Global conference on

PROSPERITY, EQUALITY AND SUSTAINABILITY

PERSPECTIVES AND POLICIES FOR A BETTER WORLD

Title of the paper

PRESENCE OF HORIZONTAL EDUCATION INEQUALITY IN BODOLAND TERRITORIAL AREA DISTRICTS (BTAD) OF ASSAM

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Introduction

- Inequality in access to education and therefore job opportunities adversely impact expansion of valuable capabilities.

- In a stratified society, if the privileged groups control political processes that run the school system and funding structure, favoring promotion of only members of the in-group, it gives rise to a deeply unequal society.

- Such inequality between groups is defined as *horizontal inequality* (HI) as opposed to *vertical inequality* (VI) (Stewart, 2000).

Distinction between horizontal inequalities (HIs) and vertical inequalities (VIs)

HIs	VIs
Inequality at intergroup level.	Inequality at intra-group level.
Apart from economic variables, HIs are measured based on variables like education, health outcome, political participation.	VIs are measured based on income, consumption expenditure and other wealth indicators.
People are grouped, based on non-economic variables like ethnicity, religion and language.	People are grouped, based on income, consumption expenditure or other wealth indicators.
Unlike vertical inequalities, horizontal inequalities are therefore multifaceted and include socio-economic, political and cultural dimensions	

- Statistically significant and positive relationship between HIs and risk of violent conflicts (Stewart, 2000 & 2010; Langer, 2005; Tiwari, 2008 and Mancini, 2010).

- Socio-economic and political inequalities, has a potential of creating volatile situations(Ostby, 2007, Langer, 2010, Langer and Brown, 2010 and Stewart, 2010).

- Stewart (2000) and Ostby (2005) highlight political and social welfare as important factors in generating grievances.

- Lindquist (2012), shows education is as crucial in predicting groups' grievances and subsequent conflicts.

- Low levels and poor quality of education received by the children of subordinate groups make them more vulnerable in violent situations (Bush and Saltarelli, 2000).
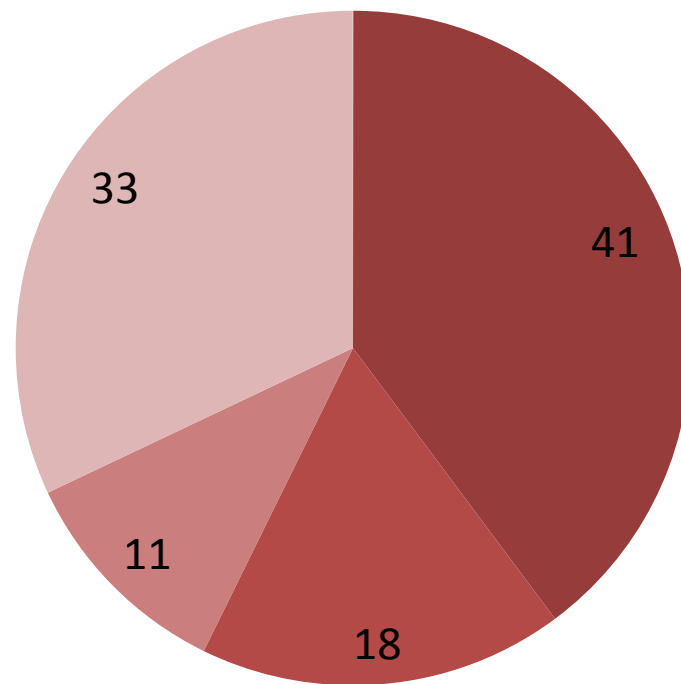
Demographic profile of Assam

