

National Family Health Survey

(MCH and Family Planning)

Northeastern States
(Arunachal Pradesh, Manipur, Meghalaya,
Mizoram, Nagaland and Tripura)
1993

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PREFACE

The National Family Health Survey (NFHS) is an important component of the Project to Strengthen the Survey Research Capabilities of the Population Research Centres in India, launched by the Ministry of Health and Family Welfare (MOHFW), New Delhi, in 1991. It was undertaken with the principal objective of providing state-level and national-level estimates of fertility, infant and child mortality, the practice of family planning, maternal and child health care and the utilization of services provided for mothers and children. Another important objective of the NFHS was to provide high quality data to academicians and researchers for undertaking analytical research on various population and health topics.

The MOHFW designated the International Institute for Population Sciences (IIPS), Bombay, as the nodal agency for providing coordination and technical guidance to the NFHS. The data collection for the NFHS was undertaken by various Consulting Organizations (COs) in collaboration with the concerned Population Research Centres (PRCs) in each state. The East-West Center/Macro International provided technical assistance for all of the survey operations. Funding for the NFHS was provided by the United States Agency for International Development (USAID), New Delhi.

The NFHS covered 24 states and the National Capital Territory of Delhi (the erstwhile Union Territory of Delhi), which comprise 99 percent of the total population of India. In all, 89,777 ever-married women age 13-49 and 88,562 households were covered, using uniform questionnaires, sample designs and field procedures. The data collection was carried out on a state-by-state basis during April, 1992 to September, 1993. Preliminary reports with selected results were prepared for each state by the end of 1993 and presented to policymakers and programme administrators responsible for improving family welfare programmes in most states.

The final state-level reports are based on a tabulation plan discussed, finalized and approved at a workshop held at Vadodara, 5-7 December 1992. The workshop was attended by representatives of all of the participating agencies. IIPS finalized the tabulation plan and produced the tables and graphs for the final reports according to the recommendations of the workshop. In this report, the NFHS findings for six small northeastern states (Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura) are presented.

Never before in India has such a large population and health survey been undertaken and completed in the stipulated time period. I am, therefore, very happy to present the final NFHS report for the six northeastern states. I do hope that it will contribute to the knowledge of researchers and analysts in India and that programme administrators and policymakers will find it useful for policy development and implementation of the family welfare programme in the northeastern region.

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The arduous task of data collection in the northeastern states was successfully completed because of the efforts put forth by Mr. D.P. Basu, Director, MODE Research Private Ltd., Calcutta, and his team consisting of Mr. C.V.S. Prasad, Dr. J.K. Basu, Mr. Zaheer Khan, Dr. U. Dosaj, Dr. Prateep Roy, Mr. Apurba Majumdar, Mr. Salil Sarkar, and Mr. Subhabrata Guha.

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SUMMARY OF FINDINGS

The National Family Health Survey (NFHS) was carried out as the principal activity of a collaborative project to strengthen the research capabilities of the Population Research Centres (PRCs) in India, initiated by the Ministry of Health and Family Welfare (MOHFW), Government of India, and coordinated by the International Institute for Population Sciences (IIPS), Bombay. Interviews were conducted with a nationally representative sample of 89,777 ever-married women in the age group 13-49 from 24 states and the National Capital Territory of Delhi. The main objective of the survey was to collect reliable and up-to-date information on fertility, family planning, mortality, and maternal and child health.

The NFHS in the six small northeastern states, conducted during February to June 1993, gathered information on a representative sample of 882 ever-married women age 13-49 in Arunachal Pradesh, 953 in Manipur, 1,137 in Meghalaya, 1,045 in Mizoram, 1,149 in Nagaland, and 1,100 in Tripura. The survey also collected information on the children of interviewed women born in the four years preceding the survey. In this report, the survey findings are presented for each northeastern state as a whole. Many of the tables in the report include breakdowns by urban and rural areas as part of the background characteristics.

The survey collected a variety of socioeconomic and demographic background data about the population of the northeastern states. The age distribution in each state is typical of high fertility populations, with a high proportion of the population in the younger age groups. Manipur, Mizoram and Tripura have the lowest percentage of population below 15 years of age (37 percent each) and this percentage is the highest in Arunachal Pradesh (43 percent). The proportion of the population age 60 and above varies from just over 2 percent in Nagaland to 8 percent in Tripura. The percentage of the total sample from the urban areas is lowest in Arunachal Pradesh at 12 percent and highest in Mizoram, at 52 percent. The other northeastern states have an urban population ranging from 19-21 percent in Tripura, Nagaland and Meghalaya to 33 percent in Manipur.

More than three-fourths of the household heads belong to scheduled tribes in all of the northeastern states, except Manipur and Tripura, and the percentage is particularly high in Mizoram (97 percent) and Nagaland (96 percent). However, there are no household heads belonging to scheduled castes in Arunachal Pradesh, Manipur, Mizoram, and Nagaland, and they constitute less than 1 percent of the households in Meghalaya and Tripura. Hindus make up the majority of household heads in Tripura (86 percent) and Manipur (60 percent). The majority of household heads are Christian in Mizoram (96 percent), Nagaland (93 percent) and Meghalaya (76 percent). A substantial proportion of household heads belong to "other" religions including Animism, in Arunachal Pradesh. The percentage of Muslim household heads is small in these states, ranging from less than 1 percent in Arunachal Pradesh, Mizoram, and Nagaland to 8 percent in Tripura.

The percentage of the population age 6 and over who are literate varies from 52 percent in Arunachal Pradesh to 91 percent in Mizoram. The female literacy rate is highest in Mizoram (89 percent) followed by Nagaland (72 percent), Tripura (64 percent), Manipur (63 percent), Meghalaya (60 percent), and Arunachal Pradesh (42 percent). In every state, a higher percentage of males than of females has completed each level of schooling with few exceptions.

Marriage is virtually universal in every northeastern state, and in Arunachal Pradesh, Tripura and Meghalaya marriage takes place at relatively young ages. At age 45-49, only 1-3 percent of women have never been married. The singulate mean age at marriage for females is highest in Manipur (25 years), followed by Mizoram and Nagaland (23 years each), Meghalaya and Tripura (21 years each) and Arunachal Pradesh (20 years). In every state, males marry later than females, the difference ranging from 3 years in Nagaland and Manipur to 6 years in Tripura. The percentage of women currently age 20-24 who married before the minimum legal age at marriage of 18 is 44 percent in Arunachal Pradesh, 41 percent in Tripura, 28 percent in Meghalaya, and between 13-16 percent in Manipur, Mizoram and Nagaland.

The total fertility rate (TFR) for women age 15-49 is lower than the national TFR of 3.4 in Nagaland (3.3), Manipur (2.8), Tripura (2.7) and Mizoram (2.3), and higher than the national TFR in Arunachal Pradesh (4.3) and Meghalaya (3.7). At least two-thirds of total fertility is contributed by women in the prime childbearing years of 20-34 in all the northeastern states. The TFR is much lower than the mean number of children ever born to women age 40-49 in all the states except Arunachal Pradesh, indicating that fertility has declined sharply in these states during the past three decades. The difference between the TFR and the mean number of children ever born to women age 40-49 ranges from 0.61 in Arunachal Pradesh to 2.77 in Tripura.

Over 90 percent of currently married women have knowledge of any modern family planning method in Manipur, Mizoram and Tripura, the percentage is lower (77-78) in Meghalaya and Arunachal Pradesh, and is lowest in Nagaland at only 44 percent. Female sterilization is the most widely known contraceptive method in all the northeastern states. The most well known among the spacing methods are the IUD and the pill, in all the northeastern states, except Nagaland and Tripura where the condom is slightly better known than the IUD. Injections are the least known method in all of the states, but in Tripura more than 40 percent of the women are aware of it. Traditional methods of contraception are less well known than modern methods in the northeastern states, varying from 11 percent in Nagaland to 86 percent in Tripura. Among the traditional methods, rhythm/periodic abstinence is better known than withdrawal in all the northeastern states.

Current use of contraception among currently married women age 13-49 is much higher in Tripura (56 percent) and Mizoram (54 percent), than in the other northeastern states (Manipur, 35 percent; Arunachal Pradesh, 24 percent; Meghalaya, 21 percent; and Nagaland, 13 percent). Modern methods are used by a larger percentage of currently married women than traditional methods in all the northeastern states, except Tripura where the percentage using modern and traditional methods is almost the same. Among the modern methods, female sterilization is the most popular contraceptive method. Female sterilization, however, is used at a lower rate in all the northeastern states (ranging from 6 to 17 percent of currently married women), except Mizoram (45 percent), than in the country as a whole (27 percent). Among traditional methods, periodic abstinence is the most popular method in all the northeastern states. Meghalaya, Manipur and Tripura have a higher rate of use of traditional methods than in the country as a whole.

Current use of contraception is higher in urban areas than in rural areas in all of the northeastern states. There is a positive relationship between level of education and current use of family planning in all of the northeastern states. For instance, in Nagaland, the northeastern state with the lowest level of current use of family planning, 7 percent of illiterate women use family planning compared with 21 percent of women who have completed high school. The greatest differentials in current use are by the number and sex of living children. There is a positive association between number of living children and current use in Arunachal Pradesh and Mizoram, and in the other states the positive relationship exists up to three children.

Overall, the public sector, including government/municipal hospitals, Primary Health Centres and other governmental health facilities, supplies 86 percent of all modern methods in Arunachal Pradesh, 82 percent in Manipur, 68 percent in Meghalaya, 91 percent in Mizoram, 71 percent in Nagaland and 75 percent in Tripura. The private medical sector, including private hospitals or clinics, private doctors and pharmacies/drugstores, supplies from 8 percent of users in Mizoram to 31 percent in Meghalaya. Only around 4 percent of the couples rely on the other sources, such as shops, friends and relatives for their supply in Nagaland and Tripura, whereas in the rest of the states it is less than 2 percent.

Overall, the majority of currently married nonusers report that they do not intend to use contraception in the future in Arunachal Pradesh, Manipur, and Meghalaya and 35-47 percent do not intend to use in Mizoram, Nagaland and Tripura. At least 25 percent are unsure of their intention in Meghalaya, Mizoram and Nagaland. Among the intended users, the percentage that intend to use family planning within the next 12 months is 27 in Meghalaya, 34 percent in Mizoram, 40 percent in Arunachal Pradesh, 44 percent in Nagaland, 57 percent in Tripura and 81 percent in Manipur.

Information on fertility preferences was also collected in the NFHS. Overall, the percentage of women who say they want another child at some time in the future is 53 percent in Arunachal Pradesh and Meghalaya, 38 percent in Manipur and Mizoram, 29 percent in Tripura and 26 percent in Nagaland. More than 50 percent of these women say they would like to wait at least two years before having their next birth. Sixty-nine percent of women in Tripura say that they do not want any more children or that they (or their husbands) are sterilized, and this proportion is 55 percent each in Manipur and Mizoram, 42 percent in Nagaland, 35 percent in Arunachal Pradesh and 27 percent in Meghalaya. To understand the total demand for contraception, it is of interest to add together women who do not want any more children (or who are sterilized) with women who want to delay their next birth for two years or longer. Overall, approximately 80-85 percent of women in Manipur, Mizoram and Tripura, and approximately 60-65 percent of women in Arunachal Pradesh, Meghalaya and Nagaland do not want more children or want to wait at least two years to have another.

The NFHS provides information on maternal and child health and the prevalence of specific health conditions in the household. Malaria has the highest prevalence in all of the northeastern states ranging from 16 to 47 per 1,000 usual residents in the household during the three months prior to the survey. Blindness (partial or complete), reported for 8-15 per 1,000 usual residents is the second most prevalent health condition in each state. The remaining health conditions show an overall prevalence of 11 or less per 1,000 in each state.

According to the infant mortality rates estimated in the NFHS for the 5-year period preceding the survey, Mizoram and Nagaland have very low infant mortality rates of 15 and 17 per 1,000 live births, respectively. The infant mortality rate is around 40 per 1,000 live births in Arunachal Pradesh and Manipur, and it is higher at 64 and 76 per 1,000 live births in Meghalaya and Tripura, respectively. The child mortality rate ranges from 4 per 1,000 children who survive to age one in Nagaland to 33 per 1,000 in Arunachal Pradesh.

There is a wide range in the percentage of births for which mothers received antenatal care among the northeastern states. In Nagaland, 61 percent of births were to women who did not receive antenatal care, and in Meghalaya and Arunachal Pradesh around half of births were to women who did not receive it. By contrast, in the remaining northeastern states, the majority of births were to women who did receive antenatal care, 63-65 percent in Manipur and Tripura and 89 percent in Mizoram. The rate of utilization is approximately twice as high in urban than in rural areas in Arunachal Pradesh and Meghalaya and is 11-65 percent higher in the other states. The percentage of live births for which women received two doses or more of the tetanus toxoid vaccine is 30-33 in Meghalaya, Arunachal Pradesh and Nagaland, 43-48 in Manipur and Mizoram, and 59 in Tripura. Less than half the births were to mothers who had received iron and folic acid tablets during pregnancy in four of the six northeastern states (24 percent in Nagaland, 36 percent in Manipur, 45 percent in Arunachal Pradesh, and just under 50 percent in Meghalaya); the rates are higher in Tripura at 53 percent and Mizoram at 64 percent.

The percentage of live births that occurred in a health facility (both public and private) ranges from 6 percent in Nagaland to 49 percent in Mizoram. The practice of giving birth in the mother's own home is very prevalent. The majority of births in all states, except Mizoram, take place in the mother's own home, and even in Mizoram 41 percent take place there. The percentage of births attended by a doctor or nurse/midwife is low, ranging from 21-41 percent, in all the northeastern states, except Mizoram where it is 62 percent.

The Universal Immunization Programme (UIP) in the northeastern states has achieved only limited success. The full vaccination of children varies from as high as 56 percent in Mizoram to as low as 4 percent in Nagaland. These states also hold the lowest and highest rankings regarding children who had not received any vaccinations (15 percent and 75 percent, respectively).

Fever was the most prevalent illness among children under age 4 in all of the northeastern states during the 2 weeks before the survey. The highest rate of fever was in Tripura where more than one-third of children (36 percent) suffered from fever and the lowest rate was 16 percent in Meghalaya and Nagaland. The percentage of children suffering from the symptoms of ARI during the two weeks preceding the survey varied from 4 percent in Mizoram to 23 percent in Tripura. Tripura recorded the lowest incidence of 4 percent of any type of diarrhoea and 1 percent of bloody diarrhoea. At the other extreme, in Mizoram more than one-fifth (22 percent) of the children under 4 years of age suffered from any type of diarrhoea and 5 percent from bloody diarrhoea.

Breastfeeding is nearly universal in the northeastern states, with more than 95 percent of all children born in the 4 years preceding the survey having been breastfed in Arunachal

Pradesh, Meghalaya, Mizoram and Tripura. In Manipur and Nagaland, the percentage of children ever breastfed is 93 and 92, respectively. Although almost all children are breastfed, it is rare for breastfeeding to begin soon after delivery, particularly in Manipur, Meghalaya and Tripura, where only around one-tenth of the last-born children were breastfed within one hour of birth. Exclusive breastfeeding is quite common for very young children (up to 3 months of age) in Arunachal Pradesh (74 percent) and Manipur (70 percent), less common in Nagaland (61 percent), Tripura (48 percent) and Mizoram (46 percent), and least common in Meghalaya (18 percent). At age 6-9 months, it is recommended that solid or mushy food be given to children in addition to breast milk, but between one-third and two-thirds of children are not fed according to this recommendation in the northeastern states.

Overall, the nutrition measures indicate that the percentage of children who are undernourished is highest in Meghalaya followed by Tripura and lowest in Manipur, Mizoram and Nagaland. In terms of specific indicators, 46 percent of the children in Meghalaya are underweight, 51 percent are stunted and 19 percent are wasted, and these percentages are 49, 46 and 18, respectively, in Tripura. At the other extreme, in Mizoram, only 28 percent of the children are underweight, 41 percent are stunted and 2 percent are wasted, and these percentages are 29, 32 and 13, respectively, in Nagaland. On the basis of weight-for-age, the percentage of severely undernourished children varies from 5 percent in Mizoram to 19 percent in Tripura. Severe undernutrition based on height-for-age varies from 13 percent in Nagaland to 38 percent in Meghalaya. The most serious nutritional problem, wasting, is quite evident in Meghalaya and Tripura, affecting almost one in every five children. Wasting is least common in Mizoram, where only 2 percent of children are too thin for their height.

Knowledge of AIDS among women age 13-49 varies dramatically among the northeastern states. Only 13 percent of ever-married women in Tripura and 16 percent of women in Arunachal Pradesh have heard of AIDS. The percentage of women who have heard of AIDS is higher in Meghalaya (27 percent) and Nagaland (41 percent) and very high in Manipur (73 percent) and Mizoram (85 percent). Knowledge of AIDS among women is obtained primarily from radio and television, as well as friends and relatives, in most northeastern states. The most widely held misconception, among women who know about AIDS, in almost all northeastern states, is that insect bites can communicate the disease.

The majority of women who know about AIDS correctly believe that AIDS can be avoided by practising safe sex. The percentage of such respondents ranges from 25 percent in Arunachal Pradesh to 88 percent in Mizoram. Another 13 percent in Mizoram to 59 percent in Nagaland correctly state that using condoms during intercourse can prevent the spread of AIDS. Much more needs to be done to dispel misconceptions about modes of transmission of AIDS and to increase knowledge about prevention of AIDS in most of the northeastern states.

CHAPTER 1

INTRODUCTION

1.1 Background of the Survey

The Ministry of Health and Family Welfare (MOHFW), Government of India, has sponsored the development of 18 Population Research Centres (PRCs) located in universities and institutes of national repute throughout India. In 1991, the MOHFW initiated the project to strengthen the survey research capabilities of the PRCs (PRC Project) with financial support from the United States Agency for International Development (USAID). The National Family Health Survey (NFHS) is being undertaken as one important component of the PRC Project.

The NFHS covers the population in 24 states and the National Capital Territory of Delhi (the erstwhile Union Territory of Delhi which recently attained statehood), which together contain 99 percent of the population of India. The NFHS is a household survey with an overall sample size of 89,777 ever-married women age 13-49. Because of the scale of this undertaking, the data collection in the NFHS was carried out in three phases in 1992 and 1993. States covered in the first phase were Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Tamil Nadu and West Bengal. States covered in the second phase were Assam, Goa, Haryana, Karnataka, Kerala, Maharashtra, Rajasthan and Uttar Pradesh. States covered in the third phase were Arunachal Pradesh, Bihar, Gujarat, the Jammu Region of Jammu and Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Tripura and the National Capital Territory of Delhi.

The NFHS is a collaborative project of the MOHFW, Government of India, New Delhi; the International Institute for Population Sciences (IIPS), Bombay; several Consulting Organizations (COs); all the PRCs; USAID, New Delhi; and the East-West Center/Macro International, United States of America. The MOHFW designated IIPS, Bombay, as the nodal organization, responsible for providing coordination and technical guidance for the NFHS. The PRCs participated in all stages of survey implementation for the states in which they are located. IIPS and the PRCs collaborated with a number of COs in India for survey implementation. Each CO was responsible for facilitating survey activities in one or more states covered by the NFHS. Technical assistance for the NFHS was provided by the East-West Center/Macro International.

