord are not implemented to fulfill the aspirations.

The various Bodo Accords left the non-Bodo people with the perception that they would lose their democratic rights and be excluded from the socio-economic and political spheres (Mahanta, 2013). Gradually, this led to a rift between the Bodo and non-Bodo groups. For example, different non-Bodo organizations such as *Oboro Surakshya Samiti* (Non-Bodos Protection Committee) and the *Sanmalita Janagastia Sangram Samiti* (SJSS: United Ethnic Peoples' Struggle Committee) were formed to protest against those accords (Mahanta, 2013; Pathak, 2013). Leaders of these non-Bodo organizations began to think that the BTC government favors only the Bodo people (Mahanta, 2013). Further, they claim that besides setting up all the state-funded institutions and government departments only in the Bodo-dominated areas, there has been a disproportionate representation of the Bodo people in employment and the administrative sector (ibid). Therefore, there is a perception of unequal distribution of socio-economic and political resources among the different ethno-religious groups.

The recurrent ethno-religious conflicts in western Assam indicate intense ethnic stratification (Motiram and Sarma, 2014). For instance, the Bodo-Muslim conflict is not only intense but also recurrent. The inequality among the various ethno-linguistic groups in BTR is likely to grow in the coming years (Motiram and Sarma, 2014). In-migration of non-tribal populations into tribal-dominated areas of BTR, subsequent domination of alien language and culture, land alienation, and discrimination against them have been identified as important reasons for the Bodoland movement and group-based conflicts in studies by Pathak (2013), Mahanta (2014), Motiram and Sarma (2014), and Saikia (2015). However, there is a dearth of studies focusing on the measurements of HIs based on indicators of socio-economic positions. In economic literature, the estimation of inequalities among groups formed based on ethnicity, language, religion, and other non-economic variables is defined as HIs. This differs from VIs, which measure interpersonal inequalities.

### Vertical and Horizontal Inequalities

Over the past three decades, the literature on HIs has been expanding. It has been concluded that group-based inequalities are among the primary reasons behind the persistent underdevelopment of certain regions. Ethno-linguistic or religious discrimination against specific groups leads to ethnic fractionalization (Hillesund, 2019; Stewart, 2019), and prioritizing the language or cultural status of one group leaves others feeling undermined and humiliated. This can significantly contribute to alienation and frustration among the discriminated groups, motivating them to mobilize along cultural lines (Stewart, 2019). For instance, the Sri Lankan government enacted the 1956 Official Languages Act to make Sinhalese the only official language of Sri Lanka. Additionally, Buddhism was given foremost status through the constitutional amendment of 1972. These language and religious policies, which went against the aspirations of other groups to preserve and improve their own language and cultural heritage, are significant reasons for conflicts in Sri Lanka (Herath, 2015). Thus, societal inequality in socio-economic, political, and cultural dimensions creates volatile situations. In such societies, leaders of excluded groups, who have strong incentives for political mobilization, can easily gain support from groups with shared cultural identities (Langer *et al.*, 2016; Hillesund, 2019; Stewart, 2019).

Many scholars have attempted to understand the linkage among ethnicity, violent conflicts, and economic inequality using statistical and econometric methods; however, they have largely remained inconclusive. The methodology used for measuring inequality could be one of the reasons for the lack of conclusive evidence on the causal relationship between inequalities and violent conflicts (Langer *et al.*, 2016; Hillesund and Ostby, 2023). Recently, economic literature has drawn a distinction between HIs and VIs. Inequality measured through the Lorenz ratio or Gini coefficient based on economic variables is defined as VIs. Such measurements reveal inequality at an intra-group level, thus failing to capture inequality between groups that share common identities (Langer and Stewart, 2013; Stewart, 2019; Canelas and Gisselquist, 2019).

