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**Child School Enrollment Decisions,
Perceptions and Experiences of Conflict
in the Chittagong Hill Tracts of Bangladesh**

Abstract: We analyze rural household children's school enrollment decisions in a post-conflict setting in the Chittagong Hill Tracts region of Bangladesh. The innovation of the paper lies in the fact that we employ information about current subjective perceptions regarding the possibility of violence in the future and past actual experiences of violence to explain household economic decision-making. Preferences are endogenous in line with behavioral economics. Regression results show that heightened subjective perceptions of future violence and past actual experiences of conflict can increase child enrollment.

Keywords: Perceptions of violence, conflict, enrollment, livelihood decision making

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1 Introduction

This paper aims to analyze rural household livelihood decisions, especially educational investment for future generations, in a post-conflict setting located in the Chittagong Hill Tracts (CHT) region of Bangladesh. This is a region in the South-Eastern part of the country where a low level insurgency took place between 1976 and 1997, officially terminating after a peace accord in December, 1997.¹ The armed struggle was between the state's security forces, mainly the Bangladesh army, and

¹ The conflict in the CHT of Bangladesh is coded as a minor armed conflict, according to PRIO-Uppsala methodology; see <http://www.prio.no/CSCW/Datasets/Armed-Conflict/UCDP-PRIO/Armed-Conflicts-Version-X-2009/> (accessed on November 05, 2010).

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the ethnically distinct local population, in an otherwise homogenous nation in terms of language and religion. During the armed struggle about 54,000 indigenous people crossed the border, seeking refuge in the neighboring Tripura state of India and 50,000 indigenous people became IDPs (internally displaced persons). During the counter insurgency, some 11 massacres were alleged, when a good number of indigenous people were killed. Women were raped to demoralize the indigenous people. According to government statistics about 1200 people were killed, about 600 people were kidnapped and about 4000 people were injured by the armed forces of the indigenous rebellion (*Shanti Bahini*) between 1980 and 1991. The indigenous people were under continuous surveillance of security forces (Mohsin 2003).²

The insurgency aimed at regional autonomy rather than independence, but the principal local grievance was against officially sponsored land grabbing and encroachment by outsiders who pose a threat not only to local livelihoods, but potentially also to a distinct local way of life; see Chakma (2006) and Roy (2000). All of these took place in the land-hungry context of the world's most densely populated country, which is also a low-income developing country where agriculture continues to be the main source of the population's livelihood. Thus, neo-Malthusian factors may be at work. Population growth adds to land scarcity, exacerbated by environmental degradation, fuelling conflict over land and environmental resources (Homer-Dixon 1999).

From a strategic point of view the CHT region carries importance as it adjoins two Indian states (Tripura and Mizoram), and also Myanmar or Burma. Insurgency in the Indian north-eastern states and Myanmar raises the strategic importance of this region. The various indigenous ethnic groups in CHT are closer, in appearance and culture, to their neighbors in north-eastern India, Myanmar and Thailand, than to the rest of Bangladesh. Buddhism, Hinduism, and Christianity, rather than Islam, are prevalent among these ethnicities. They have their own languages in both oral and written form. The indigenous peoples of CHT are often identified as *Jumma* people, derived from the word *jum* meaning slash and burn agriculture. The proportion of the non-indigenous (Bengali speaking) population in CHT has been increasing over time due to the state sponsored settlement of ethnic Bengalis. It is worth noting that the indigenous inhabitants of CHT also exhibit a degree of diversity based on 11 different (tribal) identities.

Armed conflict may have far reaching consequences for rural livelihood strategies, including investment decisions and cropping patterns. Lacunae associated with understanding localized conflict become even more acute when it comes to

² Details from "The Report of Chittagong Hill Tracts Commission," <http://www.iwgia.org/graphics/Synkron-Library/Documents/publications/Downloadpublications/Books/Life%20is%20not%20ours%201-108.pdf> (accessed on January 11, 2011).

the economic analyses of the short and long term impact of conflict on households' decision-making. The first innovation of the paper is that it is able to make a contribution in this connection, based on a unique data-set compiled during a socio-economic survey of households resident in this area in 2007 (Barkat et al. 2009).