In this report, the term "northeastern states" is used to refer to the six small northeastern states of Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura. Although Assam is regarded as one of the "seven sisters" in the northeastern region of India, the NFHS report on Assam was done separately (Population Research Centre, Gauhati University and International Institute of Population Sciences, 1995).

MODE Research Private Limited, a private research organization with one of its bases in Calcutta, was selected to be the CO for the NFHS in the northeastern states. There are no Population Research Centres in these states, and therefore the survey was implemented by MODE, in collaboration with IIPS.

1.2 Origin of the Northeastern States

Arunachal Pradesh, formerly known as the North-East Frontier Agency (NEFA) and later a Union Territory, attained statehood in 1987. Manipur and Tripura were princely states at the time of India's independence, and were integrated with the Indian Union on October 15, 1949, as part 'C' states. With the reorganization of states in 1956, they became Union Territories, and later attained statehood in 1972. The Khasi, Jaintea and Garo districts were separated from the erstwhile Assam to form the present state of Meghalaya in 1972. In the same year, the Lushai Hill District also was separated from the erstwhile Assam and became the Union Territory of Mizoram, which attained statehood in 1987. The state of Nagaland was carved out of the territories that were earlier known as the Naga Hills Tuensang Area (NHTA) and attained statehood in 1963.

1.3 Geographic Features

Physical Characteristics

As the name suggests the six northeastern states form the eastern frontier of India and are surrounded by China in the north, Myanmar in the east, Bhutan and the state of Assam in the northwest and Bangladesh in the southwest. The Himadri (greater Himalaya) marks the natural international boundary with China which corresponds with the McMohan line in the north. The Patkoi ranges, with their lofty peaks and luxuriant growth of flora, separate the northeastern states from Myanmar.

Geologically, the northeastern region falls into an important seismic zone of the world. The physiography of the region is characterized by lofty mountain ranges, snow-capped peaks, ravines, valleys and deep gorges, particularly in Arunachal Pradesh, Manipur, Nagaland and Mizoram. Meghalaya, comprising the Garo, Khasi and Jaintea hills is a plateau tableland. Being an eastward extension of the massive Indian Peninsular shield, Tripura has a good combination of alternating plain and hill areas. The lush green growth of vegetation with thick forest cover, makes the entire area formidable. Except in Tripura, the altitude does not fall below 150 metres. A large part of Mizoram has an altitude between 150 and 900 metres, although peaks over 1,500 metres are not rare. The general elevation of the region increases towards the northeast and altitudinal ranges of 900 to 2,100 metres cover a large part of Manipur and Nagaland (Singh, 1971). Mount Kock (2,983 metres) and Mount Easo (2,977 metres) in Manipur, Mount Phangpui (the Blue Mountain, 2,152 metres) in Mizoram and Saramati (3,926 metres) and Japuo (3,048 metres) in Nagaland are some of the important peaks. The mountain ranges in Arunachal Pradesh are known as the Eastern Himalaya and comprise mountainous and submountainous portions of the Himalayan system. The great Himalaya in the extreme north consists of snow-capped ranges (above 7,000 metres) and deep valleys running from the great northern glaciers.

The northeastern region is traversed by numerous rivers and their tributaries. The great Brahmaputra basin forms a natural drainage for the rivers and streams flowing down from the Himalaya. Draining towards the west are the systems of Lohit, Burhi, Dihiug, Diyung, Kusiara and Gumpti. Logtak lake, situated in the southern part of the central valley of Manipur, is the biggest natural lake of the region.

Climate, Rainfall and Seasons

The climatic conditions in the northeastern region vary greatly due to the dramatic differences in topography and altitude. Rainfall and temperature differ significantly between the sheltered valleys and the foothills and mountain tops. As such any generalization regarding the climate of the whole region will hardly be apt for the individual states. In general, the region enjoys a typical monsoon climate with variants ranging from tropical to temperate conditions. The pre-monsoon showers begin towards the end of March and continue until April. During this season, severe thunderstorms occur extensively, sometimes preceded by dust-raising squalls. Hailstorms may also occur in this season. The rainy season lasting for about five months from May to September is the longest season in the northeastern states. Rainfall is generally heavy in the whole region making the communication and transportation between different areas very difficult. Central and eastern Meghalaya receive a relatively high average annual rainfall (around 720 centimetres). Cherrapunji in Meghalaya receives the highest rainfall in the world (1,392 centimetres). Towards the end of September the southwestern winds become feeble and the following two months experience their retreat. The rains gradually stop, temperature moves downward, and the sky becomes clear. This season is the most pleasant part of the year. The winter (December to February) is marked by a steep fall in temperature. January is the coldest month. Snowfall is experienced at the altitude of 1,500 metres and above, particularly in Arunachal Pradesh. A characteristic feature of the river valleys during this season is the occurrence of dense fog during morning hours. December is the driest month of the year.

1.4 Area and People

Area and Administrative Divisions

The six small northeastern states together cover an area of 176,645 km², accounting for about 5.4 percent of the country's total land area. Arunachal Pradesh is the largest state in area and Tripura, the smallest. As per the 1991 Census, Arunachal Pradesh was divided into 10 districts, Manipur into 8, Meghalaya into 5, Mizoram into 3, Nagaland into 7 and Tripura into 3 districts.

People, Culture, Religion and Language

Although the northeast region is a distinct physical entity, it has significant cultural diversity. The geography of the region has favoured retention of local identity. The region is a mix of different races and tribal groups. Each tribe is confined to a particular geographic area with its specific and distinct social, cultural and religious peculiarities. The Boro, Mikir and Mishing are the leading tribes in Arunachal Pradesh; the Konyak, Ao and Sema are the numerically larger tribes in Nagaland; in Manipur, the Tangkhui, Kabui and Thado are the major groups; in Mizoram, the Lushai heavily outnumber the other tribes; in Tripura, the Tripuri are the largest tribal group; and in Meghalaya, the Khasi and Garo are the leading tribes. These tribes speak in their respective tribal dialect, mostly belonging to the Tibeto-Burman languages. Many tribes still practise animism; some follow Buddhism and Hinduism. The influence of Protestant Christian missionaries is also very apparent among some tribes.

1.5 Economy

Although the northeastern states are rich in mineral, forest and water resources, their economic development has long been handicapped by physical barriers, tradition-bound tribal societies and isolation. The availability of land for agriculture is very limited. The percentage of net sown area to total geographical area in 1987-88 was larger in Tripura (25 percent) than in other northeastern states (12 percent in Nagaland; 9 percent in Meghalaya; 6 percent in Manipur and 3 percent each in Mizoram and Arunachal Pradesh). Agriculture is the main occupation and *jhuming* (shifting cultivation) is the usual practice. The proportion of workers engaged in agriculture in 1991 varied from around 62 percent in Tripura to 73 percent in Nagaland (Office of the Registrar General and Census Commissioner, 1992).

The northeastern states lag behind in industrial development. Industries in these states are basically household or small-scale industries. During 1988-89 manufacturing and mining sectors together contributed around 17 percent of the state's income in Arunachal Pradesh, 12 percent in Manipur and 25 percent in Nagaland (Centre for Monitoring Indian Economy, 1992). Such data for other states in the region are not available. The per capita income during 1982-83 to 1984-85 was Rs. 2,498 in Arunachal Pradesh, Rs. 2,123 in Manipur, Rs. 1,989 in Meghalaya, Rs. 1,778 in Mizoram, Rs. 3,097 in Nagaland and Rs. 1,952 in Tripura. Per capita income is lower than the national per capita income of Rs. 2,355 in all the northeastern states except Arunachal Pradesh and Nagaland. Information on the proportion of population below the poverty line¹ is not available for all the northeastern states. However, in 1977-78, 29 percent of the rural and 27 percent of the urban population in Manipur and 51 percent of the rural and 29 percent of the urban population in Meghalaya were estimated to be below the poverty line (Centre for Monitoring Indian Economy, 1992).

1.6 Basic Demographic Indicators

A comparison of the basic demographic indicators for the northeastern states and the whole of India is presented in Table 1.1. In 1991 the total population of the six northeastern states was about 9.1 million which accounted for only 1.1 percent of the country's total population. Among the northeastern states, Tripura is the most populous state with a population of 2.8 million, followed by Manipur and Meghalaya (1.8 million, each) and Nagaland (1.2 million). Arunachal Pradesh and Mizoram are smaller, with less than 1 million population each. The percent population increase between 1981 and 1991 in each of the northeastern states was higher than that for the country as a whole, ranging from 29.3 percent in Manipur to 56.1 percent in Nagaland. Except in Tripura, the population density (per km²) for the year 1991 was considerably lower in the northeastern states than in all India. The population density was 263 in Tripura compared with 273 in all of India. The density in the remaining states ranges

¹ The Task Force on "Minimum Needs and Effective Consumption Demand," constituted by the Planning Commission in 1979, defined the poverty line as a per capita monthly expenditure of Rs. 49.09 in rural areas and Rs. 56.64 in urban areas at 1973-74 prices, corresponding to a per capita daily calorie requirement of 2,400 in rural areas and 2,100 in urban areas. In subsequent years the poverty line has been adjusted because of price changes, using price indices implicit in the private consumption expenditure series reported in the National Accounts Statistics. The poverty line translated into 1987-88 prices is Rs. 131.80 per capita monthly expenditure for rural areas and Rs. 152.13 for urban areas.

Table 1.1 Basic demographic indicators

Basic demographic indicators for Northeastern states and India, 1981-1992

Index	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura	India
Population (1991)	864,558	1,837,149	1,774,778	689,756	1,209,546	2,757,205	846,302,688
Percent population increase (1981-91)	36.8	29.3	32.9	39.7	56.1	34.3	23.9
Density (Population/km ²) (1991)	10	82	79	33	73	263	273
Percent urban (1991)	12.8	27.5	18.6	46.1	17.2	15.3	26.1
Sex ratio (1991)	859	958	955	921	886	945	927
Percent 0-14 years old (1981)	39.4	39.3	42.4	39.6	36.8	39.4	39.6
Percent 65+ years old (1981)	2.6	3.6	2.5	2.9	3.9	4.5	3.8
Percent scheduled caste (1991)	0.5	2.0	0.5	0.1	0.0	16.4	16.7
Percent scheduled tribe (1991)	63.7	34.4	85.5	94.8	87.7	30.9	8.0
Percent literate (1991) ¹							
Male	51.5	71.6	53.1	85.6	67.6	70.6	64.1
Female	29.7	47.6	44.6	78.6	54.8	49.7	39.3
Total	41.6	59.9	49.1	82.3	61.6	60.4	52.2
Crude birth rate (1992) ²	26.3	19.4	29.8	U	19.2	23.1	29.2
Crude death rate (1992) ²	9.3	5.5	8.5	U	3.6	7.6	10.1
Exponential growth rate (1981-91)	3.14	2.57	2.84	3.34	4.45	2.95	2.14
Infant mortality rate ³	64	24	58	U	10	51	79
Couple protection rate (1992)	11.1	25.5	4.8	43.6	5.1	18.7	43.5

U: Not available

¹Based on the population age 7 and above

²Provisional

³Three-year moving average 1990-92 for states and annual rate 1992 for all India

Source: Office of the Registrar General (1993, 1994), Office of the Registrar General and Census Commissioner (1987, 1992), Ministry of Health and Family Welfare (1992)

from 10 persons per km² in Arunachal Pradesh to 82 persons per km² in Manipur.

The proportion of the population that is urban is higher than the national figure of 26 percent in Manipur (28 percent) and Mizoram (46 percent), and lower than the national figure in other states (19 percent in Meghalaya, 17 percent in Nagaland, 15 percent in Tripura and 13 percent in Arunachal Pradesh). In 1991, the sex ratio of the population (number of females per 1,000 males) was lower than the sex ratio for all India (927) in Arunachal Pradesh, Nagaland and Mizoram. The sex ratio was the lowest in Arunachal Pradesh (859) and highest in Manipur (958). Because the age distribution from the 1991 census is not yet available and the Sample Registration System does not provide age distributions for the smaller northeastern states, the age distribution is presented for 1981 only. The percentage of the population age 0-14 years in 1981 in Arunachal Pradesh, Manipur, Mizoram, and Tripura was almost the same as that in all India (39.6). However, the proportion of the child population was somewhat lower than the national figure in Nagaland (37 percent) and was slightly higher than the national figure in Meghalaya (42 percent). The proportion of elderly persons age 65+ in the population ranges from 2.5 percent in Meghalaya to 4.5 percent in Tripura, compared to 3.8 percent for all India.

According to the 1991 Census, the proportion of the scheduled caste² population is very small (2 percent or less) in the northeastern states except in Tripura where persons from scheduled castes comprise 16 percent of the population compared with 17 percent for the whole country. However, persons from scheduled tribes constitute 95 percent of the population of Mizoram, 88 percent in Nagaland, 86 percent in Meghalaya, 64 percent in Arunachal Pradesh, 34 percent in Manipur and 31 percent in Tripura compared with a mere 8 percent in the country as a whole.

Most of the northeastern states are educationally more advanced than the average for India. According to the 1991 Census, the literacy rate for the population age 7 years and above is higher than the national average of 52 percent in Mizoram (82 percent), Nagaland (62 percent), and Manipur and Tripura (60 percent each) and lower in Meghalaya (49 percent) and Arunachal Pradesh (42 percent). Female literacy is particularly low in Arunachal Pradesh (30 percent).

According to estimates derived from the Sample Registration System (SRS) in 1992, the crude birth rate (CBR) in the northeastern states was lower than the CBR of 29 births per 1,000 population for all India, except in Meghalaya. The CBR was around 19 in Manipur and Nagaland, 23.1 in Tripura, 26.3 in Arunachal Pradesh, and 29.8 in Meghalaya. The crude death rate (CDR) and the infant mortality rate (IMR) were also lower in all the northeastern states than in all India. The CDR for the northeastern states ranged from 3.6 deaths per 1,000 population in Nagaland to 9.3 deaths per 1,000 population in Arunachal Pradesh, compared with 10 per 1,000 population for the country as a whole. Among the northeastern states, the three-year moving average of the IMR for 1990-92 is lowest for Nagaland (10 per 1,000 live births) and

² Under the Indian Constitution, scheduled castes and scheduled tribes mean such castes, races or tribes or part of or groups within castes, races or tribes as are declared by the President of India to be scheduled caste under Article 341 and scheduled tribe under Article 342 of the Constitution (Office of the Registrar General and Census Commissioner, 1992).

highest for Arunachal Pradesh (64 per 1,000 live births). The SRS estimated crude birth rate, crude death rate and infant mortality rate are not available for Mizoram.

The couple protection rate (defined as the percentage of eligible couples effectively protected against pregnancy) was much lower in the northeastern states than in all India, with the exception of Mizoram where the couple protection rate is estimated to be almost the same as that for all India (around 43 percent). Only 5 percent each of eligible couples are protected through family planning in Meghalaya and Nagaland, 11 percent in Arunachal Pradesh, 19 percent in Tripura and 26 percent in Manipur.

Trends in some of the basic demographic indicators for the northeastern states are presented in Table 1.2. Except in Manipur and Mizoram the decadal population growth rate (percent increase during the 10-year period) as well as the average annual exponential growth rate accelerated in the northeastern states during 1981-91 compared to 1971-81. Population density also increased in all the states, particularly in Tripura where it increased from 196 persons per km² in 1981 to 263 persons per km² in 1991. The proportion of urban population to total population also increased in all the northeastern states during 1981-91. In Arunachal Pradesh and Mizoram, the proportion urban increased from 6.6 percent and 24.7 percent in 1981 to 12.8 percent and 46.1 percent in 1991, respectively. The sex ratio of the population increased marginally in Mizoram and Nagaland, remained the same in Meghalaya and Tripura, and declined in Arunachal Pradesh and Manipur. The proportion of scheduled castes and scheduled tribes also increased in all the states except in Arunachal Pradesh where the proportion of scheduled tribes declined from 69.8 percent in 1981 to 63.7 percent in 1991.

During 1981-91, the literacy rate improved significantly in all the northeastern states, particularly in Arunachal Pradesh where the literacy rate doubled, increasing from 20.8 percent in 1981 to 41.6 percent in 1991. In all the states, the rate of increase in female literacy is higher than the rate of increase in male literacy during 1981-91. For example, in Arunachal Pradesh, while the male literacy rate increased from 28.9 percent in 1981 to 51.5 percent in 1991, the female literacy rate more than doubled from 11.3 percent to 29.7 percent during the same period.

Except in Meghalaya, where the couple protection rate has declined from 6.1 percent in 1981 to 4.8 percent in 1992, there has been a substantial increase in the couple protection rate in the northeastern states. In Arunachal Pradesh the proportion of couples effectively protected increased by almost 5 times between 1981 and 1992.

1.7 Population and Family Welfare Policies and Programmes

The family welfare programme in India promotes responsible parenthood with a two-child family norm (regardless of the sex of the children), through the voluntary use of contraceptive methods best suited to each couple and a variety of maternal and child health schemes (Ministry of Health and Family Welfare, 1991). The family planning programme was started in 1952. Following the guidelines of the national family planning programme, a clinical approach was adopted. The extension approach was introduced in 1963-64. The intra-uterine contraceptive device (IUD) was introduced as a method of family planning into the programme in 1965. The

Table 1.2 Trends in basic demographic indicators

Trends in basic demographic indicators, Northeastern states, 1981-91

Index	Arunachal Pradesh		Manipur		Meghalaya		Mizoram		Nagaland		Tripura	
	1981	1991	1981	1991	1981	1991	1981	1991	1981	1991	1981	1991
Population	631,839	864,558	1,420,953	1,837,149	1,335,819	1,774,778	493,757	689,756	774,930	1,209,546	2,053,058	2,757,205
Percent population increase (previous decade)	35.2	36.8	32.5	29.3	32.0	32.9	48.6	39.7	50.0	56.1	31.9	34.3
Exponential growth rate	3.0	3.1	2.8	2.6	2.8	2.8	4.0	3.3	4.0	4.5	2.8	3.0
Density (Population/km ²)	8	10	64	82	60	79	23	33	47	73	196	263
Percent urban	6.6	12.8	26.4	27.5	18.1	18.6	24.7	46.1	15.5	17.2	11.0	15.3
Sex ratio	862	859	971	958	954	955	919	921	863	886	946	945
Percent scheduled caste	0.5	0.5	1.3	2.0	0.4	0.5	0.0	0.1	0.0	0.0	15.1	16.4
Percent scheduled tribe	69.8	63.7	27.3	34.4	80.6	85.5	93.6	94.8	84.0	87.7	28.4	30.9
Percent literate ^a												
Male	28.9	51.5	53.3	71.6	37.9	53.1	64.5	85.6	50.1	67.6	51.7	70.6
Female	11.3	29.7	29.1	47.6	30.1	44.6	54.9	78.6	33.9	54.8	32.0	49.7
Total	20.8	41.6	41.4	59.9	34.1	49.1	59.9	82.3	42.6	61.6	42.1	60.4
Couple protection rate	2.3	11.1 ^b	10.9	25.5 ^b	6.1	4.8 ^b	13.8	43.6 ^b	1.2	5.1 ^b	9.4	18.7 ^b

^aBased on the population age 5 and above for 1981 and the population age 7 and above for 1991.