Unlike VIs, HIs are measured at an intergroup level. In this measurement, individuals are grouped based on ethnicity, religion, or language. Thus,

such measurement can capture inequalities among different ethno-religious or social groups (Stewart, 2019; Canelas and Gisselquist, 2019; Hillesund and Ostby, 2023). Measuring HIs is particularly important when civil conflicts are visible due to identity politics. Based on this difference in inequality measurement, economists have inquired whether group-based inequality is one of the primary reasons for political mobilization leading to violent conflicts. Many scholars find a statistically significant and positive linkage between horizontal inequalities and the risk of conflicts (Langer and Stewart, 2013; Bartusevicius, 2014; Laner *et al.*, 2016). These studies concluded that the exclusion of specific groups in political and social welfare dimensions is a pivotal factor in generating grievances. UNICEF (2015), in its report on HI in education and violent conflict, highlighted that inequality in the provision of education opportunities can result in more visible and systematic discrimination, leading to even asset inequality. Therefore, inequality in education is crucial in predicting groups' grievances and subsequent conflicts.

Many studies of group-based conflicts have shown that HIs, including education, are significant predictors of such conflicts (see Langer *et al.*, 2016; Hillesund and Ostby, 2023). Similarly, Khan *et al.* (2019) demonstrated that the relative backwardness of provinces inhabited by minority-deprived ethnic groups concerning education and employment is the primary reason for recurrent unrest and conflicts in Pakistan, claiming that regional backwardness made the youth frustrated and encouraged them to join rebel groups demanding a separate province.

### Materials and Methods

I used both secondary and primary data to measure HEIs. The secondary source of information relied on for this measurement was NSSO, which provides information merely at the state level based on a nationally representative large sample size. Since the objective of this study was to measure HEI for BTR, I used unit-level data from NSSO. Moreover, I also used primary data collected from one of the most conflict-affected villages of BTR to see if significant horizontal education inequalities exist in conflict-affected villages too. I used the weighted GGini, following Canelas and Gisselquist (2019) and Chawla (2019), to measure HEIs. Additionally, one-way analysis of variance (ANOVA) was used to



test if inequalities among the groups are statistically significant. I also explored the level of statistical significance in pairwise differences using post-hoc tests with ANOVA (Bonferroni). This test allowed us to identify if there were statistically significant differences between the mean values of one group and those of other groups.

### Group Gini Coefficient (GGini)

$$\text{Population weighted GGini} = \frac{1}{2Y} \sum_r^R \sum_s^S P_r P_s |\bar{Y}_r - \bar{Y}_s|$$

Here,  $\bar{Y}$  is the mean of the variable (say literacy rate of all groups),  $R$  is the population size of the  $R$ th group (say population size of Muslims),  $S$  is the population size of the  $S$ th group (say population size of ST),  $\bar{Y}_r$  is the mean of the variable for group  $R$  (say literacy rate of Muslims),  $\bar{Y}_s$  is the mean of variable for group  $S$  (say literacy rate of ST),  $P_r$  is the share in the total population of group  $R$  or Muslims, and  $P_s$  is the share in total population of group  $S$  or ST. The GGini value ranges between 0 to 1. The higher the value, the higher the inequality between groups.

For the measurement of HIs in the case of more than two groups, the coefficient of variation (CV), Gini coefficient, and Theil index were recommended as appropriate tools. Both the CV and Theil capture differences in the performance of each group from the mean value (Canelas and Gisselquist, 2019; Chawla, 2019). Moreover, they do not measure differences between one group and another. On the other hand, the Gini compares the differences in performance of one group with each other group (ibid). However, this also has limitations, as it gives relatively more weight to the middle of the distribution. All these three measures give equal weight to redistribution at different income levels, which reveals that each group would get equal weight in measuring group inequalities. Hence, unweighted measurement would attach equal weight to all groups. In such estimations, changes in the position of a small group would have the same effect as a large group. Population-weighted estimation is, therefore, desirable so that more weight can be attached to the groups with a larger share of the population and vice-versa. Hence, I used GGini for this measurement.

