CHAPTER VIII

REPRODUCTIVE HEALTH: A FEW SELECTED INDICES FOR THE TEA TRIBE OF ASSAM

8.1 INTRODUCTION

The oldest definition of health is the absence of disease. In recent years, it has been realised that health is an integral part of development and also an important measure of any society’s development progress. Health is defined in WHO’s constitution as a state of complete physical, mental and social well being and not merely the absence of disease or infirmity. The World health assembly, in May 1977, decided that the main social goal of government and WHO should be the attainment of a level of health by the year 2000, so that people will lead a socially and economically productive life. This goal is popularly known as Health for All by the year 2000. The Health For All renewal process was launched in 1995 in response to accelerate global change and to ensure that individuals, countries and organization are prepared to meet the challenges of the 21st century. During its session in May 1998, the World Health Assembly endorsed the new World Health Declaration and the new global health policy “Health For All in the 21st century”. WHO recognises that the improvement of the health and well being of people is
the ultimate aim of social and economic development. Our country also emphasizes the importance of reducing social and economic inequalities in improving the health of the whole population. It is required to address the basic determinants and prerequisites for health. To give effect to the Health For All policy for the twenty first century meaningful steps should be taken through relevant regional and national policies.

Approximately 600,000 women die annually from pregnancy related causes, 99 percent of them are in developing countries. These causes of death are preventable. Most often adolescents, youth and women have to cross the reproductive period with reproductive problem. As a result of this realization, the International Conference on Population and Development (ICPD) held at Cairo, Sept 1994, highlighted the objective of universal access to reproductive health care by the year 2015 and approved a Programme of Action which defines reproductive health as-

"Reproductive health is a state of complete physical, mental and social well being of a couple and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes." Fathalla, (1987) defined reproductive health as – people have the ability to reproduce and regulate their fertility; that women are able to go through pregnancy and childbirth safely; that the outcome of pregnancy is successful in terms of maternal and infant survival and well-being; and that couples are able to have sexual relations free of the fear of
pregnancy and of contracting disease.

For most programmes in developing countries reproductive health has been equated with family planning programme. WHO recognizes the importance of family planning and reproductive health services for improving health and human development, especially for poor people. Though reproductive health is not a new health concept but in India it has been largely neglected. In India during the later part of the 1980s, efforts were made to improve women's reproductive health and the Eighth Five Year Plan (1993-1998) had included a safe motherhood programme for lowering maternal mortality.

In this chapter reproductive health of female of tea tribes of plantation is studied. Among the organized industries in India, the tea industry employs the largest number of female and the industry continues to depend for a high level of productivity on its female labour. To know the reproductive health of female tea population it is necessary to study the different components of reproductive health suggested by Egon Diczfalusy, renowned expert in the field of human reproduction and reproductive health, as pillars of reproductive health. The essential components are-(1) The status of women,(2) Family planning,(3) Maternal care and safe method (4) Abortion, (5) Reproductive tract infections and HIV/AIDS (6) Infertility (7) Reproductive organ malignancies (8) Nutrition, (9) Infant and child health, (10) Adolescent reproductive health
and sexuality, (11) Sexual behaviors and harmful sexual practices and
(12) Environmental and occupational reproductive health. Watsa (1997)
adds four more, i.e. the Status of the male, Senior citizens, Relationships,
Attitudes & value building.

The United Nations System in India, through the Inter Agency
Working group on Population and Development (led by United Nations
Population Fund i.e. UNFPA) released a monograph (1997) entitled
“India Towards Population and Development Goals”, on the third
anniversary of the International Conference on Population and
Development (ICPD, Cairo, 1994). This monograph was the first
published contribution of the UN system in India. It reviewed the
progress made in India towards achieving population and development
goals as outlined in the ICPD Programme of action, since the Cairo
conference. Besides throwing light on various demographic, social and
economic trends of human development, an attempt has also been made
to make a comprehensive assessment of the major states, in terms of
Human Development Index (HDI), Gender related Health Index (GHI)
and Reproductive Health Index (RHI).

