DLHS -2

Assam

Reproductive and Child Health

District Level Household Survey
2002-04

International Institute for Population Sciences, (Deemed University) Mumbai – 400 088

Ministry of Health & Family Welfare, New Delhi – 110 011

TALEEM Research Foundation, Ahmedabad – 380 058

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Contributors

TALEEM Research Foundation, Ahmedabad

Md. Irfan Khan
Mitali Chakrabarty
Narendra Singh
Dilip Singh Bora

International Institute for Population Sciences, Mumbai

Fauzdar Ram
Balaram Paswan
L. Ladu Singh
Uttam J. Sonkamble
Rajiv Ranjan

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PREFACE AND ACKNOWLEDGEMENT

Government of India had launched the Reproductive and Child Health (RCH) program to ensure that couples have access to adequate information and services for reproductive health care. As a first step, family planning target has been withdrawn and an effort is being made to provide a package of reproductive services at different levels of health care centres.

Monitoring of the services is also being improved. New indicators are being added to assess quality of services and provision of an integrated reproductive health care service. The District Level Household Survey (DLHS) was initiated by Government of India and financed by the World Bank covering all the districts in the country. For the second time, district level estimates will be available for most of the critical reproductive health indicators. These important initiatives are certainly quite satisfying for all those who are concerned with taking ICPD reproductive health agenda ahead. The project is being coordinated by International Institute for Population Sciences, Mumbai and implemented by a number of consulting agencies.

For the purpose of data collection, uniform questionnaires, sampling design and field procedures were used throughout the country. The survey thus provided comparable data for all the districts in the state. The present report provides salient findings of Assam covering all the districts. The findings of selected indicators of reproductive and child health services from the state of Assam are presented in the report.

It is believed that the data generated through the survey will meet the requirements of the Programme Administrators and Policy Makers for making effective interventions for providing quality services and achieving multiple objectives.

The DLHS-RCH could not have been successfully completed without cooperation and support from innumerable sources at various stages of the project. Although, it is not possible to acknowledge everyone involved in the survey, several organizations and individuals deserve special mention.

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We would be failing in our duty if we do not thank our respondents who spent their valuable time with tremendous patience.

Binod C. Agrawal
Director
TALEEM Research Foundation,
Ahmedabad - 380058

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KEY INDICATORS, ASSAM

DISTRICT LEVEL HOUSEHOLD SURVEY- REPRODUCTIVE AND CHILD HEALTH, (DLHS-RCH), 2002-04

Sample size	
Households surveyed	24,269
Currently married women age 15-44	17,775
Husband's of eligible women	12,824
Characteristics of households	
Percent rural	71.7
Percent Hindu	72.6
Percent Muslim	23.8
Percent other religion (Christian)	3.6
Percent scheduled caste	13.1
Percent scheduled tribe	12.9
Percent with electricity	43.6
Percent with flush toilet	26.8
Percent with no toilet facility	24.6
Percent living in *Kachcha* houses	61.3
Percent living in *Pucca* houses	21.5
Percent with low standard of living	56.3
Percent with high standard of living	20.9
Percent with iodized salt (15+ppm)	53.4
Characteristics of currently married women age 15-44 years	
Percent below age 30	42.7
Percent with age at first cohabitation below age 18.	36.8
Percent illiterate	35.4
Percent having 10 or more years of schooling	19.3
Percent with illiterate husband	23.9
Percent with husband 10+ years of schooling	28.9
Marriage	
Mean age at marriage for boys	27.2
Mean age marriage for girls	20.7
Percent of boys married below age 21	10.3
Percent of girls married below age 18	23.8
Fertility	
Mean children ever born women age 40-44 years	3.7
Percent of births of order 3 and above[1]	40.6
Current use of family planning method	
Any method	57.5
Any modern method	28.7
Pill	12.2
IUD	1.2
Condom	2.3
Female sterilization	12.8
Male sterilization	0.1
Any traditional method	28.7
Rhythm/safe period	20.5
Withdrawal	7.4
Unmet need for family planning	
Percent with unmet need for spacing	8.2
Percent with unmet need for limiting	14.3
Percent with total unmet need	22.5
Maternal care[2]	
Percent of women received antenatal check-ups	61.5
Antenatal check-up at home	0.9
Antenatal check-up in first trimester	40.3
Three or more visit for ANC	42.3
Two or more tetanus toxoid injections	57.6
Adequate Iron folic acid tablets/syrup[3]	13.4
Full antenatal check-up[4]	10.2
Delivery characteristics[2]	
Delivery at home	71.9
Delivery at government health institutions	13.9
Delivery at private health institutions	12.9
Delivery attendant by skilled persons[5]	9.0
Child health	
Percent of children whose mother squeezed out milk from her breast[6]	56.9
Percent of children[7] with diarrhoea[8] who received ORS	45.1
Percent of women whose child[7] with pneumonia[8] sought treatment	61.8
Percent of children who received vaccinations[9]	
BCG	63.8
DPT (3 injections)	38.7
Polio (3 drops)	29.0
Measles	35.9
All vaccinations[10]	17.2
No vaccination at all.	22.9
Percentage of women who had	
Pregnancy complication[2]	30.6
Delivery complication[2]	34.6
Post delivery complication[2]	31.7
Symptoms of RTI/STI	23.6
Problems of vaginal discharge	12.4
Menstruation related problem	15.6
Awareness of RTI/STI and HIV/AIDS	
Percent of women who have heard of RTI/STI	24.3
Percent of women who have heard of HIV/AIDS	49.1
Utilization of government health services	
Antenatal care	33.7
Treatment for pregnancy complication	45.4
Treatment for post-delivery complication	44.1
Treatment for vaginal discharge	40.6
Treatment for children with diarrhoea	44.2
Treatment for children with pneumonia	36.7
Quality of family planning services	
Percent non-users ever advised to adopt the family planning method	5.9
Percent users told about side effects of method	51.8
Percent users who received follow-up services	4.7
Characteristics of husband of eligible Women	
Percent of husband knowing NSV	21.9
Percent of men who have heard of RTI/STI	42.6
Percent of men who have heard of HIV/AIDS	67.6
Percentage who had any symptoms of RTI/STI	7.3
Sought treatment for RTI/STI	36.6

[1] For births in past three years, [2] For live/still births during three years preceding the survey, [3] 100 or more IFA tablets/Syrup, [4] A minimum of three visits for ANC, at least one TT injections and 100 or more IFA tablets/syrup, [5] Either institutional delivery or home delivery assisted by Doctor/ANM/nurse, [6] Children age below 3 years, [7] Last but one living children below age 3 years, [8] Last two weeks preceding the survey, [9] Last but one living children (age 12-23 months) born during three years preceding the survey. [10] BCG, three injections of DPT, three drops of polio and measles.

SALIENT FINDINGS

For the assessment of district level Reproductive and Child Health indicators, Government of India proposed to undertake district level household surveys through non-governmental agencies on an annual basis. The District Level Household Survey (DLHS) was the result of government's initiative. In Assam, TALEEM Research Foundation, Ahmedabad, India, was entrusted the work of carrying out of the survey. The survey for Phase-1 of the DLHS covering 12 districts of the state was carried out during May 2002 to November 2002. The survey for Phase-2 covering the remaining 11 districts of the state was carried out during January 2004 to July 2004. The focus of the survey was on: i) Coverage on ante natal care (ANC) and immunization services, ii) Extent of safe deliveries, iii) Contraceptive prevalence rate and unmet need for family planning, iv) Awareness about RTI/STI and HIV/AIDS and v) Utilization of government health services and users' satisfaction. The salient findings of the survey are presented here.

For both the phases together, the data was collected from 24,269 households in Assam. From these households, 17,775 eligible women (usual resident or visitors who stayed in the sample household the night before the interview, currently married aged 15-44 years whose marriage was consummated) and 12,824 husbands of eligible women were interviewed.

Of the total households interviewed in Assam, 28 percent were from urban areas. There were 73 percent Hindu households, 24 percent Muslim and four percent were Christians in the sample. Twenty-six percent of the households belonged to either scheduled castes or scheduled tribes. Sixty-one percent of the households lived in *Kachcha* and 22 percent are in *pucca* houses. Most of the households belonged to low economic status (56 percent).

About 74 percent of population aged seven and above are literate. Percent literate among females is 68 where as it is 80 percent for male. Proportion of non-literate is higher among the older cohort compared to the younger ones. Thirty-five percent of eligible women in the state are non-literate, and 19 percent have completed 10 or more years of schooling. As regards to the distribution of non-literate women, lesser proportion of younger women below age 30 are illiterate compared to older women age 30 and above, but in case of non-literate husbands variation is not much across their age cohort.

The reporting of the marriages during three years prior to survey gives the mean age at marriage among the boys and girls in the state as 27.2 and 20.7 years respectively. Ten percent of boys and 24 percent of girls in the state got married before attaining the minimum legal age at marriage of 21 and 18 years respectively. Boys marrying below the legal age at marriage ranges from three percent in Lakhimpur to 20 percent each at Dhemaji and North Cachar Hills. Similarly, Girls marrying below the legal age at marriage ranges from three percent at Cachar to 47 percent at Marigaon district.

Over half of the households (53 percent) use cooking salt that is iodized at the recommended level of 15 parts per million or higher level of iodine content whereas nine percent of households used salts that are not iodized at all. Lowest proportion of households (0.6 percent) in North Cachar Hills is using non-iodized salt whereas in Hailakandi the highest proportion of

households (62 percent) used non-iodized salt. In eight districts out of 23, more than half of the households were seen to be consuming adequately iodised salt.

On an average, women on the verge of completion of reproductive period have given birth to 3.7 children. The completed fertility in the states varies from the lowest of 3.0 children ever born per women each in a Jorhat and Sibsagar to the highest of 4.6 children each in Karbi Anglong and Karimganj districts.

The share of births of order 3 and above in the total births that occurred three years prior to survey is 41 percent. In most of the districts, proportion of higher order births is ranging from the lowest of around 30 percent in Tinsukia, to the highest of about 56 percent in Karimganj.

The data collected on the utilization of ANC services for the women who had their last live/ still birth during three years prior to the survey shows that the ANC coverage in the state is 62 percent. About one percent of the women during their pregnancy were visited by health worker at their residence for providing ANC. Fifty three percent received ANC from government health facilities and nine percent from ANM/Nurse/LHV. The percent of women who got some kind of ANC during pregnancy range between 29 percent in North Cachar Hills to 92 percent in Dibrugarh. In five districts out of 23, more than 75 percent of women got some antenatal care.

Out of those women who received ANC, 51, 60 and 51 percent women had check-up of weight, blood pressure and abdomen respectively. Only 13 percent women received 100 or more IFA tablets/syrup and 66 percent got at least one TT injection. A full package of ANC including minimum three ANC visits, at least one TT injection and 100 or more IFA tablets/Syrup was received by merely 10 percent of the women.

A minimum of three ANC and timing of first check up is crucial for maternal and child care. In Assam 40 percent of women got ANC in the first trimester and 42 percent had minimum three antenatal check-ups. An extent of ANC in first trimester varies from minimum of 18 percent in Dhubri to the maximum of 68 percent in Dibrugarh. Women receiving three or more ANC was highest in Dibrugarh and Tinsukia (68 percent each) and lowest in North Cachar Hills (17 percent).

Nearly 27 percent of the total deliveries in Assam were conducted in the health institutions; three percent point up from RCH Round-I. The institutional deliveries include both government (14 percent) and private health institutions (13 percent). Only 13 percent of the total deliveries that took place at home were assisted by doctors, ANM/Nurse/LHV and trained birth attendant. So in all, a total of 33 percent of the deliveries, up from RCH Round-I (31 percent) in the state were assisted by skilled personnel. The extent of institutional deliveries varies from the lowest of eight percent in North Cachar Hills to a highest of 52 percent in Nalbari. The percent of the institutional deliveries increases substantially with women's education and economic status.

In Assam, 31, 35 and 32 percent of the women experienced pregnancy, delivery and post delivery complications respectively. About 40 percent of the women sought treatment for the pregnancy and 42 percent for the post-delivery complications. The pregnancy complication

varies from the lowest of 12 percent in Goalpara to the highest of 53 percent in Hailakandi. Delivery complications were lowest in Nagaon (eight percent) and highest in Karimganj (69 percent). Similarly, post delivery complications were lowest in Tinsukia (nine percent) and highest in Hailakandi and Lakhimpur (61 percent each).

In most of the districts and the state as a whole, the practice of breast-feeding is fairly prevalent. In Assam, 51 percent of women started breastfeeding the child within two hours of birth and 17 percent started after one day of birth. There is great deal of variation in the pattern of breastfeeding across the districts. Breastfeeding within two hours of birth was reported highest in Goalpara district (77 percent) and lowest in Karimganj (14 percent).

In Assam 64, 39, 29 and 36 percent of the children received the BCG vaccine, three doses of DPT, Polio and measles vaccine respectively. There is drop of 28 percentage points from BCG to measles. It means that the children who got in touch with service providers for BCG are missed out of subsequent services. The complete schedule of immunization including BCG, three doses of DPT and Polio each and measles was received by 17 percent of the children, whereas 23 percent of the children did not receive a single vaccination under routine programme. Only 18 percent of the children received supplementation of at least one dose of vitamin A and only six percent children received IFA tablets/liquid for iron supplementation.

The extent of complete immunization consisting of BCG, three injections of DPT and Polio each and measles is the lowest in North Cachar Hills (one percent) and highest in Kamrup district (42 percent). Overall, the extent of complete immunisation is poor in all the districts of Assam.

In Assam, 32 percent of the women were aware of diarrhoea management and 17 percent were aware of Oral Rehydration Salt (ORS). During the two-week period prior to survey, four percent of children suffered from diarrhoea. Forty-five percent women treated diarrhoea among children by giving ORS. In comparison to awareness about diarrhoea management, the awareness about danger sings of pneumonia is low. About 22 percent of the women reported awareness about danger sings of pneumonia. Eleven percent of the women reported that their children suffered from cough, cold and difficulty in breathing in the two-week period prior to survey and 62 percent of them sought treatment.

Knowledge of family planning methods is universal in all districts of Assam, with 97 percent women reporting knowledge of one method or the other. However, the knowledge of any spacing method is marginally low, but the proportion *per se* is quite high (92 percent). The knowledge of any modern methods is also universal in all the districts, though the knowledge of all modern methods is only 24 percent. The proportion of knowing all modern methods (males and females' sterilization, IUD, oral pills and condom) varies from about seven percent each in Karbi Anglong and Kokrajhar to 48 percent in Karimganj.

In DLHS, knowledge about No-scalpel vasectomy has been asked to husbands of eligible women. About 22 percent of the husbands were aware of no-scalpel vasectomy in the state. The proportion of husbands knowing No-scalpel vasectomy varies from about six percent in Sonitpur to 62 percent in Hailakandi.

The contraceptive prevalence rate (any method) in the state is 58 percent, 18 percent point up from RCH Round-I, comprising of 29 percent each of any modern methods and traditional methods. Thirteen percent of the couples adopted sterilization. The percent user of the male sterilization and condom is only two percent. There has been positive association between contraceptive use and female education, economic development and availability of health facility. The highest contraceptive prevalence is in Hailakandi (82 percent) and lowest is in North Cachar Hills (12 percent).

In Assam, a total of 23 percent of women are found to have unmet need for family planning, with 14 percent for limiting and eight percent for spacing. The total unmet need varies from the lowest of seven percent in Hailakandi to a highest of 50 percent in North Cachar Hills.

Almost negligible percentage of the women (three percent) in the state reported that ANM/LHV visited them at their residence at least once in the past three months. Of them, over half (54 percent) of women who were visited by ANM felt that ANM had given them sufficient time to discuss health-related matters, while 84 percent of them were satisfied with the services given to them.

It has been observed that in the three months period prior to survey, only 15 percent of the eligible women who were required to consult health facility visited any health facilities. Of them, 54 percent visited government health facilities. Though, a very small proportion of the women who visited the health facility rated facility as excellent, a substantial proportion of them however, rated it as “good”.

The district level variation in the utilization of the government health facilities ranges from seven percent in Hailakandi to 80 percent in Dhemaji. The percentage of women who visited private health facilities ranges from a minimum of 17 percent in Marigaon to 86 percent in Hailakandi.

In Assam 24 and 49 percent of women are aware of RTI/STI and HIV/AIDS respectively. The corresponding level of awareness among husbands of eligible women is 43 and 68 percent. The percent of women who are aware of RTI/STI is lowest in North Cachar Hills (one percent) and highest in Karimganj (58 percent). Out of 23 districts, only in seven, more than half of the men are aware of RTI/STI. Among women, in 12 districts more than half of the women were aware of HIV/AIDS with lowest of 20 percent in Dhubri and highest of 71 percent in Dibrugarh. Similarly, among males, in 19 districts, more than half of the men were aware of HIV/AIDS with lowest of 38 percent in North Cachar Hills and highest of 97 percent in Dibrugarh.

About 24 percent of women and seven percent of husbands of eligible women in the state reported having at least one symptom of RTI/STI. Among women, the prevalence of RTI/STI is lowest in Cachar and Goalpara (eight percent each) and highest in Kokrajhar (47 percent), while for men it is lowest in Sonitpur and Goalpara (less than one percent) and highest in Lakhimpur and Sibsagar (20 percent each). Twelve percent women reported vaginal discharge with lowest in North Cachar Hills (one percent) to highest in Karimganj (29 Percent). Twenty five percent of women sought treatment for vaginal discharge problem and 37 percent of husbands sought treatment with at least one symptom of RTI/STI.

CHAPTER I

INTRODUCTION

1.1 Background and Objectives of the Survey

The Reproductive and Child Health (RCH) programme that has been launched by Government of India (GoI) in 1996-97 is expected to provide quality services and achieve multiple objectives. It ushered a positive paradigm shift from method-oriented, target-based activity to providing client-centred, demand-driven quality services. Also, efforts are being made to reorient the provider's attitude at grassroots level and to strengthen the services at outreach levels.

The new approach requires decentralization of planning, monitoring and evaluation of the services. The district being the basic nucleus of planning and implementation of the RCH programme, Government of India has been interested in generating district level data on utilization of the services provided by government health facilities, other than that based on service statistics. It is also of interest to assess people's perceptions on quality of services. Therefore, it was decided to undertake District Level Household Survey (DLHS) under the RCH programme in the country.

The Round I of RCH survey was conducted during the year 1998–99 in two phases (each phase covered half of the districts from all states/union territories) in 504 districts for which International Institute for Population Sciences (IIPS), Mumbai was designated as the nodal agency.

In Round II, survey was completed during 2002-04 in 593 districts as per the 2001 Census. In DLHS-RCH, information about RCH has been collected using a slightly modified questionnaire. In Round II, some new dimensions, such as test of cooking salt to assess the consumption of salt fortified with iodine, collection of blood of children, adolescents and pregnant women to assess the level of anaemia, and measurement of weight of children to assess the nutritional status, were incorporated.

The main focus of the DLHS-RCH has been on the following aspects:

- Coverage of ANC & immunization services
- Proportion of safe deliveries
- Contraceptive prevalence rates
- Unmet need for family planning
- Awareness about RTI/ STI and HIV/AIDS
- Utilization of government health services and users' satisfaction.

For the purpose of conducting DLHS-RCH, all the states and the union territories were grouped into 16 regions. A total of twelve research organizations including Population Research Centres (PRCs) were involved in conducting the survey in 16 regions with IIPS as the nodal agency.

1.2 Survey Design

In Round II, a systematic, multi-stage stratified sampling design was adopted. In each district, 40 Primary Sampling Units (PSUs – Villages/Urban Frame Size) were selected with probability proportional to size (PPS) using the 1991 Census data. All the villages were stratified according to population size, and female literacy was used for implicit arrangement within each strata. The number of PSUs in rural and urban areas was decided on the basis of percent of urban population in the district. However, a minimum of 12 urban PSUs was selected in each district in case the percent urban was low. The target sample size in each district was set at 1,000 complete residential households from 40 selected PSUs. In the second stage, within each PSU, 28 residential households were selected with Circular Systematic Random Sampling (CSRS) procedure after house listing. In order to take care of non-response due to various reasons, the sample was inflated by 10 percent (i.e. 1,100 households).

For selecting the urban sample, the National Sample Survey Organization (NSSO) provided the list of selected urban frame size (UFS) blocks in the district. The UFS blocks were made available separately for each district for urban areas. The maps of selected blocks were obtained from the NSSO field office located in each state/union-territory.

But in each state, in two districts, the PSUs that were surveyed in Round I of DLHS-RCH (also known as RHS-RCH) were also selected for survey in Round II. This was done in order to measure the changes more accurately. Two districts, one with the highest proportion of safe delivery and another with the lowest proportion of safe delivery among those surveyed during Round I of the survey were selected for this purpose. In all other districts, fresh sample of PSUs were selected.

1.3 House Listing and Sample Selection

The household listing operation was carried out in each of the selected PSU segments prior to the data collection that provided the necessary frame for selecting the households. The household listing operation also involved preparation of location map and layout sketch map of the structures and recording the details of the households in these structures in each selected PSU. This exercise was carried out by independent teams each comprising one lister, one mapper and one supervisor under the overall guidance and monitoring of the survey coordinator of households of the selected regional agencies.

A complete listing of households was carried out in villages with households up to 300. In case of villages with more than 300 households but less than or equal to 600 households, two segments of more or less same size were formed and one segment was selected at random and household listing was carried out. In case of villages with more than 600 households, segments each of about 150 households were formed and two segments were selected for listing using the systematic random sampling method.

Small villages with less than 50 households were linked with a nearest village. After combining it with the nearest village, the same sampling procedure was adopted as mentioned above.

For the urban PSUs, the selected UFS blocks needed no segmentation as they were of almost equal size and contained less than 300 households.

No replacement was made if selected household was absent during data collection. However, if a PSU was inaccessible, a replacement PSU with similar characteristics was selected by the IIPS and provided to the regional agency for survey.

1.4 Questionnaire

DLHS-RCH collected information on a various indicators pertaining to RCH that would assist policymakers and programme managers to formulate and implement the goals set for RCH programmes. The International Institute for Population Sciences (IIPS), Mumbai, the Nodal Agency for DLHS–RCH project, has made necessary modifications in the two Questionnaires: Household Questionnaire and Women's Questionnaire and added three more Questionnaires i.e., Husband's Questionnaire, Village Questionnaire and Health Questionnaire, in consultation with MoHFW and World Bank. These Questionnaires were discussed and finalized in training cum workshop organized at IIPS during the first week of November 2001.

These modified questionnaires had been canvassed during round II of the DLHS–RCH survey, taking into consideration the views of all the regional agencies involved. The house–listing teams and the interviewers and the supervisors for the main survey were given rigorous training based on the manuals developed for the purpose by the Nodal Agency.

All the questionnaires were bilingual, with questions in both regional (Assamese) and English language.

The Details of questionnaires are as follows:

Household Questionnaire: The household questionnaire lists all usual residents in each sample household including visitors who stayed in the household the night before the interview. For each listed household member, the survey collected basic information on age, sex, and marital status, relationship to the head of the household, education and the prevalence /incidence of tuberculosis, blindness and malaria. Information was also collected on the main source of drinking water, type of toilet facility, source of lighting, type of cooking fuel, religion and caste of household head and ownership of other durable goods in the household. In addition, a test was conducted to assess whether the household used cooking salt that has been fortified with iodine. Besides, details of marriages and deaths which happen to usual residents within reference period were collected. Efforts were also made to get information about maternal deaths.

Women Questionnaire: Women questionnaire is designed to collect information from currently married women age 15 – 44 years who are usual residents of the sample household or visitors who stayed in the sample household the night before the interview. The women questionnaire covered the following sections:

Section I: Background Characteristics: In this section the information collected on age, educational status and birth and death history of biological children including still birth, induced and spontaneous abortions.

Section II: Antenatal, Natal and Post natal Care: In this section the questionnaire collected information only from the women who had live birth, still birth, spontaneous or induced abortion during last three years preceding the survey date. The information on whether women received antenatal and postpartum care, who attended the delivery and the nature of complications during pregnancy for recent births were also collected.

Section III: Immunization and childcare: This section gives information about feeding practices, the length of breastfeeding, immunization coverage and recent occurrence of diarrhoea, and pneumonia for young children (below age 3 years).

Section IV: Contraception: This section provides information on knowledge and use of specific family planning methods. Questions were included about reasons for non use, intentions about future use, desire for additional child, sex preference for next child etc.

Section V: Assessment of quality of Government health services and client satisfaction. In this section the questions are targeted to assess the quality of family planning and health services provided by Government health facilities. The information were also collected about the rating of Government health facilities and staffs and reasons for not visiting government health facilities by eligible woman.

Section VI: Awareness about RTI/STI and HIV/AIDS: In this section, information was collected about women's awareness on RTI/STI, source of information, awareness of mode of transmission, curability, symptoms and treatment seeking behaviour about HIV/AIDS; awareness, source of knowledge, awareness of mode of transmission and prevention etc were canvassed.

Husband Questionnaire: In DLHS-RCH, round II, husband questionnaire was used to collect information from eligible women's husbands about age, educational status, knowledge and source of knowledge of RTI/STI and HIV/AIDS reported symptoms of RTI/STI and male participation. Apart from this information, desire for children, reasons for not using F.P. methods, future intention to use F.P. method and knowledge about no scalpel vasectomy (NSV) has also been collected.

Health Questionnaire: In DLHS-RCH, round II, a health questionnaire is included. The information collected were on weight of children age 0–71 months old and the blood sample to assess the haemoglobin levels of children age 0–71 months old, adolescents 10–19 years old and pregnant eligible women. This information is useful for assessing the levels of nutrition prevailing in the population and prevalence of anaemia among women, adolescent girls and children.

Village Questionnaire: A village questionnaire is also added in this round of DLHS. Information is collected on the availability and accessibility of various facilities in the village especially on accessibility of educational and health facilities.

1.5 Fieldwork and Sample Coverage

The fieldwork for RCH Round II was done in two phases. During Phase I, 12 districts were covered from May 2002 to November 2002 and remaining 11 districts were covered during Phase II from January 2004 to July 2004.

During Round II, a total of 24,269 households were covered. A total of 17,776 currently married women (aged 15-44 years) and 12,824 husbands of eligible women were interviewed in the surveyed households.

1.6 Data processing

All the five types of completed questionnaires were brought to the headquarters of regional agencies and data were processed using microcomputers. The process consisted of office editing of questionnaires, data entry, data cleaning and tabulation. Data cleaning included validation, range and consistency checks. For both data entry and tabulation of the data, IIPS developed the software package. The district and state level reports were prepared by regional agency whereas national report is prepared by the nodal agency.

1.7 Sample Weights

In generating district level demographic indicator sample weight for household, women and husband, weights have been used and these for a particular district are based on three selection probabilities f_1^i, f_2^i and f_3^i pertaining to i^{th} PSU of the district. These probabilities are defined as

f_1^i = Probability of selection of i^{th} PSU in a district

$$= \frac{(n_r * H_i)}{H}$$

Where, n_r is the number of rural PSU to be selected in a district, H_i refers to the number of household in the i^{th} PSU and $H = \sum Hi$, total number of household in a district.

f_2^i = Probability of selecting segment (s) from segmented PSU
(in case the i^{th} selected PSU is segmented)

= (Number of segments selected after segmentation of PSU) / (number of segment created a PSU)

The value of f_2^i is to be equal to one for un-segmented PSU.

f_3^i = probability of selecting a household from the total listed households of a PSU or in segment(s) of a PSU

$$= \frac{28*HR_i}{HL_i}$$

Where HR_i is the household response rate of the i^{th} sampled PSU and HL_i is the number of households listed in i^{th} PSU in a district.

For urban PSU, f_1^i is computed either as the ratio of number of urban PSUs to be included from the district to the total number of UFS blocks of the district or as the ratio of urban population of the selected PSU to the total urban population of the district.

The probability of selecting a household from the district works out as;

$$f^i = \left(f_1^i * f_2^i * f_3^i\right)$$

The non-normalized household weight for the i^{th} PSU of the district is, $w^i = \frac{1}{f^i}$, while the normalized weight used in the generation of district indicators as

$$n_i^d = \frac{\sum_i n_i}{\sum_i n_i * w^i} * w^i, \text{ i= 1,2,3……40.}$$

Where n_i is the number of households interviewed in the i^{th} PSU. The weight for women and husband are computed in the similar manner after multiplication of expression for f^i by the corresponding response rate. State weights for households, women and husbands are further derived from the district weights n_i^d for the i^{th} psu in d^{th} district using external control so that for sample results do not deviate from the corresponding information about the population.

Let, $n_s = \sum_i n_i^d$ and $N_I = \sum_i N_i^d$, denote the number of households in the sample and census of a particular state, then state level households weights are work out as;

$$n_i^s = n_i^d * \frac{\left(n_i^d / n_s\right)}{\left(N_i^d / N_{sc}\right)}$$, where n_i^d household sample in i^{th} district, n_s is the total sample in the state, N_i^d is the census population in the i^{th} district and N_{sc} is the census population in the state.

These households' weights are controlled for rural-urban separately.

Considering sample and census currently married women in 15-44 years and married males above 15 years for specified state by districts and rural-urban residence, state level women and husbands' weights are obtained for estimation of state level indicators.

1.8 Sample Implementation

Table 1.1 shows the period of fieldwork, number of households interviewed and households' response rates. A total of 24,309 households were interviewed. Of them, 72 percent were rural households. The overall household response rate (i.e. the number of households interviewed per 100 occupied households) was 94 percent. Except Jorhat district, the household response rates of all the other districts were more than 90 percent.

Table 1.1 NUMBER OF HOUSEHOLDS INTERVIEWED

Month and year of fieldwork and number of households interviewed by district, Assam, 2002-04

State/District	Month and year of field work		Number of households interviewed			Response rate
	From	To	Total	Rural	Urban	
State	-	-	24,269	17,399	6,870	98.3
State-phase I	05/2002	11/2002	-	-	-	-
State-phase II	01/2004	07/2004	-	-	-	-
Bongaigaon	05/2002	06/2002	1,058	749	309	97.2
Darrang	06/2002	07/2002	1,060	744	316	98.7
Dhubri	05/2002	06/2002	1,026	735	291	97.7
Golaghat	06/2002	08/2002	1,043	738	305	98.4
Jorhat	08/2002	09/2002	967	816	151	95.3
Kamrup	07/2002	09/2002	1,032	703	329	97.0
Karimganj	05/2002	09/2002	1,091	764	327	98.3
Lakhimpur	05/2002	06/2002	1,046	728	318	98.4
Nagaon	09/2002	10/2002	1,068	962	106	98.9
North Cachar Hills	05/2002	08/2002	1,040	712	328	98.9
Sibsagar	06/2002	11/2002	1,080	760	320	99.1
Tinsukia	08/2002	09/2002	1,091	762	329	99.5
Barpeta	01/2004	04/2004	1,054	741	313	98.4
Cachar	01/2004	05/2004	1,093	774	319	99.0
Dhemaji	01/2004	04/2004	1,102	772	330	99.4
Dibrugarh	03/2004	06/2004	1,048	733	315	97.9
Goalpara	01/2004	06/2004	1,023	721	302	98.7
Hailakandi	01/2004	06/2004	1,072	768	304	98.9
Karbi Anglong	03/2004	06/2004	1,075	755	320	98.1
Kokrajhar	05/2004	07/2004	1,089	771	318	99.3
Marigaon	01/2004	05/2004	1,025	720	305	96.2
Nalbari	01/2004	04/2004	1,076	758	318	99.5
Sonitpur	06/2004	07/2004	1,010	713	297	98.0

Note: Table based on unweighted cases.

In the interviewed households, interviews were completed with 17,772 currently married women who were usual members of the household or stayed night before the household interview and 12,824 husbands of eligible women were also interviewed (Table 1.2). The number of completed interviews per 100 identified eligible women and husbands in the households with completed interviews were 92 and 67 percent respectively. The variation in the women's response rate by district was highest in Tinsukia (98 percent) and lowest in Hailakandi (79 percent). Similarly, husbands' response rate was found to be highest in North Cachar Hills (91 percent) and lowest in Kamrup (29 percent).

Table 1.2 NUMBER OF WOMEN AND HUSBANDS INTERVIEWED

Number of women and husbands interviewed by district, Assam, 2002-04

State/District	Number of women interviewed			Response rate	Number of husbands interviewed			Response rate
	Total	Rural	Urban		Total	Rural	Urban	
Assam	17,776	12,983	4,793	91.5	12,824	9,415	3,409	66.5
Bongaigaon	754	542	212	93.0	711	511	200	88.3
Darrang	776	561	215	95.4	602	437	165	74.2
Dhubri	751	557	194	90.2	369	287	82	45.3
Golaghat	757	527	230	93.1	506	380	126	62.6
Jorhat	646	556	90	90.3	394	341	53	55.3
Kamrup	720	506	214	87.6	240	191	49	29.4
Karimganj	759	537	222	83.9	368	253	115	41.4
Lakhimpur	839	588	251	96.0	720	518	202	83.8
Nagaon	802	730	72	96.5	539	498	41	65.3
North Cachar Hills	963	650	313	96.2	909	596	313	91.0
Sibsagar	864	617	247	96.1	652	471	181	72.8
Tinsukia	949	659	290	98.3	855	595	260	88.9
Barpeta	858	641	217	91.3	551	418	133	58.8
Cachar	642	481	161	81.2	311	255	56	39.6
Dhemaji	831	602	229	94.8	776	581	195	88.7
Dibrugarh	699	495	204	90.4	555	425	130	71.9
Goalpara	794	598	196	93.1	534	356	178	63.5
Hailakandi	610	436	174	79.3	455	363	92	59.3
Karbi Anglong	788	577	211	91.8	539	379	160	63.3
Kokrajhar	723	513	210	86.8	514	369	145	62.1
Marigaon	769	544	225	91.9	614	430	184	74.7
Nalbari	838	605	233	97.6	673	471	202	79.4
Sonitpur	644	461	183	84.6	437	290	147	58.0

Note: * Based on unweighted cases.

1.9 Basic Demographic Profile of the State

Before presenting the survey result, the basic demographic features of Assam and its districts (as per census, 2001) are presented here.

The state of Assam has 23 districts spread in two physical divisions: the Brahmaputra Valley and the Surma valley. The Surma valley includes five districts namely, Cachar, Hailakandi, Karimganj, Karbi Anglong and North Cachar Hills. The Brahmaputra valley includes rest of the 18 districts of Assam. The Assamese-speaking region falls mostly in the Brahmaputra valley while Bengali-speaking population largely dominates Barak valley, which covers Cachar, Hailakandi and Karimganj districts. Dispur is the state capital.

According to 2001 census the total population of Assam is 26.6 million out of which 13.8 million are male and 12.9 millions are female. The population density of Assam is 340 persons per Sq. Km. The percentage of state urban population (13 percent) is lower than India's urban population (28 percent) except Kamrup (36 percent) and North Cachar Hills (31 percent) exceeding the national average. Kamrup district has shown the highest decadal growth rate (26 percent) whereas Bongaigaon, Dibrugarh and Nalbari (12 percent each) have the lowest decadal growth rate of population during 1991-2001.

The sex ratio of Assam (932) is close to that of India (933). Goalpara has recorded the highest sex ratio (955) and North Cachar Hills has the lowest (883) within the state. Scheduled Castes and Scheduled Tribes of Assam comprise seven percent and 12 percent of the population respectively.

The levels of literacy among males, females and total in the state are 60 percent, 47 percent and 54 percent respectively, which are lower than the national average at 76 percent, 54 percent and 65 percent respectively. Among the districts, Sibsagar has the highest literacy rate of 65 percent and Dhubri has the lowest literacy rate of 40 percent.

Table 1.3 BASIC DEMOGRAPHIC INDICATOR

Basic demographic indicators of India, state and districts, Census 2001

India/state/district	Population (in thousand)	Percentage urban	Percentage decadal growth rate[1]	Sex ratio[2]	Percentage literate 7+		
					Male	Female	Persons
India	1,028,737	28.0	21.5	933	75.3	53.7	64.8
Assam	26,655	12.9	18.9	932	71.3	54.6	63.3
Barpeta	1642	7.6	18.5	941	54.0	39.2	46.8
Bongaigaon	906	12.2	12.2	945	56.9	42.0	49.6
Cachar	1442	14.0	18.7	945	64.9	50.6	58.0
Darrang	1504	4.9	15.8	943	53.3	38.6	46.2
Dhemaji	569	6.9	18.9	936	62.9	46.7	55.1
Dhubri	1634	11.7	23.4	944	45.4	33.8	39.8
Dibrugarh	1172	18.8	12.4	923	68.6	53.2	61.2
Golaghat	946	8.4	14.2	929	66.8	52.8	60.1
Goalpara	822	8.2	23.1	955	53.1	41.6	47.5
Hailakandi	543	8.4	20.9	933	56.1	41.8	49.2
Jorhat	1009	12.2	15.8	903	56.9	42.0	49.6
Kamrup	2515	35.8	25.8	894	70.7	58.1	64.7
Karbi Anglong	812	11.4	22.6	922	56.3	39.7	48.3
Karimganj	1004	7.3	21.4	944	61.5	49.6	55.7
Kokrajhar	930	6.8	15.1	945	50.7	34.9	43.0
Lakhimpur	889	7.3	18.3	952	65.5	50.5	58.2
Morigaon	776	4.9	21.3	945	53.9	42.5	48.4
Nagaon	2315	12.0	22.3	939	56.5	45.4	51.1
Nalbari	1138	2.4	12.0	937	66.3	50.0	58.4
North Cachar Hills	186	31.2	23.5	883	64.7	49.6	57.6
Sibsagar	1053	9.2	16.0	926	71.2	58.6	65.2
Sonitpur	1678	8.8	17.8	942	57.2	44.0	50.6
Tinsukia	1150	19.5	19.5	909	61.2	44.8	53.4

CHAPTER II

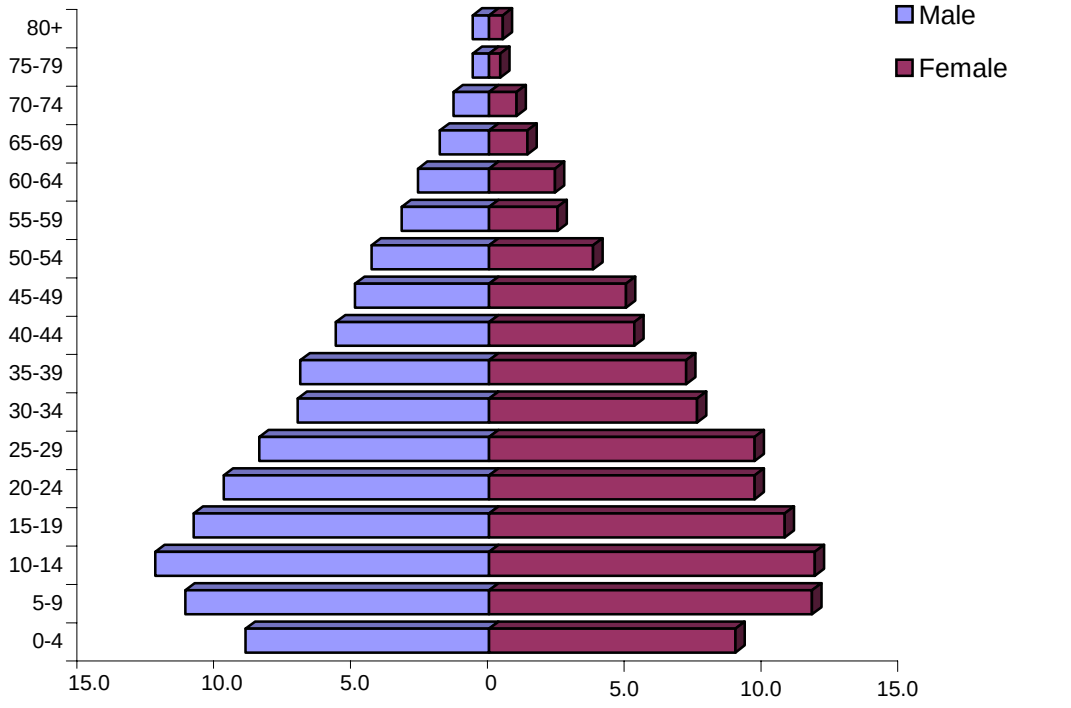
BACKGROUND CHARACTERISTICS OF HOUSEHOLD

This chapter provides a socio-economic and demographic profile of households interviewed during the District Level Household Survey-Reproductive and Child Health (DLHS-RCH). Facilities and services in terms of Health, Education and Communication available in the representative sampled villages are also presented here. The *de facto* producer of enumeration is adopted in order to include every individual staying in the sampled Primary Sampling Units (PSU), either a village or an urban area, the night before the survey. The objective of adopting the *de facto* method is to avoid duplication of persons who are in transit.

2.1 Age –Sex Structure

The age-sex distribution of sampled household population classified by residence is presented in Table 2.1. The percent distribution is based on sampled *de facto* population of 1,27,952 persons of whom 75 percent lived in the rural areas. The state of Assam depicts a young and growing population with 33 percent below the age of 15 years (Figure 2.1). There are more children below 15 years recorded in rural areas (35 percent) compared to urban areas (27 percent).

Figure: 2.1
Age-sex Pyramid



Assam, DLHS-RCH,2002-04

The overall sex ratio of 111 males per 100 females is recorded for the *de facto* population. The sex ratio is more skewed in favour of males in rural areas (112) compared to 110 in urban areas.

Table 2.1 HOUSEHOLD POPULATION BY AGE AND SEX

Percent distribution of the household population by age and by residence and sex, Assam, 2002-04

	Total			Rural			Urban		
Age	Total	Male	Female	Total	Male	Female	Total	Male	Female
< 1	1.5	1.5	1.5	1.6	1.6	1.7	1.1	1.2	1.0
1-4	7.4	7.4	7.5	8.0	7.9	8.0	5.9	6.0	5.8
5-9	11.5	11.1	11.8	12.3	12.0	12.7	8.9	8.7	9.2
10-14	12.1	12.2	11.9	12.6	12.7	12.6	10.5	10.8	10.1
15-19	10.8	10.8	10.8	10.9	11.0	10.8	10.4	10.2	10.7
20-24	9.7	9.7	9.7	9.7	9.6	9.7	9.8	9.9	9.6
25-29	9.0	8.4	9.7	8.8	8.4	9.3	9.5	8.3	10.8
30-34	7.3	7.0	7.6	6.9	6.6	7.1	8.5	8.2	8.9
35-39	7.0	6.9	7.2	6.7	6.5	6.8	8.2	7.9	8.4
40-44	5.5	5.6	5.3	5.0	5.3	4.7	6.7	6.5	6.8
45-49	5.0	4.9	5.0	4.8	4.5	5.1	5.5	6.2	4.7
50-54	4.1	4.3	3.8	3.9	4.1	3.8	4.5	4.9	4.1
55-59	2.9	3.2	2.5	2.7	3.1	2.4	3.2	3.4	3.0
60-64	2.5	2.6	2.4	2.4	2.7	2.2	2.6	2.5	2.8
65-69	1.6	1.8	1.4	1.5	1.7	1.3	1.9	2.1	1.7
70-74	1.2	1.3	1.0	1.1	1.2	0.9	1.5	1.7	1.2
75-79	0.5	0.6	0.4	0.4	0.6	0.3	0.6	0.7	0.5
80+	0.6	0.6	0.5	0.5	0.6	0.5	0.6	0.7	0.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of persons	1,27,952	67,441	60,511	95,405	50,430	44,976	32,547	17,012	15,535
Sex ratio[1]	111	NA	NA	112	NA	NA	110	NA	NA

Note: Table is based on the *de facto* population, i.e. persons who stayed in the household the night before the interview (including both usual resident and visitors). NA: Not applicable. [1] Male per 100 females

2.2 Household Characteristics

The percent distribution of 24,269 households surveyed in Assam by selected characteristics of the household head and the number of usual household members are shown in Table 2.2. This is based on *de jure,* the usual resident population. Ninety two percent of household heads are male invariant of place of residence and the rest are reported to be female headed households. Nearly 73 percent of household heads are in the 30-59 years age group. The median age of household heads is 46 years for the state as a whole, while it is 47 years in rural areas and 46 years in urban areas. About eight percent of household heads are younger below 30 years and 18 percent at least 60 years old. Majority of the household heads are Hindus (73 percent), 24 percent are Muslims, and four percent belongs to other religions. Hindus constitute a higher proportion of population in urban areas (87 percent) than in rural areas (67 percent). Ten percent of the urban households are Muslims as compared to 29 percent of rural households.

Table 2.2 HOUSEHOLD CHARACTERISTICS

Percent distribution of the household head by selected characteristics of the household head and household size, according to residence, Assam, 2002-04

Characteristic	Total	Residence	
		Rural	Urban
Sex of the household head			
Male	92.1	93.3	89.0
Female	7.9	6.7	11.0
Age of the household head			
< 30	8.4	9.0	6.9
30-44	38.6	39.1	37.3
45-59	34.7	34.0	36.4
60+	18.3	17.9	19.4
Median age of the household head	45.7	47.1	46.1
Religion of the household head			
Hindu	72.6	66.8	87.3
Muslim	23.8	29.4	9.8
Christian	3.1	3.5	2.0
Sikh	0.2	0.1	0.4
Buddhist	0.1	0.1	0.0
Jain	0.1	0.0	0.4
Zoroastrian	0.0	0.0	0.0
No Religion	0.1	0.1	0.1
Other	0.0	0.0	0.0
Caste/tribe of the household head			
Scheduled caste	13.1	10.7	19.1
Scheduled tribe	12.9	15.8	5.3
Other backward class	22.5	25.1	15.9
Other #	48.0	44.9	56.1
Don't know	3.5	3.4	3.6
	0.0	0.0	0.0
Number of usual members			
1	1.6	1.2	2.7
2	5.1	4.8	5.9
3	11.4	9.6	15.8
4	20.1	17.7	26.2
5	23.0	22.8	23.5
6	16.6	18.1	12.8
7	9.6	11.1	5.8
8	5.8	6.8	3.4
9+	6.8	8.0	3.9
Mean household size	5.1	5.4	4.6
Total percent	100.0	100.0	100.0
Number of households	24,269	17,399	6,870

Note: Table is based on the *de jure* population

Higher caste (Not belonging to a scheduled caste, a scheduled tribe and an other backward class)

Thirteen percent each of the households in Assam belong to Scheduled Caste and Scheduled Tribes and another 23 percent belongs to Other Backward Classes while the remaining 48 percent of the households are headed by other castes other than Scheduled Caste, Schedule Tribes and Other Backward Classes. About 27 percent of the household heads belong

to Schedule Caste and Tribe in rural areas and it is 24 percent in urban areas. The overall state average household size is 5.1 persons. The rural-urban differential in average household size is 5.4 in rural areas and 4.6 in urban areas.

2.3 Educational Level

The educational background of Assam presented in this section is based on *de facto* household population. Level of literacy and years of schooling, according to age, sex and residence are shown in Table 2.3.

Table 2.3 EDUCATIONAL LEVEL OF THE HOUSEHOLD POPULATION

Percent distribution of household population age 7 and above by literacy level and years of schooling, according to age , residence and sex, Assam, 2002-04

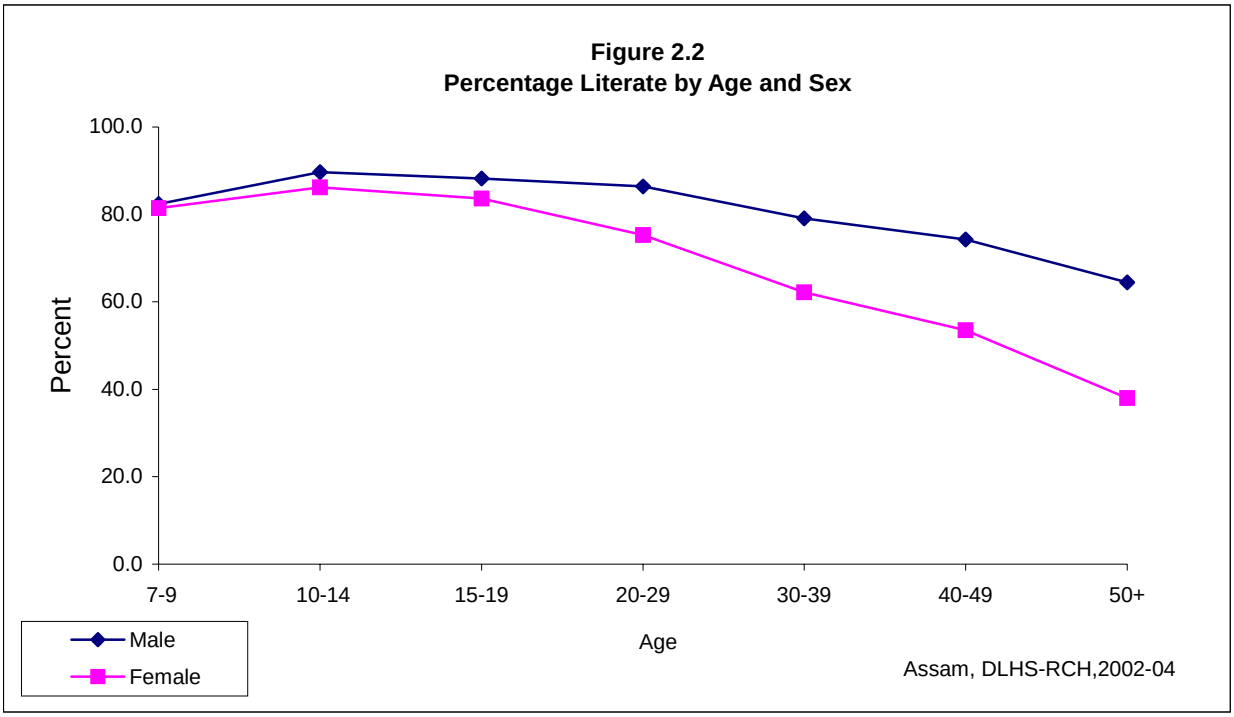
Age	Non-literate	Literate but no schooling	Years of schooling				Missing	Total Percent	Number of persons
			1-5	6-8	9-10	11 or more			
					Total				
					Male				
7-9	16.9	3.4	78.1	0.9	0.0	0.0	0.7	100.0	4,465
10-14	10.1	0.3	58.4	27.9	3.1	0.0	0.2	100.0	8,246
15-19	11.8	0.1	19.6	25.7	35.6	7.1	0.0	100.0	7,259
20-29	13.5	0.1	17.0	15.2	29.6	24.5	0.0	100.0	12,185
30-39	20.9	0.1	17.2	11.9	25.8	24.1	0.0	100.0	9,368
40-49	25.7	0.1	21.1	11.6	22.8	18.8	0.0	100.0	7,119
50+	35.5	0.2	22.7	9.9	18.1	13.7	0.0	100.0	9,717
Total	19.4	0.4	29.3	15.3	21.0	14.4	0.1	100.0	58,359
					Female				
7-9	18.3	3.3	77.3	0.7	0.0	0.0	0.3	100.0	4,327
10-14	13.6	0.2	54.3	27.9	3.8	0.0	0.1	100.0	7,226
15-19	16.4	0.1	17.2	24.8	33.9	7.6	0.0	100.0	6,511
20-29	24.7	0.1	15.2	14.0	26.8	19.2	0.0	100.0	11,730
30-39	37.8	0.1	16.2	10.4	22.3	13.3	0.0	100.0	8,968
40-49	46.5	0.2	18.4	9.7	17.3	7.9	0.0	100.0	6,250
50+	62.0	0.5	19.4	5.9	8.4	3.8	0.0	100.0	7,231
Total	31.6	0.5	27.1	13.9	17.8	9.0	0.0	100.0	52,243
					Total				
7-9	17.6	3.4	77.7	0.8	0.0	0.0	0.5	100.0	8,792
10-14	11.7	0.3	56.5	27.9	3.4	0.0	0.2	100.0	15,472
15-19	14.0	0.1	18.4	25.3	34.8	7.3	0.0	100.0	13,770
20-29	19.0	0.1	16.1	14.6	28.3	21.9	0.0	100.0	23,915
30-39	29.1	0.1	16.7	11.1	24.1	18.8	0.0	100.0	18,336
40-49	35.4	0.2	19.8	10.7	20.2	13.7	0.0	100.0	13,368
50+	46.8	0.3	21.3	8.2	14.0	9.5	0.0	100.0	16,948
Total	25.2	0.4	28.3	14.7	19.5	11.9	0.1	100.0	1,10,602

Note: Table based on de facto population

Contd.

Table 2.3 indicates that 18 percent of the population in the age group 7-9 years are non-literate. Interestingly, the proportion of non-literates is 18 percent among females and 17 percent among males showing a narrow gap of literacy level between boys and girls at primary level of schooling. However, the proportion of non-literate is much higher among the older cohorts of both male and female population. As obvious, the degree of illiteracy widens in the older cohort beyond nine years of age between male and female even within the same age cohort and the disparity further widens in the age cohort 50 years and above. Overall 20 percent male household

population aged 7 years and above is illiterate compared to 32 percent among female population (Figure 2.2).



Overall lesser proportion of females are found in higher education of 9-10 years (18 percent) and 11 or more years (9 percent) compared to the males having corresponding figures of 21 percent and 14 percent respectively. However, this gap disappears in the younger generation of 19 years of age or below. Less than one percent of the total population are found to be literate without any formal schooling.

Table 2.3 EDUCATIONAL LEVEL OF THE HOUSEHOLD POPULATION

Percent distribution of household population age 7 and above by literacy level and years of schooling, according to age , residence and sex, Assam, 2002-04

Age	Non-literate	Literate but no schooling	Years of schooling				Missing	Total Percent	Number of persons
			1-5	6-8	9-10	11 or more			
					RURAL				
					Male				
7-9	19.0	3.7	75.8	0.8	0.0	0.0	0.7	100.0	3,573
10-14	11.8	0.3	60.7	24.6	2.5	0.0	0.1	100.0	6,411
15-19	13.5	0.2	22.8	27.2	31.5	4.8	0.0	100.0	5,532
20-29	16.6	0.2	19.8	16.5	29.9	17.0	0.0	100.0	9,089
30-39	26.6	0.1	20.3	12.8	24.4	15.8	0.0	100.0	6,629
40-49	33.1	0.1	24.9	12.1	20.1	9.6	0.0	100.0	4,943
50+	44.4	0.2	25.9	9.2	14.6	5.6	0.0	100.0	6,985
Total	23.6	0.5	32.5	15.5	19.1	8.6	0.1	100.0	43,161
					Female				
7-9	19.7	3.9	75.5	0.6	0.0	0.0	0.3	100.0	3,462
10-14	15.4	0.2	56.0	25.1	3.2	0.0	0.2	100.0	5,654
15-19	19.6	0.1	20.2	25.9	29.7	4.5	0.0	100.0	4,851
20-29	30.2	0.1	17.8	14.2	25.5	12.2	0.0	100.0	8,560
30-39	47.5	0.2	18.7	9.4	18.7	5.5	0.0	100.0	6,281
40-49	58.3	0.3	19.2	7.9	11.8	2.6	0.0	100.0	4,451
50+	74.7	0.4	16.1	4.1	3.9	0.8	0.0	100.0	5,077
Total	37.7	0.5	29.0	13.2	14.9	4.6	0.1	100.0	38,336
					Total				
7-9	19.3	3.8	75.6	0.7	0.0	0.0	0.5	100.0	7,035
10-14	13.4	0.3	58.5	24.8	2.8	0.0	0.1	100.0	12,065
15-19	16.3	0.2	21.6	26.6	30.7	4.7	0.0	100.0	10,383
20-29	23.2	0.1	18.8	15.4	27.8	14.7	0.0	100.0	17,648
30-39	36.8	0.2	19.5	11.2	21.6	10.8	0.0	100.0	12,910
40-49	45.1	0.2	22.2	10.1	16.2	6.2	0.0	100.0	9,394
50+	57.2	0.3	21.8	7.1	10.1	3.6	0.0	100.0	12,062
Total	30.2	0.5	30.9	14.4	17.1	6.7	0.1	100.0	81,497

Contd.

Table 2.3 EDUCATIONAL LEVEL OF THE HOUSEHOLD POPULATION

Percent distribution of household population age 7 and above by literacy level and years of schooling, according to age , residence and sex, Assam, 2002-04

Age	Non-literate	Literate but no schooling	Years of schooling: 1-5	6-8	9-10	11 or more	Missing	Total Percent	Number of persons
					URBAN				
					Male				
7-9	8.6	2.2	87.4	1.1	0.0	0.0	0.7	100.0	892
10-14	4.1	0.4	50.3	39.5	5.2	0.0	0.5	100.0	1,836
15-19	6.6	0.0	9.3	21.2	48.5	14.4	0.0	100.0	1,728
20-29	4.5	0.1	8.7	11.5	28.7	46.5	0.0	100.0	3,096
30-39	7.0	0.1	9.8	9.7	29.2	44.2	0.0	100.0	2,739
40-49	8.7	0.1	12.3	10.3	28.8	39.7	0.0	100.0	2,176
50+	12.5	0.1	14.4	11.6	27.0	34.4	0.0	100.0	2,732
Total	7.4	0.2	20.2	14.9	26.2	30.9	0.1	100.0	15,198
					Female				
7-9	12.7	1.2	84.5	1.4	0.0	0.0	0.3	100.0	865
10-14	7.3	0.2	48.0	38.2	6.1	0.0	0.1	100.0	1,572
15-19	7.2	0.1	8.2	21.4	46.4	16.7	0.0	100.0	1,660
20-29	9.7	0.1	8.3	13.3	30.6	38.1	0.0	100.0	3,171
30-39	15.0	0.0	10.5	12.6	30.5	31.4	0.0	100.0	2,687
40-49	17.1	0.2	16.6	14.0	31.1	21.0	0.0	100.0	1,799
50+	32.0	0.9	27.0	10.2	19.1	10.9	0.0	100.0	2,154
Total	14.8	0.3	21.9	15.8	26.1	21.1	0.0	100.0	13,908
					Total				
7-9	10.6	1.7	85.9	1.2	0.0	0.0	0.5	100.0	1,758
10-14	5.6	0.3	49.2	38.9	5.6	0.0	0.3	100.0	3,407
15-19	6.9	0.1	8.8	21.3	47.5	15.5	0.0	100.0	3,387
20-29	7.2	0.1	8.5	12.4	29.6	42.3	0.0	100.0	6,267
30-39	11.0	0.0	10.2	11.1	29.9	37.8	0.0	100.0	5,426
40-49	12.5	0.2	14.3	12.0	29.8	31.2	0.0	100.0	3,974
50+	21.1	0.4	20.0	11.0	23.5	24.1	0.0	100.0	4,886
Total	10.9	0.3	21.0	15.3	26.1	26.3	0.1	100.0	29,106

An examination of the educational attainment by place of residence revealed that the urban-rural differential is quite pronounced. In urban areas, 11 percent of the total population is non-literate in comparison to 30 percent of the rural population. The numbers of non-literate females living in rural areas accruing a share as high as 38 percent as against 24 percent among rural males. Illiteracy is found to be less in urban areas with 15 percent among females and eight percent among males. A contrasting feature of rural-urban difference in educational level is noticed as 31 percent people in rural areas had 1-5 years of schooling as against 21 percent in urban areas. Similarly, those who had 11 or more years of schooling was just seven percent in rural areas, whereas in urban areas, a significant proportion of people (26 percent) had this level of education.

2.4 Marital Status of the Household Population

The DLHS collected information on the marital status of all household members aged 10 years and above. Table 2.4 shows the percent distribution of household population by marital status distribution of *de facto* household population by age and sex. Fifteen percent of females in the age group 15-19 years, 77 percent in the age group 25-29 years and 89 percent in the age group

30-44 years are currently married. The proportion of never married is 43 percent in the state, and it is higher for males (49 percent) than for females (37 percent). The proportion of never married among males declines with increasing age and reaches the lowest by the time they are in the age group 45-59 years and 60 or more years. A similar pattern has been observed in case of females, with the lowest never married proportion for the age group 45-59 years. Sixty-five percent of women aged 60 years or above are widowed /divorced /separated. The total percentage of currently married males is 48 percent and for females it is 53 percent.

Table 2.4 MARITAL STATUS OF THE HOUSEHOLD POPULATION

Percent distribution of the household population aged 10 years and above by marital status, according to age and sex , Assam, 2002-04

Age	Marital status				Total Percent	Number of persons
	Never married	Currently married	Married, g*aunna* not performed	Widowed/ divorced/ Separated		
			Male			
10-14	99.1	0.7	0.2	0.0	100.0	8,246
15-19	98.3	1.5	0.1	0.1	100.0	7,259
20-24	88.4	11.2	0.2	0.3	100.0	6,527
25-29	58.8	40.4	0.1	0.6	100.0	5,658
30-44	14.9	83.6	0.0	1.5	100.0	13,158
45-59	1.4	92.9	0.1	5.6	100.0	8,350
60+	1.5	81.8	0.0	16.7	100.0	4,696
Total	49.3	47.8	0.1	2.8	100.0	53,894
			Female			
10-14	98.8	0.9	0.2	0.1	100.0	7,226
15-19	84.2	15.3	0.2	0.3	100.0	6,511
20-24	50.5	48.4	0.1	0.9	100.0	5,866
25-29	21.6	76.9	0.3	1.3	100.0	5,864
30-44	5.3	88.8	0.1	5.8	100.0	12,168
45-59	1.4	75.9	0.1	22.5	100.0	6,907
60+	1.4	32.9	0.4	65.3	100.0	3,374
Total	36.8	53.4	0.2	9.6	100.0	47,916
			Total			
10-14	98.9	0.8	0.2	0.1	100.0	15,472
15-19	91.7	8.0	0.1	0.2	100.0	13,770
20-24	70.5	28.8	0.1	0.6	100.0	12,393
25-29	39.9	59.0	0.2	0.9	100.0	11,522
30-44	10.3	86.1	0.1	3.6	100.0	25,326
45-59	1.4	85.2	0.1	13.3	100.0	15,257
60+	1.4	61.4	0.2	37.0	100.0	8,070
Total	43.4	50.4	0.1	6.0	100.0	1,01,810

Note: Table is based on *de facto* population

2.5 Marriage

Marriage in the household is an important event that also reflects the socio-cultural practices of the communities. This section outlines the marriage ceremonies during the three-year period prior to the survey. Mean age at marriage by sex and percentage of total marriages which are below legal age at marriage i.e. 21 years for boys and 18 years for girls by residence at the state and at district levels are shown in Table 2.5.

Table 2.5 MARRIAGE

Mean age at marriage and percentage of marriages below legal at marriage by sex and by districts, Assam, 2002-04

Place of residence/ District	Mean age at marriage		Percentage of marriage below legal age at marriage	
	Boy	Girl	Boy (<21)	Girl (<18)
State – Total	27.2	20.7	10.3	23.8
State – Rural	26.6	20.1	11.6	27.7
State – Urban	28.9	22.4	6.4	13.0
District				
Barpeta	27.8	19.2	12.3	41.2
Bongaigaon	26.9	20.9	14.0	22.0
Cachar	27.5	23.3	9.6	2.7
Darrang	27.9	21.6	9.0	21.4
Dhemaji	24.5	20.1	20.0	21.7
Dhubri	25.6	19.1	7.8	33.8
Dibrugarh	25.8	22.1	14.3	22.0
Goalpara	26.0	19.5	9.2	35.3
Golaghat	27.4	21.5	12.0	15.6
Hailakandi	30.6	22.6	9.2	17.8
Jorhat	28.7	21.7	11.2	9.0
Kamrup	28.4	21.5	4.4	12.1
Karbi Anglong	24.9	20.4	11.6	20.7
Karimganj	30.7	20.9	4.6	23.8
Kokrajhar	26.2	19.6	14.8	26.7
Lakhimpur	27.7	22.4	2.9	11.4
Marigaon	25.9	18.9	13.0	47.0
Nagaon	26.9	20.4	11.1	26.2
Nalbari	28.0	20.3	6.5	27.6
North Cachar Hills	26.3	20.0	20.2	17.8
Sibsagar	27.0	22.3	9.6	12.4
Sonitpur	27.8	21.1	12.9	25.9
Tinsukia	27.5	21.9	12.0	16.2

Note: Table based on *de jure* population.
Reference period: - January 1st, 1999 to survey date for phase-1, and January 1st, 2001 to survey date for phase-2.