### Data Source

For this study, I relied on data from the Census of India and NSSO. I obtained information on the population by different social groups from the 2001 and 2011 censuses. Although the Census of India collects information on household amenities and occupations, these data are not available by social groups; therefore, census data alone were insufficient for this study. As a result, I used unit-level data from NSSO. Specifically, the unit-level data from the NSSO 61st (2004–2005) and 66th (2009–2010) Employment and Unemployment Surveys were used to estimate HEI.

### NSSO Unit-Level Data

NSSO classifies each state into different regions to select sample villages in rural areas and blocks in urban sectors. Then, households are surveyed from both the selected villages and blocks. While selecting sample villages from rural areas, districts are considered to be strata; however, in the case of urban areas, NSSO forms sub-regions based on the size class of towns and then selects sample blocks from each stratum or sub-region. Therefore, using NSSO unit-level data for regional-level estimation is possible but not for district-level estimation. At the regional level, I could estimate if the districts considered for this study were included in mutually inclusive regions; however, the districts in this study are spread across different regions. For instance, the 56th round of the survey classified the state of Assam into three sub-regions: Plains Eastern, Plains Western, and Hills. Among the considered districts, Bongaigaon, Barpeta, and Nalbari were included in Plains Eastern; Kokrajhar in the Hills region; and Darrang, Dhubri, and Kamrup in Plains Western. Therefore, the regional-level classification does not allow for measuring HEI for BTR. However, NSSO changed the sampling procedure since the 61st round (2004–2005), as the new sampling method defined districts as strata, allowing estimation at the district level. Since the sampling method used in surveys before the 61st round does not allow for regional or district-level estimations for this study, I used the 61st and 66th rounds of quinquennial employment and unemployment surveys from 2004–2005 to 2009–2010.

### Categorization of Districts and Social Groups for the Study

The Bodoland Territorial Area Districts (BTAD) were created under the Sixth Schedule of the Constitution of India based on a Memorandum of Understanding between the Central Government, the State Government, and the Bodo Liberal Tigers—a militant group—on February 10, 2003. BTAD comprises four districts: Baksa, Chirang, Kokrajhar, and Udalguri. These districts were formed by carving out parts of the existing districts of Dhubri, Kokrajhar, Bongaigaon, Barpeta, Nalbari, Kamrup, Darrang, and Sonitpur, which constitute Western Assam. Again, third Bodo Accord was signed on January 27, 2020, among the Government of India, the Government of Assam, the All Bodo Students' Union (ABSU), its allied organizations, and various factions of the National Democratic Front of Bodoland—militant groups that launched a secessionist movement for a separate state of Bodoland. This accord renamed BTAD as BTR and promised more legislative, executive, and administrative autonomy to BTC along with the expansion of its territory. The unit-level data provides a small sample size for individual districts. Therefore, for convenience and to meet the study's objectives, I considered BTR as a whole for this study. This was then compared with Western Assam and Assam.

### Limitation of Unit-Level Data

As the NSSO does not collect information based on ethnic groups, the absence of ethnic-based information prevented me from using unit-level data to estimate horizontal inequalities in BTR; however, it classified samples into ST, SC, OBC, and general

categories. According to the 2001 census, Bodos constitute more than 70% of the total STs in BTR and Western Assam, thus representing the ST in Western Assam. Therefore, the socio-economic positions of the ST can be considered representative of the Bodo in this case.

The surveys collected information by classifying the populations into eight major religious groups, providing extensive religion-wise information. The socio-religious classification of the people is mutually exclusive, allowing identification of a household's religious group and social category. This makes it possible to separate households of a religious group from other social group categories (SC, ST, OBC, and others). Muslim households were excluded from all social categories (ST, SC, OBC, and others) and categorized as a separate group for the study. Hence, the groups for which I measured HEI were Muslim, ST, SC, OBC, and general caste.

