Chapter 2
Researching HAC: Methodology and Praxis

The process of putting together a piece of good research is not something that can be done by slavishly following a set of rules about what is right and wrong. In practice, the social researcher is faced with a variety of options and alternatives and has to make strategic decisions about which to choose.


Methodologies in social research are the ‘strategic choices’ that researchers make to achieve their research objectives. It defines the range of theory and praxes that the researchers employ in their epistemological quest of socially occurring phenomena. Methodology provides the framework within which researchers determine which cases to study, how to study (i.e. which methods to employ), what form will data analysis take and also, how data will be presented. A researcher’s world view, her/his orientation of the phenomenon, theoretical positioning, belief systems and biases goes a long way in making methodological choices.

Like theories, methodologies cannot be true or false, only more or less useful (Silverman & Marvasti, 2008, p. 134).

The methodology of my research is an assemblage of different theories and paradigms drawn across disciplines of sociology, geography, anthropology and even conservation biology. I tailored a methodology for studying HAC in Assam with the following objectives:

1. To study the nature and magnitude of the problem of human animal conflict (particularly human elephant conflict) in the area of study.
2. To understand the perceptions of the local people and the forest officials with respect to the primary causes of conflict in contemporary times.
3. To develop an understanding of the socio-political conditions existing in the study area which have a bearing on the conflict, either directly or indirectly.
4. To assess the impact of the conflict on-
   (a) the livelihood of the local communities;
   (b) the life and well-being of the local populace (with special reference to women);
   (c) the survival of animals (particularly elephants).
5. To gain an insight into the coping strategies, in terms of nature, form and effectiveness, adopted by the local people to deal with the problems associated with the conflict.
6. To develop an understanding of the mitigation measures initiated by the government as well as the non-government organisations.
7. To propose suitable strategies that can be instrumental in developing a strategy for addressing the problem in a holistic manner.

Summarily speaking, the purpose of the study was to collect information on the nature of HAC (particularly HEC) in Assam and also capture the lived experiences and everyday realities of the people facing and managing conflict through their accounts and narratives. To represent a holistic picture of HAC/HEC and address the element of ‘pragmatic eclecticism’ (Flick, 2007) in my research, I adopted a mixed-method approach.

A mixed-method approach is a combination of alternative approaches within a single research project (Denscombe, 2007). Mixed-method approach can be at the level of epistemology and methodology, research design, method, analysis, triangulation, facilitation of results and more (Bryman, 1992; Hammersley, 1996; Flick, 2007). For the purpose of my research I used both qualitative and quantitative approaches in my methodological orientation, research design, sampling, analysis and triangulation of data. Although, the research design in my study followed a mixed-method approach but it is important to note here that, the qualitative aspect was more significant than the quantitative one.

2.1. Research Design

A research design lays down the edifice upon which later stages of research are built. It is a plan, a framework which allows the researcher to determine the appropriate tools and analytical methods in congruence with the objectives. For the purpose of my
research I choose a mixed-method design, involving both qualitative and quantitative elements.

I choose to include the quantitative aspect in my study of Human-Animal conflict to fulfil my first objective of studying the nature and magnitude of conflict. The quantitative analysis of data on different dimensions of conflict and its range of impact will enable the readers to acquire a comprehensive understanding of conflict. To determine the spatial and temporal nature of Human Animal Conflict in general and HEC in particular I collected data on: (a) livelihood practices; (b) species involved in conflict and nature of damages caused by each; (c) seasonal variation in incidents of conflict; (d) details of losses in terms of human lives and injury, crops, property and cattle.

Qualitative research is generally presented as an opposing category to quantitative research. However, qualitative research is not research which is simply not quantitative or not standardised (Flick, 2007), rather it is concerned with understanding the meanings and explanations that people attach to social phenomena. A generic definition of qualitative research had been offered by Denzin and Lincoln (2008), which states:

> Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them (2008, p. 4).

