3.1 Research design

Research design is the plan, structure and strategy of investigation conceives so as to obtain answers to research questions and to control variance. The plan is the complete scheme or program of the research. It includes an outline of what the investigator will do from the hypothesis and their operational implications to the final analysis of data. (Kerlinger, 1986).

The present study focuses on the impact of two devastating man-made disaster i.e. terror attack and ethnic violence on the victims. The researcher felt that it is apt to adopt cross-sectional study design for the current research based on the number of contacts with the study population. Cross-sectional study design also known as one shot study aims to find out the prevalence of a phenomenon, situations, problem, attitude or issue by taking a cross-section of the population at the time of the study.

The researcher felt that the study is descriptive and exploratory in nature as the phenomenon has not been clearly defined and also there is dearth of adequate information regarding this study area.

Exploratory research involves measuring a variable or set of variables as they exist naturally. Exploratory research is conducted to provide a better understanding of a situation. It isn’t designed to come up with final answers or decisions.

Descriptive research involves three major tasks:

1. describe behaviour
2. explore a phenomenon
3. test hypotheses about behaviour.

Descriptive research helps in understanding a behaviour as it exist naturally since
there is no manipulation involved by the researcher. In the current study, the researcher attempts to describe and explore the existing experiences of the victims of terror attack and ethnic violence as it is prevalent. The psycho-social impact of disaster irrespective of its type (natural/man-made) cannot be changed for the purpose of the study. Hence, the researcher felt that adopting exploratory and descriptive research strategy would be the most appropriate method of conducting the research.

One important observation that the researcher would like to mention is that generally it is a well documented fact that in exploratory research the researcher hopes to produce hypotheses about what is going on in a situation. But, the current researcher would like to mention that in some situation hypotheses can be formulated despite the nature of research being exploratory. In the current study the researcher formulated hypotheses because the existence of psycho-social influence after any disaster is well known. Psycho-social experiences are almost universal in nature based on the review of existing sources of literature in the current area of disaster mental health studies. However, in the current research the researcher felt that it was essential to find out the significant difference in terms of intensity, type of disaster, among the different types of victims. In the current study the direct focus was the experiences of both direct and indirect victims. The researcher would like to make special mention of the area of study; i.e. Assam located in the north-eastern part of the country. This region has been suffering a lot from several disasters irrespective of its type. Unfortunately, there is lack of psychological literature based on the region pertaining to the topic of study investigated by the researcher. Thus, it is absolutely suitable to adopt exploratory and descriptive research design. Hypotheses formulation was felt as essential in the case of the current study to find out the significant difference, if any, in terms of direct and direct victims of terror attack and ethnic violence.
During the pilot study the researcher visited various families residing in rehabilitation camps, as well as home visits of families affected by terror attack and ethnic violence. Based on the personal observation the researcher felt that hypothesis formulation was not at all a wrong decision on the part of the researcher despite the nature of study being exploratory and descriptive. Both the study design adopted in the current study attempts to understand the situation as it exists naturally.

The present study investigates experiences of direct and secondary victims of terror attack and ethnic violence. This clearly indicates the presence of quasi-independent variables. To examine these more complex, real life situations, researchers often design research studies that include more than one independent variable. These studies are known as factorial design. The current study adopts a 2x2 factorial design using exploratory and descriptive research strategy. 2x2 factorial designs is the simplest factorial design which represent a two factor design with two levels of the first factor and two levels of the second, with a total of four treatment conditions. In the current research the 2x2 factorial design represents the following structure:

<table>
<thead>
<tr>
<th>Factor A</th>
<th>Categories of victim</th>
<th>Direct &amp; Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor B</td>
<td>Type of man-made disaster</td>
<td>Terror attack &amp; Ethnic violence</td>
</tr>
</tbody>
</table>

Along with the quantitative framework a qualitative framework is also proposed to be included in the present study for in-depth understanding of the topic of study.