In addition to NSSO's unit-level data, I used primary data collected from one of the most conflict-affected revenue villages in the Kokrajhar district of BTR. Out of a total of 390 households enumerated in my house listing survey conducted in the village, 30% were randomly selected as sample households. The information regarding the completion of school education and current attendance status of school-going children was collected from the sample households. I estimated the literacy rate for the population ages 7 and above, the current attendance rate for ages 6 to 21, and the average year of educational completion for ages 15 and above.

**Table 1: Horizontal Educational Inequality in Assam and Western Assam, 2004–2005 to 2009–2010**

| Educational Indicator      | 2004–2005 |          | 2009–2010 |          |         |
|----------------------------|-----------|----------|-----------|----------|---------|
|                            | Assam     | W. Assam | Assam     | W. Assam | BTR     |
| Literacy rate              | 0.13***   | 0.24***  | 0.14***   | 0.18***  | 0.24**  |
| Average Years of schooling | 0.50***   | 0.68***  | 0.33***   | 0.41***  | 0.39*** |
| Current attendance rate    | 0.13***   | 0.24***  | 0.21***   | 0.29***  | 0.36*** |

Source: Author's estimation based on NSSO's unit-level data from the 61st and 66th round employment and unemployment surveys

\*\*\* indicates differences between the groups statistically significant at the 1% level, \*\* at the 5% level, and \* at the 10% level

## Results

### Horizontal Educational Inequality in Assam

HEI was first calculated for the five socio-religious categories in Assam and Western Assam for 2004–2005. The same was also calculated for Assam, Western Assam, and BTR for 2009–2010. The purpose of this measurement was to estimate the level of HIs. To test whether the group-based inequalities are statistically significant, I examined the variance between them using one-way ANOVA, which shows that the HEIs based on all indicators were statistically significant in all district categories. HEI concerning the average year of educational completion was found to be highest in Assam

(Table 1). This value for Western Assam was higher in both 2004–2005 and 2009–2010. Moreover, in BTR, HEI based on literacy rate and current attendance rate was higher than other district categories in 2009.

Table 2 shows that the educational attainments of Muslims based on all indicators were lower than all other social groups in Assam and Western Assam. Similarly, educational attainments of ST were lower than those of SC, OBC, and general groups in both Western Assam and Assam in 2009–2010. In BTR, educational attainments of both Muslims and ST were lower than those of SC and OBC.

**Table 2: Literacy Rate, Current Attendance Rate, and Average Year of Schooling by Social Groups from 2004–2005 to 2009–2010**

| Social Group         | 2004–2005     |                         |                           | 2009–2010     |                         |                           |
|----------------------|---------------|-------------------------|---------------------------|---------------|-------------------------|---------------------------|
|                      | Literacy Rate | Current Attendance Rate | Average Year of Schooling | Literacy Rate | Current Attendance Rate | Average Year of Schooling |
| <b>Assam</b>         |               |                         |                           |               |                         |                           |
| Muslim               | 75            | 69                      | 4.54                      | 82            | 68                      | 5.77                      |
| ST                   | 85            | 76                      | 5.58                      | 85            | 70                      | 6.44                      |
| SC                   | 82            | 77                      | 4.79                      | 87            | 76                      | 7.23                      |
| OBC                  | 87            | 76                      | 5.88                      | 91            | 83                      | 7.02                      |
| Other                | 89            | 78                      | 7.44                      | 94            | 77                      | 8.49                      |
| All                  | 83            | 74                      | 5.73                      | 88            | 76                      | 6.83                      |
| <b>Western Assam</b> |               |                         |                           |               |                         |                           |
| Muslim               | 67            | 68                      | 4.24                      | 79            | 68                      | 5.77                      |
| ST                   | 79            | 80                      | 5.31                      | 80            | 72                      | 6.45                      |
| SC                   | 80            | 85                      | 4.47                      | 91            | 79                      | 7.23                      |
| OBC                  | 82            | 69                      | 5.86                      | 92            | 88                      | 7.52                      |
| Other                | 86            | 77                      | 7.33                      | 90            | 82                      | 8.49                      |
| All                  | 78            | 73                      | 5.44                      | 85            | 78                      | 6.77                      |
| <b>BTR</b>           |               |                         |                           |               |                         |                           |
| Muslim               | -             | -                       | -                         | 72            | 78                      | 3.77                      |
| ST                   | -             | -                       | -                         | 83            | 76                      | 5.58                      |
| SC                   | -             | -                       | -                         | 93            | 89                      | 6.00                      |
| OBC                  | -             | -                       | -                         | 83            | 93                      | 5.73                      |
| Other                | -             | -                       | -                         | 93            | 65                      | 4.85                      |
| All                  | -             | -                       | -                         | 84            | 85                      | 5.16                      |