^b1992

Source: Office of the Registrar General and Census Commissioner (1984a, 1987, 1992), Ministry of Health and Family Welfare (1989, 1992)

camp approach was adopted to promote surgical methods of birth control during the early 1970s. In the same period, a community-oriented service network was developed, in which family planning services were offered as a part of the overall package of health services. This integrated and coordinated approach was implemented during 1974-77. The mother and child care approach, which commenced in 1977-78, is still continuing. The Expanded Programme on Immunization (EPI) was introduced in 1978 with the objective of providing free vaccination services to all eligible children and expectant mothers. In order to step up the pace of immunization, the Universal Immunization Programme (UIP) was introduced in 1985-86. Since 1991 the programme of Child Survival and Safe Motherhood (CSSM) has been introduced. Family welfare services, including maternal and child health schemes, are offered through the existing network of Primary Health Centres (PHCs), sub-centres, and referral centres called Community Health Centres, and also through Village Health Guides and Traditional Birth Attendants at the village level.

In the northeastern states, as in other states, the family welfare programme has been voluntary, leaving the choice of the method to the individual couple. Although the programme advocates a cafeteria approach offering various contraceptive methods, sterilization of females has been popular in the northeastern states.

1.8 Health Priorities and Programmes

Delivery of health services in the northeastern states is mainly governed by the National Health Policy, which was approved by Parliament in 1983. Although the National Health Policy places a major emphasis on ensuring primary health care to all by the year 2000, it nevertheless identifies certain areas which need special attention. These areas are: (1) nutrition for all segments of the population, (2) the immunization programme, (3) maternal and child health care, (4) the prevention of food adulteration and maintenance of the quality of drugs, (5) water supply and sanitation, (6) environmental protection, (7) school health programmes, (8) occupational health services, and (9) prevention and control of locally endemic diseases. Active community participation has been considered to be one of the most important supportive activities for the successful implementation of the health programmes.

After India became a signatory to the Alma Ata Declaration of 1978, thereby committing the country to the goal of "Health for All" by 2000 A.D., the government started to concentrate on the development of the rural health infrastructure.

The adverse topography with rugged terrain and inhospitable climate has made most of the northeastern states inaccessible. Uniqueness of the tribes in terms of sociocultural characteristics, particularly language, has rendered the people of this region isolated from the mainstream population. Increased efforts are required to reach out to these populations and provide them the benefits of planned development, health and family planning.

CHAPTER 2

SURVEY DESIGN AND IMPLEMENTATION

2.1 Objectives of the NFHS

The primary objective of the NFHS is to provide national-level and state-level data on fertility, nuptiality, family size preferences, knowledge and practice of family planning, the potential demand for contraception, the level of unwanted fertility, utilization of antenatal services, breastfeeding and food supplementation practices, child nutrition and health, immunizations, and infant and child mortality. The NFHS is also designed to explore the demographic and socioeconomic determinants of fertility, family planning, and maternal and child health. This information is intended to assist policymakers, administrators and researchers in assessing and evaluating population and family welfare programmes and strategies. The NFHS used uniform questionnaires and uniform methods of sampling, data collection and analysis with the primary objective of providing a source of demographic and health data for interstate comparisons. The data collected in the NFHS are also comparable with those of the Demographic and Health Surveys (DHS) conducted in many other countries¹.

2.2 Questionnaires

Three types of questionnaires were used in the NFHS: the Household Questionnaire, the Woman's Questionnaire, and the Village Questionnaire (see Appendix D). The overall content and format of the questionnaires were determined in a Questionnaire Design Workshop held in Pune in September, 1991. The workshop was attended by representatives from all the PRCs, the Consulting Organizations, MOHFW, IIPS, other Indian organizations, USAID, and the East-West Center/Macro International. The contents and design of the questionnaires were based broadly on the DHS Model B Questionnaire, which is designed for use in countries with low contraceptive prevalence. Keeping in view the Indian sociocultural milieu and the objectives of the NFHS, additions and modifications were made to the model questionnaire after extensive deliberations at the workshop. In addition to a standard set of questions in all the states of the NFHS, it was decided at the workshop that individual states could recommend a number of state-specific questions which would be formulated after considering the issues of importance in each state. Based on the recommendations of this workshop, the questionnaires were finalized at IIPS, Bombay. The questionnaires are largely precoded, with fixed response categories.

A pretest of the questionnaires was carried out by IIPS with the help of the PRC, Bhopal, in October, 1991. A 10-day training session for the interviewers and supervisors was conducted at the PRC. For the pretesting of the questionnaire, a total of 150 pretest interviews were completed in two villages near Bhopal and a few urban blocks within Bhopal city. After the pretest, appropriate changes were made in the questionnaires, based on the experience of the pretest. The NFHS in the northeastern states used the standard Household Questionnaire, Woman's Questionnaire, and Village Questionnaire which had been pretested. A set of questions

¹ The Demographic and Health Surveys (DHS) programme is an international project designed to collect comparable survey data across countries on fertility, family planning, and maternal and child health.

on the knowledge of Acquired Immune Deficiency Syndrome (AIDS) was added to the Woman's Questionnaire in each of the northeastern states as state-specific questions. Questionnaires used in Arunachal Pradesh, Meghalaya, Mizoram, and Nagaland were in English. Questionnaires used in Manipur and Tripura were bilingual, consisting of questions in both the state language (Manipuri in Manipur, and Bengali in Tripura) and English.

The Household Questionnaire was used to list all usual residents of each sample household, plus all visitors who slept in that household the night before the interview. Some basic information was collected on the characteristics of each person listed, including age, sex, marital status, education, occupation, and relationship to the head of the household, as well as health status. The main purpose of this section of the Household Questionnaire was to identify women who were eligible to respond to the Woman's Questionnaire (ever-married women age 13-49 years). In addition, the Household Questionnaire collected information on household conditions, such as the source of water, type of toilet facilities, materials used in the construction of the house, source of lighting, cooking fuel, ownership of agricultural land and livestock, ownership of various consumer durable goods, and characteristics of the head of the household such as religion, caste or tribe. The Household Questionnaire also included household birth and death records wherein all the live births and deaths that took place within the last two years in the household were recorded.

The Woman's Questionnaire was used to collect information from eligible women -- that is, all ever-married women, usual residents as well as visitors, age 13-49 years. The Woman's Questionnaire consisted of seven sections:

Section 1. Respondent's Background: Questions on age, marital status, age at marriage, and education of the eligible women are included. If the respondent is a visitor, information about her own household is also collected.

Section 2. Reproduction: In this section, information is collected about the births that a woman had during her life. The information collected includes the total number of sons and daughters that a woman has given birth to, information about stillbirths and abortions, a complete birth history including month and year of birth, current age, sex, survival status, and if dead, age at death for each of the live births, and information about current pregnancy and menstruation status.

Section 3. Contraception: This section collects information on the knowledge, ever use and current use of various family planning methods, intentions for future use, and for current users, the duration of use, source of the method, and problems experienced with use.

Section 4. Health of Children: The questions in this section relate to births in the year of the survey as well as to all the births in the previous four calendar years. The objective of this section is to obtain information related to the health of children. The topics include antenatal care, breastfeeding, vaccinations and recent illnesses of young children. The questions are organized into two subsections: Section 4A containing questions on pregnancy and breastfeeding and Section 4B containing questions on immunization and health of children.

Section 5. Fertility Preferences: This section gathers information on the desire for additional children, ideal family size and sex composition of children, preferred and ideal birth intervals, and husband's attitude towards family size. A subsection (Section 5A) includes a set of state-specific questions on knowledge of AIDS.

Section 6. Husband's Background and Woman's Work: Questions related to age, education and work status of the husband as well as questions on the work status of the woman herself are included.

Section 7. Height and Weight: All living children born since 1 January 1989 to the eligible women interviewed were weighed and measured. The results were recorded in this section of the Woman's Questionnaire. The NFHS is the first national survey that collected demographic, health and anthropometric data simultaneously. The measurement of height and weight was a separate operation that was conducted after the individual interview was completed. All interviewers, editors and supervisors were trained in taking anthropometric measurements. For the measurement of weight of the children, standard spring balance weighing machines (Salter scales) were used. The height/length of the child was measured using adjustable boards made of acrylic and other synthetic materials with a metal frame providing strength, suitable for measuring either the length or the height of children.

The Village Questionnaire was used to collect information on various amenities available in the villages such as electricity, water, transportation, and educational and health facilities.

2.3 Sample Design

The sample design adopted for the NFHS is a systematic, multi-stage stratified sample of households. In the six northeastern states, it was designed to provide statistical estimates for each state separately.

Sample Size and Allocation

The overall sample size for the northeastern states, in terms of the number of eligible women to be selected, was set at 1,100 women in each state. After considering data for each state on household composition, and allowing for nonresponse at the household and individual respondent levels, it was estimated that this would yield approximately 1,000 completed interviews for respondents to the Woman's Questionnaire (ever-married women age 13-49 years) in each state. The sampling rate is the same in the rural and urban areas in each state, and thus the sample is completely self-weighted in each state.

The Rural Sample: The Frame, Stratification and Selection

The sample design was the same for each northeastern state. In rural areas, the 1981 census list of villages served as the sampling frame, and a two-stage sample design was adopted with selection of villages in the first stage. There were two levels of stratification. The first level of stratification was by village population size, with the villages being classified into three or four different classes of equal population size in each state. The second level of stratification

was ordering the villages by geographical locations, i.e., by region, district, *tahsil*, and village code in each state. Regions were often defined to be the same as districts. In some cases, they were parts of individual districts divided according to *tahsils*. Hence, nine regions in Arunachal Pradesh, eight regions in Manipur, seven regions in Meghalaya, three regions in Mizoram, seven regions in Nagaland, and four regions in Tripura were formed. Where appropriate, the districts were ordered to capture major differences in the distribution of scheduled tribe population in each state. This was done to improve stratification.

After the explicit strata were constructed, except for the smallest size stratum (villages with 22 or fewer households in 1981), the list of villages was put together and the primary sampling units (PSUs) were selected systematically, with a single random start, going continuously from one stratum to another, and with probabilities proportional to size (PPS). On average, 15 households were selected from each PSU with fewer than 300 households in 1981, and 20 households from larger PSUs with 300 households or more.

In the smallest size stratum (villages with 22 or fewer households in 1981), all the villages were selected with constant probability rather than with PPS. At the second stage, there was no sampling of households; all households within each selected village in this stratum were taken into the sample (compact cluster sampling).

Overall, 56 PSUs in Arunachal Pradesh, 50 in Manipur, 52 each in Meghalaya and Nagaland, 34 in Mizoram, and 46 in Tripura were selected. The probability of selecting a PSU from the rural areas of each state was computed as:

$$f_1 = \frac{a \times s_i}{\sum s_i}$$

where a = number of PSUs selected from the rural areas of the state
 s_i = population size of the selected PSU
 $\sum s_i$ = rural population of the state

A household listing operation carried out in each of the selected villages provided the necessary frame for selecting households at the second sampling stage. Six houselisting teams, each team comprising a lister and a mapper, were trained during the first week of May, 1993 in Arunachal Pradesh. Similarly, six house-listing teams each in Manipur and Tripura were trained during the first week of February, 1993 at Imphal and Calcutta, respectively. Five house-listing teams each in Meghalaya and Nagaland were trained during the first week of April, 1993 and the third week of April, 1993 at Shillong and Kohima, respectively. Eight house-listing teams in Mizoram were trained during the first week of May, 1993 at Aizawl. The household listing operation started immediately after the training. The households to be interviewed were selected from the household lists using systematic sampling with equal probabilities.

The probability of selecting a household from a selected PSU (f_2) was computed as:

$$f_2 = \frac{f}{f_1}$$

where f is the overall sampling fraction (the probability of selecting a woman from a state) and computed as:

$$f = \frac{n \times 1.10}{N}$$

where n = number of women to be interviewed in a state adjusted for 10 percent to account for nonresponse and other loss; and
 N = projected population of eligible women in a state.

In the small villages where compact cluster sampling was used, $f_1 = 8/953$ (since there were 8 small villages selected from 953 villages), and $f_2 = 1$.

All the households which were selected were contacted during data collection, and no replacement was made if a selected household was absent during data collection.

The Urban Sample: The Frame, Stratification and Selection

As in rural areas, the urban sample design was the same for each northeastern state. The list of Census Enumeration Blocks (CEBs) provided by the Registrar General of India for 1991 served as the sampling frame. In the first level of stratification, all cities and towns were subdivided into two strata: self-selected cities and other towns. Within each stratum, the cities/towns were arranged following the same geographical stratification used in the rural areas. In self-selected cities, a two-stage sample design was adopted: selection of CEBs followed by selection of households in each of the selected blocks. In the other towns, a three-stage sample design was adopted: selection of towns with PPS, followed by PPS selection of two CEBs per selected town, and selection of households in each of the selected blocks.

The number of cities/towns and CEBs selected for each state is as follows:

	Number of cities/towns	Number of CEBs
Arunachal Pradesh	4	8
Manipur	7	20
Meghalaya	3	12
Mizoram	8	30
Nagaland	5	12
Tripura	4	10

The probability of selecting a town was computed as (note that $f_1 = 1$ for self-selecting cities):

$$f_1 = \frac{a \times s_i}{\sum s_i}$$

where a = number of towns selected from the state
 s_i = population size of the selected town
 $\sum s_i$ = urban population of the state

The probability of selecting a CEB from a selected city/town was computed as:

$$f_2 = \frac{b \times B_i}{\sum B_i}$$

where b = number of CEBs to be selected from the city/town
 B_i = population size of the selected CEB
 $\sum B_i$ = population of the city/town.

The probability of selecting a household from a selected block (f_3) was computed as:

$$f_3 = \frac{f}{f_1 \times f_2}$$

where f is the same as for the rural areas.

In all the urban areas of the northeastern states, as in the rural areas, household listing was carried out in the selected blocks, and an average of 15 households were selected systematically in each of the blocks.

2.4 Recruitment, Training and Fieldwork

In order to maintain uniform survey procedures across the states, four manuals dealing with different aspects of the survey were prepared at IIPS. The *Interviewer's Manual* consisted of instructions to the interviewers regarding interviewing techniques, field procedures, and instructions on the method of asking each question and recording answers. The *Manual for Field Editors and Supervisors* contained a detailed description of the role of field editors and supervisors in the survey. A list of checks to be made by the field editor in the filled-in questionnaires was also provided in this manual. The *Household Listing Manual* was meant for household listing teams, and contained procedures to be adopted for household listing. The guidelines for the training of the field staff were described in the manual entitled *Training Guidelines*. The representatives of each of the COs and the PRCs were trained in a series of Training of the Trainers Workshops organized by IIPS at the beginning of each phase of data collection. The purpose of these workshops was to ensure uniformity in data collection procedures in different states. Persons who were trained in each workshop subsequently trained the field staff in each state according to the standard procedures discussed in the Training of Trainers Workshops. In these workshops, detailed discussions were held on the objectives of

the NFHS, different aspects of the survey, roles of various organizations participating in the survey, details of each of the three questionnaires used in the survey, methods of data collection and field supervision, and guidelines for the training of the field staff. Four persons from MODE Research, Calcutta were trained in the first and second training of the trainers workshops organized at Lonavala during December 1991 and June 1992, respectively.

All the field investigators were females and most of them had obtained a graduate degree. The field editors were females and the supervisors were males. The training of field staff for the main survey in Arunachal Pradesh was arranged at Maharlagun, the erstwhile capital of the state, wherein a total of 35 persons were trained. For the survey in Manipur, a total of 18 persons were trained in the University of Manipur, Imphal in February 1993. A total of 21 persons were trained for the main survey in Meghalaya, in a training programme organized at Shillong during 3-23 April, 1993. In a training organized at Aizawl during 1-24 May 1993, 20 persons were trained for the main survey in Mizoram. The field staff of 24 persons for the Nagaland survey were trained in Kohima during between 2 April and 9 May 1993. Training of the field staff for the Tripura survey was organized at MODE's office in Calcutta in February 1992, in which a total of 14 persons were trained. The training of the field staff in most states was conducted jointly by the staff of MODE and IIPS.

In every state, the three-week training course consisted of instruction in interviewing techniques and field procedures for the survey, a detailed review of each item in the questionnaire, instruction and practice in weighing and measuring children, mock interviews between participants in the classroom, and practice interviews in the field. In addition, in each state, three special lectures were arranged: one on the topic of family planning at the beginning of the section on contraception in the Woman's Questionnaire; one on maternal and child health practices, including immunizations, at the beginning of the section on health of children; and another lecture on AIDS at the beginning of section 5A of the Woman's Questionnaire. Medical doctors conversant with the state's Maternal and Child Health (MCH) programme were the resource persons for these lectures. In addition to the regular training, training on alternate days was specially arranged for field editors and supervisors. The editors were trained to detect errors in the filled-in questionnaires and to solve problems. A list of checks to be made while editing the filled-in questionnaires was also supplied to them. Each participant filled in more than 20 questionnaires during the field practice.

The fieldwork for the NFHS in the northeastern states was carried out by several interviewing teams, each team consisting of one field supervisor, one field editor, and four female interviewers (see Appendix C for a complete list of survey staff). However, the interview teams in Manipur and Nagaland had five female interviewers instead of four. The number of interviewing teams employed for the survey was 4 in Arunachal Pradesh, 2 in Manipur, 3 in Meghalaya, 3 in Mizoram, 3 in Nagaland, 2 in Tripura. The fieldwork was carried out between February and April 1993 in Tripura, between March and May 1993 in Manipur, between April and June 1993 in Meghalaya, and between May and June 1993 in Arunachal Pradesh, Mizoram and Nagaland. Assignment of Primary Sampling Units (PSUs) to the teams and various logistical decisions in each state were made by the staff of MODE designated as coordinators. Each team was allowed a fixed period of time to complete fieldwork in a PSU before moving to the next PSU. Each interviewer was instructed not to conduct more than three individual interviews a day and was required to make a minimum of three callbacks if the eligible woman identified in the selected household was not present at the time of the

household interview.

The main duty of the field editor was to examine the completed questionnaires in the field for completeness, consistency and legibility of the information collected, and to ensure that all necessary corrections were made. Special attention was paid to missing information, skip instructions, filter questions, age information, and completeness of the birth history and the health section. If the problems were major, such as discrepancies between the birth history and the health section, the interviewers were required to revisit the respondent to correct the errors. If a return visit was not possible, the editor tried to establish, with the interviewer's assistance, the correct response. If either of these options was not possible, the editor designated the response as either "missing" or "inconsistent". An additional duty of the field editor was to observe ongoing interviews and verify the accuracy of the method of asking questions, recording answers, and following skip instructions correctly. The field supervisor collected information on the village using the Village Questionnaire. In addition, the field supervisor conducted spot-checks to verify the accuracy of information collected on the eligibility of respondents.

During the period of data collection, IIPS assigned one Research Officer to the survey for ensuring correct survey procedures and maintaining the quality of the data. Throughout the survey, the staff from MODE and IIPS maintained close contact with all the teams through direct communication and spot-checking. The objective was to provide support and advice to staff in the field and to enhance data quality and the efficiency of interviewers. This objective was accomplished by communicating data problems and possible solutions to the interviewing teams, reminding interviewers about proper probing techniques, and examining the fieldwork of the supervisors. In addition, data from the field were simultaneously entered into microcomputers, and field check tables were produced during the fieldwork to assess the quality of the data and to identify problem areas. These tables were discussed with the interviewing teams and supervisors during the fieldwork so that they could improve their performance if needed. Each team supervisor was provided with the original household listing, layout sketch map and the household sample selected for each PSU.