Population of Assam, 2011

12
7
81
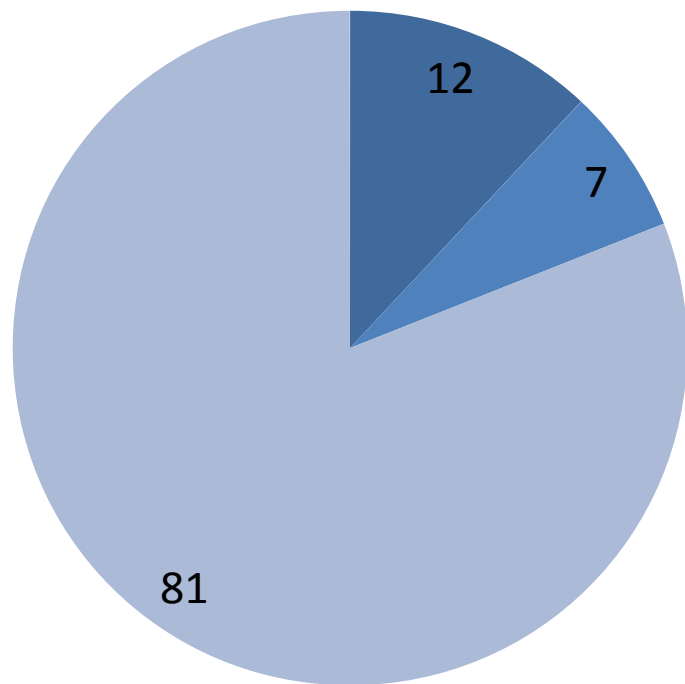
■ ST ■ SC ■ Others

Population of various tribes among total ST, 2001

33
41
11
18

■ Bodo ■ Mising ■ Karbi ■ Others

The ethnicity issue in Bodoland Territorial Area Districts

- Aspirations of various ethno-linguistic groups have led to intense competition over accessing economic resources and political power (Pathak, 2013; Mahanta, 2013; Motiram and Sarma, 2014).

- Secessionist conflicts has been seen in the case of Bodoland movement, resulting in ethnic clashes between Bodo-Muslim, Bodo-Santhal and Rabha-Non-Rabha groups in the Western Plains region of Assam.

- The group based conflicts present a case of intense "ethno-linguistic fractionalization" (Motiram and Sarma, 2014).

Table1 *Timeline of group based conflicts in Bodoland Territorial Area Districts of Assam during 1993-2014*

Year	Communities involved	Districts involved	Person killed	Persons in relief camps
1993	Bodo-Muslims*	undivided Bongaigaon(B) and Kokrajhar(K)	61	-
1994	Bodo-Muslims*	undivided B & K	113	-
1996	Bodo-Adivasi*	undivided B & K	198	-
1998	Bodo-Adivasi	undivided B & K	186	
2008	Bodo-Muslims**	Darrang & Udalguri	64	1.94 lakhs
2012	Bodo-Muslims	Chirang, Kokrajhar and Dhubri	109	4.45 Lakhs
2014	Bodo, Muslims & Adivasi*	Baksa and Kokrajhar	46	498

Source: Department of Home Affairs, Government of Assam cited in Saikia (2015) and Hussain (2008)

Note: * Massacre over Muslims or Adivasis by militant group (like Bodo Liberation Tigers or National Democratic Front of Bodoland)

** group based conflicts between the Muslims and other ethnic groups like Garos, Rabha, and other Assamese speaking people including Bodos

Group discrimination, in-migration of non-tribals to tribal areas, alienation of land, and domination of 'alien' language and culture are causes of Bodoland movement (Das,1982), (Goswami and Mukherjee, 1982), (Gohain 1989).

In BTAD, the various Bodo Accords have left the non-Bodo people with fear of "losing legitimate democratic rights" and of being deprived from socio-economic opportunities (Mahanta, 2013).

Formation of the *Oboro Surakshya Samiti* (Non-Bodos Protection Committee) and the *Sanmalita Janagastia Sangram Samiti* (SJSS: United Ethnic Peoples' Struggle Committee) bear evidence to the Bodo and non-Bodo rift (Mahanta, 2013 and Pathak, 2013).

Measurement of horizontal inequalities

- Quantitative and econometric approaches to understanding the nexus between ethnicity, violent conflicts and economic inequality have also been attempted (for example, Fearon and Laitin 2003; Collier and Hoeffler 2004; Dixon 2009; and Lindquist, 2012).

- Although theoretically the link between economic inequality and civil (or ethnic) conflicts can be established, empirical evidences do not support a significant cause and effect relationship.

- It is claimed, the measure of inequality used could be one of the various reasons.

- Stewart, Mancini and Brown (2010) recommend the coefficient of variation (CV), Gini coefficient and Theil index as appropriate for measurement of horizontal inequalities.