Mean age at marriage for boys and girls in urban areas of Assam are 28.9 years and 22.4 years respectively. The corresponding figures in rural areas are 26.6 years and 20.1 years. On the whole, as far as Assam is concerned, marriages for both boys and girls seem to go with legal age at marriage, which can be seen from average age at marriage being 27 years for boys and 21 years for girls. However, 10 percent of boys and nearly one fourth of girls got married below the corresponding specified legal age for marriage. The proportion is little higher in the rural areas compared to the urban areas of the state.

When it comes to district level variation in mean age at marriage, it is highest in Hailakandi for boys (30.6 years) and in case of girls it is highest in Cachar (23.3 percent). The lowest mean age at marriage for boys is 24.5 years recorded for the district of Dhemaji and Karbi Anglong (24.9 years) and for the girls, the lowest is 18.9 years in Marigaon, 19.2 years in Barpeta and 19.1 years in Dhubri.

It is also found that, the percentage of girls who were married below the legal age at marriage was the highest in Morigaon (47 percent) and the lowest in Cachar (three percent). In two out of 23 districts more than 40 percent girls were marrying below the legal age at marriage

(see Map-1). In the case of boys, marriages below the legal age at marriage are the highest in Dhemaji and North Cachar Hills districts (20 percent each) and lowest in Lakhimpur (three percent).

2.6 Morbidity Rates

The DLHS-RCH has collected information on the morbidity status relating to blindness, tuberculosis and malaria of the *de jure* members of the household. Table 2.6 provides prevalence rates for these three morbidities.

Table 2.6 MORBIDITY RATES

Prevalence of blindness, tuberculosis, and malaria, according to place of residence, Assam, 2002-04.

Morbidity	Total	Residence	
		Rural	Urban
Prevalence rate of blindness			
Male			
Partial	2,984	2,647	3,993
Complete	271	298	191
Night blindness	141	159	88
Female			
Partial	2,829	2,319	4,315
Complete	221	251	134
Night blindness	169	173	157
Persons			
Partial	2,911	2,493	4,147
Complete	248	276	164
Night blindness	154	166	121
Prevalence rate of tuberculosis			
Male	437	511	215
Female	242	300	73
Person	345	412	147
Prevalence rate of malaria[1]			
Male	950	1,109	476
Female	769	888	420
Person	864	1,005	449

Note: All the rates refer to *de jure* population. Prevalence rate per 100, 000 population
Reference period: - January 1st, 1999 to survey date for phase-1, and January 1st, 2001 to survey date for phase-2. [1] Last two weeks prior to the survey

Partial, Complete and Night Blindness

The overall prevalence of partial blindness is 2,911 per 100,000 populations in the state and is lower in rural areas (2,493 per 100,000) than in urban areas (4,147 per 100,000). It is more among males (2,984) than females (2,829). The prevalence of complete blindness is 248 per 100,000 population with a rural-urban differential of 276 against 164 per 100,000. Sex differential in complete blindness does exist as the same is 271 among males and 221 among females. The prevalence of night blindness due to vitamin A deficiency is 154 per 100,000 populations and is higher in rural areas (166) than in urban areas (121).

Tuberculosis

The prevalence of tuberculosis is 345 per 100,000 populations with rural areas having a higher prevalence of 412 compared to 147 per 100,000 in urban areas. The prevalence of TB is higher among males (437 per 100,000) than among females (242 per 100,000). Similarly, TB prevalence is much higher among males of rural areas (511) as compared to the males of urban areas (215).

Malaria

The household respondents were asked to state whether any member of their household suffered from malaria (characterized by recurrent fever with shivering) any time during the two weeks prior the survey. In the state of Assam, 864 persons per 100,000 populations were reported to have suffered from malaria. Rural residents are almost two times more likely to have suffered from malaria (1,005 per 100,000) than urban residents (449 per 100,000). Overall, the reported prevalence of malaria is higher for males (950) than for females (769).

2.7 Morbidity Rates by Districts

Table 2.7 shows the prevalence of blindness, tuberculosis and malaria in the districts of Assam. The prevalence of partial blindness varies considerably among the districts the lowest being 535 per 100,000 in Goalpara and the highest, 6,836 per 100,000 in Golaghat.

The prevalence rate of complete blindness ranges from 28 per 100,000 in Jorhat to 632 per 100,000 in Dhemaji. The prevalence of tuberculosis varies from lowest of 34 in North Cachar Hills to highest of 848 in Karimganj. Similarly, in case of malaria, the prevalence rate is highest in Darrang (3060 per 100,000) and lowest in Barpeta (118 per 100,000).

Table 2.7 MORBIDITY RATES BY DISTRICTS

Prevalence of blindness, tuberculosis, and malaria, by district, Assam, 2002-04

District	Prevalence[1] of morbidity			
	Partial blindness	Complete blindness	Tuberculosis	Malaria[2]
Barpeta	558	301	382	118
Bongaigaon	5,840	290	389	1,282
Cachar	1,478	75	249	195
Darrang	2,232	335	344	3,060
Dhemaji	1,907	632	477	560
Dhubri	2,224	577	243	369
Dibrugarh	1,383	353	190	292
Goalpara	535	49	281	726
Golaghat	6,836	84	91	367
Hailakandi	3,548	259	240	474
Jorhat	4,848	28	568	267
Kamrup	5,492	167	352	831
Karbi Anglong	1,364	279	399	1,898
Karimganj	775	609	848	1,206
Kokrajhar	2,808	192	466	1,698
Lakhimpur	4,344	266	647	1,768
Marigaon	915	245	348	517
Nagaon	2,365	239	116	459
Nalbari	865	114	153	424
North Cachar Hills	664	123	34	1,279
Sibsagar	4,529	349	464	1,542
Sonitpur	646	175	654	779
Tinsukia	6,069	91	142	189
Assam	2,911	248	345	864

Note: All the rates refer to *de jure* population. [1] Prevalence rate per 100, 000 population
Reference period: - January 1st, 1999 to survey date for phase-1, and January 1st, 2001 to survey date for phase-2. [2] Last two weeks prior to the survey

2.8 Housing Characteristics

This section describes the availability of basic amenities in the state. Table 2.8 presents the percent distribution of households by selected housing characteristics. Forty-four percent of the households in Assam have electricity connection and it is much more in urban areas (83 percent) than in rural areas (28 percent).

As regards to the sources of drinking water 18 percent of the households get drinking water through individual or public taps, while 53 percent drink water from hand pumps/ bore-wells, and 19 percent drink water from uncovered wells. About 40 percent of households in urban areas get tap water for drinking, whereas in rural areas only nine percent of the households have such provision.

When it comes to sanitation facility, 27 percent of the households have flush toilets, while 45 percent have pit based toilets or latrines, three percent depend on shared toilets and nearly 25 percent of the households have no toilet facility at all. There is a large rural-urban

difference; 33 percent of rural households have no toilet facility, compared to around five percent of urban households.

DLHS-RCH has also collected data on the type of fuel used in the households for cooking. Twenty eight percent of the households used liquid petroleum gas including electricity for cooking in Assam. Another 68 percent of households rely on firewood and three percent on kerosene. Evidently the use of liquid petroleum gas/electricity for cooking is reported more in urban areas (70 percent) and firewood in rural areas (85 percent).

There is considerable variation in the quality of housing. On the basis of building material, type of floor, walls and roof, households are categorised into *kachcha*, semi-*pucca* and *pucca*. More than half of the households are living in *kachcha* houses (61 percent), 17 percent in semi *pucca* houses and 22 percent in *pucca* houses. Fifty-one percent of urban households live in *pucca* houses compared to only 10 percent of rural households.

The possession of consumer durable goods is an indication of a household's socio-economic status. Table 2.8 shows that majority of the households in the state own bicycles (59 percent), an electric fan (38 percent), television (37 percent) and radio/transistor (36 percent). Other durable goods found in the surveyed households are sewing machine (15 percent), telephone (13 percent), motorcycle or scooter (11 percent), car/jeep and tractor (4 percent). Ownership of most of the consumer durable items is more among the urban households than among the rural households except that of bicycle, which is little higher in rural areas (61 percent) than in urban areas (55 percent).

Considering household amenities, such as source of drinking water, type of house, source of lighting, fuel for cooking, toilet facility and ownership of durable goods, a composite measure, standard of living index (SLI) is made for classification of households. The standard of living index is calculated by adding the following scores;
Source of drinking water: 3 for Tap (own), 2 for Tap (shared), 1 for hand pump and well, and 0 for other;
Type of house: 4 for *pucca*, 2 for semi-*pucca*, and 0 for *kachcha*;
Source of lighting: 2 for electricity, 1 for kerosene, and 0 for other;
Fuel for cooking: 2 for LPG gas/electricity, 1 for kerosene and 0 for other;
Toilet facility: 4 for own flush toilet, 2 for own pit toilet, 2 for shared toilet and 0 for no toilet;
Ownership for items: 4 each for car and tractor, 3 each for television, telephone and motorcycle/scooter, and 2 each for fan, radio/transistor, sewing machine and bicycle.
The total of the scores may vary from the lowest of a 0 to maximum of 40. On the basis of total score, households are divided into three categories as;

a) Low – if total score is less than or equal to 9,
b) Medium – if total score is greater than 9 but less than or equal to 19 and
   High – if total score is greater than 19.

Table 2.8 HOUSING CHARACTERISTICS

Percent distribution of the household by housing characteristics and percentage of households owing selected durable goods, according to residence, Assam, 2002-04

Housing characteristic	Total	Residence	
		Rural	Urban
Electricity			
Yes	43.6	27.9	83.2
No	56.4	72.1	16.8
Source of drinking water			
Tap inside	7.2	1.4	21.8
Tap shared public	10.6	7.7	17.8
Hand pump/ bore well	52.8	56.9	42.2
Well covered	2.4	2.1	3.1
Well uncovered	18.9	21.3	12.6
River	1.3	1.7	0.3
Pond	4.6	6.2	0.5
Spring	0.7	0.8	0.4
Other	1.6	1.7	1.2
Sanitation facility			
Own flush toilet	26.8	12.4	63.5
Own pit toilet / latrine	44.7	51.6	27.2
Shared toilet of any type	3.4	3.1	4.4
Public / community toilet	0.4	0.4	0.3
No toilet facility	24.6	32.5	4.5
Main type of fuel used for cooking			
Liquid petroleum gas/ electricity	28.2	11.6	70.3
Kerosene	3.2	2.5	5.1
Wood	67.8	84.9	24.5
Other	0.8	1.0	0.1
Type of house			
Kachcha	61.3	74.1	28.7
Semi - *pucca*	17.2	16.2	19.9
Pucca	21.5	9.7	51.4
Household assets			
Fan	38.2	22.4	78.3
Radio/transistor	36.2	34.3	40.9
Sewing machine	14.9	7.7	33.2
Television	36.9	22.7	72.9
Telephone	13.0	4.2	35.1
Bicycle	59.0	60.6	54.8
Motor cycle/ scooter	11.0	5.8	24.4
Car / Jeep	3.6	1.2	9.8
Tractor	0.4	0.5	0.2
Standard of living index			
Low	56.3	71.3	18.2
Medium	22.8	20.3	29.0
High	20.9	8.4	52.8
Number of households	24,269	17,399	6,870

As per the standard of living index, 56 percent of the households come under the low, 23 percent to medium and 21 percent to high category of standard of living.

The proportion of households with medium and high standard of living is higher in urban areas than in rural areas, while the proportion with low standard of living is much higher in rural households (71 percent) than in urban households (18 percent) in the state.

2.9 Housing Characteristics by Districts

The 23 districts in Assam are not uniform in terms of basic amenities and possession of consumer durables. Table 2.9 presents an inter-district comparison of housing characteristics. The percentage of households with electricity less than 30 percent in the districts includes Dhemaji (28 percent), Nagaon (28 percent) and Dhubri (24 percent). The percentage of households with electricity is found to be highest in Tinsukia district (68 percent). More than half of the households used tap water or water from a hand pump for drinking in most districts except for Cachar (47 percent), Bongaigaon (46 percent), Karbi Anglong (46 percent) and Karimganj (45 percent).

In three districts, less than 60 percent of the households have toilet facilities and in rest of the districts, more than 60 percent of the households have toilet facilities.

The usage of liquid petroleum gas/electricity in the households of all the districts ranges from 14 to 46 percent. The percentage of households living in *pucca* houses is quite low which ranges from the lowest of five percent in Karbi Anglong to 31 percent in Kamrup district.

Table 2.9 HOUSING CHARACTERISTICS BY DISTRICT

Selected housing characteristics by district, Assam, 2002-04

Districts	Percentage of households: With electricity	With drinking water[1]	With toilet facility	Using Liquid petroleum gas/ electricity	Living in *pucca* house
Barpeta	30.5	85.2	77.3	20.5	18.5
Bongaigaon	35.3	46.1	64.7	23.9	23.0
Cachar	44.7	47.3	88.2	30.0	23.6
Darrang	53.7	65.8	71.8	26.4	24.3
Dhemaji	27.8	75.4	51.0	19.9	13.1
Dhubri	23.8	92.1	50.1	13.8	10.3
Dibrugarh	42.2	92.9	77.5	25.1	11.5
Goalpara	38.8	75.6	69.5	24.0	18.5
Golaghat	46.6	88.9	85.1	28.4	23.2
Hailakandi	37.9	54.2	87.2	18.5	12.9
Jorhat	52.7	75.1	78.7	40.4	28.5
Kamrup	59.0	83.4	79.9	45.8	30.9
Karbi Anglong	30.7	45.7	67.4	13.6	5.3
Karimganj	42.5	44.8	97.5	28.1	18.2
Kokrajhar	38.4	56.2	50.0	23.2	18.7
Lakhimpur	38.8	59.4	68.2	30.0	26.4
Marigaon	36.0	78.4	64.2	22.9	11.9
Nagaon	28.4	88.7	83.1	13.6	14.4
Nalbari	40.6	82.6	72.9	31.8	25.6
North Cachar Hills	40.4	54.4	91.9	19.1	14.9
Sibsagar	65.0	77.8	82.9	37.9	28.7
Sonitpur	50.9	51.0	75.4	24.7	20.7
Tinsukia	67.5	94.4	92.5	39.2	28.6
Assam	43.6	72.9	75.4	28.2	21.5

Note: [1] That is piped or from a hand pump/bore well

2.10 Iodization of Salt

Consumption of salt fortified with iodine is recommended to avoid miscarriages, brain disorders, cretinism and retarded psychomotor development. As per the Prevention of Food Adulteration Act, 1988, the minimum iodine content of edible salt is 30 parts per million (PPM) at the manufacturing level.

In the survey, each interviewer was provided with a test kit to measure the level of iodine content of salt consumed by the surveyed households. The test results (Table 2.10) are classified by degree of ionization of salt and categorised by background characteristics. It is observed that nearly 53 percent of households used salt that contained a minimum recommended 15 ppm or higher level of iodine content whereas nine percent of households used salt that is not iodized at all and another 36 percent used salt showing 7 ppm, which is inadequately iodized.

In rural areas, 12 percent of households against two percent in urban areas used non-iodized salts. Percentage of households using inadequately iodized salt in rural areas is more than

three times higher compared to that in urban areas. Number of households using non-iodized or inadequately iodized salt is closely associated with the educational level of the household head. The use of adequately iodised salt (15 ppm) was recorded in 83 percent of the households where the household heads had more than 10 years of schooling as against 31 percent in the households where heads were found to be illiterate. Consumption of adequately iodised salt among households of Scheduled Caste is 58 percent, followed by 55 percent each in other backward class households and other caste while it is 46 percent in Scheduled Tribes households.

Table 2.10 IODIZATION OF SALT

Percent distribution of households by degree of iodization of salt, according to selected background characteristics, Assam, 2002-04

Background characteristic	Not Iodised	7ppm	15+ppm	Other[1]	Total percent	Number of households
Place of Residence						
Rural	11.6	45.2	41.2	2.0	100.0	17,399
Urban	1.6	13.2	84.3	0.9	100.0	6,870
Education of the household heads						
Non-literate	15.4	51.3	30.5	2.8	100.0	7,607
0-9@ years	7.7	38.1	53.1	1.2	100.0	10,741
10 and above	2.2	13.3	83.3	1.3	100.0	5,921
Religion of household head						
Hindu	6.9	30.1	61.3	1.8	100.0	17,618
Muslim	14.2	54.4	29.8	1.6	100.0	5,782
Christian	11.3	41.9	45.7	1.0	100.0	749
Other	2.0	17.8	75.8	4.4	100.0	120
Caste/tribe of the household head#						
Scheduled caste	9.5	31.1	57.7	1.7	100.0	3,177
Scheduled tribe	12.0	39.2	45.6	3.2	100.0	3,121
Other backward class	7.6	35.3	54.9	2.3	100.0	5,465
Other	8.2	36.2	54.5	1.1	100.0	11,660
Standard of living index						
Low	13.9	51.8	31.8	2.4	100.0	13,654
Medium	3.6	25.2	70.2	1.0	100.0	5,535
High	0.4	6.0	93.1	0.5	100.0	5,080
Total	8.7	36.2	53.4	1.7	100.0	24,269

Note: Ppm: Parts per million

@ Literate persons with no years of schooling are also included. # Total number of cases may not add up to N due to do not know and missing cases. [1] Includes salt not at home, salt not tested, refused and missing cases.

Differential in the consumption of properly iodized salt is more pronounced when analysed by religion of the household head and standard of living index. Percentage of households using adequately iodized salt is 30 percent among Muslim households, whereas the corresponding figures for Hindu and Christian households are 61 percent and 46 percent respectively. Again, households with low standard of living are more likely to use non-iodized or inadequately iodized salt compared to households with medium or high standard of living index. This can be noticed from table 2.10 that 14 percent of households with low standard of living

used non-iodized salt whereas less than one percent households with a high standard of living fall in this category. The number of households with a high standard of living using adequately iodized salt is thrice of those with a low standard of living.

2.11 Iodization of Salt by Districts

Table 2.11 shows district level variation in the percent distribution of households by level of iodization of salt used in the households. Hailakandi has the lowest proportion of households (7 percent) using adequately iodized salt, whereas Kamrup has the highest proportion of households (85 percent) using same salt. Percentage of households using inadequately iodized salt is the highest in Cachar (56 percent) and the lowest in Kamrup district (11 percent). The households which are using non-iodized salt, ranges from less than one percent in Sibsagar to 62 percent in Hailakandi district (see Map-2).

Table 2.11 IODIZATION OF SALT BY DISTRICT

Percent distribution of households by degree of iodization of salt by district, Assam, 2002-04

District	Not iodized	7ppm	15+ppm	Other[1]
Barpeta	11.2	44.5	43.0	1.3
Bongaigaon	7.3	42.2	46.7	3.8
Cachar	1.5	56.0	41.9	0.6
Darrang	16.1	39.6	43.1	1.2
Dhemaji	11.2	27.1	36.7	25.0
Dhubri	6.4	45.8	45.8	2.0
Dibrugarh	4.2	41.8	52.4	1.6
Goalpara	12.4	43.2	42.7	1.6
Golaghat	0.9	20.2	78.1	0.8
Hailakandi	61.7	31.3	6.7	0.3
Jorhat	5.6	27.0	66.9	0.4
Kamrup	3.0	11.4	85.3	0.3
Karbi Anglong	13.1	44.4	41.8	0.7
Karimganj	11.6	49.3	38.0	1.1
Kokrajhar	15.4	48.4	36.1	0.1
Lakhimpur	14.0	19.4	57.9	8.7
Marigaon	5.6	30.9	63.2	0.3
Nagaon	5.2	51.0	43.5	0.2
Nalbari	17.5	37.2	44.4	1.0
North Cachar Hills	0.6	50.6	46.7	2.1
Sibsagar	0.7	17.7	81.3	0.3
Sonitpur	6.5	44.4	48.8	0.2
Tinsukia	2.6	24.8	72.0	0.5
Assam	8.7	36.2	53.4	1.7

Note: Ppm: Parts per million. [1] Includes salt not at home, salt not tested, refused and missing cases

2.12 Availability of Facility and Services to the Rural Population

The DLHS-RCH collected information about surveyed village from knowledgeable persons such as, the '*Sarpanch*' or '*Pradhan*', (village head) or other village officials or other persons including 'teacher' in the villages on health and educational facilities and other services available in the village. One important aspect was on the distance from the villages, if they are not available within the village. The enquiry includes various types of education facilities, including primary school, middle school, secondary school, higher secondary school, college, *Gurujee* scheme and '*Madarasa*'. Further information on the location in terms of distances for various types of health facility, including sub-centres, primary health centres (PHCs), community health centres/ Rural Hospitals (CHCs/RHs), Government dispensary, hospital, private clinic or hospitals and health facilities of Indian system of Medicine (ISM) were recorded.

Table 2.12 gives the distance of surveyed villages from an education facility. The unit of analysis is usual residents of rural population. Almost all the rural residents (98 percent) (the *de jure* rural population) in the state live in villages that have a primary school, 60 percent live in villages with middle school and 31 percent of the rural population live in villages with secondary schools. Higher secondary schools are available within the villages for nine percent of the rural population. Eighteen percent of the rural population live in villages, which have *Madarasa*. Five percent of the surveyed villages have a college. As regards to the distribution of educational institutions within 5 kilometres distance from the surveyed village, it can be seen that 41 percent of the villages have secondary school, 34 percent have higher secondary school, 28 percent have middle school and 21 percent have a *'Madarasa'*. For 45 percent of the villages, the college is more than 10 kilometres away.

Table 2.12 DISTANCE FROM THE NEAREST EDUCATION FACILITY

Percent distribution of rural household population by distance from the nearest education facility, Assam, 2002-04

Education facility	Within village	Distance from the village: < 5 km	5-9 km	10+ km	Don't know/ missing	Total percent
Primary School	98.2	1.2	0.6	0.0	0.0	100.0
Middle School	59.5	27.8	5.9	4.3	2.4	100.0
Secondary School	30.9	41.2	14.0	12.0	1.9	100.0
Higher Secondary School	8.6	34.0	27.8	27.5	2.0	100.0
College	4.7	20.4	27.1	44.7	3.1	100.0
Gurujee Scheme	3.0	13.8	9.6	23.3	50.2	100.0
Madarasa	18.0	21.2	15.5	21.7	23.5	100.0

Note: Table based on rural *de jure* population

Table 2.13 DISTANCE FROM THE NEAREST HEALTH FACILITY

Percent distribution of rural household population by distance from the nearest health facility, Assam, 2002-04

Health facility	Within village	Distance from the village: < 5 km	5-9 km	10+ km	Don't know/ missing	Total percent
		Rural household population				
Sub-centre	43.2	31.9	10.1	7.6	7.2	100.0
Primary health centre	9.6	26.0	20.6	36.6	7.2	100.0
Either sub-centre or PHC	48.1	32.2	10.0	7.1	2.7	100.0
Community health centre/ Referral hospital	1.3	14.6	13.3	54.1	16.8	100.0
Government dispensary	5.5	16.1	16.2	43.4	18.8	100.0
Government hospital	3.4	12.2	18.2	55.9	10.3	100.0
Private clinic	11.6	16.1	16.0	39.8	16.5	100.0
Private hospital	4.9	5.1	10.7	58.3	21.0	100.0
ISM health facility	7.5	8.6	8.6	31.0	44.3	100.0

Note: Table based on rural *de jure* population

Table 2.13 summarises the availability of health facilities within the surveyed villages and provides information on the distance between the villages and the nearest facility. About 43 percent of the rural population live in villages with sub-centres. Only 10 percent of the rural household population live in a village with a primary health centre, though the proportion of villages having facilities of either Sub-centre or primary health centre is 48 percent. The proportion of rural population having other health facilities are one percent for CHCs/RHs, six percent for Government dispensary, three percent for Government hospitals, 12 percent for private clinics, five percent for private hospitals and eight percent for Indian System of Medicine (ISM).

Table 2.14 AVAILABILITY OF SERVICES

Percentage of rural residents living in villages that have selected services, Assam, 2002-04

Services	Percentage of rural residents
***Anganwadi* centre**	72.7
Anganwadi worker	71.0
Private doctor	18.8
Visiting doctor	14.3
Homeopathic doctor	22.4
Village health guide	17.0
Trained birth attendant	26.3
Traditional healer	33.1
Dai	58.4

Note: Table based on rural *de jure* population

The proportion of rural population located within a distance of 5 kilometres from health facilities are 32 percent for sub-centres, 26 percent for primary health centres, 15 percent for CHCs/RHs, 16 percent for a Government dispensary, 12 percent for Government hospitals, 16 percent for private clinic, 5 percent for private hospitals and 9 percent for ISM health facilities. Distance of particular health facilities is beyond 10 kilometres from surveyed villages in the case of Government hospitals (56 percent) and for private hospitals, (58 percent).

Table 2.14 shows the proportion of rural residents in the state that live in the villages with various health services. Almost 73 percent of rural residents live in villages that have an *anganwadi*, (a nursery school for children age 3-6 years) and 71 percent of rural households live in villages with *anganwadi* workers (*Anganwadi* workers provide integrated child development services).

About 19 percent of the rural residents live in villages that have a private doctor, 14 percent live in villages with a visiting doctor, 22 percent with a homeopathy doctor, 17 percent with a village health guide, 26 percent with a trained birth attendant and 33 percent with a traditional healer. Fifty eight percent of the rural residents live in villages that have a *Dai* (*Dai* provides the services for the delivery).

2.13 Availability of Education Facility and Health Services by Districts

Table 2.15 shows the availability of education and health facilities for the rural population within the surveyed villages by districts in Assam. Out of 23 districts, in 14 districts, all the rural population have access to primary or middle schools. In the state of Assam, 98 percent of the rural population live in villages having primary schools. Around 43 percent of the rural population in the state have sub-centres within the village, with the highest coverage of 69 percent in Lakhimpur and the lowest of 15 percent in Tinsukia.

There are three districts where no primary health centre was found within the sampled villages. These districts include Dhemaji, Goalpara and Karbi Anglong. Highest availability of PHCs within the village is found in Lakhimpur (43 percent). The percentage of rural households population having access to any government health facility ranges between 21-80.

Table 2.15 AVAILABILITY OF FACILITY AND SERVICES BY DISTRICT

Selected facility and services of rural household population within village by district, Assam, 2002-04

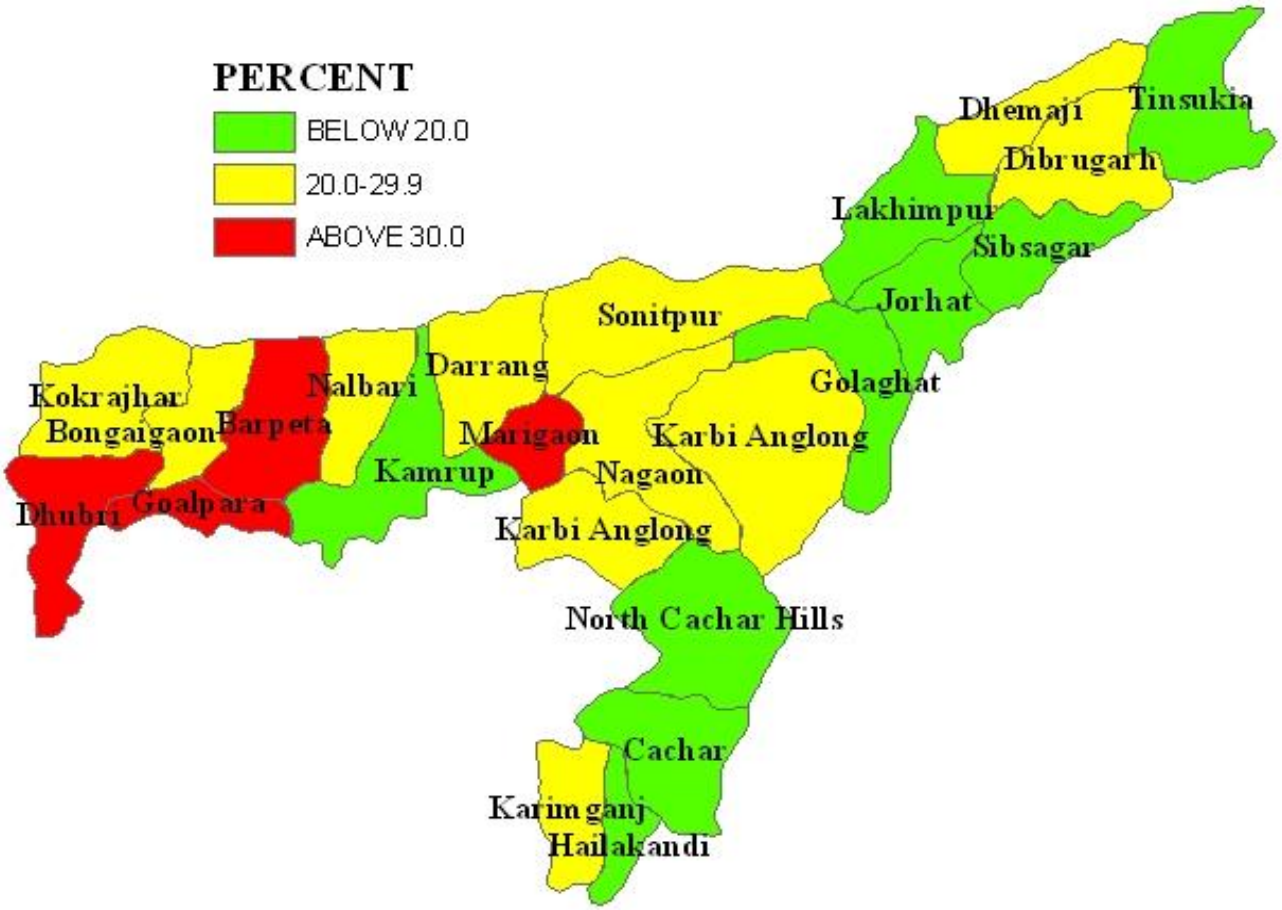
Districts	Percentage of rural household population with: Primary or middle school	Sub-centre	PHCs	Any government health facility[1]	Doctor[2]	TBA[3]	*Anganwadi* worker
Barpeta	96.6	68.0	7.7	80.4	4.5	16.5	61.6
Bongaigaon	93.3	48.0	18.7	65.1	60.9	36.1	50.5
Cachar	100.0	27.7	9.6	27.7	12.7	36.9	88.8
Darrang	100.0	52.9	14.4	58.4	42.3	50.5	61.6
Dhemaji	100.0	18.5	0.0	21.4	18.2	3.5	77.2
Dhubri	100.0	51.6	4.3	59.6	20.9	31.5	72.2
Dibrugarh	95.0	49.3	28.4	68.5	35.2	26.2	62.8
Goalpara	100.0	52.4	0.0	70.7	8.5	55.9	96.4
Golaghat	96.4	47.1	7.9	55.6	50.6	56.3	90.3
Hailakandi	97.4	21.6	7.4	29.1	6.7	33.1	81.9
Jorhat	100.0	26.2	3.0	26.2	16.1	22.7	87.1
Kamrup	100.0	36.6	6.1	39.2	12.7	15.6	72.0
Karbi Anglong	95.5	45.9	0.0	48.3	30.8	0.0	39.3
Karimganj	100.0	36.7	5.5	39.9	16.5	43.3	87.2
Kokrajhar	100.0	40.2	6.4	46.1	41.7	10.8	63.9
Lakhimpur	100.0	68.7	43.0	68.7	10.6	8.8	43.9
Marigaon	100.0	45.6	3.2	57.9	45.7	29.9	95.1
Nagaon	96.1	54.0	7.8	61.6	23.4	14.4	69.5
Nalbari	97.5	25.0	12.1	43.2	39.5	21.5	97.4
North Cachar Hills	100.0	26.1	12.3	34.9	11.3	16.2	24.7
Sibsagar	100.0	50.9	10.6	57.4	8.0	11.7	62.0
Sonitpur	100.0	31.2	5.1	36.3	19.1	35.9	68.4
Tinsukia	96.4	15.1	15.0	30.1	58.7	21.5	48.5
Assam	98.4	43.2	9.6	51.1	25.2	26.3	71.0

Note: [1] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village [2] Either private or visiting doctor [3]Trained birth attendant

More than half of the rural population visited either by private or by visiting doctors in the surveyed villages are found in the districts of Bongaigaon (61 percent), Tinsukia (59 percent) and Golaghat (51 percent) and it is found to be less than 10 percent in the districts of Barpeta (five percent), Hailakandi (seven percent), Sibsagar (eight percent) and Goalpara (nine percent). Highest numbers of rural population (56 percent) are attended by trained birth assistants in both Goalpara and Golaghat, while only four percent of rural population availed themselves of such a provision in Dhemaji. In Karbi Anglong district, no rural population was attended by TBA. A visit by *anganwadi* workers to rural households is highest in Goalpara (96 percent) and the lowest in North Cachar Hills (25 percent).

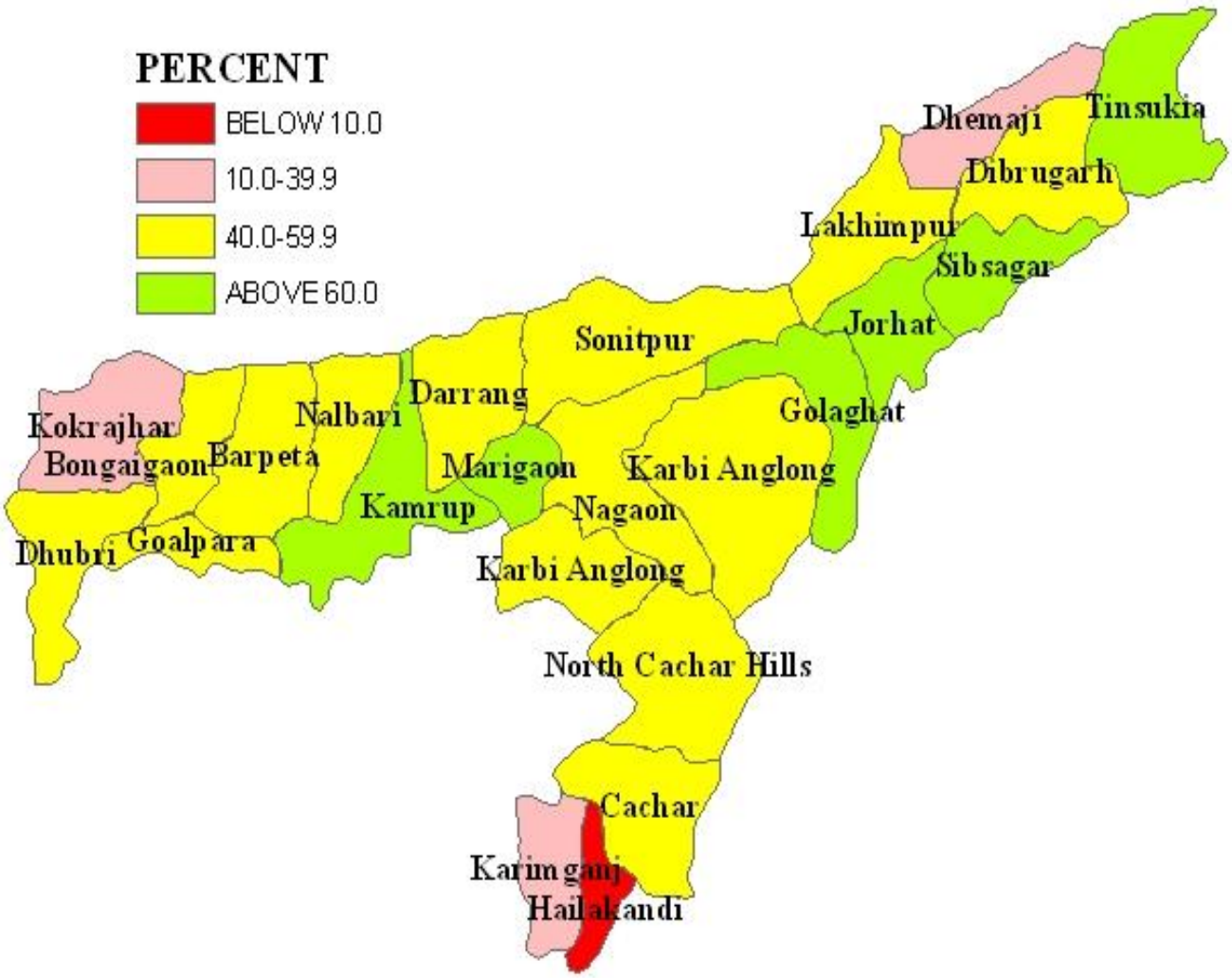
Map-1

Percent Girl Marrying Below Legal Age at Marriage



Map - 2

Percentage of Households using Salt that Contains 15 ppm level of Iodine



CHAPTER III

CHARACTERISTICS OF WOMEN, HUSBANDS AND FERTILITY

The Reproductive and Child Health (RCH) programme is targeted towards the underprivileged section of the population, particularly women and children. The utilization of RCH services provided across the country depends to a large extent on the characteristics of women, their husbands and episodes of pregnancies, miscarriages, abortions, number of children born to them and survival status of children. Age of women, marital duration, educational attainment, social background and living standard are important factors, which influence reproductive and child health. With this in view, the DLHS-RCH data were collected on demographic characteristics such as current age, age at consummation of marriage and number of pregnancies, live births and surviving children from eligible women respondents of selected representative households. Information regarding household background characteristics was collected using a separate household questionnaire that covered religion and caste of head of household, type of house, source of drinking water and possession of consumer durables. Fertility preference of women in terms of timing and desire for additional children in comparison to the number of living children provides information on the need for reproductive and child health services.

This chapter provides a comprehensive outline of distribution of currently married women by present age, age at consummation of marriage, duration of marriage, complete years of schooling, pregnancy episodes, children ever born and children surviving, along with social and economic characteristics of households the women represent.

3.1 Background Characteristics of Women

The percent distribution of currently married women in the reproductive age group 15-44 years by residence, religion and caste of head of household, economic standard of household and other demographic characteristics are shown in Table 3.1. A sample of 17,775 eligible women represents the state of Assam in DLHS-RCH and 12,983 of these women are from rural areas. About 59 percent of the currently married women are in the age range of 20-34 years and the distribution is higher in rural areas (61 percent) compared to urban areas (55 percent). Age at consummation of marriage before 18 years, is found to be 40 percent in rural areas and 29 percent in urban areas. Looking at the distribution of marital duration, it is noted that about 36 percent of the women across the state are married for more than 15 years.

Among the sample of 17,775 representative women in Assam, Hindus and Muslims constitute 72 percent and 25 percent respectively. More Hindu women are found in urban areas (87 percent) than in rural areas (66 percent). The presence of women belonging to other religious groups is insignificant in proportional and absolute terms. Thirteen percent of the women each belong to Scheduled Castes and Scheduled Tribes and 22 percent to other backward classes. Majority of the sample women (49 percent) belong to general caste other than scheduled caste/tribe and other backward class. There is a clear rural-urban differential in the educational attainment of women. For the state of Assam, 35 percent of women are non-literate. Non-literate women are more in rural areas (43 percent) compared to urban areas (14 percentage).

Table 3.1 BACKGROUND CHARACTERISTICS OF ELIGIBLE WOMEN

Percent distribution of currently married women aged 15-44 by selected background characteristics, according to residence, Assam, 2002-04

Background characteristic	Total	Residence	
		Rural	Urban
Age group			
15-19	4.9	5.6	2.9
20-24	14.4	15.8	10.7
25-29	23.4	23.9	22.2
30-34	21.4	20.9	22.8
35-39	20.9	20.0	23.3
40-44	14.9	13.8	18.0
Age at consummation of marriage			
Below 18 years	36.8	39.6	29.3
18 years & above	63.2	60.4	70.7
Marital duration			
0-4	20.8	21.3	19.4
5-9	21.6	22.1	20.2
10-14	21.7	21.8	21.5
15+	35.9	34.8	38.9
Religion			
Hindu	71.5	66.0	86.6
Muslim	24.9	30.3	10.3
Christian	3.0	3.5	1.8
Sikh	0.3	0.1	0.8
Buddhist	0.1	0.1	0.0
Jain	0.1	0.0	0.4
Zoroastrian	0.0	0.0	0.0
Other	0.1	0.1	0.1
Caste/tribe			
Scheduled caste	13.0	10.6	19.5
Scheduled tribe	12.8	15.5	5.3
Other backward class	22.1	24.6	15.1
Other #	48.6	45.8	56.2
Don't know	3.6	3.4	4.0
Education (Years of schooling)			
Non-literate	35.4	43.3	14.2
0-9@ years	45.2	45.2	45.4
10 years & above	19.3	11.5	40.4
Missing	0.0	0.1	0.0
Husband's education (Years of schooling)			
Non-literate	23.9	29.7	8.1
0-9@ years	46.7	49.7	38.6
10 years & above	28.8	19.8	52.9
Don't know	0.5	0.7	0.2
Missing	0.1	0.1	0.3
Standard of living index			
Low	55.1	68.9	17.8
Medium	24.4	22.1	30.4
High	20.5	9.0	51.7
Number of women	17,775	12,983	4,793

Note: # Higher caste (Not belonging to a scheduled caste, scheduled tribe and an other backward class)
@ Literate persons with no year of schooling are included.

Further, forty five percent of women across the state have completed 0-9 years of schooling irrespective of rural-urban differentials. However, only 12 percent of rural women have completed 10 or more years of schooling compared to 40 percent for urban women. Men are more literate than their spouses. In Assam, 24 percent of the husbands of eligible women are non-literate and the corresponding figures are 30 percent in rural areas and eight percent in urban areas. The DLHS-RCH includes data on materials used for floor, walls and roofs of the housing structure along with status of possession of a list of durables and these are utilized to construct a composite index of household standard of living. Households are further classified as those with low, medium and high categories of living standard. Fifty-five percent of women in the state live in low standard of living households and this is 69 percent in rural areas and 18 percent in urban areas. Twenty-four percent of women across the state live in households categorised as medium standard of living. In urban areas, 52 percent of women belong to high standard of living households and the corresponding figure is just nine percent in rural areas.

3.2 Educational Level of Women

Table 3.2 provides details of educational level of eligible women in terms of classification by years of schooling, and selected background characteristics such as, place of residence, religion, caste and husbands' education. As regards to the distribution of non-literate women, it is observed that a lesser proportion of younger women below 30 years of age are non-literate compared to older women above 30 years. An increasing pattern of educational attainment of women has been noticed particularly among younger generation. For women in the age group 15-19 years, 24 percent and 21 percent of them had 1-5 years and 6-8 years of schooling respectively. Among the older women in the age group 40-44 years, uneven distribution by year of schooling is observed with 19 percent, 11 percent, 21 percent and 9 percent of them having attended school for 1-5, 6-8, 9-10 and 11 or more years of schooling.

There is a significant rural-urban differential in the level of education of women in Assam. About 43 percent of rural eligible women are non-literate while 20 percent, 13 percent, 20 percent and 5 percent of the women have 1-5, 6-8, 9-10 and 11 or more years of schooling. The corresponding figures in urban areas are 14 percent non-literate and 13 percent between 1-5, 15 percent for 6-8 years, 33 percent for 9-10 years and 25 percent for 11 and more years. More Muslim women (51 percent) are non-literate compared to Hindu women (30 percent), Christian women (47 percent) and women belonging to other religious communities (15 percent). For literate eligible women most of the Hindus (27 percent) have 9-10 years of schoolings, most of the Muslims have 1-5 years of schooling (22 percent) and most of the Christians have 1-5 years of schooling (20 percent).

An uneven level of educational attainment by caste can be noted. The proportion of non-literate women was found to be highest among Scheduled Tribe (50 percent). The variation is marginal in the proportion of non-literate women among all other caste and class ranging somewhere between 30-34 percent. The literate women belonging to different castes or tribes are concentrated more in the range of 9-10 years of schooling. The husband's education is an important characteristic, which has strong association with the education of eligible women. As many as 81 percent of women were non-literate, their husbands are also non-literate, while only one percent of women whose husbands have 11 or more or years of schooling are non-literate.

Forty eight percent of literate women with 11 or more years of schooling have husbands with the same level of education.

Table 3.2 LEVEL OF EDUCATION OF ELIGIBLE WOMEN

Percent distribution of currently married women aged 15-44 by years of schooling, according to selected background characteristics, Assam, 2002-04

Background characteristic	Non-literate	Literate but no schooling	Years of schooling: 1-5 years	6-8 years	9-10 years	11 or more years	Missing	Total percent	Number of women
Age group									
15-19	37.5	0.0	23.5	20.6	17.2	1.3	0.0	100.0	867
20-24	30.0	0.1	19.2	19.8	23.5	7.3	0.0	100.0	2,563
25-29	32.0	0.1	16.0	13.6	25.6	12.5	0.1	100.0	4,167
30-34	34.7	0.0	17.5	10.8	24.8	12.2	0.0	100.0	3,812
35-39	40.5	0.0	16.4	11.0	21.3	10.7	0.1	100.0	3,718
40-44	39.5	0.1	19.3	10.7	21.2	9.1	0.0	100.0	2,650
Place of residence									
Rural	43.3	0.1	19.6	12.5	19.6	4.9	0.1	100.0	12,983
Urban	14.2	0.0	12.8	15.3	32.8	24.7	0.0	100.0	4,793
Religion									
Hindu	29.7	0.0	16.3	13.5	27.3	13.1	0.0	100.0	12,715
Muslim	51.1	0.0	21.8	12.1	12.1	2.8	0.0	100.0	4,428
Christian	46.5	0.4	19.6	15.2	13.4	4.8	0.0	100.0	537
Other	15.0	0.0	6.4	27.7	36.8	14.1	0.0	100.0	95
Caste/tribe #									
Scheduled caste	32.8	0.0	20.1	16.1	23.6	7.4	0.0	100.0	2,304
Scheduled tribe	49.5	0.2	15.9	10.9	18.5	5.0	0.1	100.0	2,271
Other backward class	29.8	0.0	17.4	13.1	28.3	11.3	0.0	100.0	3,920
Other	33.8	0.0	17.7	13.3	22.6	12.5	0.1	100.0	8,644
Husband's education									
Non-literate	80.8	0.0	11.8	4.6	2.3	0.4	0.1	100.0	4,247
1-5 years	46.2	0.0	35.8	11.1	6.5	0.3	0.1	100.0	3,666
6-8 years	26.6	0.0	30.8	26.0	16.2	0.5	0.0	100.0	2,222
9-10 years	10.9	0.1	13.0	22.7	47.5	5.7	0.0	100.0	4,354
11 or more years	1.3	0.0	2.2	5.8	42.3	48.3	0.0	100.0	3,161
Total	35.4	0.1	17.7	13.2	23.2	10.3	0.0	100.0	17,775

Note: Table includes 9 cases with literate but no schooling and 117 cases on do not know/ missing on husband's education are not shown separately. # Total number may not add up to N due to don't know and missing cases.

3.3 Background Characteristics of Husbands of Eligible Women

In DLHS-RCH husbands of eligible women were also interviewed. The response rate for husbands is relatively low compared to that of eligible women. Selected background characteristics of husbands are shown in Table 3.3. Across the state of Assam, the largest proportion of husbands falls in the age group 35-44 years 39 percent). Fewer husbands are in the less than 25 years of age group. In Assam, 72 percent of the husbands are Hindus, 25 percent are Muslims, and three percent are Christians. Fourteen percent of husbands in the state belong to the scheduled caste and it is 10 percent in rural areas and 24 percent in urban areas. Nearly half (49.4 percent) of the husbands belong to scheduled caste, scheduled tribe and other backward classes. In urban areas husbands from other castes constitute 55 percent, while it is 45 percent in

rural areas. As regards to the educational characteristics of the husbands of surveyed eligible women, 48 percent of them have completed 0-9 years of schooling and the proportion of non-literate husband ranges from 10 percent in urban areas to 30 percent in rural areas.

Table 3.3 BACKGROUND CHARACTERISTICS OF MEN

Percent distribution of husbands of eligible women by selected background characteristics, according to residence, Assam, 2002-04

Background characteristic	Total	Residence	
		Rural	Urban
Age group			
< 25	4.0	4.5	2.5
25-34	29.5	30.5	26.6
35-44	39.1	39.3	38.5
45+	27.5	25.7	32.4
Religion			
Hindu	71.6	66.5	85.8
Muslim	24.7	30.0	10.2
Christian	3.0	3.4	2.0
Sikh	0.5	0.1	1.8
Buddhist	0.1	0.1	0.0
Jain	0.0	0.0	0.1
Other	0.1	0.1	0.1
Caste/tribe			
Scheduled caste	13.9	10.4	23.6
Scheduled tribe	13.0	15.8	5.4
Other backward class	22.5	25.5	14.2
Other #	47.5	44.9	54.7
Don't know	3.1	3.4	2.1
Education (Years of schooling)			
Non-literate	24.8	30.2	9.7
0-9@ years	47.9	49.4	43.9
10 years & above	27.3	20.4	46.4
Missing	0.0	0.0	0.0
Standard of living index			
Low	55.7	68.8	19.3
Medium	23.9	22.6	27.6
High	20.4	8.6	53.1
Number of living children			
0	10.7	10.5	11.2
1	17.5	16.1	21.2
2	26.3	23.1	35.0
3	21.6	22.7	18.4
4+	24.0	27.7	14.1
Number of Men	12,824	9,415	3,409

Note: # Higher caste (Not belonging to a scheduled caste, scheduled tribe and an other backward class)
@ Literate persons with no year of schooling are included

The proportion of husbands living in households classified as low, medium and high standard of living index are 56 percent, 24 percent and 20 percent respectively. In rural areas, 69 percent of the husbands live in low standard of living households compared to 19 percent in urban areas.

Around 26 percent of husbands across the state reported to have two living children. More husbands in urban areas (35 percent) reported to have two living children as compared to the husbands living in rural areas (23 percent). Above 50 percent of the husbands of rural eligible women have more than three living children and it is 33 percent for husbands of urban eligible women.

3.4 Educational Level of Husbands of Eligible Women

Educational levels in categories of years of schooling classified by age, place of residence, religion and caste/tribe of husbands of eligible women are shown in Table 3.4. The distribution of non-literate husbands across age is more or less uniform, though it is marginally higher for husbands below 25 years (28 percent) and more than 45 years (28 percent) compared to 23 percent and 24 percent for husbands in the age groups 25-34 years and 35-44 years respectively. Among the literate husbands, irrespective of their age at the time of survey, most of them have 9-10 years of schooling. Six percent of the younger husbands below 25 years have 11 or more years of schooling compared to 17 percent of those aged 25-34 years. As in the case of eligible women, 38 percent of Muslim husbands are non-literate while the corresponding non-literate husbands of Hindu and Christian are 20 percent and 28 percent respectively. The proportions of husbands of Hindu, Muslim and Christian women who have 11 or more years of schooling constitute 19 percent, 10 percent and nine percent respectively. Most of the literate Muslim husbands (25 percent) have completed 1-5 years of schooling and the corresponding percentage are 18 percent and 19 percent respectively for Hindu and Christians husbands. Educational attainment of husbands of eligible women varies according to the caste/tribe they belong. There are more non-literate husbands belonging to Scheduled Caste (18 percent) followed by other backward class husbands (19 percent). Among the Scheduled Caste and Scheduled Tribe husbands, 29 percent and 24 percent of them have nine or more years of schooling. The literacy level of other backward classes is comparable with that of husbands from castes other than Scheduled Tribe and other caste. Among the husbands belonging to other backward classes, 19 percent of them are non-literate and 30 percent of them have nine or more years of schooling.

Table 3.4 LEVEL OF EDUCATION OF MEN

Percent distribution of husbands of eligible women by years of schooling, according to selected background characteristics, Assam, 2002-04

Background characteristics	Non-literate	Literate but no schooling	Years of schooling: 1-5 years	6-8 years	9-10 years	11 or more years	Missing	Total percent	Number of men
Age group									
< 25	28.0	0.0	25.4	18.4	22.1	6.1	0.0	100.0	510
25-34	22.7	0.0	18.0	17.4	25.3	16.5	0.1	100.0	3,777
35-44	23.7	0.1	19.1	12.5	26.3	18.2	0.0	100.0	5,014
45+	28.0	0.0	19.7	12.5	24.2	15.6	0.0	100.0	3,523
Place of residence									
Rural	30.2	0.1	22.8	13.2	23.1	10.5	0.0	100.0	9,415
Urban	9.7	0.0	9.3	16.9	31.2	33.0	0.0	100.0	3,409
Religion									
Hindu	20.2	0.0	17.5	14.7	28.8	18.9	0.0	100.0	9,186
Muslim	38.2	0.1	24.5	11.7	15.0	10.4	0.1	100.0	3,168
Christian	27.9	0.0	19.4	19.8	23.8	9.0	0.0	100.0	385
Other	6.6	0.2	5.8	31.2	38.7	17.6	0.0	100.0	85
Caste/tribe #									
Scheduled caste	18.1	0.0	16.7	24.1	29.1	11.9	0.0	100.0	1,785
Scheduled tribe	36.3	0.0	16.9	12.8	24.4	9.5	0.0	100.0	1,673
Other backward class	19.3	0.0	20.4	13.3	29.7	17.3	0.0	100.0	2,880
Other	25.2	0.1	19.6	12.0	23.2	19.9	0.1	100.0	6,089
Total	24.8	0.1	19.2	14.2	25.3	16.5	0.0	100.0	12,824

Note: # Total number may not add upto N due to don't know and missing cases.

3.5 Children Ever Born and Surviving

In DLHS-RCH, currently married women in the age group of 15-44 years were asked about the children ever born alive and the number of children surviving. Table 3.5 shows mean children ever born and mean surviving children by selected background characteristics and sex of children. A look at the mean children ever born by age of the women reveals that older women had experienced more average live births than younger women. On an average, women in the reproductive age group have given birth to more male children than female children and a similar sex differential is also noted when it comes to mean surviving children. Completed fertility, that is, mean children ever born to women in the age group 40-44 years is 3.7 for the state of Assam and it comprises an average of 2.0 male children and 1.6 female children. Out of 3.7 mean children ever born to women in the 40-44 year age, an average of 3.4 children survived. By sex of children, 1.9 mean numbers of males and 1.5 mean number of females survived.

Women with longer marital duration have higher mean children ever born. On an average, women who are married for 15 or more years have 3.8 children ever born with 3.5 surviving children. There is a clear rural-urban differentiation in terms of mean children ever born with 2.7 children in rural areas and 2.1 children in urban areas. The mean children ever born to women who are Hindu, Muslim, Christian and other religions are 2.4, 3.1, 2.7 and 2.7 respectively. The corresponding mean surviving children are 2.3, 2.9, 2.7 and 2.6 for these

religious groups. The average children ever born also vary by caste/tribe of the eligible women. For women belonging to Scheduled Caste, the mean children ever born are 2.5, for Scheduled Tribe 2.6, Other Backward Classes 2.4 and other castes are 2.6.

Table 3.5 CHILDREN EVER BORN AND LIVING

Mean children ever born (CEB) and children surviving (CS) by selected background characteristics of currently married women age 15-44 years, Assam, 2002-04

Background characteristic	Mean children ever born			Mean children surviving			Number of women
	Total	Male	Female	Total	Male	Female	
Age group (years)							
15-19	0.5	0.3	0.2	0.5	0.3	0.2	867
20-24	1.3	0.7	0.6	1.2	0.7	0.6	2,563
25-29	2.1	1.1	1.0	2.0	1.0	1.0	4,167
30-34	2.9	1.5	1.4	2.7	1.4	1.3	3,812
35-39	3.4	1.8	1.5	3.2	1.7	1.4	3,718
40-44	3.7	2.0	1.6	3.4	1.9	1.5	2,650
Marital duration							
0-4	0.7	0.4	0.3	0.7	0.4	0.3	3,698
5-9	2.0	1.0	0.9	1.9	1.0	0.9	3,835
10-14	3.0	1.6	1.4	2.8	1.5	1.3	3,864
15+	3.8	2.0	1.7	3.5	1.9	1.6	6,379
Residence							
Rural	2.7	1.5	1.3	2.6	1.4	1.2	12,983
Urban	2.1	1.1	1.0	2.0	1.1	0.9	4,793
Religion							
Hindu	2.4	1.3	1.1	2.3	1.2	1.0	12,715
Muslim	3.1	1.7	1.4	2.9	1.6	1.3	4,428
Christian	2.7	1.5	1.3	2.6	1.4	1.2	537
Other	2.7	1.2	1.5	2.7	1.2	1.5	95
Caste/tribe #							
Scheduled caste	2.5	1.4	1.2	2.4	1.3	1.1	2,304
Scheduled tribe	2.6	1.4	1.2	2.5	1.3	1.2	2,271
Other backward class	2.4	1.3	1.1	2.3	1.2	1.1	3,920
Other	2.6	1.4	1.2	2.5	1.3	1.1	8,644
Education							
Non-literate	3.2	1.7	1.5	3.0	1.6	1.4	6,301
0-9@ years	2.4	1.3	1.1	2.3	1.2	1.1	8,039
10 years & above	1.7	0.9	0.8	1.6	0.9	0.8	3,427
Standard of living index							
Low	2.9	1.5	1.3	2.7	1.4	1.3	9,799
Medium	2.4	1.3	1.1	2.3	1.2	1.0	4,334
High	1.9	1.0	0.9	1.9	1.0	0.9	3,643
All women	2.6	1.4	1.2	2.4	1.3	1.1	17,775

Note: Table includes 8 women with missing information on education are not show separately. # Total number may add up to N due to do not know and missing cases. @ Literate women with no year of schooling are also included.

The mean children ever born is higher for non-literate women (3.2) than women who have completed 0-9 years of schooling (2.4) and 10 or more years of schooling (1.7). The mean number of surviving children for women corresponding to these educational levels is 3.0, 2.3 and 1.6 respectively. Further the mean children ever born for women classified into low, medium and high standard of living index are 2.9, 2.4 and 1.9 respectively. On the whole, the DLHS-RCH

shows inverse association between mean children ever born and educational attainment of women and also the level of household economic comfort.

3.6 Completed Fertility by District

The level of completed fertility as measured by mean children ever born to women of 40-44 years by districts in Assam together with mean number of surviving children are shown in Table 3.6. Women on the verge of completing reproductive period have given on an average, birth to 3.7 children in their reproductive life of which 3.4 children are surviving. Completed fertility in Assam varies from the lowest of 3.0 mean children ever born for Jorhat and Sibsagar to the highest of 4.6 children in Karbi Anglong and Karimganj districts. Mean children ever born in all other districts of Assam fall between the two extremes. The mean numbers of male children ever born to women in the age group 40-44 years is higher than female children in all the districts except Karimganj and Nalbari. Dhubri, Karbi Anglong and North Cachar Hills recorded highest (4.2 each) mean number of surviving children. Except Jorhat district, the mean number of surviving children in all the other districts of Assam is more than three.

Table 3.6 COMPLETED FERTILITY BY DISTRICT

Mean children ever born (CEB) and children surviving (CS) by district of currently married women age 15-44 years, Assam, 2002-04

	Mean children ever born			Mean children surviving		
District	Total	Male	Female	Total	Male	Female
Barpeta	4.3	2.1	2.1	3.8	1.8	2.0
Bongaigaon	3.8	2.1	1.7	3.7	2.1	1.6
Cachar	3.7	2.1	1.6	3.6	2.0	1.6
Darrang	3.6	2.2	1.4	3.4	2.0	1.4
Dhemaji	4.2	2.3	1.9	4.0	2.1	1.9
Dhubri	4.5	2.4	2.1	4.2	2.2	2.0
Dibrugarh	3.2	1.7	1.5	3.1	1.6	1.4
Goalghat	3.1	1.7	1.5	3.1	1.6	1.4
Goalpara	4.4	2.5	1.9	3.9	2.2	1.7
Hailakandi	3.2	1.7	1.5	3.0	1.6	1.4
Jorahat	3.0	1.5	1.5	2.9	1.4	1.5
Kamrup	3.5	2.0	1.5	3.2	1.8	1.4
Karbi Anglong	4.6	2.7	2.0	4.2	2.4	1.8
Karimganj	4.6	2.1	2.5	3.8	1.7	2.1
Kokrajhar	3.9	2.2	1.7	3.4	1.9	1.4
Lakhimpur	3.7	1.9	1.8	3.7	1.9	1.8
Morigaon	4.0	2.2	1.8	3.7	2.0	1.7
Nagaon	4.1	2.6	1.5	4.0	2.5	1.5
Nalbari	3.5	1.7	1.8	3.1	1.5	1.6
North Cachar Hills	4.3	2.3	2.0	4.2	2.3	1.9
Sibsagar	3.0	1.8	1.3	3.0	1.8	1.3
Sonitpur	3.3	1.8	1.5	3.1	1.7	1.4
Tinsukia	3.3	2.0	1.3	3.3	2.0	1.3
Assam	3.7	2.0	1.6	3.4	1.9	1.5

3.7 Birth Order

Birth order distribution by selected background characteristics of women is provided in Table 3.7 and Figure 3.1. This distribution can be used as a measure of fertility in the absence of formal measures of fertility, such as crude birth rate and total fertility rate.