2.5 Field Problems

Every survey is subject to a variety of field problems that cannot be fully anticipated. Some of the problems encountered in the NFHS in the northeastern states are highlighted below. These problems were encountered in almost all of the northeastern states.

Transportation

Most of the northeastern states comprise hilly regions which are difficult to reach due to the absence of proper approachable roads. Rural areas are sparsely populated and village houses are scattered. Many of the rural PSUs could be covered only on foot.

Turnover of Interviewers

Although there were no problems recruiting the required number of females for the data collection, many dropped out either during the training or after the training, primarily due to lack of interest.

Season-Related Problems

In the northeast hilly regions, the rains generally start in April. The NFHS fieldwork in some of the northeastern states (April-June) coincided with the rainy season during which mobility of the field teams was drastically reduced due to frequent landslides and road blocks.

2.6 Data Processing

All completed questionnaires for the NFHS in the northeastern states were sent to the office of MODE in Calcutta for data processing. This process consisted of office editing, coding, data entry, and machine editing. Although field editors examined the completed questionnaires in the field, the questionnaires were re-edited at the MODE office by specially trained office editors. This re-examination checked all skip sequences, circled response codes, and the information recorded in the filter questions. Special attention was paid to the consistency of responses to age questions and the accurate completion of the birth history. A second stage of office editing comprised the assignment of appropriate codes for the information on occupation, caste, and cause of death, and the addition of commonly mentioned "other" responses to the coding scheme. One supervisor and four data entry operators were responsible for data entry and computer editing operations. The data were processed with four microcomputers using the data entry and editing software known as the Integrated System for Survey Analysis (ISSA). The data entry, done directly from the precoded questionnaires, started within one week of the receipt of the first set of completed questionnaires. Computer-based checks were done to clean the data and remove inconsistencies. Age imputation was also completed at this stage. Age variables such as current age, age at first marriage, age of the woman when she started living with her husband, and the ages of all children were imputed for those cases in which information was missing or incorrect entries were detected.

A preliminary report highlighting the important findings of the survey for each of the northeastern states was prepared soon after the data collection in these states was over. The preliminary report was primarily meant for disseminating the data on basic demographic and health parameters among programme planners, policymakers, and administrators soon after the data collection was over. The report contained sixteen tables and a short description of the findings on fertility, knowledge and use of contraception, utilization of antenatal services, immunization, feeding practices and health of children, infant and child mortality, and knowledge of AIDS.

In order to maintain comparability across all the states, the tabulation plan for the detailed state reports was finalized at a workshop held in Vadodara in December, 1992. The final tables for the northeastern states were produced at IIPS based on this tabulation plan. However, keeping in view the small samples in each of these states, modifications were done in the presentation of the final tables.

2.7 Areas for Reporting Survey Results

In this report, survey results are reported for each of the six northeastern states, separately. Due to the small sample of each state, results are not presented separately for rural and urban areas.

2.8 Sample Implementation

Table 2.1 shows the results of household and individual interviews, response rates for the survey, and reasons for nonresponse, separately for each of the northeastern states. The total number of households selected for the NFHS was 1,110 in Arunachal Pradesh, 1,149 in Manipur, 1,076 in Meghalaya, 1,180 in Mizoram, 1,114 in Nagaland, and 1,280 in Tripura. The household response rate (the number of households interviewed per 100 occupied households) ranges from 88 percent in Arunachal Pradesh to 98 percent in Nagaland. The individual response rate (the number of completed interviews) was more than 90 percent in all the northeastern states, ranging from 91 percent in Arunachal Pradesh to 100 percent in Nagaland.

Table 2.1 Sample results						
Sample results for households and eligible women, Northeastern states, 1993						
Result	Urban		Rural		Total	
	Number	Percent	Number	Percent	Number	Percent
ARUNACHAL PRADESH						
Households selected	165	100.0	945	100.0	1110	100.0
Households completed (C)	144	87.3	817	86.5	961	86.6
Households with no competent respondent (HP)	0	--	5	0.5	5	0.5
Households absent (HA)	18	10.9	100	10.6	118	10.6
Households refused (R)	0	--	1	0.1	1	0.1
Households vacant/no dwelling (DV)	1	0.6	13	1.4	14	1.3
Dwellings destroyed (DD)	1	0.6	6	0.6	7	0.6
Dwellings not found (DNF)	1	0.6	3	0.3	4	0.4
Households occupied	163	100.0	926	100.0	1089	100.0
Households interviewed	144	88.3	817	88.2	961	88.2
Households not interviewed	19	11.7	109	11.8	128	11.8
Household response rate (HHR) ¹	NA	88.3	NA	88.2	NA	88.2
Eligible women	134	100.0	839	100.0	973	100.0
Women interviewed (EWC)	130	97.0	752	89.6	882	90.6
Women not at home (EWNH)	1	0.7	73	8.7	74	7.6
Women postponed (EWP)	1	0.7	4	0.5	5	0.5
Women refused (EWR)	0	--	7	0.8	7	0.7
Women partly interviewed (EWPC)	1	0.7	2	0.2	3	0.3
Other (EWO)	1	0.7	1	0.1	2	0.2
Individual response rate (EWRR) ²	NA	97.7	NA	89.7	NA	90.8
Overall response rate (ORR) ³	NA	86.4	NA	79.2	NA	80.2

Table 2.1 Sample results (Contd.)

Sample results for households and eligible women, Northeastern states, 1993

Result	Urban		Rural		Total	
	Number	Percent	Number	Percent	Number	Percent
MANIPUR						
Households selected	356	100.0	793	100.0	1149	100.0
Households completed (C)	346	97.2	740	93.3	1086	94.5
Households with no competent respondent (HP)	1	0.3	3	0.4	4	0.3
Households absent (HA)	6	1.7	33	4.2	39	3.4
Households vacant/no dwelling (DV)	1	0.3	5	0.6	6	0.5
Dwellings destroyed (DD)	1	0.3	2	0.3	3	0.3
Dwellings not found (DNF)	1	0.3	0	--	1	0.1
Other	0	--	10	1.3	10	0.9
Households occupied	354	100.0	776	100.0	1130	100.0
Households interviewed	346	97.7	740	95.4	1086	96.1
Households not interviewed	8	2.3	36	4.6	44	3.9
Household response rate (HHR)¹	NA	97.7	NA	95.4	NA	96.1
Eligible women	323	100.0	683	100.0	1006	100.0
Women interviewed (EWC)	307	95.0	646	94.6	953	94.7
Women not at home (EWNH)	14	4.3	34	5.0	48	4.8
Women postponed (EWP)	0	--	1	0.1	1	0.1
Women refused (EWR)	1	0.3	0	--	1	0.1
Women partly interviewed (EWPC)	1	0.3	0	--	1	0.1
Other (EWO)	0	--	2	0.3	2	0.2
Individual response rate (EMRR)²	NA	95.0	NA	94.9	NA	94.9
Overall response rate (ORR)³	NA	92.9	NA	90.5	NA	91.2
MEGHALAYA						
Households selected	215	100.0	861	100.0	1076	100.0
Households completed (C)	202	94.0	790	91.8	992	92.2
Households with no competent respondent (HP)	3	1.4	13	1.5	16	1.5
Households absent (HA)	4	1.9	23	2.7	27	2.5
Households refused (R)	0	--	9	1.0	9	0.8
Households vacant/no dwelling (DV)	5	2.3	3	0.3	8	0.7
Dwellings destroyed (DD)	0	--	5	0.6	5	0.5
Dwellings not found (DNF)	0	--	9	1.0	9	0.8
Other	1	0.5	9	1.0	10	0.9
Households occupied	209	100.0	844	100.0	1053	100.0
Households interviewed	202	96.7	790	93.6	992	94.2
Households not interviewed	7	3.3	54	6.4	61	5.8
Household response rate (HHR)¹	NA	96.7	NA	93.6	NA	94.2
Eligible women	224	100.0	924	100.0	1148	100.0
Women interviewed (EWC)	221	98.7	916	99.1	1137	99.0
Women not at home (EWNH)	3	1.3	7	0.8	10	0.9
Other (EWO)	0	--	1	0.1	1	0.1
Individual response rate (EMRR)²	NA	98.7	NA	99.2	NA	99.1
Overall response rate (ORR)³	NA	95.4	NA	92.9	NA	93.4

Table 2.1 Sample results (Contd.)

Sample results for households and eligible women, Northeastern states, 1993

Result	Urban		Rural		Total	
	Number	Percent	Number	Percent	Number	Percent
MIZORAM						
Households selected	611	100.0	569	100.0	1180	100.0
Households completed (C)	561	91.8	526	92.4	1087	92.1
Households with no competent respondent (HP)	1	0.2	0	--	1	0.1
Households absent (HA)	32	5.2	28	4.9	60	5.1
Households vacant/no dwelling (DV)	4	0.7	4	0.7	8	0.7
Dwellings destroyed (DD)	0	--	3	0.5	3	0.3
Dwellings not found (DNF)	12	2.0	8	1.4	20	1.7
Other	1	0.2	0	--	1	0.1
Households occupied	606	100.0	562	100.0	1168	100.0
Households interviewed	561	92.6	526	93.6	1087	93.1
Households not interviewed	45	7.4	36	6.4	81	6.9
Household response rate (NHR)¹	NA	92.6	NA	93.6	NA	93.1
Eligible women	549	100.0	536	100.0	1085	100.0
Women interviewed (EWC)	517	94.2	528	98.5	1045	96.3
Women not at home (EWNH)	28	5.1	7	1.3	35	3.2
Women postponed (EWP)	2	0.4	0	--	2	0.2
Women refused (EWR)	0	--	1	0.2	1	0.1
Other (EWO)	2	0.4	0	--	2	0.2
Individual response rate (EMRR)²	NA	94.5	NA	98.5	NA	96.5
Overall response rate (ORR)³	NA	87.5	NA	92.2	NA	89.8
MAGALAND						
Households selected	231	100.0	883	100.0	1114	100.0
Households completed (C)	228	98.7	832	94.2	1060	95.2
Households with no competent respondent (HP)	0	--	3	0.3	3	0.3
Households absent (HA)	0	--	5	0.6	5	0.4
Households postponed (P)	0	--	1	0.1	1	0.1
Households refused (R)	0	--	18	2.0	18	1.6
Households vacant/no dwelling (DV)	3	1.3	24	2.7	27	2.4
Households occupied	228	100.0	859	100.0	1087	100.0
Households interviewed	228	100.0	832	96.9	1060	97.5
Households not interviewed	0	--	27	3.1	27	2.5
Household response rate (NHR)¹	NA	100.0	NA	96.9	NA	97.5
Eligible women	240	100.0	910	100.0	1150	100.0
Women interviewed (EWC)	240	100.0	909	99.9	1149	99.9
Women not at home (EWNH)	0	--	1	0.1	1	0.1
Individual response rate (EMRR)²	NA	100.0	NA	99.9	NA	99.9
Overall response rate (ORR)³	NA	100.0	NA	96.8	NA	97.4

Table 2.1 Sample results (Contd.)

Sample results for households and eligible women, Northeastern states, 1993

Result	Urban		Rural		Total	
	Number	Percent	Number	Percent	Number	Percent
TRIPURA						
Households selected	241	100.0	1039	100.0	1280	100.0
Households completed (C)	231	95.9	908	87.4	1139	89.0
Households with no competent respondent (HP)	0	--	6	0.6	6	0.5
Households absent (HA)	9	3.7	55	5.3	64	5.0
Households refused (R)	0	--	1	0.1	1	0.1
Households vacant/no dwelling (DV)	1	0.4	34	3.3	35	2.7
Dwellings destroyed (DD)	0	--	7	0.7	7	0.5
Dwellings not found (DNF)	0	--	28	2.7	28	2.2
Households occupied	240	100.0	998	100.0	1238	100.0
Households interviewed	231	96.2	908	91.0	1139	92.0
Households not interviewed	9	3.8	90	9.0	99	8.0
Household response rate (HHR) ¹	NA	96.3	NA	91.0	NA	92.0
Eligible women	228	100.0	934	100.0	1162	100.0
Women interviewed (EWC)	221	96.9	879	94.1	1100	94.7
Women not at home (EWNH)	5	2.2	37	4.0	42	3.6
Women postponed (EWP)	0	--	11	1.2	11	0.9
Women refused (EWR)	0	--	3	0.3	3	0.3
Other (EWO)	2	0.9	4	0.4	6	0.5
Individual response rate (EWRR) ²	NA	97.8	NA	94.5	NA	95.2
Overall response rate (ORR) ³	NA	94.1	NA	86.0	NA	87.5

NA: Not applicable

-- Less than 0.05 percent

¹Using the number of households falling into specific response categories, the household response rate (HHR) is calculated as:

$$\text{HHR} = \frac{C}{C + \text{HP} + \text{HA} + \text{P} + \text{R} + \text{DNF}} \times 100$$

²Using the number of eligible women falling into specific response categories, the individual response rate (EWRR) is calculated as:

$$\text{EWRR} = \frac{\text{EWC}}{\text{EWC} + \text{EWNH} + \text{EWP} + \text{EWR} + \text{EWC}} \times 100$$

³The overall response rate (ORR) is calculated as:

$$\text{ORR} = (\text{HHR} \times \text{EWRR}) / 100$$

CHAPTER 3

HOUSEHOLD AND RESPONDENT BACKGROUND CHARACTERISTICS

This chapter presents a profile of the demographic and socioeconomic characteristics of households and individual respondents in the NFHS for each of the northeastern states covered in the survey. After examining the age-sex distribution, marital status, literacy and educational attainment of the household population, household composition and housing characteristics, the chapter considers the characteristics of the primary respondents in the survey (ever-married women age 13-49). The information on household population, household composition, and housing characteristics was collected through the NFHS Household Questionnaire, and the information on eligible women was collected through the NFHS Woman's Questionnaire.

All usual residents of each sample household, plus all visitors who slept in that household the night before the interview, were listed in the Household Questionnaire, and some basic information was collected on each person listed including age, sex, marital status, and education. Additionally, information was collected for each person on whether the person is a usual resident of the household or a visitor, and whether the person slept in the household the night prior to the survey interview. Based on this information, the NFHS household population can be tabulated in two ways: *de facto* or *de jure*. The *de facto* population refers to all usual residents and visitors who slept in the sample household the night prior to the survey interview, and the *de jure* population refers to all usual residents of the sample household including those who did not sleep in the household the night prior to the survey interview. The *de facto* and *de jure* populations may differ because of temporary population movements. Most tables in this and the following chapters are based on the *de facto* sample, unless they are otherwise specified. It is expected that the *de facto* sample is more representative of women in the country as a whole because it encompasses primary respondent women regardless of the household where they were staying at the time of the survey. A *de jure* sample, on the other hand, would miss usual residents who were temporarily staying elsewhere at the time of the survey.

3.1 Age-Sex Distribution of the Household Population

Table 3.1 shows the *de facto* population in the NFHS household sample, classified by age, sex and residence. The total *de facto* sample population is 5,408 in Arunachal Pradesh, 6,451 in Manipur, 5,916 in Meghalaya, 6,048 in Mizoram, 5,808 in Nagaland, and 6,217 in Tripura. The percentage of the total sample from the urban areas is lowest in Arunachal Pradesh at 12 percent and highest in Mizoram at 52 percent. The other northeastern states have an urban population ranging from 19-21 percent in Tripura, Nagaland and Meghalaya to 33 percent in Manipur.

The age distribution in each state is typical of high fertility populations, with a high proportion of the population in the younger age groups. Manipur, Mizoram and Tripura have the lowest percentage of population below 15 years of age (37 percent each) and this percentage is the highest in Arunachal Pradesh (43 percent). The proportion of the population age 60 and above varies from just over 2 percent in Nagaland to 8 percent in Tripura. In every northeastern state, the proportion of the child population (below age 15) is higher in rural areas than in

Table 3.1 Household population by age and sex

Percent distribution of the *de facto* household population by age, according to sex and residence, Northeastern states, 1993

Age	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
ARUNACHAL PRADESH									
< 1	4.5	1.0	2.8	3.2	3.1	3.2	3.3	2.9	3.1
1 - 4	12.5	14.5	13.4	12.3	11.8	12.1	12.4	12.1	12.2
5 - 9	14.0	17.4	15.6	15.0	15.8	15.4	14.9	16.0	15.4
10-14	9.8	10.3	10.0	13.0	13.0	13.0	12.6	12.6	12.6
15-19	9.8	11.3	10.5	10.6	10.9	10.8	10.5	10.9	10.7
20-24	8.9	13.5	11.1	6.8	9.6	8.2	7.1	10.0	8.5
25-29	9.2	10.3	9.7	6.7	8.6	7.7	7.0	8.8	7.9
30-34	7.4	7.7	7.6	5.3	6.5	5.9	5.6	6.7	6.1
35-39	8.3	6.1	7.3	6.3	5.0	5.7	6.6	5.1	5.9
40-44	5.4	2.6	4.0	4.3	3.6	3.9	4.5	3.4	4.0
45-49	5.1	1.6	3.4	4.4	2.7	3.5	4.5	2.5	3.5
50-54	2.1	2.3	2.2	3.3	3.0	3.2	3.1	3.0	3.1
55-59	0.6	0.3	0.5	2.5	2.2	2.4	2.3	2.0	2.2
60-64	0.9	0.6	0.8	2.8	2.1	2.5	2.6	1.9	2.3
65-69	--	--	--	1.0	0.8	0.9	0.9	0.7	0.8
70-74	0.3	--	0.2	1.2	0.5	0.9	1.1	0.4	0.8
75-79	0.3	--	0.2	0.4	0.4	0.4	0.4	0.3	0.4
80 +	0.9	0.6	0.8	0.7	0.4	0.5	0.7	0.4	0.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	336	311	647	2399	2362	4761	2735	2673	5408
Sex ratio	NA	NA	926	NA	NA	985	NA	NA	977
MANIPUR									
< 1	1.9	1.6	1.7	2.3	3.1	2.7	2.2	2.6	2.4
1 - 4	7.3	7.3	7.3	8.8	9.2	9.0	8.3	8.6	8.4
5 - 9	12.4	11.5	12.0	14.6	13.5	14.1	13.9	12.9	13.4
10-14	12.9	11.5	12.2	13.0	12.0	12.5	12.9	11.8	12.4
15-19	10.8	11.2	11.0	10.9	10.5	10.7	10.9	10.8	10.8
20-24	10.9	12.9	11.9	9.3	9.9	9.6	9.8	10.9	10.4
25-29	8.3	8.7	8.5	7.6	9.2	8.4	7.8	9.0	8.4
30-34	6.7	8.3	7.5	6.8	6.9	6.8	6.7	7.3	7.0
35-39	7.2	4.8	6.0	6.4	5.2	5.8	6.7	5.1	5.9
40-44	3.5	5.3	4.4	4.8	4.3	4.6	4.4	4.7	4.5
45-49	4.1	4.1	4.1	3.0	3.7	3.3	3.3	3.9	3.6
50-54	3.6	3.7	3.7	2.8	2.9	2.8	3.1	3.1	3.1
55-59	3.0	2.8	2.9	2.3	3.2	2.8	2.5	3.1	2.8
60-64	3.3	2.7	3.0	3.1	2.2	2.7	3.2	2.4	2.8
65-69	1.3	1.2	1.3	1.7	1.5	1.6	1.6	1.4	1.5
70-74	1.8	0.7	1.3	1.6	0.9	1.2	1.7	0.8	1.2
75-79	0.3	0.7	0.5	0.4	0.9	0.6	0.3	0.8	0.6
80 +	0.7	0.7	0.7	0.6	0.9	0.8	0.7	0.8	0.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1047	1069	2116	2161	2174	4335	3208	3243	6451
Sex ratio	NA	NA	1021	NA	NA	1006	NA	NA	1011

Table 3.1 Household population by age and sex (Contd.)