**3.2 Method of study**

The two most commonly used research method in social science research is quantitative and qualitative.
Quantitative study design are specific, well structured, and it is a type of educational research in which the researcher decides what to study, asks specific and narrow questions, collects quantifiable data, analyzes these numbers using statistics and conducts the inquiry in an unbiased, objectives manner. On the other hand study design in qualitative research either do not have these attributes or have them to a lesser degree. They are specific and precise and do not have the same structural depth. Both of these research method along with its strengths also has weaknesses. Thus, to counter balance the flaws researcher adopts a mixed strategy of conducting research. As he name indicates it is a blend of quantitative and qualitative research. The current study adopted mixed method as the researcher is attempting to understand the experiences of the victims from the level of quantity as well as quality in order to gain an in-depth understanding of the experiences of terror attack and ethnic violence. Hitchcock, H.H., Nastasi, B.K. (2010) mentioned mixed method research entails a design in which " the investigator collects and analyses data, integrates the findings, and draw inferences using both qualitative and quantitative approaches or methods in a single study or program of enquiry” (Tashakkori & Creswell ,2007.p.4).

3.3 Population/ Universe

Direct and secondary victims who witnessed the 30th October, 2008 Assam serial blast and 20th July, 2012 BTAD ethnic violence in Assam are chosen as the population for the current research.

Prakash,V. (2009) mentioned that initial figures put the toll at 67 killed and over 320 injured in the blast which occurred in four districts of Assam i.e. Guwahati, Kokrajhar, Barpeta and Bongaigaon in 75 minutes between 11 a.m. and 1.15 p.m.

As published in The Hindu, 31st October, 2008 the respective figures rose to 75 and
Asian Centre for Human Rights (2012) published a document titled “Assam Riots: Preventable but not Prevented” which mentioned that the riots in the Bodoland Territorial Autonomous Districts (BTAD) consisting of Baksa, Chirang, Kokrajhar and Udalguri districts, and neighbouring Dhubri district of Assam have claimed about 90 lives as on 31 August 2012 and displaced over 400,000 people. The displaced people were taking shelter in relief camps situated in Kajalgaon, Daimalu, Basugaon, Ghilabari, Bidyapur in Chirang district; Kokrajhar Commerce College relief camp and Bhotgaon relief camp in Kokrajhar district and Lakhiganj and Bilashipara relief camp in Dhubri.

3.4 Nature of Data

Information in raw or unorganized form (such as alphabets, numbers, or symbols) that refer to, or represent, conditions, ideas, or objects are known as Data. Data is a set of values of qualitative or quantitative variables; restated, pieces of data are individual pieces of information. It is measured, collected and reported, and analyzed, whereupon it can be visualized using graphs or images. Data as a general concept refers to the fact that some existing formation or knowledge is represented or coded in some form suitable for better usage or processing.

There are two types of data:

1. Direct data: Data collected by the investigator himself/ herself for a specific purpose.
2. Secondary data: Data collected by someone else for some other purpose (but being utilized by the investigator for another purpose).
In the present study the researcher used both Direct and secondary data to explore the phenomenon chosen for investigation.

### 3.5 Sample

A sample is “a smaller (but hopefully representative) collection of units from a population used to determine truths about that population” (Field, 2005). It is a representative of the entire population of the study. In the present study the sample will consist of two categories of victims (direct and secondary victims) of terror attack and ethnic violence. The total sample size for the current study is 200 adults. The victims selected for the present study were from the district of Barpeta, Kamrup (Metro), Kokrajhar, Dhubri in Lower Assam. The victims of terror attack were

#### Figure: Total Sample Distribution

- **Direct Victims**: 100 (50 victim of terror attack and 50 victim of ethnic violence)
- **Secondary Victims**: 100 (50 victim of terror attack and 50 victim of ethnic violence)

### 3.6 Inclusion criteria of Sample

1. The samples selected had to be either a direct victim or secondary victim of terror attack and ethnic violence.
2. The victims of terror attack selected experienced the 30th October, 2008 Assam serial blast.
3. The victims of ethnic violence selected experienced 20th July, 2012 BTAD ethnic violence
4. The samples selected were adults within the age range of 18 years to 68 years.
5. The victims had the ability of understanding and communicating in Assamese, Bengali, Bodo language.