Table 3.7 BIRTH ORDER

Percent distribution of births during three years preceding the survey by birth order by selected background characteristics, Assam, 2002-04

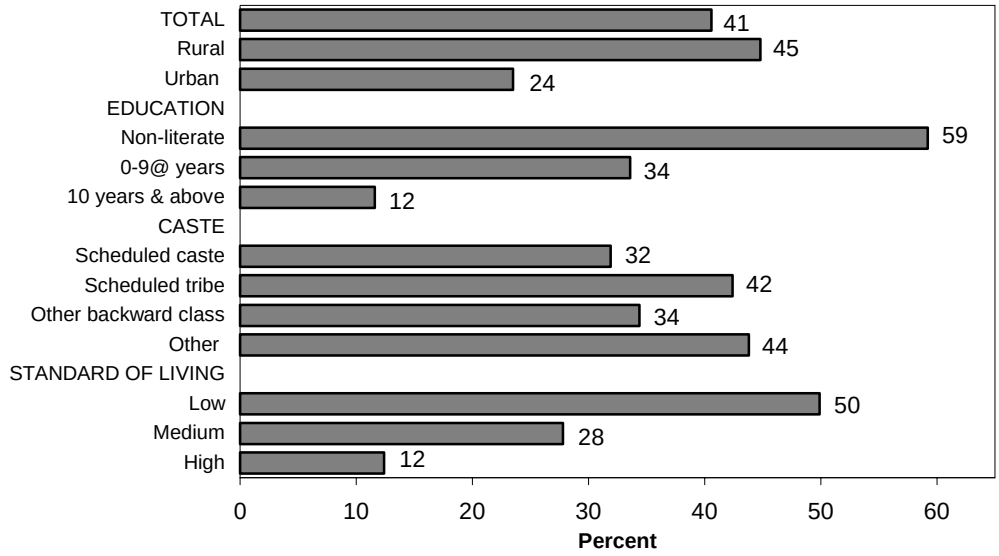
Background characteristic	Birth order				Total percent	Number of births
	1	2	3	4+		
Age of women						
15-19	81.9	15.8	2.2	0.1	100.0	354
20-24	54.1	30.2	11.6	4.1	100.0	1,651
25-29	28.7	30.0	22.3	19.0	100.0	2,174
30-34	13.6	27.3	20.1	39.0	100.0	1,177
35-39	5.2	12.9	15.1	66.8	100.0	610
40-44	2.7	6.4	5.1	85.9	100.0	126
Place of residence						
Rural	30.3	24.9	17.2	27.6	100.0	4,892
Urban	43.3	33.2	14.8	8.7	100.0	1,199
Education (Years of schooling)						
Non-literate	20.5	20.3	18.7	40.5	100.0	2,455
0-9@ years	37.2	29.2	17.9	15.7	100.0	2,698
10 years & above	53.1	35.2	8.2	3.4	100.0	931
Religion						
Hindu	37.5	29.3	16.1	17.1	100.0	3,843
Muslim	23.8	21.7	17.6	37.0	100.0	2,030
Christian	34.8	20.7	20.6	23.9	100.0	198
Caste/tribe #						
Scheduled caste	36.6	31.5	14.9	17.0	100.0	754
Scheduled tribe	32.2	25.5	17.5	24.9	100.0	812
Other backward class	37.8	27.8	17.1	17.3	100.0	1,237
Other	31.2	25.0	15.9	27.9	100.0	3,049
Standard of living index						
Low	27.1	23.0	18.1	31.8	100.0	4,062
Medium	40.5	31.7	16.5	11.3	100.0	1,258
High	50.9	36.7	9.5	2.9	100.0	771
Total	32.9	26.5	16.7	23.9	100.0	6,092

Note: @ Total includes 8 births with missing information on mother's education are not shown separately. Literate mothers with no years of school are also included. # Total number of births may not add up to N due to don't know and missing cases.

For the state of Assam, 33 percent of the births born in the three years period preceding the survey were of first order, 27 percent of second order, 17 percent of third order and 24 percent were of order 4 percent and higher. By current age of eligible women, 67 percent of births to women in the age group 35-39 years and 86 percent of women in the age group 40-44 years are having four and more births. For women of 15-19 years, 82 percent births are of first order and 16 percent births are of second order. In case of eligible women in urban areas 24 percent of the

births are of three and higher whereas this birth order constitute 45 percent for rural women indicating higher births order in rural areas. Of the total births to non-literate women, 59 percent are 3 and higher order births, followed by 34 percent for women with 0-9 years of schooling and 12 percent for women who had 10 or more years of schooling. Looking at the religion differential in birth order distribution, it is observed that 55 percent of births born to Muslim women are three and higher order births, which is 33 percent in case of Hindus. The occurrence of births of order 3 and above is more among Scheduled Tribe (42 percent) than among Scheduled Caste (32 percent) and Other Backward Classes (34 percent). Incidence of births of order 3 and above for women classified by household standard of living index are 12 percent for high, 28 percent for medium and 50 percent for women living in the household categorized under low standard of living index.

Figure: 3.1
Birth Order 3 & above by Selected Background Characteristic



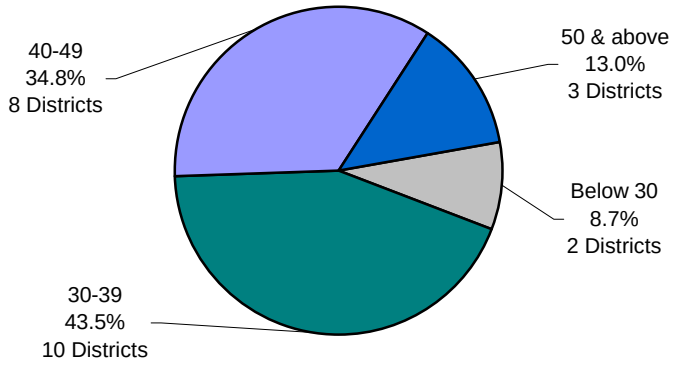
Assam, DLHS-RCH,2002-04

@ Literate women with no years of schooling are also included

3.8 Birth Order by District

Table 3.8 and Figure 3.2 shows the births order distribution by districts in Assam. The proportions of births of order three percent and above ranges from the lowest of 30 percent in Jorhat and Tinsukia to the highest of 56 percent in Karimganj. In all the district of Assam, the percentage in case of third birth order is less than that of birth orders one, two and four or more. The districts, which have lower proportion of births of order three and above are Dibrugarh (31 percent), Lakhimpur (33 percent), Darrang (34 percent), Sibsagar, Nalbari and Sonitpur (34 percent each), Karimganj (35 percent) and Golaghat (35 percent). The districts, which can be classified as having higher proportion of births of order 3 and above are Goalpara (38 percent), Barpeta, Dhemaji and Nagaon (42 percent each), Marigaon (43 percent), Bongaigaon (44 percent) and Hailakandi (45 percent). The remaining districts fall above 45 percent of births of order three and above.

Figure 3.2
Birth Order 3 & above by District



Assam, DLHS-RCH,2002-04

Table 3. 8 BIRTH ORDER BY DISTRICT

Percent distribution of births during three years preceding the survey by birth order, according to district, Assam, 2002-04

District	Birth order			
	1	2	3	4+
Barpeta	29.1	29.3	14.8	26.8
Bongaigaon	29.8	26.1	18.9	25.3
Cachar	27.5	26.0	19.0	27.5
Darrang	39.6	26.5	15.3	18.6
Dhemaji	34.8	23.5	17.1	24.6
Dhubri	29.6	19.5	14.0	37.0
Dibrugarh	41.5	27.7	14.6	16.2
Goalpara	36.0	26.1	16.1	21.8
Golaghat	40.2	25.0	17.2	17.6
Hailakandi	27.5	27.7	17.3	27.5
Jorhat	42.3	27.8	13.1	16.8
Kamrup	35.7	29.0	17.9	17.4
Karbi Anglong	23.0	24.9	22.3	29.8
Karimganj	22.9	21.1	15.7	40.4
Kokrajhar	37.4	23.8	14.1	24.7
Lakhimpur	39.2	28.2	12.4	20.2
Marigaon	31.9	25.1	17.4	25.6
Nagaon	31.2	27.0	18.0	23.8
Nalbari	34.5	31.2	16.3	18.0
North Cachar Hills	24.3	25.7	13.5	36.5
Sibsagar	34.3	31.6	16.5	17.6
Sonitpur	35.9	30.0	15.1	18.9
Tinsukia	39.7	30.7	18.5	11.0
Assam	32.9	26.5	16.7	23.9

3.9 Fertility Preference

The distribution of currently married women desiring additional children and preferred sex of additional children by number of living children of the women is shown vividly in Table 3.9 and Figure 3.3. Out of the 1,792 women with no living child, 30 percent are currently pregnant and 13 percent are using spacing methods, while 44 percent want to have children within two years, less than one percent want to have children after two years, 10 percent is undecided about the timing of birth and less than one percent desired not to have any children. Among the currently married women, the desire for additional children decreases with increasing number of living children. As many as 46 percent of the women having one living child are using spacing methods, 12 percent of them want additional children within two years, 3 percent after two years, 19 percent are undecided about the timing of the next child, 5 percent of them want no more additional children and one percent are sterilized. Out of the 17,775 surveyed representative women, 9 percent desired to have additional children within two years, one percent after two years, 14 percent want no more children, eight percent are currently pregnant and 58 percent are using either terminal or temporary contraceptive methods. A total of 3,046 women want additional children irrespective of the number of living children. Out of 970 women who have no living children and desire for additional children, nine percent want a boy as the first child, two percent desired for girl, for 52 percent, the sex of the child is immaterial and 37 percent leave it to God. A close observation of the analysis reveals that in Assam, son preference though exist but the degree of variation is not large enough with respect to the number of living children and preference of additional male children. This apart, a sizeable proportion of women desiring additional children expressed that sex of the child is immaterial.

Figure 3.3 Fertility Preference

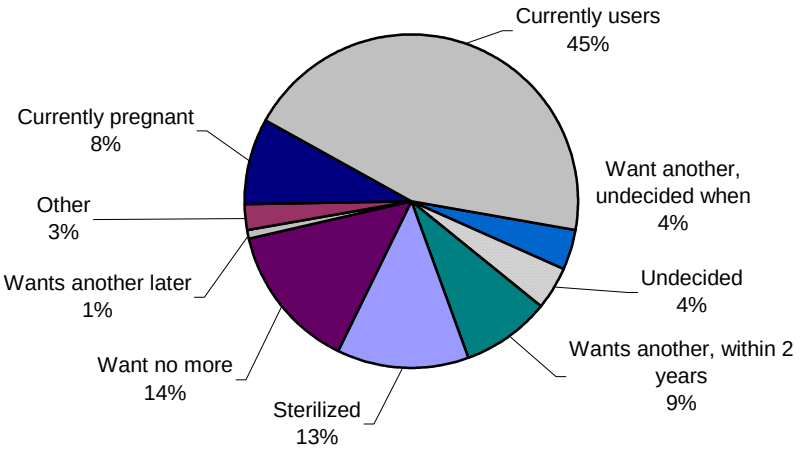


Table 3.9 FERTILITY PREFRENCE

Percent distribution of currently married women by desire for children, according to number of living children, Assam, 2002-04

Desire for children	Number of living children					Total
	0	1	2	3	4+	
Desire for additional child						
Wants another soon[1]	43.7	11.6	4.3	2.5	1.3	8.5
Wants another later[2]	0.4	3.1	0.7	0.3	0.1	0.9
Want another, undecided when	4.8	12.3	2.9	1.2	0.4	3.9
Undecided	1.1	4.8	2.5	1.2	0.8	2.1
Up to God	4.1	1.9	1.2	1.4	2.0	1.9
Want no more	0.6	5.0	14.6	17.4	23.5	14.3
Sterilized	0.2	1.3	12.1	23.3	18.4	12.9
Currently users[3]	13.0	46.0	54.8	46.5	44.7	44.6
Currently pregnant	30.2	12.0	4.9	3.5	3.8	8.2
Declared infecund	1.2	1.5	1.8	2.6	4.6	2.6
Missing	0.7	0.4	0.3	0.0	0.3	0.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,792	3,320	4,311	3,749	4,604	17,775
Preferred sex of additional children						
Boy	8.9	30.8	34.0	34.0	23.8	24.1
Girl	1.5	18.2	14.0	11.1	6.5	10.8
Doesn't matter	51.6	24.3	17.2	15.7	11.2	30.3
Upto God	37.4	25.1	34.7	39.0	56.9	33.9
Missing	0.6	1.5	0.1	0.3	1.6	0.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	970	1,122	495	247	212	3,046

Note:[1] Wants next births within 2 years. [2] Wants to delay next birth for 2 or more years. [3] Other than sterilization

3.10 Pregnancy Outcomes

Table 3.10 shows distribution of pregnancy outcomes including live birth, stillbirth, induced abortion and spontaneous abortion by districts in Assam. For the state as a whole, 92 percent of pregnancies end in live births, three percent in induced abortions, three percent in spontaneous abortion and one percent in stillbirth. Live birth is higher in rural areas (93 percent) than in urban areas (86 percent), while the incidence of induced abortion is more in urban areas (7 percent) than in rural areas (2 percent). The proportion of live births ranges from 81 percent in Kamrup to 98 percent in Bongaigaon and Tinsukia. The incidence of stillbirth ranges from 0.2 percent to highest four percent in North Cachar Hills. Induced abortion is higher in the districts of Kamrup (8 percent), Dhemaji (6 percent), Goalpara (5 percent) and Kokrajhar (5 percent). Spontaneous abortion is highest in Kamrup (6 percent).

Table 3.10 OUTCOMES OF PREGNANCY

Percent distribution of all pregnancies of currently married women aged 15-44 years by their outcomes three year preceding the survey currently married women, according to districts, Assam, 2002-04

State/Districts	Live birth	Stillbirth	Induced abortion	Spontaneous abortion	Missing	Total percent
State-Rural	93.3	1.4	2.1	3.0	0.2	100.0
State-Urban	88.5	0.9	6.6	3.9	0.2	100.0
State-Total	92.3	1.2	3.1	3.2	0.2	100.0
Barpeta	92.8	1.2	2.2	3.8	0.0	100.0
Bongaigaon	97.7	0.2	1.3	0.8	0.0	100.0
Cachar	95.9	0.2	2.2	1.6	0.0	100.0
Darrang	96.3	0.7	1.7	1.3	0.0	100.0
Dhemaji	90.8	1.7	5.7	1.9	0.0	100.0
Dhubri	93.6	1.1	2.9	2.4	0.0	100.0
Dibrugarh	93.9	0.9	2.0	3.1	0.0	100.0
Goalghat	92.3	0.8	2.5	3.5	1.0	100.0
Goalpara	92.8	1.6	4.5	1.1	0.0	100.0
Hailakandi	96.0	2.3	0.4	1.3	0.0	100.0
Jorahat	93.2	0.2	2.7	3.9	0.0	100.0
Kamrup	81.2	1.6	7.7	9.4	0.0	100.0
Karbi Anglong	88.9	2.4	2.0	4.0	2.7	100.0
Karimganj	96.4	1.2	0.1	2.3	0.0	100.0
Kokrajhar	89.9	0.7	4.7	4.4	0.3	100.0
Lakhimpur	89.8	1.5	4.1	4.4	0.2	100.0
Morigaon	92.1	1.7	4.0	1.8	0.4	100.0
Nagaon	94.9	3.2	0.8	1.1	0.0	100.0
Nalbari	90.8	0.2	4.4	4.6	0.0	100.0
North Cachar Hills	93.5	4.1	0.0	1.9	0.6	100.0
Sibsagar	93.9	0.6	3.0	2.5	0.0	100.0
Sonitpur	91.0	2.8	3.4	2.4	0.3	100.0
Tinsukia	97.8	0.9	0.5	0.7	0.0	100.0

CHAPTER IV

MATERNAL HEALTH CARE

Provisions of maternal health care services to ensure safe motherhood is one of the major components of the Reproductive and Child Health (RCH) programme. The RCH services for antenatal care includes at least three antenatal care visits, iron prophylaxis for pregnant and lactating women, at least one dose of tetanus toxoid vaccine, detection and treatment of anaemia in mothers, management and referral of high-risk pregnancies, natal care, that is encouragement for safe delivery, post-natal care and management of unwanted pregnancies. In rural areas, the government delivers reproductive health and other health services through its network of Sub-Centres (SCs), Primary Health Centres (PHCs) and other health facilities. In addition, pregnant women and children can get services from private maternity homes, hospitals, private practitioners, and in some cases non-governmental organisations (NGOs) and trust hospitals. In urban areas, reproductive health services are available mainly through government or municipal hospitals, Urban Health Posts (UHPs), Urban Family Welfare Centres (UFWCs), hospitals and nursing homes operated by NGOs, and private nursing and maternity homes.

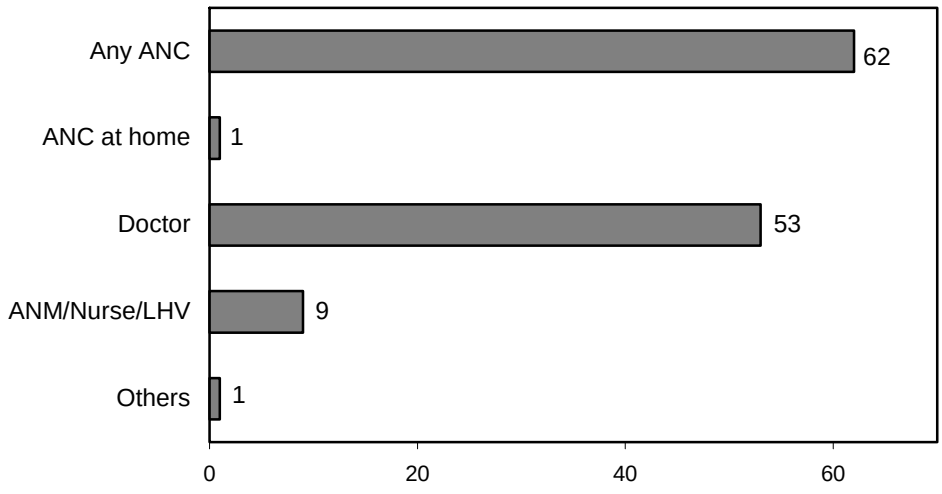
The National Population Policy (NPP), 2000 adopted by the Government of India (Ministry of Health and Family Welfare, 2000) reiterates the Government's commitments to the safe motherhood programme within the wider context of reproductive health. Among the national socio-demographic goals for 2010 specified by the policy, several goals pertaining to safe motherhood were set, that includes 80 percent of all deliveries should take place in institutions by 2010, hundred percent deliveries should be attended by trained personnel, and the maternal mortality ratio should be reduced to a level below 100 per 100,000 live births. Empowering women for improved health and nutrition is one of the 12 strategic themes identified in the policy to be pursued either as stand-alone programmes or as intersectoral programmes.

In DLHS-RCH Phase-I, to all the eligible women who had their last pregnancy after January 1, 1999, a separate section on the status of maternal health and utilisation of maternal health care services was canvassed. In Phase-II, the same section was canvassed to all the eligible women who had their last pregnancy after January 1, 2001. The women whose last pregnancy terminated into live/still birth were asked about the details of antenatal, natal and post-natal care they received; pregnancy, delivery and post-delivery complications they suffered from and the treatment seeking behaviour in case of complications. Women whose last pregnancy terminated into abortion, either spontaneous or induced, were asked about the utilisation of safe abortion services and the post-abortion complications they experienced. This chapter presents information on antenatal, natal and postnatal care received by women whose last pregnancy had terminated during the three years preceding the survey as live birth or as still birth.

4.1 Antenatal Check-Ups

Women who had given birth during the three years preceding the survey were asked whether they had gone for antenatal check-ups outside the home, and if they had, what type of service was provided to them. They were also asked whether any health worker had visited them at home to provide antenatal check-ups. Table 4.1 and Figure 4.1 present the percentage of women who had given birth during three years preceding the survey, and information regarding antenatal check-ups they had by source of antenatal check-ups according to some selected background characteristics. Results show that six out of every ten women received antenatal check-ups during the three years preceding the survey, Fifty three percent of women received antenatal check-ups from doctors and nine percent from ANM/Nurse/LHV. Only one percent women received antenatal check-ups at the doorstep from the ANMs.

Figure: 4.1
Sources of Antenatal Care



Note: Based on last live/still birth, born during three years preceding the survey

Assam, DLHS-RCH,2002-04

Antenatal check-ups are more common among younger women ages below 35 years than among older women. It is more common among those women who had given their first birth. The percentage of women who received antenatal check-up was comparatively higher in urban areas (86 percent) than in rural areas (55 percent) and the percentage of women who received antenatal check-ups from doctors is higher in urban areas (84 percent) than in rural areas (45 percent). On the other hand 10 percent of rural women received antenatal check-ups from auxiliary nurse midwife, nurse or LHVs; the same for women living in urban areas is six percent. Forty-two percent of non-literate women received antenatal check-ups against 92 percent who had completed education at least upto high school level.

Table 4.1 ANTENATAL CHECK-UP

Percentage of women* who received any antenatal check-up (ANC) during pregnancy by source of antenatal provider, according to selected background characteristics, Assam, 2002-04

Background characteristic	Any [1] antenatal check-up	Antenatal check-up only at home by ANM	Health personnel providing ANC[2]				Number of women
			Doctor	ANM/ Nurse/ LHV	Other health professional	Other[3]	
Age group							
Less than 20 years	60.6	1.1	48.9	11.6	0.0	0.6	338
20-34 years	64.1	0.8	56.0	9.3	0.3	0.3	5,023
35 years & above	44.9	0.9	37.1	7.2	0.0	0.4	789
Children ever born							
1	76.2	0.7	69.6	9.9	0.1	0.1	2,015
2	69.1	0.3	61.9	8.6	0.2	0.2	1,613
3	55.0	1.0	45.4	9.1	0.2	0.4	1,062
4+	36.7	1.6	25.8	8.9	0.4	0.5	1,433
Residence							
Rural	55.2	1.1	45.4	10.1	0.3	0.4	4,890
Urban	85.8	0.1	83.6	5.7	0.0	0.0	1,260
Education							
Non-literate	41.5	1.1	30.5	9.3	0.4	0.4	2,372
0-9 @ years	67.3	0.9	59.4	9.6	0.1	0.3	2,737
10 years & above	92.1	0.2	89.4	7.4	0.0	0.2	1,034
Religion							
Hindu	71.9	0.5	64.4	9.1	0.3	0.2	3,992
Muslim	39.6	1.7	29.7	9.1	0.1	0.6	1,945
Christian	65.9	0.0	57.7	11.2	0.0	0.0	195
Caste/tribe#							
Scheduled caste	70.5	0.1	62.6	9.7	0.3	0.3	759
Scheduled tribe	53.1	0.4	44.8	10.5	0.1	0.0	820
Other backward class	73.4	0.5	64.9	9.9	0.6	0.0	1,268
Other	57.2	1.4	48.7	8.7	0.1	0.5	3,058
Standard of living index							
Low	47.3	1.2	36.9	9.7	0.3	0.4	3,993
Medium	83.1	0.3	76.7	8.7	0.2	0.2	1,323
High	94.9	0.1	94.1	7.3	0.0	0.0	834
Availability of health facility[4] in the village							
No	54.1	1.0	45.7	8.2	0.3	0.6	2,425
Yes	56.3	1.1	45.1	11.9	0.3	0.2	2,465
Total	61.5	0.9	53.2	9.2	0.2	0.3	6,150

Note: * Women who had their last live/still birth since 1-1-1999/1-1-2001. Total includes 27 women with zero parity and 6 with missing information on education who were not shown separately.[1] Antenatal check-ups either at home or outside from home at health facility. [2] Antenatal check-ups outside home and percentage add more than 100.0 due to multiple responses.
[3] Other also includes trained and untrained *dai* . # Total figure may not add to N due to do not know and missing cases. @ Literate women with no years of schooling are also included. [4] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

The proportion of women who received antenatal check-ups from a doctor increased steadily with the level of education and the standard of living index. Thirty one percent non-literate women as compared to 89 percent having education of more than 10 years received ANC from doctors. Similarly, 37 percent of women belonging to households with a low standard of living against 94 percent of that from a high standard of living received ANC from doctors. The proportion of Hindu women who received antenatal check-ups from doctors (64 percent) was higher than that of Muslim women (30 percent) and Christian women (58 percent). Sixty five percent of women from the other backward class category received antenatal check-ups from doctors, while it was 63 percent for Scheduled Caste women, 45 percent for Scheduled Tribe women and 49 percent for other castes. Women belonging to other backward class (73 percent) and Scheduled Caste (71 percent) received any antenatal check-ups more compared to Scheduled Tribes (53 percent) and other castes (57 percent). Women receiving antenatal check-ups by ANM/Nurse/LHV at home irrespective of residence, religion, caste, education is marginal to the extent of only one percent.

4.2 Antenatal Check-Ups at Health Facility

DLHS-RCH asked women who had a birth during the three years preceding the survey whether they had received antenatal check-ups, and if they had, from where they had availed of such services.

Table 4.2 shows the percentage of women who had received antenatal check-ups during pregnancy by place of ANC services. During pregnancy, women received antenatal check-ups from multiple sources such as, health workers providing ANC at home, Government health facility, private health facility, and at Indian system of medicine etc. Women who received antenatal check-ups both at home and outside the home are categorised as having received care outside the home. Around 34 percent of women received antenatal check-ups at Government health facility, including 13 percent through primary health centre and nine percent through sub-centre, and 16 percent at a private health facility. Other than this, six percent of women reported that they had received antenatal check-ups at Private ISM and one percent received ANC at home. As mentioned above women availed antenatal check-ups from multiple sources and hence those who were visited by an ANM might have also visited government and/or private health facilities including Indian system of medicine.

Younger women aged less than 20 years and 20-34 years were more likely to receive antenatal-check-ups at government health facilities (40 percent and 35 percent respectively) than older women of 35 and above (23 percent). Thirty five percent women from rural areas availed government health facilities for antenatal check-ups that are higher than women in urban areas (30 percent). A high proportion of women (36 percent) from urban areas availed private health facilities for antenatal check-ups than women from rural areas (11 percent). A good proportion of women from rural areas received antenatal services from sub-centre (12 percent) and at primary health centres (17 percent). A relatively higher proportion of women, who had received antenatal check-ups from Government health facilities are those belonging to medium standard of living index or had 0-9 years of schooling.

Table 4.2 PLACE OF ANTENATAL CHECK-UP

Percentage of women* who received any antenatal check-ups (ANC) during pregnancy by source and place of antenatal check-ups, according to selected background characteristics, Assam, 2002-04

Background characteristic	Antenatal check-up only at home	Place of antenatal check-ups[1]							Number of women
		Govern-ment [2] health facility	Private[3] health facility	PHC	SC	ISM[4] facility		Other	
						Govt.	Private		
Age group									
Less than 20 years	1.1	39.7	10.3	14.1	13.6	0.0	1.1	9.9	338
20-34 years	0.8	35.1	16.6	12.8	8.3	0.1	6.1	6.5	5,023
35 years & above	0.9	23.1	12.3	10.1	10.8	1.0	6.4	6.5	789
Children ever born									
1	0.7	39.5	23.2	11.6	5.9	0.2	6.7	4.7	2,015
2	0.3	36.4	18.2	11.6	6.9	0.1	7.1	7.2	1,613
3	1.0	32.7	11.9	15.0	14.0	0.3	4.4	7.2	1,062
4+	1.6	23.1	5.3	14.8	15.6	0.1	2.5	10.1	1,433
Residence									
Rural	1.1	34.7	10.5	16.6	12.4	0.0	3.1	7.1	4,890
Urban	0.1	30.1	36.0	3.0	0.2	0.5	12.5	5.7	1,260
Education									
Non-literate	1.1	25.7	5.5	14.8	15.5	0.0	1.9	13.6	2,372
0-9 @ years	0.9	42.1	14.3	14.9	8.4	0.2	4.4	4.9	2,737
10 years & above	0.2	30.0	42.9	6.2	2.9	0.3	12.6	3.0	1,034
Religion									
Hindu	0.5	38.1	19.4	10.7	7.0	0.2	6.7	7.2	3,992
Muslim	1.7	24.5	8.7	19.9	16.0	0.1	3.5	2.4	1,945
Christian	0.0	38.6	7.2	14.2	8.9	0.0	0.0	19.4	195
Caste/tribe#									
Scheduled caste	0.1	39.8	17.7	9.7	7.3	0.2	4.6	7.6	759
Scheduled tribe	0.4	37.9	7.4	15.8	13.6	0.0	2.1	4.1	820
Other backward class	0.5	37.9	18.0	12.8	8.2	0.2	4.7	10.6	1,268
Other	1.4	30.0	16.8	12.9	8.8	0.2	7.6	3.9	3,058
Standard of living index									
Low	1.2	32.4	6.1	17.8	14.5	0.0	2.3	7.3	3,993
Medium	0.3	42.4	23.8	10.2	5.4	0.5	6.0	8.2	1,323
High	0.1	26.4	49.0	3.9	0.4	0.1	14.0	3.0	834
Availability of health facility[5] in the village									
No	1.0	34.1	10.9	13.8	9.9	0.0	3.5	6.6	2,425
Yes	1.1	35.2	10.0	19.1	14.7	0.0	2.7	7.5	2,465
Total	0.9	33.7	15.7	12.6	8.8	0.2	5.8	6.7	6,150

Note: * Women who had their last live/still birth since 1-1-1999/1-1-2001. Total includes 27 women with zero parity, 6 with missing information on education who were not shown separately. # Total figure may not add to N due to do not know and missing cases. @ Literate women with no years of schooling are also included. [1]Antenatal check-ups outside home and percentage add more than 100.0 due to multiple responses. [2] Includes sub-centre, primary health centre, community health centre or rural hospital, urban health centre/ urban health post/ urban family welfare centre, government hospital or dispensary. [3] Includes Private hospital/clinic or non-governmental hospital/ trust hospital or clinic. [4] Indian system of medicine. [5] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

4.3 Antenatal Check-Ups by District

Table 4.3 indicates the antenatal coverage in Assam that ranges from a highest of 92 percent in Dibrugarh to a lowest of 29 percent in North Cachar Hills. Except four districts, namely North Cachar Hills, Dhubri, Barpeta and Nagaon, in all the other districts of Assam, more than 50 percent of women received antenatal check-ups. Antenatal check-ups received from doctor are low in Dhubri (21 percent), North Cachar Hills (29 percent) and Barpeta (39 percent). More than 70 percent of women receiving antenatal check-ups from doctor were reported from Dibrugarh (82 percent), Tinsukia (79 percent), Kamrup (75 percent), Nalbari (75 percent) and Sonitpur (71 percent).

The extent of utilisation of government health facilities for antenatal check-ups was higher than that of private health facilities in almost all the districts except Hailakandi, Karimganj and Lakhimpur. The antenatal check-up coverage through government facilities was highest in Marigaon (55 percent) and lowest in Lakhimpur (10 percent) and the same is less than 20 percent in Hailakandi (12 percent) and Karimganj (17 percent). In Assam only four percent of women availed ISM facility for an antenatal check-up.

Table 4.3 ANTENATAL CHECK-UPS BY DISTRICT

Percentage of women* who received any antenatal care (ANC), by source and place of antenatal check-ups by district, Assam, 2002-04

District	Any [1] antenatal check-up	Antenatal check-up only at home by ANM	Health personnel providing ANC		Place of antenatal check-ups		
			Doctor	ANM/ Nurse	Govern-ment [2] health facility	Private[3] health facility	ISM[4] facility
Barpeta	44.4	0.0	38.6	7.2	30.6	10.8	3.0
Bongaigaon	55.7	1.4	52.4	8.3	21.3	11.3	3.3
Cachar	62.6	0.6	49.2	13.4	39.6	20.0	2.2
Darrang	74.7	0.0	62.2	19.4	45.4	23.0	0.9
Dhemaji	49.6	0.0	45.0	4.3	38.3	11.3	1.8
Dhubri	37.8	2.6	21.0	13.9	21.2	4.6	0.8
Dibrugarh	92.4	0.3	82.3	11.3	48.6	10.7	0.9
Goalpara	60.9	0.0	47.5	13.2	53.3	5.4	0.7
Golaghat	63.8	0.3	60.0	3.3	23.3	13.6	5.4
Hailakandi	64.0	2.0	57.6	4.8	12.3	46.2	1.9
Jorhat	66.3	0.7	59.1	6.0	38.3	22.0	4.2
Kamrup	80.7	0.5	75.0	5.5	44.2	25.1	9.9
Karbi Anglong	57.0	0.3	45.8	12.2	48.3	6.2	1.9
Karimganj	58.0	2.8	50.8	2.1	16.9	28.5	6.0
Kokrajhar	61.6	2.7	53.7	5.1	44.7	9.3	4.7
Lakhimpur	49.8	0.4	48.6	0.8	10.2	11.6	5.5
Marigaon	64.8	1.0	41.3	23.5	54.6	9.1	0.4
Nagaon	45.8	0.7	40.3	11.2	33.4	7.1	1.6
Nalbari	78.0	1.1	74.9	3.2	47.7	26.6	2.4
North Cachar Hills	29.4	0.2	28.8	0.3	23.9	4.2	0.7
Sibsagar	64.7	0.0	62.2	6.8	20.3	17.7	6.5
Sonitpur	77.0	0.0	70.5	6.0	41.0	14.5	5.5
Tinsukia	80.6	0.0	78.5	15.2	36.5	21.3	4.2
Assam	61.5	0.9	53.2	9.2	33.7	15.7	3.6

Note: * Women who had last live/still birth during three years preceding the survey. [1] Antenatal check-ups either at home or health facility. [2] Includes sub-centre, primary health centre, community health centre or rural hospital, urban health centre/ urban health post/ urban family welfare centre, government hospital or dispensary. [3] Includes Private hospital/clinic or non-governmental hospital/ trust hospital or clinic. [4] Either government or private Indian system of medicine.

4.4 Reasons for Not Seeking Antenatal Check-Ups

Table 4.4 shows the percentage of women who had given live/still births during the three years preceding the survey and who did not receive any antenatal check-ups by the main reason for not seeking check-ups according to residence and availability of health facility in the village. Fifty nine percent of women stated that it was not necessary to have antenatal check-up services. It was surprising to see that a higher proportion of urban women (70 percent) than rural women (58 percent) felt that it was not necessary to have an antenatal check-up. Fifty eighty percent of the rural women belonging to the villages which have a health facility stated that an antenatal check-up was not necessary and a similar proportion of women had the same view in villages where a health facility is not available. This notion however, may be viewed in the context of existing traditional belief that pregnancy is a normal phenomenon, which does not require specific medical attention. Other factors for keeping women away from availing antenatal care services

are lack of knowledge (14 percent), costly affair (12 percent) and non-accessibility of health facility (11 percent). Four percent of women reported that it is not customary.

Table 4.4 REASONS FOR NOT SEEKING ANTENATAL CHECK-UPS

Percentage of women* who did not receive any antenatal check-up by the main reason for not receiving an antenatal check-up, according to residence and availability of health facility in the village, Assam, 2002-04

Reason	Total	Residence		Availability of health facility[1] in the village	
		Rural	Urban	No	Yes
Not Necessary	58.8	57.8	69.8	57.3	58.4
Not customary	4.2	4.4	2.7	4.2	4.5
Cost too much	12.2	12.5	8.1	10.4	14.7
Health facility too far/ No transport	11.2	11.9	1.7	12.2	11.7
Poor quality service	2.2	2.4	0.0	2.8	1.9
No time to go	2.7	2.7	2.1	3.0	2.4
Family did not allow	3.4	3.4	3.6	3.4	3.3
Lack of knowledge	13.7	13.5	15.9	15.2	11.8
Other	6.2	6.1	8.5	6.5	5.6
Number of women	2,349	2,171	178	1,105	1,065

Note: * Women who had their last live/still birth since 1-1-1999/1-1-2001.
[1] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.
Percentage may add more than 100.0 due to multiple response

4.5 Components of Antenatal Check-ups

Women who received any kind of antenatal check-ups were asked whether they received each of the several components of antenatal check-ups at least once during their pregnancy. Table 4.5 presents the percentage of women who received specific check-ups by residence. It is to be mentioned that except for X-rays (which are not recommended as a standard component of antenatal care), all other antenatal measurements and tests are part of essential obstetric care or are required for monitoring high-risk pregnancies.

The survey revealed that 51 percent of women were weighted, 60 percent had their blood pressure checked and 51 percent had an abdominal examination as the part of the antenatal check-ups. Other common antenatal check-ups carried out include blood test (50 percent), urine test (46 percent), measurement of height (24 percent), internal examination (19 percent) and breast examination (13 percent). Every one in ten women had a sonogram or ultrasound, 4 percent had an X-ray and only one percent of women reported that they had amniocentesis test. All of these examinations were performed more often during antenatal check-ups in urban areas than in rural areas.

The type of advice received by women who had antenatal check-ups for last live/still births during three years preceding the survey is also presented in Table 4.5. Advice on diet was given to 77 percent of urban women and 57 percent to rural women. Thirty-five percent of the women received advice on danger signs of pregnancy. Overall, women were less likely to receive advice on delivery care (31 percent), breastfeeding (23 percent) and newborn care (25

percent). Advice on family planning was given to 16 percent of rural women and 18 percent of urban women.

Table 4.5 COMPONENTS OF ANTENATAL CHECK-UPS

Percentage of women* who received an antenatal check-up by specific components of antenatal check-up, according to residence, Assam, 2002-04

Components of antenatal check-ups	Total	Rural	Urban
Antenatal measurements/tests			
Weight measured	50.7	45.1	64.9
Height measured	24.2	20.3	34.0
Blood pressure checked	60.2	52.6	79.2
Blood tested	50.0	40.9	72.7
Urine tested	46.3	38.9	64.7
Abdomen examined	51.3	47.3	61.3
Internal examined	19.1	15.8	27.5
Breast examined	12.5	12.2	13.2
X-ray	4.4	2.4	9.3
Sonography /ultrasound	11.3	4.6	27.8
Amniocentesis	0.5	0.3	1.0
Antenatal advice			
Diet	62.6	56.9	76.6
Danger signs of pregnancy	34.7	30.3	45.6
Delivery care	31.0	27.5	39.6
Breast feeding	22.5	20.8	26.9
New born care	25.3	22.9	31.3
Family planning	16.8	16.3	18.1
Number of women who received any antenatal check-up	3,780	2,700	1,081

Note: * Women who had their last live/still birth since 1-1-1999/1-1-2001

4.6 Antenatal Care Services

In India, the Reproductive and Child Health Programme includes all pregnant women should be registered in the first 12-16 weeks (Ministry of Health and Family Welfare, 1997). Accordingly the first antenatal check-up should take place at least during the first trimester of the pregnancy. It also includes the provision of at least three antenatal care visits, at least one tetanus toxoid injection, and supplementary iron in the form of IFA tablets daily for 100 days. To assess whether the women had received all the care during pregnancy, information was collected regarding number of antenatal visits, timing of the first visit, tetanus toxoid injection and supplement iron folic acid tablets. The results are presented in Table 4.6. In Assam, 42 percent of the women received at least three antenatal check-ups. At least three antenatal check-ups were received by 72 percent of women in urban areas as compared to 35 percent of women in rural areas. Number of visits for antenatal care varies by education, children ever born, religion, caste and standard of living index. Twenty one percent of non-literate, 47 percent literate women (educated below high school) and 78 percent of women who had 10 or more years of schooling visited health facilities for minimum three antenatal care services. With the increase in parity, frequency of antenatal check-ups decreases. Fifty-six percent of women with parity one received at least three antenatal check-ups compared to 19 percent of women with parity 4 and above.

Table 4.6 ANTENATAL CARE

Percent distribution of women who had live/still births during three years preceding the survey by number of antenatal check-ups, the stage of pregnancy at the time of first check-up, the number of tetanus toxoid injections received and were given iron folic acid (IFA) tablets/syrup during pregnancy, and percentage who received full antenatal check-ups by some selected background characteristics, Assam, 2002-04

		Residence		Education			Children ever born			
Antenatal care indicators	Total	Rural	Urban	Non-literate	0-9@ years	10 years & above	1	2	3	4+
Number of ANC visits										
No visit	38.3	44.5	14.2	58.4	32.4	7.8	23.4	30.9	44.9	63.1
1	5.3	5.6	4.3	6.1	4.9	4.7	5.3	4.5	5.6	6.1
2	13.7	14.7	10.1	13.7	15.6	8.9	15.2	13.4	14.3	11.6
3	15.5	15.4	16.2	12.3	18.8	14.3	17.8	16.9	15.7	10.6
4+	26.8	19.4	55.3	9.1	27.9	64.1	37.9	33.9	19.3	8.4
Missing	0.3	0.4	0.0	0.4	0.4	0.1	0.4	0.3	0.3	0.3
Stage of pregnancy at the time of the first antenatal check-up										
No antenatal check-up	38.3	44.5	14.2	58.4	32.4	7.9	23.4	30.9	44.9	63.1
First trimester	40.3	33.2	68.2	20.9	43.9	75.5	55.8	46.6	32.0	17.5
Second trimester	18.3	18.8	16.3	16.8	20.8	15.1	17.9	19.9	20.6	15.3
Third trimester	2.7	3.1	1.2	3.5	2.5	1.3	2.5	2.2	2.3	3.9
Missing	0.3	0.4	0.0	0.4	0.4	0.1	0.4	0.3	0.3	0.3
Women who received TT										
No TT	33.0	38.5	11.5	52.6	25.4	8.0	20.8	25.0	37.7	55.8
1	8.3	9.1	5.1	9.3	8.6	5.2	7.3	7.1	10.0	9.8
2+	57.6	51.2	82.3	37.2	64.5	86.0	70.4	67.0	51.2	33.5
Do not remember/missing	1.1	1.1	1.1	0.9	1.5	0.7	1.5	1.0	1.0	0.9
Women who received IFA tablets/syrup										
No IFA/syrup	38.7	44.5	16.1	58.8	32.6	8.7	25.1	30.9	44.2	62.8
Received but not consumed	4.7	4.3	6.2	4.0	5.9	2.9	5.3	5.2	4.8	3.0
Consumed one IFA per day	42.8	39.0	57.3	27.2	47.3	66.3	52.4	49.2	38.7	24.9
Received 100+ IFA tablets/syrup	13.4	10.7	24.0	6.2	12.5	32.8	18.5	15.7	11.3	5.2
Percentage of women who received full [1] antenatal check-ups	10.2	7.5	20.7	3.9	9.2	27.2	14.2	12.4	8.9	2.8
Number of women	6,150	4,890	1,260	2,372	2,737	1,034	2,015	1,613	1,062	1,433

Note: Total includes 27 women with zero parity and 6 women with missing information on education who were not shown separately.

@ Literate women with no years of schooling are also included.

[1] At least three visits for antenatal check-ups, at least one TT injection received and were given adequate amount of IFA tablets/syrup.

Continued…….

Table 4.6 ANTENATAL CARE (contd)

Percent distribution of women who had live/still births during three years preceding the survey by number of antenatal check-ups, the stage of pregnancy at the time of first check-up, the number of tetanus toxoid injections received and iron and were given iron folic acid (IFA) tablets/syrup during pregnancy, and percentage who received full antenatal check-ups by some selected background characteristics, Assam, 2002-04

	Religion			Caste#				Standard of living index			Availability of health facility[2] in the village	
Antenatal care indicators	Hindu	Muslim	Christian	Scheduled caste	Scheduled tribe	Other backward class	Other	Low	Medium	High	No	Yes
Number of ANC visits												
No visit	27.9	60.1	34.2	29.7	46.7	26.3	42.6	52.4	16.7	5.0	45.7	43.3
1	5.2	5.6	4.5	5.1	4.9	6.6	5.2	5.8	3.8	5.4	6.4	4.8
2	13.9	12.9	18.2	16.7	12.5	14.2	12.4	15.0	13.9	7.2	15.0	14.3
3	17.1	11.7	23.8	17.0	14.0	19.5	14.1	14.0	20.5	14.8	14.7	16.1
4+	35.5	9.5	19.3	31.4	21.5	33.0	25.3	12.3	44.8	67.5	17.9	21.0
Missing	0.4	0.3	0.0	0.1	0.3	0.4	0.3	0.4	0.2	0.1	0.4	0.4
Stage of pregnancy at the time of the first antenatal check-up												
No antenatal check-up	27.9	60.1	34.2	29.7	46.7	26.3	42.6	52.4	16.7	5.0	45.7	43.3
First trimester	49.6	21.2	39.6	47.8	34.4	51.2	36.5	25.5	61.6	77.5	31.5	34.8
Second trimester	19.6	15.0	24.2	19.5	16.9	20.0	17.3	18.3	19.6	16.2	18.5	19.1
Third trimester	2.4	3.4	2.0	2.9	1.7	2.1	3.3	3.3	1.8	1.2	3.9	2.3
Missing	0.4	0.3	0.0	0.1	0.3	0.4	0.3	0.4	0.2	0.1	0.4	0.4
Women who received TT												
No TT	25.3	48.5	35.8	24.4	44.1	24.9	35.0	44.8	14.1	6.1	40.0	37.1
1	7.4	10.4	4.9	7.3	8.8	8.5	8.6	9.8	6.4	3.7	9.0	9.1
2+	65.9	40.4	59.1	66.0	46.6	65.3	55.5	44.1	78.1	89.7	50.1	52.4
Do not remember/missing	1.4	0.8	0.2	2.3	0.6	1.3	1.0	1.2	1.4	0.4	0.8	1.5
Women who received IFA tablets/ syrup												
No IFA/syrup	29.9	56.8	38.2	32.8	47.4	28.7	41.2	51.7	19.2	7.5	46.6	42.5
Received but not consumed	5.4	3.2	5.9	5.8	4.9	5.0	3.9	5.1	4.8	2.6	3.9	4.6
Consumed one IFA per day	49.0	30.3	37.9	45.2	31.8	51.9	42.0	33.0	57.4	66.4	37.1	40.8
Received 100+ IFA tablets/syrup	16.7	6.3	17.0	15.0	10.8	15.7	13.1	8.3	17.5	31.6	9.4	12.0
Percentage of women who received full [1] antenatal check- ups	13.2	3.4	15.1	11.9	8.5	11.2	9.9	5.3	14.7	26.1	6.5	8.4
Number of women	3,992	1,945	195	759	820	1,268	3,058	3,993	1,323	834	2,425	2,465

Note: [1] At least three visits for antenatal check-ups, at least one TT injection received and was given adequate amount of IFA tablets/syrup.

Total figure may not add to N due to don't know and missing cases. [2] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village. Total includes 17 cases of other religion were not shown separately.

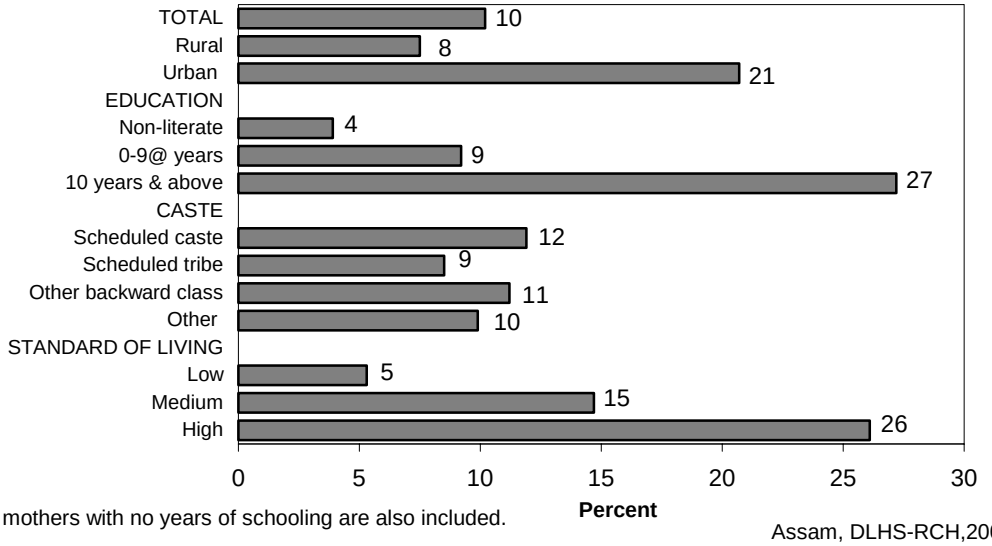
Hindu women (53 percent) were more likely to have at least three visits for antenatal check-ups than Muslim women (21 percent) and women from 'Christian' religions (43 percent). Coverage of at least three antenatal care is higher among Other Backward Class (53 percent) compared to Scheduled Caste (48 percent) and Scheduled Tribes (36 percent). Proportion of women with three or more antenatal visits sharply increases with the standard of living-26 percent for women with a low standard of living, 65 percent for women with a medium standard of living and 82 percent for women with a high standard of living. Prevalence of three or more antenatal visit is higher in case of availability of health facilities in the village (37 percent) compared to non-availability of health facilities (33 percent) in the villages.

Data on timing of first antenatal check-ups shows that 40 percent of the women received their first antenatal check-up in the first trimester of pregnancy, 18 percent received their first check-up in the second trimester and three percent of women received their first check-up in the third trimester. A relatively higher proportion of women in the urban areas (68 percent) as compared to those in rural areas (33 percent) had a check-up in the first trimester of pregnancy. The first antenatal check-up in the first trimester has steadily increased with education. Twenty-one percent of non-literate women had undergone their first antenatal check-up in the first trimester and 76 percent of women who had completed at least 10 years of schooling received their first antenatal check-up in the first trimester. More than half of the women (56 percent) with parity-one were visited in first trimester and only 18 percent women with parity-four and above had undergone antenatal check-up in first trimester. Christian (40 percent) and Muslim women (21 percent) were less likely to go for first antenatal check-up in first trimester of their pregnancy as compared to Hindu (50 percent). Less than one-third (34 percent) of Scheduled Tribe women were visited in first trimester for first antenatal check-ups compared with 48 percent to scheduled caste women, 51 percent of other backward class of women and 37 percent women from 'other' caste category. Twenty-six percent women with low standard of living, 62 percent with medium, and 78 percent with high standard of living had undergone their first antenatal check-up in the first trimester of their pregnancy.

Nutritional deficiencies in women are often exacerbated during pregnancy because of the additional nutrient requirements of foetal growth; therefore a pregnant woman needs six times more iron than a non-pregnant woman. The information on iron folic acid tablets/syrup supplements during pregnancy is also collected. Table 4.6 shows that women in Assam received IFA supplements for more than 60 percent of the last birth during three years preceding the survey. The coverage of IFA tablets/syrup is much higher in urban areas (84 percent) than in rural areas (55 percent). IFA coverage is much below for non-literate women, women with low standard of living, Scheduled Tribe and other caste women and women for higher parity. IFA coverage is also lower among Muslim women (43 percent) than Hindu (70 percent) and Christian (62 percent) women. Again during pregnancy in the last three years preceding the survey only 13 percent of women in Assam, received 100 or more IFA tablets/syrup with 11 percent in rural areas and 24 percent in urban areas. Intake of 100 or more IFA is directly related to education and standard of living index. However, it is inversely proportional to parity. Hindu and Christian women received more 100 or more IFA tablets than Muslims. Similarly, Other Backward Class and Scheduled Caste received more than that of Scheduled Tribes and other caste. A higher percentage of women reported receiving 100 and more IFA in the villages where health facilities are available. Forty three percent of women reported consuming one IFA per day.

For the last live birth or stillbirth during the three years preceding the survey, women were asked whether they were given tetanus toxoid injection to prevent them and their baby from getting tetanus. Table 4.6 shows that fifty-eight percent of the women received two or more tetanus toxoid injections. Coverage of two or more TT injection is higher in urban areas (82 percent) than that in rural areas (51 percent). The coverage of at least one tetanus toxoid injection for Hindu women (73 percent) is more than that for Muslim women (51 percent) and Christian (64 percent). Coverage of at least one tetanus toxoid injection is 74 percent for Other Backward Class, 73 percent for Scheduled Caste, 64 percent for other caste and 55 percent for Scheduled Tribes. Non-literate women received at least one tetanus toxoid injection for 47 percent of their last birth, whereas literate women with 9 years of schooling received at least one tetanus toxoid injection for 73 percent and women who had completed 10 years or more of schooling received at least one tetanus toxoid injection for 91 percent of their last birth. Ninety-three percent of women with a high standard of living received at least one tetanus toxoid injection and 54-85 percent women with low or medium standard of living received at least one tetanus toxoid injection for their last live/still birth. The coverage varies inversely by parity. At least one tetanus toxoid injection was received by 78 percent women of Parity-one compared with 43 percent of Parity four and above.

Figure: 4.2
Full Antenatal Care by Background Characteristic



@ Literate mothers with no years of schooling are also included.

Assam, DLHS-RCH,2002-04

The percentage of women who received full antenatal care (that is, at least three antenatal check-ups, and at least one tetanus toxoid injection and supplementary iron in the form of IFA tablets daily for 100 days as recommended by the RCH programme) has been presented in Figure 4.2. Only 10 percent of women in Assam received full antenatal care. Coverage of full antenatal care is relatively low for non-literate women, women with higher parity, Muslim women, Scheduled Tribe and other caste women, low standard of living, and women from those villages where health facilities are not available. Full antenatal coverage is also lower in rural areas (eight percent) than in urban areas (21 percent).

4.7 Antenatal Care Indicator by District

Table 4.7 shows the percentage of women who had given live/still birth during the three years preceding the survey who received different types of antenatal care such as women receiving antenatal check-up in the first trimester, who had minimum three antenatal check-ups, at least one tetanus toxoid injection, 100 or more iron folic acid tablets/syrup and those who received full antenatal care services by district.

Table 4.7 ANTENATAL CARE INDICATORS BY DISTRICT

Percentage of women* who received different type of antenatal care by district, Assam, 2002-04

District	Percentage that received an antenatal check-up in the first trimester of pregnancy	Percentage that received three or more antenatal check-ups	Percentage that received at least one tetanus toxoid injection	Percentage that received adequate amount of IFA[1]	Percentage that received full[2] antenatal check-ups
Barpeta	21.0	24.2	58.5	14.0	7.8
Bongaigaon	31.4	38.5	62.9	8.9	6.8
Cachar	27.1	36.1	61.1	6.9	5.7
Darrang	53.5	59.1	72.8	12.6	8.5
Dhemaji	28.0	30.8	48.1	5.0	4.6
Dhubri	18.1	23.0	48.0	6.4	4.9
Dibrugarh	68.2	68.1	87.1	17.7	14.1
Goalpara	35.1	28.7	65.0	13.5	7.8
Golaghat	37.7	50.5	65.9	15.8	12.8
Hailakandi	51.1	33.2	70.2	28.2	14.9
Jorhat	58.1	58.6	78.9	14.5	13.7
Kamrup	51.1	61.9	85.3	21.9	18.4
Karbi Anglong	30.6	26.5	55.7	8.7	5.1
Karimganj	44.1	40.3	63.6	7.6	4.2
Kokrajhar	35.5	36.4	54.7	9.9	8.8
Lakhimpur	44.3	41.9	55.0	18.4	12.7
Marigaon	35.9	39.7	67.1	5.8	4.5
Nagaon	34.6	28.4	63.0	8.4	6.4
Nalbari	43.7	53.3	77.1	23.6	18.9
North Cachar Hills	23.8	17.1	32.2	10.3	7.3
Sibsagar	56.7	51.7	67.3	27.9	23.8
Sonitpur	56.7	54.3	77.9	17.0	15.2
Tinsukia	57.6	67.7	72.7	3.8	3.8
Assam	40.3	42.6	65.9	13.4	10.2

Note: * Women who had their last live/still birth since 1-1-1999/1-1-2001. [1] 100 or more iron folic acid tablets including syrup. [2] At least three visits for antenatal check-ups, at least one TT injection received and adequate amount of IFA.

The utilisation of antenatal care services differs from district to district. In eight out of 23 districts, namely Dibrugarh, Jorhat, Tinsukia, Sonitpur, Sibsagar, Darrang, Hailakandi and Kamrup, more than half the women received their first antenatal check-up in the first trimester of pregnancy. The percentage of women who received at least three visits for antenatal check-ups ranges from minimum of 17 percent in North Cachar Hills to a maximum of 68 percent each in Dibrugarh and Tinsukia district. The coverage of tetanus toxoid injection ranges from 48 percent each in Dhemaji and Dhubri to 87 percent in Dibrugarh. The performance regarding receipt of

100 or more IFA is poor. The value ranges from four to 28 percent and it is lowest in Tinsukia. Similarly, the percentage of women who received full antenatal care ranges from four percent in Tinsukia and Karimganj to 24 percent in Sibsagar. In 14 out of 23 districts, the coverage of full antenatal care is below the state average (10 percent).

4.8 Pregnancy Complications and Treatment

Complications during pregnancy may affect both womens' health and the outcome of the pregnancy adversely. Early detection of complications during pregnancy and their management are important components of the safe motherhood programme. In the survey, all the eligible women who had given last live or still birth during the three years preceding the survey were asked if at any time during the pregnancy, they had experienced any pregnancy-related problems such as swelling of hands and feet, paleness, visual disturbance, vaginal bleeding, convulsions, weak or no movement of foetus, abnormal position of foetus, and other problems. All the information is based on women's self-reporting which is presented in Table 4.8 and Figure 4.3.

Figure: 4.3
Percentage of Women with Pregnancy Complications by Symptoms

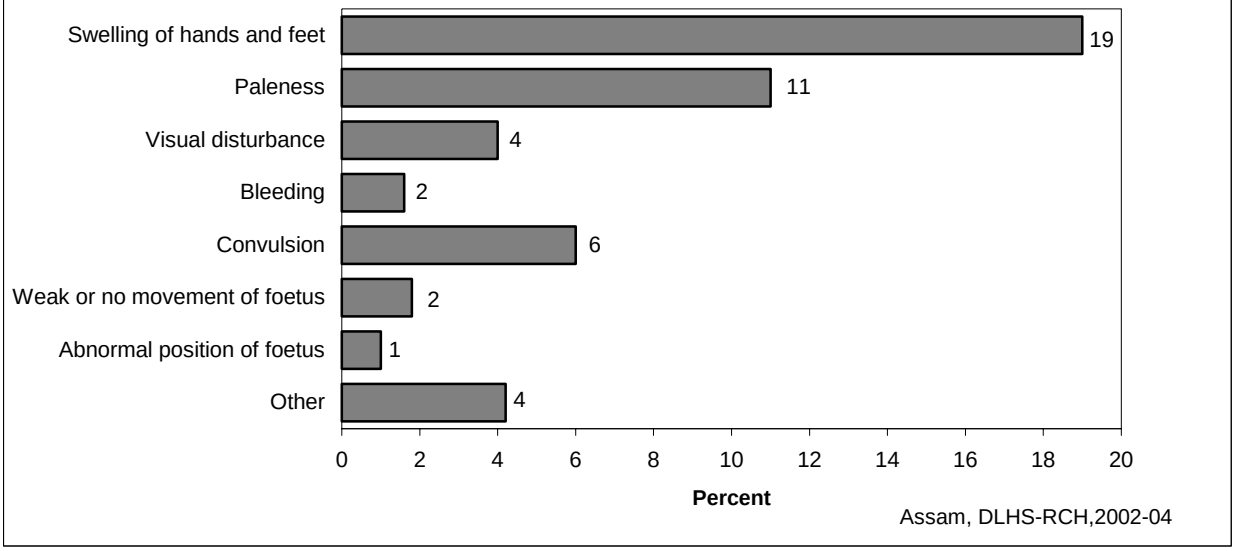


Table 4.8 PREGNANCY COMPLICATIONS

Percentage of women who had live/still births during three years preceding the survey by pregnancy complication and type of complication during pregnancy by some selected background characteristics, Assam, 2002-04

Background characteristic	Percentage of women with any pregnancy complication	Type of pregnancy complication;								Number of women
		Swelling of hands and feet	Paleness	Visual disturbances	Bleeding	Convulsion	Weak or no movement of foetus	Abnormal position of foetus	Other	
Age group (years)										
15-19	31.6	19.5	8.0	4.8	1.2	3.8	1.3	0.2	6.7	338
20-24	29.3	19.0	11.3	3.7	2.5	5.2	1.6	0.4	4.0	1,608
25-29	30.9	19.5	11.5	4.0	1.8	5.7	2.1	1.1	4.4	2,186
30-34	31.7	19.1	11.2	5.3	1.2	6.1	2.6	0.5	4.3	1,230
35-39	29.4	18.8	12.9	4.5	2.5	5.2	3.1	0.6	3.0	651
40-44	34.9	14.9	11.7	9.0	4.1	6.7	5.4	0.4	1.4	138
Children ever born										
1	29.7	18.3	10.2	2.8	1.6	5.0	1.4	1.1	5.4	2,015
2	28.9	18.2	10.4	3.7	2.3	4.6	2.3	0.4	4.3	1,613
3	31.0	20.4	12.2	4.8	1.7	6.1	2.7	0.6	3.6	1,062
4+	33.4	20.1	13.4	7.0	2.2	6.6	2.7	0.4	2.9	1,433
Residence										
Rural	31.2	19.5	12.0	4.7	1.8	5.3	2.4	0.6	3.9	4,890
Urban	28.2	17.6	8.8	3.2	2.5	6.1	1.4	1.0	5.3	1,260
Standard of living index										
Low	32.2	20.5	12.4	5.2	2.1	6.0	2.3	0.4	3.3	3,993
Medium	26.7	15.6	9.6	2.9	0.9	4.0	2.2	1.1	5.9	1,323
High	29.1	17.7	9.2	3.1	2.8	5.7	1.8	1.1	5.8	834
Received any ANC										
Yes	31.8	19.8	11.5	4.2	2.3	6.0	2.2	1.0	5.5	3,780
No	28.9	18.0	11.2	4.8	1.4	4.6	2.2	0.1	2.1	2,349
Total	30.6	19.1	11.3	4.4	2.0	5.5	2.2	0.7	4.2	6,150

Note: Total include 27 women with zero parity and 20 with missing information on type of pregnancy complication who were not shown separately. @ Literate women with no years of schooling are also included. () Based on less than 50 unweighted cases.

Overall, 31 percent of the women experienced at least one pregnancy related problem. The proportion was higher among rural women (31 percent) than among urban women (28 percent). Women aged 30 years and above and those with higher parity are more likely to face at least one pregnancy related problem than younger women and women with low parity. This proportion is relatively high among women who had received some kind of antenatal care during pregnancy. Thirty-two percent of women who had an antenatal check-up reported that they had experienced at least one problem during their pregnancy against 29 percent of women who did not receive any antenatal check-up during their pregnancy. Overall, the major problems reported are 'swelling of hand and feet' (19 percent) and 'paleness' (11 percent). Swelling of hands and feet is on a little higher side among rural women and women with low standard of living (20 percent each). Paleness, visual disturbance, and convulsion increased steadily with increase of parity.

Women who reported at least one pregnancy related complication were asked whether they had consulted someone or had sought treatment for their problem and also the source of treatment. Table 4.9 shows the percentage of women who had pregnancy complications and obtained advice or sought treatment by source of treatment according to residence and availability of health facility in the village. Forty percent of women reported that they had obtained advice or consulted someone for their problem. The proportion was higher among urban women (58 percent) than among rural women (36 percent) and 36 percent of women sought treatment irrespective of the availability of health facilities in the villages.

Among women who sought treatment for pregnancy complications, 45 percent visited a government health facility including a primary health centre (nine percent) and sub-centre (five percent). Thirty seven percent of them visited a private health facility. Eight percent had gone to a facility with the Indian system of medicine, and another 11 percent obtained advice from other health facility. The proportion of women who visited a private health facility is higher in urban areas (54 percent) than in rural areas (31 percent). Among women who sought treatment, 87 percent went to a doctor and seven percent to an auxiliary nurse midwife or nurse or LHV and another six percent to dais, ISM practitioners and other health professionals. Ninety-three percent of these women in urban areas, and 84 percent in rural areas were examined by a doctor, whereas ANM/Nurse/LHV examined nine percent of the women in rural areas and three percent in urban areas.

Table 4.9 TREATMENT FOR PREGNANCY COMPLICATIONS

Percentage of women* who had any pregnancy complication, sought treatment and source of treatment according to residence and availability of health facility in the village, Assam, 2002-04

Treatment and source	Total	Residence		Availability of health facility[5] in the village	
		Rural	Urban	No	Yes
Percentage of women sought treatment who had any pregnancy complication	39.9	35.6	58.4	35.8	35.5
Number of women	1,882	1,527	356	759	767
Percentage sought treatment at health facility					
Government health facility[1]	45.4	52.9	25.7	51.1	54.8
Primary health centre	8.7	11.2	2.2	9.6	12.8
Sub centre	4.6	6.3	0.0	5.0	7.6
Private health facility[2]	37.0	30.5	53.7	32.4	28.6
ISM[3] facility	8.1	6.2	13.1	7.1	5.3
Other	10.6	11.9	7.5	10.9	12.8
Percent distribution of women who obtained treatment from					
Doctor	86.6	84.2	93.0	83.9	84.6
ANM/nurse/midwife/LHV	7.0	8.6	2.8	8.4	8.8
Other[4]	5.6	6.7	2.8	7.5	5.8
Missing	0.7	0.5	1.3	0.2	0.9
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	752	544	208	272	272

Note: [1] Include municipal hospital, dispensary, urban health centre/urban health post/urban family welfare centre, community health centre/rural hospital, primary health centre and sub centre. [2]Include private hospital/clinic and non-governmental organization/trust hospital. [3]Either government or private, Indian system of medicine. [4]Other includes *Dai* (trained or untrained), other health professionals and ISM practitioner. [5]Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital and government dispensary within the village.