Reproductive Health Index (RHI) is an indicator of health status. In
the monograph, RHI was constructed with six parameters relevant to
maternal health i.e. the total fertility rate, the infant mortality rate, the
proportion of higher order birth i.e. order 4 and above, the proportion of
adequately spaced births, i.e. with a spacing of 36 months, the proportion of births receiving skilled attention at the time of delivery and the educational attainment of women.

In another monograph “State of India’s population”, published by Population Foundation of India, the RHI was constructed by considering seven different aspects of reproductive health (1) Total fertility rate (TFR), (2) Age specific fertility rate for the age group 15-19 (ASFR 15-19), (3) Birth order, (4) The type of attention at birth, (5) Prenatal mortality rate, (6) Couple protection rate and (7) Educational attainment. But according to Ramanathan, (1998) the newly constructed reproductive health index by excluding such indicators as maternal mortality and childlessness among women is more appropriate for measuring the status of the family planning programme than the reproductive health status of women.

8.2 OBJECTIVE

The main objectives of this study are: (1) to understand the factor influencing the reproductive health of female of tea tribes and (2) to estimate the reproductive health index to measure reproductive health status of females of tea tribes.

8.3 THE DATA

In order to attain the objectives of the study information on various aspects related to maternal health have been taken. The survey
interviewed 1015 married women of aged 15-49 years. Detailed information about the respondent’s household information, marriage information, reproductive history, contraception, availability of family planning methods, birth order, birth interval and place of delivery were collected. Moreover, the women were asked some questions regarding health like “At present do you have any gynecological problem”, “Do you have any problem regarding breast”, “Did you receive any medical and health care while you were pregnant/ during delivery/ after delivery”, “Have you heard of FP programme”, “What method are you using”, “Do you plan to use any FP method in future”, “Who looks after you at the time of delivery”, “Did you have any spontaneous abortion”, and “Have you ever undergone induced abortion”. Each respondent answered some questions regarding her knowledge and attitude about reproductive health, number of live births, number of deaths and education. These data have been used for the six indices namely index of total fertility rate, index of infant mortality rate, index of birth order, index of birth interval, index of medical attention and index of educational attainment to construct reproductive health index.

8.4 FACTORS INFLUENCING THE REPRODUCTIVE HEALTH

Status of women: Maternal mortality and maternal morbidity are the most sensitive indicators of the status of women in a society. The status of women is related to awareness, knowledge and practice of family
planning. Many studies suggest that the status of women may be the single most important factor in fertility transition in India (Mitra, 1979 and Dyson and Moore, 1983). There exists some regional variation in the status of women (Karve, 1965 and Srinivas, 1978). The quality of life of a society depends on women’s status. To raise the quality of life, it is important to increase women’s status and which ultimately affects the reproductive behaviour. Several studies have defined women’s status by their education, employment, nature of work and salary (Chaudhory, 1977; Bhargava and Saxena, 1987) and impacts of women’s status on fertility (Mahadevan, 1979). Education is the key element for improving the status of women (Vaidyanathan, 1989). Usually, a woman makes rules and practices some patterns regarding cleanliness, hygiene and nutrition within a family. So women are key people who have to be educated. It is well known that female literacy lowers the mortality rate. Caldwell (1980) observed negative relationship between education of the women and their fertility. It is found that 85.7 per cent of the investigated women have no education i.e. they cannot read and write, only a small per cent of them educated up to the primary level. 10.8 per cent women are dropped out before completing primary school (Table 3.2). Data shows that the percentage of middle school and high school passed women in the surveyed area are very low. Education helps women to read information regarding family planning, birth control, advantages of
small family from commonly available media such as TV, poster, newspaper etc. Exposure to mass media is considered as most important factor, which have indirect effect on fertility. Although the tea industry employs the largest number of female workers but they belong to the least paid occupational categories. Inability to purchase common media personally has deprived them from many programmes on small family norms, immunization and family planning.

