Asian Journal of Peacebuilding Vol. 11 No. 2 (2023): 257-278
doi: 10.18588/202304.00a327 Advance Access published on April 21, 2023 Research Article

Sequential Explanatory Mixed-Methods Research: Adapting in the Conflict-affected Chittagong Hill Tracts of Bangladesh

Muhammad Sazzad Hossain Siddiqui,
Bertram A Jenkins, and Emtiaz Ahmed

The survey for practical consideration is crucial in social and policy science inquiries. Several systematic reviews in the post-conflict peacebuilding literature have thus far ignored its efficaciousness. This knowledge gap motivated in developing Conflict-Affected Population Survey technique to survey the conflict-ravaged Chittagong Hill Tracts indigenous peoples for the purpose of examining peace hybridity in Bangladesh, as the quantitative part of the study. This article outlines guidelines for designing probabilistic sampling and survey procedures for a robust sequential explanatory mixed-methods case study research in a terrain where an accurate sample frame is difficult to define. The systematic methodological strategy adopted herein enabled the compilation of a comprehensive cross-sectional case study where findings are generalizable, especially the concept and model central to our thesis on *indigeneity dilution*.

Keywords conflict-affected environments, sequential explanatory mixed-methods case study, peacebuilding, indigeneity dilution, Chittagong Hill Tracts, Bangladesh

Introduction

The earlier trend of social science inquiries—e.g., post-conflict peacebuilding studies—predominantly consists of qualitative and normative research paradigms. However, the contemporary strand in this regard incorporates both exploratory and explanatory epitomes. For instance, Mac Ginty, Joshi, and Lee (2019) emphasized cross-national quantitative data for their recent longitudinal study, while Maphosa (2013) integrated a mixed-methods exploratory interpretive juncture for his cross-sectional research considering African Burundi as a case. In a mixed-methods study, the theoretical work of Ivankova, Creswell, and

ISSN 2288-2693 Print, ISSN 2288-2707 Online

Stick (2006) and the novel methods applied in Burundi (Maphosa 2013), and Bangladesh (Siddiqui 2014; Siddiqui and Chakma 2016) have guided the authors to develop a procedure for probabilistic sampling that was applied in studying the conflict-ravaged Chittagong Hill Tracts (CHT) fringe in Bangladesh. The former offers a strict (but manageable) procedural framework for collecting and analyzing quantitative and then qualitative data (or the inverse: depending on priority or weight given to quantitative or qualitative components). And it guides how to integrate the quantitative results and qualitative findings of a single study.

However, the dearth of systematic and ontological paradigms in post-conflict peacebuilding research has resulted in significant failure to establish the facts—e.g., "correlative and causal links between peacebuilding interventions and outcomes" (Maphosa 2013, 91). While survey research in this field of interest is of immense importance, Maphosa (ibid.)—the first of its kind—creatively and systematically applied a mixed-methods design in the case of Burundi to collect primary data for both quantitative and qualitative analyses. But one limitation of his study is that in the qualitative phase of the same study, data was collected purposively in surveying people from the conflict-affected community for the quantitative part of the study as well. Indeed, research in conflict-affected settings has always been a daunting and ambitious endeavor (Menkhaus 2004; Hoglund and Oberg 2011). It becomes more challenging when the question of surveying the population in this community arises. In this regard, our mixed-methods research considers the adoption of simple random sampling for quantitative studies, which helps attain generalizable results (Shekhar et al. 2019; Creswell 2009). In contrast, the purposive selection of interviewees for qualitative research helps researchers dig into the research puzzle in a reiterative manner (Creswell 2017; Guest, Bunce, and Johnson 2006). So, this methodological endeavor was applied in our study to evaluate the said "sequential explanatory mixed-methods" design in the field of social and behavioral sciences, particularly to examine the question of post-conflict hybrid peace (Mac Ginty 2010) in the CHT of Bangladesh.

Rationales and Case Description

Survey research as well as perception study, for its pragmatic and practical considerations, is becoming crucial, especially in behavioral, human and inquiries dealing with the social sciences in general. In the case of research on the post-conflict CHT indigenous peoples of Bangladesh, e.g., Uddin (2011) offered strategies to overcome the colonial legacy of ethnographers and their inherent supremacy based only on qualitative observational information. Whereas, from a theoritical perspective, we considered Liberal Peace, Peace Infrastructure, Positive Peace and Indigeneity as independent variables that could explain changes in

perceived Hybrid Peace as the dependent variable in the case of post-accord CHT of Bangladesh followed by both qualitative and quantitative data. In the course of compiling an annotated bibliography for writing a systematic literature review—that is, a desk-top study—conducted in late 2018 as a foundation for the PhD research project in Peace Studies at the University of New England, Australia, the first author of this paper found only one study had strictly followed a sequential mixed-methods design, but it did not rely on probabilistic sampling.