4.9 Delivery Care

4.9.1 Place of Delivery

One of the important thrusts of the Reproductive and Child Health Programme is to encourage deliveries under proper hygienic conditions and supervision of trained health professionals. The provision of delivery services in the government health institutions is one of the components of the RCH programme. For each live/still birth during three years preceding the survey, DLHS-RCH asked the women where (place) their children were born, who assisted deliveries at home, characteristics of delivery, and any problems that occurred at the time of delivery. Table 4.10 and Figure 4.4 present the place of delivery. Fourteen percent of the births took place in government health institutions and another 13 percent in private health institutions while a large proportion of births (72 percent) took place at home. Sixty-four percent of the deliveries in urban areas and 17 percent of the deliveries in rural areas took place in health institutions.

Table 4.10 PLACE OF DELIVERY

Percent distribution of women who had given live/still births during three years preceding the survey, by place of delivery, according to selected background characteristics, Assam, 2002-04

Background characteristics	Health institutions		Home	Other	Missing	Total percent	Number of women
	Public	Private					
Age group (in years)							
Below 20	12.9	7.0	77.5	2.7	0.0	100.0	338
20-34	14.5	13.7	70.5	1.2	0.1	100.0	5,023
35 and above	10.2	10.4	78.0	1.4	0.0	100.0	789
Children ever born							
1	20.7	21.1	56.7	1.4	0.2	100.0	2,015
2	14.4	15.9	67.7	1.9	0.0	100.0	1,613
3	8.7	8.2	81.5	1.5	0.0	100.0	1,062
4+	7.1	1.2	91.4	0.2	0.1	100.0	1,433
Residence							
Rural	11.3	5.8	81.8	1.0	0.1	100.0	4,890
Urban	24.0	40.2	33.3	2.4	0.1	100.0	1,260
Education							
Non-literate	7.1	1.9	89.9	1.0	0.2	100.0	2,372
0-9@ years	17.2	9.8	71.8	1.2	0.0	100.0	2,737
10 years & above	20.7	46.2	30.8	2.2	0.1	100.0	1,034
Religion							
Hindu	18.1	18.4	61.8	1.6	0.1	100.0	3,992
Muslim	5.3	2.2	92.2	0.3	0.1	100.0	1,945
Christian	13.0	5.0	78.2	3.8	0.0	100.0	195
Caste#							
Scheduled caste	17.2	17.1	63.5	2.0	0.2	100.0	759
Scheduled tribe	13.2	5.2	80.7	0.9	0.0	100.0	820
Other backward class	18.7	12.9	65.8	2.5	0.1	100.0	1,268
Other	11.7	14.0	73.6	0.6	0.1	100.0	3,058
Standard of living index							
Low	9.2	2.4	87.4	0.8	0.1	100.0	3,993
Medium	21.9	18.1	57.4	2.6	0.0	100.0	1,323
High	23.6	54.6	20.4	1.4	0.0	100.0	834
Number of antenatal check-ups							
No check-up	3.6	0.7	95.4	0.1	0.2	100.0	2,356
1	13.0	11.9	74.2	1.0	0.0	100.0	328
2	15.1	4.4	79.2	1.3	0.0	100.0	844
3	21.4	11.1	64.1	3.4	0.1	100.0	956
4+	24.0	35.9	38.3	1.8	0.0	100.0	1,646
Delivery characteristics							
Normal	12.9	10.0	75.9	1.2	0.0	100.0	5,791
Caesarean	27.9	68.1	1.5	2.5	0.0	100.0	295
Assisted	40.4	24.1	30.9	4.6	0.0	100.0	58
Availability of health facility[1] in the village							
No	12.1	5.9	81.2	0.7	0.1	100.0	2,425
Yes	10.5	5.8	82.4	1.2	0.1	100.0	2,465
Total	13.9	12.9	71.9	1.3	0.1	100.0	6,150

Note: Total includes 27 women with zero parity, 6 with missing information on education, and 5 on delivery characteristics who were not shown separately. # Total figure may not add to N due to do not know and missing cases. @ Literate women with no years of schooling are also included. [1] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

The proportion of births occurring in health institutions is higher for women aged 20-34 years (28 percent) than for women aged 35 years and above (21 percent) and below 20 years (20 percent). Institutional deliveries increases with the increase of educational level and standard of living. Nine percent of the births to non-literate women and 67 percent births to literate women who had completed at least 10 or more years of schooling took place at health institutions. Institutional delivery is also higher among those women belonging to high standard of living than women with a low standard of living (Figure 4.4). The proportion of institutional deliveries decreases as parity increases from parity one (42 percent) to parity four and above (eight percent). Institutional delivery is lower among Muslim women (eight percent) than among Hindus (37 percent) and Christian women (18 percent). Institutional deliveries (government and private) were highest among Scheduled Caste women (34 percent) followed by 32 percent among Other Backward Class, 26 percent among other caste and lowest among Scheduled Tribes (18 percent). Institutional deliveries are more common among women who had four or more antenatal check-ups (60 percent) than among those who had three antenatal check-ups (33 percent), two antenatal check-ups (20 percent) and one antenatal check-ups (25 percent). Institutional deliveries are least prevalent among women who did not receive any antenatal check-ups (four percent). Importantly, most of the deliveries in health institutions are either caesarean or assisted by forceps. The incidence of caesarean delivery is much higher private health institutions (68 percent) than in government health institutions (28 percent). On the contrary, forceps delivery is more frequent in government hospital (40 percent) as compared to private hospitals (24 percent). At the same time, two percent of caesarean deliveries and 31 percent of assisted deliveries took place at home. The presence of health facilities in the village has no impact on the choice of places for delivery as most of the deliveries still take place at home.

4.9.2 Assistance During Home Delivery

Table 4.11 shows distribution of assistance during home delivery by selected background characteristics. Generally, assistance during delivery can be provided by medical staff (doctors, ANM/nurse/LHV, TBA, un-trained *dai*) and relatives/friends. If more than one attendant assisted during the delivery, then the most qualified person is considered. In the last three years, only four percent of home deliveries were attended by the doctors, five percent by ANM or nurse or LHV, four percent by trained birth attendants, 35 percent by untrained *dais*, 49 percent were attended by relatives and friends and 2 percent of home deliveries were not attended by anyone (Figure 4.4). Overall, health professionals attended only nine percent of deliveries that took place at home. About 8-10 percent of births were attended by health professional for women age below 20 and 20-34 years which decreases to five percent for women age 35 and above. In rural areas, eight percent of births were attended by health professionals as compared to 15 percent of that in urban areas. The percentage of births attended by health professionals was decreased steadily with increasing with parity of women.

Births to literate women who had completed 10 or more years of schooling which were attended to by health professionals is six times higher than those of non-literate women. About six percent of home deliveries to women with a low standard of living and 18 percent of deliveries to women with medium standard of living were attended to by health professionals. Home deliveries attended to by health professionals were reported more among Hindu women (13 percent) than among Muslim women (four percent). Only 13 percent of births to women from Other Backward Class, 11 percent to Scheduled Tribes, eight percent each to other caste and Schedule Caste were attended to by health professionals. Three percent of home deliveries to women who did not have any antenatal check-ups were attended to by health professionals compared to 25 percent of home deliveries to women who had four or more antenatal check-ups. Health professionals attended to about nine percent of home deliveries that were normal. Ten percent home deliveries were attended to by health professionals in the villages where health facility is available and the percentage for the same decreases to seven percent in case the villages have no health facility.

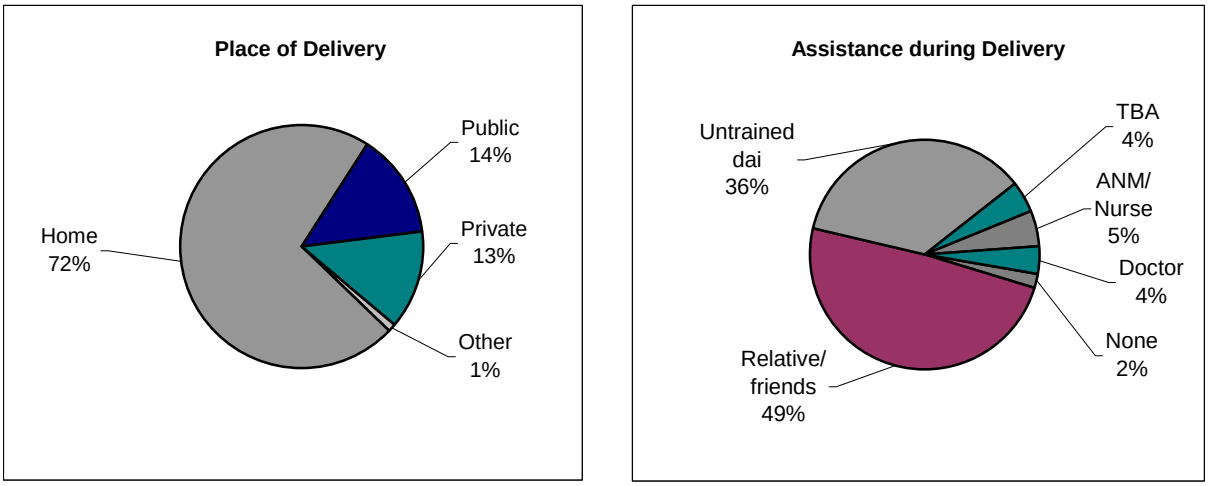
Table 4.11 ASSISTANCE DURING HOME DELIVERY AND SAFE DELIVERY

Percent distribution of women who had given live/still births during three years preceding the survey, by assistance during home delivery, and percentage of safe delivery, according to selected background characteristics, Assam, 2002-04

Background characteristics	Attendant assisting during home delivery[1]						Number of women	Percentage of safe[2] delivery
	Doctor	ANM/ Nurse/ LHV	TBA	Un-trained *dai*	Relative / friends	None		
Age group (in years)								
Below 20	2.9	5.0	4.7	36.9	49.7	0.8	261	26.0
20-34	4.4	5.5	4.2	35.4	48.3	2.1	3,543	35.1
35 and above	2.5	2.5	3.4	34.6	53.6	3.4	616	24.5
Children ever born								
1	4.7	8.1	5.3	32.6	47.9	1.4	1,142	49.0
2	5.4	7.0	3.4	32.1	50.2	1.6	1,092	38.7
3	3.9	3.5	4.3	34.5	51.6	2.1	866	23.0
4+	2.4	1.7	3.4	41.2	47.9	3.4	1,309	12.0
Residence								
Rural	4.0	4.4	3.9	36.5	48.8	2.2	4,001	24.0
Urban	4.0	10.8	5.7	24.5	52.7	2.3	420	69.1
Education								
Non-literate	2.5	2.1	3.5	38.4	50.7	2.7	2,132	13.1
0-9@ years	4.6	6.0	4.3	33.8	49.1	1.9	1,964	34.7
10 years & above	10.1	19.0	5.6	26.1	38.6	0.5	319	75.9
Religion								
Hindu	5.8	6.9	4.8	29.8	50.2	2.3	2,466	44.3
Muslim	1.8	2.3	2.8	43.5	47.6	2.0	1,793	11.2
Christian	2.2	5.6	7.1	32.4	50.7	2.0	153	24.1
Caste#								
Scheduled caste	4.2	3.5	5.3	34.7	50.9	1.5	482	39.2
Scheduled tribe	4.0	6.6	3.4	27.1	55.3	3.0	661	26.9
Other backward class	6.5	6.7	5.7	31.8	47.1	2.3	835	40.2
Other	3.2	4.6	3.5	37.8	48.7	2.1	2,252	31.4
Standard of living index								
Low	2.8	3.0	3.7	37.9	50.3	2.3	3,492	16.7
Medium	7.4	10.5	5.0	27.8	46.9	1.7	759	50.3
High	14.5	21.9	8.2	18.0	36.3	1.1	170	85.5
Number of antenatal check-ups								
No check-up	1.9	1.2	2.9	38.1	53.6	2.3	2,248	7.2
1	5.5	2.5	6.2	39.8	43.6	2.3	243	30.8
2	6.1	4.9	4.1	36.4	46.5	2.0	668	28.2
3	5.1	8.3	5.6	33.1	45.2	2.7	613	41.1
4+	8.0	16.7	5.8	25.2	42.2	1.4	630	69.3
Delivery characteristics								
Normal	3.8	5.0	4.1	35.5	49.3	2.2	4,396	29.5
Availability of health facility[3] in the village								
No	3.2	3.8	3.4	40.0	47.1	2.3	1,969	23.6
Yes	4.8	5.0	4.5	33.2	50.4	2.1	2,032	24.4
Total	4.0	5.0	4.1	35.4	49.1	2.2	4,420	33.2

Note: Total includes 11 women with zero parity, 6 with missing information on education and 1 on delivery characteristics who were not shown separately. @ Literate women with no years of schooling are also included. # Total figure may not add to N due to do not know and missing cases. [1] If the respondent mentioned more than one attendant, only the most qualified attendant is shown. [2] Either institutional delivery or home delivery assisted by doctor/ANM/Nurse/LHV. [3] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

Figure 4.4
Place of Delivery and Assistance During Delivery



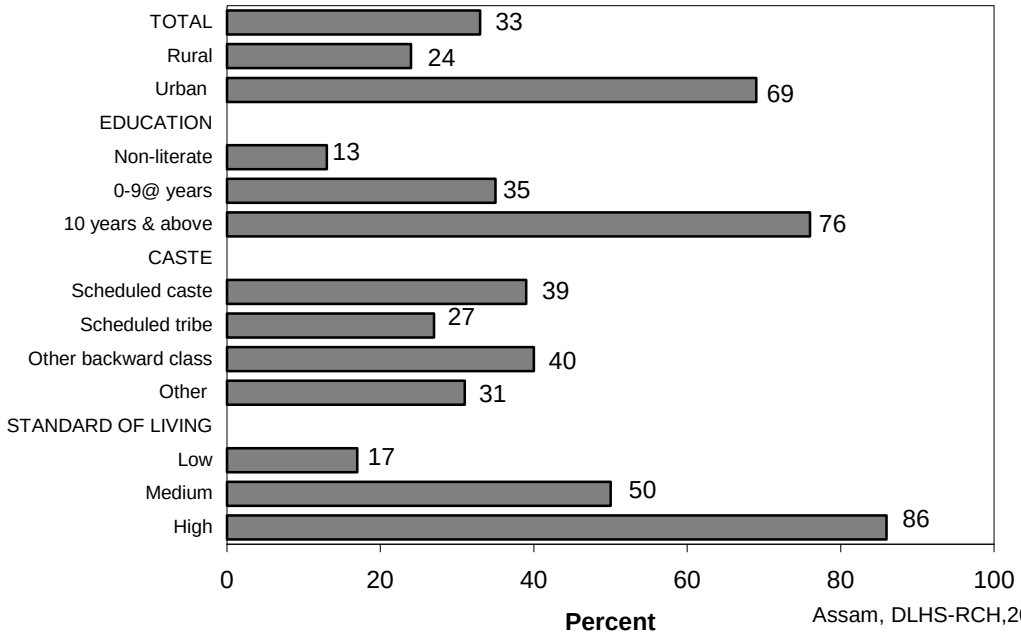
Note: Percentage may add more than 100.0 due to rounding

Assam, DLHS-RCH, 2002-04

4.9.3 Delivery Assisted by Skilled Persons

The extent of safe deliveries varied substantially by background characteristics of women (Table 4.11 and Figure 4.5). Thirty-three percent of the births were safe in Assam. In urban areas 69 percent of the deliveries were safe as against 24 percent in rural areas. About 26-35 percent of the deliveries were safe for younger women aged below 35 than to elderly women (25 percent). The proportion of safe deliveries was much lower among Muslim women (11 percent) than among Hindu women (44 percent) and Christian women (24 percent). Forty percent of births to women from Other Backward Class were safe, compared to 39 percent to women from Scheduled-Castes, 31 percent to women from other caste and 27 percent of births to women from Scheduled Tribes. Proportion of safe deliveries decreases as parity increases from one (49 percent) to four and above (12 percent). Safe deliveries were least prevalent among women who did not receive any antenatal check-ups (seven percent), and it is most prevalent among women who had four or more antenatal check-ups (69 percent). The proportion of safe deliveries increases considerably with women's education and standard of living. Only thirteen percent of non-literate women had safe deliveries whereas its prevalence is 76 percent among women who had completed at least high school. Women with a high standard of living had 86 percent safe deliveries compared to 50 percent of women with a medium standard of living and 17 percent with a low standard of living. There is no differentiation in the magnitude of safe deliveries with respect to the availability and non-availability of health facilities in the villages.

Figure: 4.5
Delivery Assisted by Skilled Person by Background Characteristic



4.10 Reasons for Not Going to Health Institutions for Delivery

Table 4.12 shows the percentage distribution of women who did not go for delivery to any health institution in the three years preceding the survey. The main reason for not going to health institutions has been presented according to residence and availability of health facility in the village. More than half of the women (58 percent) stated that it was not necessary to deliver in health institutions. It is surprising to see that a higher proportion of urban women (63 percent) than rural women (58 percent) felt this way. Also, 60 percent of women stated that it was not necessary to deliver in health institutions when their villages are equipped with health facilities, as compared to 55 percent of women from villages where a health facility is not available. Three percent of the women felt that it was not customary to deliver in health institutions. Other factors contributing for not going to health institutions for delivery were, 'it costs too much' (nine percent), 'no transportation' or 'health facility is too far' (six percent), 'no time to go' (five percent), 'family did not allow' (two percent), 'better care at home' (nine percent), lack of knowledge (five percent) and 'other' (one percent). One percent women did not opt for institutional delivery due to poor quality of services.

Table 4.12 REASONS FOR NOT GOING TO HEALTH INSTITUTIONS FOR DELIVERY

Percent distribution of women who had given last live/still birth at home during three years preceding the survey by the main reason for not going to health institution for delivery, according to residence and availability of health facility in the village, Assam, 2002-04

		Residence		Availability of health facility[1] in the village	
Reason	Total	Rural	Urban	No	Yes
Not Necessary	58.1	57.7	62.6	54.9	60.3
Not customary	3.1	3.2	1.8	3.3	3.1
Cost too much	9.0	9.3	6.5	9.3	9.2
Health facility too far/ No transport	6.1	6.7	0.5	6.4	7.0
Poor quality service	1.1	1.1	0.7	1.5	0.8
No time to go	5.1	4.8	8.1	3.6	5.9
Family did not allow	2.0	2.0	2.4	1.8	2.1
Better care at home	9.4	9.1	11.4	11.0	7.3
Lack of knowledge	4.6	4.7	4.0	6.3	3.2
Other	1.2	1.2	1.4	1.5	0.8
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	4,420	4,001	420	1,969	2,032

Note: [1] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

4.11 Delivery Characteristics by District

Table 4.13 shows the delivery characteristics by district; institutional delivery (delivery in government or private health institutions), home delivery and attendant assistance during home delivery for last live/still births to women during the three years preceding the survey. The proportion of institutional delivery is lowest in North Cachar Hills (eight percent), followed by Nagaon (nine percent) and it is highest in Nalbari (52 percent).

Compared to delivery in health institutions, deliveries at home are more common in all the districts of Assam. In all the districts, more than half of the births took place at home, the highest being North Cachar Hills (92 percent) and Nagaon (91 percent) districts. The percentage of home deliveries assisted by skilled persons ranges from the lowest of three percent in Dhubri to the highest of 20 percent in Kamrup district. The extent of safe deliveries also ranges from 13 percent in Dhubri to 57 percent in Nalbari. The proportion of safe deliveries is more than half only in two districts, namely, Kamrup (56 percent) and Nalbari (57 percent) (see Map-4).

Table 4.13 DELIVERY CHARACTERISTICS BY DISTRICT

Place of delivery, assistance during home deliveries, and percentage of safe deliveries by district, Assam, 2002-04

Districts	Percentage of women who had institutional delivery	Percentage of women who had delivery at home	Home delivery assisted by skilled[1] persons	Percentage of safe[2] delivery
Barpeta	21.2	78.0	9.0	28.2
Bongaigaon	23.9	76.1	5.7	28.3
Cachar	26.4	73.6	3.9	29.3
Darrang	35.2	62.6	14.1	44.0
Dhemaji	19.8	80.2	6.8	25.3
Dhubri	10.6	89.1	2.8	13.0
Dibrugarh	33.3	55.2	14.0	41.0
Goalpara	15.8	82.8	2.6	17.9
Golaghat	25.1	74.6	13.6	35.2
Hailakandi	22.8	77.2	0.9	23.5
Jorhat	40.3	59.7	13.4	48.3
Kamrup	44.7	55.3	19.8	55.6
Karbi Anglong	20.2	79.6	10.4	28.5
Karimganj	18.7	81.1	5.9	23.4
Kokrajhar	31.3	67.9	9.5	37.8
Lakhimpur	31.2	68.8	8.2	36.8
Marigaon	17.4	81.3	14.2	28.9
Nagaon	8.9	91.1	12.2	20.0
Nalbari	52.3	47.2	10.5	57.3
North Cachar Hills	7.9	91.8	6.5	13.9
Sibsagar	37.0	61.8	9.8	43.0
Sonitpur	35.1	60.4	7.3	39.5
Tinsukia	34.6	63.6	13.3	43.0
Assam	26.8	71.9	9.0	33.2

Note: *Table includes last live/still birth since 1-1-1999/1-1-2001.
[1] Includes Doctor/ANM/Nurse. [2] Either institutional delivery or home delivery assisted by skilled person. ( ) Based on less number of cases.

4.12 Complications During Delivery

Complications during delivery include 'premature labour', 'obstructed labour', 'prolonged labour (more than 12 hours)', 'breech presentations', 'excessive bleeding during delivery' and 'other problems' at the time of delivery reported by women during the three years preceding the survey. More than one-third the women experienced at least one problem during delivery (Table 4.14 and Figure 4.6). The proportion of delivery complications is slightly higher among urban women (38 percent) than among rural women (34 percent). Women aged 20-34 years and women with low parity of one reported more delivery related problems. Delivery complications were reported higher among women who had antenatal check-ups compared to those who had no antenatal check-ups. Among women who had assisted or caesarean delivery, 51-65 percent reported experiencing such problems and 33 percent women with normal deliveries also cited complications during delivery. A relatively higher proportion of women who delivered in health institutions (45-48 percent) faced at least one delivery complication compared to those who delivered at home or other places (30-41 percent).

The major problems reported were 'prolonged labour' (15 percent), 'premature labour' (12 percent), 'obstructed labour' (10 percent), and 'excessive bleeding (seven percent). Only one percent reported about 'breech presentation'. Prolonged labour is more among younger women (17 percent). Delivery complications such as excessive bleeding and obstructed labour were reported more by rural women while prolonged labour is reported more by urban women. The percentages of various delivery complications except excessive bleeding are inversely related with parity. Excessive bleeding is higher among women with high parity. In case of all types of delivery complications, deliveries were mostly done through caesarean. Women whose recent delivery was performed in medical institutions reported more premature labour and obstructed labour compared with place of delivery other than medical institutions. However, in case of women with delivery complications such as excessive bleeding, prolonged labour and breech presentation, deliveries mostly took place in places other than home or health institutions.

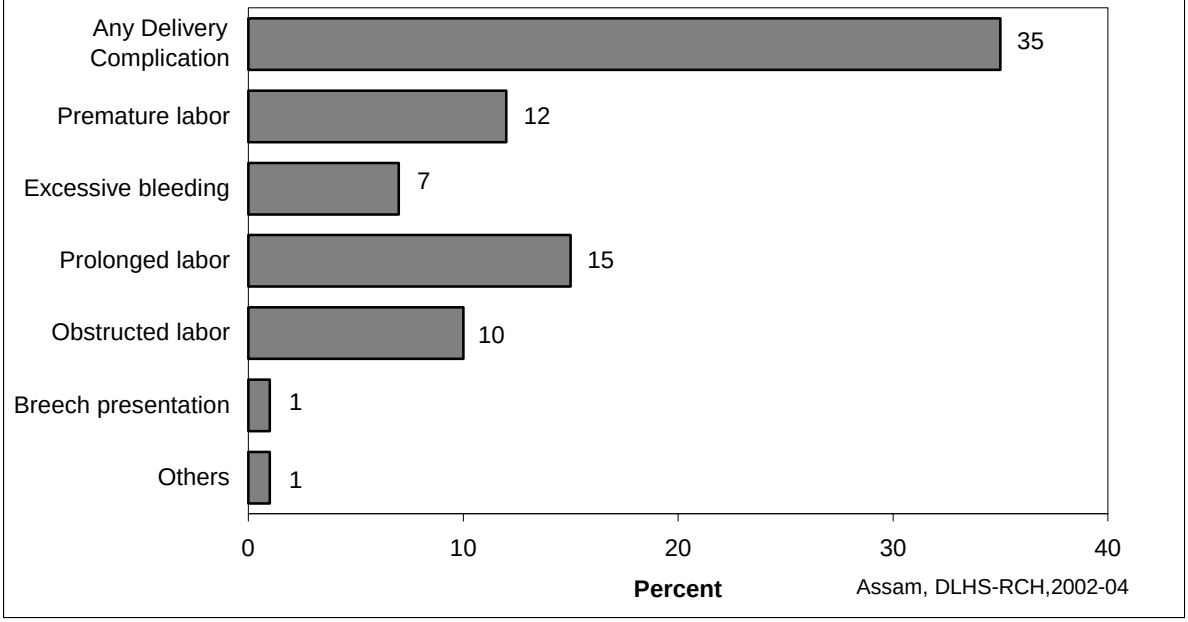
Table 4.14 DELIVERY COMPLICATIONS

Percentage of women who had given last live/still births during three years preceding the survey by delivery complication, according to selected background characteristics, Assam, 2002-04

Background characteristic	Any delivery complic-ation	Type of delivery complication; Prematu-re labour	Excessi-ve bleeding	Prolong-ed labour	Obstruct-ed labour	Breech presnta-tion	Other	Number of women
Age group (in years)								
Below 20	30.0	8.0	4.2	17.4	7.3	0.3	0.3	338
20-34	35.3	12.8	6.8	15.7	9.9	1.0	0.7	5,023
35 and above	32.1	12.1	7.4	12.0	10.5	0.3	0.4	789
Children ever born								
1	40.9	15.7	6.6	18.1	11.3	1.5	0.9	2,015
2	32.6	11.1	5.9	15.6	9.3	0.8	0.8	1,613
3	30.5	11.9	7.1	12.7	8.7	0.7	0.2	1,062
4+	30.4	10.0	7.7	13.0	9.0	0.3	0.3	1,433
Residence								
Rural	33.9	12.4	7.0	14.7	10.1	0.7	0.6	4,890
Urban	37.5	12.7	6.0	17.9	8.9	1.4	0.9	1,260
Number of antenatal check-ups								
No check-up	27.5	10.7	6.4	11.8	6.5	0.2	0.2	2,356
1	30.8	6.7	6.5	14.2	8.9	0.0	1.0	328
2	34.6	11.2	6.2	13.5	11.2	1.4	0.7	844
3	35.7	11.5	7.1	16.3	12.0	1.0	0.7	956
4+	45.0	17.1	7.5	21.1	12.9	1.7	1.1	1,646
Delivery characteristics								
Normal	33.0	11.7	6.4	14.9	9.1	0.4	0.5	5,791
Caesarean	64.7	26.0	12.4	24.6	23.7	9.9	3.5	295
Assisted	51.1	19.8	13.0	17.1	21.1	5.6	1.5	58
Place of delivery								
Government sector	45.1	16.1	7.5	19.4	16.5	2.9	1.2	853
Private sector	48.2	18.7	7.9	25.5	9.9	2.2	1.2	792
Home	30.1	10.7	6.3	12.6	8.5	0.1	0.4	4,420
Other	41.3	10.0	14.8	26.8	13.6	6.2	0.0	78
Total	34.6	12.4	6.8	15.3	9.9	0.9	0.6	6,150

Note: Total includes 27 women with zero parity, 20, 5 and 5 women with missing information on antenatal check-up, delivery characteristic and place of delivery respectively, who were not shown separately.

Figure: 4.6
Percentage of women with Delivery Complication and by Symptoms



4.13 Post Delivery Complications and Treatment

Table 4.15 and Figure 4.7 present information about women who faced complications after delivery according to some selected background characteristics. The incidence of post delivery complications which can be judged by complications during the first six-weeks of delivery includes 'high fever', 'lower abdominal pain', 'foul smelling vaginal discharge', 'excessive bleeding', 'convulsion', 'severe headache', and 'other' problems. Thirty two percent of women reported that they faced any of the problems during the first six weeks after their delivery. The proportion of women who cited at least one post delivery complication is more or less same in rural areas (32 percent) and urban areas (31 percent). Post delivery complications were reported more among older women aged 35 years and above and women with higher parity four and above. Those women who delivered at home and assisted by untrained dai (39 percent) and trained birth attendant (38 percent) had more post delivery complications compared to those whose deliveries were assisted by doctors (28 percent) or ANM/Nurse/LHV (30 percent). On the whole, various complications were reported, which include lower abdominal pain (20 percent), foul smelling vaginal discharge (14 percent), high fever (13 percent), severe headache (nine percent), excessive vaginal bleeding (seven percent) and convulsion (three percent). The symptoms of postpartum complications were increasing steadily with increasing parity. Women who had the last delivery at home and were not assisted by anyone were more likely to have high fever, lower abdominal pain and severe headache during the first six weeks of delivery.

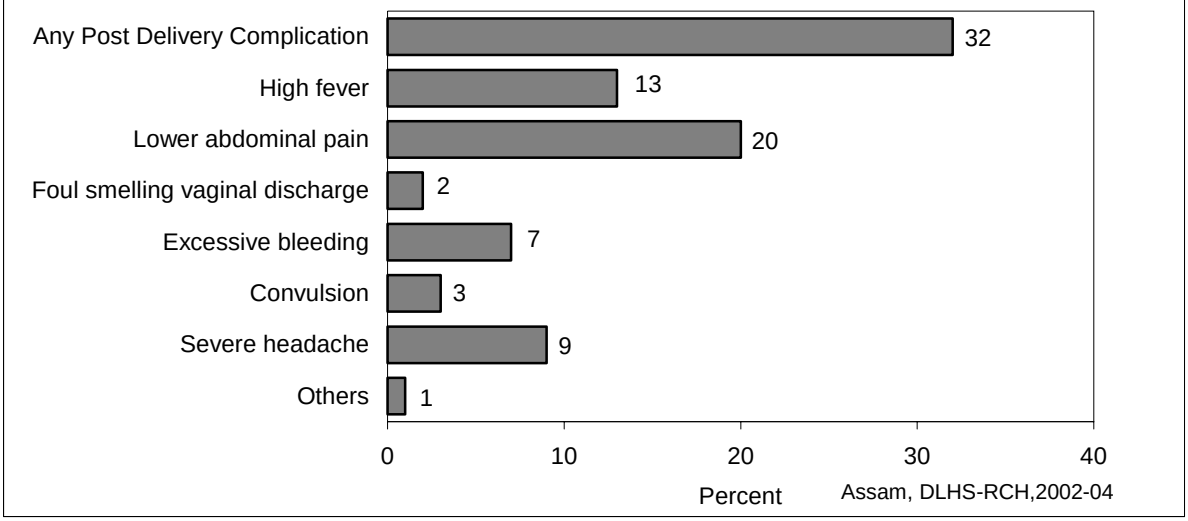
Table 4.15 POST DELIVERY COMPLICATIONS

Percentage of women who had given last live/still births during three years preceding the survey by post delivery complication, according to selected background characteristics, Assam, 2002-04

Background characteristic	Any post delivery complic-ation	Type of post delivery complication; High fever	Lower abdom-inal pain	Foul smelling vaginal discharge	Excess-ive bleeding	Convul-sion	Severe head-ache	Other	Number of women
Age									
Below 20	29.9	14.1	19.0	0.9	5.5	2.3	8.1	1.2	338
20-34	31.4	11.9	19.6	1.8	7.6	3.3	9.3	1.3	5,023
35 and above	34.0	15.6	22.0	3.0	7.2	3.2	8.4	1.2	789
Children ever born									
1	29.6	11.4	17.3	1.3	6.9	3.0	7.2	1.9	2,015
2	29.2	10.1	18.9	2.1	7.4	3.0	9.8	0.7	1,613
3	33.5	12.4	23.3	1.8	8.0	2.2	8.1	1.6	1,062
4+	36.1	16.7	22.1	2.7	7.8	4.4	11.8	0.9	1,433
Residence									
Rural	31.9	12.8	19.9	2.1	7.0	3.3	9.6	1.0	4,890
Urban	30.9	11.4	19.6	1.3	9.0	2.9	7.1	2.3	1,260
Delivery characteristics									
Normal	31.6	12.7	19.6	1.8	7.2	3.0	9.2	1.3	5,791
Caesarean	33.2	9.2	23.2	4.5	11.3	7.5	7.8	0.2	295
Assisted	31.6	6.9	24.0	4.2	9.1	6.8	9.9	4.4	58
Place of delivery									
Government sector	30.8	10.1	20.1	2.4	9.7	3.8	8.6	1.5	853
Private sector	28.6	11.2	15.7	1.4	8.0	3.8	5.8	3.0	792
Home	32.6	13.4	20.7	1.9	6.9	3.0	9.9	1.0	4,420
Other	17.8	4.3	11.9	2.3	4.2	1.6	5.1	2.1	78
Assistance during home delivery									
Doctor	27.6	12.5	18.2	2.9	4.1	3.3	8.8	1.3	178
ANM/Nurse/LHV	30.2	12.0	15.9	2.9	10.3	1.8	9.1	2.2	222
TBA	37.7	16.9	24.7	2.5	7.0	1.6	12.8	0.5	181
Untrained dai	39.2	19.2	21.9	1.9	8.5	3.2	14.8	1.1	1,565
Relative/friends	28.5	9.1	20.3	1.7	5.8	3.0	6.3	0.7	2,173
None	25.2	11.2	18.0	4.0	4.8	4.8	10.7	2.5	97
Total	31.7	12.5	19.8	1.9	7.4	3.2	9.1	1.3	6,150

Note: Total includes 27 women with zero parity, 5, 5 and 6 women with missing information on delivery characteristic, place of delivery and assistance during delivery respectively, who were not shown separately.

Figure: 4.7
Percentage of women with Post Delivery Complication and by Symptoms



Women who reported at least one complication during the postpartum period were asked whether they had consulted or sought treatment for their problems and also the source of treatment. Table 4.16 shows the percentage of women who had post delivery complications and who sought treatment by source of treatment according to residence and availability of health facility in the village. Forty-two percent of women reported that they had obtained advice or had consulted someone for their problems. The proportion was higher among urban women (65 percent) than among rural women (36 percent). Thirty five percent of women sought treatment from those villages where health facility was available as compared to 38 percent of women who did not have a health facility within the village.

Among women who sought treatment for complications in the postpartum period, 44 percent visited a government health facility including primary health centre (eight percent) and sub-centre (four percent). Thirty four percent of women visited a private health facility and five percent went to a facility with the Indian system of medicine (either government or private) and another 16 percent obtained advice from other health facilities. The proportion of women who visited a government health facility is relatively higher in rural areas (49 percent) than in urban areas (32 percent). Among women who sought treatment, 74 percent preferred to go to a doctor, eight percent visited an auxiliary nurse midwife or nurse or LHV, three percent went to other health professionals and 10 percent went to some one else. Eighty-eight percent of these women in urban areas and 68 percent in rural areas went to a doctor, whereas a visit to an ANM/nurse/LHV was 10 percent in rural areas and six percent in urban areas. There are also differences by availability of health facilities and non-availability of health facilities in the village. Seventy percent of women who belonged to villages health facilities were seen by doctor compared to 66 percent of women belonging to villages which has no health facilities.

Table 4.16 TREATMENT FOR POST DELIVERY COMPLICATIONS

Percentage of women who had last live/still births during three years preceding the survey and who had any post delivery complication, sought treatment for the problems, and source of treatment according to residence and availability of health facility in the village, Assam, 2002-04

Treatment and source	Total	Residence		Availability of health facility[5] in the village	
		Rural	Urban	No	Yes
Percentage of women sought treatment who had any post delivery complication	42.1	36.3	65.4	37.5	35.1
Number of women	1,947	1,558	389	805	753
Percentage sought treatment at health facility					
Government health facility[1]	44.1	49.4	32.4	49.3	49.4
Primary health centre	7.8	10.0	2.7	6.7	13.9
Sub centre	3.8	5.4	0.0	4.6	6.4
Private health facility[2]	34.2	25.7	53.1	23.1	28.6
ISM[3] facility	5.4	3.5	9.6	2.9	4.1
Other	16.4	21.6	5.0	24.7	18.0
Percent distribution of women who obtained treatment from					
Doctor	74.0	67.7	88.0	65.5	70.2
ANM/nurse/midwife/LHV	8.4	9.7	5.5	8.6	11.0
Other health professionals[4]	3.1	4.4	0.2	3.9	4.9
Other	10.3	13.5	3.3	16.9	9.6
Missing	4.2	4.8	3.0	5.1	4.4
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	820	566	254	302	264

Note: [1] Include municipal hospital, dispensary, urban health centre/urban health post/urban family welfare centre, community health centre/rural hospital, primary health centre and sub centre. [2]Include private hospital/clinic and non-governmental organization/trust hospital. [3]Either government or private, Indian system of medicine. [4]Other includes *Dai* (trained or untrained), other health professionals and ISM practitioner. [5]Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital and government dispensary within the village.

4.14 Obstetric Morbidity by District

Table 4.17 presents the incidence of pregnancy, delivery and post-delivery complications and treatment seeking behaviour in case of pregnancy and post delivery complications by district. As mentioned earlier, in the state, 31 percent, 35 percent and 32 percent of the women experienced pregnancy, delivery and post delivery complications respectively. About 40 percent of the women sought treatment for pregnancy complications and 42 percent for post delivery complications. A woman experiencing at least one of the symptoms of pregnancy complications was lowest in Goalpara (12 percent) and highest in Hailakandi (53 percent).

Table 4.17 PREGNANCY, DELIVERY AND POST DELIVERY COMPLICATIONS

Extent of pregnancy, delivery and post delivery complications and treatment seeking behaviour by districts, Assam, 2002-04

District	Percentage of women[1]				
	Who had complication during pregnancy	Sought treatment for pregnancy complication[2]	Who had delivery complication	Who had post delivery complication	Sought treatment for post delivery complication[3]
Barpeta	24.3	46.4	19.0	24.8	49.8
Bongaigaon	35.2	41.2	39.3	29.4	36.8
Cachar	36.0	35.9	53.7	47.1	19.9
Darrang	37.5	40.9	50.2	30.5	44.5
Dhemaji	40.7	34.8	52.5	41.3	36.1
Dhubri	29.6	30.0	44.2	33.6	45.3
Dibrugarh	25.4	51.4	33.1	20.5	39.5
Goalpara	12.2	51.2	9.1	13.4	66.3
Golaghat	34.9	26.1	30.4	21.0	20.7
Hailakandi	53.1	36.1	26.4	61.3	22.6
Jorhat	22.0	29.1	17.2	16.0	49.9
Kamrup	32.5	41.1	52.0	38.8	59.7
Karbi Anglong	32.0	39.9	14.0	27.1	40.3
Karimganj	50.3	44.3	69.4	51.5	21.9
Kokrajhar	17.6	52.6	20.3	34.5	48.1
Lakhimpur	49.1	36.4	61.8	61.1	35.6
Marigaon	38.9	51.5	39.0	35.6	44.7
Nagaon	20.9	8.2	7.6	18.8	26.3
Nalbari	38.7	79.0	34.4	27.4	73.6
North Cachar Hills	31.5	11.9	14.3	27.7	6.0
Sibsagar	38.1	44.2	40.6	43.6	50.7
Sonitpur	24.1	47.5	19.4	16.5	56.2
Tinsukia	18.8	26.4	18.8	9.2	(41.8)
Assam	30.6	39.9	34.6	31.7	42.1

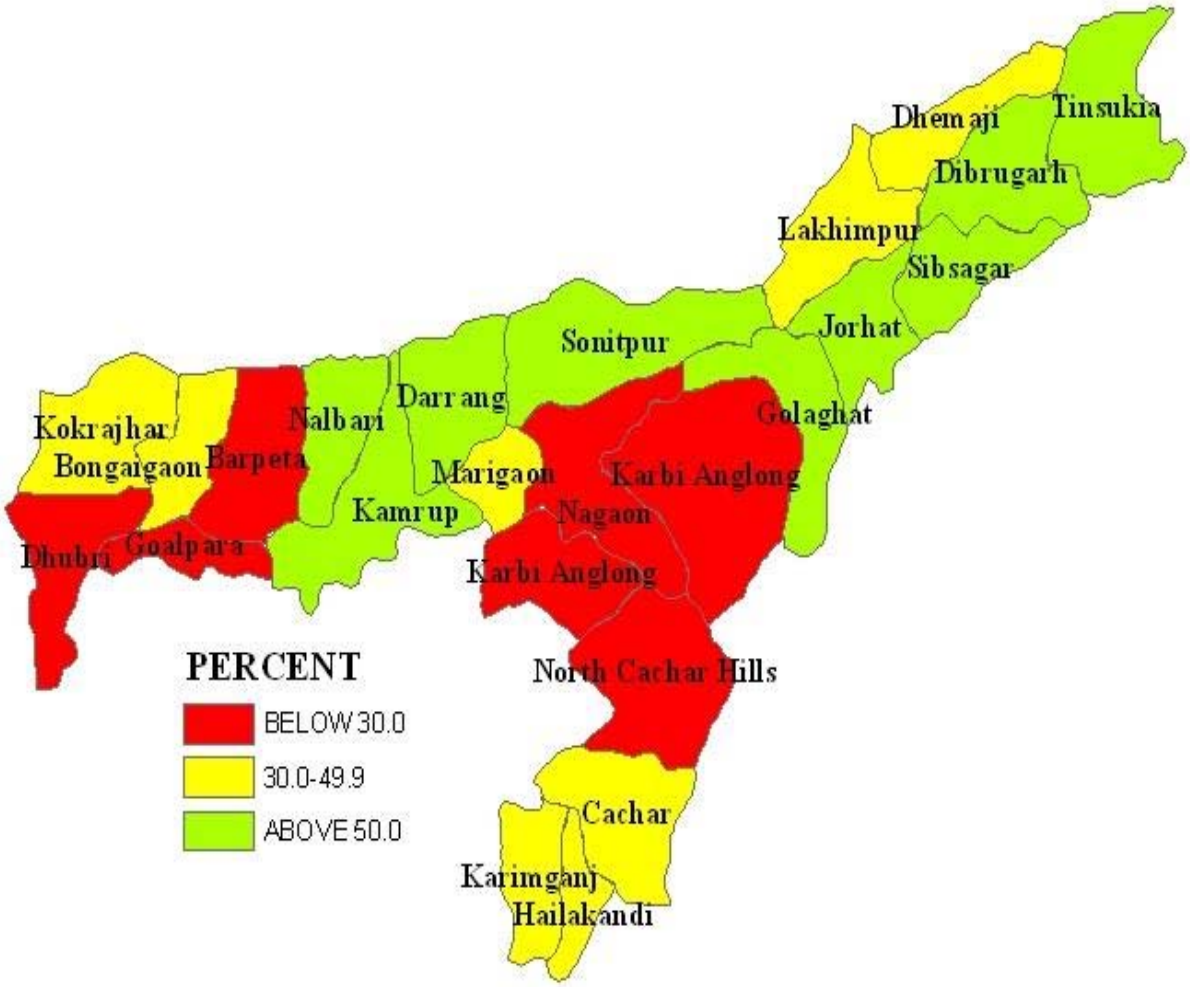
Note: [1] Women who had last live/still birth during three years preceding the survey. [2] Women who reported at least one complication of pregnancy. [3] Women who reported at least one post delivery complication.

In two districts, namely Hailakandi (53 percent) and Karimganj (50 percent), the incidence of pregnancy complications was found to be on a higher side. The percentage of women who experienced at least one type of delivery complication ranges from eight percent in Nagaon to 69 percent in Karimganj and incidence of post delivery complication varies from nine percent in Tinsukia to 61 percent each in Hailakandi and Lakhimpur. The incidence of all three types of complications seems to be linked with each other in varying proportions.

The proportion of women who sought treatment for pregnancy complication varies from lowest of eight percent in Nagaon to 79 percent in Nalbari. Similarly, the proportion of women who sought treatment for post delivery complications ranges from six percent in North Cachar Hills to 74 percent in Nalbari district.

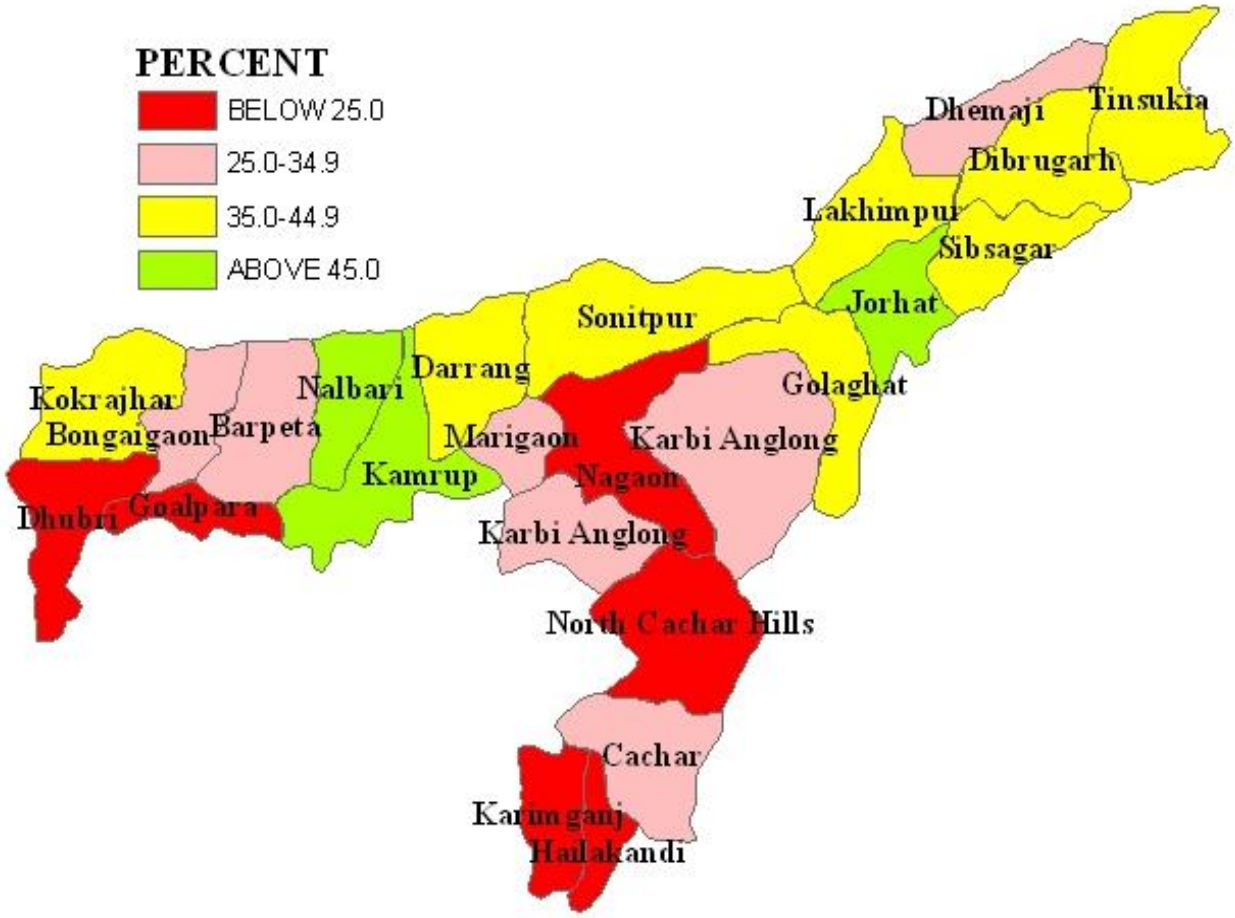
Map-3

Percentage of Women Received Three or more Antenatal Check-Ups



Map-4

Percentage of Delivery Attended by Skilled Person



CHAPTER V

CHILD CARE AND IMMUNIZATION

Child health services under the Reproductive and Child Health (RCH) programme include health education to mothers on breast-feeding and services for immunization, Vitamin A supplements and Iron prophylaxis, treatment of diarrhoea and Acute Respiratory Infections (ARIs). The District Level Household Survey (DLHS) covered all the currently married women whose last surviving child was born during the three years preceding the survey, and information were collected on breastfeeding practices and its duration. They were also asked about their awareness of diarrhoea management and danger signs of pneumonia and practices followed in case of episodes of diarrhoea and ARI among the children. Data on immunization, administering Vitamin A supplements and Iron prophylaxis was collected for the last two living children born after January 1, 1999/2001. This chapter presents an analysis of the data collected on the above aspects.

5.1 Breastfeeding

Educating mothers on correct breastfeeding practices and child nutrition is one of the components of the RCH programme. Infant feeding practices have significant effects on the health of both mothers and children. Breastfeeding practices affect fertility and the length of birth intervals in general and postpartum fertility in particular. These effects vary according to the duration and intensity of breastfeeding. Proper infant feeding, starting from the time of birth, is important for the physical and mental development of the child. Breastfeeding improves the nutritional status of young children and reduces morbidity and mortality. Breast milk not only provides important nutrients, but also protects the child against infection. The timing and type of supplementary foods introduced in an infant's diet have significant effects on the child's nutritional status.

As recommended by the World Health Organization (WHO), breastfeeding should be initiated immediately after birth and should be continued upto a minimum of six months. The WHO also suggests that the yellowish milk, known as colostrums, should be given to the baby because it provides protection against certain infections. Afterwards, it has to be supplemented with other semi-solid and solid foods at proper time intervals.

Table 5.1 shows the breastfeeding practices among children born during the three years preceding the survey in Assam. Although the practice of breastfeeding is common in Assam, the initiation of breastfeeding within two hours of the birth of the child is not always followed. Half of the children were breastfed within two hours of birth and 83 percent were breastfed within one day of birth (including those who were breastfed within two hours of birth), while 17 percent of children were breastfed after one day of birth. As shown in Figure 5.1, about 51 percent of the children were breastfed within two hours of birth, 31 percent had been fed after two hours of birth but same day, 11 percent were breastfed after the first day of birth but before 3 days and six percent children were put to the breast after three days. One percent of the children were never breastfed. Fifty seven percent of the women who gave birth to children during the three years preceding the survey squeezed the first milk from the breast before they began breastfeeding.

Sixty one percent of children from Scheduled Tribes were breastfed within two hours of birth. The practice of starting breast-feeding within two hours of birth is lowest among "other" caste. Women who reside in urban areas, have had high school education and above and women who live in households with a medium and high standard of living were reported breastfeeding their children early. Higher proportion of children from rural areas (17 percent), Muslim community (26 percent), other castes (20 percent), non-literate mothers (20 percent) and households with a low standard of living started breast-feeding after one day of birth.

Table 5.1 INITIATION OF BREASTFEEDING

Percentage of children under age 3 whose mother started breastfeeding within two hours of birth, within one day of birth, and after one day of birth and percentage whose mother squeezed the first milk from her breast before breastfeeding by selected background characteristics, Assam, 2002-04

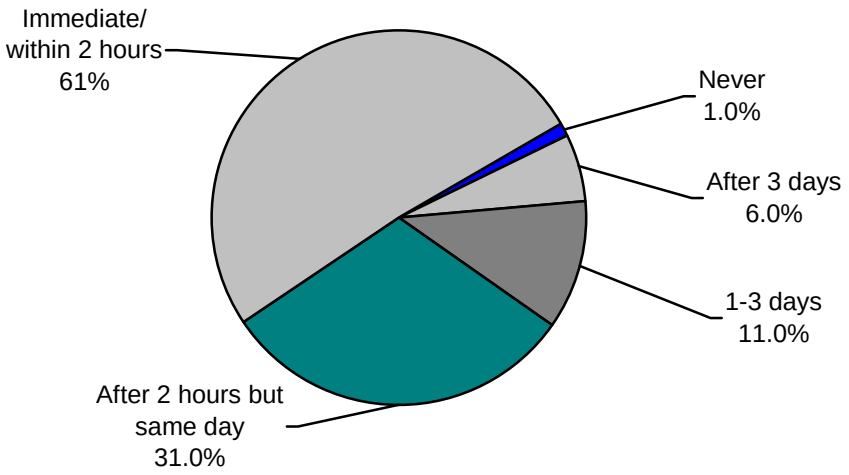
Background characteristic	Percentage started breastfeeding			Percentage whose mother squeezed first milk from breast	Number of children
	Within two hours of birth	Within one day of birth[1]	After one day of birth		
Residence					
Rural	49.8	81.9	17.3	57.8	4,313
Urban	55.9	85.4	14.1	53.4	1,112
Mother's education					
Non-literate	47.4	79.5	19.9	58.6	2,107
0-9@ years	51.4	83.5	15.9	58.4	2,416
10 and above	58.3	87.6	11.3	49.0	899
Religion					
Hindu	55.5	86.9	12.3	56.6	3,471
Muslim	42.2	73.8	25.8	57.7	1,761
Christian	53.8	85.8	13.7	53.8	173
Caste/tribe#					
Scheduled caste	49.5	85.8	13.2	57.9	651
Scheduled tribe	60.6	89.2	10.5	60.6	716
Other backward class	56.5	86.3	13.2	51.9	1,118
Other	46.8	79.0	20.3	57.4	2,723
Standard of living index					
Low	48.0	80.5	18.8	59.4	3,528
Medium	56.9	86.9	12.3	52.4	1,166
High	56.2	86.3	13.3	51.9	731
Total	51.0	82.6	16.7	56.9	5,425

Note: Table based on youngest living child born during the three years preceding the survey. Table includes 3 children with missing information on mother's education who were not shown separately. [1] Includes children whose mother started breastfeeding within two hours of births. @ Literate mother with no years of schooling are included. #Total figure may not add to N due to do not know and missing cases.

The custom of squeezing the first milk from the breast before breastfeeding is widely practised in every group, but it is slightly higher among the mothers of Scheduled Tribe children. Children who live in households with a high and medium standard of living are less likely than that of low standard of living to have mothers who squeezed the first milk from the breast before breastfeeding. In rural areas (58 percent) the custom of squeezing the first milk from the breast before breastfeeding is more prevalent than that in urban areas (53 percent). Mothers of children born in the three years preceding the survey were also asked whether the child had been fed

breast milk exclusively and if so, what the duration was. Here it needs to be mentioned that exclusive breastfeeding includes breastfeeding the child without giving it anything including water. Results are shown in Table 5.2.

Figure: 5.1 Initiation of Breastfeeding



Assam, DLHS-RCH,2002-04

Table 5.2 EXCLUSIVE BREASTFEEDING BY CHILD'S AGE

Percentage of children under age 3 years by exclusive breastfeeding and child's age in month, Assam, 2002-04

Age in months	Status of exclusive breastfeeding			Number of children
	Exclusive breastfeeding	At least 4 months	At least 6 months	
<2	75.1	*	*	238
2-3	71.0	*	*	296
4-5	42.1	57.0	*	353
6 -7	31.4	57.1	36.9	331
8-9	11.7	49.9	21.1	300
10-11	11.3	56.2	25.6	265
12-13	6.8	56.7	18.7	404
14-15	8.0	59.9	29.6	396
16-17	7.0	50.7	18.0	345
18-19	5.1	54.8	19.3	297
20-21	5.7	48.4	18.9	245
22-23	4.4	48.2	15.7	195
24-25	4.5	53.0	17.4	343
26-27	4.0	59.2	24.1	375
28-29	3.5	55.4	19.4	384
30-31	0.8	46.8	17.4	272
32-33	0.7	47.8	17.0	222
34-35	2.1	53.0	21.5	163
< 4 months	72.8	*	*	534
4-6 months	40.7	57.6	*	513
7-9 Months	16.7	51.8	25.4	471

Note: Table based on youngest living child born during the three years preceding the survey

In Assam 73 percent of children under four months of age are exclusively breastfed. The percentage of infants exclusively breastfed drops steadily from 75 percent for children under 2 months of age to 31 percent for children who are 6-7 months old. About 57 percent of children in the age group 4-5 months were exclusively breastfed up to 4 months and 37 percent of children in the age group 6-7 months are exclusively breastfed upto 6 months.

5.1.1 Breastfeeding by Districts

Table 5.3 shows that in all the districts of Assam, seven districts namely Nagaon, Golaghat, Bongaigaon, Dhubri, Kokrajhar, Hailakandi and Karimganj, less than half of the children started breastfeeding within two hours of birth. Children breastfed within two hours of birth is highest in Goalpara (77 percent) and lowest in Karimganj (14 percent). Out of 23 districts in 16 districts, more than half of the mothers squeezed out the first milk before breastfeeding.

Table 5.3 BREASTFEEDING BY DISTRICT

Percentage of children under age 3 whose mother started breastfeeding within two hours of birth, within one day of birth and after one day of birth, percentage whose mother squeezed the first milk from her breast before breastfeeding and percentage of children who were exclusively breastfed by district, Assam, 2002-04

District	Percentage started breastfeeding			Percentage whose mother squeezed first milk from breast	Exclusive breastfeeding[2]
	Within two hours of birth	Within one day of birth[1]	After one day of birth		
Barpeta	61.4	91.1	8.1	53.5	24.7
Bongaigaon	36.7	71.7	28.5	54.9	44.0
Cachar	55.7	68.7	29.9	63.3	67.4
Darrang	53.3	74.4	24.7	77.5	8.5
Dhemaji	57.0	91.9	6.6	53.5	36.6
Dhubri	30.2	43.3	56.3	61.4	9.7
Dibrugarh	50.9	90.3	9.2	53.3	26.6
Goalpara	76.6	91.5	7.3	59.9	12.8
Golaghat	41.5	95.8	4.2	49.9	37.7
Hailakandi	18.7	70.8	29.2	31.0	6.2
Jorhat	72.9	96.7	3.3	67.4	16.4
Kamrup	56.6	88.3	9.8	61.6	8.2
Karbi Anglong	72.2	82.0	17.8	42.6	25.4
Karimganj	13.9	78.2	21.5	85.9	14.2
Kokrajhar	26.3	66.8	30.8	66.7	9.4
Lakhimpur	69.3	92.8	6.9	65.1	14.0
Marigaon	59.2	84.9	14.4	48.3	14.2
Nagaon	44.8	95.5	3.6	31.9	26.6
Nalbari	60.9	91.4	8.0	57.3	20.6
North Cachar Hills	64.4	71.4	28.2	75.8	97.8
Sibsagar	62.3	93.1	5.9	66.0	16.3
Sonitpur	58.8	88.9	11.1	46.8	11.1
Tinsukia	50.8	94.5	5.5	42.4	39.6
Assam	51.0	82.6	16.7	56.9	21.7

Note: Table based on youngest living child born during the three years preceding the survey
[1] Includes children whose mother started breastfeeding within two hours of births. [2] Based on youngest children age 6 moths and older at the time of survey and breastfed exclusively 6 months or more as mother reported.

There is a great deal of variation in the extent of exclusive breastfeeding for six months. It is highest in North Cachar Hills (98 percent) and lowest in Hailakandi (six percent). Besides Hailakandi, exclusive breastfeeding for six months is less than 10 percent in the districts of Darrang and Kokrajhar (nine percent each) and Kamrup (eight percent)

5.2 Immunization of Children

The immunization of children against six serious but preventable diseases namely tuberculosis, diphtheria, pertusis, poliomyelitis and measles is the main component of the child survival programme. As part of the National Health Policy, the National Immunization Programme is being implemented on a priority basis. The Government of India initiated the Expanded Programme on Immunization (EPI) in 1978 with the objective of reducing morbidity, mortality and disabilities among children from six diseases.

The Universal Immunization Programme (UIP) was introduced in 1985-86 with the objective of covering at least 85 percent of all infants against the six vaccine preventable diseases by 1990. This scheme has been introduced in every district of the country. The standard immunization schedule developed for the child immunization programme specifies the age at which each vaccine should be administrated and the number of doses to be given. Routine vaccinations received by infants and children are usually recorded on a vaccination card that is issued for the child.

In the first phase of Round II, all the women with last and last but one living child born after January 1, 1999 were asked whether the child/children had received the vaccination against polio, tuberculosis (BCG), diphtheria, whooping cough (pertusis), tetanus (DPT) and measles, and for the second phase, the reference period was from January 1, 2001. For Polio and DPT, further information on polio at birth and number of doses was asked. Children who received BCG, three doses of DPT and polio (excluding polio 0) and measles are considered to be fully vaccinated. Information on the source of immunization for last dose and in case where immunization was not given, the reason for not giving immunization was also compiled.

Table 5.4, Figures 5.2 and 5.3 presents vaccination coverage rates for children in the age group 12-23 months. Only 17 percent of the children are fully vaccinated, and around 23 percent have not received any routine vaccination. Coverage of each vaccination is much higher than the percentage fully vaccinated. BCG, the first and second dose of DPT and first dose of Polio vaccine has been given each to more than half of children (Figure 5.2). About 39 percent of the children have received three doses of DPT, 29 percent of the children received 3 drops of Polio and 36 percent of the children have been vaccinated against measles. Moreover, not all children who begin the DPT and polio vaccination series go on to complete them. The differences between the percentage of children receiving the first and third doses is 25 percent point for DPT and 30 percent points for polio.

