CHAPTER II
MATERIALS AND METHODOLOGY

MATERIALS

The present study is a community based cross-sectional study conducted in the Rani area of Kamrup (Rural) district of Assam.

Study Population:

The study population comprised children in the age group of 0-<5 years. A total of 572 under five children were taken as the sample size for the study. Out of the total population 201 under five children belonged to the Bodo community, another 200 were Caste Hindus and 171 were Garo children. Each of the under five children belonging to a single family has been considered for the present study. The respondents were the mothers of the under five children. In case of the absence of the mother or the death of the mother, the adult member rearing the child was taken as the respondent. All the children were selected through purposive sampling method. Only couples having under five children during the time of survey were selected for the present study. Altogether 465 households were surveyed to get the desired sample size of 572 children.
Duration of the field work:

The actual field work was initiated from April, 2012 and continued up to September 2012 (in two phases). The researcher stayed in the study area for a month (July 2012) at a stretch which helped not only to expedite the data collection process but also to do an in-depth study on the problem.

METHODODOLOGY

A total of sixteen villages had to be covered to get the desired sample size of 572 under five children. To locate the under five children the researcher took the help and support of the ANM, ASHAs and MPWs who are the grass-root level health workers at the village level. House to house visits were made in the sixteen villages to get the desired sample size. The respondents were briefed and verbal consent was sought from them prior to the commencement of the data collection. Predesigned and pretested interview schedules were used to collect information. Observation and Interview methods were also used for data collection.

To start with, three comprehensive interview schedules were prepared. The first was the household schedule pertaining to information on socio-demographic profile of the family. The second schedule was designed to cover information on live births and mortality information. The third schedule was designed specifically for collecting information on morbidity status of the child, antenatal care of the mother, mode of delivery of the child, feeding practices, health and treatment seeking behaviour, immunization status of the child, etc.

A pilot study was conducted to know the incidence of disease and mortality in under five children in the area. The pilot study helped the researcher to have an overview of the health status of children in general. It also helped to decide inclusion of supplementary variables which might be of great value in interpreting results and at the same time exclusion of certain variables of little or no significance.
A list of common morbidities an under five child may encounter was prepared in the schedule. Morbidity was assessed for recent illness based on 15 days recall period and the symptoms as described by the respondent. The mothers were interviewed regarding the severity and duration of illness along with their health care seeking behavior. Thus most of the information regarding morbidities were purely subjective and on the basis of recall and full care was taken while interviewing the respondent.

For operational feasibility the following operational definitions were taken for the present study:

1. **Socio-economic status:** Socioeconomic status based on the per capita income of the family per month (in rupees), as suggested by B.G. Prasad in the year 1961 was adopted and modified as per All India Consumer Price Index for agricultural and rural labourers (Base 1986-87=100) of 766 in October 2013.

<table>
<thead>
<tr>
<th>Socio Economic Status: class</th>
<th>BG Prasad’s Classification of 1961</th>
<th>Modified BG Prasad’s Classification for October 2013 (Updated as per CPI October 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Rs 100 and above</td>
<td>Rs 3776 and above</td>
</tr>
<tr>
<td>II</td>
<td>Rs 50-99</td>
<td>Rs 1888 to Rs 3775</td>
</tr>
<tr>
<td>III</td>
<td>Rs 30-49</td>
<td>Rs 1133 to Rs 1887</td>
</tr>
<tr>
<td>IV</td>
<td>Rs 15-29</td>
<td>Rs 567 to Rs 1132</td>
</tr>
<tr>
<td>V</td>
<td>Below Rs15</td>
<td>Below Rs 567</td>
</tr>
</tbody>
</table>

**Note:** Correction Factor (CF) has been developed in relation to the base year of 1993-1994 as 4.93%

The Multiplication factor = the value of all India CPI X 4.93/100

All India CPI for agricultural and rural labourers was 766 in October 2013

Therefore, Multiplication factor = 766X 4.93/100 = 37.76

(Source: Prasad BG. Social classification of Indian families).

2. **House Type:**
Pucca house: Houses with floor paved and walls of brick.
Kutcha house: Houses where the floor is of packed earth.

3. Acute Respiratory Infection (ARI): A child was considered to be suffering from ARI when the child suffers from any one of the following symptoms like running or blocked nose, cough and cold, sore throat and difficulty in breathing.

4. Diarrhoea: A child passing watery stool with or without blood for more than three times a day was considered to be suffering from diarrhoea.

5. Statistical analysis: The data collected on various aspects of the study were compiled, tabulated and subjected to statistical analysis using SPSS version 16.