This shortcoming, the methodological application of a less reliable sampling design, convinced the research team that there was indeed a knowledge gap surrounding this point in the literature on quantitative studies of peacebuilding. Therefore, we proceeded to initiate a probabilistic sample survey for the quantitative part of our study of the stranded CHT indigenous population in Bangladesh. The followings are convincing rationales for undertaking the sequential explanatory mixed-methods research:

1. The inherent complexities of the post-conflict setting qualify to be placed under the criterion of "wicked problems" of policy design in accordance with Rittel and Webber (1973, 136). Objectively, it demands the use of a mixed-methods design (Mertens 2018).
2. Mixed studies are to be considered as sophisticated and creative means of contributing to solutions through evaluation of the oppressed community, people trapped in human rights violations, power inequities, and oppression (ibid.).
3. Combining both types of data within a single inquiry is "grounded to capture the trends and details of a problem" (Ivankova, Creswell, and Stick 2006, 3).
4. As five rationales that Greene, Caracelli, and Graham (1989) noted for the purpose of mixing qualitative and quantitative methods are: triangulation, complementarity, development, initiation, and expansion.
5. Easterbrook et al. (1993) viewed one rational/advantage of organizing a survey for studying conflict is that it helps read each assertion with cross-references to related assertions in some order.
6. Randomized sampling design is the best available approach for dealing with quantitative inquiries (wherever possible) as it helps overcome selection bias that could otherwise occur from self-selection errors (Penn et al. 2013).

Finally, from our viewpoint, the Global South is allegedly lagging in developing theory or examining theory and following robust systematic methodological procedures using their own case studies. The principal researcher from Bangladesh witnessed the century-old CHT conflict and experienced through academic and research training the various peace and conflict issues, including post-conflict CHT peacebuilding.

Quantitative Research Tool

The survey questionnaire administered to the sample population of CHT hill-tribes in Bangladesh included 58 theory-generated closed-ended item indicators and 10 socio-demographic profile indicators. The CHT respondents provided answers that reflected their perceived knowledge about liberal peace, peace infrastructures in relation to post-accord peacebuilding and the peace accord itself, indigeneity, and positive peace. These were considered as dependent variables. While the overall perceived peace by the targeted people, especially the CHT indigenous peoples, in the post-accord CHT was considered as the dependent variable. The overall perceived peace in the post-accord CHT had been defined and understood as hybrid peace corresponding to theories and local practices. Because following the 1997 CHT Peace Accord, the ongoing peacebuilding practices are characterized as conflation of both indigenous (local) and non-indigenous (westernized modernity) (Richmond 2015; Mac Ginty 2010). Because of its complex interaction process between different institutional, social structures, and normative values peace hybridity requires critical examination (Forsyth et al. 2017). Responses as the survey's outputs were, in turn, subjected to statistical analyses. Following the objectives, research questions, reviewed literature and keeping within the theoretical framework of our study, we developed a five-point Likert scale[1] to attain comparable insights from the hill peoples scaled responses. For instance, respondents were requested to rate the state of peace and security in post-accord CHT from 1 to 5 (where 1 = Horrible, 2 = Bad, 3 = Average, 4 = Good, and 5 = Excellent). Such ratings on a 1 to 5 scale provided the means for comparison and enabled us to examine the effectiveness of the post-accord peacebuilding in the CHT. In this regard, the Global Peace Index (2018) provided some assistance broadly in designing the survey questionnaire and formulating the questions. The Report, for instance, measured people's perceived criminality which was used as one of the internal peace indicators; a five-point Likert scale (e.g., Very low, Low, Moderate, High and Very high) was utilized for this purpose.

Similarly, we developed a five-point scale for all the indicators under the respective themes and for the variables that we selected (Table 1 entails a sample example). Though peacebuilding opinion survey research is in its infancy with regard to the application of inferential statistical analysis, opinion research followed by multiple regression and its extensions in voting studies in the discipline of political science has dominated the journals for many recent years (Achen 1992).

Such successful trends inspired the researchers to opt for generating opinion-scale data to examine Bangladesh's post-accord hybrid peacebuilding context. Precisely, this hybrid peace refers to the critical interplay between market-

Table 1. Sample Question—To What Extent do You Agree or Disagree with the Following Statement?

Statement	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
"The CHT hill-tribes enjoy full freedom in practicing their Indigenous culture and education (e.g. *Boisabi*, *Jolkheli*)"	1	2	3	4	5

Source: Authors

oriented liberalized—i.e., mostly westernized and imposed—*liberal peace* and the more recent post-liberal *local turn* peacebuilding trajectory. This is particularly the case with post-conflict peacebuilding implementation in post-colonial developing countries, and arguably a trend that took hold after World War II and yielded, due to resistance responses from decolonizing recipient nations to interventions from outside, the "hybrid peace (building)" supposition (e.g., Mac Ginty 2011; Richmond and Mitchell 2011; Richmond 2015). In fact, following the failure of liberal peace interventions, the very local turn appears with an appeal to encompass the local traditional and indigenous priorities for the respective peacebuilding projects (e.g., Leonardsson and Rudd 2015; Paffenholz 2015; Mac Ginty and Richmond 2013). The central challenge for peacebuilding in terms of the data and information is its theoretical criticalities which we carefully handled for statistical estimation.