- Unlike the CV and Theil, Gini measures variation in performance of each group with every other group (Ray, 2010).

- All three measures give equal weight to redistribution at different income levels.

- Population weighted measurement is desirable so that more weight can be attached to the groups with larger share in population and vice-versa (Stewart, Mancini and Brown, 2010) .

Measurement of Horizontal Inequalities

$$\text{Group Gini} \quad = \frac{1}{2\overline{Y}} \sum_{r}^{R} \sum_{s}^{S} P_r P_s \left| \overline{Y}_r - \overline{Y}_s \right|$$

Where:

$\overline{Y}$ = is mean of variable (say literacy rate of all groups),

R=population size of group R (Say population size of STs)

S= population size of group S (say population size of Muslims)

$\overline{Y}_r$ = average of group R say literacy rate of STs

$\overline{Y}_s$ = mean of group S say literacy rate of Muslims

P_r= share in total population of group R or STs

P_s = share in total population of group S or Muslims

- In this study we use the GGini based on Mancini, Stewart and Brown (2010).

- In addition to that we test if inequality among the groups is statistically significant using one way analysis of variance (ANOVA).

Data source

- *Census of India*: Population by socio-religion groups from 1991, 2001 and 2011

- *National Sample Survey Organization (NSSO):*
- NSS unit level data of "**Employment and Unemployment**" from the 61st (2004-05) and 66th (2009-10) surveys

- Variables: ***literacy rate of age 7+, current attendance rate (age 6 to 29) and average year of schooling (age 15 and above).***

- Since the districts we considered spread across the different regions, region level classification doest not allow measurement of HIs for BTAD.

- However, the sampling design since 61st round (2004-05) allows estimation at district level too.
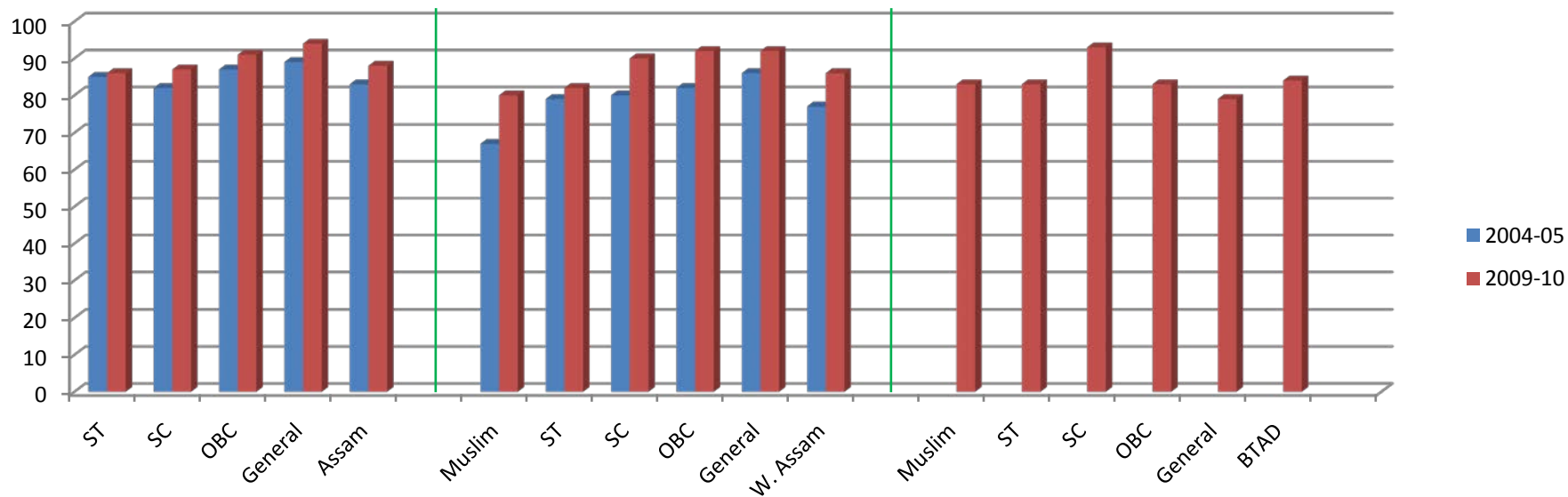
Categorization of districts

- BTAD was created under the Sixth Schedule of the Constitution of India on February 10, 2003.