Percent distribution of the *de facto* household population by age, according to sex and residence, Northeastern states, 1993

Age	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
MEGHALAYA									
< 1	2.9	2.4	2.6	3.0	3.0	3.0	3.0	2.9	2.9
1 - 4	9.1	11.3	10.2	11.6	11.0	11.3	11.1	11.1	11.1
5 - 9	13.9	12.1	13.0	16.3	15.8	16.0	15.8	15.0	15.4
10-14	12.0	12.8	12.4	13.7	12.2	13.0	13.3	12.3	12.8
15-19	11.5	9.3	10.4	10.0	10.4	10.2	10.3	10.1	10.2
20-24	10.1	14.5	12.3	7.2	13.5	10.2	7.8	13.7	10.7
25-29	9.3	8.9	9.1	9.0	9.2	9.1	9.1	9.1	9.1
30-34	5.6	5.6	5.6	6.9	5.8	6.4	6.6	5.8	6.2
35-39	7.0	5.4	6.2	5.5	4.8	5.1	5.8	4.9	5.4
40-44	5.1	4.2	4.6	4.4	4.4	4.4	4.5	4.4	4.5
45-49	4.6	5.4	5.0	3.7	4.7	4.2	3.9	4.8	4.3
50-54	2.7	1.8	2.2	3.1	1.5	2.3	3.0	1.5	2.3
55-59	2.1	1.8	1.9	1.8	1.0	1.4	1.9	1.1	1.5
60-64	1.9	1.4	1.7	1.7	1.3	1.5	1.7	1.3	1.5
65-69	1.0	1.4	1.2	0.9	0.4	0.6	0.9	0.6	0.8
70-74	0.6	0.8	0.7	0.8	0.6	0.7	0.7	0.7	0.7
75-79	0.0	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.2
80 +	0.5	0.6	0.6	0.3	0.3	0.3	0.4	0.4	0.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	625	626	1251	2387	2278	4665	3012	2904	5916
Sex ratio	NA	NA	1002	NA	NA	954	NA	NA	964
MIZORAM									
< 1	2.4	2.2	2.3	1.9	1.6	1.8	2.2	1.9	2.0
1 - 4	8.9	7.6	8.3	7.7	8.6	8.1	8.3	8.1	8.2
5 - 9	11.8	11.2	11.5	14.1	14.4	14.3	12.9	12.7	12.8
10-14	12.1	13.2	12.7	15.8	13.6	14.7	13.9	13.4	13.6
15-19	12.8	12.8	12.8	11.5	12.5	12.0	12.2	12.7	12.4
20-24	12.3	11.2	11.7	7.9	9.4	8.7	10.2	10.3	10.3
25-29	8.9	10.0	9.4	7.7	8.9	8.3	8.3	9.5	8.9
30-34	6.4	6.7	6.5	6.5	6.4	6.4	6.5	6.5	6.5
35-39	5.3	6.0	5.7	6.3	5.6	6.0	5.8	5.8	5.8
40-44	4.3	3.7	4.0	5.2	5.1	5.1	4.7	4.3	4.5
45-49	4.2	6.0	5.1	4.5	6.0	5.3	4.4	6.0	5.2
50-54	3.6	2.2	3.0	3.6	1.5	2.5	3.6	1.9	2.7
55-59	2.3	2.2	2.3	2.1	1.7	1.9	2.2	2.0	2.1
60-64	1.5	1.4	1.5	2.0	1.7	1.8	1.7	1.5	1.6
65-69	1.1	2.2	1.7	1.4	1.0	1.2	1.2	1.6	1.4
70-74	1.1	0.4	0.8	1.0	0.8	0.9	1.1	0.6	0.8
75-79	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80 +	0.4	0.6	0.5	0.3	0.8	0.6	0.4	0.7	0.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1591	1557	3148	1456	1444	2900	3047	3001	6048
Sex ratio	NA	NA	979	NA	NA	992	NA	NA	985

Table 3.1 Household population by age and sex (Contd.)

Percent distribution of the *de facto* household population by age, according to sex and residence, Northeastern states, 1993

Age	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
NAGALAND									
< 1	1.8	2.0	1.9	3.8	2.6	3.2	3.4	2.5	2.9
1 - 4	7.6	7.5	7.5	11.1	10.7	10.9	10.4	10.1	10.2
5 - 9	16.8	13.1	14.9	15.3	14.5	14.9	15.6	14.2	14.9
10-14	16.5	14.2	15.3	13.0	12.5	12.7	13.7	12.9	13.3
15-19	10.7	14.1	12.4	9.6	11.8	10.7	9.8	12.3	11.0
20-24	7.6	11.3	9.4	8.0	12.0	10.0	7.9	11.8	9.8
25-29	5.6	9.8	7.7	8.8	11.3	10.1	8.2	11.0	9.6
30-34	5.1	6.5	5.8	5.9	5.3	5.6	5.7	5.6	5.6
35-39	6.1	8.0	7.1	5.7	5.7	5.7	5.8	6.2	6.0
40-44	7.9	5.1	6.5	3.9	4.7	4.3	4.8	4.8	4.8
45-49	4.0	6.7	5.3	4.5	6.5	5.5	4.4	6.6	5.5
50-54	5.3	0.3	2.8	4.1	0.7	2.4	4.4	0.7	2.5
55-59	2.5	0.5	1.5	2.6	0.2	1.4	2.6	0.2	1.4
60-64	1.5	0.5	1.0	1.7	0.5	1.1	1.7	0.5	1.1
65-69	0.5	0.2	0.3	0.7	0.4	0.5	0.6	0.4	0.5
70-74	--	--	--	0.6	0.3	0.5	0.5	0.2	0.4
75-79	--	0.3	0.2	0.1	--	0.1	0.1	0.1	0.1
80 +	0.7	--	0.3	0.6	0.1	0.3	0.6	0.1	0.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	607	612	1219	2306	2283	4589	2913	2895	5808
Sex ratio	NA	NA	1008	NA	NA	990	NA	NA	994
TRIPURA									
< 1	1.9	1.4	1.6	1.9	2.1	2.0	1.9	2.0	1.9
1 - 4	7.4	6.2	6.8	10.1	9.3	9.7	9.6	8.8	9.2
5 - 9	10.6	10.7	10.6	14.5	14.1	14.3	13.8	13.4	13.6
10-14	13.2	11.2	12.2	13.0	11.9	12.5	13.0	11.8	12.4
15-19	10.9	10.5	10.7	9.9	11.4	10.7	10.1	11.2	10.7
20-24	9.7	9.5	9.6	8.2	9.9	9.0	8.5	9.8	9.1
25-29	5.5	10.8	8.1	7.7	8.7	8.2	7.3	9.1	8.2
30-34	8.0	9.6	8.8	6.0	5.1	5.5	6.4	6.0	6.2
35-39	8.0	7.0	7.5	6.7	5.8	6.3	7.0	6.1	6.5
40-44	6.7	5.0	5.8	3.4	4.2	3.8	4.1	4.3	4.2
45-49	5.1	2.9	4.0	3.7	4.1	3.9	4.0	3.9	3.9
50-54	3.6	3.3	3.4	3.2	2.6	2.9	3.3	2.7	3.0
55-59	2.7	3.1	2.9	2.4	2.7	2.6	2.5	2.8	2.6
60-64	1.9	2.4	2.1	3.1	3.1	3.1	2.9	3.0	2.9
65-69	1.7	2.1	1.9	1.9	1.1	1.5	1.8	1.3	1.5
70-74	1.7	1.7	1.7	2.1	1.4	1.7	2.0	1.4	1.7
75-79	0.3	0.7	0.5	0.8	0.5	0.6	0.7	0.5	0.6
80 +	1.0	2.1	1.5	1.4	2.0	1.7	1.4	2.0	1.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	585	582	1167	2525	2525	5050	3110	3107	6217
Sex ratio	NA	NA	995	NA	NA	1000	NA	NA	999

NA: Not applicable

-- Less than 0.05 percent

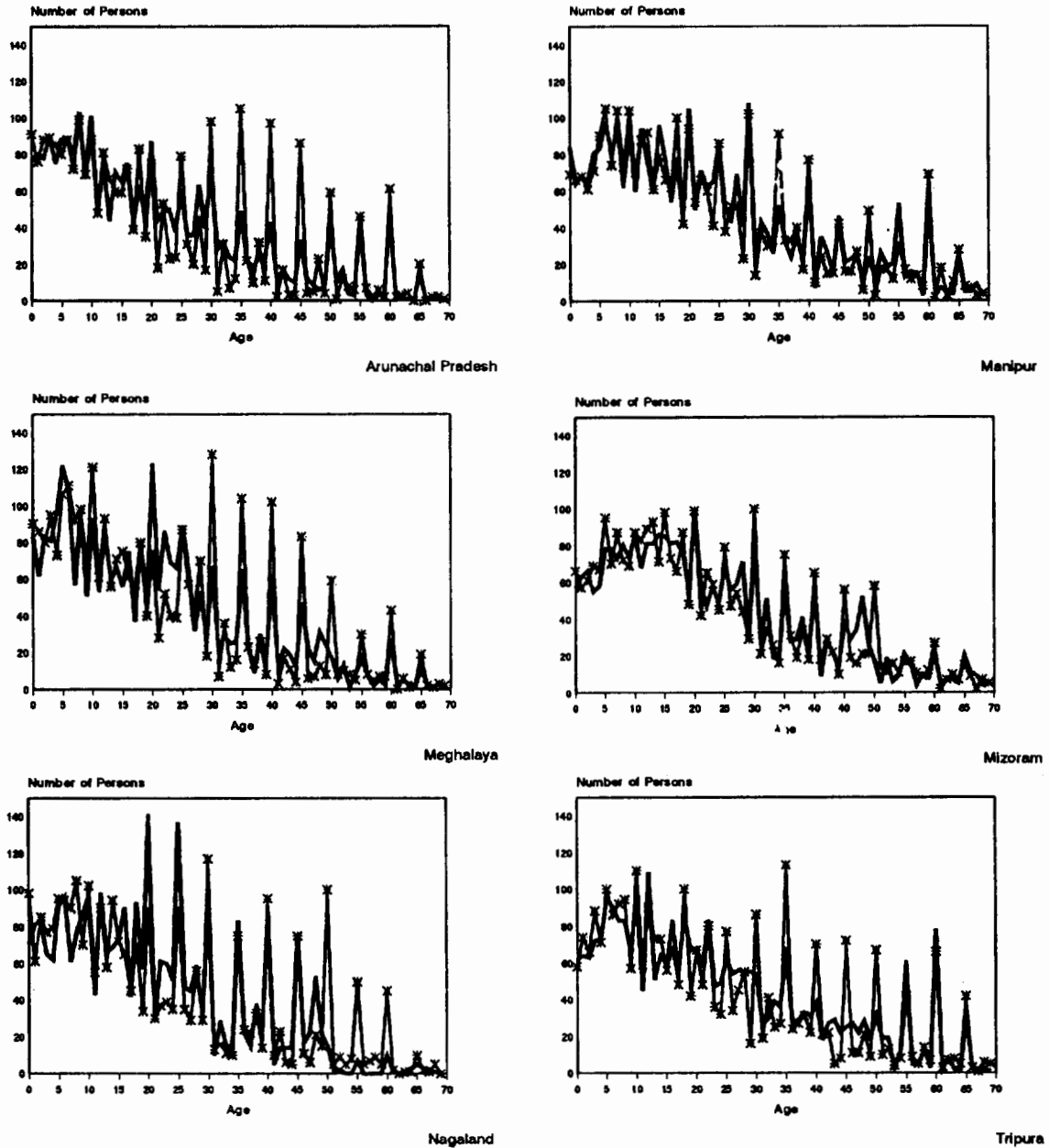
urban areas.

Examination of the single-year age distributions (see Appendix Table B.1 and Figure 3.1) indicates some distortions in the data due to misreporting of age and preference for particular digits. One of the most commonly used measures of digit preference in age reporting is the Myers' Index (United Nations, 1955). This index provides an overall summary of preferences for, or avoidance of, each of the ten digits, from 0 to 9. Myers' Indices computed for the male and female populations are 64.4 and 33.0, respectively, for Arunachal Pradesh, 36.6 and 30.9 for Manipur, 54.0 and 30.2 for Meghalaya, 29.9 and 24.5 for Mizoram, 57.3 and 46.8 for Nagaland, and 44.9 and 21.9 for Tripura. Age reporting is thus better for females than males in all these states, and reporting of age for both males and females is better in Mizoram and Manipur than in other northeastern states. The corresponding indices for males and females in the northeastern states from the census are not available from the 1981 Census and the single-year age distributions from the 1991 Census are not yet published. However, the Myers' Indices for male and female populations for the whole of India (excluding Assam), according to the 1981 Census are 64.5 and 68.0, respectively (Office of the Registrar General and Census Commissioner, 1984b). Although the method of collecting information on the age of household members was almost the same in the Census and the NFHS, age reporting in the NFHS seems to be considerably better, particularly for females. In the NFHS, as in the Census, the interviewer collected information on the age of household members from the head of the household or any responsible adult household member.

The better age reporting for females in the age group 13-49 in the NFHS is mainly due to the difference in the method of collecting age information for males and females in the reproductive ages. In the Household Questionnaire, the ages of all males and females are reported by the head of the household or another household respondent. No extensive probing techniques were adopted for obtaining age information in the household listing. For eligible women, who were interviewed using the Woman's Questionnaire, the age reported by the woman herself replaces the age reported in the Household Questionnaire if there is a discrepancy. Her age in the Woman's Questionnaire is based on month and year of her birth, if known, or on her reported age otherwise. A variety of probing techniques were used to elicit accurate age information from the respondent to the Woman's Questionnaire.

Age of the woman is one of the most important items of information collected in any demographic survey, because many demographic statistics, and especially fertility estimates, depend on accurate reporting of women's ages. Recognizing the difficulties of obtaining accurate age data in India, the NFHS made special efforts to minimize age reporting errors. The training of interviewers placed great emphasis on procedures for obtaining as accurate information as possible on women's ages. For women who did not know their age or date of birth, several procedures for probing age were used. One method was based on the age of the woman at different significant events in her life, such as the birth of her first child, her age at marriage, age at menarche, and on the time gap between these events. Reference calendars were also used to try to locate the woman's birth in relation to the dates of major national events. Although age errors cannot be totally eliminated, the comparisons with the Census suggest that probing and other elaborate measures used for arriving at the age of the eligible women have helped in reducing the biases in age reporting due to digit preference.

Figure 3.1 Number of Persons Reported at Each Age by Sex



NFHS, Northeastern states, 1993

The *de facto* population sex ratio is favourable to females in Manipur at 1,011 females per 1,000 males. The sex ratio is lower than 1,000 in other northeastern states, ranging from 964 in Meghalaya to 999 in Tripura. The sex ratio of the usual residents, as computed in the NFHS is 973 in Arunachal Pradesh, 987 in Manipur, 955 in Meghalaya, 986 in Mizoram, 991 in Nagaland, and 989 in Tripura. The sex ratios from the NFHS (both for *de facto* and *de jure* populations) are greater than the 1991 Census values for all the northeastern states.

3.2 Marital Status

The NFHS gathered information on the marital status of all household members age six and over. Table 3.2 shows the percentage of the *de facto* household population who are ever married by age, sex and residence for each of the northeastern states. The states do not differ much in the proportion ever-married among females age 6 or more years, which ranges from 50 to 59 percent. However, the states differ in the proportion of persons (especially females) who marry young. At age 15-19, 22-30 percent of females in Arunachal Pradesh, Meghalaya, and Tripura are married compared with 11-12 percent in Mizoram and Nagaland and only 6 percent in Manipur. Overall, the table suggests that women marry at younger ages than men, and that both sexes marry at younger ages in rural than in urban areas. Marriage for both males and females is relatively late in Manipur, Mizoram and Nagaland. A more comprehensive discussion of marriage patterns is contained in the next chapter, which is devoted entirely to nuptiality.

Table 3.2 Percentage ever married by age						
Percentage of the <i>de facto</i> household population age 6 and above who are ever married, according to age, sex and residence, Northeastern states, 1993						
Age	State					
	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
	URBAN					
	Male					
6-12	--	--	--	--	3.3	2.3
13-14	--	--	--	--	8.8	2.9
15-19	--	--	--	1.0	1.5	3.1
20-24	30.0	17.5	34.9	19.5	3.0	14.0
25-29	67.7	32.2	55.2	46.8	64.7	37.5
30-34	92.0	78.6	74.3	75.5	96.8	83.0
35-39	100.0	89.3	93.2	90.6	100.0	91.5
40-44	100.0	100.0	78.1	95.7	100.0	100.0
45-49	100.0	97.7	96.6	100.0	100.0	100.0
50-54	100.0	100.0	88.2	98.3	100.0	100.0
55-59	100.0	100.0	100.0	100.0	100.0	100.0
60+	100.0	100.0	96.0	100.0	100.0	100.0
Total	48.7	42.8	42.5	40.9	44.9	48.9

Table 3.2 Percentage ever married by age (Contd.)