Sampling Design and Selecting Sampling Units

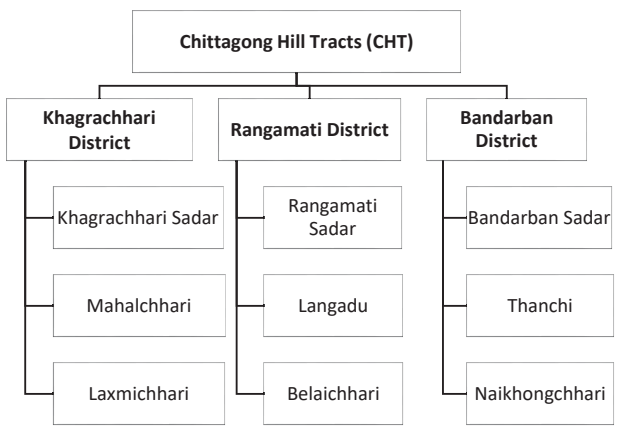
Designing an appropriate sampling framework for the quantitative phase in mixed-methods research is of immense importance, according to Onwuegbuzie and Collins (2017, 133), who recognized that "the quality of sampling design increases the likelihood of quality of emerged inferences in mixed methods research studies". They discussed a six-pronged sampling orientation in this regard: emtic (= ETIC + emic + EMIC) orientation, probabilistic orientation, abductive orientation, intrinsic versus instrumental orientation, particularistic versus universalistic orientation, and philosophical clarity. The present paper, for its experimental and conducive objective, concentrated only on the second dimension, that is, procedural probabilistic sampling design; such a design was selected for the case of cross-sectional conflict-estranged settings where quantitative and/or mixed-methods' studies could yield credible generalizable inferences.

For phase I of the study, we followed a probability sampling technique in

selecting sampling units as well as geographical and administrative clusters in the study area. There are three administrative districts—namely Rangamati, Khagrachhari and Bandarban—across the CHT, which are altogether called hill districts. The Bandarban district shares its border with Myanmar, and the recent Rohingya influx in August 2017 from Myanmar has affected the region. Rangamati and Khagrachhari share borders with India, where the hill tribes used to seek shelter with assistance from the Indian government since the independence of Bangladesh in late 1971 and until the peace accord was signed on December 2, 1997—CHT conflict escalation.

Altogether there are 26 *Upazilas*[2] in the hill districts. Such lower administrative tiers were considered as geographical units as well as sampling units because of their homogeneity in characteristics. Homogenous because the presence of twelve hill ethnic groups to some extent is evident in all these tiers, which ensured the coverage of most tribal groups. Also, administratively all those Upazilas have similar post-accord peacebuilding activities. To reduce the chances of selection biases and to ensure the criteria of probability sampling throughout phase I, equal numbers of sampling units were selected methodologically from each district and subdistrict. The researchers arranged the 26 Upazilas alphabetically and numbered them accordingly from 01 to 26 for each of the respective Upazilas. Then we utilized the popular and authentic online service RANDOM.ORG,[3] which ensures true random numbers for generating the required nine Upazilas from among the 26. This online random number generator is used by many other researchers, for example, Haahr (2010), Kenny (2005) and Thomas and Paul (2016). We had to run the online random number generator software until it produced three Upazilas from each hill district, including three Sadar Upazilas.[4]

Figure 1. Sampling Design for Mixed-Methods Sequential Explanatory Research



Source: Authors

Since we were required to select three Sadar Upazilas of the respective districts for practical reasons, the computer program (RANDOM.ORG) was instructed to follow the option "with replacement" (See Figure 1 for additional information).

Selecting Households without A Sample Frame

There are numerous contexts—especially among the low/middle-income groups in some territories—because of difficulties associated with maintaining a proper household list, mainly due to the lack of any administrative structure for reporting changes that occur as a consequence of the high rate of both covert and overt migration, natural disasters, state coercion, civil war, state politics of unpeopling minorities from certain areas and disadvantaged communities. In such situations of shifting demography, sampling frames are either unavailable or unreliable. However, in studies like the one discussed herein, a survey is still considered a crucial means of collecting valid information, which would require a "double-blind randomized survey" (Stoecker and Avila 2020, 2).

The conflict-ravaged CHT belongs to a category of human populations where existing circumstances have made it somewhat difficult or impossible to expect criteria that would allow a reliable sample frame. In such contexts where maintaining probabilistic sampling requirements is necessary, many research scholars have argued for and conducted a random survey alternatively, just as we have for this study (Bostoen and Chalabi 2006; Reichel and Morales 2017; Baio, Blangiardo, and Blangiardo 2011). For example, Chowdhury (2008) and Siddiqui and Chakma (2016) claim that the existence of some hill-tribes has been overlooked, and in the name of so-called state-building they are often put together or pooled under the category "others" while mapping the CHT communities.

To avail the detailed sampling frame of the hill-tribes, the principal researcher consulted with two hill district statistics officers from Rangamati and Khagrachhari Hill Districts, the chief executive of Bangladesh Adivasi Forum, two indigenous community leaders, one academician and one independent researcher with relevant expertise and field research experience on CHT affairs. Also, the authors examined the two latest population censuses held in 2001 and 2011, but no such required household information/list was found. The target population (N=581,652)[5] is scattered among 26 sampling units—geographically, these are subdistricts administratively known as Upazila. The entire CHT is composed of three Hill districts. Under these three districts, there are 26 subdistricts which we call Upazila. These Upazilas are considered as sampling units for our studies, from which we selected 9 and conducted our survey.