- BTAD constitutes four districts - Baksa, Chirang, Kokrajhar and Udalguri .

- These districts were carved out of eight districts - Dhubri, Kokrajhar, Bongaigoan, Barpeta, Nalbari, Kamrup, Darrang and Sonitpur.

- The unit level data provides a small sample size for individual districts.

- Therefore for convenience and keeping the objective of our study in mind, we have considered BTAD as a whole.

Limitation of data

- Information is collected by classifying population broadly in to STs, SCs, OBC and others but not collected ethnicity wise.

- However, the Bodo constitutes about 75% of total ST population in western Assam based on census of 2001.

- We have excluded Muslims from all social categories (STs, SC, OBC and other) and categorized them as a separate group.

- Households are classified into five categories-**Muslims, STs, SCs, OBC and Others/general**

Literacy rate by socio-religious groups among age 7 and above

Legend: 2004-05, 2009-10

Categories: ST, SC, OBC, General, Assam | Muslim, ST, SC, OBC, General, W. Assam | Muslim, ST, SC, OBC, General, BTAD

Current attendance rate by socio-religious groups among age 6 to 29 years

Legend: 2004-05, 2009-10

Categories: Muslim, ST, SC, OBC, General, Assam | Muslim, ST, SC, OBC, General, W. Assam | Muslim, ST, SC, OBC, General, BTAD