Family planning: Family planning now called family welfare is a mixed programme for women. Since its inception, the programme has undergone various efforts to control fertility level. Most of the tea labourers of this survey population still have the idea of family planning means only sterilization. Family planning is the conscious effort of couples to limit the number of births and spacing of births. Female sterilization is the most popular contraceptive method among tea tribes. Lack of proper knowledge of family planning and misconception about the family planning methods precludes them to use non-terminal methods. Some expressed their beliefs about the side effects of operation that it could cause physical weakness and dizziness. Data shows that 28.8 per cent women are protected by permanent method after completing desired family size. Very small numbers of women are aware of non-terminal methods. Only 3.4 per cent women use some oral pills for spacing. Some non-users expressed that oral pills could cause nausea,
stomachache and make eyesight week. Due to emphasis on terminal methods, most women remain unprotected from closely spaced births. Some of the user complained their suffering from side effects of contraceptives. Poor spacing depletes the health of mother. So the popularization of spacing methods of contraception is an important necessity for promoting maternal health and chances of child survival.

**Maternal care and safe method:** Maternal mortality in developing countries is more than 100 times higher than the industrialized countries (Abou and Royston, 1991). Pregnancy is one of the most critical and unique periods in a woman’s life cycle. In India many women die from a pregnancy related causes and childbirth. Bhat et al. (1995) reported the maternal mortality ratio of 580 per 100,000 live births in India. The ratio in rural India was 638 and in urban areas 389. The highest mortality ratio was in Assam i.e. 1068.

The six major causes of maternal mortality are anaemia, haemorrhage, eclampsia, obstructed labour, infection or abortion. Except obstructed labour, the other five causes are the most important causes of maternal deaths in developing countries. All the causes are preventable.

The main purpose of maternal health care is to provide all necessary facilities to pregnant women during pregnancy period and delivery, which help them to have a safe delivery and also to deliver a normal and healthy baby. The various components of maternal and child
health care are antenatal care, natal care, post natal care, breast feeding, weaning and nutrition of the mother and child. Many studies have revealed that women who got antenatal, natal and postnatal services have fewer undernourished children (Ramachandran, 1989; Punhani and Mahajan, 1989; Xu et al., 1995).

Antenatal care is the care of the women during pregnancy. The aim of antenatal care is to promote, protect and maintain the health of the mother. Early investigation of complication, immunization against tetanus and checking the progress of the pregnancy constitute the aspects of antenatal care. 71 per cent of investigated women have received antenatal care. Access to safe delivery is very poor. More than 80 per cent women have delivered at home in the hands of dais in very unhygienic condition. The postnatal care is the care of the mother and the newborn. The practice of postnatal care is very poor among tea labourers. They take no extra care during pregnancy period and after pregnancy. Though the pregnant women, lactating mother and growing infant need extra proteins, energy, vitamins and minerals, but they consume the normal routine diet. Few women have reported complicacy at delivery and complicated cases are sent to the hospital for safe delivery.

Abortions: Abortion is one of the most important components of reproductive health. In India, the Medical Termination of Pregnancy (MTP) Act was passed in 1971. The aim of the act was to reduce
maternal mortality and morbidity due to illegal abortion. Still MTP services are not well utilized in tea plantation. The present study finds only 7.7 per cent abortion acceptors in survey area. Some illegal abortions are performed by *dais*. Some cases are unreported because of their hesitation to express, unwilling to reveal and also due to recall lapse. Some cases are performed in an unhygienic and unscientific way. In U.P, Rajasthan, and Orissa, most of the acceptors of abortion belonged to the low castes, whereas in Tamil Nadu they belonged to both low and high caste (ICMR, 1989). Many studies have reported that educated women have utilized the MTP facilities more than the illiterate women (Rao and Panse, 1975; Jamshedji and Kokate, 1990; Khan *et al.*, 1990). The state level analysis showed that highest percent of abortion acceptors was in Delhi, but in Mizoram, Meghalaya and Nagaland, incidence of induced abortions was the lowest. This difference of incidence of induced abortion may be due to religious beliefs, low level of women education and non-availability of legalized abortion services.