Rural farming households are used to risky outlays, as returns to cropping or animal husbandry are subject to risks and uncertainties. We utilize the livelihood framework to explain household decisions under uncertainty. This approach acknowledges the inherent inseparability between production and consumption decisions for rural households (Bardhan and Udry 1999, chapter 2) which effects labor allocation between farm and off-farm (including education) activities, as well as cropping (and animal husbandry) for consumption and the market.

The nature of these risks and uncertainties can be altered by armed conflict of a sufficiently long duration. This affects the livelihood and investment decisions of households. Additionally, the survey employed in this article contains information about subjective perceptions regarding the future prospects of violence after the conflict has ended, as well as actual experiences of past violence, which both impact on household economic decision-making. Thus we are dealing with preferences that are endogenous, not only to economic, political and social institutions (Bowles 1998; Fehr and Hoff 2011), but also to personal histories of trauma and expectations of future conflict. Along with standard socioeconomic characteristics our household survey data contains both subjective (psychological) information regarding trust, current perceptions about the risk of future conflict and objective data on past conflict experience. We relate these to observed livelihood decision-making. This is in line with contemporary behavioral economics, as well as earlier thinking by Boulding (1956) about individual self-image and the effect of various stimuli in framing one's image; see also Caruso (2011) and Murshed (2010).

2 Data and empirical model

The "Socio-economic Baseline Survey of Chittagong Hill Tracts" is the source of our quantitative data; see Barkat et al. (2009). This survey was commissioned in 2007 by Chittagong Hill Tracts Development Facilities of the United Nations Development Program, Bangladesh and the data was collected in 2008 from a cross section of households (both migrant Bengalis and indigenous people) living in CHT. In particular, what is noteworthy is that data on current post-conflict subjective perceptions about the degree of violence, and the chance of its occur-

ring in future, was collected from households for the year 2008. These pertain to their threat perceptions about the extent of armed conflict, the possibility of attacks from the other community and the fear of forcible eviction, as well as other variables at the time of the survey. Observe that these variables amount to expectations about the future prospects of conflict. Additionally, household actual experience of violence, or their participation in conflict, during the years of the insurgency (1976–1997) was also collected related to displacement or eviction, loss of land and armed conflict among others. These refer to past experiences of violence. The dataset also contains child specific information (age and sex) within the households.

Data on the experience and perception of violence was collected from the households by using a qualitative scale of responses which is recoded into binary responses (yes or no) for the purposes of the paper. Data on social capital in terms of relation among different indigenous communities was collected using a qualitative scale (friendly, almost friendly, not friendly, and hostile). Responses like friendly and almost friendly are considered amounting to trust while the other two responses are regarded as the opposite of trust; details in Badiuzzaman (2011).

In Table 1, perceptions about the threat of violence relate to three variables: (i) perceptions about armed conflict, (ii) perceptions about communal violence occurring and (iii) the fear of eviction from land. In the survey, 15% households perceived a threat of armed conflict, while about a third felt a danger of communal violence, and 36% of households' were apprehensive about possible eviction from their land. Data on real life experiences of conflict

Table 1: Descriptive statistics.

Variables	Mean	Standard deviation	Number of observation
Current perception of violence			
Fear of armed conflict	0.15	0.3571	5023
Fear of communal violence	0.32	0.4655	5023
Fear of eviction from land	0.36	0.4814	5023
Previous experience of violence			
Displacement	0.13	0.3363	5023
Land dispossession	0.18	0.3891	5023
Armed conflict	0.18	0.3871	5023
Children's enrollment in school	0.44	0.4962	5023
Social capital	0.92	0.2727	5023

Source: Authors' own estimation.

for the period of the insurgency (1976–1997) were collected from households (with at least one family member experiencing violence) chiefly in the form of three broad categories: (i) displacement from home, (ii) dispossession of land (either farmland or homestead) and (iii) participation in and/or victim of armed conflict; see Table 1.