15
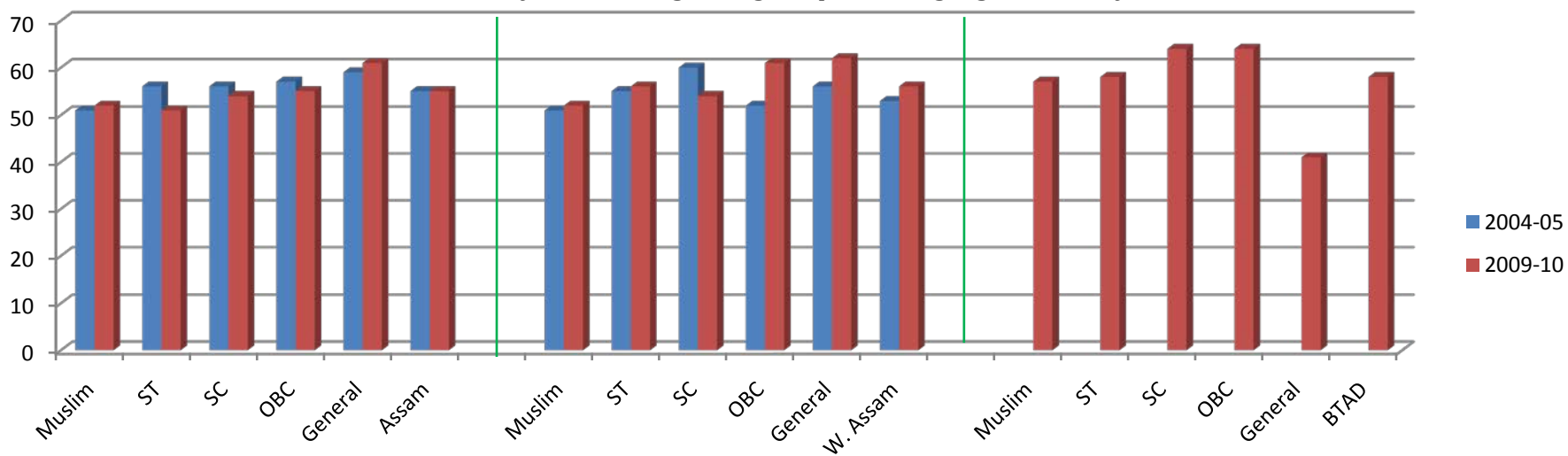
Average year of schooling among the socio-religious groups
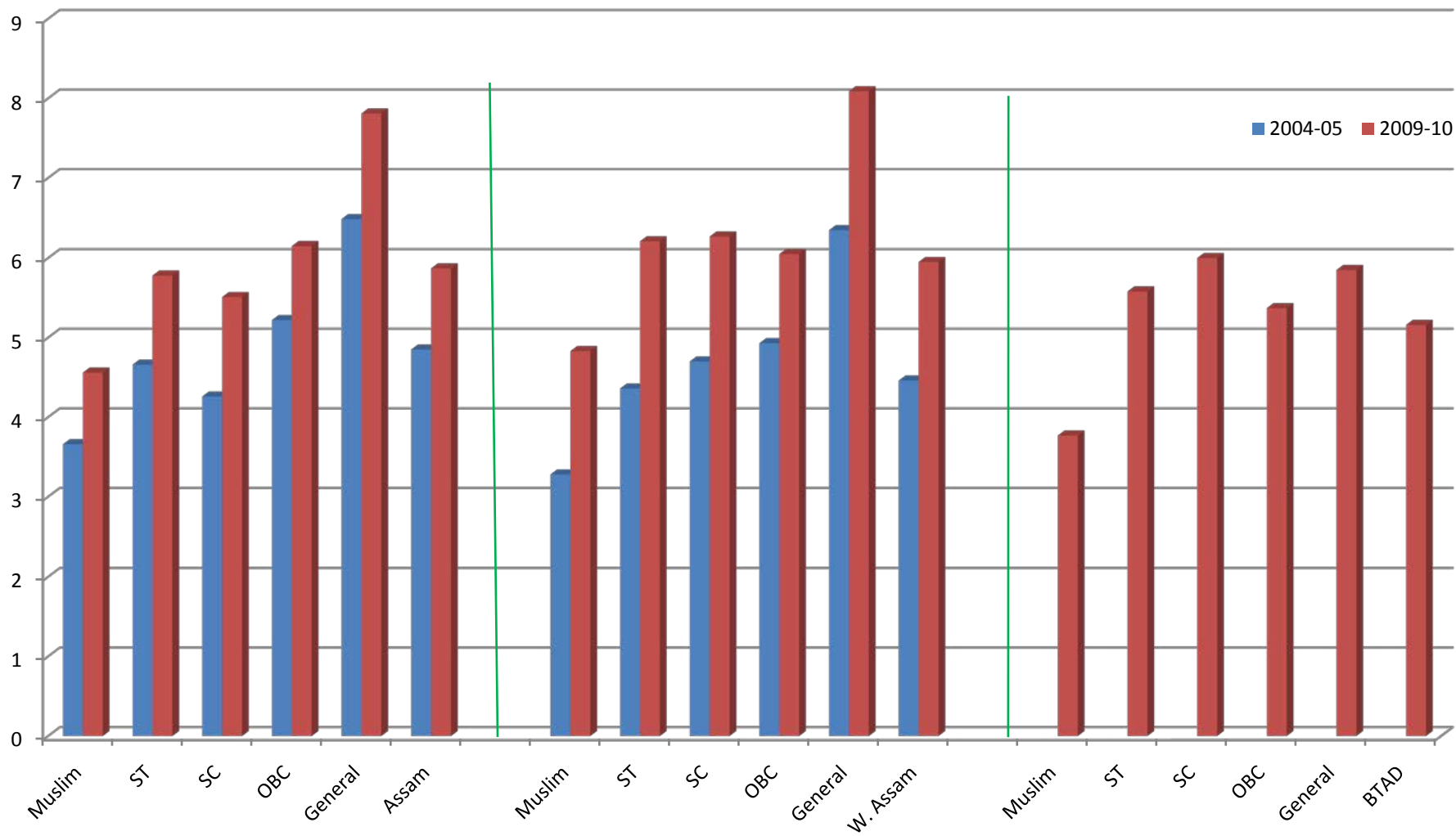
Inequalities in educational outcomes based on population weighted group gini coefficients

Table 5 *Weighted Group Gini Coefficient calculated between groups in Assam and Western Assam, 2004-05 to 2009-10*

Educational indicator	2004-05		2009-10		
	Assam	W. Assam	Assam	W. Assam	BTAD
Literacy rates	0.16***	0.25***	0.14***	0.17***	0.13**
Average year of schooling	0.58***	0.67***	0.51***	0.48***	0.38***
Current attendance rate	0.14**	0.16	0.17*	0.20	0.35**

Source Authors' calculation from NSSO's 61st and 66th round unit level surveys on Employment and Unemployment

Note: The groups for which weighted group gini coefficient have been calculated are Muslims, STs, SCs, OBCs and General.