Source: Author's calculation from NSSO's 61<sup>st</sup> and 66<sup>th</sup> round employment and unemployment surveys



Pairwise comparisons using the post-hoc test with ANOVA revealed statistically significant differences in educational attainments. When Muslims were compared with OBC and general categories in Assam, differences in educational attainments were found to be statistically significant at  $p < 0.05$ . In Western Assam, even their difference with SCs was found to be statistically significant. Similar statistically significant differences in literacy rate and average years of educational attainment were found when STs were compared to the SC, OBC, and general sub-groups in both Western Assam and Assam. In BTR, comparisons of Muslims and STs with the SC and OBC subgroups also yielded statistically significant differences at  $p < 0.05$ .

#### Case Study from Kokrajhar district of BTR

I conducted a sample survey in a conflict-affected village in the Kokrajhar district of BTR in December 2015 to estimate if HEIs also exist at the village level. Kokrajhar is one of the four districts of BTR. Within this district, villages under the Kochugaon Development Block in Gossaigaon sub-division have experienced recurrent conflicts. Revenue village

Hasrawbari-II was affected by conflicts, once in 1996 and again in 2012. The village is situated in the western part of the district, bordering the state of West Bengal. In a house listing survey, a total of 390 households were enumerated. According to the 2011 census, there were 383 households in the village compared to 390 as per the 2015 survey data (Boro and Bedamatta, 2016). Among them, Muslims constituted the largest group with 347 households, followed by Bodos (200), Rajbongshi (19), and Hindu Bengali (04).

In the survey, villagers who speak Bengali identified themselves based on religion. Bengali respondents who followed Hinduism identified themselves as Bengali Hindu, while those who followed Islam identified themselves as Muslim. Therefore, I classified Bengali-speaking respondents into Bengali (Hindu) and Muslim in the sample categorization. The other respondents identified themselves based on their ethnicity or spoken dialects (i.e., Bodo and Rajbangsi). Thus, households were categorized into four groups: Bodo, Bengali Hindu, Rajbangsi, and Muslim.

**Table 3: Educational Attainments Among Ethno-Religious Groups, Hasrawbari-II, 2015**

| Ethno-religious Group | Literacy Rate | Current Attendance Rate | Average Year of Schooling |
|-----------------------|---------------|-------------------------|---------------------------|
| Bodo                  | 57            | 67                      | 3.81                      |
| Muslim                | 42            | 53                      | 2.42                      |
| Rajbangsi             | 52            | 65                      | 3.02                      |
| Bengali (H)           | 89            | 82                      | 7.73                      |
| <b>All</b>            | <b>52</b>     | <b>54</b>               | <b>3.09</b>               |

#### Educational Horizontal Inequalities Based on Group Gini Coefficient

|       | Literacy rate | Average year of schooling | Currently attending |
|-------|---------------|---------------------------|---------------------|
| GGini | 0.52**        | 0.98***                   | 0.49**              |