THE SETTING

Assam, the gateway to the other Northeastern states of India shelters around 2.5 per cent of the country’s population. Most of the state’s population lives in the lush and verdant valleys of the two main rivers viz. the mighty Brahmaputra and the Barak. The less densely populated hill districts- Karbi Anglong and Dima Hasao separates the two valleys. As per 2011 Census, the total population of the state was 31,169,272 with a literacy rate of 73.18 per cent. The present study has been conducted in the Rani area of Kamrup (Rural) district of Assam.

Area of the Study:

The present research has been conducted in the Rani Block of Kamrup district, Assam. Geographically Rani is situated around 40-45 kms from Dispur – the administrative capital of the state and is tucked in the south-western part of the district. A place rich in sylvan cover and in bio-diversity, Rani is nestled by the city of Guwahati to its east, the Rampur block to its west, the mighty river Brahmaputra on its north and by the Khasi and Jaintia Hills of neighbouring Meghalaya to its south. Its location in terms of latitude and longitude are between 25° 52´ to 26° 8´ north and 91° 28´ to 91° 50´ east respectively. The Rani Block has some important landmarks like the Lokpriya Gopinath Bordoloi International Airport, places of interest like the Deepor
Beel Wildlife Sanctuary, a Ramsar site, which is known for the migratory birds. The area is also bounded with picturesque landscape and reserve forests.

Rani’s ancient name could be traced as “Raggi” from historical records. Before the advent of British, the place basked as strong socio-cultural independent kingdom. However, the neighbouring Ahom kings levied a tax to the people of Rani owing to their might and power.

According to popular legend, the famous Ahom King Gadadhar Singha due to some political disputes amongst the members of the Ahom royal family had to live in this part in disguise for sometime. A native Garo woman of this area provided shelter to him at this time. Later, when he ascended the throne, he married her and made her his queen (‘Rani’ in Assamese). From that time onwards this place has been known as Rani. Its capital was at Patgaon during those days. When Rani was an independent kingdom the place occupied a vast area from Guwahati to Garo hills of present day Meghalaya (Martin, 1976). In the book ‘Itihashe Suwara Cha Bachar’ its author Rajkumar (1980) has mentioned that Rani occupied a large area of Jalukbari and Palashbari of Guwahati subdivision and spread upto the Khasi hills of present day Meghalaya.

When Rani came under the rule of the British it was divided into three mouzas namely Dakhin Rani, Chayani and Ramcharani. Captain Bagal conducted the first Census in Rani in 1833-34. The Census Report recorded that there were 63 villages in total with a population of 8405. Rani was constituted as a Development Block in 1958 with three mouzas viz.- Ramcharani, Dakhin Rani and Bholagaon.

A lot of changes have been witnessed in the Rani area in the recent past. As per the 2011 Census the geographical area within the Rani Block is 22,754.2 sq. km with 96 villages covering across the whole area. The total population as per 2011 Census stands at 105057 with 54274 male and 50783 female population and sex ratio of 1009.37 females per 1000 males. The schedule tribe population (17705) outnumbers the schedule caste population (5322) in the Rani area.

Several tribal groups belonging to the Mongoloid race namely the Bodo-Kacharis, the Rabhas, the Garos and the Karbis live here while a few groups of diverse
castes like the Brahmins, the Kalitas, the Baishyas, Hiras, Kaibartas, also inhabit the place. While the plains tribe population is by and large Hindus, the hill tribes of Garo population are Christian by religion.

Agriculture is the main source of livelihood for the majority of the population, rice cultivation or paddy being the main agricultural crop. Forests products of the surrounding reserve forests are additional source of livelihood of the people.

Due to its close proximity with the urban hub of Guwahati city, the health infrastructure in the Rani area is encouraging with two Primary Health Centres, one 36 bedded Community Health Centre, 1 State Dispensary, 26 subcentres and three Family Welfare Centres. There are 219 Angawadi centres with equal number of Anganwadi workers. A total of 98 ASHAs are working as grass-root level workers in the area. With regards to water supply 30 villages have been covered by Government drinking water facilities and 66 villages are yet to be covered (Directorate of Economics and Statistics, Assam, 2014).

**The People:** The present study was conducted in three groups of population viz. the Bodos, the Garos and the Assamese Caste Hindus.

**The Bodo:**

The Bodo, also known as the Bodo Kachari, are a subdivision of the Kachari group, which are distributed throughout the Brahmaputra Valley and the North Cachar Hills District (now known as the Dima Hasao District) of Assam. The Kacharis of lower Assam districts are often referred to as the Bodo Kachari (Sen, 1999). The Bodo belong to the Indo- Mongoloid ethnic group of Tibeto-Burman language family. According to Daimary (1987), the term “Bodo” was adopted by Brian Hodgson as an English transliteration of the word Boro.