Qualitative research is a diverse field and is conducted in a number of different ways. Flick (2007) enlists three such ways: (a) by analysing experiences of individuals or groups; (b) by analysing interactions and communications and (c) by analysing documents (texts, images, film or music) or similar traces of experiences or interactions. However, one commonality that runs through all the different ways is that, “…they seek to unpick how people construct the world around them, what they are doing or what is happening to them in terms that are meaningful and that offer rich insight” (ibid). The
'interpretations' of reality by the respondents and also by the researcher is how knowledge of the social world is gathered.

The choice of a qualitative dimension in my study emanated out of the need to adequately capture the experiences and hardships of communities sharing space with wildlife. I did not want to contribute to an already existing body of research on HAC influenced by positivist tendencies to compute frequency and extent of losses, status of compensation schemes and gauge conservation attitudes. In my study, I collected in-depth qualitative information from communities in a naturalised setting and tried to understand, describe and analyse the different meanings and interpretations held by people on HAC. I proceeded on the assumption that, “...qualitative research can provide a more informative picture of culturally based processes and practices and a depth to context-based explanations of events, processes, outcomes and ultimately future policy and practice” (McKie, 2002, p. 261). A fundamental assumption in qualitative research is also that multiple realities exist in any given situation and these multiple voices or perceptions are included in the study. Following a qualitative design was also important for me to capture the reality of the community people, the forest officials, the NGO functionaries and my own reality for understanding the complex phenomenon of HAC. A qualitative design was also chosen for the present study because I wanted to jettison the prevailing relations of power and hegemony in HAC research and make the process more participatory and empowering (Denzin & Lincoln, 2008) for the research participants.

The study also followed a descriptive research design to understand the phenomenon of HAC, particularly HEC. The study described the ways in which conflict is comprehended and dealt with by different groups of stakeholders. HEC in the study area is considered not simply as an ecological phenomenon but as a manifestation of other forms of social, political and cultural conflicts. This portrays how issues of identity, ownership of resources, power and domination, landscape, memory and belonging and developmental politics influence HAC. These issues are analysed not only in the context of causes of conflict but also at the level of coping and mitigation measures initiated by individuals, communities, the concerned government departments and NGOs.
2.2. Universe and Sampling

In research, universe implies the entire collection of people, institutions and/or sites which share some of the characteristics of the phenomenon under study. Sampling is the process of selecting a sub-set from this ‘collection’ to be studied. The process of selecting a sample from the total population follows different logic in quantitative and qualitative studies. In quantitative research, the intent of sampling individuals is to choose individuals that are representative of a population so that the results can be generalized to a population. Sampling in qualitative research, on the other hand, is purposeful selection of individuals and sites ideal for detailed answering of the study questions. Mixed method sampling is a continuum lying between (probability) quantitative and (purposive) qualitative strategies (Teddlie & Yu, 2007). The ‘Purpose-Mixed-Probability Sampling’ strategies typically generates both numeric and narrative data and are employed when some strand of the research design focus on representativeness and other stands focus on generating rich experiential data (ibid).

From their analysis of scant literature and available examples on mixed method (MM) sampling, Teddlie and Yu (2007) have proposed a provisional typology, which includes: Basic MM sampling, Sequential MM sampling, Concurrent MM sampling, Multilevel MM sampling, and sampling using multiple MM sampling strategies. Basic MM sampling includes elements of both purposive and probability sampling type, for e.g. stratified random sampling. In sequential MM sampling units are selected through sequential use of probability and purposive sampling and in concurrent MM sampling both purposive and probability procedures are used simultaneously. Multilevel MM sampling uses probability and purposive techniques at different level of the study (Teddlie & Tashakkori, 2003). The different types of MM sampling can also be used in combination in one study depending on the research design and strands of analysis.

In my study of HEC in Assam, the universe consisted of all the affected districts of the state. The final sample of village households had been selected following a multilevel MM sampling starting with the purposive selection of the two districts, Golaghat and Sonitpur. The district of Golaghat was selected because of the frequent incidents of conflict reported by the media in recent times and also due to the presence of the celebrated Kaziranga National Park, a UNESCO world Heritage site, within its ambit.
The selection of the other district of Sonitpur was also done on the basis of media reports of conflict, particularly reports of incidents involving poisoning of elephants by affected communities and relatively higher number of human casualties.