Source: Survey data, 2015

#### Bodo-Muslim Conflict in the Study Village

The most recent Bodo-Muslim conflict erupted in July 2012 after two workers of the All Bodoland Minority Students' Union (ABMSU) were attacked on July 22, 2012, in Amguri village of Kokrajhar (Niomiya Barta, 2012). Both sustained bullet injuries. The next evening, suspecting the involvement of members

of the former Bodo Liberation Tigers (BLT), some unidentified miscreants attacked four members of the former BLT Welfare Association, resulting in deaths in Kokrajhar. Subsequently, the conflict spread to the whole of BTR and its neighboring districts. Revenue village Hasrawbari-II was also severely affected by the conflict (Boro & Bedamatta, 2016). It claimed the

lives of two individuals and destroyed the properties and dwellings of many households in the village. During the conflict, all groups left the village. The Muslim group returned after six months. Since their dwellings were destroyed, and due to a lingering sense of severe insecurity, they stayed together on the campus of the government primary school for nearly six months. During this period, classes were conducted in a chaotic environment. The Bodos of the village returned to their homes after a year. Thus, the conflict, through the destruction of properties and forced displacement, resulted in a severe loss of means of livelihood and created transitory poverty in the village (ibid).

### **Horizontal Education Inequalities in the Study Village**

HEI in revenue village Hasrawbari-II was found to be the highest concerning the average year of educational attainment (0.98), followed by literacy rate (0.52) and current attendance rate (0.49). Analysis of variances in the studied village indicates that inequalities based on all indicators were found to be statistically significant.

Based on our house listing survey, the overall literacy rate in the village was 52% compared to 45% estimated based on the 2011 census. Although the literacy rate in Hasrawbari-II improved by 7% in 2015, it remains much lower than the average literacy rates of Kokrajhar district (65%) and Assam (72%) in 2011. Among the ethno-religious groups, educational attainments of Muslims based on all indicators (literacy rate = 42%, average year of schooling = 2.42, and current attendance rate = 53%) were the lowest when compared to others. Statistically significant differences in average year of schooling and literacy rate were found when both Muslims and ST were compared to Hindu Bengalis. Besides statistically significant horizontal education inequality, low levels of educational achievement were found across all groups in the study village.

### **Discussion**

Horizontal inequality regarding knowledge accumulation through formal schooling is higher in Western Assam in comparison to Assam. BTR's horizontal educational inequality based on literacy rate and current attendance was much higher than

that of both western Assam and Assam. These imply that the inequality in educational attainment among different socio-religious groups was higher in western Assam, and it was highest in BTR. Highest GGini value of BTR with regard to current attendance indicates that horizontal educational inequality is likely to increase in it. Among the socio-religious groups, educational attainment of both the ST and Muslims based on all indicators were lower than others in Assam and Western Assam as well. In BTR also, their educational attainment was lower than the SC and OBC. These imply that Muslims and STs are the most disadvantaged groups in terms of educational attainment across all district categories. Similar deprivation of the socially excluded groups: ST, SC and OBC with regard to educational attainment were found by Chowla (2019) in his study of Urban India. Historically entrenched social exclusions of the deprived groups have prevented them from reaching the same positions as the advanced groups, despite policies designed to address their problems (ibid). Additionally, educational attainment of all socio-religious groups in BTR was found to be lower than their respective groups in both western Assam and Assam. It indicates that the conflict-ridden BTR lags far behind the other regions of the state with regard to knowledge accumulation. Similar statistically significant horizontal educational inequalities were found in the study village too. Its educational attainment measured by all the indicators in 2015 was even lower compared to those in other regions of Assam during 2004-05 and 2009-2010. The destruction of properties and forced displacement through recurrent conflicts, and resultant transitory poverty prevented people in the study village from accumulating knowledge through formal schooling.