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

Educational attainments among ethnic groups in Hasrawbari-II village
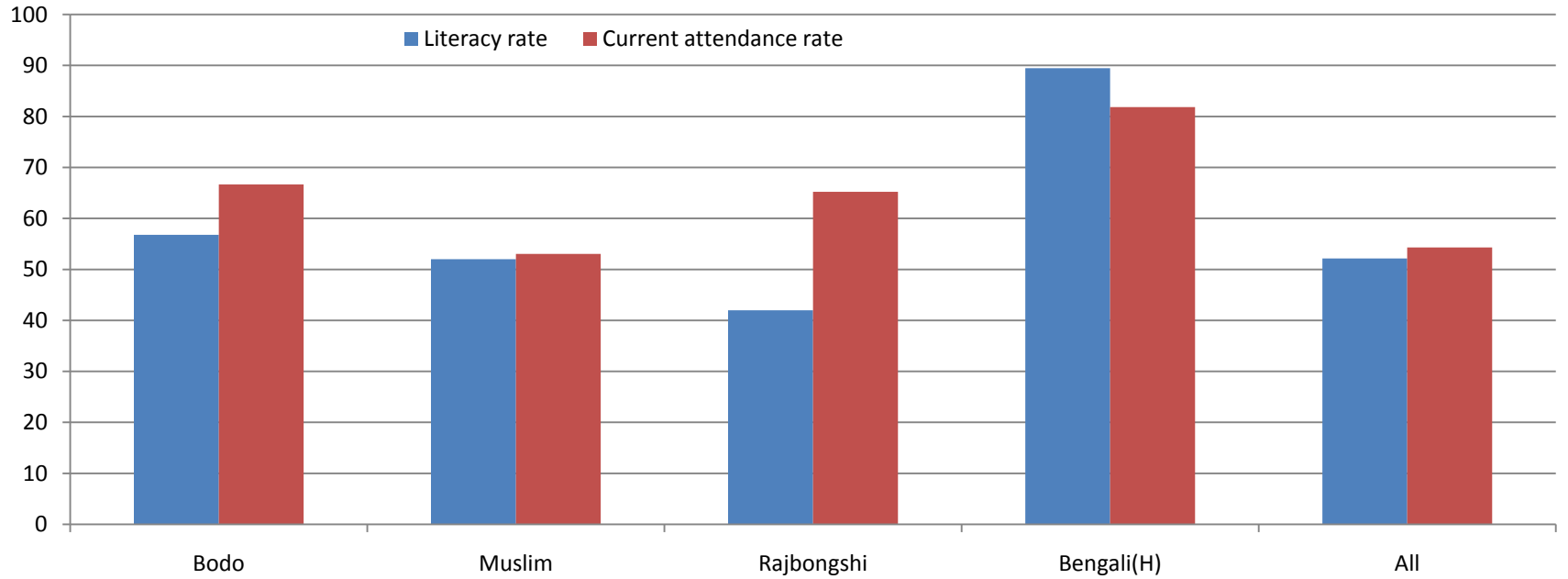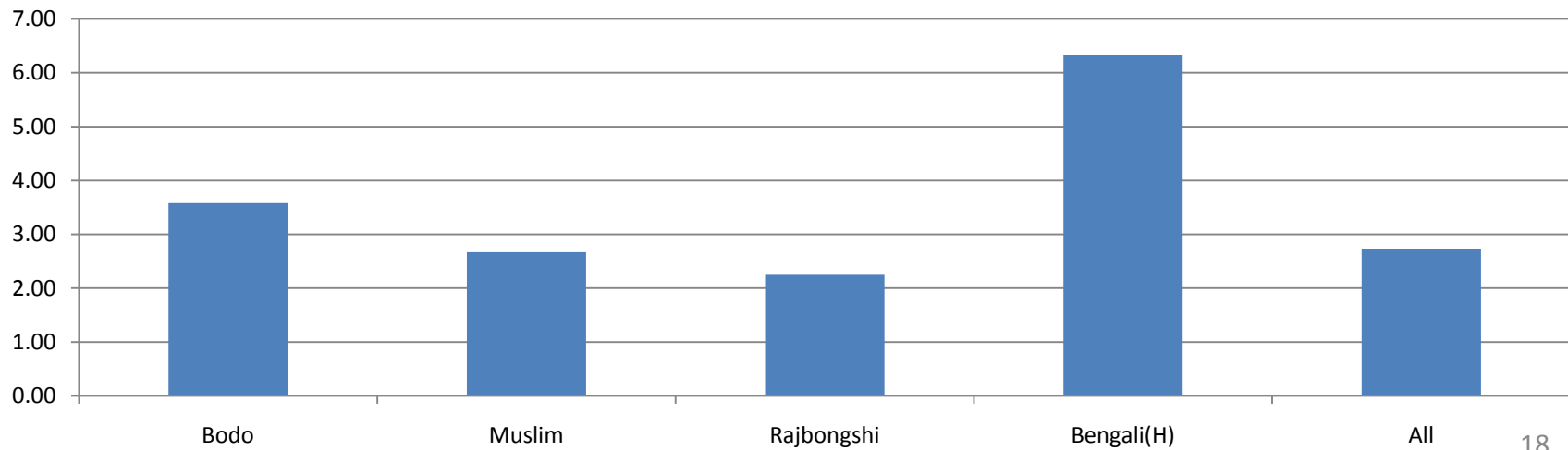