Table 5.4 VACCINATION OF CHILDREN

Percentage of children age 12-23 months who received vaccination according to some selected background characteristics, Assam, 2002-04

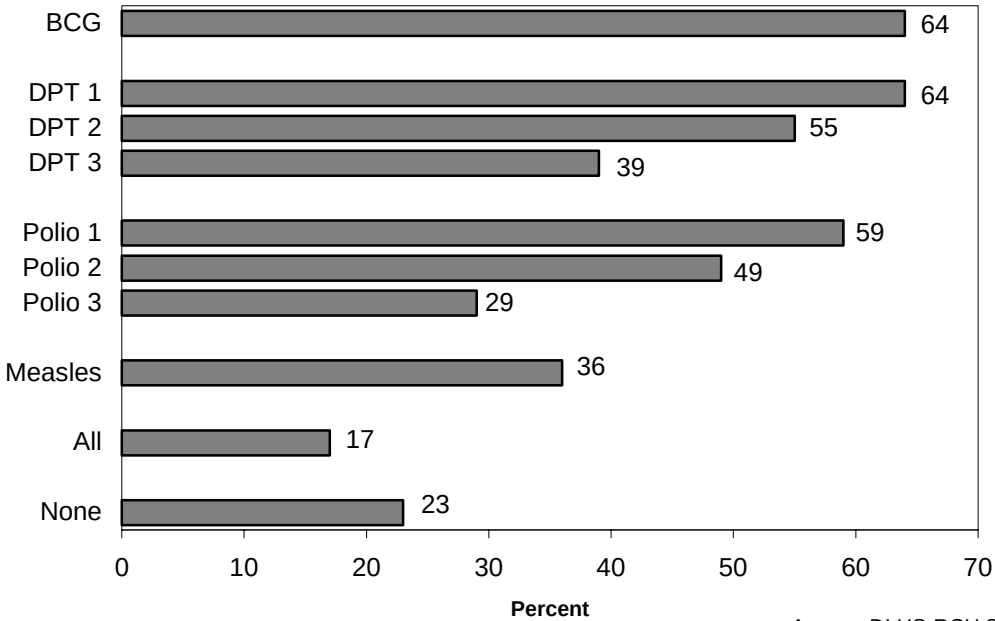
Background characteristic	Polio 0	BCG	DPT 1	DPT 2	DPT 3	Polio 1	Polio 2	Polio 3	Measles	Full [1] vaccination	No vaccination	Number of children
Residence												
Rural	30.7	57.9	57.6	47.8	33.1	54.9	44.1	25.6	30.8	14.4	27.3	1,495
Urban	66.4	83.9	86.2	78.3	57.9	76.1	65.1	40.6	53.4	26.7	7.4	432
Sex of the child												
Male	39.8	65.6	66.0	56.8	40.0	63.3	52.4	30.0	38.2	17.8	20.2	1,029
Female	37.5	61.7	61.7	52.1	37.2	54.4	44.7	27.8	33.2	16.4	25.9	897
Birth order												
1	52.2	74.7	74.9	65.3	51.1	65.4	57.0	37.7	45.8	24.4	15.2	688
2	43.6	69.8	69.8	61.9	41.3	62.8	52.0	29.5	42.7	17.0	16.5	510
3	30.0	57.5	60.2	52.5	36.2	56.4	47.9	25.7	28.4	14.7	27.0	323
4+	16.7	42.7	41.1	29.1	16.2	46.0	31.7	16.0	16.3	7.0	40.5	404
Mother's education												
Non-literate	21.0	44.0	43.7	32.6	20.5	43.3	32.3	17.2	18.6	6.6	38.3	756
0-9@ years	42.3	71.9	73.0	63.3	44.2	67.5	58.6	34.3	42.6	21.1	15.3	883
10 years and above	75.1	91.8	90.9	86.8	70.2	74.8	63.2	44.1	61.3	33.3	5.4	284
Religion												
Hindu	48.2	74.7	74.6	67.4	49.6	66.5	58.0	36.2	45.7	23.2	14.5	1,245
Muslim	20.9	41.8	43.0	29.5	17.6	45.6	31.4	15.0	16.7	5.5	39.7	620
Christian	22.5	63.9	60.5	46.7	28.1	43.5	37.8	23.0	27.3	11.6	23.7	57
Caste/tribe#												
Scheduled caste	49.8	73.3	70.2	64.4	49.2	71.7	64.1	43.0	47.9	27.5	14.9	225
Scheduled tribe	26.5	60.9	56.5	47.2	35.7	56.7	47.9	26.6	35.0	17.8	24.5	260
Other backward class	45.8	76.9	76.6	69.6	51.1	63.2	56.0	37.2	43.1	22.7	14.0	381
Other	38.1	59.6	59.6	48.5	34.7	54.6	42.1	24.8	31.7	13.9	27.2	972
Standard of living index												
Low	24.0	49.6	51.6	41.0	25.2	50.8	40.1	20.4	25.4	10.3	31.9	1,255
Medium	54.7	86.4	82.1	75.4	62.4	74.5	67.4	46.4	47.6	28.6	8.6	424
High	86.1	96.8	96.0	88.0	66.4	74.8	61.4	42.4	69.0	32.4	1.4	248
Total	38.7	63.8	64.0	54.6	38.7	59.1	48.8	29.0	35.9	17.2	22.9	1,926

Note: Table includes only last and last but one living child born since 1.1.1999/1.1.2001. Total includes 3 children with missing information on mother's education and 14 children with other religion were not shown separately. @ Literate mothers with no years of schooling are included. # Total figure may not add to N due to do not and missing cases.

[1] BCG, three injection of DPT, three doses of Polio (excluding Polio 0) and measles

The data indicates that the coverage of each type of vaccine is much higher in urban areas than in rural areas. Only 14 percent of the children in rural areas and 27 percent in urban areas had received all the recommended vaccinations by the time of the survey. Sixty six percent of the children have received polio (0) vaccine at the time of birth in urban areas whereas 31 percent received it at the same time in the rural areas.

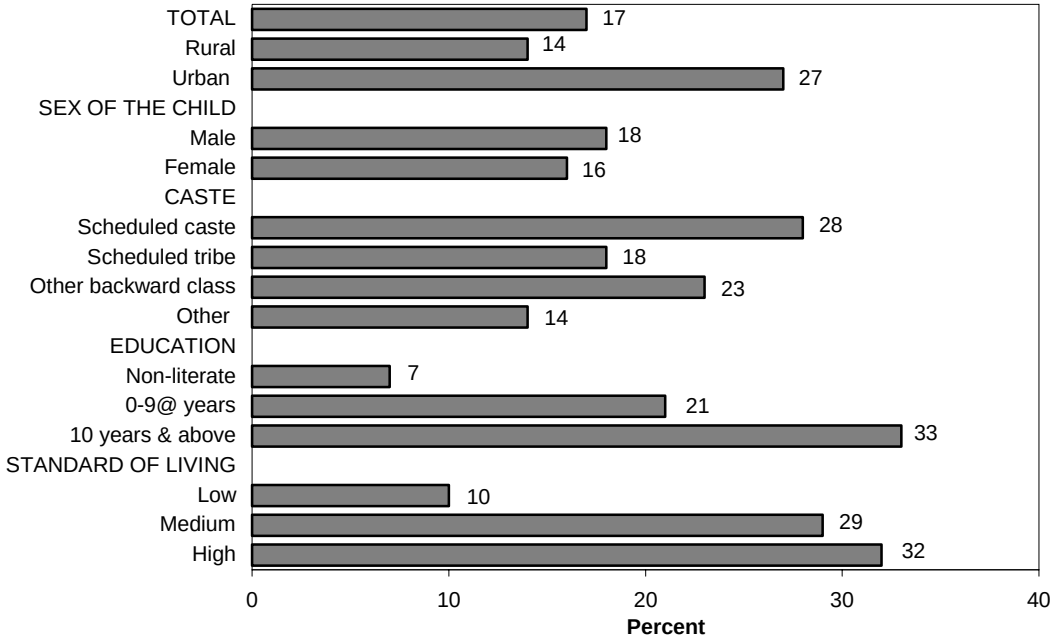
Figure: 5.2
Percentage of Children Age 12-23 months who have Received Specific Vaccination



Assam, DLHS-RCH,2002-04

Male children (18 percent) are more likely than female children (16 percent) to be fully vaccinated. Similarly, male children are also more likely than female children to have received each of the individual vaccinations. The vaccination coverage decreases with increasing birth orders. A large majority of first-order births occur to younger women who are more likely than older women to utilize child health care services. As with the use of child health care services, there is a positive relationship between mother's education and children's vaccination coverage. Only seven percent children of non-literate mothers are fully vaccinated compared to 21 percent of children with mothers' education below high school and 33 percent of mothers who have at least completed high school. Hindu children are much more likely than Christian and Muslim children to have received each of the recommended vaccinations. Coverage of each vaccination including full vaccinations is relatively higher in case of Scheduled Caste and other backward class compared to Scheduled Tribe and other caste. The standard of living index of the household has a positive relationship with vaccination coverage. Thirty two percent of children from households with a high standard of living are fully vaccinated, whereas only 10 percent of children are from households with a high standard of living.

Figure: 5.3
Percentage of Children Age 12-23 months who have Received All Vaccination



@ Literate mothers with no years of schooling are also included

Assam, DLHS-RCH,2002-04

Table 5.5 shows the percentage of children in the age group 12-23 months and 24-35 months with a vaccination card, and the percentage who received various vaccinations during the first year of life by current age of children and place of residence. The interviewers were shown this vaccination card by the interviewing mothers.

The proportion of children fully vaccinated by age 12 months increased from 17 percent for children in the age group 12-23 months to 21 percent for children in the age group 24-35 months. A rural-urban differential for the coverage of full vaccination is also observed. Fourteen percent of children in the age group 12-23 months are fully vaccinated against 17 percent of children in the age group 24-35 months in rural areas, and this gap is wider in urban areas (Figure 5.4). Twenty seven percent of children in the age group 12-23 months have received all vaccinations in urban areas compared to 41 percent with children in the age group 24-35 months. Younger children aged 12-23 months are more likely to receive each type of vaccine except Polio-3, DPT-3 and measles.

Table 5.5 CHILDHOOD VACCINATION RECEIVED BY 12 MONTHS OF AGE

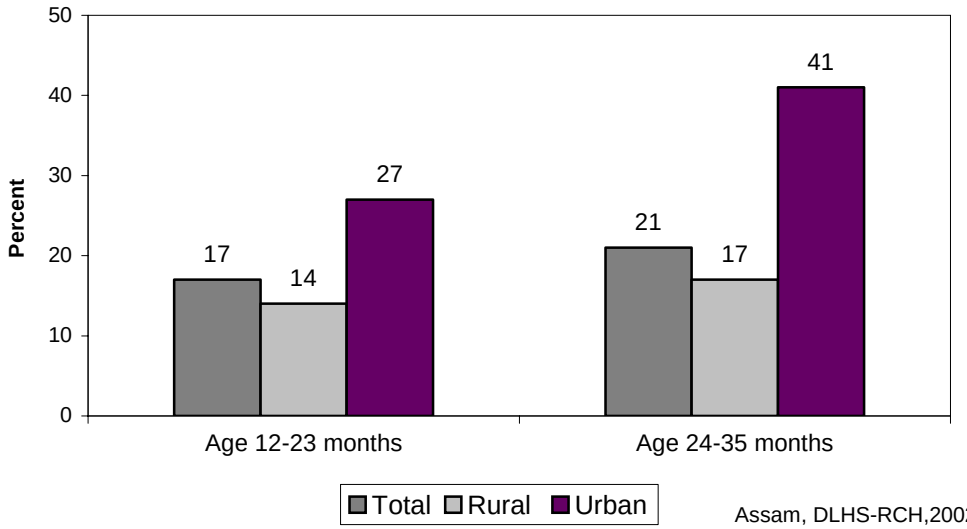
Percentage of children age 12-23 months and 24-35 months with a vaccination card that shown to the interviewer and percentage who received specific vaccinations by 12 months of age according to residence, Assam, 2002-04

Vaccination status	Total		Rural		Urban	
	12-23 months	24-35 months	12-23 months	24-35 months	12-23 months	24-35 months
Vaccination card shown to interviewer	38.4	35.7	33.4	31.3	55.5	55.8
Percentage vaccinated by 12 months of age						
Polio 0	38.7	36.3	30.7	29.4	66.4	67.8
BCG	63.8	61.7	57.9	57.4	83.9	81.8
Polio doses						
No Polio	32.7	37.6	38.0	40.5	13.0	23.9
1	10.9	8.6	10.5	9.4	12.1	4.7
2	21.0	16.1	19.3	16.4	27.1	14.5
3	30.6	33.6	26.6	29.1	45.1	54.3
Don't remember/missing	5.0	4.2	5.5	4.5	2.7	2.6
DPT injection						
No DPT	33.4	35.4	39.8	39.1	11.2	18.6
1	9.4	8.3	9.8	8.6	7.9	7.1
2	15.9	12.7	14.7	13.2	20.4	10.8
3	38.7	40.3	33.1	35.3	57.9	62.9
Don't remember/missing	2.6	3.2	2.6	3.8	2.6	0.6
Measles	35.9	42.1	30.8	37.5	53.4	63.2
Full [1] vaccination	17.2	21.3	14.4	17.1	26.7	40.8
No vaccination at all	22.9	24.4	27.3	26.8	7.4	13.0
Number of children	1,926	2,029	1,495	1,666	432	363

Note: Table includes only last and last but one living child born since 1.1.1999/1.1.2001

[1] BCG, three injection of DPT, three doses of Polio (excluding Polio 0) and measles

Figure: 5.4
Child Vaccination by Age



Assam, DLHS-RCH,2002-04

5.3 Source of Immunization

Table 5.6 gives the percent distribution of children under three years of age who have received any vaccination by the source of last vaccine, according to place of residence and availability of health facilities in the village. The sub-centre is the primary provider of childhood vaccinations in Assam. Most of the children (72 percent) were immunized at the government health facilities and only seven percent at private health facilities. Further, among the children immunized in government health facilities, 27 percent of them had received vaccination from the sub-centre, 30 percent from municipal hospital and 15 percent from community health centre or from primary health centre. The percentage of children receiving vaccination from the private sector is considerably lower in rural areas (four percent) than in urban areas (16 percent). Even in urban areas, 59 percent of children received their vaccination from the government health facility. Children from those villages where health facilities are available are slightly more likely to receive vaccination from the government health facility.

Table 5.6 SOURCE OF CHILDHOOD VACCINATION

Percent distribution of children under age 3 who have received any vaccination by source of last vaccination, according to place of residence and availability of health facilities in the village, Assam, 2002-04

Source of vaccination	Total	Residence		Availability of health facility[1] in the village	
		Rural	Urban	No	Yes
Government health sector					
Government/municipal hospital	30.1	24.2	48.4	27.7	21.0
Community/primary health centre	15.1	17.2	8.6	16.8	17.6
Sub-centre	26.5	34.5	1.5	29.8	38.6
RCH/MCP camp	1.2	1.6	0.1	1.4	1.7
Private health sector					
Private hospital	6.7	3.7	16.2	4.7	2.7
Private doctor	4.2	1.4	13.0	1.2	1.5
ISM[2] health facility	1.6	0.6	4.7	0.9	0.4
Other	13.1	15.1	7.0	16.1	14.2
Do not remember	0.3	0.4	0.1	0.1	0.7
Missing	1.2	1.4	0.4	1.1	1.6
Total percent	100.0	100.0	100.0	100.0	100.0
Number of children	4,077	3,089	988	1,448	1,641

Note: Table includes last and last but one living children born in the three years preceding the survey.[1] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village. [2] Either government or private health facility of Indian System of Medicine

5.4 Reason for Not Immunizing the Children

Table 5.7 presents the percent distribution of children under the age of three years who did not receive any vaccination by reason as reported by the mother according to place of residence and availability of health facilities in the village. About 46 percent of the children did not receive any vaccination because the mothers of children were unaware of the need for immunization and 14 percent of children were not vaccinated, as the mothers feel that they were too young. The other reasons for not immunizing the children as reported by the mothers were family problems (nine percent), fear of side effect (eight percent), inconvenient place and time (six percent), no faith (five percent), place/time of vaccination unknown (five percent) and ANM absent/vaccine not available (three percent) and other reasons (five percent). Children from villages where health facilities are available are less likely to report that they were unaware of the need for immunization as compared to those villages where health facilities are not available.

Table 5.7 REASON FOR NOT GIVING VACCINATION

Percent distribution of children under age 3 who did not receive any vaccination by reason reported by mother for not giving vaccination, according to place of residence and availability of health facilities in the village, Assam, 2002-04

Reason	Total	Residence		Availability of health facility[1] in the village	
		Rural	Urban	No	Yes
Unaware of need for immunization	45.8	45.7	46.8	47.5	43.3
Place/time unknown	4.5	4.5	4.9	4.6	4.4
Place/time inconvenient	6.2	6.7	1.4	7.7	5.5
Fear of side effect	8.1	8.6	3.0	9.0	8.1
No faith	4.5	4.6	3.2	3.4	6.3
ANM absent/vaccine not	2.7	2.8	1.8	3.2	2.4
Long waiting time	0.2	0.2	0.1	0.3	0.2
Child too young	13.8	13.1	20.7	13.3	12.9
Family problems	9.2	8.9	12.5	8.2	9.7
Other	4.9	4.8	5.7	2.9	7.2
Total percent	100.0	100.0	100.0	100.0	100.0
Number of children	1,669	1,513	155	852	661

Note: Table includes last and last but one living children born in the three years preceding the survey.[1] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village. [2] Includes mother too busy, family problems, including illness of mother, and illness of child

5.5 Vitamin A and IFA Supplements

Vitamin A deficiency is one of the most common nutritional deficiency disorders in the world, affecting more than 250 million children worldwide (Bolem et. al., 1997). The child survival programme also includes administration of five doses of Vitamin A for prevention of night blindness and distribution of IFA for iron supplement. In Round II, mothers of children born during the three years before the survey were asked whether their children had received a dose of Vitamin A and IFA tablets/syrup. Those who said that their children had received a dose of Vitamin A and IFA tablets/syrup were further asked how many doses were given. Table 5.8 shows the percentage of children in the age group 12-35 months who received at least one dose of Vitamin A and IFA tablets/syrup by selected background characteristics. In the state of Assam as a whole, 18 percent of the children received at least one dose of Vitamin A and only six percent received IFA tablets/syrup. This indicates that a large number of children in Assam did not receive Vitamin A supplements and very few children received IFA tablets/syrup supplementation.

Table 5.8 VITAMIN A AND IFA SUPPLEMENTATION FOR CHILDREN

Percentage of children age 12-35 months who have received at least one dose of Vitamin A and iron folic acid tablets/syrup, according to selected background characteristics, Assam, 2002-04

Background characteristic	Percentage who received at least one dose of vitamin A	Percentage who received iron folic acid tablets/syrup	Number of children
Age of the child			
12-23 months	16.1	4.3	1,926
24-35 months	20.3	7.0	2,029
Sex of the child			
Male	19.9	6.4	2,105
Female	16.5	4.9	1,851
Birth order			
1	24.1	9.0	1,343
2	21.3	6.6	1,068
3	14.5	4.5	638
4+	8.9	0.7	905
Residence			
Rural			
Urban	15.3	4.3	3,161
	30.3	11.2	795
Mother's education			
Non-literate	8.1	1.2	1,567
0-9 years@	19.6	6.3	1,750
10 years and above	40.1	15.3	634
Religion			
Hindu	23.8	8.0	2,498
Muslim	8.4	1.7	1,312
Christian	11.5	3.0	130
Caste/tribe #			
Scheduled caste	24.9	6.0	458
Scheduled tribe	13.3	6.7	510
Other backward class	20.4	8.5	804
Other	18.2	4.7	2,018
Standard of living index			
Low	11.3	2.6	2,584
Medium	25.1	9.1	850
High	42.0	15.8	522
Availability of health facility in the village[1]			
Yes	15.2	3.9	1,594
No	15.4	4.8	1,567
Total	18.3	5.7	3,956

Note: Table includes last and last but one living children born in the three years preceding the survey. Total includes 4 children with missing information with mother education were not shown separately. @ Literate mother with no years of schooling are also included here. # Total figure may not add to N due to do not know and missing cases. [1] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village.

Children in the age group 24-35 months are more likely to receive at least one dose of Vitamin A and IFA tablets/syrup each than children in the age group 12-23 months. Male children are more likely to receive Vitamin A and IFA tablets/syrup than female children. Children living in urban areas, children whose mothers completed high school and above and

children living in households with a high standard of living are more likely to receive a dose of Vitamin A and IFA tablets/syrup. Children of birth order 4 or above are much less likely than children of birth order 1, 2 or 3 to receive any dose of vitamin A and IFA tablets/syrup. Similarly, children from Scheduled Tribes received less dose of atleast one Vitamin A and a dose of IFA tablets/syrup than other caste category.

Table 5.9 CHILDHOOD VACCINATION BY DISTRICT

Percentage of children who received specific vaccinations and Vitamin A supplementation by district , Assam, 2002-04

	Percentage vaccinated[1]							Percentage received at least one dose of Vitamin A[3]
District	Polio 0	BCG	DPT3	Polio3	Measles	Full[2]	None	
Barpeta	33.1	54.0	36.1	22.1	30.2	16.0	35.3	6.0
Bongaigaon	50.2	57.3	36.3	18.2	31.0	5.2	22.5	28.0
Cachar	21.5	48.5	9.8	7.3	13.3	3.3	47.1	8.3
Darrang	39.3	72.9	43.5	26.0	42.5	10.8	18.0	38.2
Dhemaji	48.4	61.4	24.5	25.9	31.3	13.1	29.3	15.1
Dhubri	25.9	41.0	23.0	25.5	23.3	10.3	30.2	9.0
Dibrugarh	39.4	89.3	48.7	36.1	41.5	19.1	10.0	19.5
Goalpara	21.7	65.9	45.6	32.3	41.5	25.5	27.6	10.3
Golaghat	48.2	75.2	59.4	43.1	58.4	29.9	12.1	29.7
Hailakandi	13.5	46.1	18.5	30.8	19.5	7.5	16.9	13.0
Jorhat	52.7	86.8	57.7	41.6	76.0	28.3	3.3	36.2
Kamrup	66.6	90.0	66.6	59.1	53.9	41.9	4.9	29.8
Karbi Anglong	20.7	50.7	24.2	13.5	14.2	7.9	41.5	3.5
Karimganj	56.7	48.3	8.5	7.4	12.1	3.9	36.3	21.8
Kokrajhar	31.8	59.0	17.6	12.5	12.4	5.9	36.4	1.0
Lakhimpur	38.7	56.5	46.9	46.8	38.9	29.5	22.6	20.6
Marigaon	21.8	70.6	49.8	39.5	38.2	24.0	21.0	15.7
Nagaon	27.5	42.4	36.8	13.6	32.0	11.5	31.1	8.0
Nalbari	65.3	76.7	59.7	32.2	55.8	19.1	10.5	27.3
North Cachar Hills	12.9	43.4	8.2	19.2	18.2	0.9	17.5	3.0
Sibsagar	54.2	72.8	43.8	39.6	46.9	23.0	12.1	32.1
Sonitpur	35.5	77.6	51.6	43.7	44.0	29.4	17.3	11.5
Tinsukia	56.9	79.0	56.6	18.4	50.6	6.9	12.0	44.7
Assam	38.7	63.8	38.7	29.0	35.9	17.2	22.9	18.3

Note: Table includes only last and last but one living child born since 1.1.1999/1.1.2001

[1] Children age 12-23 months, [2] BCG, three injection of DPT, three doses of Polio (excluding Polio 0) and measles.

[3] Children age 12-35 months.

5.6 Immunization Coverage by District

The coverage of vaccination rates for all vaccines for children in the age group 12-23 months in each district is presented in Table 5.9. There are inter-district differentials in the coverage for different vaccinations, and for children receiving all vaccinations and those that did not receive any vaccination at all. The percentage of children who are fully vaccinated ranges from the lowest of just one percent in North Cachar Hills to 42 percent in Kamrup. The coverage of full immunization is poor in all the districts of Assam (see Map-5). The percentage of children

who were not vaccinated at all is highest in Cachar (47 percent) and lowest in Jorhat (three percent). In nearly all the districts, comparatively less children have received the polio 3 vaccine than any of the other vaccinations. The coverage of polio drops at the time of birth varies from the lowest in North Cachar Hills (13 percent) to the highest in Kamrup (67 percent).

District wise variations in the percentage of children who received at least one dose of Vitamin A are also shown in Table 5.9. The percentage of children in the age group 12-35 months who received at least one dose of Vitamin 'A' supplements ranges from just one percent in Kokrajhar to 45 percent in Tinsukia.

5.7 Child Morbidity and Treatment

This section discusses the awareness, prevalence and treatment of diarrhoea and acute respiratory infection (ARI). Mothers of surviving children born during the three years preceding the survey were asked if their children suffered from cough and cold or diarrhoea during the two weeks preceding the survey, and if so, the type of treatment that had been given. Accuracy of all these measures is affected by the reliability of the mother's recall of when the diseases occurred.

5.7.1 Awareness of Diarrhoea

Diarrhoea is a major killer disease of children under five years of age. Deaths from acute diarrhoea are mostly due to dehydration resulting from loss of water and electrolytes. An attempt was made to collect data on awareness of diarrhoea management and the practice followed during the episode of diarrhoea. This has been presented in Table 5.10.

In Assam, 32 percent of the mothers with births during the three years preceding the survey were aware of what to do when a child had diarrhoea and 17 percent were aware of oral rehydration solution (ORS). Twenty three percent of the women were aware of salt and sugar solution. Some of the women also reported that they would continue giving normal food (six percent), breastfeeding (eight percent) and plenty of fluids (four percent) to manage diarrhoea. About 66 percent of women did not know what to give a child who had diarrhoea. As expected, knowledge of ORS is higher among urban women (33 percent) than rural women (12 percent) and among high school and above educated women (49 percent) as compared to non-literate women (five percent). Women belonging to Scheduled Tribes (10 percent) are less likely to know about ORS than women belonging to any other caste group. Forty-eight percent of women with children having a high standard of living know about ORS, which decline to 22 percent for women with a medium standard of living and eight percent with a low standard of living. Knowledge of ORS is more among middle age groups than among older women and among younger women. Women from villages with health facilities are more aware of diarrhoea management (30 percent) than women from other villages where no health facility is available (26 percent).

Table 5.10 AWARENESS OF DIARRHOEA

Percentage of women who are aware of diarrhoea management, type of practice followed if child gets diarrhoea, and percentage of women whose child suffered[1] from diarrhoea by selected background characteristics, Assam, 2002-04

Background characteristic	Knowledge of diarrhoea manage-ment	Type of practices to be followed if child gets diarrhoea*					Do not know	Number of women
		Give ORS	Salt and sugar solution	Continue normal food	Continue breastfe-ding	Give plenty of fluids		
Age								
15-24	24.9	11.7	15.7	4.9	5.9	2.1	72.6	1,933
25-34	35.4	19.8	26.5	6.8	8.7	5.3	62.7	3,355
35-44	32.3	14.8	22.2	5.7	6.5	2.0	65.8	770
Residence								
Rural	27.9	12.2	18.9	5.7	7.3	2.6	69.8	4,778
Urban	45.8	32.7	35.7	7.3	8.5	8.4	52.9	1,280
Mother's education								
Non-literate	19.7	5.3	11.1	4.1	5.2	0.8	77.8	2,326
0-9@ years	28.7	13.5	20.4	5.0	5.9	2.4	69.0	2,679
10 and above	65.6	49.3	53.1	13.2	17.0	14.4	33.6	1,048
Religion								
Hindu	35.7	20.6	26.0	7.6	8.4	5.1	63.6	3,932
Muslim	24.4	8.7	16.2	2.9	5.7	1.5	70.5	1,911
Christian	21.4	11.5	12.1	6.2	9.0	1.3	78.6	193
Caste/tribe#								
Scheduled caste	28.4	16.8	21.0	6.1	7.3	3.1	70.9	733
Scheduled tribe	25.6	10.1	15.8	6.8	8.8	3.3	73.5	808
Other backward class	33.1	19.6	23.9	8.1	9.6	5.8	65.8	1,258
Other	33.9	17.4	24.2	5.4	7.0	3.6	62.9	3,025
Standard of living index								
Low	22.4	7.9	14.2	4.3	5.4	1.5	74.6	3,893
Medium	38.7	22.0	27.5	7.6	9.6	4.2	61.0	1,323
High	63.3	48.1	52.9	11.9	14.5	14.3	36.1	843
Availability of health facility [2] in the village								
Yes	29.8	13.5	20.5	7.3	8.4	2.7	67.2	2,418
No	25.9	11.0	17.3	4.1	6.2	2.6	72.5	2,360
Total	31.7	16.6	22.5	6.1	7.6	3.9	66.3	6,058

Note: Table based on women with living children born since 01.01.1999 for phase - I /01.01.2001 for phase - II. [1] Last two weeks prior to survey. Total include 23 cases of other religion were not shown separately
Total includes 6 women with missing information on education who are not shown separately.
@ Literate mother with no years of schooling are included. # Total figure may not add to N due to do not know and missing cases.
[2] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village.

5.7.2 Treatment of Diarrhoea

During the two weeks before the survey, four percent of the women reported that their children suffered from diarrhoea (Table 5.11). Women whose children had diarrhoea, were further asked about treatment with ORS, any other medical treatment and source of treatment. About 45 percent of these women mentioned that they gave ORS therapy, 68 percent of them reported that their child had been treated for diarrhoea. Use of ORS for the treatment of childhood diarrhoea in Assam is much higher among urban women (70 percent) than among rural women (39 percent).

Surprisingly it was observed that a relatively less proportion of women from those villages where health facilities are available within the village used ORS for the treatment of childhood diarrhoea compared to those villages where health facilities are not available. However, these variations are to be treated carefully due to small sample in this case.

Among those mothers whose children suffered from diarrhoea during last two weeks before the survey and those women who consulted or obtained advice, about 21 percent of women visited private hospitals/clinics and 18 percent of women treated their children through the Indian System of Medicine. Again these percentage needs to be interpreted cautiously due to small sample in the case.

Table 5.11 TREATMENT OF DIARRHOEA

Percentage of women who sought treatment whose child suffered from diarrhoea and by source of treatment, according to place of residence and availability of health facility in the village, Assam, 2002-04

Sought treatment/ source of treatment	Total	Residence		Availability of health fcaility[2] in the village	
		Rural	Urban	Yes	No
Percentage of women whose child suffered[1] from diarrhoea	4.2	4.5	2.9	4.5	4.4
Number of women	6,058	4,778	1,280	2,418	2,360
Percentage of women whose child suffered[1] from diarrhoea treated with ORS	45.1	38.8	(69.8)	31.8	46.1
Percentage of women whose child suffered[1] from diarrhoea sought treatment	67.6	65.1	(76.2)	66.2	64.0
Number of women	252	215	37	109	105
Source of treatment					
Government health facility					
Hospital/dispensary	29.7	29.4	(35.4)	30.0	28.8
CHC/ Rural hospital	0.8	0.6	(2.1)	0.7	0.5
Primary health centre	6.9	8.2	(2.1)	4.5	12.2
Sub centre	7.1	8.6	(0.0)	9.6	7.6
Private health facility					
NGO/Trust hospital/clinic	0.5	0.6	(0.0)	0.0	1.3
Private hospital clinic	20.9	18.4	(37.5)	14.6	22.5
ISM[3] facility	18.1	15.2	(35.4)	12.2	18.6
Home remedy	14.1	16.9	(2.1)	18.5	15.1
Other	16.7	15.1	(12.5)	19.6	10.2
Percent distribution of women who seek treatment by					
Doctor	66.9	61.3	(93.8)	55.2	68.0
ANM/Nurse/LHV	11.0	11.7	(6.3)	10.2	13.3
Dai (trained or untrained)	1.2	1.5	(0.0)	2.1	0.9
Relative/friends	13.5	16.4	(0.0)	20.6	11.9
Chemist/medical shop	6.5	7.9	(0.0)	9.8	6.0
Missing	0.9	1.1	(0.0)	2.1	0.0
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	170	140	30	72	67

Note: Table based on women with living children born since 01.01.1999 for phase - I /01.01.2001 for phase - II.
[1] Last two weeks prior to survey. [2] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village. [3] Either government or private health facility of Indian System of Medicine. ( ) Based on less than 50 unweighted cases.

5.7.3 Awareness of Pneumonia

Another major killer disease among infants and children is Acute Respiratory Infections (ARI) including pneumonia. Early diagnosis and treatment with antibiotics can prevent a large proportion of ARI/pneumonia deaths. An attempt was made to understand the awareness level of pneumonia, and the proportion of children who had suffered from pneumonia during the last two weeks before the survey and their health seeking behaviour. This is presented in Table 5.12. It was found that a low proportion (22 percent) of women with births three years preceding the survey in Assam were aware of danger signs of pneumonia. A high proportion of women in urban areas (31 percent) were aware of the danger signs of pneumonia as compared to women living in rural areas (19 percent). Knowledge of danger signs of pneumonia is higher among women aged 25-34 years (24 percent), women from Hindu religion (25 percent), other backward classes (26 percent), educated women with 10 and above (43 percent), women living in high standard of living household (46 percent) and women living in those villages in which health facilities are present (22 percent).

Women who were aware of the danger signs of pneumonia were further asked about different signs of pneumonia. Most of the women mentioned 'difficulty in breathing' (83 percent) and 'pain in chest and productive cough' (54 percent). The other signs mentioned are wheezing/whistling (42 percent), conditions in which child is not able to drink or feed (31 percent) and rapid breathing (17 percent).

5.7.4 Treatment of Pneumonia

About 11 percent of women reported that their child had suffered from pneumonia during two weeks before the survey, the corresponding figure is 12 percent in rural areas and nine percent in urban areas (Table 5.13). The incidence of pneumonia varies a little with availability of health facilities in the villages.

Table 5.13 also shows that the percentage of women whose children suffered from ARI symptoms in the last two weeks before the survey who sought advice/treatment and taken to a health facility or provider. Sixty-two percent of women received some advice or treatment whose children were ill with ARI. This percentage is relatively low in rural areas (59 percent) than in urban areas (77 percent) and village without health facilities (51 percent) than village with health facility (65 percent).

Among those who got advice for children who fell ill with ARI, 29 percent of women visited private hospital/clinic and 21 percent went to government hospital/dispensary, whereas four percent of them obtained treatment through Indian System of Medicine. Most of these women consulted doctors either for treatment or advise in this case. Many of them also consulted other health personnel but in no case does the percentage exceed 10.

Table 5.12 AWARENESS OF PNEUMONIA

Percentage of women who are aware of danger signs of pneumonia by signs by selected background characteristics and availability of health facility in the village, Assam, 2002-04

Background characteristic	Percentage of women aware of danger signs of pneumonia	Number of women	Danger signs of ARI								Number of women
			Difficulty in breathing	Chest in-drawing	Not able to drink or take a feeding	Excessive drowsy and difficulty in keeping awake	Pain in chest and productive cough	Conditions get worse than before	Wheezing/ whistling	Rapid breathing	
Age											
15- 24	17.6	1,933	81.7	28.4	26.9	15.5	56.2	12.5	42.8	18.9	341
25-34	24.3	3,355	83.7	29.5	34.2	17.1	53.3	14.6	42.9	15.9	816
35-44	20.8	770	80.2	30.2	24.7	11.4	49.1	13.2	36.6	19.3	160
Residence											
Rural	19.4	4,778	80.8	28.9	29.4	15.1	52.3	14.0	44.5	17.6	925
Urban	30.6	1,280	87.6	30.2	35.2	18.1	56.4	13.4	36.5	16.0	392
Mother's education											
Non-literate	12.7	2,326	75.2	33.8	21.3	10.0	44.3	12.9	49.7	19.1	296
0-9@ years	21.1	2,679	82.3	24.8	28.7	13.0	52.9	10.8	37.5	14.2	565
10 and above	43.3	1,048	88.2	31.5	40.8	23.7	59.9	18.3	43.2	18.8	454
Religion											
Hindu	24.8	3,932	83.4	27.4	32.0	17.0	57.1	15.3	39.9	17.2	973
Muslim	16.3	1,911	81.1	36.3	28.4	13.1	41.6	8.0	48.6	16.2	312
Christian	14.2	193	(77.1)	(77.1)	(25.7)	(8.6)	(62.9)	(17.1)	(40.0)	(31.4)	27
Caste/tribe#											
Scheduled caste	22.6	733	83.4	38.9	26.9	10.4	52.6	11.4	38.9	20.2	166
Scheduled tribe	16.2	808	72.5	21.2	37.5	18.9	65.6	29.0	48.7	26.5	131
Other backward class	26.0	1,258	86.2	26.3	34.2	20.3	54.9	19.5	43.7	17.4	327
Other	21.7	3,025	82.6	31.0	29.7	15.2	49.1	9.4	42.5	15.1	657
Standard of living index											
Low	16.0	3,893	77.8	30.9	25.9	12.4	51.4	10.9	41.2	16.6	622
Medium	23.1	1,323	85.6	22.9	31.9	16.0	53.3	15.9	43.0	17.4	305
High	46.3	843	88.6	31.8	39.0	21.6	57.0	17.1	42.9	17.7	390
Availability of health facility [2] in the village											
Yes	22.2	2,418	80.6	27.3	31.2	14.4	50.5	15.4	51.0	19.2	535
No	16.5	2,360	81.0	31.1	27.1	16.1	54.7	12.2	35.7	15.2	390
Total	21.7	6,058	82.8	29.3	31.2	16.0	53.5	13.9	42.1	17.1	1,317

Note: Table based on women with living children born since 01.01.1999 for phase - I /01.01.2001 for phase - II. [1] Last two weeks prior to survey.
@ Literate mother with no years of schooling are included. # Total figure may not add to N due to do not know and missing cases.
[2] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village.
Total includes 6 women with missing information on education who are not shown separately. Total include 23 cases of other religion groups were not shown separately.
() Based on less than 50 unweighted cases.

Table 5.13 TREATMENT OF PNEUMONIA

Percentage of women who sought treatment whose child suffered[1] from cough and cold and source of treatment, according to place of residence and availability of health facility in the village, Assam, 2002-04

Sought treatment/ source of treatment	Total	Residence		Availability of health fcaility[2] in the village	
		Rural	Urban	Yes	No
Percentage of women whose child suffered from cough, cold and difficulty in breathing	11.4	12.2	8.5	13.8	10.6
Number of women	6,058	4,778	1,280	2,418	2,360
Percentage of women sought treatment whose child suffered from cough and cold	61.8	59.0	77.0	64.7	51.4
Number of women	690	582	108	333	249
Source of treatment					
Government health facility					
Hospital/dispensary	21.1	21.4	19.8	18.8	25.8
UHC/UHP/UFWC	0.2	0.2	0.0	0.3	0.0
CHC/ Rural hospital	1.5	1.6	1.3	1.1	2.3
Primary health centre	8.7	10.4	1.4	11.0	9.6
Sub centre	5.5	6.8	0.4	7.0	6.4
Private health facility					
NGO/Trust hospital/clinic	0.1	0.0	0.6	0.0	0.0
Private hospital clinic	28.9	25.7	42.2	24.5	27.7
ISM[3] facility	3.5	1.2	13.0	1.3	1.0
Home remedy	11.2	11.8	8.6	12.6	10.4
Other	21.1	23.1	12.7	24.6	20.6
Percent distribution of women who seek treatment by					
Doctor	69.2	65.7	83.8	61.4	73.0
ANM/Nurse/LHV	6.0	7.5	0.0	9.4	4.4
Dai (trained or untrained)	0.1	0.1	0.0	0.0	0.3
Relative/friends	7.5	7.6	6.8	9.7	4.1
Chemist/medical shop	7.0	8.3	1.7	9.0	7.1
ISM practitioner	1.1	1.0	1.8	0.3	1.9
Other	9.0	9.8	5.8	10.0	9.3
Missing	0.1	0.1	0.0	0.2	0.0
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	427	343	83	216	128

Note: Table based on women with living children born since 01.01.1999 for phase - I /01.01.2001 for phase - II.
[1] Last two weeks prior to survey. [2] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village.
[3] Either government or private health facility of Indian System of Medicine

5.7.5 Awareness of Diarrhoea, ORS and Pneumonia and Incidence of Diarrhoea and Pneumonia by District

Table 5.14 presents the knowledge of diarrhoea management, knowledge of ORS, and incidence of diarrhoea by district. The knowledge of diarrhoea management is higher than the knowledge of use of ORS in all districts. Knowledge of diarrhoea management is highest in Hailakandi (83 percent) and lowest in North Cachar Hills (14 percent). Awareness of ORS is also highest in Hailakandi (37 percent) and lowest in Goalpara and Nagaon (seven percent each). Table 5.14 also shows differentials in the awareness of danger signs of pneumonia and incidence of pneumonia. In comparison to awareness about diarrhoea management, the awareness of danger signs of pneumonia is low (22 percent). It is the lowest in North Cachar Hills (six percent) and highest in Sibsagar districts (54 percent). Incidence of pneumonia is very low at 11 percent in Assam as a whole, while Marigaon has shown the highest incidence (28 percent) and the lowest in Tinsukia (less than one percentage).

Table 5.14 KNOWLEDGE OF DIARRHOEA MANAGEMENT AND PNEUMONIA BY DISTRICT

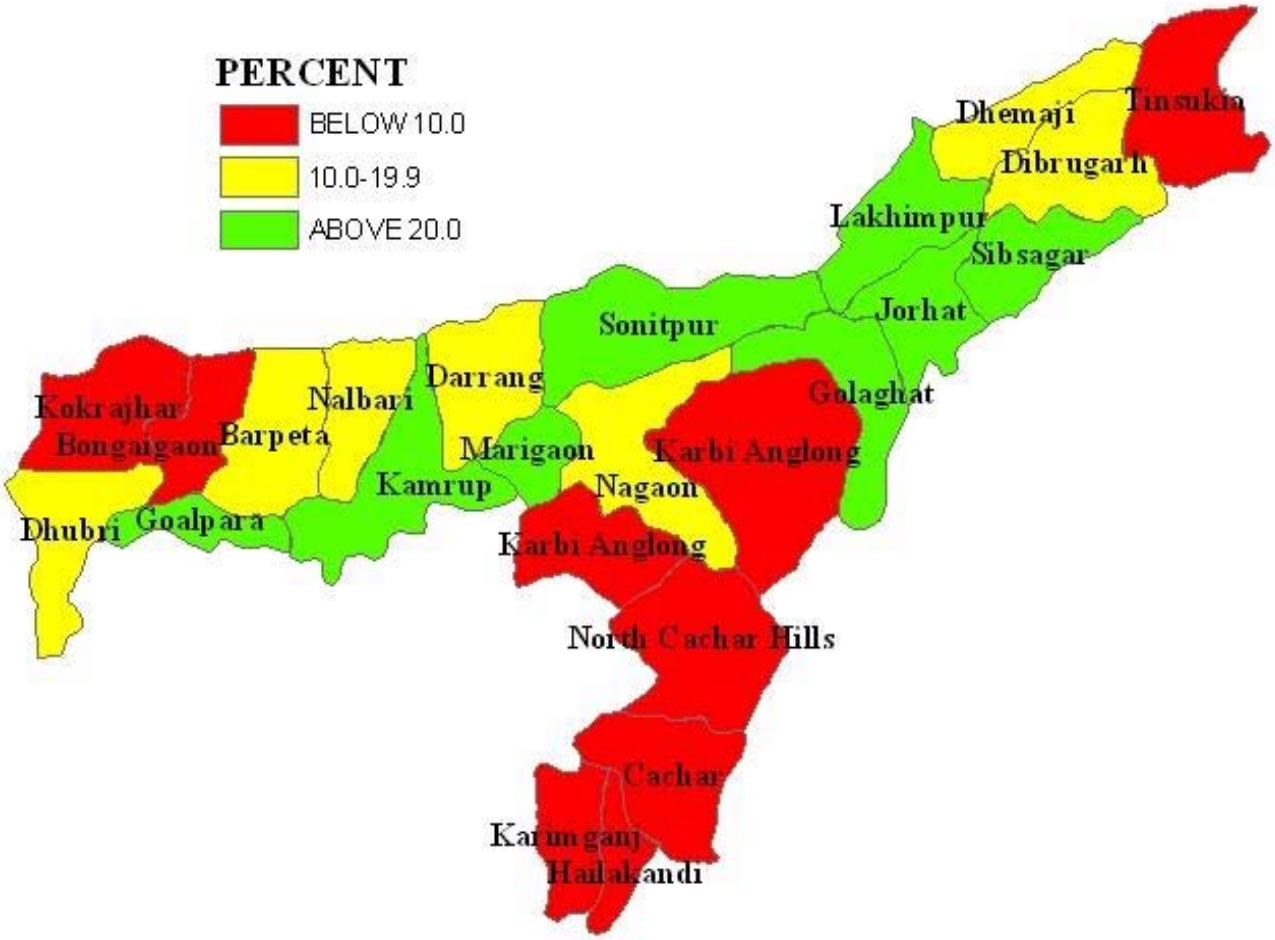
Percentage of women by awareness of diarrhoea management, ORS, danger signs of pneumonia and whose child had suffered from diarrhoea and pneumonia during last two weeks prior to survey by district, Assam, 2002-04

District	Percentage of women aware of		Percentage of women whose child suffered[1] from diarrhoea	Percentage of women aware of danger signs of pneumonia	Percentage of women whose child suffered[1] from pneumonia
	Diarrhoea Management	ORS			
Barpeta	15.9	7.7	(3.5)	16.1	14.1
Bongaigaon	37.8	14.6	(3.5)	26.6	4.6
Cachar	55.4	25.9	(3.1)	6.8	2.5
Darrang	45.9	22.5	(5.9)	36.6	22.0
Dhemaji	27.1	9.2	8.8	17.4	26.2
Dhubri	27.7	14.3	(4.8)	32.7	15.6
Dibrugarh	24.4	18.2	(4.7)	22.0	25.7
Goalpara	16.4	6.6	(1.8)	6.6	5.5
Golaghat	31.4	14.1	(3.0)	29.7	1.9
Hailakandi	83.1	37.3	(7.9)	21.5	2.8
Jorhat	36.3	16.0	(5.1)	39.8	5.7
Kamrup	23.9	15.2	(1.4)	15.2	6.8
Karbi Anglong	14.9	9.1	(8.3)	11.0	24.3
Karimganj	31.0	15.7	10.2	9.4	1.7
Kokrajhar	21.5	12.7	(5.4)	17.2	9.2
Lakhimpur	67.6	36.4	(7.6)	42.7	18.8
Marigaon	36.5	21.4	(5.8)	22.2	28.2
Nagaon	15.3	6.9	(0.4)	12.5	1.2
Nalbari	36.1	20.8	(4.5)	25.3	17.3
North Cachar Hills	13.5	9.6	(1.6)	6.3	1.0
Sibsagar	60.4	34.3	(6.7)	53.9	5.0
Sonitpur	22.0	13.3	(3.2)	16.4	20.9
Tinsukia	40.3	24.7	(0.0)	20.2	0.4
Assam	31.7	16.6	4.2	21.7	11.4

Note: Table based on women with last and last but one living children born since 01.01.1999 /01.01.2001. [1] Last two weeks prior to survey.

Map-5

Percentage of Children (Age 12-23 months), Who Have Received Full Vaccination



CHAPTER VI

FAMILY PLANNING

The Reproductive and Child Health Programme has been implemented with a new philosophy and direction to meet the health care needs of women and children. It envisages the provision of couples to control their fertility and have sexual relations free from the fear of pregnancy. Provision of free contraceptive services to all the needy couples is one of the components of the RCH programme. In DLHS-RCH, a separate section on family planning was canvassed to all the eligible women to assess the knowledge and practice of various family planning methods. The information on source of currently adopted contraceptive method, source of supply of the method and health problems related to contraceptive use were collected from current users. The current non-users were asked about the past status of contraceptive use, reason for not using contraceptives currently and future intention to adopt a family planning method.

An attempt was made to understand why male methods of family planning especially that of vasectomy was not in common use. The husbands of sampled eligible women were asked about the contraceptive method they would recommend to a couple who was not desirous of any additional children. They were also asked about the reasons for not preferring male methods and their knowledge about the no-scalpel vasectomy. This chapter presents the results of data on contraceptive practices collected from both the sampled women and their husbands.

6.1 Knowledge of Family Planning Methods

Lack of knowledge of various contraceptive choices can be a major barrier to promotion and use of contraceptives among couples. In DLHS-RCH information on knowledge of contraceptives was obtained by asking a question, “Which are the family planning methods you know?” to each sampled eligible women. Question regarding knowledge of no-scalpel vasectomy was also asked to the husbands of eligible women. If the respondent did not recognise the name of the family planning method, he was given a brief description on how the particular method was to be used. The DLHS-RCH assesses the knowledge of female sterilisation, male sterilisation including NSV, IUD, Pills, condom and traditional methods along similar lines.

The extent of knowledge of contraceptive methods among currently married women for specific methods and selected background characteristics are shown in Table 6.1 and Figure 6.1. Knowledge of any method including any modern contraceptive method is almost universal in the state of Assam. The knowledge of any method and any modern method do not vary much by residence. The knowledge of modern spacing method among currently married women is around 92 percent, and higher among women with urban residence. There are large differentials in knowledge of all modern methods with respect to the aforesaid background characteristics. For instance, 20 percent of women from rural areas are aware about all modern methods compared to 36 percent of their urban counterparts.

Table 6.1 KNOWLEDGE OF CONTRACEPTIVE METHODS

Percentage of currently married women age 15-44 years who know any contraceptive method by specific method and selected background characteristics, Assam, 2002-04

Contraceptive methods	Total	Residence		Availability of health facility in the village[3]	
		Rural	Urban	No	Yes
Any method	96.7	95.9	98.8	95.1	96.7
Any modern method	95.4	94.3	98.4	93.1	95.5
Any modern spacing method[1]	91.5	89.6	96.7	87.5	91.5
All modern methods[2]	24.2	19.8	36.0	19.5	20.0
Female sterilization	90.4	88.4	96.0	87.6	89.0
Tubectomy	14.3	11.9	20.8	11.1	12.7
Laparoscopy	7.9	5.6	14.0	6.4	4.9
Male sterilization	53.9	50.8	62.3	50.8	50.8
Vasectomy	7.2	5.2	12.6	5.3	5.0
No-scalpel vasectomy	4.8	3.5	8.4	4.2	2.9
IUD/Loop	48.0	43.4	60.6	42.5	44.2
Pills	90.3	88.1	96.2	86.2	89.9
Daily	68.3	64.8	78.0	62.3	67.1
Weekly	48.0	42.9	61.8	41.2	44.4
Condom/Nirodh	45.8	39.3	63.6	38.6	39.9
Sponge (today)	5.6	4.0	10.0	4.1	3.9
Injectables	8.4	7.1	12.1	6.5	7.6
Norplant	1.3	0.9	2.4	0.9	0.9
Contraceptive herbs	11.1	9.6	14.9	7.6	11.5
Any traditional method	66.6	63.8	74.1	61.5	65.9
Any other Indian system of medicinal contraceptives	7.2	6.1	10.2	5.6	6.5
Number of women	17,775	12,983	4,793	6,246	6,737

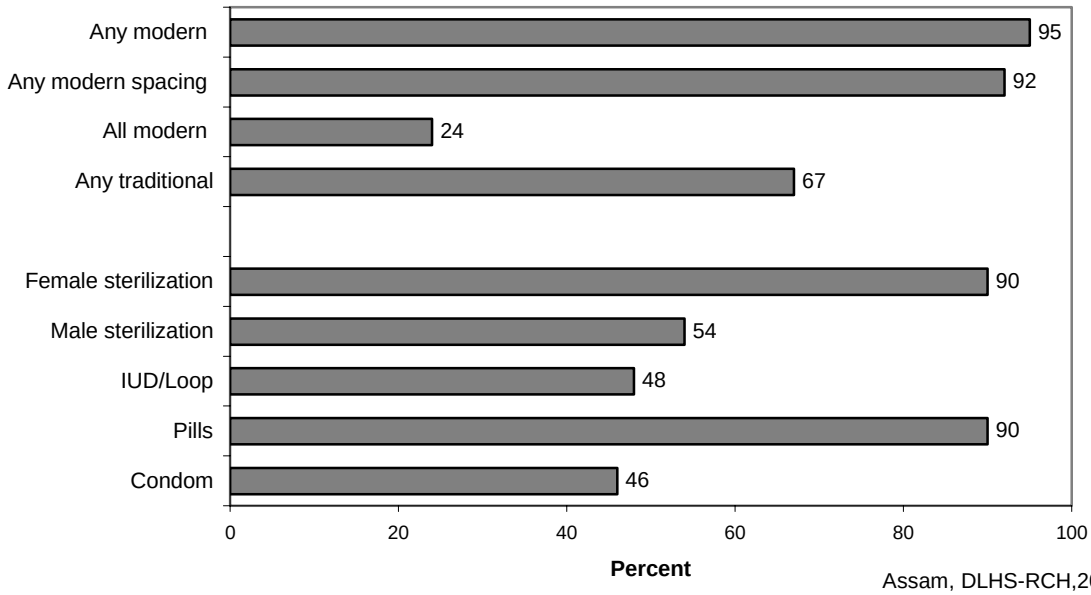
Note: [1] Include IUD, Pills and condom. [2] Include Female sterilization, Male sterilization, IUD, Pills and condom
[3] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

Female sterilisation is the most widely known method of all contraceptive methods in Assam followed by Pills. Overall, 90 percent of currently married women are aware of female sterilization and 54 percent knew about male sterilization. The knowledge of both male and female sterilisation is higher in urban areas compared to rural areas. There are differentials in spacing methods such as IUD/Loop, Pill and condom users with respect to the background characteristics. The best-known spacing methods are Pills (90 percent), followed by condom/Nirodh (46 percent). Forty-eight percent of women know about IUD/Loop. Awareness of women about all the spacing methods are higher in urban areas as compared to rural areas. The modern spacing methods like Pill and IUD are known by 88 and 43 percent of rural women respectively while the corresponding figures in urban areas are 96 and 61 percent. The knowledge of these spacing methods remains low as compared to knowledge of sterilization.

In Assam, 67 percent of the women are aware of a traditional method and seven percent are aware of other contraceptives of the Indian System of Medicine. It is also observed that

women from villages with a health facility are more aware about modern spacing methods (92 percent) as compared to those villages which has no health facilities (88 percent).

Figure: 6.1
Knowledge of Family Planning Methods



Assam, DLHS-RCH,2002-04

Table 6.2 KNOWLEDGE OF CONTRACEPTIVE METHODS BY DISTRICTS

Percentage of currently married women age 15-44 years who know any contraceptive method by specific method and district, Assam, 2002-04

Districts	Any method	Any modern[1] method	Any modern spacing[2] method	All modern[3] methods	Male steriliz-ation	Female steriliz-ation	IUD	Pill	Condom /Nirodh	Any traditio-nal method
Barpeta	95.0	93.1	90.1	28.6	42.4	83.9	39.8	89.8	47.2	70.9
Bongaigaon	95.4	94.8	91.6	24.6	57.6	89.1	39.6	90.8	36.5	56.6
Cachar	84.7	78.0	74.2	17.0	57.6	71.6	54.7	72.2	27.5	34.9
Darrang	99.0	99.0	97.2	36.0	65.5	97.8	53.7	96.7	51.9	71.0
Dhemaji	99.0	95.2	82.8	14.7	54.7	92.8	33.5	81.2	25.7	80.6
Dhubri	96.4	96.3	93.9	15.7	31.9	83.1	44.3	93.4	48.3	59.9
Dibrugarh	99.6	99.4	93.0	11.4	61.3	97.1	32.4	91.5	29.3	88.3
Goalpara	97.8	96.6	94.4	24.7	48.5	92.4	51.9	93.3	46.3	79.3
Golaghat	99.2	99.1	96.4	25.5	57.9	97.8	49.7	94.8	42.4	63.4
Hailakandi	100.0	98.1	93.4	14.6	69.0	93.0	27.1	92.3	23.6	99.5
Jorhat	97.8	97.7	94.6	19.6	77.7	97.7	34.8	94.0	66.9	76.6
Kamrup	99.8	99.5	97.0	36.2	56.3	98.1	66.9	96.6	70.7	65.7
Karbi Anglong	96.5	92.9	88.9	6.6	28.0	75.9	36.8	87.7	25.9	52.7
Karimganj	99.3	95.0	93.8	47.6	66.6	90.0	81.8	92.6	62.5	94.5
Kokrajhar	84.5	81.5	79.9	7.4	16.5	62.9	35.6	79.0	23.9	45.1
Lakhimpur	97.3	95.3	90.4	17.4	70.5	92.7	45.2	88.0	43.1	55.7
Marigaon	92.8	89.9	77.5	18.8	48.1	83.6	36.5	76.0	30.8	65.4
Nagaon	99.6	99.6	97.1	24.3	52.8	95.3	60.9	94.4	48.6	68.8
Nalbari	99.1	98.6	92.7	26.0	48.7	95.9	49.6	90.4	48.9	71.3
North Cachar Hills	49.5	46.8	44.3	17.0	20.1	34.3	25.4	44.0	21.7	3.4
Sibsagar	98.9	98.6	95.3	28.5	73.7	93.9	44.8	94.5	66.6	57.6
Sonitpur	98.8	98.4	94.3	28.1	61.9	97.5	45.4	94.0	40.2	80.4
Tinsukia	99.9	99.9	93.3	34.6	77.4	99.5	45.3	89.8	36.5	50.8
Assam	96.7	95.4	91.5	24.2	53.9	90.4	48.0	90.3	45.8	66.6

Note: [1] Includes Female sterilization, Male sterilization, IUD, Pills and Condom. [2] Includes IUD, Pills and Condom. [3] Includes Female sterilization & Male sterilization & IUD & Pills and Condom.

6.1.1 Knowledge of Family Planning Methods by District

Table 6.2 shows the knowledge of contraceptive methods by districts in Assam. In almost all districts except Cachar, Kokrajhar and North Cachar Hills, more than 92 percent of women know about any method of contraception. A large differential is noticed in the knowledge of all modern methods by districts. The awareness ranges from seven percent among women in Karbi Anglong and Kokrajhar to 48 percent in Karimganj district. There is not much variation in the knowledge of female sterilization, which is however found to be lowest in Cachar (72 percent) and the highest in Tinsukia district (100 percent). Knowledge about IUD/Loop ranges from 25 percent in North Cachar Hills to 82 percent in Karimganj and awareness level of condom/Nirodh ranges from 22 percent in North Cachar Hills to 71 percent in Kamrup. As for any traditional method, awareness is only three percent in North Cachar Hills. It is highest in Hailakandi (100 percent). North Cachar Hills district place itself at the lowest rung of the ladder in Assam so far as knowledge of family planning is concerned.

6.1.2 Knowledge of No-Scalpel Vasectomy (NSV)

Knowledge of no-scalpel vasectomy among the husbands of currently married women in the state of Assam is shown in Table 6.3. Twenty two percent of the husbands know about the no-scalpel vasectomy. In rural areas, 14 percent of husbands know about NSV compared to 43 percent in urban areas. For women residing in villages having health facility, 15 percent of their husbands are aware of No-scalpel vasectomy and it is 14 percent for those living in villages having no health facilities. Among the husbands who know about NSV, 25 percent reported that NSV is simpler than conventional family planning methods, 14 percent feel that NSV does not lead to any complication and 17 percent reported that NSV does not affect a man's sexual performance. Fifteen percent of the husbands in villages with a health facility reported that NSV does not affect sexual performance compared to 10 percent of husbands in villages without a health facility.

Table 6.3 KNOWLEDGE OF NO-SCALPEL VASECTOMY (NSV)

Husbands knowledge of NSV by residence and availability of health facility in the village, Assam, 2002-04

Knowledge of NSV	Total	Residence		Availability of health facility in the village[1]	
		Rural	Urban	No	Yes
Percentage of husband who had knowledge about NSV	21.9	14.3	43.0	13.9	14.6
Number of husbands	12,824	9,415	3,409	4,552	4,862
Who know that NSV is simpler than conventional vasectomy	25.4	20.9	29.6	19.8	21.8
Who feel that NSV does not lead to any complication	13.8	10.6	16.7	9.6	11.6
Who feel that NSV does not affect man's sexual performance	16.7	12.4	20.6	10.0	14.5
Number of husbands	2,808	1,342	1,466	631	711

Note: [1] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

6.1.3 Knowledge of No-Scalpel Vasectomy (NSV) by District

Awareness of no-scalpel vasectomy by districts in Assam is provided in Table 6.4. The districts in which more than one fourth of husbands know about NSV are Hailakandi (62 percent), Golaghat (37 percent), Kokrajhar (36 percent) and Morigaon (28 percent). Districts showing awareness level of NSV less than 10 percent are Sibsagar (eight percent), Dhemaji (seven percent) and Sonitpur (six percent). That NSV does not lead to any complications was reported highest in Cachar (56 percent) and lowest in Sonitpur (one percent). The husbands who reported that the NSV does not affect a man's sexual performance were highest in Cachar and Marigaon (50 percent each) and the lowest in Karimganj and Hailakandi (three percent each). In Jorhat and Karbi Anglong, no one reported that NSV does not affect man's sexual performance.

Table 6.4 NO-SCALPEL VASECTOMY BY DISTRICT

Husband's knowledge of NSV by district, Assam, 2002-04

Districts	Knowledge about NSV	NSV is simpler than conventional method	Who reported NSV does not lead to any complication	Who reported NSV does not affect man's sexual performance
Barpeta	14.1	18.8	13.1	12.4
Bongaigaon	17.6	49.5	20.2	38.7
Cachar	23.9	73.4	55.8	50.2
Darrang	22.5	3.4	6.7	9.1
Dhemaji	7.3	25.0	15.6	11.0
Dhubri	19.9	6.9	6.6	5.1
Dibrugarh	16.9	11.4	11.8	15.5
Goalpara	20.6	41.8	24.1	16.7
Golaghat	36.7	41.1	6.5	10.7
Hailakandi	62.4	7.9	1.6	3.4
Jorhat	15.1	4.9	3.6	0.0
Kamrup	23.4	19.4	9.8	17.4
Karbi Anglong	9.5	3.6	2.7	0.0
Karimganj	24.7	2.6	4.0	3.0
Kokrajhar	36.3	12.1	9.3	6.8
Lakhimpur	10.7	38.7	36.6	38.0
Marigaon	27.7	42.9	42.7	49.9
Nagaon	19.2	14.2	3.8	4.5
Nalbari	19.8	54.6	24.8	15.0
North Cachar Hills	17.8	23.5	17.1	38.7
Sibsagar	7.7	39.1	43.3	43.0
Sonitpur	5.5	28.0	1.4	13.6
Tinsukia	21.2	48.1	11.2	13.7
Assam	21.9	25.4	13.8	16.7

6.2 Current use of Family Planning Methods

Table 6.5 and Figure 6.2 provide the information on current use of family planning methods for currently married women in Assam. At the time of DLHS-RCH, 58 percent of currently married women were using any method of contraception. Current contraceptive use is higher in urban areas (68 percent) than in rural areas (54 percent). Use of any modern method is reported by 29 percent of the women, the breakdown of which is 13 percent for permanent methods and 16 percent for modern spacing methods. Acceptance of male sterilisation methods goes in decimal while the acceptance of female sterilisation reaches 13 percent.