### **Conclusion**

This paper attempted to understand and quantify the presence of inequality in educational attainments across the socio-religious groups of Assam, with a particular focus on BTR. The level of horizontal education inequality was found to be the highest in BTR compared to other district categories. Moreover, similar significant and high horizontal inequality was found in the study village. Among the socio-religious groups, Muslims and STs were found to be the most disadvantaged in terms of educational attainments in

all the district categories. Furthermore, educational attainments of all the socio-religious groups in BTR were found to be relatively lower when compared to their counterparts in western Assam and Assam. These findings provide evidence of high and significant horizontal inequality as well as regional inequality in terms of educational attainments in the state. Therefore, targeted affirmative action is required to provide educational opportunities and improve access for these groups. Special attention must be given to disadvantaged groups to eliminate horizontal education inequality. Additionally, region-specific policies need to be designed to improve educational status and other dimensions for the conflict-affected and backward regions of BTR. Besides, the provisions of the Peace Accords must be implemented in letter and spirit; so that the aspirations could be fulfilled, and lasting and permanent solutions to the problems attained.

#### Acknowledgement

The paper is drawn from author's Ph.D. thesis carried out at Indian Institute of Technology, Guwahati (IITG). The author is thankful to the Department of HSS, IITG for providing him opportunity to carry out the research work. He is grateful to PhD supervisor-Dr. Rajshree Bedamatta, Professor of Economics in the Department of HSS, IITG. Further, he is thankful to the National Sample Survey Organisation (NSSO) and the households of the study village: Hasrawabri, Kokrajhar, Assam for providing the required primary data.

#### Funding Sources

The author received no financial assistance for research, authorship, and/or publication of this article.

#### Conflict of Interest

The author(s) do not have any conflict of interest.

#### Data Availability Statement

I used data from the Census of India, 2001 & 2011, NSSO's unit-level data from the 61st and 66th round employment and unemployment surveys and Primary data collected from Revenue village Hasrawbari in the District of Kakrajhar, BTR, Assam.

#### Ethics Statement

This research did not involve human participants, animal subjects, or any material that requires ethical approval.

#### Informed Consent Statement

This study did not involve human participants, and therefore, informed consent was not required.

#### Clinical Trial Registration

This research does not involve any clinical trials.

#### Author Contributions

The sole author was responsible for the conceptualization, methodology, data collection, analysis, writing, and final approval of the manuscript.

## References

1. Sen, A. (2000). *Development as Freedom*. Oxford University Press, New Delhi.
2. Alcorta, L., Smits, J. and Swedlund, H. (2018). Inequality and Ethnic Conflict in Sub-Saharan Africa. *Social Forces*, 97(2) 769-792.
3. Stewart, F. (2019). Horizontal Inequalities Individual Capabilities and Inequalities between Groups. In Drydyk, J. and Keheler, L. (ed), *Routledge Handbook of Development Ethics*, New York: Routledge.
4. Burtusevicious, H. (2014). The Inequality-conflict nexus re-examined: income, education and popular rebellions. *Journal of Peace Research*, 51(1), 35-51.
5. Hillesund, S. (2019). Choosing Whom to Target. *The Journal of Conflict Resolution*, 63(2), 528-554.
6. Hillesund, S. and Ostby, G. (2023). Horizontal Inequalities, Political Violence, and nonviolent conflicts Mobilisation: A Review of Literature. *Journal of Economic Survey*, 37(5), 1589-1635.
7. Canelas, C. and Gisselquist, R.M. (2019). Horizontal inequalities and data challenges, *Social Indicators Research*, 143:157-172.
8. Chawla, P. (2019). Horizontal Inequality in Urban India: A Human Development Perspective, In Kolachi, N.A., *Emotional Intelligence and Effective Leadership RAIS Conference Proceedings* (pp 183-194). <https://rais.education/wp-content/uploads/2019/11/005DB>.