Average year of schooling

Table 6 *Educational horizontal inequalities based on Group Gini Coefficient, Harawbari-II, 2016*

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

Source: Survey data, 2016

A3.1 *Pair wise comparison of educational attainments among the social groups in Assam*, in 2004-05 and 2009-10

Col Mean	2004-05				2009-10			
	STs	SCs	OBCs	Muslims	STs	SCs	OBCs	Muslims
literacy rates								
SCs	-2.65 (1.00)				1.26 (1.00)			
OBCs	2.19 (1.00)	4.84 (1.00)			5.51 (0.61)	4.24 (1.00)		
Muslims	-8.82 (0.05)	-6.17 (0.43)	-11.01 (0.00)		-3.19 (1.00)	-4.46 (1.00)	-8.70 (0.03)	
General	4.81 (1.00)	7.45 (0.15)	2.62 (1.00)	13.63 (0.00)	8.33 (0.05)	7.07 (0.14)	2.83 (1.00)	11.53 (0.00)
Current attendance rates								
SCs	-0.07 (1.00)				3.00 (1.00)			
OBCs	1.04 (1.00)	1.11 (1.00)			3.48 (1.00)	0.47 (1.00)		
Muslims	-4.18 (1.00)	-4.11 (1.00)	-5.22 (0.676)		0.33 (1.00)	-2.66 (1.00)	-3.14 (1.00)	
General	3.48 (1.00)	3.56 (1.00)	2.44 (1.00)	7.67 (0.07)	9.83 (0.08)	6.82 (0.60)	6.34 (0.83)	9.49 (0.10)
Average year of educational attainment								
SCs	-0.40 (0.08)				-0.27 (0.69)			
OBCs	0.55 (0.00)	0.96 (0.00)			0.37 (0.02)	0.64 (0.00)		
Muslims	-1.00 (0.00)	-0.59 (0.00)	-1.56 (0.00)		-1.22 (0.00)	-0.94 (0.00)	-1.59 (0.00)	
General	1.83 (0.00)	2.23 (0.00)	1.27 (0.00)	2.83 (0.00)	2.02 (0.00)	2.30 (0.00)	1.65 (0.00)	3.25 (0.00)

Note: figures in bracket are p value

A3.2 *Pair wise comparison of educational attainments among the social groups in Western Assam,* in 2004-05 and 2009-10