The next level of sampling consisted of purposively selecting an affected administrative Block within the district. Effects of conflict have been analysed from media reports and informal discussions with Forest Department (FD) staff and NGO workers. The two blocks selected for the purpose of the study were Bokakhat and Dhekiajuli in Golaghat and Sonitpur respectively.

After the selection of the Blocks, the next step was selection of villages in each Block. For the selection of villages, a probability technique was followed and a source list of all the affected revenue villages was drawn up in consultation with FD staff and key persons (NGO functionaries and eminent journalists). Only revenue villages were included in the study because it is difficult to get the cooperation of people who live in ‘encroached’ villages. People in these villages are wary of outsiders and do not want to share information which they believe will be used for evicting them. Although I realised that their spatial positioning would have brought in some interesting dimensions to the study but the impenetrability of these villages and the time-bound nature of my study prevented me from including these villages. I also omitted forest villages from the list because I felt that the nature of these villages will undergo a transition post the implementation of the Forest Rights Act, 2005 and therefore should be dealt with separately in an exclusive study on forest villages.

With these considerations, a total of eight revenue villages were randomly selected from the two Blocks, four in each. The selected villages in Bokakhat Block were Mikirchang Bagicha Gaon, Gorhmur Bortika, Panbari Aadarsha Gaon and Mohpara. In Dhekiajuli Block, No. 1 Jia Gabharu, Rikamari, Bandarhagi Pathar and Bengenajuli were selected randomly. A modification was made to the sampling criteria in Sonitpur, where data was collected after Golaghat, by the inclusion of only those villages where an NGO is actively engaged in the mitigation process.

The final stage in the multilevel sampling was the selection of households in each village. In each of the eight villages in the two districts, ten households were again...
randomly selected resulting in a final sample of 80 households. For the purpose of the study, the United Nations (2007) definition of household had been accepted which says, “A household may be either: (a) a one-person household, that is, a person who makes provision for his own food or other essentials for living without combining with any other person to form part of a multi-person household; or (b) a multi-person household, that is, a group of two or more persons who make common provision for food or other essentials for living. The persons in the group may pool their incomes and have a common budget to a greater or lesser extent; they may be related or unrelated persons, or a combination of both” (Paragraph 2.108). I usually started with interviewing the village headmen (gaon burah) where available (sometimes a single gaon burah administers over more than one village and it happened twice that the gaon burah was not residing in the sample village) and then proceeded to interview every household at an interval of five houses till the desired sample of ten households was reached. If members of the selected households were not present, the immediate next household was included and the numbering of households would start from there. Interviews were ideally conducted with the male heads of households but where the male head was not present at the time of the interview, the spouse or any other adult member of the household was approached for the interview.

In selecting the sample of forest officials and NGO/CBO functionaries, a purposive process was followed wherein those units were selected who could provide information on HEC. Officials of the forest department were approached for interview and the process was undertaken with those individuals who agreed to be a part of the study. Many of the forest officials declined to be interviewed on grounds of official secrecy norms and even among the interviewed personnel, most of them requested that their names or any other identifying information should be confidential and not mentioned in the research report. A total of eight FD personnel were interviewed for the study. Apart from FD staff, I also interviewed NGO/CBO functionaries engaged in community development and/or wildlife conservation. Six registered NGOs/CBOs were purposively selected for the study and within the organisation a senior member of the staff was interviewed. The organisations that were part of the study include WWF-India, Wildlife Trust of India (WTI), Bhumi, Krishak Mukti Sangram Samiti (KMSS),
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District Community Development Programme (DCDP) and SAVE. Apart from these six organisations, a member of the Demand Committee for Conversion of National Highway-37 to 4-lane Road from Koliabor to Numoligarh was also included in the study owing to this Committee’s engagement with issues of community development around Kaziranga National Park in Golaghat district.