The systematic use of Smith's (2013) Sample Size Calculator (SSC) yielded a sample size of 384 residents in CHT hill-tribes with a 95% confidence level

Table 2. Distribution of Target Sample Units and Sample Distribution

SL. No.	Upazilas/Sample Units	No. of Households Surveyed
1	Khagrachhari Sadar	43
2	Mahalchhari	43
3	Laxmichhari	43
4	Langadu	43
5	Rangamati Sadar	43
6	Belaichhair	43
7	Bandarban Sadar	43
8	Thanchi	43
9	Naikhongchhari	43
Total	9 sample units	387

Source: Authors

(i.e., the margin of error is ± .05). It represents 42.67 from each of the randomly selected Upazilas. Since the number of households is discrete, we surveyed 387 (9 sampling units x 43 per unit = 387) households that could be considered an appropriate sample size for the study (see Table 2 for further details). If the survey populations are too small, it will not yield valid results. In fact, a 95% confidence level for yielding an expected sample size in social science inquiries—for instance, such as PhD research—is mostly used and recommended (e.g., Thompson 2002; De Vaus 2002).

Also, a post-hoc power analysis was conducted using G*POWER (Erdfelder, Faul, and Buchner 1996) with 0.05 significance/alpha level, 3 predictors, a two-tailed test that yielded 100% statistical power, meaning there is no chance of a Type II error with that sample size in conducting a linear multiple regression analysis. This would readily portray the larger landscape of the entire post-accord CHT environment. Methodologically, this number would be enough to claim the generalizability of statistical results obtained from analyzing such a sample dataset representing the target population.

Since the geographical units are administratively homogeneous and the hill tribes are logically dispersed across the CHT, the Conflict-Affected Population Survey (CAPS) procedure attained *Systematic Random Sampling* (SS) for this study which would ensure probability sampling (Gundersen and Jensen 1987; Brewer 1963; Shiue 1960). Nine Upazilas from three hill districts (equally distributed: three from each district) as sampling units/geographical/administrative clusters were selected randomly with the help of a random number generator, and then forty-three households were surveyed in each of the

selected Upazilas. Due to colonial impacts, the CHT has a hybrid administrative system encompassing both types of landmarks. We preferred subdistricts as sampling units and for a center we selected prominent landmarks zero point[6] to initiate the survey points from where the field researchers would collect data/information, which ensured uniformity of our choices across the CHT. The field researchers experimented with the CAPS method through the selection of zero points in Rangamati Hill District's Belaichhari Upazila where they firstly, determined a direction randomly (spinning a pen on even ground, and when it stopped, it indicated the direction in which to proceed); secondly, selected the nearest household walking through in the direction indicated by the pen from the zero point and approached it randomly; thirdly, interviewed a person from that household (once his/her consent was secured and having determined that the person is an adult—meaning that an interviewee must be eighteen-years of age); and then continued interviewing "every alternative household" (Ngugi 2002; Joseph et al. 2017; Bostoen and Chalabi 2006) following the first household being secured until the total of forty-three households designed for *Belaichhari Upazila* were accomplished. The whole process followed "iterations" (Bristow, Tharayil, and Alleyne 2006; Nash 2000) to optimize expected outcomes for the remaining 8 Upazilas. This entire selection processes ensure the unbiasedness and randomness of a systematic random sampling protocol (Acharya et al. 2013).

Before approaching the survey respondents, for quantitative data and the interviewees for qualitative data, they were each well-informed about the research processes to ensure their voluntary participation in the study. This warranted "spontaneity and openness" from respondents, which are crucial in ensuring the "authenticity and reliability" of data (Kvale 2008; Bush 2007). Finally, we employed correlation and regression tests between the independent variables (IVs) and the dependent variable (DV) to examine their respective correlational strengths and weights. However, before running the regression analysis, its common assumptions were tested, and we found Multiple Regression analysis with Weighted Least Squares Mean and Variance-adjusted (WLSMV) estimation as the best-fitted model.

Qualitative Research Tool

For phase II, we utilized non-probability purposive sampling to interview Key Informants (KIs) and Experts to collect qualitative data. The Experts shared their intellectual knowledge from their research and academic experience. At the same time, the KIs provided crucial information and knowledge gained from their direct involvement in working with the CHT indigenous peoples. Purposive selection of qualitative interviewees is essential because it helped *mining and digging* into the research topic to *achieve the breadth of understanding* in a

reiterative manner which helped in understanding the quantitative part of the study (Etikan, Musa, and Alkassim 2016).

We selected the qualitative interviewees purposefully not because of their affiliation to the general population, which may affect the issue being studied, but because of their knowledge of the subject being studied, as argued so by Creswell (2017). We used a four-stage-funnel model to increase the likelihood of effectiveness of the qualitative data and its collection: i) having initiated a conversation with general questions, e.g., what do you know about the CHT and post-accord peacebuilding in recent times?; ii) the principal researcher used probing and follow-up questions (when required); iii) requested clarification regarding any contested points/issues raised; iv) and finally, inquired about specific issues using focused questions such as: Why do post-accord peacebuilding and development activities fail to satisfy the CHT indigenous peoples in Bangladesh, and how could the situation be improved, followed up with probing questions, for instance, the interviewer would request "please give example(s) that support your position" in order to get to the heart of the matter being discussed and investigated.