Percentage of the *de facto* household population age 6 and above who are ever-married, according to age, sex and residence, Northeastern states, 1993

Age	State					
	Arunāchal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
URBAN						
Female						
6 -12	--	0.6	1.0	--	2.6	--
13-14	--	--	--	--	--	--
15-19	42.9	5.0	8.6	11.6	5.8	23.0
20-24	78.6	34.1	56.0	46.0	43.5	58.2
25-29	96.9	61.3	78.6	74.4	81.7	74.6
30-34	95.8	73.0	97.1	91.3	90.0	87.5
35-39	100.0	94.1	97.1	94.6	100.0	97.6
40-44	100.0	100.0	92.3	98.2	96.8	100.0
45-49	100.0	97.7	97.1	97.8	100.0	100.0
50-54	100.0	100.0	100.0	97.1	50.0	94.7
55-59	100.0	100.0	100.0	100.0	100.0	100.0
60+	100.0	100.0	96.4	98.7	100.0	100.0
Total	57.7	48.7	53.0	50.8	47.3	59.6
RURAL						
Male						
6 -12	0.8	--	0.2	0.3	0.9	0.2
13-14	--	--	--	--	1.7	--
15-19	6.3	1.3	2.5	0.6	0.9	1.2
20-24	36.8	16.4	31.6	24.3	20.7	18.4
25-29	73.3	57.9	81.9	66.1	70.1	59.5
30-34	89.8	71.9	96.3	76.8	96.3	83.4
35-39	95.4	94.2	96.2	91.3	95.4	95.3
40-44	93.3	99.0	95.2	98.7	96.7	98.9
45-49	96.2	96.9	98.9	93.9	97.1	98.9
50-54	97.5	100.0	98.6	100.0	97.9	98.8
55-59	100.0	100.0	100.0	100.0	100.0	96.4
60+	97.3	99.4	97.8	97.3	100.0	99.6
Total	48.0	43.2	46.9	43.7	46.3	46.5
RURAL						
Female						
6 -12	0.4	0.5	1.8	--	0.7	0.8
13-14	1.0	--	3.3	--	--	7.1
15-19	27.6	6.6	25.0	11.0	13.4	28.8
20-24	76.1	48.4	71.7	57.4	61.2	68.4
25-29	90.7	73.4	94.7	87.6	80.3	90.0
30-34	97.4	92.6	97.0	94.6	95.0	93.8
35-39	99.2	97.4	100.0	98.8	100.0	100.0
40-44	98.8	94.7	100.0	98.6	100.0	100.0
45-49	95.2	98.8	100.0	98.9	99.3	99.0
50-54	98.6	98.4	100.0	85.7	100.0	100.0
55-59	98.1	100.0	100.0	87.5	100.0	100.0
60+	100.0	99.3	95.4	100.0	100.0	100.0
Total	55.1	51.4	56.5	51.4	50.7	59.4

Table 3.2 Percentage ever married by age (Contd.)

Percentage of the *de facto* household population age 6 and above who are ever-married, according to age, sex and residence, Northeastern states, 1993

Age	State					
	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
TOTAL						
Male						
6 -12	0.7	--	0.2	0.2	1.5	0.5
13-14	--	--	--	--	3.3	0.7
15-19	5.6	0.9	1.9	0.8	1.0	1.6
20-24	35.8	16.8	32.5	21.3	19.1	17.5
25-29	72.4	49.0	76.3	55.3	69.3	56.4
30-34	90.2	74.1	92.5	76.1	96.4	83.3
35-39	96.1	92.5	95.4	91.0	96.4	94.5
40-44	94.3	99.3	91.2	97.2	97.8	99.2
45-49	96.7	97.2	98.3	97.0	97.7	99.2
50-54	97.7	100.0	96.4	99.1	98.4	99.0
55-59	100.0	100.0	100.0	100.0	100.0	97.3
60+	97.4	99.6	97.4	98.7	100.0	99.6
Total	48.1	43.1	46.0	42.2	46.0	47.0
Female						
6 -12	0.4	0.5	1.6	--	1.1	0.7
13-14	0.9	--	2.4	--	--	6.1
15-19	29.5	6.0	21.8	11.3	11.5	27.8
20-24	76.5	42.8	68.1	51.0	57.6	66.6
25-29	91.5	69.5	91.3	80.4	80.6	86.5
30-34	97.2	85.3	97.0	92.9	93.8	91.9
35-39	99.3	96.4	99.3	96.6	100.0	99.5
40-44	98.9	96.7	98.4	98.5	99.3	100.0
45-49	95.6	98.4	99.3	98.3	99.5	99.2
50-54	98.7	99.0	100.0	92.9	94.7	98.8
55-59	98.1	100.0	100.0	94.9	100.0	100.0
60+	100.0	99.5	95.7	99.3	100.0	100.0
Total	55.4	50.5	55.7	51.1	50.0	59.4

-- Less than 0.05 percent

3.3 Household Composition

Table 3.3 shows the percent distribution of households by various characteristics of the household head (sex, age, marital status, religion and caste/tribe), as well as the number of usual residents in the household. The percentage of female-headed households is the highest in Meghalaya at 24 percent; in other states between 7 and 14 percent of the households are headed by females. A higher proportion of female-headed households in Meghalaya may be due to the prevalence of the matriarchal family system, particularly among the Khasi tribes in the state. Households in Arunachal Pradesh, Meghalaya, and Nagaland have, on average, slightly younger household heads (median age around 40 years) than Mizoram, Tripura and Manipur where the median age of the household heads is 43, 46 and 47 years, respectively. Over 80 percent of the household heads in each state are currently married. The percentage of households headed by never-married persons is slightly higher at 3 or more percent in Mizoram and Arunachal Pradesh than in other states.

Table 3.3 Household composition

Percent distribution of households by selected characteristics of household head and size, Northeastern states, 1993

Characteristic	State					
	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Sex of household head						
Male	92.7	86.6	75.8	89.5	92.5	85.8
Female	7.3	13.4	24.2	10.5	7.5	14.2
Age of household head						
<30	17.3	8.5	16.7	12.9	14.9	9.1
30-44	42.7	36.2	42.9	39.9	43.4	37.8
45-59	27.2	29.4	27.1	32.1	32.8	29.2
60+	12.9	25.9	13.2	15.1	8.9	23.9
Median age	40.2	46.7	40.4	43.1	40.6	45.5
Marital status of household head						
Never married	4.1	1.9	1.6	3.0	0.4	1.9
Currently married	87.7	81.8	84.0	84.1	91.6	84.7
Widowed	7.5	14.2	10.7	8.6	6.9	12.6
Divorced	0.3	0.6	0.6	2.6	0.8	0.1
Separated	0.4	1.5	3.1	1.7	0.4	0.6
Religion of household head						
Hindu	36.7	60.2	9.4	2.3	4.8	86.4
Muslim	0.8	5.4	2.4	0.7	0.8	8.4
Christian	15.0	28.5	76.0	95.5	93.2	2.7
Other	47.5	5.8	12.2	1.5	1.2	2.5
Caste/tribe of household head						
Scheduled caste	--	--	0.2	--	--	0.6
Scheduled tribe	76.1	28.7	88.9	97.1	95.8	16.5
Other	23.9	71.3	10.9	2.9	4.2	82.9
Number of usual members						
1	4.3	1.7	1.4	2.1	0.3	2.8
2	7.6	5.6	6.5	5.9	4.9	6.0
3	12.2	9.0	10.0	12.5	13.0	9.2
4	13.7	11.5	16.0	14.1	16.5	18.3
5	14.5	17.0	15.2	17.2	16.9	20.8
6	14.4	15.4	15.2	16.2	17.4	15.7
7	10.8	15.3	11.3	13.9	13.2	9.7
8	8.7	9.6	7.1	6.5	8.2	8.1
9+	13.8	14.9	17.3	11.6	9.6	9.3
Mean size	5.7	6.0	6.0	5.6	5.6	5.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	961	1086	992	1087	1060	1139

Note: Table is based on *de jure* members, i.e., usual residents.

-- Less than 0.05 percent

Hindus form the majority of household heads in Tripura (86 percent) and Manipur (60 percent). The majority of household heads are Christians in Mizoram (96 percent), Nagaland (93 percent) and Meghalaya (76 percent). A substantial proportion of household heads belong to "other" religions including Animism, in Arunachal Pradesh. The percentage of Muslim household heads is small in these states, ranging from less than 1 percent in Arunachal Pradesh, Mizoram, and Nagaland to 8 percent in Tripura. There are no household heads belonging to scheduled castes in Arunachal Pradesh, Manipur, Mizoram, and Nagaland, and scheduled caste household heads constitute less than 1 percent in Meghalaya and Tripura. However, except in Manipur and Tripura, more than three-fourths of the household heads belong to scheduled tribes in the northeastern states, the percentage being particularly high in Mizoram (97 percent) and Nagaland (96 percent). The mean household size is around 6 in all the northeastern states.

3.4 Educational Attainment

The educational level of household members is an important characteristic because educational attainment often affects reproductive behavior, the use of contraceptives, and the health and survival of children. Table 3.4 shows the extent of literacy and level of education of the *de facto* male and female household population age 6 and above by age and residence for each of the northeastern states. The states differ considerably in terms of literacy and educational attainment. The percentage of the population age 6 and over who are literate varies from 52 percent in Arunachal Pradesh to 91 percent in Mizoram. The female literacy rate is highest in Mizoram (89 percent) followed by Nagaland (72 percent), Tripura (64 percent), Manipur (63 percent), Meghalaya (60 percent), and Arunachal Pradesh (42 percent). In every state, a higher percentage of males are literate than females. With respect to educational attainment, a higher percentage of males than of females in every state has completed each level of schooling with few exceptions. In every state, including Arunachal Pradesh where female literacy is relatively low, the cohort differences in literacy suggest that there has been progress over time (Figure 3.2). For example, 96 percent of women age 50 or higher are illiterate in Arunachal Pradesh compared with only 26 percent of women age 10-14. In Mizoram, where female literacy is higher than in all other states in India, 35 percent of women age 50 or higher are illiterate compared with only 5 percent of those age 10-14.

Table 3.5 and Figure 3.3 show the proportion attending school among the school-age household population, by age and sex. The table focuses on children age 6-14 because the Indian Constitution set a goal of providing free and compulsory education for children through age 14. More than 70 percent of school-age children are currently attending school in the northeastern states. The school attendance rate ranges from 71 percent in Arunachal Pradesh to more than 90 percent each in Manipur and Mizoram. The proportion attending school is higher for males than for females in every state except Meghalaya where a slightly higher percentage of females (76 percent) than males (74 percent) attend school.

Table 3.4 Educational level of the household population

Percent distribution of the *de facto* household population age 6 and above by literacy and level of education, and median number of completed years of schooling, according to age and sex, Northeastern states, 1993

Age	Educational level						Total percent	Number	Median number of years of schooling
	Illiterate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	Above high school			
ARUNACHAL PRADESH									
Male									
6 - 9	38.1	61.3	0.6	--	--	--	100.0	328	1.1
10-14	16.9	53.5	24.7	4.9	--	--	100.0	344	3.9
15-19	17.4	17.0	26.0	23.3	14.6	1.7	100.0	288	6.7
20-24	26.9	13.0	14.5	13.0	25.4	7.3	100.0	193	7.2
25-29	29.2	7.8	18.2	14.6	19.8	10.4	100.0	192	7.5
30-34	30.1	13.7	13.7	14.4	15.7	12.4	100.0	153	6.5
35-39	41.1	10.0	15.6	13.9	11.7	7.8	100.0	180	4.6
40-44	58.2	9.8	9.8	5.7	10.7	5.7	100.0	122	0.0
45-49	60.7	9.8	11.5	4.9	7.4	5.7	100.0	122	0.0
50+	79.9	8.2	6.3	2.3	1.6	1.6	100.0	304	0.0
Total	38.1	25.2	14.3	9.2	9.0	4.1	100.0	2226	2.8
Female									
6 - 9	49.6	50.1	0.3	--	--	--	100.0	339	0.9
10-14	26.3	46.4	24.3	3.0	--	--	100.0	338	3.3
15-19	33.6	12.0	25.0	18.5	10.6	0.3	100.0	292	5.6
20-24	54.1	6.3	13.4	13.4	11.2	1.5	100.0	268	0.0
25-29	62.7	6.8	9.7	9.7	9.7	1.3	100.0	236	0.0
30-34	75.8	6.7	7.9	3.4	3.9	2.2	100.0	178	0.0
35-39	79.6	5.1	4.4	4.4	5.1	1.5	100.0	137	0.0
40-44	89.1	2.2	--	5.4	2.2	1.1	100.0	92	0.0
45-49	92.6	1.5	1.5	1.5	1.5	1.5	100.0	68	0.0
50+	96.2	1.3	1.3	0.4	0.4	0.4	100.0	237	0.0
Total	57.9	19.2	10.9	6.5	4.7	0.8	100.0	2185	0.0
Total									
6 - 9	43.9	55.6	0.4	--	--	--	100.0	667	1.0
10-14	21.6	50.0	24.5	4.0	--	--	100.0	682	3.6
15-19	25.5	14.5	25.5	20.9	12.6	1.0	100.0	580	6.2
20-24	42.7	9.1	13.9	13.2	17.1	3.9	100.0	461	4.6
25-29	47.7	7.2	13.6	11.9	14.3	5.4	100.0	428	3.1
30-34	54.7	10.0	10.6	8.5	9.4	6.9	100.0	331	0.0
35-39	57.7	7.9	10.7	9.8	8.8	5.0	100.0	317	0.0
40-44	71.5	6.5	5.6	5.6	7.0	3.7	100.0	214	0.0
45-49	72.1	6.8	7.9	3.7	5.3	4.2	100.0	190	0.0
50+	87.1	5.2	4.1	1.5	1.1	1.1	100.0	541	0.0
Total	47.9	22.3	12.7	7.8	6.9	2.4	100.0	4411	1.2

Table 3.4 Educational level of the household population (Contd.)

Percent distribution of the *de facto* household population age 6 and above by literacy and level of education, and median number of completed years of schooling, according to age and sex, Northeastern states, 1993

Age	Educational level						Total percent	Number	Median number of years of schooling
	Illiterate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	Above high school			
MANIPUR									
Male									
6 - 9	16.9	80.9	2.2	--	--	--	100.0	356	1.6
10-14	4.8	52.0	35.4	7.2	0.5	--	100.0	415	4.6
15-19	6.9	11.2	19.8	40.4	21.2	0.6	100.0	349	8.9
20-24	7.3	4.4	11.1	21.9	39.0	16.2	100.0	315	10.3
25-29	12.7	6.0	11.2	18.7	27.1	24.3	100.0	251	10.1
30-34	16.2	5.1	10.6	17.6	26.9	23.6	100.0	216	10.0
35-39	14.5	9.3	13.1	20.6	21.0	21.5	100.0	214	9.4
40-44	12.8	8.5	14.9	19.1	29.1	15.6	100.0	141	9.5
45-49	15.0	6.5	8.4	31.8	23.4	15.0	100.0	107	9.1
50+	37.3	23.4	10.5	7.4	13.9	7.4	100.0	418	2.7
Total	14.9	25.9	14.8	16.6	17.8	10.1	100.0	2782	6.7
Female									
6 - 9	18.6	80.2	1.2	--	--	--	100.0	334	1.6
10-14	12.0	46.9	32.3	8.3	0.5	--	100.0	384	4.4
15-19	12.9	7.4	19.8	35.5	22.3	2.0	100.0	349	8.8
20-24	24.9	6.2	10.2	16.1	28.6	13.9	100.0	353	9.4
25-29	33.9	7.5	10.6	8.6	20.2	19.2	100.0	292	7.1
30-34	37.0	8.0	10.1	8.8	18.5	17.6	100.0	238	6.5
35-39	52.7	11.5	6.7	7.3	7.9	13.9	100.0	165	0.0
40-44	58.9	6.0	9.9	9.9	7.3	7.9	100.0	151	0.0
45-49	68.0	13.6	3.2	7.2	4.8	3.2	100.0	125	0.0
50+	85.2	6.9	3.7	2.2	1.0	1.0	100.0	406	0.0
Total	37.0	21.8	11.9	10.9	11.4	7.0	100.0	2797	2.9
Total									
6 - 9	17.7	80.6	1.7	--	--	--	100.0	690	1.6
10-14	8.3	49.6	33.9	7.8	0.5	--	100.0	799	4.5
15-19	9.9	9.3	19.8	38.0	21.8	1.3	100.0	698	8.9
20-24	16.6	5.4	10.6	18.9	33.5	15.0	100.0	668	9.9
25-29	24.1	6.8	10.9	13.3	23.4	21.5	100.0	543	9.4
30-34	27.1	6.6	10.4	13.0	22.5	20.5	100.0	454	9.0
35-39	31.1	10.3	10.3	14.8	15.3	18.2	100.0	379	7.3
40-44	36.6	7.2	12.3	14.4	17.8	11.6	100.0	292	6.5
45-49	43.5	10.3	5.6	18.5	13.4	8.6	100.0	232	3.4
50+	60.9	15.3	7.2	4.9	7.5	4.2	100.0	824	0.0
Total	26.0	23.8	13.4	13.7	14.6	8.5	100.0	5579	5.1

Table 3.4 Educational level of the household population (Contd.)

Percent distribution of the *de facto* household population age 6 and above by literacy and level of education, and median number of completed years of schooling, according to age and sex, Northeastern states, 1993

Age	Educational level						Total percent	Number	Median number of years of schooling
	Illiterate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	Above high school			
MEGHALAYA									
Male									
6 - 9	26.0	72.6	1.4	--	--	--	100.0	369	0.9
10-14	24.6	53.2	20.9	1.2	--	--	100.0	402	3.0
15-19	27.0	17.0	23.8	21.5	10.3	0.3	100.0	311	6.2
20-24	29.1	15.8	15.0	18.4	18.4	3.4	100.0	234	6.2
25-29	33.2	14.2	9.9	19.3	17.9	5.5	100.0	274	5.9
30-34	35.2	16.6	15.1	13.6	15.6	4.0	100.0	199	4.7
35-39	36.6	13.1	15.4	18.9	12.0	4.0	100.0	175	5.2
40-44	44.5	13.1	10.9	11.7	13.9	5.8	100.0	137	3.2
45-49	45.3	8.5	18.8	11.1	9.4	6.8	100.0	117	4.1
50+	52.3	12.5	15.5	8.3	7.6	3.8	100.0	264	0.0
Total	33.2	29.3	14.5	11.2	9.1	2.6	100.0	2482	3.1
Female									
6 - 9	26.8	72.5	0.6	--	--	--	100.0	313	0.9
10-14	18.7	52.5	26.0	2.8	--	--	100.0	358	3.4
15-19	26.5	15.6	25.2	23.8	8.8	--	100.0	294	6.0
20-24	32.2	15.6	17.3	18.3	13.3	3.3	100.0	398	5.5
25-29	42.3	15.1	14.7	7.9	15.8	4.2	100.0	265	3.4
30-34	47.6	14.9	16.1	8.9	10.7	1.8	100.0	168	2.0
35-39	58.7	14.0	10.5	7.7	4.9	4.2	100.0	143	0.0
40-44	63.0	16.5	10.2	4.7	3.9	1.6	100.0	127	0.0
45-49	65.7	16.4	7.9	2.9	5.0	2.1	100.0	140	0.0
50+	81.9	7.0	6.4	2.9	1.2	0.6	100.0	171	0.0
Total	39.8	27.9	14.9	9.0	6.7	1.6	100.0	2377	2.0
Total									
6 - 9	26.4	72.6	1.0	--	--	--	100.0	682	0.9
10-14	21.8	52.9	23.3	2.0	--	--	100.0	760	3.2
15-19	26.8	16.4	24.5	22.6	9.6	0.2	100.0	605	6.1
20-24	31.0	15.7	16.5	18.4	15.2	3.3	100.0	632	5.7
25-29	37.7	14.7	12.2	13.7	16.9	4.8	100.0	539	4.4
30-34	40.9	15.8	15.5	11.4	13.4	3.0	100.0	367	3.8
35-39	46.5	13.5	13.2	13.8	8.8	4.1	100.0	318	2.9
40-44	53.4	14.8	10.6	8.3	9.1	3.8	100.0	264	0.0
45-49	56.4	12.8	12.8	6.6	7.0	4.3	100.0	257	0.0
50+	63.9	10.3	12.0	6.2	5.1	2.5	100.0	435	0.0
Total	36.4	28.6	14.7	10.2	7.9	2.1	100.0	4859	2.5

Table 3.4 Educational level of the household population (Contd.)