Estimates indicate that 13% of the households experienced displacement from their own home or land and 18% were dispossessed of their farm land before the peace accord in 1997. All in all, various types of armed conflict were experienced by 18% of the households. Additionally, some 92% of households felt that group relations were good, implying the presence of trust within and between the 11 different tribes which comprising the indigenous community.

Our quantitative analysis primarily focuses on the relation between either the perceived threat of violence after the peace accord and the past experience of conflict before the peace treaty, on school enrollment decisions for children by household heads. To analyze children's enrollment decisions by parents a Probit model is specified, as this refers to the probability or chance of an event occurring. We control for household demographic and socio-economic characteristics including those for children, type of school and facilities at the school.

The standard regression equation followed in this paper is as follows:

$$Y_i = \alpha + \beta_1 HSE_{ij} + \beta_2 H_{ij} + \beta_3 C_{ij} + \beta_4 S_{ij} + \beta_5 (V_{ij}, PV_{ij}, SC_{ij}, PV_{ij}) + \varepsilon_i$$

Where the dependent variable, Y_i refers to child enrollment in either a primary and secondary school (dummy variable) for household i measured at the survey. The explanatory variables are as follows: HSE_{ij} are household-level demographic and socio-economic variables, C_{ij} is a set of child characteristics (age and sex), H_{ij} describes household head characteristics (age, sex and education), S_{ij} denotes schooling variables, SC_{ij} indicates social capital (trust within the indigenous group), V_{ij} stands for threat perceptions at the time of the survey, PV_{ij} indicates pre-peace accord experiences of violence and ε_i is a random error term.

Moreover, we employ interaction variables for experiences of violence along with trust. Trust (social capital) is not entered as a separate explanatory variable as current perceptions about violence approximate the inverse of between group social capital. It is only relevant in the case of trust within the various (11) indigenous ethnicities, and as a mechanism via which previous experiences of violence evolve into present-day decision-making and preferences. Hence, we only use trust as an interaction term with past conflict experience.

It should be noted that, decisions to enroll children in school can be a proxy of investment decisions for the future, and because children are potentially suppliers of household labor, it entails an opportunity cost.

3 Findings and discussions

Descriptive statistics shows that 44% children are enrolled in school (Table 1). However, the prevalence of children's enrollment in school is lower for those households who either had experiences of violence or have a fear of various types of violence (Table 2). It is also evident that households with experience of land dispossession and with fear of eviction from land are sending more children to school compared to households who have other types of experience as well as a perception of violence.

To gauge the role of perceptions as well as the experience of violence in child enrollment decisions we have made use of Probit model which indicates the probability of being enrolled in school. For robustness checks, linear probability model (LPM) and logit model are also used but the results are not interpreted here. The value of the coefficient in the form of marginal effect shows the contribution of independent variables in explaining variation in the dependent. As per the Probit regression results in Table 3, the current perceptions of violence fail to explain variations in the likelihood of children's enrollment, as the coefficients are statistically insignificant. Although their relation is insignificant, households perceiving a danger of eviction have a greater chance of sending children to school compared to those households who do not have this perception, while apprehensions about armed conflict and communal violence recurring lower the chance of child enrollment.

In addition, pre-peace accord experiences of violence are found significant in the decision-making process regarding children's enrollment. Experience of land dispossession has a deep seated influence on current livelihood decision making

Table 2: Violence and children's enrollment.

Perception and experience of violence	Children's enrollment in school (in%)
Current perception of violence	
Fear of armed conflict	15.3
Fear of communal violence	33.0
Fear of eviction from land	37.8
Previous experience of violence	
Displacement	12.8
Land dispossession	20.5
Armed conflict	17.8

Source: Authors' own estimation.

Table 3: Determinants of child enrollment: probit estimation.