- pdf
9. Mahanta, P. (2014). Asanta Barabhum Bidhabasta Bodo Jati. *Bodoland*, 3(6), 7-10.
  10. Pathak, S. (2013). Ethnic Violence in Bodoland. *Economic and Political Weekly*, 47(34), 19-23.
  11. Mahanta, N. G. (2013). Politics of Space and Violence in Bodoland. *Economic and Political Weekly*, 48(23), 49-58.
  12. Motiram, S. and Sarma, N. (2014). The Tragedy of Identity: Reflection on Violent Social Conflict in Western Assam. *Economic and Political Weekly*, 49(11), 45-53.
  13. Saikia, S. (2015). General Election 2014: Ethnic Outbidding and Politics of Homelands in Assam's Bodoland. *Contemporary South Asia*, 23 (2), 211-222.
  14. Boro, R. and Bedamatta, R. (2017). Can Horizontal Inequalities Explain Ethnic Conflicts? A Case Study of Bodoland Territorial Area Districts of Assam. In U. K. De, M. Pal and P. Bharati (Ed.), *Inequality, Poverty and Development in India: Focus on North Eastern region* (pp. 97-125). Springer.
  15. Reddy, G.J. and Sasikala, M. (2016). Insurgencies in Northeast India and Role of China. In G.J. Reddy (Ed.), *India and China Relations: Historical, Cultural and Security Issues* (pp. 267-282). *UGC Centre for Southeast Asian and Pacific Studies*, SVU.
  16. Ranganathan, A.C. V. (2016). From Conflict to Cooperation: A Survey of India-China Relations. In G.J. Reddy (Ed.), *India and China Relations: Historical, Cultural and Security Issues* (pp. 1-11). *UGC Centre for Southeast Asian and Pacific Studies*, SVU.
  17. Das, R.P. and Sarma, A.K. (2016). Peace Accords: Determinants of the Process to End Conflicts- A Case Study of the State of Assam, India. *International Research Journal of Social Science*, 5(9), 45-51.
  18. Borgoyary, R. (2022). Why Peace Accord Doesn't Lead To Durable Order? Potential and Limitations of the Bodo Agreements. *GARI International Journal of Multidisciplinary Research*, 8(4).
  19. Herath, S. (2015). Language Policy, Tensions and Linguistic Rights in Post War Sri Lanka. *Language Policy*, 14, 245-261.
  20. Langer, A., Stewart, F. and Schroyens, M. (2016). Horizontal inequalities and affirmative action (Wider Working Paper 2016/119). <https://www.wider.unu.edu/publication/horizontal-inequalities-and-affirmative-action>.
  21. Langer, A. and Stewart, F. (2013). Horizontal inequalities and violent conflicts: Conceptual and empirical linkages (CRPD Working Paper 14). <https://soc.kuleuven.be/crpd/files/working-papers/wp14.pdf>
  22. Bartusevicius, H. (2014). The Inequality-Conflict nexus re-examined: Income, Education and Popular Rebellions. *Journal of Peace Research*, 51(1).
  23. UNICEF. (2015). Horizontal Inequalities in Education and Violent Conflict: Literature Review. Washington, DC <https://www.epdc.org/sites/default/files/documents/Conflict%20and%20Inequality%20Literature%20Review%20FINAL.pdf>
  24. Khan, S.M., Shaheen, M. and Ahmad, M. (2019). Horizontal Inequalities and Identity Conflicts: A study of Pakistan, *Journal of the Research Society of Pakistan*, 56(2) 307-322.
  25. Niomiya Barta. (2012, July, 23). Ako Ractata in BTC: four members of BLT killed in Kokrajhar. Author.
  26. Boro, R. (2016). A Study of Horizontal Education Inequalities in Bodoland Territorial Area Districts of Assam. (Unpublished doctoral dissertation). Indian Institute of Technology Guwahati, India.
  27. Government of India. (2001). Census of India. (Registrar General and Census Commissioner).
  28. Government of India. (2011). Census of India. (Registrar General and Census Commissioner).