6. The victims were not symptomatic of any major physical/psychological illness.

### 3.7 Exclusion criteria of Sample

1. Indirect victims were not included in the present study.

2. Victims of other terror attack/other ethnic violence were not included in the present study.

3. The victims highly symptomatic of any major physical/psychological illness were not included in the current study.

4. Victims who could not communicate in Assamese, Bengali, Bodo language were not included in the present study.

5. Victims below the age of 18 years and above 68 years were not included in the present study.

### 3.8 Sampling Method

Sample is a set of individuals selected from a population and usually is intended to represent the population in a research study. In order to identify the sample of any research study two types of sampling method are applied.

a. Probability sampling method: the odds of selecting a particular individual are known and can be calculated.

b. Non-probability sampling method: the odds of selecting a particular individual are not known as the researcher does not know the population size or the members of the population.
In the present study, the researcher adopted non-probability sampling method as the appropriate way of collecting data of victims of terror attack and ethnic violence. It is the most widely used sampling method for research in behavioural sciences. As the accessibility of the sample was difficult this method seemed to be the most suitable for the current study.

**3.9 Sampling Technique**

As the present research is trying to collect data about a special type of sample and their availability along with accessibility is very difficult. Keeping this in mind Purposive and Convenience Sampling technique was found to be the most appropriate sampling technique for the present investigation. The victims chosen were based solely on their availability and willingness to respond.

**3.10 Tools for Data Collection**

i) **Terrorism Catastrophizing Scale (TCS):** is a self-report questionnaire comprising of 13 items developed by Samuel J. Sinclair and Alien LoCicero in 2007. It is developed as a means of evaluating the ongoing impact of terrorism on psychological functioning. It tries to measure the extent to which people experience anticipatory fears, or “catastrophize” about future terrorism in the following three areas – rumination, magnification and helplessness. TCS has undergone rigorous psychometric evaluation using data from the general US population and the internal structure as well as external validity was examined. Internal consistency reliability was generally acceptable. The predictive validity of TCS was also supported. Item convergent validity was supported for TCS scales with all items correlating >.40 with their hypothesised scales. In the present study the statements of the scale were translated into Assamese
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(Appendices-B) with the due permission of the developer of the test and then the scale was distributed among few experts from the Department of Assamese language to provide their feedback and suggestions in terms of the language, words used. This was an attempt to ensure that the meaning of the sentences remain intact as the original scale.

ii) Thematic Apperception Test (TAT) : TAT developed by Uma Choudhry (1974) was administered on the participants of the current study in order to identify the areas of projection and means of measuring the strengths of various needs as expressed by the designated hero in the story among the victims of terror attack and ethnic violence. Effort will be made to explore the emotional aspects of the direct and secondary victims of terror attack and ethnic violence. The victims were allowed to write or narrate the stories in Assamese. Later these stories were translated to English during further analysis. Researcher attempted to retain the originality of expression of feelings, attitude, beliefs, needs as it is expressed in the original stories of the victims.

The researcher selected only three cards purporting to elicit responses relevant to the context of violence. The three cards selected could elicit the need for psycho-social care among the victims of the current study.

The 3 cards selected for the current study are as follows:

Card 1: Indian Boy with a sitar or Tanpura
Card 5: Aggression Card
Card 8: A scene of dilapidated ruins and a woman is offering worship
Thus only the cards relevant to identifying the manifestation of the need for achievement (Card-I), the need for aggression (Card-V), and the need for abasement (Card-VIII) were utilized in the present study. The three cards are believed to evoke responses with regard to frustration, aggression, helplessness, anger, feeling of distress which are the typical reactions that victims exhibit after witnessing conflicts. The choice of the specific cards for administration was based on simplicity of characteristics of the stimuli and the capacity of the stimuli to invoke and elicit the commonly found dominant needs from the victims who experienced disastrous conflict experiences which leads to a situation of humanitarian crisis (Annalakshmi, N. 2006; p.232) The cards for the study were chosen in consultation with a senior professor from West Bengal and the research supervisor. The color of the cards selected were black and white which could also possibly evoke distressing responses.