Table 6.5 CONTRACEPTIVE PREVALENCE RATE

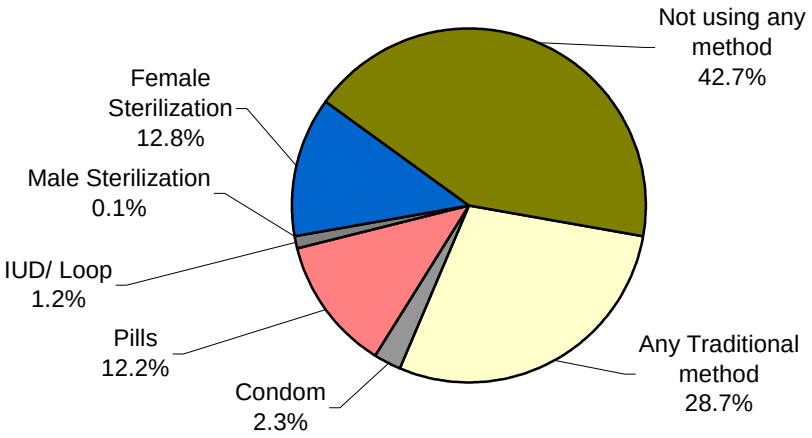
Percentage of currently married women age 15-44 years currently using any contraceptive method by selected background characteristics, Assam, 2002-04

Method	Any method	Any modern[1] method	Any modern spacing method[2]	Any steriliza-tion	Male steriliza-tion	Female steriliza-tion	IUD/ Loop	Pill	Condom / Nirodh	Any traditio-nal method[3]	Rhythm/ periodic abstinence	Withdr-awal	Number of women
Residence													
Rural	53.8	25.2	14.6	10.5	0.1	10.5	1.3	11.9	1.3	28.5	20.8	6.8	12,983
Urban	67.5	38.3	18.9	19.3	0.1	19.2	1.0	12.9	5.1	29.2	19.8	9.2	4,793
Education													
Non-literate	50.0	24.5	11.3	13.1	0.1	13.1	1.1	9.7	0.5	25.4	18.0	6.1	6,301
0-9@ years	59.7	31.0	17.5	13.4	0.1	13.3	1.5	14.3	1.7	28.7	20.7	7.5	8,039
10 years & above	66.0	31.3	19.7	11.4	0.0	11.4	0.8	11.9	7.1	34.7	24.8	9.7	3,427
Religion													
Hindu	60.6	32.3	16.4	15.7	0.1	15.6	1.4	12.4	2.6	28.3	20.3	7.2	12,715
Muslim	49.2	18.2	14.2	3.9	0.0	3.9	0.5	12.1	1.6	30.9	22.4	8.0	4,428
Christian	50.4	28.4	12.2	16.3	0.0	16.3	3.1	8.8	0.3	21.6	11.2	8.7	537
Sikh	71.1	57.7	20.5	37.3	0.0	37.3	0.0	6.3	14.2	13.4	10.5	2.3	50
Other	(46.7)	(28.3)	(13.3)	(15.0)	(0.0)	(15.0)	(0.0)	(10.0)	(3.3)	(18.3)	(10.0)	(6.7)	45
Caste/tribe#													
Scheduled caste	61.8	34.8	16.5	18.1	0.0	18.1	1.2	13.3	2.0	27.0	19.1	7.3	2,304
Scheduled tribe	51.9	29.0	16.3	12.7	0.2	12.6	2.5	12.8	0.9	22.7	15.4	5.3	2,271
Other backward class	61.8	31.6	16.4	15.2	0.0	15.1	1.8	12.5	2.1	30.0	23.2	6.0	3,920
Other	56.8	26.1	15.6	10.4	0.1	10.3	0.7	11.9	3.0	30.6	21.9	8.4	8,644
Standard of living index													
Low	49.8	22.2	12.9	9.2	0.1	9.1	1.3	10.9	0.7	27.6	19.5	7.0	9,799
Medium	64.0	37.3	19.8	17.4	0.1	17.3	1.4	15.7	2.7	26.6	19.1	7.0	4,334
High	70.3	36.2	18.6	17.4	0.1	17.4	1.1	11.3	6.1	34.1	25.0	9.1	3,643
Availability of health facility in the village[4]													
No	52.1	23.6	13.0	10.6	0.0	10.6	1.3	10.7	1.0	28.4	20.3	7.4	6,246
Yes	55.3	26.6	16.0	10.5	0.1	10.4	1.4	13.0	1.6	28.6	21.2	6.3	6,737
Total	57.5	28.7	15.7	12.9	0.1	12.8	1.2	12.2	2.3	28.7	20.5	7.4	17,775

Note: [1] Include Female sterilization, Male sterilization, IUD, Pills and Condom. [2] Include IUD, Pills and Condom. [3] Include Rhythm/Periodic abstinence, Withdrawal and Other traditional method. @ Literate women with no years of schooling are also included. #Total figure may not add to N due to don't know and missing cases. [4] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village. Total include 8 cases missing information on education were not shown separately.

The use of traditional methods is reported by 29 percent of the women, of which seven percent are using withdrawal and 21 percent follow the rhythm or periodic abstinence practice. The rural-urban differential is visible in the case of female sterilisation, where 19 percent of the urban women are the adopters compared to 11 percent of the rural women.

Figure: 6.2
Practice of Family Planning Method



Assam, DLHS-RCH,2002-04

The use of any method of contraception is high among women of Scheduled Castes and Other Backward Class (62 percent each). The current use is also high among women who have 10 or more years of schooling (66 percent) compared to women who have less than 10 years of schooling (60 percent) or among non-literate women (50 percent). Similarly, any method of contraceptive use increases with respect to the standard of living from 50 percent to 70 percent for women from the lowest to the highest standard of living households. The availability of the health facility in the village is an important factor in motivating eligible women to use contraceptives. Fifty-five percent of the women living in villages with a health facility are currently using contraceptives, which is higher than the women from villages deprived of a health facility (52 percent). The current use of the traditional method is also higher among women with a higher education level and with a high standard of living than their counterparts.

6.2.1 Current Use of Family Planning Methods by District

Table 6.6 presents a picture of current contraceptive use in the districts of Assam. The contraceptive use is a couple concepts, as family planning methods can be used either by women or by their husbands. In most of the districts, the current use of contraception is between 50-65 percent (see Map-6). The state figure for any current modern spacing methods use is 16 percent and it ranges from the lowest of four percent in North Cachar Hills district to the highest of 28 percent in Lakhimpur. The variation in contraceptive prevalence at district level is basically due to the variation in the use of spacing methods while both modern and traditional contraceptive uses do not show much variation across districts.

Table 6.6 CONTRACEPTIVE PREVALENCE RATES BY DISTRICTS

Percentage of currently married women age 15-44 years currently using any contraceptive method by districts, Assam, 2002-04

Districts	Any method	Any modern Method[1]	Any modern spacing method[2]	Male steriliz-ation	Female steriliz-ation	IUD	Pill	Condom / Nirodh	Any traditio-nal method[3]
Barpeta	59.3	29.4	21.2	0.0	8.2	0.8	18.7	1.7	29.8
Bongaigaon	44.3	24.7	18.3	0.0	6.4	1.6	14.5	2.2	19.6
Cachar	32.0	14.8	6.9	0.0	7.7	0.3	4.6	2.0	17.2
Darrang	68.8	38.9	21.1	0.2	17.6	1.3	18.3	1.4	29.8
Dhemaji	54.7	21.2	11.2	0.1	9.9	1.8	8.2	1.3	33.5
Dhubri	45.7	19.6	14.5	0.0	5.1	0.6	11.8	2.1	26.1
Dibrugarh	64.6	36.1	8.8	0.0	27.3	0.3	6.7	1.8	28.5
Goalpara	59.1	27.4	21.7	0.0	5.6	2.0	17.2	2.5	31.8
Golaghat	42.6	16.5	11.4	0.2	4.9	2.4	7.5	1.5	26.1
Hailakandi	81.8	14.7	11.7	0.1	3.2	0.3	8.0	3.3	67.6
Jorhat	58.0	15.6	9.0	0.0	6.5	0.2	7.5	1.3	42.5
Kamrup	67.1	44.0	20.4	0.0	23.6	1.8	14.0	4.6	22.9
Karbi Anglong	50.2	28.0	22.5	0.0	5.5	2.8	18.7	1.0	22.5
Karimganj	70.2	15.9	9.5	0.1	5.9	0.7	5.7	3.1	54.1
Kokrajhar	35.4	18.1	14.7	0.0	3.4	2.2	11.5	1.0	17.2
Lakhimpur	58.1	40.5	27.8	0.6	12.0	3.4	17.5	6.9	17.6
Marigaon	48.6	21.9	16.6	0.2	4.6	1.3	12.8	2.5	26.7
Nagaon	62.9	23.4	12.6	0.0	10.8	0.4	11.5	0.7	39.2
Nalbari	68.6	41.2	27.4	0.4	13.2	1.1	23.2	3.0	27.4
North Cachar Hills	12.2	12.1	3.8	0.0	8.4	1.5	2.1	0.1	0.0
Sibsagar	60.2	25.1	12.4	0.1	12.8	1.2	8.7	2.5	34.9
Sonitpur	61.0	33.0	16.5	0.2	16.3	1.4	13.4	1.7	28.0
Tinsukia	60.5	36.8	14.0	0.0	22.0	1.9	11.4	0.8	23.7
Assam	57.5	28.7	15.7	0.1	12.8	1.2	12.2	2.3	28.7

Note:[1] Include Female sterilization, Male sterilization, IUD, Pills and Condom. [2] Include IUD, Pills and Condom. [3] Include Rhythm /Periodic abstinence, Withdrawal and Other traditional method.

In Assam, the use of any traditional method is 29 percent and it is highest in Hailakandi district (68 percent) and lowest in Cachar and Kokrajhar (17 percent each). In North Cachar Hills no one reported using traditional method. The use of oral Pills exceeds 15 percent in the districts of Barpeta, Darrang, Goalpara, Karbi Anglong, Lakhimpur and Nalbari. Except Lakhimpur (seven percent) and Kamrup district (five percent), in all the other districts of Assam, the use of condom is below five percent.

6.2.2 Current Use and Ever Use of Family Planning Methods by Women

Table 6.7 provides information on current contraceptive use and ever used of contraception by age of women and number of surviving children of either sex. The current use of any method of contraception among currently married women in the 15-19 years age group is 18 percent and this attains a peak of 74 percent in the age group 35-39 years. A similar pattern of contraceptive use is also observed in case of modern and traditional methods. The use of traditional method is 37 percent for the women aged 35-39 years and 10 percent for the women in younger age groups 15-19 years. The use of modern methods ranges from only eight percent for women in the age group 15-19 years to 37 percent for women in the age group 35-39 years.

Table 6.7 USE OF CONTRACEPTION BY WOMEN

Percentage of currently married women in 15-44 years by current use and ever use of contraception according to selected demographic characteristics, Assam, 2002-04

Demographic Characteristic	Percentage of women/husbands using				Percentage of women/husbands by contraceptive status		Number of women
	Any modern method[1]	Any traditional method[2]	Any method	Not using any method	Ever used	Never used	
Age-group							
15-19	7.5	10.3	17.8	82.1	21.2	78.8	867
20-24	15.7	20.8	36.6	63.2	44.0	55.8	2,563
25-29	27.2	25.7	53.0	46.9	60.9	38.9	4,167
30-34	32.7	31.3	64.1	35.8	70.0	29.8	3,812
35-39	36.8	36.6	73.5	26.3	77.2	22.5	3,718
40-44	33.5	32.1	65.8	34.2	73.6	26.3	2,650
Surviving children							
0	4.2	8.7	12.8	86.9	19.5	80.1	1,873
1	18.6	29.1	47.8	52.1	55.1	44.7	3,471
2	34.3	33.0	67.3	32.6	74.4	25.5	4,537
3 or more	35.8	30.8	66.7	33.2	72.0	27.8	7,894
Surviving sons							
0	14.4	21.2	35.7	64.2	42.9	56.8	4,694
1	31.6	30.8	62.5	37.4	69.1	30.8	6,348
2 or more	36.0	31.9	68.0	31.9	73.4	26.5	6,733
Surviving daughters							
0	20.7	24.0	44.7	55.1	51.9	47.9	5,904
1	33.5	31.3	64.8	35.1	70.5	29.4	6,420
2 or more	31.9	30.7	62.7	37.2	68.8	31.0	5,452
All women	28.7	28.7	57.5	42.4	63.8	36.0	17,775

Note:[1] Include Female sterilization, Male sterilization, IUD, Pills and Condom.
[2] Include Rhythm/Periodic abstinence, Withdrawal and Other traditional method.

It is crucial to understand the association between the number of living children and contraceptive use. The contraceptive use is high among the women who have three or more surviving children irrespective of method used in Assam. The use of any method of contraception is 68 percent for the women who have two or more sons, which is marginally higher than the women who have two or more daughters (63 percent). The same trend can be observed in the case of use of any modern method which is 36 percent for the women who have two or more surviving sons and it is higher than the women who have two or more daughters (32 percent). Overall, 64 percent of the women ever used any family planning method while 36 percent of them have never used any family planning method.

6.2.3 Current Use and Ever Use of Family Planning Methods as Reported by Husbands

Information pertaining to current use of family planning methods among the husbands of currently married women in Assam by age and number of surviving children, sons and daughters are given in Table 6.8**.** The current use of any method of contraception among the husbands (aged below 25 years) of currently married women is 22 percent and it gradually picks up with the age and reaches to 70 percent in the age group of 45 and above. A similar pattern of contraceptive use is observed in the case of traditional methods. Among the husbands in the age group 45 years and above, the use of traditional methods is 39 percent and it is 12 percent among the husbands in the younger age group of below 25 years. The use of modern methods ranges from 10 percent for husbands below 25 years of age to 33 percent for the husbands in the age group 35-44 years.

Table 6.8 USE OF CONTRACEPTION BY MEN

Percentage of husband of currently married women by current use and ever use of contraception by selected demographic variables, Assam, 2002-04

Demographic Characteristics	Percentage of husbands/women using				Number of men
	Any modern method[1]	Any traditional method[2]	Any method	Not using any method	
Age-group					
<25	9.7	12.3	22.0	77.8	510
25-34	23.0	21.2	44.0	55.6	3,777
35-44	32.8	33.5	66.2	33.4	5,014
45+	31.3	38.8	70.4	29.3	3,523
Surviving children					
0	4.1	6.4	10.5	89.4	1,369
1	19.5	31.1	50.4	49.3	2,240
2	35.4	33.0	68.1	31.4	3,368
3 or more	33.9	34.5	68.5	31.1	5,847
Surviving sons					
0	14.3	20.8	35.0	64.8	3,173
1	33.1	32.6	65.2	34.2	4,563
2 or more	33.5	34.8	68.5	31.3	5,088
Surviving daughters					
0	19.8	23.9	43.6	56.1	4,222
1	34.5	32.4	66.7	33.0	4,508
2 or more	31.2	35.3	66.4	33.0	4,094
All men	28.6	30.5	59.0	40.6	12,824

Note:[1] Include Female sterilization, Male sterilization, IUD, Pills and Condom.
[2] Include Rhythm/Periodic abstinence, Withdrawal and Other traditional method.

6.3 Reasons for Not Using Male Methods

The DLHS-RCH asked husbands of currently married women about the contraceptive methods that he or his wife was using currently. The husbands who were not using male methods were further asked the reasons for it. Table 6.9 provides information about reasons for not using male contraceptive methods in Assam. Among all the husbands interviewed, 43 percent reported about female methods. Reporting of female methods is more or less similar in rural areas (43 percent) as well as in urban areas (42 percent). The reasons cited for not preferring the male methods are greater popularity of female methods (70 percent), fear of weakness (15 percent), fear of operation (4 percent), fear of impotency, lack of sexual pleasure and fear of method failure (two percent each). However, there is not much rural-urban differential in the reasons for not using male methods. Popularity of female methods as a reason for not using male methods of contraception is more in urban areas (74 percent) than in rural areas (68 percent). Fear of weakness as a reason for not accepting male methods is reported more in rural areas (16 percent) compared to urban areas (13 percent).

Table 6.9 REASONS FOR NOT USING MALE METHODS

Percentage of husbands with their choice of family planning methods and reasons for not accepting male methods according to residence, Assam, 2002-04

Female method users and reason for not accepting male methods	Total	Residence	
		Rural	Urban
Percentage of husband who have reported female methods	42.6	42.9	41.8
Number of men	7,570	5,296	2,274
Reasons for not accepting male methods*	2.1	2.0	2.3
Fear of impotency	1.7	1.4	2.5
Lack of sexual pleasure	2.1	1.7	3.0
Fear of method failure	4.4	5.2	2.4
Fear of operation	15.1	16.1	12.7
Fear of weakness	69.5	67.6	73.9
Female methods are more popular	7.1	7.1	7.0
Other			
Number of men	3,223	2,273	950

Note: * Percentages may add to more than 100.0 because multiple responses could be recorded.

6.4 Source of Contraceptive Methods

In order to assess the various sources of contraceptive methods, DLHS-RCH collected information on the source of obtaining methods. Table 6.10 and Figure 6.3 show the percent distribution of current users of modern contraceptives by source of contraceptives. Family planning methods and services in Assam are provided primarily through a network of government hospitals and health centres. The services are also provided by private hospitals and clinics. The analysis reveals that Government medical centres are the main source for female sterilization (60 percent) followed by private medical centres (26 percent). For IUD users also the main source is government medical centres (76 percent). However, chemist is the main

source for Pills (76 percent) and condom (83 percent) supply. This clearly indicates that by and large users of oral pills and condom do not rely on free supply from Government health centres.

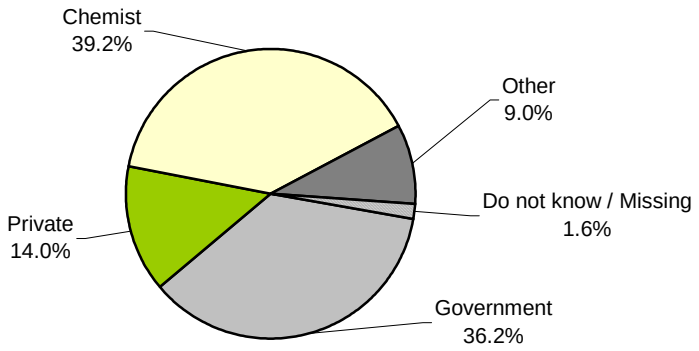
Table 6.10 SOURCE OF MODERN CONTRACEPTIVE METHODS

Percent distribution of current users of modern contraceptive methods by method and source of supply, Assam, 2002-04

Source	Contraceptive method					
	Female sterilization	Male sterilization	IUD/ Loop	Pills	Condom / Nirodh	All modern methods[1]
Government medical centre	60.2	*	75.9	12.5	6.1	36.2
Government/Municipal hospital	47.5	*	49.2	3.1	2.0	25.0
CHC/PHC	9.2	*	17.5	3.2	0.5	6.4
Sub-centre	1.0	*	5.8	4.1	1.8	2.6
Government doctor	0.4	*	0.7	0.0	0.0	0.2
Government nurse/ ANM	0.0	*	0.1	0.5	0.0	0.2
Family planning/RCH camp	1.8	*	2.4	0.0	0.2	0.9
Out reach/MCP clinic in village	0.1	*	0.0	0.0	0.0	0.1
Mobile clinic	0.2	*	0.2	1.5	1.6	0.9
Private medical centre	25.7	*	19.3	3.5	2.1	14.0
Private hospital	23.2	*	12.6	2.6	1.4	12.1
Private doctor	1.5	*	6.2	0.5	0.5	1.2
Private nurse	1.0	*	0.5	0.5	0.2	0.7
Chemist	NA	NA	NA	76.4	82.5	39.2
Other	13.5	*	3.1	5.9	3.9	9.0
Do not know	0.2	*	0.3	0.8	2.1	0.7
Missing	0.4	*	1.4	0.9	3.3	0.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of users	2,280	12	221	2,162	414	5,089

Note: [1] Includes female sterilization, male sterilization, IUD, Pills or condom. CHC: Community health centre, PHC: Primary health centre. NA: Not applicable

Figure: 6.3
Source of Family Planning Among Current Users of Modern Contraceptive Method



Assam, DLHS-RCH,2002-04

6.5 Problems with Current Use of Contraceptive Methods

Women who were using a modern contraceptive method were asked if they had experienced any problems related with the current methods they are using. Table 6.11 shows the percentage of current contraceptive users who were informed about the available methods and their possible side effects before adoption of the method. The table also indicates the reported side effects due to contraceptive use. Nearly two-thirds of the acceptors of sterilization method reported that they were informed about the all available methods and their possible side effects before adoption. Eight percent of the IUD users were explained about its possible side effects while 38 percent of the pill users were told about its possible side effects. The analysis of the method specific problems reveals that 12 percent of the sterilized women have problem due to the use of contraceptive method. The most common problems experienced by sterilized women are weakness or inability to work (72 percent), dizziness (34 percent), body ache or backache (31 percent) and white discharge (15 percent). With regard to the modern spacing methods, 13 percent and nine percent of women had problems in using Pills and IUD respectively. The most common problems for Pill users are dizziness (58 percent) and weakness or inability to work (44 percent). Nausea/vomiting is mentioned by 15 percent of the Pill users. Though nine percent of the IUD users had some problem but did not mention any particular side effect.

Table 6.11 HEALTH PROBLEMS WITH CURRENT USE OF CONTRACEPTION

Percentage of women informed about side effects, had side effects with the method by use of method, Assam, 2002-04

	Type of method		
Health problems/side effect	Female sterilizations	IUD/loop	Pill
Women who were informed about all the available methods	61.5	NA	NA
Women who were informed about the side effects before adoption of the method	67.5	78.2	37.7
Women who had side effect/health problem due to use of contraceptive method	12.0	9.2	13.2
Number of current users	2,280	221	2,162
Type of health problems/side effects[1]			
Weakness/inability to work	71.6	*	43.9
Body ache/ backache	31.0	*	8.6
Cramps	6.1	*	3.7
Weight gain	6.7	*	5.4
Dizziness	33.6	*	58.2
Nausea/vomiting	3.3	*	14.6
Breast tenderness	0.6	*	0.2
Irregular periods	7.9	*	4.9
Excessive bleeding	7.6	*	5.2
Spotting	2.2	*	0.6
White discharge	14.9	*	7.2
Other	0.0	*	0.0
Number of users with side effects	273	20	285

Note: [1] Percentages may add to more than 100.0 because multiple problems could be recorded.

* Percentage not shown: based on very few cases. NA: Not applicable

6.6 Treatment for Health Problems with Current Use of Contraception

Table 6.12 shows that the respondents who sought treatment for contraceptive-related health problems reveals that 58 percent of the sterilized women and another 28 percent who used Pills sought treatment. Regarding satisfaction about the method, 95 percent of the sterilized women reported satisfaction with sterilization. In the case of spacing methods, 94 percent of women using Pills and 95 percent of women using IUD were satisfied with the respective methods.

Out of those women who had sought treatment for contraceptive-use related problems, majority have taken treatment either from government hospital/dispensary or from private hospitals/clinics. For problems due to female sterilization method, 35 percent had taken treatment from government hospital/dispensary, 34 percent from private hospitals/clinics, 10 percent from primary health centres and eight percent from Indian System of Medicine health facilities. Private hospital/clinic is the source of treatment for 45 percent of women who had health problems with oral Pills, followed by government hospital/dispensary (38 percent) and primary health centre (12 percent).

Table 6.12 FOLLOW-UP VISIT AND SOUGHT TREATMENT FOR HEALTH PROBLEMS WITH CURRENT USE OF CONTRACEPTION

Percentage of women who had follow-up visit, satisfied with current method and sought treatment with side effects with the method by use of method, Assam, 2002-04

Health problems/side effect	Type of method		
	Female sterilizations	IUD/loop	Pill
Women who had follow up visit by health worker after adoption of method	6.2	6.6	3.5
Women who are satisfied with method of current use	95.3	95.0	94.1
Number of current users	2,280	221	2,162
Women who sought treatment for the health problem	58.4	*	28.0
Number of women with side effects	273	20	285
Source of treatments			
Government health facility			
Government hospital/dispensary	35.2	*	37.8
UHC/UHP/UFWC	1.9	*	0.0
CHC/Rural hospital	1.2	*	0.0
PHC	9.7	*	11.7
Sub-centre	2.5	*	4.1
Out reach/MCP clinic in village	0.0	*	1.1
Private health facility			
NGO/trust hospital clinic	0.0	*	0.0
Private hospital/clinic	33.7	*	44.6
ISM health facility[1]	7.9	*	0.8
Chemist/Medical shop	4.0	*	2.0
Home remedy	3.2	*	0.9
Other	7.1	*	2.9
Number of women with side effects	159	14	80

Note: [1] Either government or Private. * Percentage not shown: based on very few cases.

6.7 Advice to Non-Users to Use Contraception

Information about non-users who were advised by the ANM/health worker to adopt contraceptives and their future intention to use by preferred method according to their background characteristics are presented in Table 6.13. In DLHS-RCH, currently married women who were not using any method of contraception were asked about advice given by ANM/health worker for adoption of any contraceptive method. It is evident that merely six percent of the women were advised by ANM/health worker to adopt any family planning method in Assam. This percentage is too small to make any differentiation between rural-urban and presence and non-presence of any health facility in the villages.

Table 6.13 ADVICE ON CONTRACEPTIVE USE

Percentage of current non-users* who were advised by the ANM/health worker to use contraception by suggested method according to place of residence and availability of health facility in the village, Assam, 2002-04

		Residence		Availability of health facility in the village[1]	
Advice/future intension to use	Total	Rural	Urban	No	Yes
Percentage of current non-users advised by ANM/health worker to use of contraceptive method	5.9	6.1	5.0	4.7	7.5
Number of non-users	7,086	5,651	1,435	2,807	2,844
Percent distribution of women who were advised by method					
Female sterilization	37.2	39.4	26.4	43.0	37.1
Male sterilization	3.1	3.5	0.8	6.0	2.0
IUD/loop	5.9	5.1	9.7	3.9	5.9
Pill	41.5	42.7	35.8	40.8	43.9
Condom/Nirodh	2.9	2.4	5.2	0.5	3.6
Rhythmic /periodic abstinence	3.8	3.2	6.8	0.0	5.1
Withdrawal	0.5	0.2	1.7	0.2	0.2
Other	1.7	0.8	6.1	0.3	1.1
Missing	3.5	2.6	7.4	5.1	1.1
Total percent	100.0	100.0	100.0	100.0	100.0
Number of non-users	416	344	71	133	212

Note: * Exclude women in menopause or those who have undergone hysterectomy.
[1] Includes sub-centre, primary health centre, community health centre or referral hospital, government hospital, and government dispensary within the village.

The recommended contraceptive methods by ANM/health worker are largely Pills (42 percent) and female sterilisation (37 percent). Only six percent women were advised to adopt IUD/loop. Condom/Nirodh and male sterilisation were advised to merely three percent each of the women. This pattern of advice emerges commonly and has no differentiation with respect to residence and type of village having health facility or not.

6.7.1 Future Intention to Use Contraceptive

Table 6.14 reveals the future intention of using contraception by current non-users. Among the non-users, 19 percent of women have expressed their intention to use any method of contraception in the future. The intention to use any method of contraception is slightly higher in urban areas (21 percent) than in rural areas (19 percent).

Among the women who intended to use methods of contraception, 38 percent preferred female sterilization whereas only one percent of the women preferred to have their husbands sterilised instead. In case of temporary methods, the preferred methods by women are oral Pills (40 percent), rhythm/periodic abstinence (4 percent), condoms (4 percent), withdrawal (one percent), IUD (three percent) and other methods (eight percent).

Twenty five percent of the husbands intended to use contraception in future, among them 24 percent belong to rural areas and 30 percent to urban areas. Method-wise choice again dominates female sterilization; being reported by 29 percent of the husbands, which was,

followed by Pills (24 percent), other method (22 percent), rhythm/periodic abstinence (10 percent) and condom/Nirodh (8 percent). Interestingly, a marginal percentage of husbands have intention of adopting male sterilisation method in future.

Table 6.14 FUTURE INTENTION TO USE

Percentage of current non-users* who were intended to use contraception in future by preferred method according to place of residence, Assam, 2002-04

	Women			Husbands		
Future intention to use/method	Total	Rural	Urban	Total	Rural	Urban
Percentage of respondents who intend to use contraceptive in future	19.0	18.5	20.8	25.3	24.0	29.7
Number of non-users	7,086	5,651	1,435	5,127	4,020	1,107
Percent distribution of non-user who were preferred to use family methods by preferred method						
Female sterilization	37.6	35.4	45.2	28.6	30.4	23.4
Male sterilization	0.9	1.0	0.4	1.7	2.0	0.9
IUD/copper-T/loop	3.2	3.7	1.3	1.4	1.6	1.0
Oral pills	40.3	42.6	32.1	23.9	22.2	28.9
Condom/Nirodh	3.7	2.8	7.0	7.7	7.7	7.8
Rhythm/periodic abstinence	3.6	4.0	2.4	10.3	10.3	10.4
Withdrawal	1.1	1.2	1.0	2.9	3.7	0.6
Other	7.7	7.9	6.9	21.8	20.6	25.5
Missing	1.9	1.4	3.5	1.5	1.5	1.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of non-users	1,335	1,037	298	1,290	962	328

Note: * Exclude women who are in menopause or those who have undergone hysterectomy.

6.7.2 Future Intention to Use by Number of Living Children

Currently married women who were not using any contraceptive method at the time of survey were asked about their intentions to use a method in future. Those women who intended to use contraceptives in the future were further asked about preferred methods. This type of information aids the managers and programmers to identify the potential groups of future users and to provide contraceptives that are likely to be in demand. Table 6.15 provides the information on intention to use contraception in future according to number of living children and residence. Among the current non-users, eight percent of the women intended to use contraception within the next twelve months. Four percent of the women wanted to use it within one to two years whereas six percent reported their intention to use contraceptives after two years. About 52 percent are not sure of their intention to use, where as 29 percent reported to have no intention to use. The intention of using contraception is high among the women who have two or more living children compared to the women who have either one or no living children. Seventy three percent of the women who have no living children reported that they are yet to decide about the use of contraceptives.

Table 6.15 FUTURE USE OF CONTRACEPTION BY NUMBER OF LIVING CHILDREN

Percent distribution of currently married women* who were not currently using any contraceptive method by intention to use in the future, according to number of living children and residence, Assam, 2002-04

Intention to use in the future	Number of living children					Total
	0	1	2	3	4+	
			Total			
Intends to use in next 12 months	2.2	6.8	9.0	12.3	14.3	8.4
One to two years	1.8	4.2	6.6	5.1	3.6	4.2
More than two years	5.4	8.4	7.8	3.5	3.6	6.0
Does not intend to use	17.5	21.1	31.8	39.4	42.6	29.0
Not yet decided	72.7	58.6	44.6	39.3	35.9	52.1
Missing	0.4	0.9	0.3	0.3	0.1	0.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,605	1,756	1,402	1,037	1,286	7,086
			Rural			
Intends to use in next 12 months	1.6	6.3	9.3	12.4	14.7	8.5
One to two years	1.7	4.0	6.3	4.8	3.5	3.9
More than two years	5.8	8.9	6.0	3.6	3.5	5.7
Does not intend to use	18.1	21.6	30.5	39.8	41.7	29.5
Not yet decided	72.2	58.8	47.8	39.3	36.4	52.0
Missing	0.6	0.5	0.1	0.3	0.1	0.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,234	1,294	1,095	845	1,183	5,651
			Urban			
Intends to use in next 12 months	4.0	8.3	8.2	12.2	9.1	7.8
One to two years	2.3	4.8	7.6	6.8	4.5	5.0
More than two years	4.0	7.3	14.0	3.2	4.8	7.2
Does not intend to use	15.4	19.6	36.1	37.9	52.4	26.8
Not yet decided	74.4	58.0	33.3	39.3	29.2	52.4
Missing	0.0	2.0	0.8	0.5	0.0	0.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	370	462	307	193	103	1,435

Note: * Exclude women who are in menopause or those who have undergone hysterectomy.

6.8 Reasons for Discontinuation and Non-Use of Contraception

Currently married non-pregnant women who were not using any contraceptive method at the time of survey were categorised as past users or never users according to their contraceptive experience. In DLHS-RCH, women who had discontinued contraceptive use were asked about the main reason for discontinuation. The survey also asked women who had never used contraceptives about the main reason for not doing so. Table 6.16 shows the main reasons for not using contraceptives among both never users and current non-users but were past users. Among the past users, around 60 percent of the women mentioned that they discontinued the use because they wanted a child. The other reasons mentioned for discontinuation were difficult to get method (5 percent), weakness/inability to work (7 percent), method failed/became pregnant (5 percent) and weight gain (3 percent) and other reasons (17 percent). For urban women, two

percent have reported about method failure, as a reason for discontinuation while the same reason was given by seven percent of women in rural areas.

Table 6.16 REASONS FOR DISCONTINUATION OF CONTRACEPTION

Percent distribution of women who were past users (current non-users) by reason for discontinuation of the contraceptive method according to place of residence, Assam, 2002-04

Reasons	Total	Place of residence	
		Rural	Urban
Reason for discontinuation			
Wanted child	59.8	59.2	61.1
Method failed/became pregnant	5.3	6.5	2.3
Supply not available	0.4	0.3	0.6
Difficult to get method	0.3	0.4	0.0
Weakness/inability to work	7.1	6.5	8.6
Body ache/ Backache	0.7	0.9	0.2
Cramps	0.1	0.1	0.0
Weight gain	0.1	0.1	0.1
Dizziness	3.2	3.7	2.0
Nausea/vomiting	0.4	0.4	0.5
Breast tenderness	0.4	0.4	0.5
Irregular periods	1.2	1.2	1.1
Excessive bleeding	0.4	0.6	0.0
Spotting	0.3	0.4	0.0
White discharge	0.3	0.4	0.1
Lack of pleasure	0.7	0.9	0.3
Method was inconvenient	1.4	1.1	2.1
Other	17.2	15.9	20.3
Missing	0.7	0.9	0.3
Total percent	100.0	100.0	100.0
Number of past users	1,121	788	333

6.8.1 Reasons for Not Using Contraceptive Methods

DLHS asked women and husbands about the reasons for currently not using any contraception. Table 6.17 shows that the main reasons for not using contraceptives as reported by women are lack of knowledge about family planning methods (12 percent), worry about side effects (11 percent), opposed to family planning (9 percent) and health does not permit (9 percent). About 43 percent of the women reported other reasons for not using contraception, which is grouped separately in 'other' category of responses. In rural areas, the main reason for not using contraceptive methods is 'lack of knowledge' (14 percent) and 'worry about side effects' (10 percent). In urban areas, the main reasons for not using contraceptive methods are worry about side effects (13 percent) and health does not permit (13 percent). The reasons stated by husbands were almost similar to the responses of women.

Table 6.17 REASON FOR NOT USING CONTRACEPTIVE METHOD

Percentage of current non-users who were currently not using contraceptive method by reason according to place of residence, Assam, 2002-04

Reason	Women			Husband*		
	Total	Rural	Urban	Total	Rural	Urban
Lack of Knowledge about FP method	12.1	14.2	3.8	22.3	26.9	4.6
Against the Religion	4.0	4.8	0.8	4.1	5.1	0.5
Opposed to family planning	9.3	9.7	7.8	1.8	1.8	1.7
Not like existing method	0.8	0.8	1.0	3.9	2.7	8.5
Afraid of sterilization	4.5	4.6	4.4	1.7	1.8	1.5
Can not work after sterilization	0.8	0.9	0.5	1.5	1.7	1.0
Worry about side effects	10.6	10.0	12.9	8.5	7.9	10.6
Costs too much	1.6	1.7	1.4	2.1	2.1	2.0
Health does not permit	9.0	8.1	12.8	13.1	12.0	17.2
Hard/inconvenient to get method	0.9	0.9	0.7	0.9	1.1	0.2
Inconvenient to use method	0.6	0.5	0.8	0.9	1.0	0.3
Difficult to become pregnant	2.2	1.8	3.9	8.0	7.6	9.4
Wife is pregnant[1]	-	-	-	1.0	1.0	0.7
Other	42.7	41.3	48.3	29.3	26.3	41.3
Missing	0.8	0.8	1.0	0.9	1.0	0.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of current non-users	4,027	3,221	806	1,857	1,475	382

Note: [1] Not applicable for women. * Excluding not decided cases on timing of next child.

6.9 Unmet Need for Family Planning Services

Unmet need for family planning is one of the indicators to assess the effectiveness of the family planning programme. Policy makers and family planning programme planners use this to know the demand for family planning services/supplies. Unmet need is defined in this report separately for limiting and spacing. Unmet need for spacing includes the proportion of currently married women who are neither in menopause nor had hysterectomy nor are currently pregnant and who want more children after two years or later and are currently not using any family planning method. The women who are not sure about whether and when to have next child, are also included in unmet need for spacing. The women who are not sure about the timing of the next child are also included in the unmet need for spacing. Unmet need for limiting includes the proportion of currently married women who are neither in menopause nor had hysterectomy nor are currently pregnant and do not want any more children but are currently not using any family planning method. Total unmet need refers to the totality of unmet need for limiting and spacing. Table 6.18 provides information about unmet need for limiting and spacing in Assam by background characteristics.

The unmet need is high for women below 24 years, mainly for spacing rather than for limiting. Unmet need is also relatively higher for women aged 15-19 years (27 percent) for spacing. Among the older women of age 25-29 years, 10 percent have unmet need for spacing and 14 percent for limiting. Among the women age 30 years and above, unmet need is mostly for limiting. The rural women have high unmet need (25 percent) compared to the urban women (17 percent). The total unmet need for family planning is higher among the non-literate women (29

percent) than among the women with 0-9 years of schooling (21 percent) and 10 or more years of schooling (15 percent). Hindu women have lesser-unmet need for family planning (21 percent) compared to the Muslim women (28 percent) or Christian women (26 percent). Unmet need for family planning is higher for Scheduled Tribes (26 percent) followed by other caste (23 percent), Other Backward Class (21 percent) and Scheduled Caste (19 percent).

Table 6.18 UNMET NEED FOR FAMILY PLANNING SERVICES

Percentage of currently married women with unmet need for family planning services by selected background characteristics, Assam, 2002-04

Background Characteristic	Unmet need for FP			Number of women
	Spacing[1]	Limiting[2]	Total	
Age				
15-19	26.7	2.2	28.9	867
20-24	21.5	9.1	30.5	2,563
25-29	9.8	13.5	23.4	4,167
30-34	4.8	16.9	21.7	3,812
35-39	1.8	16.7	18.5	3,718
40-44	0.9	17.1	18.0	2,650
Residence				
Rural	9.2	15.5	24.6	12,983
Urban	5.7	11.0	16.8	4,793
Education				
Illiterate	8.8	20.0	28.8	6,301
0-9 @ years	8.5	12.4	20.9	8,039
10 years and above	6.8	8.0	14.8	3,427
Religion				
Hindu	7.1	13.6	20.6	12,715
Muslim	11.1	16.5	27.5	4,428
Christian	13.2	13.2	26.4	537
Sikh	2.5	8.6	11.1	50
Others	(6.7)	(26.7)	(16.1)	45
Caste/tribe#				
Scheduled caste	7.8	11.6	19.4	2,304
Scheduled tribe	9.7	16.0	25.6	2,271
Other backward class	8.0	13.1	21.1	3,920
Others	8.2	14.3	22.5	8,644
Number of living children				
0	7.1	0.7	7.7	1,873
1	22.2	5.2	27.3	3,471
2	6.8	15.0	21.8	4,537
3	3.5	18.0	21.5	3,879
4+	3.0	24.1	27.1	4,015
Standard of living Index				
Low	9.8	17.8	27.6	9,799
Medium	7.4	11.1	18.5	4,334
High	4.9	8.7	13.6	3,643
All women	8.2	14.3	22.5	17,775

[1] Unmet need for spacing includes the proportion of currently married women who are neither in menopause or had hysterectomy nor are currently pregnant and who want more children after two years or later and are currently not using any family planning method. The women who are not sure about whether and when to have next child are also included in unmet need for spacing.

[2] Unmet need for limiting includes the proportion of currently married women who are neither in menopause or had hysterectomy nor are currently pregnant and do not want any more children but are currently not using any family planning method.

Total unmet need refers to unmet for limiting and spacing.

@ Literate women with no years of schooling are also included. # The total figure may not add to N due to do not know and missing cases. Total include 8 cases of missing information on women education were not shown separately.

Women in low standard of living have high (28 percent) unmet need compared to the women of medium (19 percent) and high standard of living (14 percent). Unmet need for spacing is much higher for the women with one living child (22 percent) than women with either no children (seven percent) or two or more children. Among the women with two or more children, the unmet need is mostly for limiting.

6.9.1 Unmet Need for Family Planning Services by Districts

Table 6.19 provides the information about unmet need for limiting, spacing and total by district. The total unmet need for family planning services for state is 23 percent and it ranges from as low as seven percent in Hailakandi to a maximum of 50 percent in North Cachar Hills. In 12, out of 23 districts, unmet need for family planning is more than or equal to the state average. Unmet need for limiting was found to be lowest in Hailakandi (two percent) and highest in Cachar (32 percent). Similarly, unmet need for spacing was lowest in Barpeta (less than one percent) and highest in North Cachar Hills (21 percent). It is to be noted that except Hailakandi and Sonitpur districts, in all the districts of Assam unmet need for limiting was more than spacing.

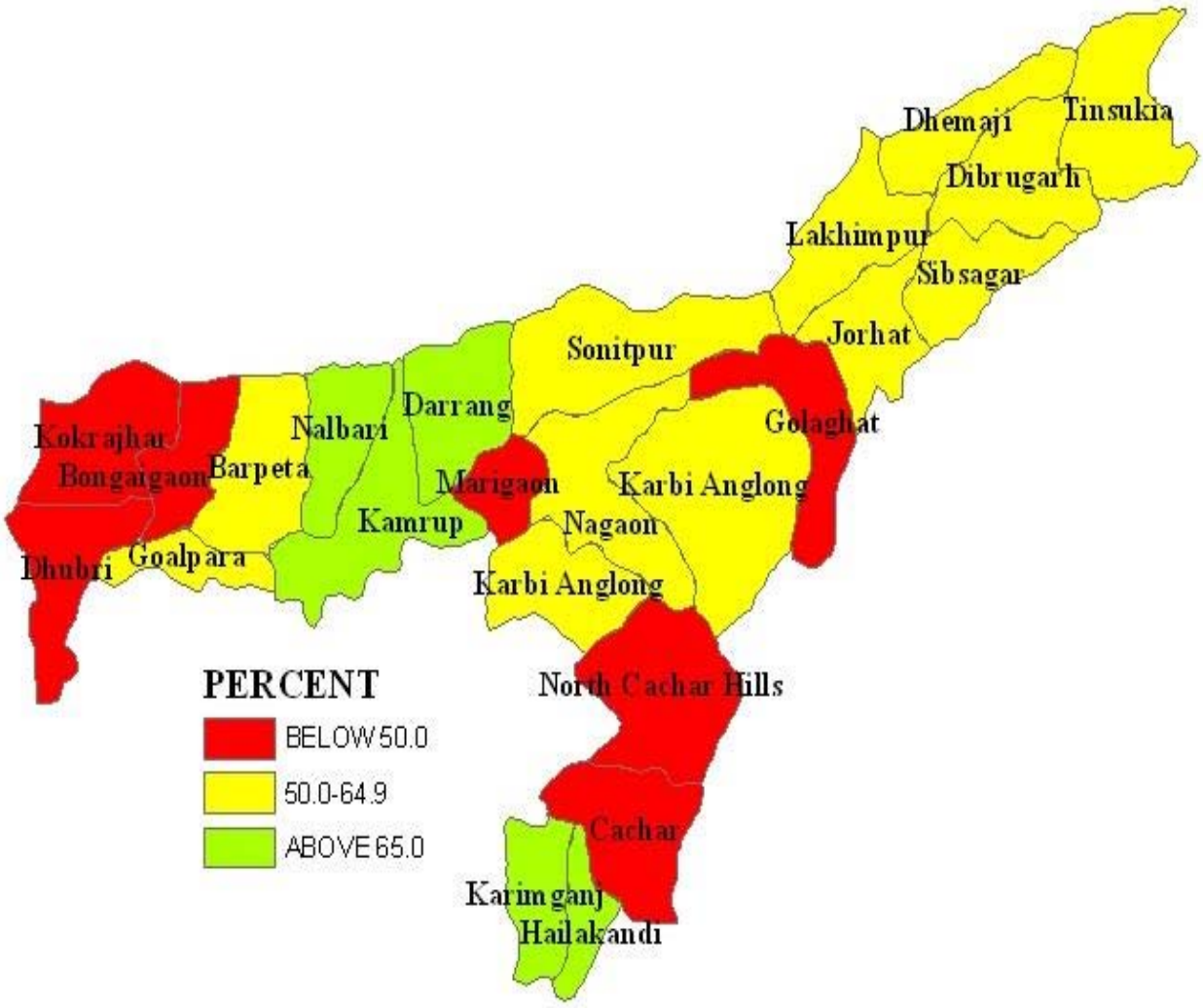
Table 6.19 UNMET NEED BY DISTRICT

Percentage of currently married women with unmet need by district, Assam, 2002-04

Districts	Unmet need for		
	Spacing	Limiting	Total
Barpeta	0.2	10.2	20.4
Bongaigaon	12.8	25.4	38.2
Cachar	9.7	31.6	41.3
Darrang	5.5	7.1	12.6
Dhemaji	8.3	15.9	24.2
Dhubri	13.5	16.3	29.8
Dibrugarh	6.7	9.2	15.9
Goalpara	7.5	8.6	16.2
Golaghat	11.0	29.7	40.7
Hailakandi	5.3	1.5	6.8
Jorhat	7.7	18.6	26.3
Kamrup	4.9	9.3	14.2
Karbi Anglong	8.4	18.2	26.6
Karimganj	2.1	7.3	9.4
Kokrajhar	12.1	28.5	40.6
Lakhimpur	9.1	13.8	22.9
Marigaon	9.8	19.3	29.1
Nagaon	4.8	13.7	18.5
Nalbari	7.1	8.1	15.3
North Cachar Hills	21.3	28.5	49.8
Sibsagar	7.2	13.6	20.8
Sonitpur	8.3	7.1	15.4
Tinsukia	7.3	18.0	25.3
Assam	8.2	14.3	22.5

Map-6

Current Use of Any Family Planning Method



CHAPTER VII

ACCESSIBILITY AND PERCEPTION ABOUT GOVERNMENT HEALTH FACILITIES

The government health facilities at all the levels provide various RCH services. Auxiliary Nurse Midwife (ANM), family planning worker or male health worker play a key role in delivering the services to the community. Health workers are expected to make regular visits to all the households in their assigned area. During these contacts, the health workers are supposed to monitor various aspects of the health of women and children, provide information related to health and family planning, counsel and motivate to adopt appropriate health and family planning practices, and deliver other selected services. These contacts are also important as they enhance the credibility of services and establish necessary rapport with the clients. In order to assess the extent of utilisation of government health facilities by all eligible women and to find out whether ANM/health workers reach the households for providing RCH services, a separate section in the women's questionnaire was canvassed to all the eligible women. This chapter deals with the accessibility and the opinion of women about the services provided by the government health workers. The quality of care offered by the government health programme as perceived by currently married women is also presented.

7.1 Home Visit by Health Workers

Table 7.1 shows the percentage of currently married women visited by health workers at home during the three months prior to the survey. Only three percent of the women in Assam reported that the health worker visited them at their residence at least once in the last three months preceding the survey. Younger women seemed more likely to report a home visit than older women. Four percent of women in the age group 15-24 years reported at least one home visit compared to two percent of women in the age group 35 years and older. The percentage of women receiving home visits is higher in rural areas (four percent) than in urban areas (two percent). More Scheduled Tribe women (five percent) reported home visits than other caste women. There was not much variation by education and standard of living index.

Women who reported a home visit during the three months preceding the survey were asked who visited their household during the past three months and whether they were satisfied with the kind of services/advice received, and the time spent by these health workers. Among women who received services at home, 90 percent received services from ANM/LHV, seven percent from doctors and six percent from male health workers. Home visits by doctors were more in urban areas and the visit by ANM/LHV and male health workers were more in rural areas. Fifty-four percent of women who received services at home were satisfied with the time spent with them and 84 percent of women were satisfied with the services or advice given to them.

Table 7.1 HOME VISIT BY HEALTH WORKER

Percentage of women who had home visit by a doctor, ANM/LHV, or male health worker in the 3 months preceding the survey, among women who had home visit, satisfied with time spent by health workers and with services provided by selected background characteristics, Assam, 2002-04

Background characteristic	Percentage with home visit	Number of women	Home visit by[1]			Percentage of women satisfied with		Number of women
			Doctor	ANM / LHV	Male health worker	Amount of time	Services/ advices	
Age								
15.24	4.3	3,430	3.5	92.6	4.1	51.0	84.3	147
25-34	3.5	7,978	8.3	90.2	5.9	54.1	84.3	283
35-44	2.0	6,367	7.9	85.8	8.1	57.2	83.2	129
Residence								
Rural	3.7	12,983	5.8	90.8	6.6	55.4	84.6	480
Urban	1.7	4,793	13.8	83.7	2.0	45.2	80.6	79
Education								
Non-literate	3.2	6,301	5.3	92.3	6.9	49.3	82.3	199
0-9@ years	3.0	8,039	3.6	90.6	6.1	54.6	84.2	243
10 and above	3.4	3,427	16.7	84.0	4.0	60.6	86.7	117
Religion								
Hindu	3.1	12,715	8.3	91.0	4.5	53.6	84.1	399
Muslim	3.4	4,428	3.0	86.9	9.5	55.0	83.5	149
Christian	1.8	537	*	*	*	*	*	10
Other	1.8	95	*	*	*	*	*	2
Caste/tribe#								
Scheduled caste	3.2	2,304	6.6	88.4	6.7	40.5	85.5	73
Scheduled tribe	4.8	2,271	12.0	95.4	3.0	57.1	82.1	108
Other backward class	3.2	3,920	5.2	91.2	3.9	53.5	76.1	125
Other	2.9	8,644	5.8	87.0	8.1	57.3	88.2	250
Standard of living index								
Low	3.4	9,799	4.1	90.5	8.2	54.1	83.7	334
Medium	3.4	4,334	8.4	92.6	3.0	55.8	85.2	149
High	2.1	3,643	16.7	81.4	1.9	49.9	83.5	76
Availability of health facility[2] in the village								
No	3.4	6,273	6.8	90.2	5.8	53.9	79.1	213
Yes	4.0	6,709	5.0	91.4	7.2	56.7	89.1	266
Total	3.1	17,775	6.9	89.8	5.9	54.0	84.0	559

Note: Total includes 8 cases with missing information on education were not shown separately. [1] Percentage may add to more than 100.0 due to multiple responses. @ Literate women with no years of schooling are also included. [#] Total number may not add to N due to do not know and missing cases. [2] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village. *Percentage not shown: based on few cases.

The proportion of women who were satisfied with the amount of time spent, and advice provided by health workers varied across various background characteristics. As compared to older women, younger women were less likely to report about satisfaction with the amount of time spent by the health workers during home visits. Fifty one percent of women in the age

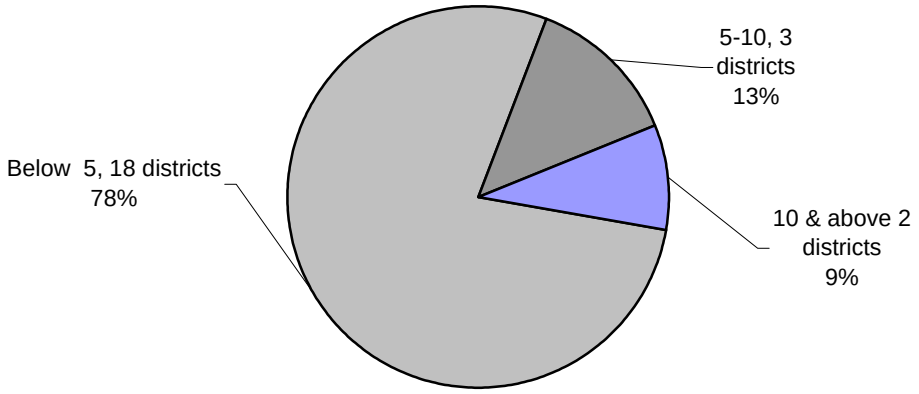
group, 15-24 years and 54 percent in 25-34 years reported satisfaction with the time spent by health workers as compared to 57 percent of women aged 35-44 years. Majority of the women irrespective of age, residence, education, religion, caste and standard of living index were satisfied with services. Rural women were more satisfied with time spent and services provided by health personnel as compared to urban women. Women residing in the village with availability of health facility are more satisfied with the time spent and services provided than women from those villages where health facilities are not available.

7.2 Home Visit by Health Workers by Districts

Except in Marigaon (15 percent) and Kokrajhar (14 percent), in all the other districts of Assam, health workers visited less than 10 percent of the women at home (Table 7.2 and Figure 7.1). In 18 districts, less than five percent of the women were visited by health workers/ANM. In Nagaon district, health workers visited no women. This way home visit by health workers in all the districts of Assam is very poor. Among women who were visited by health worker at home, majority of them were approached by ANM/LHV in almost all the districts.

However, in all the districts, women were more satisfied with the services provided by the health workers than the time spent by the health workers during the home visit.

Figure: 7.1
Distribution of Districts by Home Visit by Health Worker



Assam, DLHS-RCH,2002-04

Table 7.2 HOME VISIT BY HEALTH WORKER BY DISTRICT

Percentage of women who had home visit by a doctor, ANM/LHV, or male health worker in the 3 months preceding the survey, among women who had home visit, satisfied with time spent by health workers and with services provided by district, Assam, 2002-04

District	Percentage with home visit	Home visit by[1]			Percentage of women satisfied with	
		Doctor	ANM / LHV	Male health worker	Time spent	Services
Barpeta	3.4	2.5	97.5	4.6	19.2	88.6
Bongaigaon	2.2	(24.4)	(61.4)	(14.1)	(100.0)	(100.0)
Cachar	0.6	(0.0)	(100.0)	(0.0)	(57.7)	(78.7)
Darrang	1.9	(0.0)	(100.0)	(0.0)	(72.8)	(89.7)
Dhemaji	1.1	(26.0)	(47.6)	(26.4)	(11.9)	(70.3)
Dhubri	4.2	5.8	92.7	0.0	44.3	85.9
Dibrugarh	5.6	0.0	100.0	0.0	39.8	89.8
Goalpara	1.9	(16.0)	(84.0)	(0.0)	(52.7)	(92.1)
Golaghat	0.7	(26.8)	(73.2)	(0.0)	(50.5)	(86.2)
Hailakandi	6.5	0.0	61.1	38.9	72.6	78.4
Jorhat	3.6	(16.0)	(84.0)	(0.0)	(25.1)	(67.7)
Kamrup	0.7	(66.9)	(83.5)	(0.0)	(83.5)	(100.0)
Karbi Anglong	4.2	8.1	91.9	3.0	37.2	94.4
Karimganj	2.4	(0.0)	(74.9)	(25.7)	(63.9)	(78.0)
Kokrajhar	14.2	3.5	97.5	1.0	94.7	95.5
Lakhimpur	2.2	(12.7)	(84.4)	(0.0)	(44.2)	(58.4)
Marigaon	14.8	13.2	79.7	16.1	56.6	68.8
Nagaon	0.0	(0.0)	(100.0)	(0.0)	(0.0)	(100.0)
Nalbari	4.2	3.3	96.7	0.0	36.5	85.0
North Cachar Hills	0.9	(0.0)	(74.4)	(25.6)	(74.0)	(100.0)
Sibsagar	7.4	11.4	85.1	3.4	41.2	83.7
Sonitpur	1.2	(0.0)	(100.0)	(0.0)	(0.0)	(54.2)
Tinsukia	0.1	(0.0)	(100.0)	(0.0)	(100.0)	(100.0)
Assam	3.1	6.9	89.8	5.9	54.0	84.0

Note: [1] Percentage adds to more than 100.0 due to multiple responses. ( ) Based on less number of cases.

7.3 Matters Discussed during Home visits or Visits to Health Facilities

Women who were visited at home by a family planning worker, as well as those who visited government health facility or other health facility during the three months preceding the survey were asked about the different topics discussed with the workers during any of these visits. Table 7.3 shows the percentage of women who discussed the health and family planning or any health related matters to the health workers during home visits or visits to a health facility during the past three months. There are 337 pregnant women or women with children born during the reference period, 146 current users and 75 current non-users were visited by health workers at home. Similarly, 931 pregnant women or women with children born during the reference period, 480 current family planning users and 204 current non-users had visited health facilities.

The major focus of discussion during home visits was immunization (47 percent). In addition, discussions were also made on family planning (22 percent), treatment of health

problems (18 percent), disease prevention (15 percent), child care (14 percent), antenatal care nutrition and sanitation/cleanliness (11 percent each). Discussions about family planning were more among current users (24 percent) and pregnant women (22 percent) compared to non-users (13 percent). As expected, pregnant women or women with child born after reference period were much more likely than other women to report that they discussed childcare, immunization, antenatal care, postpartum care, and breastfeeding. A higher proportion of current contraceptive users as compared to current non-users discussed immunisation, disease prevention, treatment of health problems, sanitation/cleanliness and nutrition matters during home visit by health workers past three months preceding the survey.

Table 7.3 MATTER DISCUSSED DURING CONTACT WITH A HEALTH WORKER

Percentage of women who were visited by health worker in the three months preceding the survey, and percentage of women who visited health facility, and the percentage of women[1] who discussed specific topics with the health worker, Assam, 2002-04

Topic discussed	Pregnant women or women with children after reference period[2]	Other women		Total
		Current contraceptive users	Current nonusers	
During home visit				
Family planning	22.4	23.8	13.4	21.5
Breastfeeding	7.1	2.0	0.0	4.8
Supplementary feeding	3.2	1.0	0.7	2.3
Immunization	53.3	38.0	32.9	46.5
Nutrition	12.0	12.5	3.7	11.0
Diseases prevention	12.5	23.0	12.8	15.3
Treatment of health problem	12.0	29.8	18.8	17.5
Antenatal care	15.8	2.0	8.7	11.2
Delivery care	6.7	2.6	8.2	5.8
Postpartum care	6.5	2.5	4.4	5.3
Childcare	15.4	11.0	10.3	13.5
Sanitation / cleanliness	8.9	15.4	11.8	11.0
Oral rehyderation	4.0	2.4	1.4	3.2
Other	15.7	11.4	29.5	16.4
Number of women	337	146	75	559
During visit to health facility				
Family planning	5.1	5.6	2.1	5.0
Breastfeeding	1.6	0.6	.0	1.1
Supplementary feeding	0.6	0.3	.0	0.4
Immunization	27.8	4.2	2.8	17.6
Nutrition	5.2	1.9	1.8	3.8
Diseases prevention	9.7	15.1	12.9	11.7
Treatment of health problem	30.3	64.5	68.7	45.3
Antenatal care	33.2	5.9	4.0	21.4
Delivery care	10.2	0.4	.8	6.1
Postpartum care	5.2	0.8	.9	3.4
Childcare	18.2	7.1	7.4	13.5
Sanitation / cleanliness	2.9	1.3	.8	2.2
Oral rehyderation	0.4	0.6	1.0	0.5
Other	4.6	6.9	11.8	6.2
Number of women	931	480	204	1,618

Note: Percentage add to more than 100.0 due to multiple responses.
[1] Women who visited private health facility are not included.
[2] Reference period for phase I, January 1st 1999 and for phase II, January 1st .2001

The topic discussed most often during visits to health facility by women was treatment of health problems (45 percent), antenatal care (21 percent), immunization (18 percent), child care (14 percent) and disease prevention (12 percent). Only five percent women reported that they discussed family planning during the visit. During visit to health facility, pregnant women or women with children born during reference period the topic discussed include immunization (28 percent), antenatal care (33 percent), treatment of health problem (30 percent), childcare (18 percent) and delivery care (10 percent). A higher proportion of current users and non-users discussed on treatment of health problems than pregnant women with children after reference period during visit to health facility in three months prior to survey.

7.4 Visit to Health Facility

Table 7.4 presents the percentage of currently married women who needed to visit health facility and visited the health facility by residence and availability of health facility in the village. Around 49 percent of women who needed to visit health facility but could not visit. Similarly, 15 percent of women who needed to visit health facility visited it in past three months of the survey. The proportion of women who needed to visit health facility and visited was higher in urban areas (19 percent) than in rural areas (14 percent). Among those who visited any health facility, 31 percent of women reported that they had visited a private hospital (22 percent in rural areas and 48 percent in urban areas).

Table 7.4 VISIT TO HEALTH FACILITY

Percentage of women who need to visit health facility and visited, and percent distribution of women visited health facility by type of health facility and according to place of residence and availability of health facilities in the village, Assam, 2002-04

Health facility	Total	Residence		Availability of health facility[1] in the village	
		Rural	Urban	No	Yes
Percentage of women who needed to visit health facility and not visited	48.7	51.9	39.8	51.8	52.0
Percentage of women who needed to visit health facility and visited	15.1	13.8	18.7	13.2	14.3
Number of women	17,775	12,983	4,793	6,273	6,709
Government health facility					
Hospital / CHC / FRU /RH	29.2	28.8	30.0	29.6	28.2
Dispensary	4.9	6.0	2.7	4.4	7.3
Primary health center	13.0	17.9	3.3	16.3	19.3
Sub-center	6.1	9.1	0.0	7.3	10.8
Private health facility					
Hospital	30.5	22.0	47.5	29.0	16.0
Dispensary	5.9	5.3	7.1	5.3	5.3
ISM[2] hospital/dispensary	3.6	2.8	5.2	2.4	3.1
Other	6.7	8.0	4.2	5.6	10.1
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	2,683	1,787	896	827	959

Note: CHC: Community health centre, FRU: First referral unit, RH: Referral Hospital. [1] Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village. [2] Either government or private health facility of Indian System of Medicine.

More than half of the women (53 percent) visited a government health facility, of which 29 percent visited government health facility such as hospital/CHC/FRU/RH, 13 percent visited primary health centres, 6 percent visited sub-centres and five percent visited government dispensary. Four percent of the women reported that they visited Indian system of medicine hospital/ dispensary, which were either government-run or private. There is not much difference in visit to any health facility according to availability of health facility in the village in the past three months of the survey.

7.5 Visit to Health Facility by Districts

Table 7.5 presents the percentage of currently married women who needed to visit health facility and visited the health facility by districts. In ten out of 23 districts, more than half of the women could not visit health facility when needed, with a highest percentage in Karimganj (81 percent) and lowest in Kokrajhar (30 percent). The percentage of women who need to visit health facility and visited is highest in Darrang (23 percent) and lowest in Cachar (seven percent). In the districts other than Cachar, Hailakandi, Jorhat, Karimganj and Tinsukia, women visited government health facilities more than a private health facility. In Hailakandi, only seven percent

of the women reported visited government health centres while 86 percent of them availed services from private health centres.

Table 7.5 VISIT TO HEALTH FACILITY BY DISTRICT

Percentage of women who needed to visit health facility, but not visited and percentage of women who visited health facility by type of health facility and by district, Assam, 2002-04

Districts	Percentage of women who need to visit health facility, but not visited	Percentage of women who need to visit health facility and visited	Percentage of women who visited to	
			Government health facility	Private health facility
Barpeta	67.1	11.3	54.4	42.5
Bongaigaon	34.4	19.5	67.0	31.5
Cachar	31.2	6.7	48.4	51.6
Darrang	42.9	22.8	49.9	45.2
Dhemaji	72.5	13.7	79.9	18.7
Dhubri	58.0	15.5	67.1	29.0
Dibrugarh	59.2	21.9	52.0	19.6
Goalpara	56.1	9.5	74.3	24.7
Golaghat	32.9	12.4	46.7	39.2
Hailakandi	63.2	18.1	6.7	85.7
Jorhat	40.5	15.7	45.5	51.6
Kamrup	45.3	18.0	49.7	49.0
Karbi Anglong	42.4	18.8	75.6	24.0
Karimganj	81.1	16.0	40.2	58.3
Kokrajhar	29.9	19.3	63.8	24.5
Lakhimpur	43.9	9.4	59.1	40.9
Marigaon	47.0	14.9	79.3	17.2
Nagaon	39.8	11.2	65.5	30.9
Nalbari	43.5	17.2	58.2	38.9
North Cachar Hills	71.8	10.3	59.7	37.3
Sibsagar	61.5	14.5	44.9	41.5
Sonitpur	63.7	18.3	56.2	29.7
Tinsukia	35.7	14.6	32.4	61.6
Total	48.7	15.1	53.6	39.7

7.6 Client's Perception of Quality of Government Health Services

Utilization of services is an essential indicator reflecting the quality of services. Better quality of services would have a higher utilization rate, which is very important from the policy point of view. Unless clients are satisfied with the services provided by the government, efforts made by the government is wasted. In order to assess the utilization of government health facilities, a question was asked whether they had visited any health facility for their health problem during past three months to the survey. Those who visited the government health facility were asked their perceptions about quality of services, (personal manner like courtesy, respect, sensitivity, and friendliness of the physician and staff, technical skills and quality like thoroughness, carefulness, and competence and waiting time for receiving the services), which is presented in Table 7.6. Majority of the women reported that the services at government health facilities were good. The reason for reporting poor services were mainly due to long waiting time (26 percent),

poor medical, surgical and diagnostic equipment (30 percent) and inconvenient location of health facilities (19 percent).