Distribution of KIs and Experts for Qualitative Data

It is often argued that usually fifteen to twenty homogeneous respondents for a qualitative research study are sufficient to reach the data saturation point, reduce the validity threats on the one hand and improve the "open" and "frank" exchange of information on the other (Crouch and McKenzie 2006). In the case of homogeneous groups, the involvement of around twelve participants could lead to reaching a saturation point, which is consistent with the findings of a recent study where saturation happened after questioning around eleven participants (Guest, Bunce, and Johnson 2006). Moreover, Kumar (1989) recommended that 15-35 interviews for most social and behavioral research are sufficient, aiming where possible towards the upper end. The robust study carried out by Mason (2010, 8-9) comprised of five hundred and sixty studies—which, after inclusion criteria, were followed found the mean sample size of 31, where the lowest was 1 and highest 95. Incidentally, the case study research reported and discussed here included both outliers.

Considering the background, affiliation, and experience of the researchers in relation to post-conflict research, especially issues, nature, and scope of the present study; available time, budget; and aims and objectives, we considered two different homogeneous groups for the in-depth interviews—the Key Informants (KIs) and Experts. Thus, the study conducted 24 in-depth (though it was designed for 31) interviews in total. These included 09 KIs and 15 Experts,

Table 3. Target Sample Size of Qualitative Interviews and Distribution

Interviewees' category and their corresponding numbers				Total
Experts	No.	KIs	No.	No
University faculty	3	Top/mid-ranked civil/Military bureaucrat (e.g. Secretary)	2	5
Independent researcher	3	Bottom-level bureaucrat (implementer)	2	5
Civil society member	3	Local community leader (e.g. *Karbari*	2	5
Journalist	3	NGO employee	2	5
Politician	3	Successful Indigenous Refugee	1	3
Total	15		9	24

Source: Authors

as saturation occurred at the 24th interview in our case (see Table 3). Following human ethics considerations at the University of New England and ensuring the personal security of the study participants, we developed unique codes for them to keep their identity elements confidential. The code consists of group identity (i.e., KI for key informant and E for expert and the like).

Brief Findings and Knowledge Contribution

Before running the Multiple Linear Regression Model (with WLSMV estimation method), the correlational strengths between the dependent and independent variables were checked. Also, multicollinearity within the independent variables were checked. Test results reveal that multicollinearity in terms of highest VIF and lowest Tolerance scores is not a concern. Because the highest VIF is 1.318, found between Peace Infrastructure and Liberal Peace (see Table 4). While the highest Tolerance is 0.803 observed between Positive Peace and Liberal Peace.

Table 4. Multicollinearity Test Results

Model		Collinearity Statistics	
		Tolerance	VIF
1.	Indigeneity	.782	1.279
2.	Positive Peace	.803	1.245
3.	Peace Infrastructure	.759	1.318

Note: Dependent variable: Liberal Peace
Source: Authors

Table 5. Multiple Linear Regression Model Summary *(with WLSMV estimator)*

Adjusted R Square	Predictor Variables	STD Beta	Sig.
.471	Liberal Peace	.486	.000
	Peace Infrastructure	-.027	.000
	Positive Peace	.385	.000
	Indigeneity	*-.262*	*.000*

Note: Dependent Variable is Post-Accord Hybrid Peace; ST implies Standardised
Source: Authors

The correlation matrix revealed the strongest correlation score between the Post-Accord Perceived Hybrid Peace and Positive Peace followed by Liberal Peace and Peace Infrastructure. Surprisingly, Indigeneity yielded the least correlational strength with the overall Post-Accord Hybrid Peace. Like correlation results, this model also revealed consistent results that Indigeneity has the least predictive strength over Post-Accord Hybrid Peace compared to the other three independent variables.

To check multicollinearity, Pearson's Bivariate Correlation test among the IVs implies the coefficients 0.425 (the smallest correlation coefficient score between Peace Infrastructure and Indigeneity) through 0.807 (highest between Positive Peace and Liberal Peace). The coefficient score between Positive Peace and Liberal Peace surpasses the upper threshold—i.e., 0.80. Both Positive Peace and Liberal Peace are mostly identical from the theoretical point of view. This might well be the reason behind such a big coefficient score between them. Finally, we run the Multiple Linear Regression Model (see Table 5).

The survey that was conducted under the quantitative part of the thesis depicts the perceived prevailing trends of the CHT indigenous population regarding post-accord CHT peacebuilding implementation output. In theory, we considered the epistemologies of Liberal Peace, Peace Infrastructure, Positive Peace, and Indigeneity as key local realities, and the conflation of local indigenous realities and non-indigenous modernity ideals has been defined as Hybrid Peace praxis. So, the Hybrid Peace was considered as a dependent variable, and we presumed that the implementation of Liberal Peace, Peace Infrastructure, Positive Peace, and Indigeneity would have a significant impact on the perceived Post-Accord Hybrid Peace (dependent variable) of the CHT indigenous peoples. As discussed in the quantitative tools section, the average extent of acceptance/rejection of these four constructs rated by the conflict-affected CHT indigenous peoples in Bangladesh helps greatly to examine the individual correlational relationships with and predictability of overall Post-Accord Hybrid Peace in the case of the CHT in Bangladesh addressing the following pioneering question: "To what extent does post-Accord peacebuilding implementation matter its perceived

hybrid peace for Chittagong Hill Tracts indigenous peoples in Bangladesh?"