**iii) Semi-Structured Interview Schedule:** Semi-structured interview schedule was used in order to gather an in-depth information about the victims experience of surviving the traumatic experience. A semi-structured interview, also known as the non-standardised or qualitative interview (Saunders, Lewis and Thornhill 2009), is a hybrid type of interview which lies in between a structured and an in-depth interviews. Thus, it offers the merit of using pre-determined themes and questions as in a structured interview, while keeping enough flexibility to enable the interviewee to talk freely about any topic raised during the interview.

The themes and questions explored in the semi-structured interview schedule prepared for the current study are as follows:

- Demographic details
- Nature of injury and treatment undergone
- Significant life events that occurred after the terror attack / ethnic violence in the family (if any)
- Stressors faced by the victim as well as family members
- Financial issues
- Interpersonal relationship/ support system
- Cognitive-behavioural aspects
- Coping mechanism adopted to overcome problems of life
- Compensation / Rehabilitation facilities received from government / non-government organisation
- Psycho-social care received (if any)

3.11 Procedure for Data Collection

Data collection is the process of gathering and measuring information on targeted variables in an established systematic fashion, which then enables one to answer relevant questions and evaluate outcomes. There are different tools that can be used in research for collection of data. Researcher in the current study adopted the following procedure of data collection (sequence of administration of tools chosen for the present study):

<table>
<thead>
<tr>
<th>PHASES</th>
<th>TOOLS USED</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHASE I</td>
<td>Semi-structured interview schedule was used</td>
</tr>
<tr>
<td>PHASE II</td>
<td>Terrorism Catastrophizing scale (TCS) was administered.</td>
</tr>
<tr>
<td>PHASE III</td>
<td>Thematic Apperception Test (TAT) was administered.</td>
</tr>
</tbody>
</table>

The researcher in the current study since dealt with a very sensitive population the tools selected was administered with caution. First the researcher conducted the interview using the semi-structured interview schedule in order to establish a good rapport with the victims interviewed. This helped researcher to explore initially the psycho-social experiences in and descriptive manner. This was followed by the administration of the TCS scale in order to quantify the prevalence of anticipatory
fear of future terror attack and ethnic violence among the victims. Lastly, the researcher administered only set of 3 TAT cards in order to find out the presence of various psycho-social needs in order to validate the necessity of psycho-social care towards the victims.

The method of data collection adopted by the researcher in order to test the hypotheses framed and also the method of data analysis undertaken are presented below in the form of a table for the clarity and convenience of reader:

Table 3: Table representing hypotheses, methods of data collection and method of data analysis adopted

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Method of data collection</th>
<th>Method of data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>There will be no difference in the psycho-social burden among direct and secondary victims of terror attack and ethnic violence.</td>
<td>Semi-structured interview schedule</td>
<td>Descriptive statistics (Mean, Standard deviation) and Inferential statistics (t test, ANOVA, Post-hoc test)</td>
</tr>
<tr>
<td>There will be no difference in the level of anticipatory fear of future terror attack and ethnic violence.</td>
<td>Terrorism Catastrophising scale</td>
<td>Scoring as per manual</td>
</tr>
<tr>
<td>There will be no difference in the coping mechanism adopted by direct and secondary victims of terror attack and ethnic violence.</td>
<td>Semi-structured interview schedule</td>
<td>Descriptive statistics (Mean, Standard deviation) &amp; Inferential statistics (t test, ANOVA, Post-hoc test)</td>
</tr>
<tr>
<td>There will be no difference in the need for psycho-social care among the direct and secondary victims of terror attack and ethnic violence.</td>
<td>Thematic Apperception Test</td>
<td>Descriptive statistics (Mean, Standard deviation) &amp; Inferential statistics (t test, ANOVA, Post-hoc test)</td>
</tr>
</tbody>
</table>

The table outlined above clearly indicates the blend of quantitative and qualitative research method. Analysis is one of the most significant part of research where the data that was collected was attempted to understand in lieu of the objectives of the study.