Table 7.6 QUALITY OF GOVERNMENT HEALTH FACILITY

Percentage of women who visited government health facility and rated quality and availability of services during most recent visit to a government health facility in the three months proceeding the survey, Assam, 2002-04

Quality indicator	Poor	Good	Excellent
The convenience of the health facility location	19.3	75.5	5.1
Length[1] of time spend towards waiting	25.7	65.6	8.2
Personal manner[2] of the physician[5]	10.2	86.0	3.7
The technical skills and quality[3] of the physician[5]	8.9	87.9	3.1
Personal manner[2] of nurse	12.2	85.2	2.6
The technical skills and quality[3] of nurse	10.3	87.6	2.1
Personal manner of other staff[5]	12.1	85.9	2.0
The technical skills and quality of other[4] staff	13.0	84.7	2.2
The explanation of what was done to her	11.4	86.3	2.2
Medical, surgical and diagnostic equipment	30.2	67.9	1.9
General comfort	22.6	75.3	2.0

Note: [1] Poor indicate long waiting time, good indicate average waiting time, and excellent indicate short waiting time. [2] Courtesy, respect, sensitivity, friendliness. [3]Thoroughness, carefulness, competence
[4] Including paramedical staff. [5]Includes hospital/community health centre/ first referral unit/ referral hospital, dispensary, and primacy health centre last visit made by women.

7.7 Reason for not visiting Government Health Centre

Women who visited the private health centre were asked the main reason for not visiting the government health centre and the results are presented in Table 7.7. Thirty eight percent of the currently married women reported poor quality of services and 16 percent of the women reported inconvenient location of the centre as the main reasons for not visiting the government health centre for their health problems. In rural areas, the main reasons for not visiting government health facilities are poor quality services (28 percent), inconvenient location of health centres (22 percent), inconvenient timing (14 percent) and doctors/health workers do not examine properly (12 percent). In urban areas, the main reasons for not visiting health facilities are poor quality of services (48 percent) and poor examination (13 percent). Poor quality of services as a reason for not visiting government health facilities were reported more in the villages where health facilities are available (31 percent) compared to that in the villages where health facilities are not available (26 percent).

Table 7.7 REASON FOR NOT PREFERRING GOVERNMENT HEALTH FACILITY

Percent distribution of women who visited private health facility by reason for not visiting government health facility and according to residence and availability of health facilities in the village, Assam, 2002-04

Reason	Total	Residence		Availability of health facility[1] in the village	
		Rural	Urban	No	Yes
Not conveniently located	15.5	22.0	8.9	23.9	19.6
Time is not suited	10.8	13.7	8.0	16.9	9.5
Poor quality of services	38.0	28.2	47.7	26.4	30.5
Heavy rush	7.4	5.4	9.3	3.8	7.6
Non/rare-availability of doctors/health workers	4.6	6.2	3.0	7.0	5.2
Doctors/health workers do not examine properly	12.2	11.7	12.7	10.2	13.7
Medicine not/rarely given or of bad quality	3.4	3.8	3.1	3.5	4.1
Doctors/paramedical staff does not behave properly	0.4	0.7	0.1	0.7	0.8
Services are charged	0.4	0.7	0.1	0.9	0.5
Referred by government doctor	2.5	2.6	2.4	1.9	3.5
Other	4.8	4.9	4.8	4.8	5.1
Total percent	100.0	100.0	100.0	100.0	100.0
Number of women	1,062	530	532	301	229

Note: [1]Includes sub-centre, primary health centre, Community health centre or referral hospital, government hospital, and government dispensary within the village.

7.8 Family Planning Information and Advice Received

Women who are currently not using any contraceptive method were asked whether they were ever advised by ANM or family planning health worker to adopt family planning method and method advised during any of the contact. Six percent of currently non-users of family planning methods reported that they were advised to adopt family planning method by ANM or family planning health worker (Table 7.8). The most frequently discussed method was Pills (42 percent) and female sterilization (37 percent). Only three percent each of women received advices to adopt condom and male sterilization as a contraceptive method. Discussions about traditional method such as rhythm or withdrawal were rare. There is not much variation by types of residence in terms of family planning information and advice given to them.

7.9 Availability of Pills and Condom

To explore difficulties faced in the procurement of condoms and pills, current users of these methods were asked whether they had any problem in getting supply whenever needed. The results are presented in Table 7.9. Six percent each of condom and pills users reported that they had a problem in getting these contraceptives. A higher proportion of rural women than urban women had problems in getting a supply of condoms and pills.

Table 7.8 ADVISE TO ADOPT FAMILY PLANNING METHOD

Percentage of current non-users who reported ever advised to adopt family planning method by method of family planning by ANM/health worker, according to residence, Assam, 2002-04

Advice/method	Total	Rural	Urban
Percentage of non-users who were advised to adopt family planning method	5.9	6.1	5.0
Number of women	7,086	5,651	1,435
Method			
Female sterilization	37.2	39.4	26.4
Male sterilization	3.1	3.5	0.8
IUD	5.9	5.1	9.7
Pills	41.5	42.7	35.8
Condom	2.9	2.4	5.2
Rhythm/periodic abstinence	3.8	3.2	6.8
Withdrawal	0.5	0.2	1.7
Other	1.7	0.8	6.1
Missing	3.5	2.6	7.4
Total percent	100.0	100.0	100.0
Number of women	416	344	71

Note: Total includes 19 cases missing on advice to adopt family planning method.

Table 7.9 AVAILABILITY OF REGULAR SUPPLY OF CONDOMS/PILLS

Percentage of current condom or pill users who ever had a problem getting a supply of condoms/pills by residence, Assam, 2002-04

Method/residence	Percentage who had a problem getting supply	Number of users
Condom		
Rural	6.4	1,546
Urban	4.3	616
Total	5.8	2,162
Pills		
Rural	8.0	171
Urban	3.9	243
Total	5.6	414

7.10 Quality of Care of Family Planning Services

Several aspects of quality of care of family planning services were also investigated. Current users of a sterilization were asked whether the person or centre where sterilization had been performed had informed her about other alternative methods of family planning It was asked whether she was told by an ANM or health worker about possible side effects of the modern method at the time when she accepted the method; whether she received any follow-up care after accepting the method. Tables 7.10 and 7.11 present the results of this investigation.

Sixty one percent of sterilized women reported that they were informed about alternative methods that they could use before adopting sterilization in government health facilities and 68 percent from private health facilities. Around 44 percent of women received this information in the family planning or RCH camp or out reach/ MCH clinic in the village at the time of accepting the sterilization. About 55 percent of such women were informed about alternative methods by others but not by a health worker working in government or private health sector.

Table 7.10 INFORMATION OF OTHER MODERN METHOD BEFORE STERILIZATION

Percentage of current users of sterilization who were informed about other modern method by the source where they get sterilized, according to the source of sterilization and residence, Assam, 2002-04

Source of sterilization	Total	Rural	Urban	Number of users
Government health facility	61.1	59.2	64.9	1,331
Family planning or RCH camp/ village session	43.9	43.7	52.7	44
Private health facility	68.3	61.7	71.7	585
Other	54.5	53.5	56.8	309
Total	61.4	57.8	66.7	1,368

Note: Total includes 4 and 18 women who said that they sterilized at mobile clinic, and who do not know including missing information of place/source of sterilization, are not shown separately.

Table 7.11 INFORMATION ON SIDE EFFECT AND FOLLOW-UP FOR CURRENT METHOD

Percentage of current users of modern contraceptive methods who were told about side effects or other problems of current method by a health worker or ANM/Nurse at the time of accepting the method and percentage who received follow-up services after accepting the method by current method and according to place of residence, Assam, 2002-04

Information/follow-up	Total	Rural	Urban
Told about side effects			
Sterilization	67.4	65.6	70.1
Other modern method	39.0	39.3	38.3
Any modern method	51.8	50.3	54.4
Received follow-up			
Sterilization	6.2	6.8	5.3
Other modern method	3.4	4.0	2.2
Any modern method	4.7	5.2	3.8

Another important facet of informed contraceptive choice is to provide full information about any side effects and any other problems associated with the method. In Assam, 52 percent of users of any modern method were informed about possible side effects or health problems associated with their current method. Sixty six percent of acceptors of sterilization in rural areas and 70 percent in urban areas reported that they were informed about its possible side effects. Among users of modern method other than sterilization, 39 percent of rural users and 38 percent of urban users were informed about the method of side effects. It is clear from the result that ANM or health workers in Assam are providing appropriate information to couples who need to make an informed choice about contraceptive methods. However, the situation with respect to follow-up services is not encouraging. Follow-up services among sterilization users are seen only

in six percent, five percent among users of any modern methods and three percent among users of other modern methods.

7.11 Quality of Care Indicators for Contraceptive Users by District

Table 7.12 shows inter-district variations in the percentage of users of sterilization who were told about alternative methods before adopting sterilization and about side effects or other problems related to the current method or users of modern contraceptive methods, and the percentage of users who received follow-up services.

Table 7.12 QUALITY OF CARE INDICATORS FOR CONTRACEPTIVE USERS BY DISTRICT

Among currently married women who are current users of modern contraceptive methods, quality of care indicators related to the use of their current contraceptive method by district, Assam, 2002-04

District	Percentage informed about other methods before getting sterilization[1]	Percentage told about side effects or other problems with method[2]		Percentage who received follow –up[2]		Percentage non-user told ever had advised to adopt contraceptive method
		Sterilizat-ion	Other modern method	Sterilizat-ion	Other modern method	
Barpeta	65.5	53.9	36.0	3.5	5.3	3.8
Bongaigaon	63.7	78.0	64.4	21.5	5.3	7.3
Cachar	64.8	44.3	21.8	3.6	1.7	1.6
Darrang	71.6	88.6	74.0	6.3	3.8	17.4
Dhemaji	67.0	65.5	27.5	11.2	3.1	6.0
Dhubri	72.7	52.1	17.0	12.8	3.2	6.1
Dibrugarh	65.9	62.0	25.2	16.6	10.8	5.9
Goalpara	60.0	47.4	31.5	4.0	3.0	2.6
Golaghat	62.0	69.2	33.7	10.6	3.7	2.7
Hailakandi	(20.7)	(31.6)	15.4	(30.2)	8.5	0.8
Jorhat	47.9	52.2	6.3	0.0	1.4	7.9
Kamrup	48.8	61.3	30.0	3.6	2.5	3.1
Karbi Anglong	67.1	45.9	21.7	15.1	3.1	6.2
Karimganj	37.5	8.4	7.4	5.8	3.7	3.0
Kokrajhar	(49.5)	(53.2)	42.4	(0.0)	4.3	4.0
Lakhimpur	37.6	67.4	45.9	18.0	5.9	2.2
Marigaon	30.7	28.7	39.1	12.3	5.6	14.4
Nagaon	79.3	97.3	53.9	0.0	0.0	6.1
Nalbari	68.7	64.2	27.6	7.2	2.1	7.1
North Cachar Hills	76.7	20.6	50.3	0.7	2.4	7.1
Sibsagar	29.3	56.0	54.9	6.8	4.9	7.8
Sonitpur	52.1	52.8	30.5	3.4	1.1	6.5
Tinsukia	77.8	91.7	94.5	2.8	0.6	10.3
Assam	61.4	67.4	39.0	6.2	3.4	5.9

Note: [1] At the time of accepting the current method
[2] By a health worker or ANM/Nurse after accepting the current method-

The percentage of sterilization-users who were informed about alternate method is lowest in Hailakandi (21 percent) and is highest in Nagaon (79 percent). There are also large inter-district variations in the percentage of sterilization- users and users of other modern contraceptive methods who were told about the possible side effects. In case of sterilization, the proportion varied from as low as eight percent in Karimganj to a maximum of 97 percent in Nagaon. For

other modern contraceptive methods, a highest of 95 percent users in Tinsukia and the lowest of six percent in Jorhat were told about the side effects of the method. Follow-up services are better for acceptors of sterilization than for other modern methods in most of the districts of Assam. Table 7.12 also shows district wise variation in the percentage of currently non-users who were ever advised to adopt contraceptive methods, which varies from a low of less than one percent in Hailakandi to a high of 15 percent in Marigaon.

7.12 Quality of Care of Maternal Health Care

Information on few other aspects of quality of care in terms of maternal care was also collected. Women with last live/still births during three years preceding the survey were asked whether the Doctor/ANM/health worker advised them to go to health facility for delivery when they were pregnant and received any follow-up care after delivering the baby within 2 weeks of delivery and received follow-up care at least once within six weeks of delivery. The same information is presented in Table 7.13.

Table 7.13 ADVISED TO HAVE DELIVERY AT HEALTH FACILITY AND FOLLOW-UP SERVICES FOR POSTPARTUM CHECK-UP

Percentage of women* who were advised to have delivery at health facility by doctor/ health worker and percentage who receive follow-up services within 2 weeks and within 6 weeks of delivery by ANM, according to residence, Assam, 2002-04

Advise/follow-up service	Total	Rural	Urban
Percentage of women who were advised to have delivery at health facility	30.3	25.6	48.6
Percentage of women who were visited within 2 weeks of delivery	2.9	3.4	1.2
Percentage of women who were visited at least once within 6 weeks of delivery	6.0	6.3	4.9
Number of women	6,150	4,890	1,260

Note: * Women who had their last live/still birth during three years preceding the survey

Thirty percent of the women with last live/still births during three years preceding the survey reported that they were advised by doctor or health worker to have delivery in health facility. Women from urban areas (49 percent) were more likely than rural areas (26 percent) to be advised to deliver their child at a health facility.

Among the districts, the percentage varies from as low as 11 percent each in Karimganj and Nagaon to as high as 63 percent in Jorhat (Table 7.14). In nine of the 23 districts, less than 30 percent women were advised to deliver their child in health facility.

Table 7.14 QUALITY OF CARE INDICATORS FOR MATERNAL CARE

Among currently married women* who are given last live/still birth three years preceding the survey, quality of care indicators related to delivery care by district, Assam, 2002-04

District	Percentage of women		
	Advised to have delivery at health facility by doctor/ health worker	Visited within 2 weeks of delivery by ANM	Visited at least one within 6 weeks of delivery by ANM
Barpeta	31.0	2.6	2.6
Bongaigaon	32.4	3.4	3.4
Cachar	12.9	0.3	0.3
Darrang	43.2	6.5	6.5
Dhemaji	25.3	2.5	3.5
Dhubri	17.4	4.2	37.9
Dibrugarh	58.5	5.1	5.6
Goalpara	30.2	0.9	0.6
Golaghat	31.8	0.6	0.9
Hailakandi	17.4	0.5	0.5
Jorhat	62.8	5.3	5.5
Kamrup	30.1	0.9	0.9
Karbi Anglong	19.3	1.0	1.0
Karimganj	11.2	1.0	1.8
Kokrajhar	32.6	4.4	4.4
Lakhimpur	34.4	6.4	6.0
Marigaon	39.8	10.7	11.9
Nagaon	10.8	0.4	0.5
Nalbari	47.3	7.7	7.4
North Cachar Hills	13.4	2.5	2.5
Sibsagar	48.2	2.3	2.3
Sonitpur	44.2	1.6	1.6
Tinsukia	27.0	0.3	0.3
Assam	30.3	2.9	6.0

Only three percent of the women reported that they were visited by an ANM within two weeks of delivery; such visit was one percent in urban areas and three percent in rural areas. Only six percent of the women in rural areas and five percent in urban areas received at least one follow-up service within six weeks of delivery. The proportion of women who had at least one postpartum check-up within six weeks of delivery is less than 10 percent in all the districts of Assam except Dhubri (38 percent) and Marigaon (12 percent) (Table 7.14).

CHAPTER – VIII

REPRODUCTIVE HEALTH PROBLEMS AND AWARENESS OF RTIs/STIs AND HIV/AIDS

One of the important components of the Reproductive and Child Health Programme is to have a healthy sexual life without fear of contracting disease. With this approach the RCH programme places a lot of emphasis on promoting and encouraging healthy sexual behaviour among couples through various Information, Education and Communication (IEC) activities. Health workers are also expected to educate women and men about Reproductive Tract Infections (RTIs) and Sexually Transmitted Infections (STIs) and motivate those people with RTI/STI problems to seek medical help. The DLHS-RCH has made an attempt to collect information on awareness and prevalence of RTI/STI. Apart from this, information on knowledge of HIV/AIDS, source of information and ways of avoiding AIDS were also collected.

8.1 Awareness of RTI/STI

An attempt was made to assess whether couples were aware of RTI/STI. Currently married women and their husbands were asked about their awareness of RTI/STI, and if they were aware, they were further questioned about the source of information and mode of transmission of the disease.

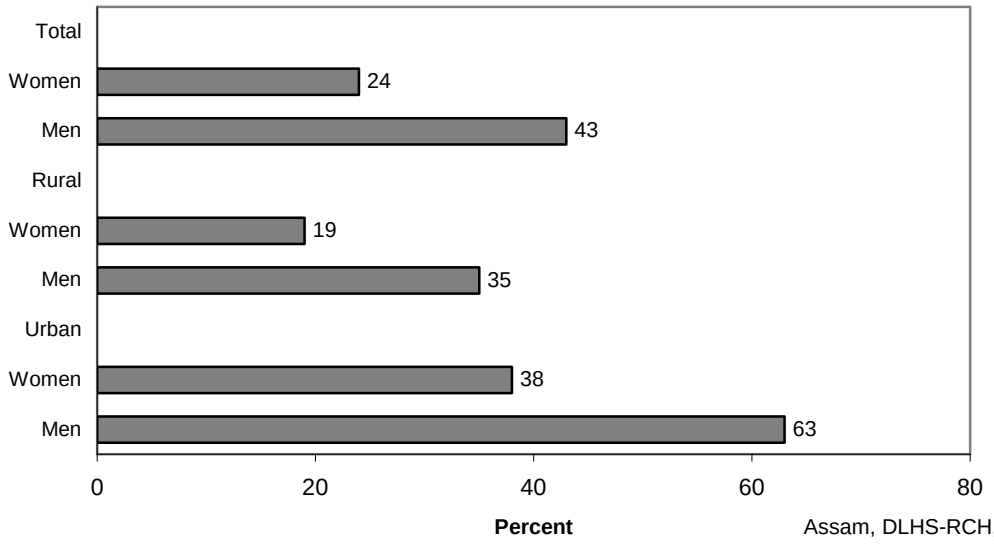
Table 8.1 shows the percentage of women aware of RTI/STI by background characteristics. Twenty four percent of the women in Assam were aware of RTI/STI. The proportion of women who were aware of RTI/STI is higher in urban areas (38 percent) than in rural areas (19 percent) as shown in Figure 8.1. Awareness of RTI/STI is much lower among younger women, non-literate women, women from Christian religions, Scheduled Tribe women and women from households with a low standard of living. Awareness of RTI/STI increases from 10 percent among non-literate women to 56 percent among women who have completed 10 or more years of schooling. The standard of living index shows a positive relationship with awareness of RTI/STI, ranging from 15 percent among women with a low standard of living to 51 percent among women with a high standard of living.

Those women who had heard of RTI/STI were further asked about the source of information of RTI/STI, which is presented in Table 8.1. The sources of information of RTI/STI as reported by women were relatives/friends (64 percent), television (36 percent), newspaper or books or magazines (32 percent), radio (28 percent) and slogans or posters or pamphlets or wall hoardings (15 percent). Only five percent each of women received this information from doctors or from health workers.

Table 8.2 shows the percentage of husbands of currently married women who heard of RTI/STI by specific source of information according to some selected background characteristics. In Assam, the percentage of men who heard of RTI/STI is higher than that of women (Figure 8.1). Forty-three percent of the men heard of RTI/STI. Men from urban areas and older men were relatively more aware of RTI/STI. Men who belong to Christian religion and

mainly from Scheduled Tribes are less aware of RTI/STI. The level of awareness of RTI/STI increases with an increase in education level and standard of living. Twelve percent of non-literate men were aware of RTI/STI against 77 percent of men who had completed 10 or more years of schooling. Twenty six percent of men from households with a low standard of living were aware of RTI/STI against 77 percent of men with a high standard of living.

Figure: 8.1
Awareness of RTI/STI by Sex and Residence



The main sources of awareness about RTI/STI in Assam are relatives or friends (49 percent), television and radio (44 percent each), newspaper or books or magazines (39 percent) and slogans or posters or pamphlets or wall hoardings (31 percent). Eleven percent of the men received this information from doctors, seven percent from health workers, eight percent from community meetings and one percent mentioned that they had received information about RTI/STI from school-teachers. More than half of the men in rural areas had heard about RTI/STI from relatives/friends and radio. Similarly, in urban areas, more than half of the men heard about RTI/STI from television (60 percent). The major source of awareness about RTI/STI among non-literates and low standard of living are relatives/friends (86 percent and 64 percent respectively). Doctors, health workers and community meetings seems to be marginal sources of spreading awareness of RTI/STI.

Table 8.1 SOURCE OF KNOWLEDGE ABOUT RTI/STI AMONG WOMEN

Percentage of currently married women age 15 - 44 who have heard about RTI/STI and among women who have heard about RTI/STI, percentage who received information from specific sources by selected background characteristics, Assam, 2002-04.

Background Characteristic	Percentage who have heard about RTI/STI	Number of Women	Among those who have heard about RTI/STI, percentage who received information from.										Number of women who have heard about RTI/STI
			Radio	Television	Newspaper/ Books/ Magazines	Slogan/ Pamphlets/ Posters/ Wall Hoardings	Doctor	Health worker	School teacher	Community Meeting	Relative/ Friends	Others	
Age group (years)													
15-19	11.7	867	19.7	17.1	22.5	12.2	0.5	7.8	0.0	6.9	67.7	3.0	102
20-24	20.3	2,563	25.1	26.4	25.5	11.6	3.5	4.6	0.4	3.8	66.1	3.3	521
25-29	24.8	4,167	28.7	35.1	29.9	13.0	5.3	7.2	0.9	2.4	66.5	2.7	1,033
30-34	25.9	3,812	30.9	41.3	39.0	18.5	4.0	4.5	0.4	1.5	62.7	1.9	988
35-39	26.1	3,718	28.2	38.0	31.4	14.6	5.2	4.6	0.6	2.2	62.0	3.0	969
40-44	26.6	2,650	25.4	38.7	29.2	17.3	4.4	3.3	0.5	2.3	64.8	1.5	706
Residence													
Rural	19.4	12,983	27.8	26.0	21.9	10.9	3.3	6.2	0.5	3.2	69.6	3.2	2,514
Urban	37.7	4,793	28.0	50.7	44.9	21.0	6.1	3.4	0.7	1.3	57.0	1.4	1,805
Education													
Non-literate	9.5	6,301	9.6	5.0	1.1	1.2	1.5	2.7	0.2	1.2	89.4	3.7	596
0-9@ years	22.6	8,039	22.7	26.0	14.9	7.0	2.2	4.6	0.2	2.6	73.1	2.6	1,820
10 and above	55.5	3,427	38.6	55.9	57.0	27.3	7.7	6.2	1.1	2.6	48.1	1.9	1,903
Religion													
Hindu	27.2	12,715	30.7	41.1	35.1	16.7	5.1	5.4	0.6	2.5	60.5	2.1	3,456
Muslim	17.3	4,428	16.0	15.7	15.3	8.0	1.2	3.4	0.1	2.0	80.4	4.3	766
Christian	12.3	537	26.7	30.0	22.4	16.2	8.9	4.8	4.8	5.3	83.2	1.8	66
Other	31.5	95	(17.2)	(34.5)	(41.4)	(13.8)	(6.9)	(13.8)	(0.0)	(3.4)	(62.1)	(0.0)	30
Caste/tribe#													
Scheduled caste	23.7	2,304	20.5	29.1	25.3	14.7	1.2	4.9	0.4	1.9	67.7	1.9	547
Scheduled tribe	16.3	2,271	28.8	28.6	22.8	10.5	4.0	7.3	0.6	4.9	68.5	2.6	370
Other backward class	26.3	3,920	34.2	39.0	32.4	16.1	5.4	6.4	0.6	3.4	62.4	2.2	1,032
Other	26.4	8,644	25.8	37.4	33.6	16.1	5.0	4.2	0.6	1.7	64.5	2.8	2,284
Standard of living index													
Low	14.6	9,799	18.2	7.8	7.1	5.4	1.6	4.8	0.2	2.7	81.5	4.0	1,433
Medium	23.7	4,334	30.8	36.6	24.0	9.6	3.2	5.8	0.4	3.1	67.5	1.8	1,029
High	51.0	3,643	33.8	58.1	54.5	25.7	7.4	4.8	1.0	1.8	49.3	1.7	1,857
Total	24.3	17,775	27.9	36.3	31.5	15.1	4.5	5.1	0.6	2.4	64.3	2.5	4,319

Note: Total includes 8 cases of missing information on education are not shown separately. #Total figure may not add to N due to do not know and missing cases. @ Literate women with no year of schooling are also included.

Table 8.2 SOURCE OF KNOWLEDGE ABOUT RTI/STI AMONG MEN

Percentage of husband of eligible women who have heard about RTI/STI and among men who have heard about RTI/STI, percentage who received information from specific sources by selected background characteristics, Assam, 2002-04.

Background characteristic	Percentage who have heard about RTI/STI	Number of men	Among those who have heard about RTI/STI, percentage who received information from.										Number of men who have heard about RTI/STI
			Radio	Televi-sion	Newspaper / Books/ Magazines	Slogan/ Pamphlets/ Posters/ Wall Hoardings	Doctor	Health worker	School teacher	Commun -ity Meeting	Relative/ Friends	Others	
Age group (years)													
< 25	30.2	510	42.4	22.9	29.6	26.7	9.0	5.4	0.6	13.3	50.5	0.0	154
25-34	41.6	3,777	40.9	41.7	32.5	29.1	12.0	9.7	0.8	8.6	49.4	1.5	1,571
35-44	44.2	5,014	46.8	46.4	42.4	34.1	10.6	6.7	1.5	7.9	47.5	0.7	2,218
45+	43.2	3,523	43.6	43.6	41.6	29.6	8.8	6.1	1.5	5.1	49.2	1.0	1,523
Residence													
Rural	35.2	9,415	50.1	33.1	34.1	27.6	8.5	9.1	1.4	9.1	52.3	1.5	3,315
Urban	63.1	3,409	34.8	59.8	46.6	36.6	13.4	4.7	1.1	5.0	42.8	0.2	2,151
Education													
Non-literate	11.6	3,175	19.0	7.5	2.3	4.5	5.3	3.0	0.6	8.0	86.4	3.5	367
0-9@ years	39.1	6,146	38.1	30.0	23.3	21.8	6.7	7.3	0.6	7.6	55.0	0.8	2,403
10 and above	77.1	3,498	52.8	60.7	58.0	43.2	14.5	8.0	2.0	7.3	37.7	0.8	2,696
Religion													
Hindu	46.3	9,186	44.1	47.1	40.1	31.7	10.8	7.5	1.2	6.8	47.8	0.8	4,253
Muslim	34.3	3,168	43.2	29.0	35.3	31.0	8.9	7.1	1.8	9.6	52.9	2.1	1,088
Christian	21.2	385	48.3	38.1	37.9	16.0	17.4	3.6	0.0	16.4	54.7	0.0	82
Other	51.2	85	(30.4)	(43.5)	(56.5)	(13.0)	(8.7)	(13.0)	(0.0)	(8.7)	(30.4)	(4.3)	44
Caste/tribe#													
Scheduled caste	55.2	1,785	25.3	32.1	18.8	27.2	8.4	6.6	0.3	5.7	60.5	0.3	985
Scheduled tribe	27.1	1,673	48.9	33.1	33.8	21.9	9.7	11.8	1.2	6.8	44.1	1.3	454
Other backward class	41.4	2,880	53.3	45.7	39.8	31.6	8.9	7.7	1.6	9.6	48.7	1.4	1,193
Other	45.1	6,089	45.9	48.5	46.2	33.3	11.3	6.0	1.4	7.0	45.2	1.0	2,744
Standard of living index													
Low	26.2	7,138	40.3	15.5	22.2	18.1	8.6	7.6	1.2	10.7	64.4	1.8	1,869
Medium	52.0	3,069	47.6	45.7	37.5	28.2	6.2	8.8	1.1	7.1	46.3	0.7	1,594
High	76.5	2,617	44.9	68.3	55.9	45.7	15.6	6.1	1.4	4.8	35.7	0.5	2,002
Total	42.6	12,824	44.1	43.6	39.0	31.2	10.5	7.4	1.3	7.5	48.6	1.0	5,466

Note: Table includes 4 cases of missing information on aware of RTI/STI. #Total figure may not add to N due to do not know and missing cases Total includes 8 cases with missing information on education are not shown separately. @ Literate men with no year of schooling are also included. ( ) Based on less than 50 unweighted cases.

8.1.1 Knowledge of Mode of Transmission of RTI/STI

Women who were aware of RTI/STI were asked about the mode of transmission. This is presented in Table 8.3. Among women who reported knowledge of RTI/STI, 46 percent of them did not know anything about the mode of transmission of this disease. This proportion is relatively higher among rural women, non-literate women, women from Muslim religions, women from Scheduled Caste and women coming from households with low standard of living. Heterosexual intercourse and lack of personal hygiene were mentioned by 44 percent and 34 percent of women respectively as mode of transmission of RTI/STI. Seven percent of women reported homosexual intercourse as one of the modes of transmission of RTI/STI.

Table 8.3 SOURCE OF KNOWLEDGE ABOUT MODE OF TRANSMISSION OF RTI/STI AMONG WOMEN

Percentage of currently married women age 15-44 who have heard of RTI/STI, knowledge of mode of transmission by selected background characteristics, Assam, 2002-04

Background characteristic	Percentage by knowledge of mode of transmission					Number of women who have heard of RTI/STI
	Homosexual intercourse	Heterosexual intercourse	Lack of personnel hygiene	Other	Do not know	
Age						
15-19	1.6	28.6	27.9	1.4	57.7	102
20-24	7.0	34.3	24.1	1.3	55.4	521
25-29	7.2	43.2	34.9	1.1	46.3	1,033
30-34	9.4	50.8	38.2	1.0	40.6	988
35-39	6.3	45.0	34.5	1.0	45.3	969
40-44	6.3	46.1	36.7	0.6	42.8	706
Residence						
Rural	6.3	39.9	30.1	0.7	49.7	2,514
Urban	8.4	50.7	40.3	1.3	39.8	1,805
Education						
Non-literate	1.3	21.0	14.3	0.3	71.4	596
0-9@ years	4.0	31.8	24.2	1.2	57.4	1,820
10 years and above	12.1	63.8	50.4	1.0	26.1	1,903
Religion						
Hindu	8.3	47.7	37.2	1.0	41.9	3,456
Muslim	2.6	29.5	22.0	0.8	62.4	766
Christian	4.0	38.0	29.0	2.5	47.6	66
Other	(10.3)	(51.7)	(48.3)	(0.0)	(31.0)	30
Caste/tribe#						
Scheduled caste	6.0	37.3	30.7	1.8	51.5	547
Scheduled tribe	6.9	40.4	36.4	0.7	47.1	370
Other backward class	8.8	47.8	36.4	0.9	43.0	1,032
Other	7.0	45.1	35.0	0.9	45.1	2,284
Standard of living index						
Low	3.5	27.1	20.5	0.8	63.4	1,433
Medium	5.4	41.5	32.4	1.0	47.4	1,029
High	11.1	59.4	46.2	1.2	30.8	1,857
Total	7.2	44.4	34.4	1.0	45.6	4,319

Note: #Total figure may not add to N due to do not know and missing cases @ Literate women with no year of schooling are also included. ( ) Based on less than 50 unweighted cases.

Table 8.4 presents the knowledge of mode of transmission of RTI/STI among men. Among men who had heard of RTI/STI, 21 percent mentioned that they did not know any thing about the mode of transmission of this disease. The percentage of men who did not know about the mode of transmission is higher among younger men, non-literate men, Muslim and Christian men, men from Scheduled Tribes and men coming from households with a low standard of living. Among the men who knew the modes of transmission of RTI/STI, 69 percent mentioned heterosexual intercourse, 31 percent reported lack of personal hygiene and eight percent mentioned homosexual intercourse.

Table 8.4 SOURCE OF KNOWLEDGE ABOUT MODE OF TRANSMISSION OF RTI/STI AMONG MEN

Percentage of husbands of currently married women who have heard of RTI/STI , knowledge of mode of transmission by selected background characteristics, Assam, 2002-04

Background characteristic	Percentage by knowledge of mode of transmission					Number of men who have heard of RTI/STI
	Homosexual intercourse	Heterosexual intercourse	Lack of personnel hygiene	Other	Do not know	
Age						
<25	3.7	53.4	21.0	1.3	40.3	154
25-34	7.3	65.1	31.1	1.2	21.3	1,571
35-44	8.4	71.7	33.2	3.7	19.7	2,218
45+	7.9	69.8	29.3	1.1	19.4	1,523
Residence						
Rural	7.0	65.1	27.6	1.8	24.8	3,325
Urban	9.1	74.4	36.6	2.8	14.3	2,151
Education						
Non-literate	1.6	40.9	26.4	2.3	40.6	367
0-9@ years	4.1	63.9	20.8	2.2	27.9	2,403
10 years and above	12.0	76.8	41.1	2.2	11.5	2,696
Religion						
Hindu	7.8	70.0	33.7	2.4	18.1	4,253
Muslim	7.0	65.6	21.9	1.1	28.3	1,088
Christian	14.8	63.2	32.2	2.0	29.7	82
Other	(13.0)	(73.9)	(30.4)	(4.3)	(21.7)	44
Caste/tribe#						
Scheduled caste	3.4	76.0	19.3	0.2	15.7	985
Scheduled tribe	6.3	56.5	29.1	0.6	31.0	454
Other backward class	6.2	66.7	35.3	2.2	21.5	1,193
Other	9.4	68.9	33.8	3.2	20.3	2,744
Standard of living index						
Low	4.3	56.5	23.8	1.2	33.1	1,869
Medium	6.0	70.6	27.8	3.6	18.8	1,594
High	12.5	78.8	40.7	1.9	10.5	2,002
Total	7.8	68.8	31.2	2.2	20.6	5,466

Note: @ Literate men with no years of schooling are also included. #Total figure may not add to N due to do not know and missing cases. ( ) Based on less than 50 unweighted cases.

8.2 Prevalence of RTI/STI

In DLHS-RCH, information was collected on the common symptoms of reproductive tract infections and sexually transmitted infections from women and their husbands including menstruation related problems in the three months immediately preceding the survey.

The prevalence of reproductive tract infections and sexually transmitted tract infections is judged by their reported symptoms. All the respondents were told about symptoms of RTI/STI, and were asked whether they had any of them. In case of the presence of at least one symptom, they were further asked whether they sought treatment for such problems, and if they had sought treatment, details regarding the source of treatment also recorded. The topic of RTI/STI is quite sensitive. The culture of silence prevents people from discussing such topics in the presence of others. In spite of intensive training of the investigators, the respondents might have hesitated in reporting the symptoms of RTI/STI. What gets reported in the survey may not have given the exact prevalence, but may give at least the lower limit.

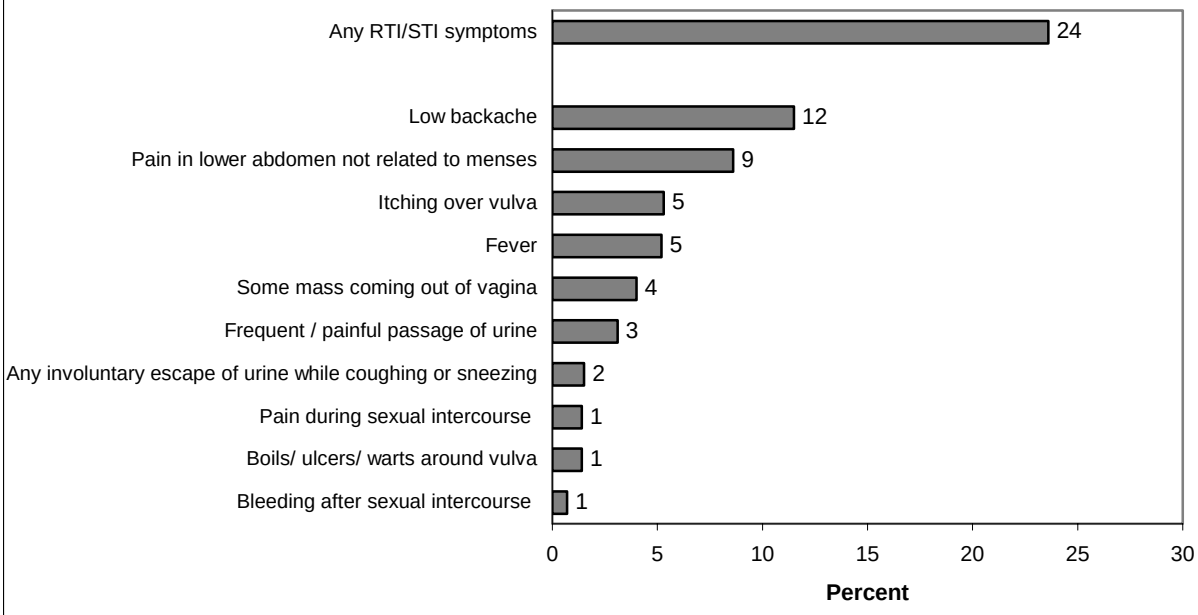
Table 8.5 and Figure 8.2 show that more than one-third of currently married women (24 percent) reported at least one RTI/STI problem. The problems reported by women were 'low backache' (12 percent), 'pain in lower abdomen' (9 percent), 'itching over vulva' (five percent), fever (five percent), some mass coming out of vagina (four percent) and 'frequent / painful passage of urine' (three percent). Other symptoms of reproductive health reported by women were less than two percent. Women reporting various symptoms of RTI/STI are little higher in rural areas compared to urban areas.

Table 8.5 SYMPTOMS OF RTI/STI AMONG WOMEN

Percentage of currently married women age 15-44 who reported any symptoms RTI/STI and specific symptoms during three months prior to survey, according to residence, Assam, 2002-04

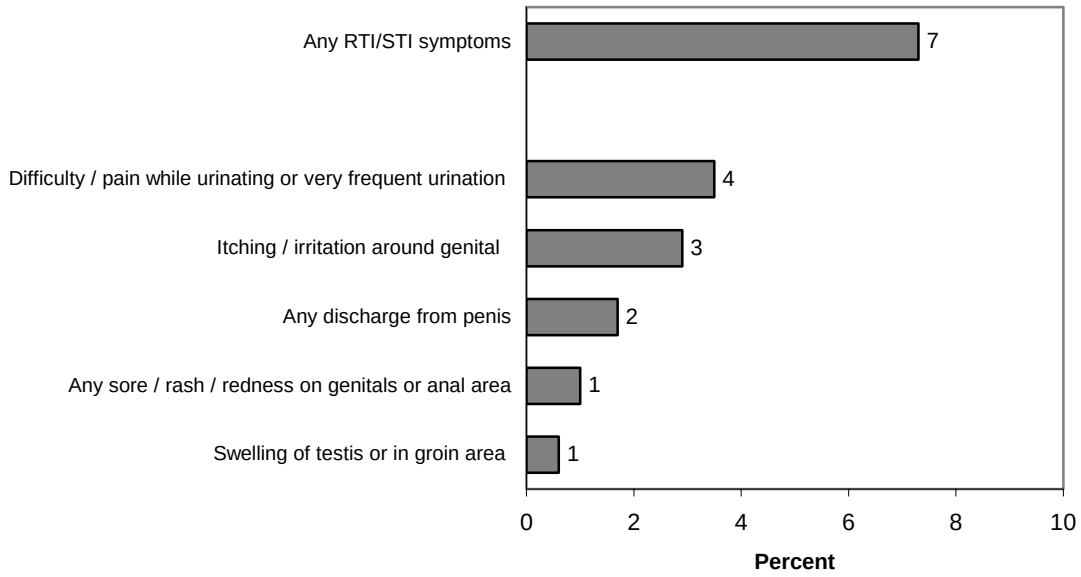
Symptoms	Total	Residence	
		Rural	Urban
Percentage of women reported any RTI/STI symptoms	23.6	24.5	21.1
Symptoms			
Itching over vulva	5.3	5.7	4.0
Boils/ ulcers/ warts around vulva	1.4	1.7	0.9
Pain in lower abdomen not related to menses	8.6	9.0	7.4
Low backache	11.5	11.8	10.7
Pain during sexual intercourse	1.4	1.5	1.2
Bleeding after sexual intercourse	0.7	0.6	0.9
Swelling in the groin	0.4	0.4	0.2
Frequent / painful passage of urine	3.1	3.2	2.9
Fever	5.2	5.3	5.0
Some mass coming out of vagina	4.0	4.4	2.7
Any involuntary escape of urine while coughing or sneezing	1.5	1.7	0.9
Swelling / lump in breast	0.3	0.3	0.2
Number of women	17,775	12,983	4,793

Figure: 8.2
Symptoms of RTI/STI among Women



Assam, DLHS-RCH,2002-04

Figure: 8.3
Symptoms of RTI/STI among Husbands



Assam, DLHS-RCH,2002-04

Table 8.6 and Figure 8.3 show the prevalence of reproductive health problems among husbands of currently married women. The prevalence of RTI/STI among men was judged by the reporting of symptoms. Seven percent of men reported experiencing at least one symptom of RTI/STI problem in the last three months preceding the survey. The prevalence of reproductive health problems is higher among rural men (8 percent) than among urban men (4 percent). The specific problem of reproductive health experienced by men is 'difficulty / pain while urinating or very frequent urination (4 percent), 'itching / irritation around genital' (three percent), 'discharge from penis' (two percent), 'sore / rash / redness on genitals or anal area' (one percent), and 'swelling of testes or in groin area' (one percent).

Among men who reported reproductive health problems, 37 percent sought treatment. Higher percentage of men sought treatment for RTI/STI in urban areas (42 percent) compared to rural areas (36 percent). Among them, 53 percent visited a government health facility including nine percent in primary health centre and three percent in sub-centre. Another 13 percent visited a private health facility. Seven percent of men were treated by the Indian system of medicine, 11 percent obtained treatment from a chemist or medical shop and 17 percent of the men reported that they were treated at other sources. A relatively higher proportion of men from rural areas (57 percent) utilised the government health facility as compared to urban areas (36 percent). However, for the treatment of RTI/STI, higher proportion of men in urban areas (39 percent) compared to rural areas (eight percent) utilised private health facility. A large proportion of men saw a doctor (72 percent), i.e. 77 percent in urban areas and 71 percent in rural areas. Three percent of men were seen by a male health worker, six percent by a traditional healer, three percent by relatives or friends and two percent by an ISM practitioner. Three percent of the men used home remedies and nine percent of the men went to a chemist. Another three percent of the men obtained treatment from other sources. The percentage of men who obtained treatment, except from doctors and relative/friends is higher in rural areas than in urban areas.

The DLHS-RCH also collected information from currently married women on symptoms of RTIs, that is, on abnormal vaginal discharge, texture, colour and odour of discharge in the three months immediately preceding the survey. The prevalence of reproductive health problems among currently married women is estimated from women's reported sufferings. Table 8.7 shows the asymptotic prevalence of vaginal discharge related problems among currently married women in Assam during the three months preceding the survey according to residence. Twelve percent of the women reported problems related to vaginal discharge. The prevalence of vaginal discharge problem is relatively higher among rural women (14 percent) than among urban women (eight percent).

Among the women who had reported symptoms of vaginal discharge, 25 percent went for treatment, higher percentage (32 percent) from urban areas compared to their rural counterparts (23 percent). These women visited both government (41 percent) and private (33 percent) health facilities for treatment. Seven percent went to the Primary Health Centre, one percent to Sub Centre, 11 percent took home remedies and 16 percent of the women visited other places for treatment. The proportion of women who visited a private health facility is higher in urban areas (53 percent) than in rural areas (27 percent) and the proportion of women, who visited a government health centre is 41 percent each for urban and rural areas. A significantly higher proportion of women (71 percent) in the state of Assam obtained treatment from doctors for their

problems. Around five percent women were treated by ANM/Nurse/Midwife /LHV and 12 percent by other health professionals.

Table 8.6 SYMPTOMS OF RTI/STI AMONG MEN

Percentage of husbands of currently married women who reported any symptoms RTI/STI and specific symptoms during three months prior to survey and sought treatment for RTI/STI by source of treatment, according to residence, Assam, 2002-04

Symptoms and treatment	Total	Residence	
		Rural	Urban
Percentage of men reported any RTI/STI symptoms	7.3	8.4	4.3
Symptoms			
Any discharge from penis	1.7	2.0	0.8
Any sore / rash / redness on genitals or anal area	1.0	1.2	0.5
Difficulty / pain while urinating or very frequent urination	3.5	4.0	2.3
Swelling of testis or in groin area	0.6	0.9	0.1
Itching / irritation around genital	2.9	3.6	1.1
Number of men	12,824	9,415	3,409
Percentage of men sought treatment for any RTI/STI	36.6	35.6	42.0
Number of men[1]	936	790	146
Percentage sought treatment at health facility[2]			
Government health facility[3]	52.8	56.5	35.9
Primary health centre	8.7	9.9	3.4
Sub centre	2.8	3.3	0.5
Private health facility[4]	13.4	7.8	38.8
ISM[5] facility	7.3	7.7	5.3
Chemist/ medical shop	11.4	12.8	5.2
Other	17.0	16.6	18.4
Percentage obtained treatment from[2]			
Doctor	71.7	70.5	77.3
Male health worker	2.9	2.9	3.1
Traditional healer	6.3	7.3	1.7
Relative/friends	3.1	1.1	17.0
ISM practitioner	1.8	2.1	0.5
Home remedy	2.6	3.2	0.0
Chemist medical shop	9.2	10.4	4.0
Other	3.3	4.0	0.0
Number of men	343	281	61

Note: [1] Based on men with any symptoms of RTI/STI. [2] Percentage may add to more than 100.0 due to multiple responses and based on who sought treatment. [3] Includes Government municipal hospital, dispensary, UHC/ UHP /UWFC, CHC/ rural hospital, Primary health centre, sub-centre. [4] Includes private hospital/ clinic, non-governmental / trust hospital/clinic. [5] Either government or private hospital/clinic of Indian system of medicine. [6] Based on who sought treatment for RTI/STI.

Table 8.7 ABNORMAL VAGINAL DISCHARGE

Percentage of currently married women age 15-44 who reported had any abnormal vaginal discharge during three months prior to survey and percentage who sought treatment and source of treatment according to residence, Assam, 2002-04

Symptoms and treatment	Total	Residence	
		Rural	Urban
Percentage of women reported abnormal vaginal discharge	12.4	13.9	8.4
Number of women	17,775	12,983	4,793
Percentage of women sought treatment for vaginal discharge	24.9	23.2	32.1
Number of women[1]	2,206	1,802	403
Percentage sought treatment at health facility [2]			
Government health facility[3]	40.6	40.5	40.9
Primary health centre	6.5	7.9	1.8
Sub centre	1.4	1.9	0.0
Private health facility[4]	33.2	27.1	52.9
ISM[5] facility	5.7	5.6	5.9
Home remedy	10.8	12.4	5.9
Other	16.3	19.2	6.7
Percent distribution of women who obtained treatment from [2]			
Doctor	71.2	66.3	86.6
ANM/nurse/midwife/LHV	4.5	4.3	5.2
Other health professionals[6]	11.6	13.7	5.0
Other	10.9	13.5	2.4
Total percent	100.0	100.0	100.0
Number of women	548	419	129

Note:[1] Based on women who reported having vaginal discharge. [2] Based on women who sought treatment for vaginal discharge. [3] Includes Government municipal hospital, dispensary, UHC/ UHP /UWFC, CHC/ rural hospital, Primary health centre, sub-centre and out reach/ MCP clinic in village. [4] Includes private hospital/ clinic, non-governmental / trust hospital/clinic, chemist/ medical shop. [5] Either government or private hospital/clinic of Indian system of medicine, [6] Includes *dai* (trained or untrained), relative or friends and chemist/ medical shop.

8.3 Menstruation Related Problems

Table 8.8 shows the percentage of women who had menstrual problems and who sought treatment during the three months preceding the survey. The Table shows that around 16 percent women in Assam had menstrual problems and the figures are 15 percent and 16 percent in the rural and urban areas respectively.

Table 8.8 MENSTRUATION RELATED PROBLEMS

Percentage of currently married women age 15-44 who had any menstruation related problem during three months prior to survey and percentage who sought treatment and source of treatment according to residence, Assam, 2002-04

Symptoms and treatment	Total	Residence	
		Rural	Urban
Percentage of women with any menstruation related problem	15.6	15.3	16.2
Number of women	14,148	10,082	4,066
Symptoms[1]			
No period	1.0	1.3	0.4
Painful period	32.7	34.4	28.7
Frequent or short period	16.2	15.0	19.1
Delayed period	31.3	30.2	34.0
Prolonged bleeding	6.5	6.5	6.3
Excessive bleeding	15.5	16.2	13.7
Continuous bleeding	1.5	1.5	1.5
Scanty bleeding	25.0	23.7	28.1
Inter-menstrual bleeding	1.2	1.5	0.5
Percentage of women sought treatment who had any menstruation related problems	27.3	23.9	35.3
Number of women[1]	2,202	1,544	657
Percentage sought treatment at health facility[6]			
Government health facility[2]	36.0	49.1	15.3
Primary health centre	8.7	12.5	2.7
Sub centre	1.8	3.0	0.0
Private health facility[3]	50.3	38.2	69.5
ISM[4] facility	6.5	4.7	9.3
Other	6.9	7.6	5.7
Percentage of women obtained treatment from[6]			
Doctor	89.8	88.3	92.3
ANM/nurse/midwife/LHV	5.2	5.5	4.8
Other health professionals[5]	4.7	6.1	2.4
Other	1.7	1.6	1.9
Number of women	601	369	232

Note:[1] Based on women who reported any menstruated related problems.
[2] Includes Government municipal hospital, dispensary, UHC/ UHP /UWFC, CHC/ rural hospital, Primary health centre, sub-centre and out reach/ MCP clinic in village. [3] Includes private hospital/ clinic, non-governmental / trust hospital/clinic, chemist/ medical shop. [4] Either government or private hospital/clinic of Indian system of medicine, [6] Includes *dai* (trained or untrained), relative or friends and chemist/ medical shop. [6] Multiple responses.

The symptoms of menstruation related problems reported by women were painful periods (33 percent), delayed period (31 percent), scanty bleeding (25 percent), frequent or short period and excessive bleeding (16 percent each) and prolonged bleeding (seven percent). Among the women who had menstrual problems, 27 percent sought treatment in the state, and the figures

for urban and rural areas are 35 percent and 24 percent respectively. Half of the women sought treatment at a private facility and 36 percent sought treatment at government health facility. Government health facilities were availed more by rural dwellers (49 percent) compared to urban dwellers (15 percent) and private health facilities were availed more by urban women (70 percent) than rural women (38 percent). Majority of the women both in rural and urban areas went to doctor for treatment.

8.4 Prevalence of RTIs/STIs by District

Table 8.9 presents the prevalence of RTIs/STIs among currently married women and their husbands by districts. The reported symptoms of RTIs/STIs among women are lowest in Cachar and Goalpara districts (eight percent each) and highest in Kokrajhar (47 percent). The problems related to abnormal vaginal discharge ranges from 2 percent in Tinsukia to 29 percent in Karimganj.

Table 8.9 REPRODUCTIVE HEALTH CARE INDICATORS BY DISTRICT

Percentage of currently married women and their husbands who reported reproductive health problems and percentage who sought treatment for the problems by district, Assam, 2002-04

	Percentage of women			Percentage of men	
District	With any symptoms of RTI/STI	Reported any abnormal vaginal discharge	Sought treatment for abnormal vaginal discharge	With any symptoms of RTI/STI	Sought treatment for RTI/STI problems
Barpeta	18.7	23.0	24.7	1.8	(35.6)
Bongaigaon	27.5	9.7	23.8	10.9	39.8
Cachar	7.5	12.9	26.4	8.5	27.7
Darrang	19.7	6.0	26.3	8.7	57.2
Dhemaji	28.3	11.3	15.5	2.3	(11.5)
Dhubri	27.3	20.4	23.2	12.5	57.6
Dibrugarh	23.0	11.9	32.8	3.9	(29.3)
Goalpara	7.8	5.4	37.8	0.9	(11.7)
Golaghat	13.1	6.1	27.0	3.0	(47.0)
Hailakandi	36.5	15.9	15.7	17.5	14.4
Jorhat	21.5	10.2	39.2	5.0	(52.5)
Kamrup	33.1	13.2	28.7	14.9	40.4
Karbi Anglong	29.5	15.9	23.7	3.1	(40.6)
Karimganj	30.6	29.0	20.6	10.9	49.8
Kokrajhar	47.3	27.0	19.3	3.9	(17.3)
Lakhimpur	29.1	7.6	27.3	19.7	15.7
Marigaon	28.6	12.0	42.4	14.6	27.1
Nagaon	18.2	6.2	18.8	2.1	(1.9)
Nalbari	24.0	13.4	31.6	3.7	30.2
North Cachar Hills	33.9	1.0	(44.5)	7.2	26.1
Sibsagar	33.7	16.4	19.1	19.7	30.7
Sonitpur	16.8	7.2	32.1	0.8	(37.8)
Tinsukia	9.6	1.6	(35.5)	1.3	(16.3)
Assam	23.6	12.4	24.9	7.3	36.6

Note: ( ) Based on less number of cases

In comparison to women, fewer men from all districts of Assam reported symptoms of RTIs/STIs. Men from Goalpara, Sonitpur and Tinsukia (one percent each) reported the lowest prevalence of symptoms of RTIs/STIs while Lakhimpur and Sibsagar (20 percent each) reported the highest prevalence.

The percentage of women who have sought treatment for RTIs (abnormal vaginal discharge) ranges from 16 percent in Dhemaji and Hailakandi to 45 percent in North Cachar Hills and men who have sought treatment ranges from two percent in Nagaon to 58 percent in Dhubri.

8.5 HIV/AIDS

Acquired Immune Deficiency Syndrome (AIDS) is an illness caused by the Human Immune Virus (HIV), which weakens the immune system and leads to death through secondary infection such as tuberculosis or pneumonia. The virus is generally transmitted through sexual contact, through the placenta of HIV-infected women to their children, or through contact with contaminated needle (injections) or blood. Prevalence of HIV and AIDS has been on the rise for more than a decade in India and has reached alarming proportions in recent years. To prevent HIV transmission, the government has been making various efforts.

DLHS-RCH has collected information on the general state of awareness of HIV/AIDS, its transmission, its prevention and common misconceptions about HIV/AIDS. All the currently married women in the age group 15-44 and their husbands were first asked if they had ever heard of an illness called HIV/AIDS. Respondents who had heard of HIV/AIDS were further asked about their source of information, mode of transmission, and correct knowledge of HIV/AIDS transmission.

8.5.1 Knowledge of HIV/AIDS

Table 8.10 shows the percentage of women who had heard about HIV/AIDS by some selected background characteristics. Forty-nine percent of currently married women in Assam have heard of HIV/AIDS.

Knowledge of HIV/AIDS is lower among rural women, non-literate women, Muslim women, women belonging to Scheduled Tribes, women from households with a low standard of living, and younger women. Seventy-six percent of urban women had heard about HIV/AIDS compared to 39 percent of rural women. Knowledge of HIV/AIDS steadily increased with increase in educational level and household standard of living. Eighteen percent of non-literate women had heard of HIV/AIDS against 93 percent of women who had completed 10 or more years of schooling. Similarly, a little more than one-fourth of the women (27 percent) with a low standard of living had heard of HIV/AIDS against 90 percent of women with a high standard of living. Except younger women (below the age of 25) more than 50 percent of the women from other age groups have knowledge of HIV/AIDS. Muslim women (22 percent) were less aware of HIV/AIDS compared to Hindu women (59 percent), Christian (40 percent) and ‘other’ religions

(59 percent). Women from 'Other Backward Class and other caste (47 percent) category were more knowledgeable about of HIV/AIDS (60 percent) than women belonging to Scheduled Caste (51 percent), Scheduled Tribe (42 percent) and 'other' caste women (47 percent).

The government has been using mass media, such as television, radio, and newspaper extensively to increase awareness among the general public about HIV/AIDS and its prevention. Table 8.10 shows the percentage of currently married women who were aware of HIV/AIDS from different sources. The most prominent source of information about HIV/AIDS is television. About 64 percent of women reported that television was their source of information about HIV/AIDS, followed by relatives or friends (52 percent), radio (45 percent), newspapers, books or magazines (30 percent and slogans or pamphlets, posters or wall hoardings (22 percent). Only four percent of the women reported that a health worker had informed them about HIV/AIDS and another four percent of the women received information of HIV/AIDS from a doctor.

Table 8.11 shows the percentage of husbands of currently married women who had heard about HIV/AIDS. In Assam, the proportion of men who had heard about HIV/AIDS is higher than that of women. Sixty-eight percent of men had heard of HIV/AIDS as compared to 49 percent of women (Figure 8.4).

About 86 percent of urban men had heard about HIV/AIDS as compared to 61 percent of rural men. Knowledge of HIV/AIDS does not vary much by men's age. Awareness of HIV/AIDS is lower among non-literate men, Muslim men, men from Scheduled Tribes, and men who belong to households with a low standard of living. Twenty-nine of non-literate men had heard of HIV/AIDS, which goes upto 97 percent of men who had completed 10 or more years of schooling.

Table 8.11 also shows the percentage of husbands of currently married women who were aware of HIV/AIDS by different sources. As reported, the most prominent source of information of HIV/AIDS was television (55 percent) followed by relatives/friends (52 percent). Other important sources of HIV/AIDS are the radio (50 percent) newspapers, books or magazines (35 percent), and slogans or pamphlets, posters or wall hoardings (35 percent). Nine percent of men reported that a doctor had informed them about HIV/AIDS and seven percent men had received information of HIV/AIDS from a health worker.

Table 8.10 SOURCE OF KNOWLEDGE ABOUT HIV/AIDS AMONG WOMEN

Percentage of currently married women age 15 - 44 who have heard about HIV/AIDS and among women who have heard about HIV/AIDS, percentage who received information from specific sources by selected background characteristics, Assam, 2002-04.

Background characteristic	Percentage who have heard about HIV/AIDS	Number of Women	Among those who have heard about HIV/AIDS, percentage who received information from.										Number of women who have heard about HIV/AIDS
			Radio	Televi-sion	Newspaper / Books/ Magazines	Slogan/ Pamphlets/ Posters/ Wall Hoardings	Doctor	Health worker	School teacher	Commun ity Meeting	Relative/ Friends	Others	
Age group (years)													
15-19	29.8	867	42.8	47.5	23.6	15.8	0.8	5.4	0.0	5.6	55.0	3.1	258
20-24	46.1	2,563	43.6	55.2	24.1	16.4	3.9	3.1	0.3	4.9	52.6	2.2	1,182
25-29	50.9	4,167	45.3	63.7	29.9	20.3	5.3	4.6	0.6	3.9	51.5	1.7	2,122
30-34	50.5	3,812	46.5	65.3	34.0	24.7	4.0	4.2	0.3	3.1	51.8	2.0	1,924
35-39	51.1	3,718	44.4	68.7	30.9	22.5	4.0	3.1	0.5	3.0	50.9	1.4	1,901
40-44	50.3	2,650	45.3	67.7	28.9	23.6	2.9	3.2	0.3	2.7	51.0	1.3	1,333
Residence													
Rural	39.3	12,983	50.9	49.9	22.2	18.8	3.5	4.5	0.4	5.0	56.6	2.5	5,101
Urban	75.5	4,793	36.8	84.1	40.7	25.5	4.8	2.7	0.5	1.5	44.6	0.6	3,619
Education													
Non-literate	17.5	6,301	35.3	30.5	1.4	3.3	1.3	3.8	0.0	4.9	67.8	3.8	1,101
0-9@ years	55.2	8,039	44.3	56.8	16.1	13.7	2.2	3.2	0.2	3.3	54.6	1.8	4,440
10 and above	92.7	3,427	49.5	86.0	59.0	39.0	7.5	4.6	0.8	3.4	41.9	0.9	3,178
Religion													
Hindu	58.6	12,715	46.2	66.0	31.3	22.1	4.1	3.7	0.4	3.5	51.2	1.6	7,456
Muslim	22.4	4,428	40.0	50.7	21.2	19.9	2.7	4.4	0.4	4.1	54.2	2.5	992
Christian	40.2	537	35.6	54.5	20.4	13.6	7.3	3.7	2.2	4.0	63.3	1.4	216
Other	58.8	95	20.3	90.9	38.1	13.0	2.7	2.1	0.7	2.4	17.9	0.0	56
Caste/tribe#													
Scheduled caste	50.9	2,304	39.7	61.9	25.6	13.4	2.4	2.1	0.0	2.3	48.6	1.1	1,172
Scheduled tribe	41.5	2,271	45.2	47.8	17.5	13.8	4.1	5.0	0.4	5.3	59.2	1.0	942
Other backward class	59.5	3,920	52.5	58.2	30.0	22.4	4.1	4.7	0.5	5.4	56.3	2.3	2,334
Other	47.3	8,644	42.3	71.3	33.9	26.0	4.5	3.4	0.5	2.5	49.2	1.8	4,091
Standard of living index													
Low	26.8	9,799	44.7	24.1	9.5	10.7	1.9	4.7	0.3	4.8	65.5	3.5	2,622
Medium	65.0	4,334	45.7	67.7	21.9	16.0	2.9	3.2	0.2	4.1	51.1	1.0	2,819
High	90.0	3,643	44.8	93.0	53.1	35.1	6.6	3.6	0.7	2.0	40.9	1.0	3,279
Total	49.1	17,775	45.1	64.1	29.9	21.6	4.0	3.8	0.4	3.5	51.6	1.7	8,720

Note: Total includes 8 cases of missing information on education are not shown separately. @ Literate women with no year of schooling are also included. #Total figure may not add to N due to do not know and missing cases

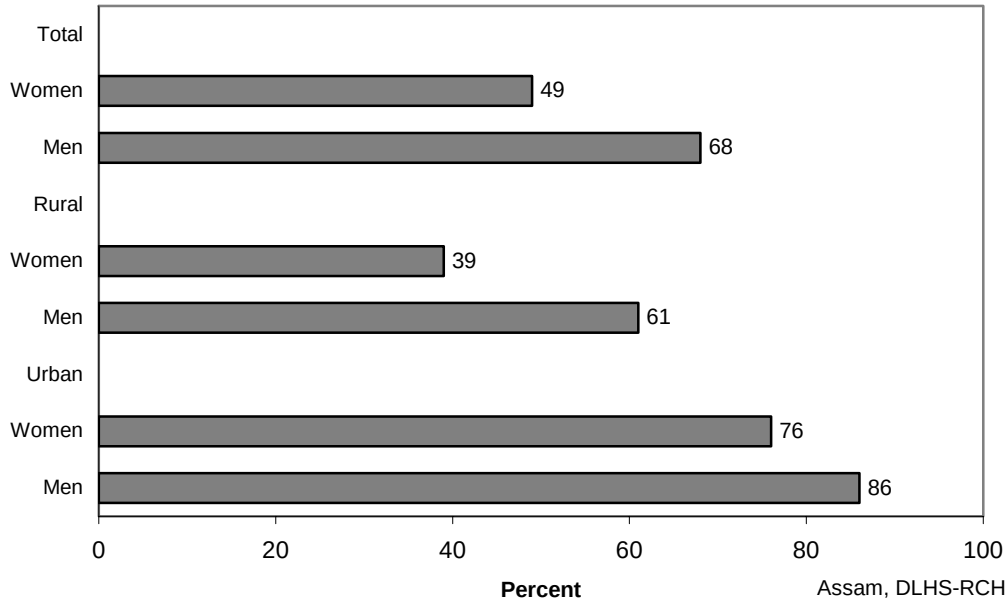
Table 8.11 SOURCE OF KNOWLEDGE ABOUT HIV/AIDS AMONG MEN

Percentage of husbands of currently married women who have heard about RTI/STI and among men who have heard about RTI/STI, percentage who received information from specific sources by selected background characteristics, Assam, 2002-04.