2.3. Sources, Methods and Tools of Data Collection

2.3.1. Sources of Data

The data for the study was collected mainly from primary respondents through the interview method. Interviews were held with affected villagers, forest department staff and NGO/CBO functionaries. Apart from primary sources, a secondary source of data was also included in my study. A vernacular (Assamese) bimonthly magazine, *Katha Aaranyak*, published by a local group of intellectuals and activists on issues pertaining to community and protected area management interface around Kaziranga National Park was used as a data source. The articles in the magazine are written by local people and offer a rich source of information on people-Park relationship. The publication of this magazine is not very regular and not easily available as well. After days of searches, inquiries and requests, I only managed to get four issues of the magazine, three of them being personal copies of field acquaintances.

2.3.2. Methods of Data Collection

The data collection for the study was conducted mainly by the interview method. Interview method is regarded as the best way to understand people and their lives, to interpret about the social world from what people say and how they say. Interviewing in quantitative research is a structured process wherein response categories are already provided to the interviewee and the interviewer records the responses according to a pre-established coding scheme (Fontana & Frey, 2008). On the contrary, interviewing in qualitative research is flexible and fluid and is conducted as a conversation between the interviewer and the interviewee (Mason, 2002). Following a mixed-method design, I had elements of both quantitative and qualitative interviewing in my study. An in-depth interview method was employed with the heads of households wherein I was
actively engaged in asking, listening, probing and interpreting the narrative accounts of the villagers. In-depth interviewing required me as a researcher to be encouraging and ‘empathetic’ with my respondents in order to bring down the barriers (as an outsider; as an individual with higher educational degrees) and ensure smooth inflow of information. As Sennett (2004) wrote in his book *Respect*:

> Unlike a pollster asking questions, the in-depth interviewer wants to probe the responses people give. To probe, the interviewer cannot be stonily impersonal; he or she has to give something of himself or herself in order to merit an open response. (as cited in Kvale, 2007, p. 9).

Another method of data collection that was employed in the study was, Focussed Group Discussion (FGD) with women. FGD as the name suggests is discussion among a group of people from similar backgrounds or experiences to discuss a specific topic of interest to the researcher. The intent of FGD is not to infer but to understand and provide an insight into the range of perceptions people have about a situation. The use of focus groups in feminist research have been considered to serve to “…expose and validate women’s everyday experiences of subjugation and their individual and collective survival and resistance strategies” (Madriz, 2000, p. 836). FGD had been chosen as method for data collection with women because of the understanding that a non-formal set-up involving people from similar background would enable women participants to share their personal experiences with ease and the group atmosphere would stimulate memories and feelings crucial for the study.

The first FGD in Golaghat was held at Panbari Aadarsha village. It was held after the individual household interviews were over. This was done purposively because the several trips I made for the individual interviews made me a familiar face in the village. Moreover, after days of conducting interviews and being empathetic to the trials and tribulations of the people, the villagers were comfortable with my presence amidst them and were more open to sharing their experiences. I requested a few women in the village, with whom I had developed a good rapport, to spare some time for the discussion and also bring a few of their friends and neighbours for the discussion. A day and time was agreed upon and the venue of the discussion was selected as the *gaon burah’s* home. It was a relatively larger group and 12 women participated in the discussion for over an
hour. The next FGD was held at Mohpara village and 10 women participated in the discussion. The same strategy was followed at Mohpara as well wherein the FGD was conducted after the individual interviews were over. The discussion was held at one of the participant’s home who volunteered for it when I was looking for a place where the discussion could be held without any disturbance. I invited most of the respondents myself while the rest of them were invited by the respondent at whose house the FGD was held. The last FGD was conducted at Jia Gabharu village in Sonitpur district and seven women participated in the discussion.

The data collection was supplemented by field notes meticulously recorded in the field diary on various aspects of the research problem such as location of village, patterns of habitation and cultivation, gendered roles within the household, gendered roles in HEC mitigation etc.