Social group	2004-05				2009-10			
	STs	SCs	OBCs	Muslims	STs	SCs	OBCs	Muslims
	Literacy rates							
SCs	1.21 (1.00)				8.10 (0.61)			
OBCs	2.58 (1.00)	1.37 (1.00)			9.68 (0.26)	1.57 (1.00)		
Muslims	-11.90 (0.15)	-13.11 (0.08)	-14.48 (0.04)		-2.20 (1.00)	-10.30 (0.14)	-11.87 (0.05)	
General	7.04 (1.00)	5.84 (1.00)	4.47 (1.00)	18.94 (0.00)	9.50 (0.29)	1.39 (1.00)	-0.18 (1.00)	11.69 (0.05)
	Average year of educational attainment							
SCs	0.11 (1.00)				0.06 (1.00)			
OBCs	0.57 (0.09)	0.46 (0.93)			-0.16 (1.00)	-0.22 (1.00)		
Muslims	-1.08 (0.00)	-1.19 (0.00)	-1.65 (0.00)		-1.38 (0.000	-1.44 (0.000	-1.22 (0.00)	
General	1.99 (0.00)	1.88 (0.00)	1.42 (0.00)	3.07 (0.00)	1.88 (0.00)	1.82 (0.00)	2.04 (0.00)	3.26 (0.00)

A 3.3 *Pair wise comparison of educational attainments among the social groups in BTAD,* in 2009-10

Social groups	STs	SCs	OBCs	Muslims
		Literacy rates		
SCs	7.85 (0.003)			
OBCs	2.70 (1.00)	-5.15 (1.00)		
Muslims	-4.64 (1.00)	-12.49 (.03)	-7.34 (0.53)	
General	3.50 (1.00)	-4.36 (1.00)	0.80 (1.00)	8.14 (0.34)
		Current attendance rates		
SCs	5.94 (1.00)			
OBCs	6.05 (1.00)	0.11 (1.00)		
Muslims	-0.71 (1.00)	-6.65 (1.00)	-6.77 (1.000	
General	-17.04 (0.06)	-22.98 (0.03)	-23.09 (0.01)	-16.33 (0.26)
		Average year of educational attainment		
SCs	0.42 (1.00)			
OBCs	-0.21 (1.00)	-0.63 (1.00)		
Muslims	-1.80 (0.00)	-2.23 (0.00)	-1.60 (0.00)	
General	-0.73 (0.23)	-1.15 (0.03)	-0.52 (1.00)	1.08 (0.06)

A3.4 Pair wise comparison of educational attainments by ethnicity in Hasrawbari-II, 2015

Ethnic groups	Bodos	Muslims	Rajbongshis
	Literacy rates		
Muslims	-4.80 (1.00)		
Rajbongshis	-14.81 (0.53)	-10.01(0.71)	
Bengalees (H)	32.68 (0.17)	37.48 (0.038)	47.49 (0.01)
	Average year of educational attainment		
Muslims	-0.91 (0.084)		
Rajbongshis	-1.33 (0.051)	-0.42 (1.00)	
Bengalees (H)	2.75 (0.005)	3.66 (0.00)	4.08 (0.00)

source: Survey data

Conclusion

- HEIs is found highest with respect to average year of educational attainments in all the district categories.

- The horizontal inequalities in western Assam were seen relatively higher than in the state as a whole based on all the indicators.

- The calculations reveal that HEIs for the indicator current attendance rate are relatively higher in BTAD when compared to Western Assam and Assam.

- In Assam, differences in average year of schooling among all the social groups other than the difference between STs and SCs are statistically significant.

- In western Assam, difference of Muslims with SCs, OBC and General categories based on literacy rates are found significant.

- In BTAD literacy rates of Muslims are significantly different from that of SCs. The differences between STs and general are also significant.

- Current attendance rate of General category was significantly different from that of all the groups other than Muslims in BTAD.

- Muslim's average year of schooling on the other hand was significantly different from that of all the groups.

- In revenue village Hasrawbari-II also, group Gini estimates based on average year of schooling is the highest followed by literacy rate and current attendance rate.

- These differences across the ethnic groups are statistically significant and this is true for the educationally most backward group Muslim compared to advance group Bengali.

- Moreover, differences among all the ethnic groups other than Muslim and Rajbongshi based on average year of schooling are found statistically significant.

Thank you

- APPENDIX 2 Anova result.docx
- REFERENCES PES conference.docx