Background Characteristic	Percentage who have heard about HIV/AIDS	Number of men	Among those who have heard about HIV/AIDS, percentage who received information from.										Number of men who have heard about HIV/AIDS
			Radio	Televi-sion	Newspaper / Books/ Magazines	Slogan/ Pamphlets/ Posters/ Wall Hoardings	Doctor	Health worker	School teacher	Commun -ity Meeting	Relative/ Friends	Others	
Age group (years)													
< 25	63.9	510	48.2	36.7	19.9	21.7	7.2	5.2	0.9	8.6	62.9	2.0	325
25-34	69.1	3,777	49.3	49.4	30.2	34.3	10.7	7.4	1.5	8.1	54.2	1.8	2,610
35-44	69.8	5,014	51.7	57.6	38.8	37.3	9.1	7.7	2.0	8.2	51.3	0.7	3,500
45+	63.5	3,523	47.3	59.3	37.2	34.4	8.5	7.4	1.7	8.7	49.0	0.9	2,238
Residence													
Rural	61.0	9,415	55.2	43.7	28.6	30.7	7.6	7.8	2.0	9.5	56.4	1.3	5,739
Urban	86.1	3,409	39.2	76.6	47.8	43.5	12.9	6.7	1.3	6.1	43.5	0.9	2,935
Education													
Non-literate	29.4	3,175	42.7	21.1	3.6	5.7	4.3	7.5	1.2	10.5	74.4	2.0	933
0-9@ years	70.9	6,146	47.2	45.7	19.6	25.4	6.4	6.2	1.0	8.5	56.7	1.1	4,356
10 and above	96.7	3,498	54.9	75.9	63.7	55.6	14.6	9.1	2.8	7.5	39.9	0.9	3,381
Religion													
Hindu	74.3	9,186	50.9	59.0	36.2	35.3	9.1	7.4	1.8	7.9	52.5	1.0	6,821
Muslim	48.9	3,168	48.3	34.6	31.4	36.6	9.7	8.0	1.7	9.4	50.0	1.9	1,550
Christian	64.8	385	36.4	59.0	26.8	20.0	16.0	6.4	1.4	14.4	61.2	0.4	250
Other	62.3	85	11.4	84.2	35.7	31.7	0.6	1.6	1.1	7.3	12.0	2.4	53
Caste/tribe#													
Scheduled caste	77.5	1,785	38.1	59.3	28.7	28.8	5.4	4.6	0.8	6.8	56.5	1.5	1,384
Scheduled tribe	63.2	1,673	53.1	39.4	23.0	23.1	8.1	9.4	2.5	10.0	58.2	1.1	1,057
Other backward class	73.4	2,880	56.9	57.1	34.0	35.3	9.1	8.4	2.1	11.2	56.4	0.9	2,113
Other	64.9	6,089	49.5	56.3	40.8	40.2	10.7	7.1	1.5	6.5	46.5	1.1	3,954
Standard of living index													
Low	50.9	7,138	51.5	24.0	18.2	21.8	6.7	7.6	1.3	10.0	64.8	1.6	3,635
Medium	83.3	3,069	48.5	66.9	31.0	33.7	7.7	6.8	2.1	8.8	48.5	0.8	2,557
High	94.8	2,617	48.4	87.4	64.0	55.9	14.9	7.9	2.1	5.4	37.0	0.8	2,481
Total	67.6	12,824	49.8	54.8	35.1	35.1	9.4	7.4	1.7	8.3	52.0	1.1	8,673

Note: Total includes 4 cases of missing information on education are not shown separately. @ Literate men with no year of schooling are also included. # Total figure may not add to N due to don't and missing cases.

Figure: 8.4
Awareness of HIV/AIDS by Sex and Residence



About eight percent of them reported that they were informed through community meetings and two percent received such information from a school teacher. On the whole, the dominant sources of information in rural areas are radio and interpersonal communication between relatives and friends.

8.5.2 Knowledge of Mode of Transmission about HIV/AIDS

Women who were aware of HIV/AIDS were asked about the mode of transmission and this is presented in Table 8.12. Among women who reported awareness of HIV/AIDS, 36 percent of them did not know about the mode of transmission.

This proportion is relatively higher among rural women, younger women, non-literate women, Muslim and Christian women, women from Scheduled Tribes and women with a low standard of living. For instance forty three percent of the rural women do not know about the mode of transmission of HIV/AIDS compared to 25 percent of urban women.

Among women who reported different ways of transmission of HIV/AIDS, a large proportion (63 percent) mentioned heterosexual intercourse as a mode of its transmission. Other modes reported by women were transmission through needle or blade or skin puncture (31 percent), transfusion of infected blood (30 percent) and mother to child (23 percent). Seven percent of the women believed that homosexual intercourse could also be one of the modes of transmission.

Table 8.12 SOURCE OF KNOWLEDGE ABOUT MODE OF TRANSMISSION OF HIV/AIDS AMONG WOMEN

Percentage currently married women age 15-44 who have heard of HIV/AIDS, knowledge of mode of transmission by selected background characteristics, Assam, 2002-04

Background characteristic	Percentage by knowledge of mode of transmission							Number of women who have heard of HIV/AIDS
	Homo sexual intercourse	Hetero sexual intercourse	Needles/ blade/ skin puncture	Mother to child	Transfusion of infected blood	Other	Do not know	
Age								
15-19	2.7	43.6	20.5	15.2	18.3	1.0	55.4	258
20-24	5.8	56.5	25.6	16.7	20.4	0.6	42.0	1,182
25-29	7.7	63.7	30.4	23.8	30.3	1.2	34.5	2,122
30-34	9.5	65.1	34.2	25.5	31.0	1.1	32.8	1,924
35-39	6.3	65.0	31.7	23.2	31.8	1.1	34.6	1,901
40-44	5.7	65.2	33.2	27.2	34.6	1.9	34.2	1,333
Residence								
Rural	6.2	54.5	23.8	17.6	22.8	0.8	43.4	5,101
Urban	8.3	74.8	41.2	31.4	39.6	1.7	24.9	3,619
Education								
Non-literate	2.7	28.4	6.6	5.3	7.9	0.2	68.8	1,101
0-9@ years	4.5	54.8	18.1	13.4	17.6	0.6	44.3	4,440
10 years and above	12.3	86.4	57.5	43.5	54.3	2.3	12.3	3,178
Religion								
Hindu	7.3	64.3	31.9	24.2	31.0	1.3	34.5	7,456
Muslim	5.8	54.1	24.7	17.5	20.7	0.8	43.2	992
Christian	4.1	55.5	25.9	16.7	25.7	0.0	42.9	216
Other	8.5	64.0	41.5	36.1	34.2	2.2	34.7	56
Caste/tribe#								
Scheduled caste	5.5	63.5	27.2	18.6	23.1	0.9	35.5	1,172
Scheduled tribe	5.0	48.6	19.0	14.9	21.4	0.7	49.7	942
Other backward class	7.4	61.1	29.4	23.8	31.4	1.7	37.4	2,334
Other	7.9	67.2	36.3	26.9	33.3	1.1	31.4	4,091
Standard of living index								
Low	4.1	38.2	12.0	9.2	12.9	0.4	59.3	2,622
Medium	5.5	61.4	25.0	18.1	24.1	0.8	36.9	2,819
High	10.9	84.0	51.3	39.1	48.1	2.2	15.9	3,279
Total	7.1	63.0	31.0	23.3	29.7	1.2	35.7	8,720

Note: Total includes 1 case of missing information on education are not shown separately. #Total figure may not add to N due to do not know and missing cases @ Literate women with no year of schooling are also included.

Table 8.13 SOURCE OF KNOWLEDGE ABOUT MODE OF TRANSMISSION OF HIV/AIDS AMONG MEN

Percentage of husbands of currently married women who have heard of HIV/AIDS, knowledge of mode of transmission by selected background characteristics, Assam, 2002-04

Background characteristic	Percentage by knowledge of mode of transmission							Number of men who have heard of HIV/AIDS
	Homosexual intercourse	Heterosexual intercourse	Needles/ blade/ skin puncture	Mother to child	Transfusion of infected blood	Other	Do not know	
Age								
<25	6.2	66.9	16.5	7.4	19.7	2.1	30.9	325
25-34	7.1	75.4	24.4	13.0	27.4	1.8	22.5	2,610
35-44	8.7	74.1	28.9	14.2	31.8	1.1	22.7	3,500
45+	7.3	72.9	30.9	11.5	27.6	1.6	24.3	2,238
Residence								
Rural	7.1	67.6	20.5	9.8	23.8	1.4	29.9	5,739
Urban	9.0	86.3	41.5	18.8	39.0	1.5	10.6	2,935
Education								
Non-literate	2.7	47.3	5.6	2.3	12.1	1.0	51.1	933
0-9@ years	4.8	65.9	15.4	4.5	16.8	0.7	31.0	4,356
10 years and above	13.0	91.6	49.5	26.7	49.3	2.6	5.9	3,381
Religion								
Hindu	7.6	76.6	28.7	13.7	31.5	1.5	20.4	6,821
Muslim	7.8	63.7	21.0	9.9	19.0	1.0	35.4	1,550
Christian	11.0	58.7	27.3	8.4	21.4	2.7	33.5	250
Other	16.1	93.1	71.4	11.9	24.8	0.3	6.5	53
Caste/tribe[#]								
Scheduled caste	5.4	80.0	28.6	11.8	22.4	0.5	17.7	1,384
Scheduled tribe	6.1	67.7	17.2	7.1	23.9	1.2	29.9	1,057
Other backward class	6.7	73.2	24.9	11.0	30.5	2.1	24.1	2,113
Other	8.8	74.4	31.2	15.7	32.2	1.6	22.7	3,954
Standard of living Index								
Low	4.9	58.4	11.9	5.5	16.3	0.9	39.4	3,635
Medium	7.5	76.2	25.1	8.8	26.7	1.3	19.3	2,557
High	12.3	94.2	53.0	27.9	49.9	2.4	4.1	2,481
Total	7.8	73.9	27.6	12.9	29.0	1.5	23.4	8,673

Note: Total includes 3 cases of missing information on education are not shown separately. @ Literate men with no year of schooling are also included. #Total figure may not add to N due to do not know and missing cases.

Table 8.13 presents the knowledge about mode of transmission of HIV/AIDS among men. Twenty-three percent of the men who had heard about HIV/AIDS mentioned that they do not know the mode of transmission. The percentage of men not knowing the mode of transmission is higher among younger men, rural men, non-literate men, Muslim men, men from Scheduled Tribes and men from households with a low standard of living. Among those who reported ways of transmission of HIV/AIDS, 74 percent of them mentioned heterosexual intercourse as a mode of transmission. Other modes reported by men are transfusion of infected blood (29 percent), transmission through needle or blade or skin puncture (28 percent) and mother to child (13 percent). Eight percent of men also mentioned that homosexual intercourse could be one of the modes of transmission of HIV/AIDS.

8.5.3 How to avoid HIV/AIDS

All the male and female respondents were asked as to how HIV/AIDS could be prevented. The percentage of women who said that HIV/AIDS could be avoided by various ways has been presented in Table 8.14 by some selected background characteristics.

Among women who were aware of HIV/AIDS, forty percent of them did not know how to avoid becoming infected by HIV/AIDS. This percentage is higher among rural women (49 percent) than among urban women (29 percent). The percentage of women who did not know of any way to avoid getting infection decreases with increasing levels of education and household standard of living. Seventy-five percent of non-literate women reported that they did not know of any way to avoid infection as compared to 14 percent of women who had completed ten or more years of schooling. Similarly, 65 percent of women with low a standard of living stated that they did not know of any way to avoid infection as compared to 19 percent of women with a high standard of living. The percentage of women who did not know ways to avoid infection is also high among Muslim and Christian women, Scheduled Tribe women and surprisingly among younger women.

Several possible modes of its prevention however, were mentioned. As high as 55 percent of women said that “sex with only one partner” is the best possible way to avoid it. Other ways to prevent HIV/AIDS mentioned by women were ‘checking blood prior to transfusion’ (31 percent), ‘sterilizing needles and syringe before injecting’ (28 percent), using condoms correctly during each sexual intercourse (23 percent) and 20 percent of the women reported that the pregnancy should be avoided if couples were infected by HIV/AIDS. All the specific ways to avoid becoming infected by HIV/AIDS reported are proportionally higher in urban women, among literates and women with a high standard of living.

Table 8.15 shows the percentage of men who reported that HIV/AIDS could be avoided by some selected background characteristics. Among men who are aware of HIV/AIDS, 31 percent of them did not know of any method to avoid infection compared to 40 percent women in the state.

Again, a higher proportion of men reported that ‘sex with only one partner’ is the way to avoid HIV/AIDS (57 percent) and this was the most commonly reported way in all the groups.

Table 8.14 KNOWLEDGE ABOUT AVOIDANCE OF HIV/AIDS AMONG WOMEN

Among currently married women age 15-44 who have heard about HIV/AIDS, the percentage of women reported HIV/AIDS can be avoided in specific ways by selected background characteristics, Assam, 2002-04

Background characteristic	Percentage reported HIV/AIDS can be avoided by:							
	Sex With Only one partner	Using condoms correctly during each sexual intercourse	Checking blood prior to transfusion	Sterilizing needles and syringes for injection	Avoiding pregnancy when having HIV/AIDS	Other	Do not know to avoid HIV/AIDS	Number of women
Age								
15-19	34.9	13.9	16.7	17.1	11.8	1.3	60.0	258
20-24	46.9	18.2	22.9	19.9	11.9	2.1	49.0	1,182
25-29	55.7	24.2	31.2	28.9	20.5	2.1	38.9	2,122
30-34	58.0	24.9	34.1	31.8	22.0	2.8	37.9	1,924
35-39	57.0	22.9	32.2	27.9	19.5	2.4	37.6	1,901
40-44	55.7	25.7	32.5	30.7	22.9	2.4	38.7	1,333
Residence								
Rural	46.8	17.8	23.7	20.7	13.6	1.7	48.6	5,101
Urban	65.9	30.8	40.6	38.4	27.9	3.2	28.8	3,619
Education								
Non-literate	23.2	5.5	7.0	6.1	3.4	0.6	75.3	1,101
0-9@ years	45.9	13.5	18.1	15.3	9.9	1.2	50.3	4,440
10 years and above	77.9	42.8	56.5	53.4	38.7	4.6	14.4	3,178
Religion								
Hindu	56.1	23.7	32.0	29.0	20.5	2.4	38.9	7,456
Muslim	45.8	19.8	21.4	20.6	13.4	1.9	49.7	992
Christian	45.4	16.3	25.5	25.5	14.4	2.4	50.2	216
Other	60.6	36.2	34.9	31.7	30.9	0.5	36.4	56
Caste/tribe#								
Scheduled caste	54.4	17.4	24.0	22.5	14.8	1.5	42.0	1,172
Scheduled tribe	40.6	13.9	20.5	19.1	11.5	1.4	54.6	942
Other backward class	53.7	24.0	32.3	28.1	19.4	2.7	41.5	2,334
Other	58.2	26.9	34.8	32.2	23.4	2.7	36.2	4,091
Standard of living index								
Low	31.6	9.7	13.0	10.8	7.1	0.9	65.4	2,622
Medium	52.8	18.2	24.9	22.6	14.1	1.5	42.4	2,819
High	74.7	38.2	49.8	46.4	34.3	4.1	18.6	3,279
Total	54.7	23.2	30.7	28.0	19.6	2.3	40.4	8,720

Note: Total includes 6 cases of missing information on education are not shown separately. #Total figure may not add to N due to do not know and missing cases @ Literate women with no year of schooling are also included.

Other ways to prevent HIV/AIDS mentioned by men include 'checking blood prior to transfusion (32 percent), 'sterilizing needles and syringes before injecting' (25 percent), 'using a condom correctly during each sexual intercourse' (25 percent) and avoiding pregnancy when having HIV/AIDS (nine percent). All the specific ways to avoid becoming infected by HIV/AIDS reported are proportionally higher in urban areas than in rural areas, and among men who belong to 'other caste' category, men with a high level of education and men with a high standard of living.

Table 8.15 KNOWLEDGE ABOUT AVOIDANCE OF HIV/AIDS AMONG MEN

Among husbands of currently married women who have heard about HIV/AIDS, the percentage of men reported HIV/AIDS can be avoided in specific ways by selected background characteristics, Assam, 2002-04

Background characteristic	Percentage reported HIV/AIDS can be avoided by: Sex with only one partner	Using condoms correctly during each sexual intercourse	Checking blood prior to transfusion	Sterilizing needles and syringes for injection	Avoiding pregnancy when having HIV/AIDS	Other	Do not know to avoid HIV/AIDS	Number of men
Age								
<25	45.0	13.7	31.3	19.6	6.1	3.9	39.0	325
25-34	58.0	24.7	28.2	21.7	8.6	2.6	30.1	2,610
35-44	56.4	27.3	34.1	26.1	10.7	2.3	30.4	3,500
45+	58.1	24.9	31.8	28.4	8.4	2.2	30.2	2,238
Residence								
Rural	48.7	20.0	27.7	20.9	7.3	2.1	38.1	5,739
Urban	73.1	35.9	39.3	33.5	13.2	3.1	15.9	2,935
Education								
Non-literate	26.7	8.8	17.8	10.7	1.9	1.1	57.1	933
0-9@ years	47.9	14.5	19.8	15.0	3.6	1.2	41.2	4,356
10 years and above	76.9	44.0	50.7	42.2	18.6	4.3	9.6	3,381
Religion								
Hindu	59.4	26.4	33.7	26.9	9.7	2.6	27.3	6,821
Muslim	48.5	22.0	22.1	17.0	7.8	1.3	43.1	1,550
Christian	35.3	16.9	25.9	28.2	7.8	3.0	47.3	250
Other	90.3	30.1	72.3	25.9	10.0	2.9	4.7	53
Caste/tribe#								
Scheduled caste	66.7	21.9	25.9	25.5	9.2	1.7	23.5	1,384
Scheduled tribe	47.2	17.0	27.3	23.2	5.8	2.2	37.0	1,057
Other backward class	50.3	23.3	36.4	24.8	7.4	3.2	32.0	2,113
Other	60.2	30.0	32.7	26.1	11.3	2.4	29.7	3,954
Standard of living index								
Low	39.5	13.3	20.5	13.4	4.2	1.7	48.0	3,635
Medium	59.0	23.1	29.0	22.8	7.0	2.4	27.9	2,557
High	80.4	45.4	50.7	44.8	19.1	3.4	7.8	2,481
Total	56.9	25.4	31.6	25.1	9.3	2.4	30.6	8,673

Note: Total includes 3 cases of missing information on education are not shown separately. @ Literate men with no year of schooling are also included. ( ) Based on less than 50 cases. #Total figure may not add to N due to do not know and missing cases

8.5.4 Misconception about HIV/AIDS

People generally have misconceptions about the transmission of HIV/AIDS, such as 'shaking hands with a person having AIDS', hugging and kissing with them, sharing their clothes or sharing utensils, stepping on urine/stool, through insect bites, for example, being bitten by mosquitoes, fleas and bedbugs. All these questions were asked to the respondents who had heard of HIV/AIDS.

Table 8.16 shows the percentage of women with misconceptions about spreading HIV/AIDS through specific ways by selected background characteristics. Overall, not more than 12 percent of the women had misconceptions on the possible ways of HIV/AIDS transmission.

However, within this limit some variations across socio-economic and cultural background may be seen. For example mosquitoes, fleas or bedbug bites is commonly reported as the way of getting HIV/AIDS infection by women but this response is higher among rural areas (13 percent) than in urban areas (nine percent). Other misconceptions about the spreading of HIV/AIDS were kissing (12 percent), 'stepping on urine/stool' hugging and 'sharing utensils' (eight percent each), 'sharing clothes' (seven percent) and 'shaking hands' (six percent).

Table 8.16 MISCONCEPTION ABOUT TRANSMISSION OF HIV/AIDS AMONG WOMEN

Among currently married women age 15-44 who have heard about HIV/AIDS, the percentage of women having misconception about the transmission of HIV/AIDS by selected background characteristics, Assam, 2002-04

Background characteristic	Percentage having misconception about the transmission of HIV/AIDS							Number of Women
	Shaking hands	Hugging	Kissing	Sharing clothes	Sharing eating utensils	Stepping on Urine / stool	Mosquito, flea, or bedbugs biting	
Residence								
Rural	5.9	9.2	12.9	8.7	8.8	9.8	12.7	5,101
Urban	4.9	7.2	10.1	5.4	5.8	6.5	9.4	3,619
Education								
Non-literate	4.5	7.3	9.2	7.5	7.3	6.4	8.2	1,101
0-9@ years	6.6	9.2	12.9	8.4	8.8	9.9	12.1	4,440
10 years and above	4.2	7.5	11.1	5.9	5.9	7.1	11.3	3,178
Religion								
Hindu	5.3	8.3	11.5	7.1	7.4	8.3	11.2	7,456
Muslim	7.2	10.3	14.8	10.6	9.7	10.4	13.1	992
Christian	3.6	5.0	10.4	4.7	4.3	4.6	9.2	216
Other	1.8	2.8	3.3	2.1	2.1	2.3	3.8	56
Caste/tribe#								
Scheduled caste	7.9	9.9	13.3	8.6	10.1	8.9	12.2	1,172
Scheduled tribe	6.7	8.7	13.9	8.6	8.2	10.0	13.3	942
Other backward class	3.9	6.9	9.9	5.8	6.5	7.4	9.5	2,334
Other	5.3	8.6	11.4	7.7	7.4	8.6	12.0	4,091
Standard of living index								
Low	5.7	9.3	12.5	8.3	8.5	9.5	11.9	2,622
Medium	5.7	8.0	11.6	7.9	7.7	8.4	10.8	2,819
High	5.1	7.9	11.4	6.1	6.7	7.6	11.3	3,279
Total	5.5	8.4	11.8	7.4	7.6	8.4	11.3	8,720

Note: Total includes 1 case with missing information on education are not shown separately. #Total figure may not add to N due to do not know and missing cases @ Literate women with no year of schooling are also included.

Table 8.17 presents the percentage of men with misconceptions about the spreading of HIV/AIDS through specific ways by selected background characteristics. Again, just like the women, men in all the groups reported that HIV/AIDS is transmitted through insect bites, mosquitoes, through fleas or bedbugs. Twenty-four percent of the men in Assam felt so. The percentage who reported that HIV/AIDS could be transmitted through biting by mosquitoes or flees or bedbugs was higher among urban men (27 percent) than among rural men (23 percent). Other misconceptions about the spread of HIV/AIDS are kissing (23 percent), 'stepping on urine/stool' (18 percent), 'sharing clothes' (16 percent), sharing eating utensils (15 percent),

'hugging' (15 percent) and 'shaking hands' (eight percent). All these misconceptions reported by men are relatively higher than those reported by women.

Table 8.17 MISCONCEPTION ABOUT TRANSMISSION OF HIV/AIDS AMONG MEN

Among husbands currently married women who have heard about HIV/AIDS, the percentage of men having misconception about the transmission of HIV/AIDS by selected background characteristics, Assam, 2002-04

Background characteristic	Percentage having misconception about the transmission of HIV/AIDS							Number of men
	Shaking hands	Hugging	Kissing	Sharing clothes	Sharing eating utensils	Stepping on Urine / stool	Mosquito, flea, or bedbugs biting	
Residence								
Rural	9.2	13.1	21.3	15.1	16.0	17.5	22.5	5,739
Urban	8.1	18.4	26.4	16.5	14.4	20.4	26.8	2,935
Education								
Non-literate	8.2	12.3	15.0	11.0	13.7	11.8	15.1	933
0-9@ years	11.0	19.0	24.6	19.3	18.3	21.4	26.8	4,356
10 years and above	6.1	10.2	23.2	12.1	12.2	16.4	22.7	3,381
Religion								
Hindu	8.2	15.1	23.7	15.6	15.5	19.2	24.8	6,821
Muslim	12.4	15.8	21.6	16.6	16.6	16.7	21.9	1,550
Christian	4.3	5.0	17.7	12.6	10.5	12.1	17.9	250
Other	1.2	4.1	7.5	6.0	5.2	7.1	9.8	53
Caste/tribe#								
Scheduled caste	13.1	29.2	37.4	29.1	22.7	31.4	40.5	1,384
Scheduled tribe	8.4	14.3	20.3	15.3	15.9	17.8	24.3	1,057
Other backward class	6.3	10.2	20.2	10.6	13.3	16.6	20.8	2,113
Other	9.0	13.0	21.0	14.1	14.3	15.7	20.5	3,954
Standard of living index								
Low	9.7	15.7	21.4	17.3	17.7	19.2	22.8	3,635
Medium	11.6	18.4	25.0	19.3	18.9	22.1	28.7	2,557
High	4.6	10.0	23.5	9.3	8.6	13.6	20.8	2,481
Total	8.8	14.9	23.0	15.6	15.4	18.4	24.0	8,673

Note: Total includes 3 cases of missing information on education are not shown separately. Total figure may not add to N due to do not know and missing cases @ Literate men with no year of schooling are also included. ( ) Based on less than 50 unweighted cases.

8.5.5 Knowledge of Curability of HIV/AIDS

Table 8.18 shows the percentage distribution of currently married women and their husbands who have heard about HIV/AIDS by knowledge of curability of the same, according to some selected background characteristics. Nine percent women and 11 percent men have the notion that HIV/AIDS is curable, whereas 62 percent women and 61 percent men replied that the disease is not curable. Twenty-nine percent women and 27 percent men do not have any idea regarding the curability of the disease. This clearly indicates that the awareness level about the curability of HIV/AIDS does not vary much between men and women. However, some variations do exist among both men and women in terms of their socio-economic and cultural background. It can be safely asserted from the figures that both men and women of urban area, having high level of education and from households of high standard of living show better knowledge of curability of HIV/AIDS.

Table 8.18 KNOWLEDGE OF CURABILITY ABOUT HIV/AIDS

Among currently married women and their husbands, who have heard about HIV/AIDS, Percent distribution of respondents by knowledge of curability about HIV/AIDS, according to some selected background characteristics, Assam, 2002-04

Background characteristic	Percent distribution of women			Number of women	Percent distribution of men			Number of men
	Yes	No	Do not know		Yes	No	Do not know	
Residence								
Rural	7.8	55.3	36.9	5,101	9.7	55.7	33.9	5,739
Urban	10.0	71.1	18.9	3,619	14.0	70.8	14.5	2,935
Education								
Non-literate	7.7	36.6	55.7	1,101	8.8	42.1	48.3	933
0-9@ years	8.0	55.7	36.3	4,440	11.3	53.1	35.0	4,356
10 years and above	10.1	79.2	10.7	3,178	11.7	76.0	11.7	3,381
Religion								
Hindu	8.6	62.9	28.6	7,456	10.8	63.4	25.1	6,821
Muslim	11.3	53.9	34.8	992	10.9	51.9	36.4	1,550
Christian	4.4	58.5	37.0	216	14.3	49.1	36.3	250
Other	3.5	76.2	20.3	56	48.4	43.7	7.6	53
Caste/tribe#								
Scheduled caste	8.9	60.0	31.1	1,172	8.1	69.8	21.3	1,384
Scheduled tribe	7.5	53.3	39.2	942	11.2	55.0	33.6	1,057
Other backward class	7.2	60.6	32.3	2,334	9.9	60.9	28.6	2,113
Other	10.2	64.8	25.0	4,091	13.1	59.7	26.5	3,954
Standard of living index								
Low	7.7	44.5	47.8	2,622	10.8	49.3	39.2	3,635
Medium	8.9	60.0	31.1	2,819	11.1	59.2	29.1	2,557
High	9.5	77.3	13.3	3,279	11.7	79.3	8.2	2,481
Total	8.7	61.8	29.4	8,720	11.2	60.8	27.4	8,673

Note: Total includes 6 cases of missing information on education of women and 4 men and 186 and 230 Cases about do not know in caste category are not shown separately of women and men respectively. #Total figure may not add to N due to do not know and missing cases @ Literate persons with no year of schooling are also included.

8.6 Awareness of RTI/STI and HIV/AIDS by Districts

Table 8.19 shows the percentage distribution of currently married women and their husbands who are aware of RTI/STI and HIV/AIDS by districts.

Twenty-four percent and 49 percent of women were aware of RTI/STI and HIV/AIDS respectively and the corresponding figures for husbands of eligible women are 43 and 68 percent respectively.

In all the districts of Assam, men are more aware of RTI/STI and HIV/AIDS than women. The highest level of awareness about RTI/STI among women was reported in Karimganj (58 percent) to the lowest in North Cachar Hills (one percent). Among men also the highest level of awareness of RTI/STI was also reported in Karimganj (68 percent) and lowest in North Cachar Hills district (10 percent).

Among women, the awareness about HIV/AIDS ranges from a highest of 71 percent in Dibrugarh to a lowest of 20 percent in Dhubri district. Similarly, among men, the awareness of HIV/AIDS is highest in Dibrugarh district (97 percent) and lowest in North Cachar Hills (38

percent). In 12 districts, more than half of the women were found to be aware of HIV/AIDS and so was in case of men in 19 districts.

Table 8.19 AWARENESS OF RTI/STI AND HIV/AIDS BY DISTRICT

Percentage of currently married women and their husbands aware of RTI/STI and HIV/AIDS by district, Assam, 2002-04

District	Percentage of women		Percentage of men	
	Aware of RTI/STI	Aware of HIV/AIDS	Aware of RTI/STI	Aware of HIV/AIDS
Barpeta	15.5	38.8	35.7	58.7
Bongaigaon	22.7	44.6	33.3	57.9
Cachar	14.5	33.5	39.3	49.6
Darrang	22.6	60.4	29.5	75.1
Dhemaji	22.9	66.3	25.3	83.7
Dhubri	21.8	20.4	31.1	45.1
Dibrugarh	20.2	70.6	36.7	96.7
Goalpara	12.1	38.7	35.3	57.1
Golaghat	41.0	51.2	50.9	72.7
Hailakandi	47.2	44.1	63.2	62.2
Jorhat	24.0	63.5	50.5	82.3
Kamrup	25.6	61.5	59.7	80.2
Karbi Anglong	25.2	46.9	27.5	68.3
Karimganj	58.3	35.8	68.3	63.7
Kokrajhar	11.8	35.4	29.7	64.1
Lakhimpur	39.2	54.0	56.4	67.6
Marigaon	31.6	62.4	47.1	90.2
Nagaon	10.1	29.5	34.5	47.9
Nalbari	48.9	63.1	65.7	78.7
North Cachar Hills	1.4	26.0	10.1	38.1
Sibsagar	29.3	61.2	48.1	74.0
Sonitpur	21.3	55.5	37.4	67.4
Tinsukia	28.5	62.4	34.7	73.1
Assam	24.3	49.1	42.6	67.6

Appendix – A

Sampling Error Estimation

The accuracy of programme indicators such as contraceptive prevalence rate, unmet need and institutional delivery, antenatal coverage etc. estimated from DLHS-RCH can be assessed in terms of stability of the estimated indicators as measured by the standard errors. Standard errors reflect only the appropriateness and suitability of sampling design adopted for RCH survey. However, the accuracy of estimated programme indicator are also affected to a great extent by non-sampling errors arising from lack of proper operationalisation and non-response cases, and is inherent in large scale surveys. The estimation producers of District Level Reproductive & Child Health survey takes into consideration design appropriateness and non-response rates. DLHS-RCH estimator of a programme indicators is design as

$$r = \frac{\sum_h \sum_j \sum_i w_{hji} y_{hji}}{\sum_h \sum_j \sum_i w_{hji} x_{hji}} = \frac{y}{x} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

where the cell (h, j, i) stands for i^{th} observational unit in j^{th} primary sampling unit (PSU) in h^{th} stratum, basically rural-urban areas of a district are taken as strata. W_{hij} is the sampling weight of $(h, j, i)^{th}$ cell inflated by response rates. The variables y and x denote the main and the auxiliary characteristics required for computation of proportion or ratios.

The equation for estimation of variance of programme indicator (r) is obtained after Taylor series linearisation as

$$var(r) = \frac{1}{x^2}[\, var(y) + r^2\, var(x) - 2\, r\, cov(y, x)] \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

$$var(y) = \sum_h \frac{n_h}{n_h - 1} \left[\sum_j \sum_i (w_{hji} y_{hij})^2 - \frac{\left(\sum_j \sum_i w_{hji} y_{hji} \right)^2}{n_h} \right] \quad \ldots\ldots\ldots\ldots\ldots (3)$$

$$cov(y, x) = \sum_h \frac{n_h}{n_h - 1} \left[\sum_j \sum_i w_{hji}^2 y_{hji} x_{hji} - \frac{(\sum_j \sum_i w_{hji} y_{hji})(\sum_j \sum_i w_{hji} x_{hji})}{n_h} \right] \quad \ldots\ldots (4)$$

and n_h is the number of sampled PSUs representing rural or urban areas of a district/state.

List of Selected Programme Variables for Sampling Errors, RCH 2002-04

Variable	Estimate	**Base Population**
CPR (Any Method)	Proportion	Currently married women age 15-44 years
Unmet Need	Proportion	Currently married women age 15-44 years
Any ANC	Proportion	Last live/still births in the past three years
ANC3+	Proportion	Last live/still births in the past three years
Institutional Delivery	Proportion	Last live/still births in the past three years
Safe Delivery	Proportion	Last live/still births in the past three years
BCG	Proportion	Children age 12-35 months
Measles	Proportion	Children age 12-35 months
Birth order 3+	Proportion	Currently married women age 15-44 years with births in past three years

Sampling errors, Assam, 2002-04

Variables	Estimate (R)	Sampling error (SE)	Number of cases		Design Effect	Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted			R-1.96 SE	R+1.96 SE
Contraceptive Prevalence Rate (Currently Married Women age 15-44)								
Total	0.575	0.005	17,776	17,775	1.886	0.9	0.565	0.585
Rural	0.538	0.005	12,983	12,983	1.408	1.0	0.528	0.548
Urban	0.675	0.012	4,793	4,792	3.170	1.8	0.652	0.699
Unmet Need (Currently Married Women age 15-44)								
Total	0.225	0.004	17,776	17,776	1.695	1.8	0.217	0.233
Rural	0.246	0.004	12,983	12,983	1.382	1.8	0.238	0.255
Urban	0.168	0.009	4,793	4,793	2.670	5.3	0.150	0.185
Received Any Antenatal Check up (last live/still birth of past 3 years)								
Total	0.615	0.008	6,140	6,150	1.714	1.3	0.599	0.631
Rural	0.552	0.008	4,831	4,890	1.390	1.5	0.536	0.569
Urban	0.858	0.021	1,309	1,260	4.612	2.5	0.817	0.899
Received 3+ Antenatal Check up (last live/still birth of past 3 years)								
Total	0.426	0.008	6,140	6,150	1.785	2.0	0.410	0.443
Rural	0.352	0.008	4,831	4,890	1.388	2.3	0.336	0.368
Urban	0.715	0.024	1,309	1,260	3.461	3.3	0.669	0.761
Institutional Delivery (last live/still birth of past 3 years)								
Total	0.268	0.008	6,140	6,149	2.051	3.0	0.252	0.283
Rural	0.171	0.006	4,831	4,890	1.367	3.7	0.159	0.183
Urban	0.642	0.024	1,309	1,259	3.121	3.7	0.596	0.689
Safe Delivery (last live/still birth of past 3 years)								
Total	0.332	0.008	6,140	6,150	1.924	2.5	0.316	0.349
Rural	0.240	0.007	4,831	4,890	1.374	3.0	0.226	0.254
Urban	0.691	0.023	1,309	1,260	3.152	3.3	0.646	0.737
Received BCG Vaccination (last and last but one living children, age 12-23 months)								
Total	0.638	0.015	1,889	1,925	1.771	2.3	0.609	0.667
Rural	0.579	0.015	1,492	1,494	1.347	2.6	0.550	0.609
Urban	0.839	0.039	397	431	4.554	4.7	0.762	0.917
Received Measles (last and last but one living children, age 12-23 months)								
Total	0.359	0.015	1,889	1,925	1.958	4.3	0.329	0.389
Rural	0.308	0.014	1,492	1,494	1.384	4.6	0.281	0.336
Urban	0.534	0.046	397	431	3.357	8.6	0.444	0.624
Birth order 3+ (birth in last three years)								
Total	0.406	0.008	6,079	6,091	1.700	2.0	0.390	0.422
Rural	0.448	0.008	4,851	4,892	1.378	1.9	0.432	0.465
Urban	0.234	0.023	1,228	1,199	3.494	9.7	0.190	0.279

Sampling errors, Assam, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases Unweighted	Number of cases Weighted	Relative Error (%)	95% Conf. Interval R-1.96 SE	95% Conf. Interval R+1.96 SE
Contraceptive Prevalence Rate (Currently Married Women age 15-44)							
Barpeta	0.593	0.017	858	858	2.9	0.559	0.627
Bongaigaon	0.443	0.019	754	754	4.3	0.405	0.480
Cachar	0.320	0.021	642	642	6.6	0.280	0.360
Darrang	0.688	0.018	776	776	2.6	0.653	0.723
Dhemaji	0.547	0.018	831	831	3.3	0.511	0.584
Dhubri	0.457	0.019	751	750	4.2	0.420	0.494
Dibrugarh	0.646	0.019	699	699	2.9	0.608	0.684
Goalpara	0.591	0.019	794	794	3.2	0.555	0.628
Golaghat	0.426	0.019	757	757	4.5	0.389	0.462
Hailakandi	0.818	0.016	610	611	2.0	0.787	0.849
Jorhat	0.580	0.023	646	645	4.0	0.536	0.625
Kamrup	0.671	0.019	720	720	2.8	0.634	0.708
Karbi Anglong	0.502	0.019	788	788	3.8	0.464	0.539
Karimganj	0.702	0.018	759	760	2.6	0.668	0.737
Kokrajhar	0.354	0.019	723	723	5.4	0.316	0.391
Lakhimpur	0.581	0.018	839	839	3.1	0.546	0.617
Marigaon	0.486	0.021	769	769	4.3	0.445	0.527
Nagaon	0.629	0.022	802	802	3.5	0.587	0.671
Nalbari	0.686	0.018	838	838	2.6	0.651	0.722
North Cachar Hills	0.122	0.011	963	963	9.0	0.102	0.143
Sibsagar	0.602	0.017	864	864	2.8	0.568	0.637
Sonitpur	0.610	0.021	644	644	3.4	0.569	0.651
Tinsukia	0.605	0.016	949	949	2.6	0.573	0.636

Sampling errors, Assam, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases Unweighted	Number of cases Weighted	Relative Error (%)	95% Conf. Interval R-1.96 SE	95% Conf. Interval R+1.96 SE
Unmet Need (Currently Married Women age 15-44)							
Barpeta	0.204	0.014	858	858	6.9	0.176	0.232
Bongaigaon	0.382	0.019	754	754	5.0	0.345	0.420
Cachar	0.413	0.021	642	642	5.1	0.371	0.455
Darrang	0.126	0.013	776	776	10.3	0.102	0.151
Dhemaji	0.242	0.016	831	831	6.6	0.211	0.272
Dhubri	0.298	0.017	751	751	5.7	0.264	0.332
Dibrugarh	0.159	0.015	699	699	9.4	0.129	0.189
Goalpara	0.162	0.014	794	794	8.6	0.134	0.189
Golaghat	0.407	0.018	757	757	4.4	0.371	0.443
Hailakandi	0.068	0.010	610	610	14.7	0.049	0.088
Jorhat	0.263	0.021	646	646	8.0	0.223	0.303
Kamrup	0.142	0.013	720	719	9.2	0.116	0.168
Karbi Anglong	0.266	0.017	788	788	6.4	0.233	0.299
Karimganj	0.094	0.011	759	759	11.7	0.072	0.116
Kokrajhar	0.406	0.020	723	723	4.9	0.367	0.445
Lakhimpur	0.229	0.016	839	839	7.0	0.199	0.260
Marigaon	0.291	0.020	769	769	6.9	0.252	0.330
Nagaon	0.185	0.018	802	802	9.7	0.150	0.220
Nalbari	0.153	0.014	838	838	9.2	0.125	0.180
North Cachar Hills	0.498	0.017	963	963	3.4	0.465	0.531
Sibsagar	0.208	0.015	864	864	7.2	0.179	0.236
Sonitpur	0.154	0.016	644	644	10.4	0.123	0.184
Tinsukia	0.253	0.014	949	949	5.5	0.225	0.282

Sampling errors, Assam, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Received Any Antenatal Check up (last live/still birth of past 3 years)							
Barpeta	0.444	0.029	322	318	6.5	0.387	0.501
Bongaigaon	0.557	0.032	272	296	5.7	0.495	0.619
Cachar	0.626	0.034	244	244	5.4	0.559	0.693
Darrang	0.747	0.030	246	247	4.0	0.688	0.807
Dhemaji	0.496	0.030	311	308	6.0	0.437	0.555
Dhubri	0.378	0.026	358	357	6.9	0.327	0.430
Dibrugarh	0.924	0.019	212	219	2.1	0.887	0.961
Goalpara	0.609	0.031	274	278	5.1	0.548	0.671
Golaghat	0.638	0.031	262	257	4.9	0.577	0.699
Hailakandi	0.640	0.033	222	216	5.2	0.575	0.705
Jorhat	0.663	0.036	231	240	5.4	0.592	0.734
Kamrup	0.807	0.028	218	211	3.5	0.753	0.861
Karbi Anglong	0.570	0.031	299	292	5.4	0.509	0.630
Karimganj	0.580	0.029	332	341	5.0	0.524	0.637
Kokrajhar	0.616	0.033	254	257	5.4	0.551	0.680
Lakhimpur	0.498	0.032	284	285	6.4	0.437	0.560
Marigaon	0.648	0.031	304	321	4.8	0.586	0.710
Nagaon	0.458	0.039	234	251	8.5	0.381	0.534
Nalbari	0.780	0.027	279	284	3.5	0.728	0.833
North Cachar Hills	0.294	0.026	308	320	8.8	0.242	0.346
Sibsagar	0.647	0.033	241	242	5.1	0.583	0.711
Sonitpur	0.770	0.031	211	216	4.0	0.710	0.830
Tinsukia	0.806	0.027	222	225	3.3	0.754	0.859

Sampling errors, Assam, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Received 3+ Antenatal Check up (last live/still birth of past 3 years)							
Barpeta	0.242	0.025	322	320	10.3	0.193	0.291
Bongaigaon	0.385	0.030	272	297	7.8	0.325	0.444
Cachar	0.361	0.034	244	244	9.4	0.294	0.428
Darrang	0.591	0.034	246	249	5.8	0.525	0.656
Dhemaji	0.308	0.028	311	308	9.1	0.254	0.363
Dhubri	0.236	0.023	358	357	9.7	0.191	0.281
Dibrugarh	0.681	0.034	212	218	5.0	0.614	0.749
Goalpara	0.287	0.029	274	278	10.1	0.230	0.344
Golaghat	0.529	0.032	262	258	6.0	0.466	0.593
Hailakandi	0.332	0.033	222	217	9.9	0.268	0.397
Jorhat	0.586	0.037	231	241	6.3	0.513	0.659
Kamrup	0.619	0.034	218	211	5.5	0.552	0.686
Karbi Anglong	0.265	0.027	299	291	10.2	0.211	0.319
Karimganj	0.403	0.029	332	340	7.2	0.346	0.459
Kokrajhar	0.364	0.033	254	257	9.1	0.299	0.428
Lakhimpur	0.457	0.032	284	285	7.0	0.395	0.519
Marigaon	0.397	0.033	304	320	8.3	0.333	0.461
Nagaon	0.284	0.033	234	251	11.6	0.219	0.349
Nalbari	0.533	0.033	279	285	6.2	0.467	0.598
North Cachar Hills	0.171	0.021	308	321	12.3	0.129	0.212
Sibsagar	0.531	0.034	241	244	6.4	0.465	0.597
Sonitpur	0.543	0.037	211	216	6.8	0.471	0.616
Tinsukia	0.677	0.032	222	225	4.7	0.614	0.739

Sampling errors, Assam, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Institutional Delivery (last live/still birth of past 3 years)							
Barpeta	0.212	0.024	322	318	11.3	0.164	0.260
Bongaigaon	0.239	0.026	272	297	10.9	0.189	0.290
Cachar	0.264	0.030	244	245	11.4	0.205	0.324
Darrang	0.352	0.032	246	248	9.1	0.288	0.416
Dhemaji	0.198	0.024	311	308	12.1	0.151	0.246
Dhubri	0.106	0.017	358	357	16.0	0.072	0.139
Dibrugarh	0.333	0.034	212	219	10.2	0.266	0.399
Goalpara	0.158	0.023	274	279	14.6	0.112	0.203
Golaghat	0.251	0.028	262	258	11.2	0.196	0.306
Hailakandi	0.228	0.029	222	216	12.7	0.170	0.285
Jorhat	0.403	0.037	231	240	9.2	0.331	0.476
Kamrup	0.447	0.035	218	211	7.8	0.378	0.516
Karbi Anglong	0.202	0.025	299	291	12.4	0.153	0.252
Karimganj	0.187	0.022	332	341	11.8	0.143	0.231
Kokrajhar	0.313	0.032	254	257	10.2	0.251	0.375
Lakhimpur	0.312	0.030	284	285	9.6	0.253	0.370
Marigaon	0.174	0.026	304	320	14.9	0.123	0.224
Nagaon	0.089	0.019	234	251	21.3	0.051	0.127
Nalbari	0.523	0.033	279	285	6.3	0.458	0.589
North Cachar Hills	0.079	0.015	308	320	19.0	0.050	0.108
Sibsagar	0.370	0.032	241	244	8.6	0.306	0.433
Sonitpur	0.351	0.035	211	217	10.0	0.282	0.420
Tinsukia	0.346	0.032	222	225	9.2	0.282	0.409

Sampling errors, Assam, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Safe Delivery (last live/still birth of past 3 years)							
Barpeta	0.282	0.027	322	318	9.6	0.229	0.334
Bongaigaon	0.283	0.028	272	297	9.9	0.229	0.337
Cachar	0.293	0.031	244	245	10.6	0.232	0.354
Darrang	0.440	0.034	246	247	7.7	0.374	0.506
Dhemaji	0.253	0.026	311	308	10.3	0.202	0.305
Dhubri	0.130	0.019	358	357	14.6	0.094	0.167
Dibrugarh	0.410	0.036	212	220	8.8	0.340	0.480
Goalpara	0.179	0.025	274	279	14.0	0.131	0.228
Golaghat	0.352	0.031	262	259	8.8	0.291	0.412
Hailakandi	0.235	0.030	222	215	12.8	0.177	0.293
Jorhat	0.483	0.038	231	240	7.9	0.409	0.557
Kamrup	0.556	0.035	218	212	6.3	0.488	0.625
Karbi Anglong	0.285	0.028	299	291	9.8	0.230	0.340
Karimganj	0.234	0.024	332	342	10.3	0.187	0.282
Kokrajhar	0.378	0.033	254	257	8.7	0.313	0.442
Lakhimpur	0.368	0.031	284	285	8.4	0.308	0.429
Marigaon	0.289	0.031	304	321	10.7	0.229	0.349
Nagaon	0.200	0.029	234	251	14.5	0.143	0.257
Nalbari	0.573	0.033	279	284	5.8	0.508	0.637
North Cachar Hills	0.139	0.020	308	320	14.4	0.099	0.178
Sibsagar	0.430	0.033	241	244	7.7	0.365	0.495
Sonitpur	0.395	0.036	211	217	9.1	0.324	0.465
Tinsukia	0.430	0.034	222	226	7.9	0.364	0.496

Sampling errors, Assam, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Received BCG Vaccination (last and last but one living children, age 12-23 months)							
Barpeta	0.540	0.052	98	94	9.6	0.438	0.641
Bongaigaon	0.573	0.056	88	96	9.8	0.463	0.684
Cachar	0.485	0.059	86	85	12.3	0.368	0.602
Darrang	0.729	0.059	66	68	8.0	0.614	0.844
Dhemaji	0.614	0.048	98	93	7.8	0.520	0.708
Dhubri	0.410	0.049	105	107	12.0	0.313	0.507
Dibrugarh	0.893	0.039	67	72	4.3	0.817	0.969
Goalpara	0.659	0.055	79	81	8.3	0.552	0.766
Golaghat	0.752	0.053	68	72	7.1	0.647	0.857
Hailakandi	0.461	0.060	75	74	12.9	0.344	0.578
Jorhat	0.868	0.048	61	63	5.5	0.773	0.962
Kamrup	0.900	0.035	72	68	3.9	0.832	0.968
Karbi Anglong	0.507	0.059	80	79	11.7	0.391	0.623
Karimganj	0.483	0.053	90	90	11.0	0.379	0.587
Kokrajhar	0.590	0.060	73	76	10.2	0.472	0.708
Lakhimpur	0.565	0.052	98	99	9.3	0.462	0.667
Marigaon	0.706	0.050	104	106	7.0	0.608	0.803
Nagaon	0.424	0.070	57	61	16.5	0.287	0.561
Nalbari	0.767	0.050	75	71	6.5	0.669	0.866
North Cachar Hills	0.434	0.058	71	74	13.3	0.321	0.548
Sibsagar	0.728	0.062	63	62	8.6	0.605	0.850
Sonitpur	0.776	0.054	60	65	7.0	0.670	0.882
Tinsukia	0.790	0.052	60	61	6.6	0.688	0.893

Sampling errors, Assam, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Received Measles (last and last but one living children, age 12-23 months)							
Barpeta	0.302	0.049	98	94	16.1	0.207	0.397
Bongaigaon	0.310	0.051	88	96	16.5	0.210	0.410
Cachar	0.133	0.038	86	85	28.8	0.058	0.208
Darrang	0.425	0.062	66	68	14.7	0.302	0.547
Dhemaji	0.313	0.049	98	93	15.6	0.217	0.408
Dhubri	0.233	0.042	105	107	18.2	0.150	0.315
Dibrugarh	0.415	0.063	67	72	15.2	0.291	0.538
Goalpara	0.415	0.057	79	81	13.7	0.304	0.526
Golaghat	0.584	0.060	68	72	10.3	0.466	0.701
Hailakandi	0.195	0.049	75	74	25.1	0.099	0.291
Jorhat	0.760	0.059	61	63	7.7	0.645	0.875
Kamrup	0.539	0.060	72	68	11.2	0.421	0.657
Karbi Anglong	0.142	0.038	80	79	27.0	0.067	0.217
Karimganj	0.121	0.034	90	90	28.0	0.055	0.188
Kokrajhar	0.124	0.039	73	76	31.7	0.047	0.201
Lakhimpur	0.389	0.052	98	99	13.3	0.287	0.491
Marigaon	0.382	0.052	104	106	13.6	0.280	0.483
Nagaon	0.320	0.067	57	61	21.0	0.188	0.451
Nalbari	0.558	0.060	75	71	10.8	0.440	0.676
North Cachar Hills	0.182	0.042	71	74	23.0	0.100	0.264
Sibsagar	0.469	0.064	63	62	13.7	0.343	0.595
Sonitpur	0.440	0.068	60	65	15.4	0.307	0.574
Tinsukia	0.506	0.065	60	61	12.8	0.379	0.633

Sampling errors, Assam, 2002-04

District	Estimate (R)	Sampling error (SE)	Number of cases		Relative Error (%)	95% Conf. Interval	
			Unweighted	Weighted		R-1.96 SE	R+1.96 SE
Birth order 3+ (birth in last three years)							
Barpeta	0.416	0.027	345	341	6.5	0.363	0.470
Bongaigaon	0.441	0.032	267	294	7.3	0.378	0.504
Cachar	0.465	0.035	249	250	7.5	0.396	0.534
Darrang	0.339	0.035	212	218	10.3	0.271	0.407
Dhemaji	0.417	0.029	327	323	7.0	0.360	0.474
Dhubri	0.509	0.027	359	362	5.3	0.455	0.563
Dibrugarh	0.308	0.034	209	215	11.0	0.241	0.375
Goalpara	0.379	0.030	281	281	7.9	0.319	0.438
Golaghat	0.348	0.033	227	224	9.5	0.284	0.413
Hailakandi	0.447	0.033	236	227	7.4	0.382	0.513
Jorhat	0.300	0.035	215	222	11.7	0.231	0.368
Kamrup	0.353	0.033	219	209	9.3	0.288	0.418
Karbi Anglong	0.521	0.031	304	298	6.0	0.460	0.581
Karimganj	0.561	0.028	357	368	5.0	0.506	0.615
Kokrajhar	0.388	0.033	253	256	8.5	0.322	0.454
Lakhimpur	0.326	0.030	275	276	9.2	0.267	0.386
Marigaon	0.430	0.033	307	325	7.7	0.366	0.494
Nagaon	0.417	0.041	216	233	9.8	0.338	0.497
Nalbari	0.343	0.031	301	304	9.0	0.283	0.404
North Cachar Hills	0.500	0.031	290	304	6.2	0.439	0.561
Sibsagar	0.340	0.035	213	214	10.3	0.272	0.408
Sonitpur	0.341	0.035	220	223	10.3	0.273	0.409
Tinsukia	0.296	0.033	197	200	11.1	0.231	0.360

APPENDIX B

DLHS-RCH STAFF, ASSAM

TALEEM RESEARCH FOUNDATION, AHMEDABAD

Project Director	Dr. Md. Irfan Khan
Project Coordinators	Dr. Mitali Chakrabarty Dr. Dilip Singh Bora Dr. Narendra Singh
Manager (Data Processing Unit)	Mr. Vijay Uttekar
Project Consultants	Prof. Harish Ch Sharma, Gauhati University, Guwahati Prof. Bapukan Choudhuri, Gauhati University, Guwahati
Field Mangers	Mr. Nabajit Deka Mr. Prashanta Sharma
Field Accountant	Mr. Atul Sarma

Team Supervisors

Mr. Anup Kr. Dutta
Mr. Bhupen Das
Mr. Jayanta Hazarika
Mr. Jintu Mani Das
Ms. Kabita Boro
Mr. Kishore Sharma
Mr. Nab Jyoti Laskar
Mr. Nabajit Deka
Ms. P. Joymala Singha
Mr. Prasanta Dutta
Mr. Protul Dutta
Mr. Raju Teron
Mr. Ranjit Pathak
Mr. Robinson Senar
Mr. Ruhini Kumar Dutta
Mr. Sanjoy Chakraborty

Field Editors

Mr. Diganta Kalita
Mr. Gulshan A. Ahmed
Ms. Krishnapriya Sharma
Ms. Manashi Misra
Ms. Mausumi Sarma
Mr. Mohendra Borah
Ms. Namrata Paul
Ms. Nirmali Devi
Mr. Pangkul Preetam Doley
Ms. Pankaja Nath
Mr. Pranjit Sutradhar
Ms. Tanuja Devi

Female Interviewers

Ms. Anamika Bhuyan
Ms. Anju Kalita
Ms. Anjushri Das
Ms. Anuradha Singha
Ms. Ashomi Das
Ms. Barnali Devi
Ms. Bhardabati Barman
Ms. Bimala Kalita
Ms. Binoya Devi
Ms. Bornali Hazarika
Ms. Champa Gogoi
Ms. Chandramala Singha
Ms. Christ Melody Amo
Ms. Chumi Das
Ms. Dipika Medhi
Ms. Garima Das
Ms. Gitanjali Goswami
Ms. Gitika Malakar
Ms. Hrishipurna Hazowary
Ms. Indrani Deb
Ms. Jyoti Mala Doloi
Ms. Kakali Deka
Ms. Kanan Devi
Ms. Kanika Das
Ms. Kashmiri Hazarika
Ms. Kavita Boro
Ms. Lipika Sarmah
Ms. Madhabi Deb
Ms. Madhu Cheta
Ms. Mala Kumari Sarma
Ms. Manidipa Devi
Ms. Minakshi Devi
Ms. Mitali Mazumdar
Ms. Mooni Daimari
Ms. Mousumi Mahanta
Ms. Namita Goswami
Ms. Namrata Paul
Ms. Narpati Deka
Ms. Nisha Mahanta Bordoloi
Ms. Niva Rani Choudhury
Ms. Nivedita Neog
Ms. Ophily Gangte
Ms. P. Joymala Singha
Ms. Pampa Rabha
Ms. Papri Ganguli
Ms. Rekha Devi
Ms. Rishimuni Kachari
Ms. Rita Deka
Ms. Rupali Das
Ms. Samim Ara Begum
Ms. Santa Das
Ms. Shibani Dey
Ms. Songita Bhattacharjee
Ms. Sonmoni Das
Ms. Susmita Sarkar

Male Interviewers

Mr. Ahmed Yusuf Zahir
Mr. Amulya Bora
Mr. Anil Boro
Mr. Arsif Ikbal
Mr. Ashok Sarma
Mr. Biman Paul
Mr. Dinesh Choudhury
Mr. Jayanta Kr. Bania
Mr. Jitumoni Baishya
Mr. Joynal Barbhuiyan
Mr. Juthsutho Phoji
Mr. K. Nandababu Singha
Mr. Mahendra Borah
Mr. Muzakir Choudhury
Mr. Nripen Deka
Mr. Russain Mazumdar
Mr. Sankar Thakuria
Mr. Swapan Das
Mr. Thangzakhum Changsan

Household listing Supervisors

Mr. Anup Kr. Dutta
Mr. Bhupen Das
Mr. Nabajit Deka
Mr. Prashanta Sharma
Mr. Protul Dutta
Mr. Sanjoy Chakraborty

Household Listers and Mappers

Mr. Achjut Bora
Mr. Ashim Jyoti Hazarika
Mr. Basanta Kr. Deori
Mr. Bhadreswar Medhi
Mr. Bhaskar Sarma
Mr. Biman Paul
Mr. Deep Kr. Baruah
Mr. Dilip Neog
Mr. Dip Kr. Sarma
Mr. Gautam Mazumdar
Mr. Gautam Nath
Mr. Gopal Chetry
Mr. Harjit Deka
Mr. Hiren Deka
Mr. Jamil A Barbhuiya
Mr. Joynal Barbhuiyan
Mr. Joydip Chakraborty
Mr. K. Nandababu Singha
Mr. Manoj Kr. Hazarika
Mr. Manoj Kr. Sarma
Mr. Mukul Bhattacharjee
Mr. Narottam Saikia
Mr. Nayanjit Konwar
Mr. Nayan Jyoti Sarma
Mr. Parameswar Haloi
Mr. Prabhat Kalita
Mr. Pranab Jyoti Gogoi
Mr. Pranjal Goswami
Mr. Pronab Jyoti Gogoi
Mr. Rahul Dev Barman
Mr. Rajiv Medhi
Mr. Ratul Bora
Mr. Russain Mazumdar
Mr. Sailen Kalita
Mr. Sankar Thakuria
Mr. Saruj Saikia
Mr. Saurav Barman
Mr. Subit Dutta
Mr. Sukumar Chaudhury
Mr. Swapan Nath

Health Investigators

Ms. Binu Baruah
Mr. Binoy Kalita
Ms. Dipa Kumar
Mr. Khokomoni Sinha
Ms. Khursida Hazarika
Mr. Pankaj Kr. Borah
Mr. Phani Barman
Ms. Pranati Hazarika
Ms. Pranati Saikia
Ms. Pravawati Deka

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Mr. Devesh Pandya (Manager- Finance and administration)
Mr. I.V. Narayanan (Accounts Executive)
Mr. Gopichand Ram (Administrative Executive)

International Institute for Population Sciences, Mumbai

Project Coordinators

Dr. F. Ram
Dr. B. Paswan
Dr. L. Ladu Singh

Senior Research Officers

Mr. Rajiv Ranjan
Mr. K. C. Lakhara
Mr. Nizamuddin Khan

Research Officers

Mr. M. Nagavara Prasad
Mr. Akash N. Wankhede
Mr. Uttam J Sonkamble
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Mr. Jeba Kumar (Data Entry Operator)
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Ms. Preeti S. Kharat (Data Entry Operator)
Ms. Sayali Shivalkar (Data Entry Operator)

Mrs. Seema V. Zagade (Office Assistant)
Mrs. Deepa J. Nair (Office Assistant)

Mr. Chandra D. Singh (Office Boy)
Mr. Ravindra P. Gawade (Office Boy)
Mr. Sanjay P. Kadam (Office Boy)

LIST OF CONTRIBUTORS

Dr. Md. Irfan Khan, Professor and Head (Research), TALEEM Research Foundation, City Plaza, Bopal, Ahmedabad-380058.

Dr. Mitali Charabarty, Assistant Professor, TALEEM Research Foundation, City Plaza, Bopal, Ahmedabad-380058.

Dr. Narendra Singh, Assistant Professor, TALEEM Research Foundation, City Plaza, Bopal, Ahmedabad-380058.

Dr. Dilip Singh Bora, Assistant Professor, TALEEM Research Foundation, City Plaza, Bopal, Ahmedabad-380058.

Dr. F. Ram, Professor and Head, Department of Fertility Studies, International Institute for Population Sciences, Govandi Station Road, Deonar, Mumbai-400 088.

Dr. B. Paswan, Reader, Department of Population Policy and Programme, International Institute for Population Sciences, Govandi Station Road, Deonar, Mumbai-400 088.

Dr. L. Ladu Singh, Professor and Head, Department of Mathematical Demography and Statistics, International Institute for Population Sciences, Govandi Station Road, Deonar, Mumbai-400 088.

Mr. Uttam J. Sonkamble, Research Officer, DLHS-RCH, International Institute for Population Sciences, Govandi Station Road, Deonar, Mumbai-400 088.

Mr. Rajiv Ranjan, Senior Research Officer, DLHS-RCH, International Institute for Population Sciences, Govandi Station Road, Deonar, Mumbai-400 088.