**Infertility**: Infertility refers to the inability to have a live birth. Infertility may be primary and secondary. Little attention has been paid to research programme etc., relating to poor woman's primary infertility. In India, emphasis on fertility control reduces the study of infertility, which is a serious aspect of reproductive health and it has some bad consequences (Jejeebhoy, 1999). In some societies the problem of infertility often leads
to marital violence. The cost of treatment of infertility is beyond the capacities of poor and treatment takes long time. The present study finds 2.1 per cent childless couple in the survey area. The data from the 1981 census (Ministry of Health and Family Welfare, 1990) and a village level study in Maharashtra (Bang et al., 1989) suggested that infertility may be in the range of 6 to 7 per cent of the couples. Women’s poor health and nutrition status may be the causes of repeated miscarriages and foetal wastage.

Infant and child health: Infant and child mortality are sensitive indicators of the physical well-being of population and it reflects the socioeconomic development of a society. Infant and child mortality are closely associated with national socioeconomic development (Shin, 1975) as well as the social class of parents (Antonovsky and Bernstein, 1977). A United Nations Panel (1971) reported that in developing world malnutrition is an important cause of infant and young child mortality. The present data shows the infant mortality rate for the study area is 70. 1-4 year’s child mortality rate is more refined indicator of the social situation of a country than infant mortality rate (IMR). It reflects the adverse environmental health hazards i.e. malnutrition, poor hygiene, infections and accidents and economic status of the family. The present data shows the under-5 mortality rate is 55. The causes of infant mortality rate and child mortality rate are different. Widespread illiteracy and a low level of
health awareness are the major causes of child death. In most of the garden, sanitary conditions are extremely poor. They have no knowledge of the medical value of cleanliness. The personal hygiene of the people is inadequate. Poverty, malnutrition, a decline in breast feeding and inadequacy or lack of sanitation and health facilities are the major causes of high infant and child mortality (ICPD,1994). Basu (1990) considered that under the condition of poor physical environment, better antenatal and natal care would reduce morbidity and mortality among children.

**Nutrition:** Nutrition may be defined as the science of food and its relationship to health. The word Nutrient or food factor is used for specific dietary constituents such as proteins, vitamins and minerals. Nutrient availability to the child as well as to the mother during pregnancy and lactation is an important factor determining the nutritional status of the child. Many studies reported that a pregnant woman with better food intake is less likely to deliver a low birth weight and premature baby (Raina, 1971; Natu and Patnaik, 1988; Xu *et al.*, 1995).

Good nutrition means maintaining a nutritional status that enables one to grow well and enjoy good health.

Generally children born to mothers at age below 18 and at age above 34 are more susceptible to under nutrition than children of mothers of age 18-34. Rajaretnam and Hallad (2000) reported that children born to very young mothers (age below 18), children born with a birth interval of
less than 2 years are at a higher risk of being severely undernourished. The housing environment in which the children live is also important for their growth. Education of parents is an important factor determining the nutritional status of their young children. Several studies have found that educated parents have fewer undernourished children than illiterate parents (Ramachandran, 1989; Sommerfelt and Stewart, 1994).