Percent distribution of the *de facto* household population age 6 and above by literacy and level of education, and median number of completed years of schooling, according to age and sex, Northeastern states, 1993

Age	Educational Level						Total percent	Number	Median number of years of schooling
	Illiterate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	Above high school			
MIZORAM									
Male									
6 - 9	20.5	78.9	0.7	--	--	--	100.0	298	1.9
10-14	2.1	42.8	47.8	7.3	--	--	100.0	423	5.3
15-19	3.0	11.6	31.7	34.1	19.6	--	100.0	372	8.2
20-24	3.9	9.4	20.3	27.4	34.5	4.5	100.0	310	9.2
25-29	3.6	15.4	22.1	19.8	25.7	13.4	100.0	253	8.8
30-34	6.1	17.8	21.8	17.3	22.8	14.2	100.0	197	8.5
35-39	9.0	26.0	23.7	17.5	16.9	6.8	100.0	177	6.7
40-44	3.5	33.3	28.5	18.1	11.8	4.9	100.0	144	6.3
45-49	6.0	28.6	24.8	15.8	16.5	8.3	100.0	133	6.5
50+	9.5	51.1	19.4	8.6	8.0	3.4	100.0	325	3.9
Total	6.6	32.7	25.2	16.5	14.6	4.4	100.0	2632	6.2
Female									
6 - 9	26.3	73.0	0.7	--	--	--	100.0	304	2.0
10-14	4.5	39.8	46.8	8.7	0.2	--	100.0	402	5.3
15-19	2.4	12.1	26.1	41.8	17.6	--	100.0	380	8.5
20-24	2.3	10.3	26.5	26.8	30.0	4.2	100.0	310	9.0
25-29	4.9	21.4	23.2	22.8	22.8	4.9	100.0	285	8.1
30-34	10.7	22.4	23.5	25.0	15.3	3.1	100.0	196	6.9
35-39	5.2	39.7	25.3	16.1	12.1	1.7	100.0	174	5.6
40-44	10.0	43.1	29.2	8.5	8.5	0.8	100.0	130	4.4
45-49	16.1	54.4	16.1	6.7	6.1	0.6	100.0	180	3.5
50+	35.0	55.9	4.6	1.5	2.3	0.8	100.0	263	2.2
Total	11.1	35.6	23.1	17.0	11.6	1.5	100.0	2624	5.4
Total									
6 - 9	23.4	75.9	0.7	--	--	--	100.0	602	2.0
10-14	3.3	41.3	47.3	8.0	0.1	--	100.0	825	5.3
15-19	2.7	11.8	28.9	38.0	18.6	--	100.0	752	8.4
20-24	3.1	9.8	23.4	27.1	32.3	4.4	100.0	620	9.1
25-29	4.3	18.6	22.7	21.4	24.2	8.9	100.0	538	8.4
30-34	8.4	20.1	22.6	21.1	19.1	8.7	100.0	393	7.8
35-39	7.1	32.8	24.5	16.8	14.5	4.3	100.0	351	6.1
40-44	6.6	38.0	28.8	13.5	10.2	2.9	100.0	274	5.7
45-49	11.8	43.5	19.8	10.5	10.5	3.8	100.0	313	4.3
50+	20.9	53.2	12.8	5.4	5.4	2.2	100.0	588	3.3
Total	8.9	34.2	24.1	16.7	13.1	3.0	100.0	5256	5.9

Table 3.4 Educational level of the household population (Contd.)

Percent distribution of the *de facto* household population age 6 and above by literacy and level of education, and median number of completed years of schooling, according to age and sex, Northeastern states, 1993

Age	Educational level						Total percent	Number	Median number of years of schooling
	Illiterate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	Above high school			
NAGALAND									
Male									
6 - 9	12.0	87.2	0.8	--	--	--	100.0	359	1.8
10-14	6.0	42.4	39.6	11.3	0.8	--	100.0	399	5.1
15-19	7.0	6.6	29.4	32.5	23.4	1.0	100.0	286	8.4
20-24	15.2	6.5	13.5	19.6	39.1	6.1	100.0	230	9.5
25-29	18.1	10.9	18.1	18.1	29.4	5.5	100.0	238	8.4
30-34	27.5	7.2	18.6	15.6	19.8	11.4	100.0	167	7.7
35-39	18.5	12.5	16.1	22.6	25.0	5.4	100.0	168	8.3
40-44	32.4	12.2	10.8	10.8	27.3	6.5	100.0	139	6.7
45-49	30.5	6.3	23.4	15.6	18.0	6.3	100.0	128	6.8
50+	53.0	13.5	11.2	6.3	10.5	5.6	100.0	304	0.0
Total	20.1	26.5	18.9	14.2	16.5	3.8	100.0	2418	5.7
Female									
6 - 9	16.5	81.3	2.2	--	--	--	100.0	321	1.7
10-14	7.5	38.6	45.6	7.8	0.5	--	100.0	373	5.2
15-19	8.5	8.2	27.0	29.6	26.2	0.6	100.0	355	8.4
20-24	22.2	11.1	17.8	21.1	24.0	3.8	100.0	342	7.8
25-29	30.4	14.7	15.7	14.1	20.4	4.7	100.0	319	6.2
30-34	37.3	13.0	18.6	12.4	16.1	2.5	100.0	161	5.1
35-39	49.2	11.2	14.0	13.4	11.7	0.6	100.0	179	1.3
40-44	58.7	13.0	8.0	5.8	14.5	--	100.0	138	0.0
45-49	68.4	7.4	5.3	5.3	12.6	1.1	100.0	190	0.0
50+	70.3	10.9	12.5	4.7	1.6	--	100.0	64	0.0
Total	28.2	24.5	19.2	12.9	13.7	1.5	100.0	2442	4.6
Total									
6 - 9	14.1	84.4	1.5	--	--	--	100.0	680	1.8
10-14	6.7	40.5	42.5	9.6	0.6	--	100.0	772	5.2
15-19	7.8	7.5	28.1	30.9	25.0	0.8	100.0	641	8.4
20-24	19.4	9.3	16.1	20.5	30.1	4.7	100.0	572	8.5
25-29	25.1	13.1	16.7	15.8	24.2	5.0	100.0	557	7.3
30-34	32.3	10.1	18.6	14.0	18.0	7.0	100.0	328	6.4
35-39	34.3	11.8	15.0	17.9	18.2	2.9	100.0	347	6.2
40-44	45.5	12.6	9.4	8.3	20.9	3.2	100.0	277	3.1
45-49	53.1	6.9	12.6	9.4	14.8	3.1	100.0	318	0.0
50+	56.0	13.0	11.4	6.0	9.0	4.6	100.0	368	0.0
Total	24.2	25.5	19.0	13.6	15.1	2.7	100.0	4860	5.1

Table 3.4 Educational level of the household population (Contd.)

Percent distribution of the *de facto* household population age 6 and above by literacy and level of education, and median number of completed years of schooling, according to age and sex, Northeastern states, 1993

Age	Educational level						Total percent	Number	Median number of years of schooling
	Illiterate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	Above high school			
TRIPURA									
Male									
6 - 9	21.3	77.8	0.9	--	--	--	100.0	329	0.9
10-14	6.9	66.2	24.7	2.2	--	--	100.0	405	3.7
15-19	6.7	17.2	32.2	32.2	11.5	0.3	100.0	314	7.2
20-24	11.4	14.8	18.6	33.1	12.9	9.1	100.0	263	8.4
25-29	19.8	18.5	15.9	22.9	10.6	12.3	100.0	227	6.7
30-34	17.2	9.6	15.7	25.8	15.7	16.2	100.0	198	8.7
35-39	19.8	14.3	15.7	25.3	16.1	8.8	100.0	217	8.0
40-44	22.2	13.5	12.7	24.6	15.1	11.9	100.0	126	8.1
45-49	31.5	17.7	16.9	16.1	14.5	3.2	100.0	124	5.2
50+	35.3	22.4	20.0	11.8	7.8	2.7	100.0	450	4.2
Total	18.7	32.0	18.1	17.3	8.7	5.1	100.0	2653	4.9
Female									
6 - 9	21.1	78.9	--	--	--	--	100.0	322	0.8
10-14	13.7	59.0	23.5	3.8	--	--	100.0	366	3.6
15-19	18.3	17.5	28.9	27.8	6.6	0.9	100.0	349	6.5
20-24	27.5	16.1	18.7	22.6	9.8	5.2	100.0	305	6.2
25-29	30.9	12.8	18.4	22.3	7.4	8.2	100.0	282	5.7
30-34	35.1	13.0	17.3	19.5	7.0	8.1	100.0	185	5.3
35-39	43.6	16.5	15.4	11.2	9.0	4.3	100.0	188	3.2
40-44	53.7	11.2	20.9	6.0	6.7	1.5	100.0	134	0.0
45-49	50.4	19.8	17.4	8.3	1.7	2.5	100.0	121	0.0
50+	75.4	13.1	7.7	3.3	0.5	--	100.0	426	0.0
Total	35.6	28.6	16.4	12.4	4.4	2.6	100.0	2678	2.8
Total									
6 - 9	21.2	78.3	0.5	--	--	--	100.0	651	0.8
10-14	10.1	62.8	24.1	3.0	--	--	100.0	771	3.6
15-19	12.8	17.3	30.5	29.9	8.9	0.6	100.0	663	6.8
20-24	20.1	15.5	18.7	27.5	11.3	7.0	100.0	568	7.3
25-29	25.9	15.3	17.3	22.6	8.8	10.0	100.0	509	6.0
30-34	25.8	11.2	16.4	22.7	11.5	12.3	100.0	383	7.4
35-39	30.9	15.3	15.6	18.8	12.8	6.7	100.0	405	5.5
40-44	38.5	12.3	16.9	15.0	10.8	6.5	100.0	260	4.8
45-49	40.8	18.8	17.1	12.2	8.2	2.9	100.0	245	3.6
50+	54.8	17.9	14.0	7.6	4.2	1.4	100.0	876	0.0
Total	27.2	30.3	17.3	14.8	6.5	3.8	100.0	5331	3.9
-- Less than 0.05 percent									

Table 3.5 School attendance
Percentage of the *de facto* household population age 6-14 years attending school by age and sex, Northeastern states, 1993

State	Male			Female			Total		
	6-10	11-14	6-14	6-10	11-14	6-14	6-10	11-14	6-14
Arunachal Pradesh	71.6	85.2	76.8	58.4	78.1	65.3	64.8	81.7	71.0
Manipur	92.2	95.2	93.4	88.6	84.1	86.8	90.4	89.9	90.2
Meghalaya	74.1	74.7	74.3	77.1	73.6	75.7	75.4	74.2	75.0
Mizoram	90.1	95.8	92.8	85.4	92.4	88.5	87.7	94.2	90.7
Nagaland	91.3	88.2	90.1	89.2	88.8	89.0	90.3	88.5	89.6
Tripura	78.6	86.8	81.9	78.0	74.7	76.7	78.3	81.0	79.4

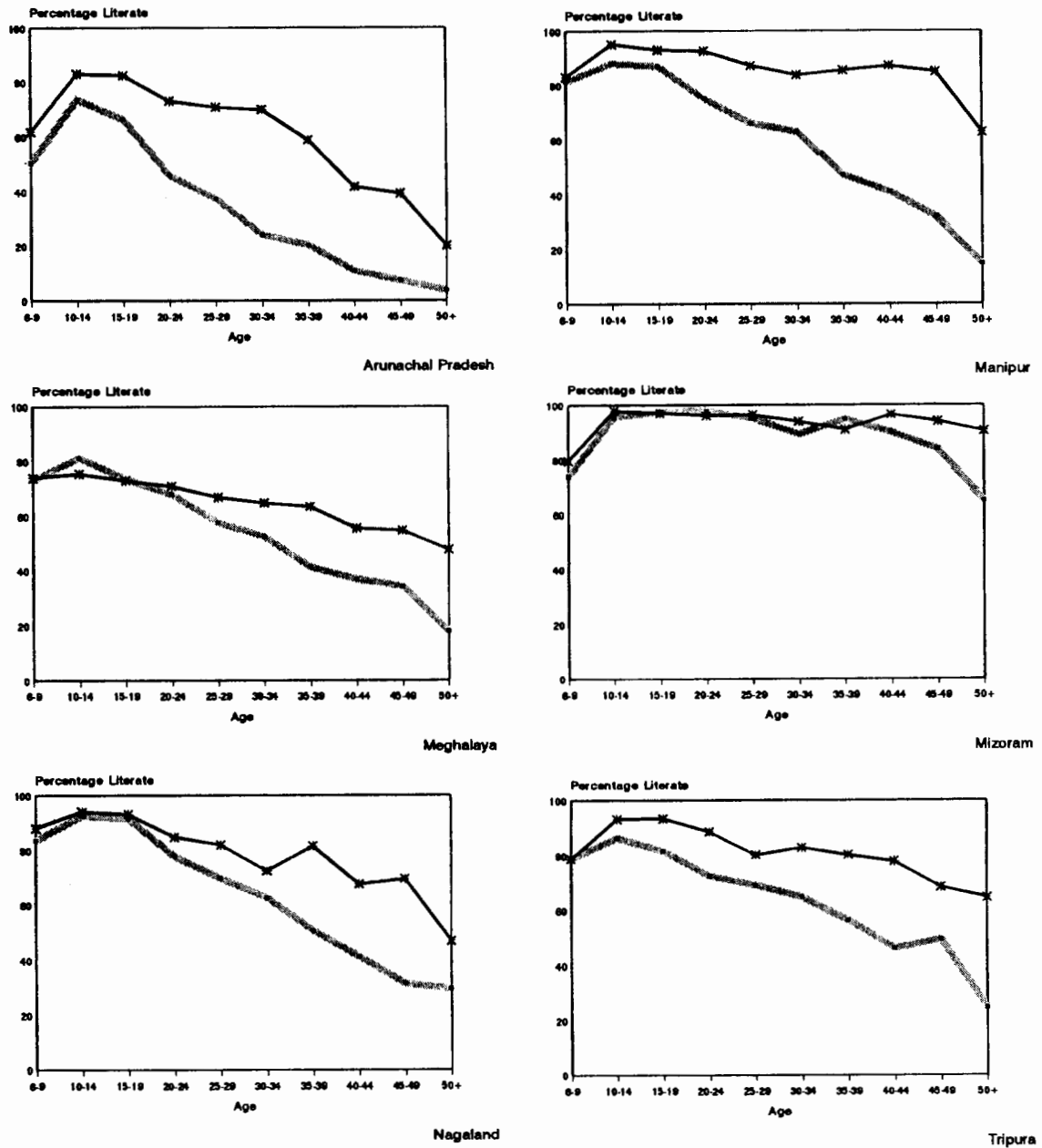
3.5 Housing Characteristics

The NFHS gathered information on the following housing characteristics: electricity, source of bathing/washing water and drinking water, sanitation facility, type of cooking fuel, place where livestock is kept, number of rooms in the house and the materials used for the construction of walls, roof and floor. Table 3.6 provides information on these housing characteristics for the northeastern states. More than three-fourths of the households in Mizoram and Nagaland have electricity, compared with less than one-half of the households in Meghalaya and Tripura.

The water and sanitary facilities in a household are important because they can affect the health status of household members, particularly children. The NFHS contained questions on sanitary facilities and the source of the water the household uses for bathing and washing as well as for drinking. The majority of households in Nagaland (70 percent) and Arunachal Pradesh (68 percent) have piped water for drinking. In the remaining states, the proportion of households using piped water for drinking varies from 26 percent in Tripura to 41-43 percent in Manipur and Meghalaya. A substantial minority of households (between 32 and 47 percent) in Manipur, Meghalaya and Mizoram use surface water for drinking. Well water is used by 20-36 percent of the households in Meghalaya, Nagaland and Tripura. The sources of water for bathing and washing are more or less the same as the sources of water for drinking in these states.

Regarding sanitation facilities, the pit toilet/latrine is more common in most northeastern states than the flush toilet. The percentage of households with a flush toilet (using either piped water or bucket water for flushing) ranges from 4 percent in Manipur to 33 percent in Nagaland. On the other hand, except for Meghalaya and Nagaland, between 58 and 80 percent of households have a pit toilet/latrine (the percentages in Meghalaya and Nagaland are 35 and 46, respectively). Forty-six percent of the households in Meghalaya do not have a sanitation facility, whereas this proportion is smaller in other states (ranging from 2 percent in Mizoram to 26 percent in Arunachal Pradesh). The percentage of households without toilet facilities in the northeastern states is much lower than the national percentage of 70.