### 2.3.3. Tools of Data Collection

I formulated a set of tools for data collection with the different groups of respondents in my study. For collecting data from the village households, I designed a semi-structured interview schedule. The schedule was pre-tested in a sample of ten households and necessary changes were made depending on the responses and non-responses. The modified schedule had a range of questions on conflict which are both close and open-ended. The close-ended question were less in number and restricted to collecting factual data on conflict like intensity of conflict during seasons, intensity of conflict with different species etc. The majority of the questions in the schedule were open-ended questions which allowed me the flexibility to probe and delve deeper on issues of importance. The responses of the community people were in narrative form and therefore a digital recording device was used to record the interviews. Prior permission was sought from the respondents to use the device and assurance of anonymity and ethical usage was given whenever respondents expressed concerns. In Golaghat I took the help of a few local boys to take me to the villages, introduce me to the residents and help me strike a rapport with them for data collection. In Sonitpur, I first approached the regional WWF Office because of their intensive work in HEC mitigation efforts in the villages. I was accompanied by a WWF staff member to one of the sample villages.
(where they are working) and introduced me to a local contact person who helped with conducting interviews in the villages.

Two interview guides were also designed; one for the FD staff and the other for the NGO personnel. Out of the eight FD staff only three of them agreed to be interviewed on tape and that too on conditions of anonymity. All the interviews with the NGO staff were digitally recorded after seeking prior permission.

An FGD guide was also developed for the study and was used to conduct the three FGDs with women in the sampled villages. Proceedings of FGDs were digitally recorded after seeking prior approval from the women. I also took the help of two local assistants at Golaghat and one at Sonitpur to conduct the discussions.

2.4. Analysis of Data

Having used the various data collection techniques rigorously over a period of six months, the next step for me was preparing the data for analysis. As Angrosino (2007) remarked, “…facts do not speak for themselves. Even numerical data need to be interpreted. The collected data need to be analyzed so that some sort of sense will emerge from all that information” (p. 67). As the data generated was mostly in the form of narratives following a conversational style of interviewing, the logical step was to follow a narrative analysis. Gibbs (2007) remarks that narratives or stories focus on how people represent or give meaning to their personal experiences and organise their understanding of the social world. He writes, “…the careful analysis of topics, content, style, context and the telling of narratives will reveal people’s understanding of the meanings of key events in their lives or their communities and the cultural contexts in which they live” (p.56).

Since most of the data was in audio form, my preliminary task was to transcribe the interviews and group discussions. Transcribing interviews from oral to written forms gives a structure to the data and makes analysis easier (Kvale, 2007). The interviews were all in Assamese and transcribed in English. I did the transcriptions myself to avoid any loss of information, particularly information related to personal disclosure of loss, anxiety, agony, because as social workers we are trained to be sensitive towards
emotional expressions which might escape a person not accustomed to doing so (Fraser, 2004). Care has been taken to maintain the accuracy of the conversations but it is acknowledged here that since transcription itself is an “interpretative activity” (Poland, 1995) it is open to multiple interpretations.

After the data was transcribed I read through the transcripts and coded the text. “Coding in qualitative research is a way of indexing or categorising the text in order to establish a framework of thematic ideas about it” (Gibbs, 2007, p. 38). Coding, in itself is an analytical activity and, “…involves how you differentiate and combine the data you have retrieved and the reflections you make about this information” (Miles & Huberman, 1994, p.56). For my study, a preliminary set of codes were identified after going through the transcripts and field notes. It was an iterative process and I had to move back and forth between the data, the coded categories and also the relevant literature to modify the codes and clearly define the themes.

Following earlier precedents of studies which did not use specific analytical tools and rather employed a theory-driven analysis (see Kvale, 2007, pp.117-118), my study also had an analytical framework which integrated a range of socio-political and cultural theories to give meaning to the people’s narratives. Michael Angrosino (2007) had proposed a similar analytical process, which he divided into two phases: descriptive analysis (which involves the practical aspects of analysis such as coding, defining categories, organising notes etc.) followed by a more intensive theoretical analysis (linking findings with relevant theories). Hence, the themes in my study such as forest-people relationship, PA management, animal crop-raiding behaviour, traditional coping strategies, human-elephant relationship etc. were interpreted in the light of theories such as cultural ecology, ecofeminism, social ecology, animal behavioural ecology, capitalism and Marxist ecology among others. The style of reporting has also been influenced by studies that used theoretical analysis, and findings have been presented as continuous interpretative text, with interview passages interspersed (Kvale, 2007).