Adolescent reproductive health and sexuality: Adolescent fertility refers to fertility in the adolescent ages i.e. in the age group of 15-19. It is very important to study adolescent reproductive health because it has numerous consequences in different aspects. The study on adolescent reproductive health is very little in India (Jejeebhoy, 1996). High adolescent fertility results in high overall fertility. A birth of adolescent mothers has more obstetrical problems and also affects health of infants and mothers. Children born to very young mothers are at higher risk of being severely undernourished (Rajaretnam and Hallad, 2000). Usually high infant mortality and high maternal mortality is seen among births at early ages. Several studies of hospital-based record suggest that unwanted pregnancies and unsafe abortion among urban adolescent girls are common (Divekar et al., 1979 and Chhabra et al., 1988). 50 per cent of the investigated women have a love marriage and 64 per cent are married before age 20. Average age at marriage is 18 at survey area, so a large number of women are pregnant before they are physically fully
developed. As a consequence, 10.4 per cent spontaneous abortions are seen in the age group of 15-19. Reproductive tract infections are a major health problem. Millions of young people around the world become infected with sexually transmitted diseases every year. Many rural women believe that reproductive tract infections are caused due to diet or promiscuity. Actually the reason of sexually transmitted reproductive tract infections is the effect of increased sexual abuses and sexual violence. Few women in the study area have complained the sexual violence of their alcoholic husband. But this is a common feature in the tea garden. They hesitate to reveal their personal problems and silently suffer from several types of reproductive morbidities as well as have no knowledge about sexually transmitted diseases like HIV and AIDS.

8.5 METHODOLOGY OF CONSTRUCTION OF THE REPRODUCTIVE HEALTH INDEX (RHI)

To measure the reproductive health status of a particular population, it is necessary to construct an index, which reflects the relative status of that population. In the present study the reproductive health index (RHI), constructed in the monograph (1997) is applied to measure the reproductive health status of female of tea garden labour. The index is constructed by combining six parameters relevant to maternal health: the total fertility rate (TFR); the proportion of higher order births, i.e., order 4 and above (B 4+); the proportion of adequately
spaced births, i.e., with spacing of 36 months or more (BS 36+); the proportion of births receiving skilled attention at the time of delivery (SKAD); the infant mortality rate (IMR) and the educational attainment of women (EAW). These six parameters are first converted to indices and then combined into a composite reproductive health index by assigning equal weights for each of the six component indices. The index also varies on a 0 to 100 scale.

The various indices were developed in the following ways:

(1) Total fertility rate gives the average number of children that would be born to women, if they continue their reproduction at the current levels of fertility. The maximum possible range of the TFR is used to norm the TFR. The TFR is said to range between 6 and 1.6 and thus the index becomes

\[
\text{Index of TFR}(I_t) = \frac{6 - \text{TFR}}{6 - 1.6} \times 100
\]

The measure reflects the reductions in fertility, which has been attained relative to a possible high of six. The higher these reductions, higher the index value and better the performance of the state.

(2) The infant mortality rate (IMR) is considered to be a sensitive indicator of not only the health status of the population but also the level of human development in the context of education, economic conditions,
nutrition etc. The IMR is found to vary between 8 and 125 and hence have been considered as the lower and upper limits. Thus this index becomes,

\[ \text{Index of IMR (I}_2\text{)} = \frac{125 - \text{IMR}}{125 - 8} \times 100 \]

(3) It is highly expected that a family planning programme have a direct impact on reduction of higher order birth. This proportion of births of higher order varies between 5 per cent and 40 per cent. Using these percentages, the index for birth order is constructed as:

\[ \text{Index of birth order (I}_3\text{)} = \frac{40 - \text{Percentage of birth of order 4 and above}}{40 - 5} \times 100 \]

Higher the value of this index; lower the percentage of births of order four and above

(4) The proportion of adequately spaced birth means birth with a spacing of 36 months or more. The maximum upper limit is considered as 75 months. Using these percentages, the index of birth interval is constructed as:

\[ \text{Index of Birth Interval (I}_4\text{)} = \frac{\% \text{ of women with birth interval 36 months and above}}{75} \times 100 \]

Higher the value of this index; higher the birth interval.
(5) Medical attention at birth

This index considers both births occurring in institutions and those attended by trained professionals in the ratio 3:1. So the index is

Index of medical attention \( (I_5) \)

\[
= 3 \times \% \text{ of institutional deliveries} + \% \text{ of deliveries attended by trained persons} \times 100
\]

(6) Index of education

This has been calculated as the weighted average of middle school enrolment ratio for girls and adult literacy rate for females. The weights are in the ratio 1:2.