Explanatory variables	Linear probability model	Logit, marginal effect	Probit, marginal effect
Specification 1: Current perception of violence			
Fear of armed conflict	-0.0039 (0.0248)	-0.0065 (0.0327)	-0.0071 (0.0314)
Fear of communal violence	-0.01834 (0.0213)	-0.0227 (0.0278)	-0.0208 (0.0268)
Fear of eviction	0.0074 (0.0211)	0.0087 (0.0277)	0.0071 (0.0265)
Specification 2: Previous experience of violence			
Displacement from home	-0.0066 (0.0282)	-0.0075 (0.0366)	-0.0073 (0.0346)
Land dispossession	0.0522** (0.0227)	0.0701** (0.0301)	0.0676** (0.0282)
Past armed conflict	0.0015 (0.0218)	0.0024 (0.0283)	0.0025 (0.0271)

Note: Estimation controls for variables; age of child, age square of child, sex of child, household size, per capita asset, age of household head, sex of household head, educational status of household head, type of educational institutions, language of book, and language of instruction. Social capital is used as control for specification 2 only.

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Authors' own estimation.

processes, which is evident in specification-2 in Table 3. It shows that households having a previous experience of land dispossession have a 6.7% higher probability of sending children to school as compared to those households who did not encounter this form of violence. The positive and statistically significant determining role of the experience of land dispossession is found robust across various estimation procedures (not shown, but available in Badiuzzaman, Cameron, and Murshed 2013). Pre-peace accord experiences of displacement and armed conflict do not separately have a significant influence on child enrollment, but both these variables when accompanied with an experience of land dispossession have a statistically significant relation (at 5% and 10% confidence levels; see Badiuzzaman, Cameron, and Murshed 2013).

The experience of land dispossession is traumatic, and creates long standing vulnerabilities, as land is the most valuable asset. This may raise the likelihood of their sending their children to school, possibly with a view to acquiring human capital and overcoming the challenge of earning livelihoods from an ever dwindling amount of cultivable land. But the primary “investment” motivation for schooling children is to allow future generations to acquire qualifications so that they may escape the conflict and are less dependent on agriculture. We utilized trust in the form of good relations among the various indigenous groups, as a control variable in specification 2; its coefficient was found to be statistically insignificant. The interaction effect of past experiences of violence and trust on probability of children’s enrollment is also insignificant (Badiuzzaman, Cameron,

and Murshed 2013). In general, we may expect the prevalence of trust inside the community lessens the urgency of human capital acquisition as a future survival strategy.

Our object has been to analyze household livelihood decision making processes under the shadow of violence in the post-conflict Chittagong Hill tracts region of Bangladesh. As with other developing country internal conflicts, the accord ending the insurgency is imperfect in nature, and the central grievance concerning land encroachment is yet to be addressed. Violence between settlers who have encroached on the land of the ethnically distinct local population is still prevalent, and the Bangladesh army is still present in the region in substantial numbers to deal with any potential insurgency. Land, in the context of the densely populated and agriculturally dependent country, is the principal bone of contention. Thus, neo-Malthusian factors play a role in this conflict, as the shortage of land necessitates encroachment by settlers, which along with grievances induced by land grabbing and threats to the distinct way of life of the indigenous people produces conflict.

The main innovation of the analysis is the incorporation of psycho-social factors, specifically the trauma of past violence and also current perceptions of the likelihood of future conflict into the analysis of economic decision making. We also include some information on trust between the different identities that make up the indigenous group in the region. In that sense we endogenize preferences in line with the tenets of current behavioral economics, and earlier work on the individual's self image. Our research suggests that a previous experience of land dispossession raises the propensity to school children.

A corollary of our results suggests the possible existence of a post-conflict Phoenix or rapid economic recovery factor at the household level. Its presence or absence has a lot to do with individual household behavior, and the manner in which past experiences of violence and current perceptions about future conflict are processed in the mind. If they make individuals bolder so that they seek to make good past losses, or if local institutional settings induce a preference for greater investment, a Phoenix factor may ensue, and rapid growth may follow. Ultimately, it depends on confidence, where local factors in decision making are salient, but a lot still depends on the macro political and economic framework for recovery to take place.

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