The Bodo constitute the largest Scheduled Tribe (Plain) population of Assam. They are also distributed in small numbers in Myanmar, Nepal, Bangladesh, Sikkim and Bhutan. They are now largely concentrated in Kokrajhar, Baksa, Bongaigaon, Sonitpur, Goalpara, Dhubri, Kamrup and Darrang districts of Assam. The
Bodo have as many as twenty three clans, the names of which end with ari. Earlier, the clans were divided according to traditional work.

Joint family system is the norm among the Bodo, who are patriarchal. The sons can leave the joint family system during the lifetime of the father to live separately. The eldest son assumes the charge of the house after the death of the father. He gets a big share of the property in view of his family responsibilities. The unmarried sons living in the house get double the property of the married sons who live separately.

The Bodos practise monogamy. Although marriage within the same clan is said to be prohibited, it is not so in actual practice. Cross-cousin marriage was prevalent earlier but is now abolished. Widow remarriage is permitted. She can also marry her deceased husband’s younger brother but not the elder. Similarly, a widower can also remarry his deceased wife’s younger sister but not the elder. Marriage by negotiation (Haatha Chuni) is the normal social custom.

Agriculture is the mainstay of the Bodo. They cultivate both Ahu and Sali paddy. They are expert in constructing irrigation canals called Dong. They also rear the Eri silk worms. The menfolk are expert in making cane and bamboo products.

The Bodos do not have their own script but have adopted the Devanagiri script since April 1975. The Bodo language has been declared an associate official language of Assam by an Ordinance issued on December 28, 1984.

The religious philosophy of the tribe centres on the worship of Bathow Brai, who is analogous to Lord Shiva of the Hindu trinity. The Siju plant (Euphorbia Splendens) is regarded as the representation of Bathow. They also worship various other deities in a year.

Childbirth is not celebrated among the Bodos. However, when a married woman is pregnant, she follows many customs which are considered to be beneficial to the mother and the newborn. It is considered necessary for all pregnant women to offer things at the Bathousaali (Bathou altar). She can perform her regular duties but cannot visit a house where death has occurred recently. She is debarred from crossing rivers, ponds, etc. After completion of five months of pregnancy, relatives and neighbours
offer meal ceremoniously to the expectant mother. Traditionally, an elderly woman of the village performs the duties of a midwife during childbirth. For easy delivery, the expectant mother takes position on her knees supporting herself on a wooden mortar. After the child is born, the umbilical cord is cut with a sharp bamboo split. A thread of cotton taken from the loom is tied around the wound; seven times if the baby is a female and five times if the baby is a male. The cord, which has been cut away, is usually buried at the front portion of the house. It is believed that this act ensures a good life for the child and that it will be born again into that family. The baby is recognized to be a member of the family from that day. It is also believed that if the cord is buried in the courtyard, the mother gets a reprieve of about two years for the next pregnancy. On the seventh day after birth of the newborn, the family members clean the house and the courtyard and wash all the clothes. The priests of the village, known as Deuri and Daukhi, are called to purify the house from impurity caused by birth, who chant incantations and sprinkle holy water. After the purification rite is performed, the child is named on the basis of the day, month and tithi (lunar position) of the birth date of the baby. Thereafter, the mother and child can participate in all social and religious activities of the Bodo society (Engti, 2012).

The Garo:

The Garos inhabit the Garo hills district of the western extremity of Assam adjoining the Mymenshing district of Bangladesh. Besides, there are a large group of Garo in the plains area of the districts of Goalpara and Kamrup in Assam. A sizeable population also lives in Mymenshing district of Bangladesh. The Garos are mostly Christians who migrated to Assam in the beginning of 1964 due to systematic persecution in the erstwhile East Pakistan. Some thousands of these unfortunate people deprived suddenly of their hearth and home, had been rehabilitated in the Garo hills and thousands are still awaiting rehabilitation in a huge refugee camp at a place called Mafia in the Goalpara district of Assam.

The Garos, like the other tribes of Assam belong to the Tibeto-Burman families of Bodo linguistic group (Bordoloi, 1991). At one time they occupied a large part of the Brahmaputra Valley and were probably pushed from the plains into the hills.
The primary occupation of the Garo people is agriculture. They mainly depend on *Jhum* or shifting cultivation which is locally known as *Ara*. They also go out for hunting and fishing as their secondary source of livelihood.

The most remarkable social system of the Garo is that they are matrilineal people. The Garo society is composed of matrilineal families and clans. The smallest social unit is the family. A family may be primary, extended or joint family. The Garos have three clans originally, namely *Marak*, *Momim* and *Sangma*. Later on three other clans namely *Abeng*, *Areng* and *Sira* were formed (Barkataki, 1969). Each of these clans is affiliated to one of the group known as *Chatchi*. The machongs are spread out in a homogenous unit known as *Mahari*.