We found that the variables are correlated significantly but with different strengths. The results from the quantitative part stimulated a series of inquiries from which we considered only two of them, focusing on the objective of the study. First, considering the descriptive statistical results, the dependent variable implied that the overall Post-Accord Peace perceived by the local indigenous peoples in the CHT is not satisfactory—what the authors defined and bracketed as "peacebuilding failure." The Mean value stands at 1.97 for the dependent variable, which methodically implies dissatisfaction since the value lies between 1.81-2.60 (e.g., see Morgan 2016). So, the study immediately posed an explorative question to isolate the possible causes behind this post-Accord peacebuilding scenario in the CHT.

Precisely, in earlier times, most of the population (98%) of the CHT were non-Muslims and non-Hindus. But now, this demography has been reversed due to (in)direct government-led transmigration of Bengali people (mostly Muslims) from other parts of Bangladesh into the CHT fringe. Although the Accord theoretically restricted active state-sponsored settlement, the continuation of the informal flow of the existing CHT Bengali settlers' friends and relatives towards CHT and the high birth rate of Bengali Muslim settlers caused this reverse demographic change in post-accord CHT. The qualitative data collected from the required number of key stakeholders provided multiple reasons ranging from political marginalization through anti-local development activities (most of them are neo-liberal in nature) and Bengali hegemonic culture imposed by the metropole masters behind the dissatisfaction (peacebuilding failure) of the CHT indigenous peoples on post-accord peacebuilding implementation.

After finding the positive correlational associations between dependent and independent variables, the authors employed simple linear regression analysis to check the predictive strengths of the independent variables individually on the dependent variable. Indigeneity and Post-Accord Perceived Hybrid Peace yielded the least correlation coefficient 0.210, which theoretically implies a *weak* relationship between them. The correlation analysis provides only the directions (positive or negative or static) of the associational relationship between variables. While the regression analysis helps to isolate which independent variable amongst those four is more viable practically to predict and improve post-accord perceived peace as output. Like the correlation results, the simple linear regression model also yielded the least predictive strength of Indigeneity compared to the other three over Post-Accord Hybrid Peace as per the regression beta coefficients. Such a finding surprised us because we supposed Indigeneity as the most possible predictor based on a critical review of post-conflict peacebuilding literature. So, we posed another (sequentially third) research question: "Why does Indigeneity correlate with and predict post-Accord perceived peace less than those of other variables in the case of Chittagong Hill Tracts of Bangladesh?"

The very "indigeneity dilution" concept that convergently evolved from thematic analysis of the qualitative interview data was found and identified as a key factor for Indigeneity's emergence as less predictability compared to Liberal Peace, Positive Peace, and Peace Infrastructure. Precisely, the metropole masters of the unitary Bangladesh government successfully kept the CHT indigenous community busy with survival struggles which had largely resulted in Indigeneity's dilution with (neo) liberal ideals and structural violence issues. Following the 1947 Partition of the Indian subcontinent into India and Pakistan, the post-colonial respective metropole masters have installed hybrid peace projects in the CHT fringe, which is now a part of Bangladesh. The nebulous nature of this hybrid peace approach—i.e., meaning integration of local traditions with national and international so-called neutral socio-political-economic and modernity issues—in the CHT where the grassroots urge was for indigenous peace, but the pre- and post-accord peace intervention is found to be mostly an imposed political process. As a result, the region is arguably undergoing fundamental social, economic, and political changes due to the number of parallel modernity assimilation and so-called development projects.

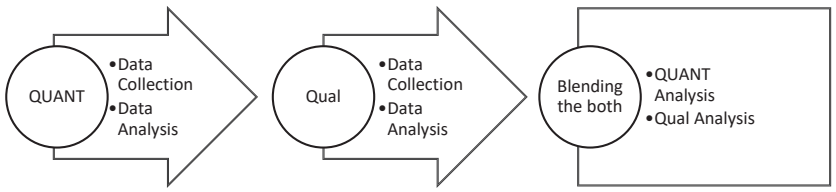
Integration and Triangulation

For methodological triangulation, pluralism and extending findings, a mixed-methods design is recommended in social science inquiries (Johnson and Onwuegbuzie 2004; Creswell 2003). Mixed-methods research has also been considered as the natural complement to conventional qualitative and quantitative research (Johnson and Onwuegbuzie 2004).

In fact, a mixed-methods design uses both quantitative and qualitative data in analyzing trends and relationships among the variables, using appropriate statistical models to answer scientific research question sets designed for this study. So, considering the nature and scope of the research, we opted for a "two-phase" mixed-methods sequential explanatory design (Creswell 2017; Ivankova, Creswell, and Stick 2006).