The data generated through the three FGDs was also meticulously transcribed and first each transcript was read individually and themes identified followed by simultaneous re-reading of all three transcripts and identifying themes which appeared commonly as
well as those themes which were unique to each FGD transcript. Taking all the different themes a framework was developed which was used to arrange the data for analysis. The analysis focussed more on the content of the discussions although significant attention was also paid to the inter-group dynamics characterising the discussions.

2.5. Reliability and Validity

Reliability and validity are the two important conditions in positivist research which gives credibility to the findings. The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability (Joppe, 2000 as cited in Golafshani, 2003). Validity, on the other hand, determines whether the research truly measures that which it was intended to measure (ibid). However, due to their rootedness in the positivist tradition, these conditions have often been either rejected or redefined by qualitative researchers (Lincoln & Guba, 1985; Stenbacka, 2001). For example, Lincoln and Guba (1985) substituted reliability and validity with the parallel concept of “trustworthiness,” containing four aspects: credibility, transferability, dependability, and confirmability.

In the present study ‘reliability and validity’ was ensured by following the verification strategies enumerated by Morse et al., (2002). This entailed maintaining a methodological coherence (congruence between the research question and the components of the method), collecting and analyzing data concurrently, and thinking theoretically. Another strategy employed for enhancing the reliability and validity quotients of qualitative research is triangulation (Patton, 2002; Golafshani, 2003). Triangulation includes application of multiple methods of data collection, data analysis, data sets and even researchers to the study of a single phenomenon. In this study, triangulation had been attempted in methodology (qualitative and quantitative), data collection methods (interview and FGD) and, respondents (heads of households, NGO personnel, government officials and village women). Using these strategies, the study continuously attempted to interpret and present the reality of HEC as envisaged by the people and it can be said with certainty that any subsequent study conducted on the topic by other researchers employing a similar methodology will yield new information which will be compatible with the present findings.
2.6. Operational Definitions

2.6.1. Human-Animal Conflict/Human-Elephant Conflict

Human-animal conflict (HAC) is primarily understood as any form of inconsistency that arises between people living in the vicinity of forest areas and the wildlife inhabiting that particular forest patch. For the purpose of this study, HAC had been defined as the tension that prevails between wildlife, principally elephants, and local communities resulting in damage to both the actors involved. Conflict with elephants or Human Elephant Conflict (HEC) is the focus of this study and all aspects of HAC (i.e. causes, impacts, coping and mitigation) had been explored in relation to elephants, while at the same time not disregarding the presence of conflict with any other species in the study area.

2.6.2. Coping Strategies

Coping strategies refer to the specific efforts, both behavioural and psychological, that people employ to master, reduce, minimize or tolerate stressful events. Keeping in view this definition the study included those practices, social systems, behaviour, beliefs and emotions of the affected communities that they have devised to minimize the effects of conflict or deal with it.

2.6.3. Mitigation Measures

Conflict mitigation measures included actions, policies, procedures undertaken by local communities as well as conservation authorities (both Government and NGO) in order to avoid conflict or minimise the adverse impacts of conflict.

2.6.4. Well-Being

‘Well-being’ as a term assumes different meanings in different context. However, commonly it is a state of being or existence where an individual is healthy, prosperous and, contributing productively to the community. In the context of the study, well-being has been considered in terms of physical, emotional and psychological wellness, ability to work productively and fruitfully, security of life and property, availability of social security measures and having opportunities for development.
The application of a mixed-method approach to study HEC is a relatively novel approach for studying this phenomenon. The qualitative angle enabled me to explore in depth the experiences of people who experience conflict and how they interpret their relationship with both the human and non-human world while dealing with conflict. Simultaneously, the quantitative aspect enabled me to determine coherently the nature and magnitude of conflict as it exists in the study area. The following chapters present a detailed description of the HEC data collected and analysed following the methodology described in this chapter.