Index of education \( (I_6) \)

\[
= \frac{2 \times \text{adult literacy rate} \% + \text{middle school enrolment ratio}}{3} \times 100
\]

(7) Reproductive Health Index (RHI)

This is a simple average of the above six indices. It is expected to measure the impact of health and family planning service delivery but also opportunities for education of women. The index value ranges between 0 to 100.

\[
:\! RHI = \frac{I_1 + I_2 + I_3 + I_4 + I_5 + I_6}{6} \times 100
\]
8.6 RESULTS AND DISCUSSION

Table 8.1 shows the estimates of various rates and indices on the basis of present data of tea labour community. From the table it is clear that the level of fertility is still much above the replacement level. With regard to infant mortality rate, recent data shows it as 70.3. As estimated in the NFHS-1, 1992-1993 the infant mortality rate was 89 in Assam, which was dropped to 70 as shown in the NFHS-2, 1998-1999. Therefore it has exhibited a declining trend. The percentage age of higher order birth is 26.5 in the present data. NFHS-2 data exhibits that the proportion of births that are of four or higher is 19 per cent in urban areas and 30 per cent in rural areas. The proportion of births of orders four or higher is relatively large for births to illiterate women. In the present investigation the percentage of births with more than 36 months of spacing is 30.3 i.e. the percentage of poorly spaced births is higher among tea tribes like many rural areas of India. Commonly, the number of poorly spaced births is higher in rural areas than in urban areas. Though in all the states the proportion of women receiving skilled attention at the time of delivery has been increasing, yet in the study area about 83.7 per cent deliveries occur at home in the presence of dais. The composite index of RHI is observed with a score of 32.68 for the present data. In Assam the value of RHI was observed with a score of 40.37 in 1993. If we analyse separately each of the indices for the present data it is seen that the scores of
different indices lies between 46.75 and 7.7. The educational attainment index carries only 7.7 score and the medical attention index carries score 11.33. Therefore the present data indicates that tea tribes are lagging far behind the rest of the country in all aspects.

8.7 CONCLUSION

The present study, based on the data obtained from the survey conducted in different tea gardens, has attempted to understand the reproductive health problem of women of tea gardens and their awareness to reproductive health and impact of different components on reproductive health. The present analysis shows that widespread illiteracy and a low level of health awareness are the major problem in tea gardens. It is hence very much necessary to educate the workers especially female workers about various aspects of reproductive health.
Table 8.1
Estimates of various indices of reproductive health indices and various rates

(a) Estimates of rates

<table>
<thead>
<tr>
<th>Index</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total fertility rate (TFR)</td>
<td>4.6</td>
</tr>
<tr>
<td>Infant mortality rate (IMR)</td>
<td>70.3</td>
</tr>
<tr>
<td>Birth of higher order (4+)</td>
<td>26.5%</td>
</tr>
<tr>
<td>Birth interval (36+)</td>
<td>30.3%</td>
</tr>
<tr>
<td>Medical attention at birth</td>
<td></td>
</tr>
<tr>
<td>(i) Institutional</td>
<td>13.3%</td>
</tr>
<tr>
<td>(ii) Trained person</td>
<td>83.7%</td>
</tr>
<tr>
<td>Educational attainment of female</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

(b) Estimates of indices

<table>
<thead>
<tr>
<th>Index</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index of TFR</td>
<td>31.80</td>
</tr>
<tr>
<td>Index of IMR</td>
<td>46.75</td>
</tr>
<tr>
<td>Index of Birth order</td>
<td>38.57</td>
</tr>
<tr>
<td>Index of Birth interval</td>
<td>40.40</td>
</tr>
<tr>
<td>Index of Medical Attention</td>
<td>30.90</td>
</tr>
<tr>
<td>Index of Educational Attainment</td>
<td>7.70</td>
</tr>
<tr>
<td>Reproductive Health Index</td>
<td>32.68</td>
</tr>
</tbody>
</table>