Phase I involved quantitative data collection through a survey instrument, looking primarily for majoritarian trends using descriptive statistics such as the mean, median, standard deviation, and line-charts to grasp perceived themes that are distinct, which assist in understanding the hill people's ideas about the peace accord and post-accord CHT peacebuilding in Bangladesh. Secondly, a multiple regression model revealed that the independent variable "liberal peace" predicts post-accord CHT hybrid peace more than the other three variables "liberal peace," "peace infrastructure" and "indigeneity." For instance, this overall analysis enabled us to inquire about the extent to which the indigenous peoples are satisfied with post-accord CHT peacebuilding as it stands.

Figure 2. Diagram Representing Methodology of the Present Study



Note: "Qual" for qualitative; "QUANT" for quantitative; Arrow sign indicates subsequence; capital-lettered words denote higher priority/weighting, while the lower case is for lower priority/weighting

Source: Authors

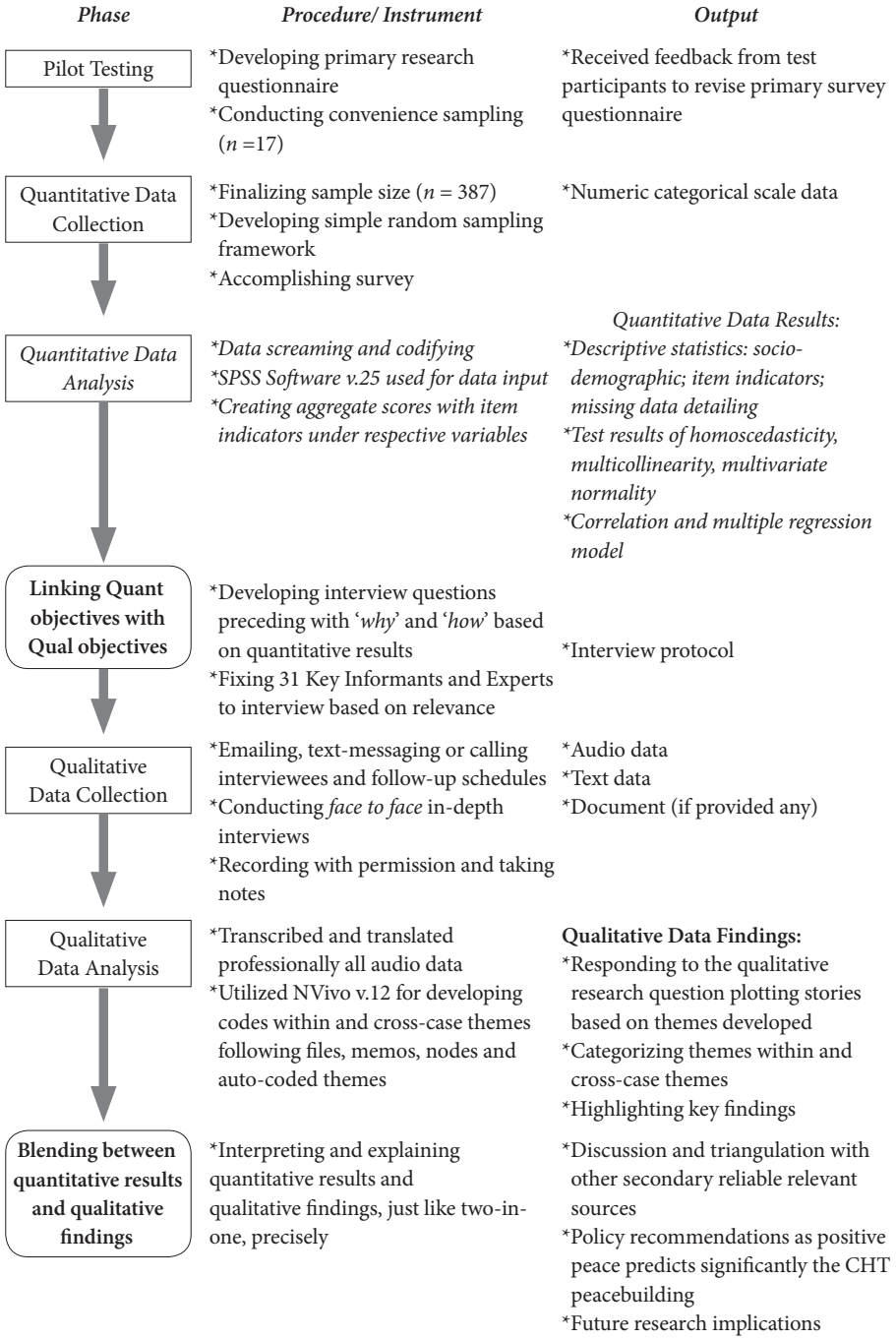
On the other hand, in phase II, the output from the qualitative inquiry assisted us in analyzing such majoritarian perceived trends by posing *why* and *how* questions. For instance, the interviewees were asked why most of the respondents are/aren't happy with the post-accord CHT environment and how it could be improved. Our design (see Figure 2) weighs much more on the quantitative data than qualitative data. The collection and analysis of quantitative data were followed up with the collection and analysis of qualitative data, which paved the way for the interpretation of results from the perspectives of both kinds of analyses when taken together (Creswell 2003).