The Garos are monogamous people and prefer cross-cousin marriage. They are totally exogamous. Other types of marriage are also preferred like marriage by negotiation, mutual consent. They have also got the regularization of irregular union, which are mostly inter-tribal. The Garo society is also marked by the absence of payment of bride price.

The Garos are matrilocal people. After marriage the son-in-law has to reside in the house of his parents-in-law and become a *Nokrom* which means a kind of representative of his father’s clan in the family of his mother-in-law (Bordoloi, 1991). Descent among the Garo is matrilineal. They reckon descent from the mother. All properties, movable or immovable, belong to the mother and at her death the youngest daughter called *Nokma* (heiress) inherits the property of her mother.

Although, the Garos living within the territorial jurisdiction of Assam have accepted Christianity, they, however, still adhere to their traditional religious beliefs and practices. *Tatara-Rabuga* (chief deity), *Chorabudi* (deity who protects crops), *Goera* (God of thunder and lightning) are some of the important deities in their traditional religion.

The Garos like the other tribal people have gone through social changes and transformation. The spread of education and the impact of modernism have transformed the Garo society to a considerable extent.
The Assamese Caste Hindus:

Assam, though connected by the chicken’s neck to mainland India, has witnessed streams and waves of migration by people belonging to diverse racial, linguistic, ethnic, religious groups since the historical past. The subtropical climate with its heavy rainfall, easy availability of water, fertile soil of the river valleys have all contributed towards attracting hordes of people making the state a cultural cauldron and an anthropologist’s delight.

The first to settle in the rich river valley of Assam were the Khasis and the Jaintias who belong to the Austic group. The next group was the Tibeto-Burmans comprising the various tribes viz. the Bodos, Mishings, Karbis, Garos, etc. belonging to the Mongoloid stock. The Aryans followed them bringing in their own language from which the state language Assamese, an off-shoot of Sanskrit, has evolved. Asssam in the historical past also witnessed the Islamic influence through its various attacks by invaders. The linchpin in the formation of present Assam can be traced to the rulers of the Ahom dynasty who ruled Assam for six hundred glorious years. With the annexation of Assam with Bengal, the British released the floodgates of internal migration with the migrants pouring in from West Bengal who worked in the sarkari offices, the Nepalis and also ‘black birded’ the tribals inhabiting the Chotanagpur plateau of India to work in the cha-bagan (tea plantations). Hindu refugees trickled into Assam when India attained independence but got the bitter taste of partition. There has been unabated cross-border infiltration from her immediate neighbour Bangladesh. Furthermore, internal migration from different states of India- Marwaris from the Marwar region, Biharis and UPites, etc. have played a pivotal role in changing the demography of the state of late.

Hence, the current population of Assam can be categorized into two viz. tribal and non-tribal. The former is further subdivided into Hill Tribe and Plain Tribe based on their habitation. The tribal people belong to the mongoloid race while the non-tribals like the Caste Hindus, Muslims, etc. are Indo-Aryans mainly residing in the Brahmaputra and the Barak valleys.
The foundation of Assamese culture is cemented by the Hindu religion and the Vedic civilization. The assimilation of tribal populace with the non-tribals has led to a process of tribe-caste continuum. (Das, 1987)

Assam was relatively free of the caste system; which released its ugly tentacles of rigidity in the segregation of the Hindu society based on work in mainland India, owing to liberal attitude and flexibility of Assamese culture. Srimanta Sankardev, the great saint, preacher and social reformer was instrumental in diluting the rigidity of the caste system. Several tribals who embraced Hinduism became a chaste ‘caste’ by the process of sanskritization. The *naam-ghars* (prayer halls) and *satras* (Vaishnavite monasteries) wove an undercurrent of a sea of brotherhood which greatly lessen the evil ramification associated with the rigid caste system.

The Hindu Caste can be categorized as the *bamun* (Brahmin) and the *sudir* (Sudra: non-Brahmin). The *sudirs* include several castes of different hierarchical positions (Das, 1987). The Kayasthas and the Kalitas are the dominate caste in numerical strength while the others include the Koch, Kumar, Kaibarta, Keot, etc.

The scheduled caste in Assam is found more or less scattered and they have also assimilated with the others in the society. Unlike their brethren elsewhere in India, the scheduled caste population in Assam has been mercurial in escaping the shadows of untouchability. They also do not belong to the lowest rungs of the social-economic ladder. While fishing is practised by the Kaibartas, Namasudras and Jalkeots, the main source of livelihood for the larger scheduled caste population is agriculture in the rural areas. Some are also engaged in pottery, blacksmith, goldsmith, etc.

Even though the Assamese Caste Hindus are patriarchal in nature, women in the state have a high status compared to other Indian states. The historical, geographical isolation, cultural ethos, etc. have created a conducive environment for the womenfolk of Assam to shoulder the responsibility to wheel-barrow the wagon of the Assamese identity.