CHAPTER – III

MATERIAL AND METHODS
Study Area:

The present study has been carried out in North Twenty Four Parganas District of West Bengal.

Sampling:

Bongaon block is purposively selected which have predominated concentration of Namasudra population compared to other blocks of the same district, to ensure maximum coverage of Namasudra community and to minimize the cost and time involved in the survey and to facilitate maximum utilisation of the time available for research.

The data of the present study were collected from three villages namely Purana Bongaon (Sat Bhai Kalitala), Paschim Ramchandrapur and Kansona on the basis of their locations from the Sub-Divisional Health Centrte, situated in Bongaon town. These are as follows: -

Village I - Purana Bongaon - located nearer to the Sub Divisional Health Centre (i.e. 3 Km. far);

Village II - Paschim Ramchandrapur - located far from the Sub-Divisional Health Centre (i.e. 7 km. far) and

Village III - Kansona - located at a location furthest from the Health Centre (i.e.12 km. far).

Sample Size:

After grouping the villages into three categories, the three villages were selected using simple random technique from each group of villages. This was done on the basis of maximum concentration of the study population in the villages. Village Purana Bongaon is 3 km. away from Bongaon town, while distances of Paschim Ramchandrapur and Kansona from this town are 7 km. and 12 km. respectively. Information has been obtained from 876 ever married women. Out of which 202 from Purana Bongaon; 426 from Paschim Ramchandrapur and 248 from Kansona have been identified for in-depth interview.
Methods Applied for Data Collection:

(i) Reproductive variables, fertility and mortality profile:

Such data were collected from the households by interviewing the mothers with the help of structured schedules. Information on fertility and mortality were collected through pregnancy enumeration drawing genealogy with suitable crosschecks.

(ii) Attitude towards family planning methods:

Data pertaining to this aspect were collected through case study methods. Side by side associated various socio-cultural factors were also studied.

(iii) Utilization of health care services:

Information on concept of health, perception of disease, treatment of diseases, available facilities, utilization and attitude toward modern health care services were collected with the help of schedule/questionnaire from selected households. Traditional village medicine men were also interviewed.

Before starting this study a pilot survey was undertaken in the study area in July 1999. The pilot survey was completed in February 2000.

Rapport Establishment:

To begin with, the investigator moved around the study area and made friends with those who showed interest in him. The investigator then explained to them the purpose of his visits and used such friendships to extend the chain. The investigator meets the individuals of different age groups of the community and started communicating to them various problems and difficulties thus providing him opportunities to go deep into his data collection.

Besides this kind of group rapport, individual rapport was also very important. Having gained the confidence of the different strata and groups at large the investigator was able to come closer to these individuals, which helped the investigator for collection of various data.
After setting down in the study area and establishing rapport with the people there, the general sequence of work of investigator consisted in getting data concerning the physical features of the area, including the drawing of map, a general house to house survey of the village, interview for information, making direct observation of health behavior of the Namasudra.

Members of the village Panchyat, Panchyat Samiti, School Teachers, Personel of the PHC hospital, social workers were among those who were interviewed relative to this study.

Besides using structured interview schedule, observation method was also employed for data collection. Though the collection of most of the information was obtained from the wife; data on certain items like age, education, marriage etc., were obtained from their husbands as they could provide relatively more reliable data.

During subsequent household visits, the wife and husbands were separately interviewed and data relating to delicate matter like elopment, abortion, contraception, use of herbal and ethno medicine by and taking amulet and for abortion or delay of conception were obtained. Beside these local Dai, Anganwari workers, health workers were also interviewed. All information collected from three studied villages were continuously checked and households were visited repeatedly in order to increase the quality of information.

For the sake of analysis on economic status of the studied population three categories were made viz., (i) high: those mothers who belong to the families of high income group (per capita annual income more than Rs. 5000/=), (ii) medium: those mothers who belong to the families of medium income group (per capita annual income between Rs. 5000/= and 1001/=) and (iii) low: those mothers who belong to the families of low income group (per capita annual income Rs. 1000/= and less).

It may be mentioned that the investigator experienced great difficulties in assessing the age, particularly of the elderly women, since they were not aware of their real age. In these cases, we had to estimate their age with reference to some important local events and to the age of some other individuals, who seemed to be in the same age group. However, the age of the individuals are correct upto the month of birth, but not upto the date of birth.
Statistical Consideration:

In order to interpret the data adequately the following statistical measures are incorporated.

A. Mean: Mean is the central value of a distribution. It is calculated by the following formula.

\[ \bar{x} = \frac{\sum x}{n}, \]

Where \( \bar{x} \) = mean value.
\( \sum x \) = total of all values and
\( n \) = total number of observation.

B. Standard Deviation (S.D.): Standard deviation is a measure of the extent to which the individual items vary. It is calculated by the following formula.

\[ \delta = \sqrt{\frac{\sum (x - \bar{x})^2}{n}} \]

Where \( \bar{x} \) is the mean, ‘x’ is the individual observation and ‘n’ is the total number of observation.

C. Test of Significance:

I) Chi - square (\( \chi^2 \)) test: This test of significance is found useful in computing the difference in regard to non-metric data. It is defined as:

\[ \chi^2 = \frac{(O-E)^2}{E}, \]

Where \( O \) = observed frequencies and
\( E \) = expected frequencies.

For inference 0.05 probability level is taken into consideration in case of this test.

II) T - test: For the purpose of comparison among the various divisions the ‘t’ - test of significance have been applied. This test is usually found convenient in examining the metric data.

Formula used for t - test is:

\[ t = \frac{M_1 - M_2}{\sqrt{d_1^2 + d_2^2}} \]

Where \( M_1 \) and \( M_2 \) stand for mean values of the two samples and \( d_1 \) and \( d_2 \) stand for the standard error of the two mean values respectively.

For inference 0.05 probability level is taken into consideration in case of this test.
D. Binomial test of equality of proportion:

This formula used as:

<table>
<thead>
<tr>
<th>Sample size</th>
<th>Proportion</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N₁</td>
<td>n₁</td>
<td>P₁ = n₁ / N₁</td>
</tr>
<tr>
<td>N₂</td>
<td>n₂</td>
<td>P₂ = n₂ / N₂</td>
</tr>
</tbody>
</table>

T₁ = P₁ - P₂
p = P₁N₁ + P₂N₂ / N₁ + N₂
q = 1 - p
T₂ = √pq { (N₁ + N₂) / N₁N₂ }

If the T₁ is greater than twice T₂ ten the difference is significant.