Visualizing Overall Procedures

The popular statement—"a picture is worth a thousand words"—a phrase that Nicolas Parsons used to anchor the BBC-owned *Just a Minute* radio from 1967 until 2019 is particularly relevant to ensure the followability of this research design for potential researchers and to attract prospective research funders. The flowchart (Figure 3) depicts the overall sequence and subsequence of collecting and analyzing data from both methods and their priorities. It is discernible that the research design described in our paper complies with the principle of employing "multiple sources of data" and it meets the criteria of data triangulation and enhancing of data reliability, which is desirable in social science enquiries (Fusch, and Ness 2015, 1141).

Converse to the studies of Joe-Laidler and Hunt (2013) and Maphosa (2013), where they followed convenience sampling with a dominant qualitative component for their mixed-research, our study used probability sampling with a dominant quantitative component that could inform policy stakeholders with more precision to initiate peacebuilding activities as per the priorities and in the best interests of local people. Our study enabled us to record and evaluate the perceptions and reactions of the conflict affected CHT indigenous peoples to a

Figure 3. Case-study Mixed-methods Sequential Explanatory Design and Procedures



Note: The bold-circled boxes indicate the points where the said methods conflate.
Source: Ivankova, Creswell, and Stick (2006, 16)

significant extent with regard to barriers and possible facilitators for acceptable post-conflict CHT peacebuilding measures, interventions and programming. This strategy of using quantitative and qualitative data together ensured a broader and deeper coverage of the inquiry, which helped with cross-checking and validating multi-sourced data. It also reduced the chances of data inadequacy and the unintended researcher biases in the case of selecting survey respondents. This study makes a significant contribution as it informs future research on the evaluation of peacebuilding outcomes using a particular mixed methods' approach. Hence the results have positive implications, given there are few studies of its kind.

Conclusion

This article, in brief, aims to contribute in at least two ways, especially for social science researchers. First, the experimental use of a "sequential explanatory mixed-study" (Ivankova, Creswell, and Stick 2006) can be promoted as an alternative research paradigm in investigations of conflict-affected estranged settings. Second, this alternative probabilistic sampling design (where it is feasible) and strict (but manageable) procedures may encourage conflict researchers and peace practitioners to consider the adoption of mixed-methods. The sample size was designed for specific cross-sectional case study research, which is scientifically sound and robust enough to claim the possibility of generalizable conclusions to be drawn for the entire CHT region. However, such generalizability is not applicable across all post-conflict contexts in general because there are obviously going to be far too many dissimilarities between such contexts.

Acknowledgements

This research was supported by the Australian Government Scholarship named International Post-graduate Research Award, 2018. The authors thank the editors of the *AJP* and two anonymous reviewers for their thoughtful comments.

Notes

1. Likert Scale is a (five or seven) point-scale which is popularly used and well-accepted data collection tool that allow individuals to express how much they do agree/happy or disagree/unhappy with an issue/concept/statement.
2. Upazila is the lower administrative tier after the districts in Bangladesh, and functions

as sub-district.

3. For RANDOM.ORG, see for additional detail, https://www.random.org/(accessed January 25, 2023).

4. Sadar Upazila indicates like other subdistricts, but this is located in the district town (for example, the authors selected three subdistricts from Khagrachhari district including its Sadar Upazila named Kagrachhari Sadar Upazila and similar method they applied for two other districts Rangamati and Bandarban to select the geographical units of the study).

5. The target total population of the study area, having discussed, implies different conflicting figures due to different and diverse causes. While Belgium based *Unrepresented Nations and Peoples Organization* (UNPO) mentions total population of this region is 850,000 and the US based *Cultural Survival* mentions 600,000, International Work Group for Indigenous Affairs (IWGIA) assumes 317,228 and 559,381 as per the Bangladesh Population Census 2011. So, we divided the sum of these FOUR contested figures by 4 to neutralize the total number of CHT indigenous peoples.

6. Zero-point landmark indicates that every district and Upazila has zero points marked as landmark and used for outwards millage counting from Upazila to Upazila, Upazila to District and vice-versa.

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Muhammad Sazzad Hossain Siddiqui is the Associate Professor of Peace and Conflict Studies at the University of Dhaka, Bangladesh. He received Ph.D. in Peace Studies from the University of New England, Australia, and MPhil from the University of Bergen, Norway. His publications have appeared in various referred academic outlets such as the book chapter titled Torture During Police Remand: Laws and practices in Human Rights and Governance: Bangladesh was published by the Asian Legal Resource Centre, Hongkong. Email: sazzadhsiddiqui@du.ac.bd

Bertram A Jenkins is an Adjunct Faculty of Peace Studies at the University of New England, Australia. He served as a Visiting Research Professor at UPEACE, Costa Rica in 2010. His academic interests are interdisciplinary. His research over the past decade has focused on peace education where peace, the environment, and development coincide. He prefers mixed-methods, grounded theory, and ethnography. He intends to investigate human-animal conflict, forest gardens, and food security in South Asia. Email: bjenkins@une.edu.au

Emtiaz Ahmed is a Program Assessment Manager at Duke University School of Medicine, USA. He received his Ph.D. in Educational Evaluation and Measurement from Kent State University, USA, and also served as an adjunct faculty at the same university from 2015-2016. Email: emtiaz.ahmed@duke.edu.

Submitted: August 23, 2022; Revised: December 20, 2022; Accepted: January 12, 2023