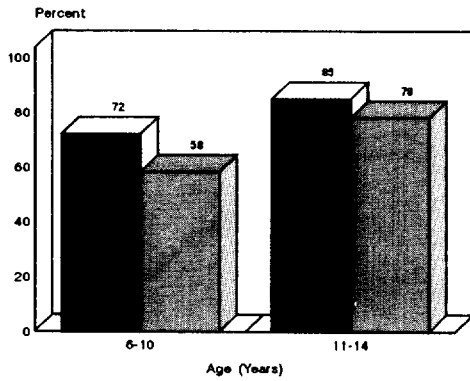
Figure 3.2 Percentage Literate by Age and Sex



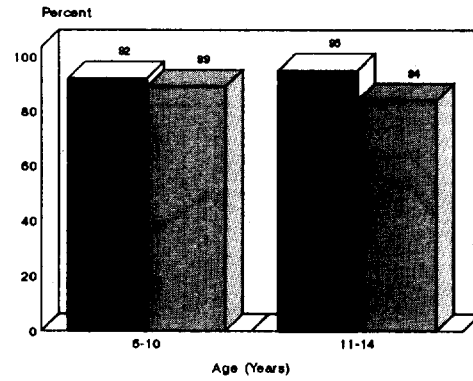
* Male • Female

NFHS, Northeastern states, 1993

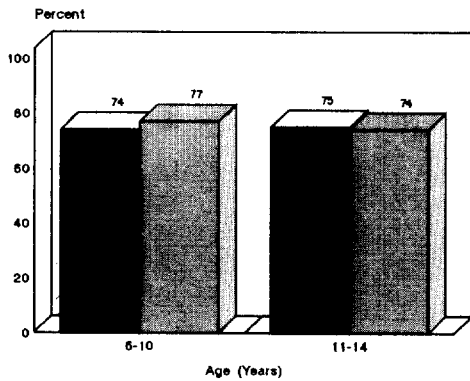
Figure 3.3 School Attendance by Age and Sex



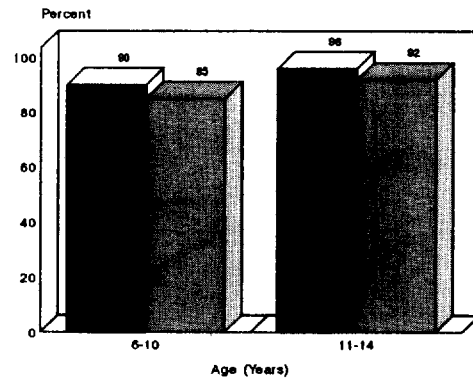
Arunachal Pradesh



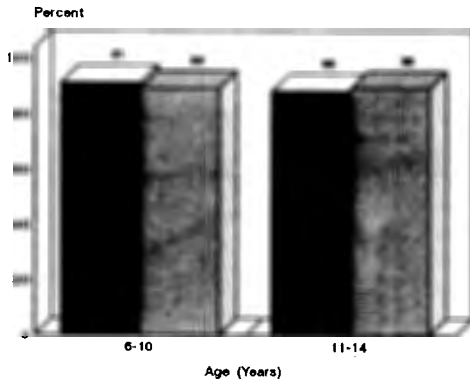
Manipur



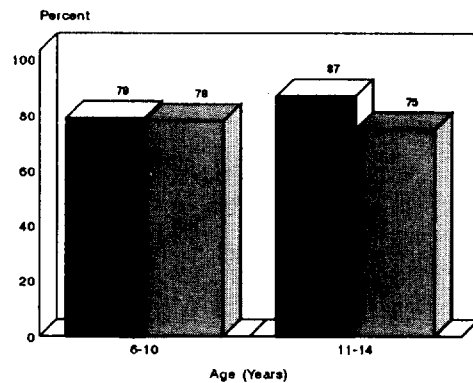
Meghalaya



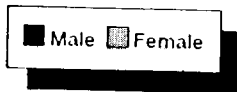
Mizoram



Nagaland



Tripura



NFHS, Northeastern states, 1993

Table 3.6 Housing characteristics

Percent distribution of households by housing characteristics, Northeastern states, 1993

Housing characteristic	State					
	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Electricity						
Yes	63.1	62.1	42.6	76.0	76.9	45.1
No	36.9	37.9	57.4	24.0	23.1	54.9
Source of bathing/washing water						
Piped	67.8	26.4	40.3	37.1	70.0	13.2
Handpump	7.7	2.8	4.5	2.1	1.9	4.0
Well water	8.4	2.4	19.8	6.2	26.6	22.3
Surface water	15.5	65.9	35.1	40.0	1.4	56.4
Other	0.5	2.5	0.3	14.6	0.1	4.1
Source of drinking water						
Piped	68.1	41.2	42.5	38.0	70.2	25.5
Handpump	7.7	5.8	5.0	2.1	1.9	18.6
Well water	8.7	2.6	20.2	6.4	26.6	35.5
Surface water	15.0	47.2	32.0	38.7	1.2	8.3
Other	0.5	3.2	0.3	14.7	0.1	12.1
Sanitation facility						
Flush	15.3	4.1	18.8	18.3	33.3	14.7
Pit toilet/latrine	58.2	79.0	35.3	80.0	45.9	64.4
Other	0.1	--	0.3	--	0.1	0.3
No facility	26.4	16.9	45.7	1.7	20.7	20.6
Type of fuel for cooking						
Wood	87.7	80.5	82.0	66.2	97.4	91.1
Cow dung cakes	--	0.1	--	--	0.1	0.3
Coal/coke/lignite/charcoal	0.1	0.2	4.8	0.8	0.1	--
Kerosene	5.2	4.0	6.0	12.6	0.8	2.4
Electricity	--	0.6	1.8	0.6	--	0.3
Liquid petroleum gas	4.9	14.6	2.9	19.5	0.8	4.1
Other	2.1	0.1	2.4	0.3	0.8	1.8
Type of house						
Kachcha	81.0	49.9	77.2	39.0	69.7	89.6
Semi-pucca	16.9	45.2	18.9	55.0	21.9	7.4
Pucca	2.2	4.9	3.9	6.0	8.4	3.1
Place where livestock is kept						
Inside the house	8.9	2.7	1.0	1.7	10.3	34.5
Outside the house	50.7	33.5	41.4	54.6	60.6	33.9
No livestock	40.4	63.8	57.6	43.7	29.2	31.6
Persons per room						
< 3.0	60.7	81.0	81.9	72.4	84.2	72.4
3.0-4.9	22.0	15.6	15.8	21.1	14.0	19.9
5.0-6.9	8.4	2.7	1.6	4.7	1.0	6.0
7.0 +	8.9	0.7	0.7	1.8	0.8	1.7
Mean	2.9	2.1	2.0	2.4	1.9	2.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	961	1086	992	1087	1060	1139

-- Less than 0.05 percent

In all the northeastern states, as elsewhere in India, wood is the most common fuel used for cooking. The proportion of households using wood as cooking fuel is lowest (66 percent) in Mizoram and highest (97 percent) in Nagaland. In Mizoram a sizeable proportion of households use liquid petroleum gas (20 percent) and kerosene (13 percent) as cooking fuel. Nearly 15 percent of households in Manipur use liquid petroleum gas as cooking fuel.

Based on the materials used for the construction of walls, roof and floor, a house in the NFHS is defined as either *kachcha* (made from mud, thatch or other low-quality materials), *pucca* (high-quality materials throughout, including roof, walls and floor), or *semi-pucca* (partly low-quality and partly high-quality materials). A large majority of houses in Tripura (90 percent), Arunachal Pradesh (81 percent), Meghalaya (77 percent), and Nagaland (70 percent) are *kachcha*, and this percentage is 50 and 39 in Manipur and Mizoram, respectively. Between 2 and 8 percent of the houses in the northeastern states are *pucca*. In Mizoram, more than half (55 percent) the houses are *semi-pucca*.

The NFHS also collected information on whether households own any livestock. The majority of the households in Manipur (64 percent) and Meghalaya (58 percent) do not own any livestock. Three-fifths of the households in Arunachal Pradesh, 56 percent in Mizoram, 71 percent in Nagaland and 68 percent in Tripura own livestock. A follow-up question was asked on where the livestock are kept at night, because keeping them inside the house may affect the health of the residents adversely. More than one-third (35 percent) of the households in Tripura have livestock that are kept inside the house at night, and this percentage is lower in other states (ranging from 1 percent in Meghalaya to 10 percent in Nagaland).

Also potentially related to health, as well as to the quality of life, is the number of persons per room in the household. Congestion in the household is the highest in Arunachal Pradesh (2.9 persons per room) and the lowest in Nagaland (1.9 persons per room). A majority of the households in all the states have fewer than three persons per room and this percentage ranges from 61 percent in Arunachal Pradesh to 84 percent in Nagaland. Seventeen percent of households in Arunachal Pradesh, 8 percent in Tripura, 7 percent in Mizoram, 3 percent in Manipur and around 2 percent each in Meghalaya and Nagaland have five or more persons per room. In Arunachal Pradesh, 9 percent of households are very crowded with seven or more persons per room.

Table 3.7 contains three sets of measures related to the socioeconomic status of the household: household ownership of agricultural land, livestock by type, and durable goods by type. More than half of the households in Meghalaya (58 percent), Tripura (56 percent) and Mizoram (53 percent) do not own any agricultural land. Fifty-nine percent of the households in Arunachal Pradesh, 52 percent in Manipur, and 68 percent in Nagaland own agricultural land. Ownership of irrigated land is relatively less common in Mizoram and Tripura.

The possession of durable goods is another indicator of a household's socioeconomic level, although these goods may also have other benefits. For example, having access to a radio or television may expose household members to innovative ideas; a refrigerator prolongs the wholesomeness of food; and a means of transportation allows greater access to many services outside the local area.

Table 3.7 Household ownership of land, livestock and durable goods

Percentage of households owning agricultural land, livestock and various consumer durable goods, Northeastern states, 1993

Item owned	State					
	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Agricultural land						
No land	40.6	48.0	58.2	52.6	31.8	56.2
Irrigated land only						
< 1 acre	3.6	5.1	4.0	4.0	1.3	4.7
1-5 acres	8.6	9.9	2.2	5.4	1.8	4.0
6+ acres	2.7	0.7	0.4	0.6	0.6	0.3
Non-irrigated land only						
< 1 acre	6.0	8.0	11.1	19.9	1.5	12.5
1-5 acres	15.3	15.6	7.9	13.1	6.3	15.5
6+ acres	2.9	1.3	1.3	0.9	1.9	1.0
Irrigated and non-irrigated land						
< 1 acre	5.5	2.8	3.0	1.0	5.7	2.2
1-5 acres	9.6	7.6	10.2	2.0	30.4	3.5
6+ acres	5.1	1.1	1.7	0.6	18.8	0.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Livestock						
Bullock	9.1	7.6	2.2	0.2	0.4	12.6
Cow	31.5	20.4	32.1	3.8	20.5	42.7
Buffalo	0.8	5.8	1.8	0.6	2.2	1.5
Goat	14.5	1.0	15.7	1.7	3.8	26.1
Sheep	0.3	0.3	0.9	--	0.3	0.2
Camel	0.1	--	--	--	--	--
Other	47.0	12.3	16.0	54.7	62.9	48.7
No livestock	40.4	63.8	57.6	43.7	29.2	31.6
Consumer durable goods						
Sewing machine	7.5	11.3	12.9	53.1	34.8	6.3
Clock/watch	57.5	62.8	63.9	81.8	65.2	53.0
Radio	41.9	40.2	42.2	53.0	36.4	37.7
Television	18.5	19.1	20.0	14.9	13.8	17.2
Refrigerator	2.3	3.9	2.9	11.2	4.1	2.5
Bicycle	22.5	43.0	10.3	3.3	3.7	41.6
Motorcycle/scooter	7.4	14.1	2.4	6.2	2.5	3.6
Car	2.0	1.5	2.8	2.8	2.9	0.4
Bullock cart	0.9	5.6	1.1	0.2	0.4	1.3
Thresher	0.3	0.1	0.1	0.5	0.2	0.4
Tractor	0.7	0.3	--	0.3	0.1	--
Water pump	1.1	1.7	0.2	0.7	0.2	1.2
Number of households	961	1086	992	1087	1060	1139

-- Less than 0.05 percent

In every state, the majority (between 53 and 82 percent) of households have a clock/watch. Fifty-three percent of households in Mizoram own a radio, and this percentage is 40-42 in Arunachal Pradesh, Manipur and Meghalaya and 36-38 percent in Nagaland and Tripura. The percentage of households owning televisions is lower, ranging from 14 percent in Nagaland to 20 percent in Meghalaya. The bicycle is the most commonly owned means of transportation in all states except Mizoram. Manipur (43 percent), Tripura (42 percent) and Arunachal Pradesh (23 percent) have the highest percentages of households with bicycles. Ownership of other consumer durables is less common in the northeastern states.

3.6 Background Characteristics of Respondents

Whereas the previous tables considered characteristics of households, based on results from the NFHS Household Questionnaire, this section examines selected background characteristics of primary respondents (ever-married women age 13-49), based on the NFHS Woman's Questionnaire.

Table 3.8 shows several basic background characteristics of respondents: age, marital status, education, religion, caste/tribe, work status and husband's education. The information is provided for each of the northeastern states by residence. The total number of women interviewed in the northeastern states includes 882 in Arunachal Pradesh, 953 in Manipur, 1,137 in Meghalaya, 1,045 in Mizoram, 1,149 in Nagaland, and 1,100 in Tripura.

The percentage in each age-group generally increases up to age 25-29 except in Meghalaya (where the modal age group is 20-24), reflecting the increase in the proportion married in successive age groups (Figure 3.4). In these states, the percentages decline after age 25-29, by which time most women have already married, reflecting the normal pyramidal shape of the age distribution. This age pattern is more or less similar in urban and rural areas, although the percentages in the younger age-groups are smaller in urban areas in Manipur, Meghalaya, Nagaland and Tripura, reflecting the somewhat later age at marriage in urban areas.

The percentage currently married among ever-married women age 13-49 is generally very high, ranging from 87 percent in Mizoram to 95 percent in Arunachal Pradesh. The percentage widowed is 4 percent each in Manipur and Mizoram, 5 percent each in Arunachal Pradesh, Meghalaya, and Tripura and 6 percent in Nagaland. The percentage divorced or separated ranges from less than 1 percent in Arunachal Pradesh to 9 percent in Mizoram.

The literacy rate among ever-married women is the highest in Mizoram, where 92 percent are literate. At the other extreme, only 30 percent of ever-married women in Arunachal Pradesh are literate. Nearly one-half of ever-married women are literate in Meghalaya and in the remaining northeastern states more than one-half are literate. The percentage of women who have completed at least high school is 23 percent in Manipur, 15-16 percent in Mizoram and Nagaland, and 7-10 percent in Arunachal Pradesh, Meghalaya, and Tripura. In every state, urban women are better educated than their rural counterparts. The distribution of respondents by religion and caste/tribe are similar to the distribution of households by these same characteristics, as discussed earlier in Section 3.3.

Table 3.8 Background characteristics of respondents

Percent distribution of ever-married women age 13-49, by selected background characteristics, according to residence, Northeastern states, 1993

Background characteristic	Arunachal Pradesh				Manipur			
	Urban	Rural	Total	Total number of women	Urban	Rural	Total	Total number of women
Age								
13-14	--	0.1	0.1	1	--	--	--	0
15-19	11.5	8.6	9.1	80	2.0	2.3	2.2	21
20-24	25.4	21.1	21.8	192	14.7	15.5	15.2	145
25-29	23.8	22.3	22.6	199	18.2	22.0	20.8	198
30-34	17.7	18.5	18.4	162	20.8	20.3	20.5	195
35-39	12.3	13.7	13.5	119	14.0	15.9	15.3	146
40-44	6.2	9.7	9.2	81	17.6	12.7	14.3	136
45-49	3.1	5.9	5.4	48	12.7	11.3	11.8	112
Marital status								
Currently married	95.4	94.5	94.7	835	94.8	92.9	93.5	891
Widowed	3.1	4.9	4.6	41	3.6	4.5	4.2	40
Divorced	1.5	--	0.2	2	0.3	0.6	0.5	5
Separated	--	0.5	0.5	4	1.3	2.0	1.8	17
Education								
Illiterate	47.7	73.3	69.5	613	34.2	54.0	47.6	454
Literate, < primary complete	6.2	5.6	5.7	50	10.4	10.2	10.3	98
Primary school complete	9.2	9.6	9.5	84	8.1	9.3	8.9	85
Middle school complete	13.1	7.0	7.9	70	13.0	9.4	10.6	101
High school complete	20.0	3.9	6.2	55	20.2	11.8	14.5	138
Above high school	3.8	0.7	1.1	10	14.0	5.3	8.1	77
Religion								
Hindu	63.1	30.1	34.9	308	78.5	54.8	62.4	595
Muslim	2.3	0.4	0.7	6	6.8	5.9	6.2	59
Sikh	0.8	0.1	0.2	2	0.3	--	0.1	1
Buddhist/Neo-Buddhist	2.3	10.0	8.8	78	--	--	--	0
Christian	9.2	19.4	17.9	158	8.5	34.4	26.0	248
Other	22.3	40.0	37.4	330	5.8	5.0	5.2	50
Caste/tribe								
Scheduled caste	--	--	--	0	--	--	--	0
Scheduled tribe	39.2	84.7	78.0	688	8.8	34.5	26.2	250
Other	60.8	15.3	22.0	194	91.2	65.5	73.8	703
Work status								
Not working	91.5	48.8	55.1	486	45.0	47.2	46.5	443
Working in family farm/business	1.5	21.5	18.6	164	15.6	18.7	17.7	169
Employed by someone else	5.4	8.1	7.7	68	14.3	10.4	11.6	111
Self-employed	1.5	21.5	18.6	164	25.1	23.7	24.1	230
Husband's education								
Illiterate	23.8	49.1	45.4	400	13.7	18.3	16.8	160
Literate, < primary complete	7.7	10.1	9.8	86	6.5	11.6	10.0	95
Primary school complete	9.2	14.0	13.3	117	6.8	15.2	12.5	119
Middle school complete	9.2	10.9	10.7	94	17.3	18.4	18.0	172
High school complete	27.7	12.0	14.3	126	28.3	24.3	25.6	244
Above high school	22.3	4.0	6.7	59	27.4	12.2	17.1	163
Total percent	100.0	100.0	100.0	NA	100.0	100.0	100.0	NA
Number of women	130	752	882	882	307	646	953	953

Table 3.8 Background characteristics of respondents (Contd.)

Percent distribution of ever-married women age 13-49, by selected background characteristics, according to residence, Northeastern states, 1993

Background characteristic	Meghalaya				Mizoram			
	Urban	Rural	Total	Total number of women	Urban	Rural	Total	Total number of women
Age								
13-14	--	0.3	0.3	3	--	--	--	0
15-19	2.3	6.4	5.6	64	4.1	3.6	3.8	40
20-24	23.1	23.9	23.7	270	14.5	14.8	14.6	153
25-29	19.0	21.3	20.8	237	21.5	21.2	21.3	223
30-34	15.4	14.1	14.3	163	17.0	15.9	16.5	172
35-39	14.5	11.7	12.2	139	16.1	14.8	15.4	161
40-44	10.9	10.8	10.8	123	10.1	13.6	11.9	124
45-49	14.9	11.5	12.1	138	16.8	16.1	16.5	172
Marital status								
Currently married	86.4	88.5	88.1	1002	85.3	88.1	86.7	906
Widowed	5.9	5.0	5.2	59	4.8	3.8	4.3	45
Divorced	1.8	0.5	0.8	9	7.2	5.5	6.3	66
Separated	5.9	5.9	5.9	67	2.7	2.7	2.7	28
Education								
Illiterate	24.4	57.9	51.4	584	3.1	13.6	8.4	88
Literate, < primary complete	11.3	16.8	15.7	179	23.6	40.3	32.1	335
Primary school complete	21.3	11.9	13.7	156	25.7	25.6	25.6	268
Middle school complete	13.6	7.6	8.8	100	25.3	13.3	19.2	201
High school complete	20.8	5.1	8.2	93	19.0	6.8	12.8	134
Above high school	8.6	0.7	2.2	25	3.3	0.4	1.8	19
Religion								
Hindu	27.6	4.0	8.6	98	2.1	1.5	1.8	19
Muslim	2.7	2.2	2.3	26	0.6	--	0.3	3
Buddhist/Neo-Buddhist	1.8	--	0.4	4	--	2.3	1.1	12
Christian	54.8	82.0	76.7	872	97.3	96.0	96.7	1010
Other	13.1	11.8	12.0	137	--	0.2	0.1	1
Caste/tribe								
Scheduled caste	0.9	--	0.2	2	--	--	--	0
Scheduled tribe	67.9	94.9	89.6	1019	97.3	98.9	98.1	1025
Other	31.2	5.1	10.2	116	2.7	1.1	1.9	20
Work status								
Not working	69.7	55.5	58.2	662	68.9	64.8	66.8	698
Working in family farm/business	3.2	19.9	16.6	189	9.7	20.8	15.3	160
Employed by someone else	17.6	18.3	18.2	207	13.0	10.4	11.7	122
Self-employed	9.5	6.3	6.9	79	8.5	4.0	6.2	65
Husband's education								
Illiterate	16.7	47.6	41.6	473	1.7	8.5	5.2	54
Literate, < primary complete	8.1	12.4	11.6	132	12.4	34.7	23.6	247
Primary school complete	14.5	12.3	12.8	145	20.3	29.2	24.8	259
Middle school complete	21.7	13.4	15.0	171	24.2	15.0	19.5	204
High school complete	25.3	12.0	14.6	166	27.5	10.0	18.7	195
Above high school	13.6	2.2	4.4	50	13.9	2.7	8.2	86
Total percent	100.0	100.0	100.0	NA	100.0	100.0	100.0	NA
Number of women	221	916	1137	1137	517	528	1045	1045

Table 3.8 Background characteristics of respondents (Contd.)

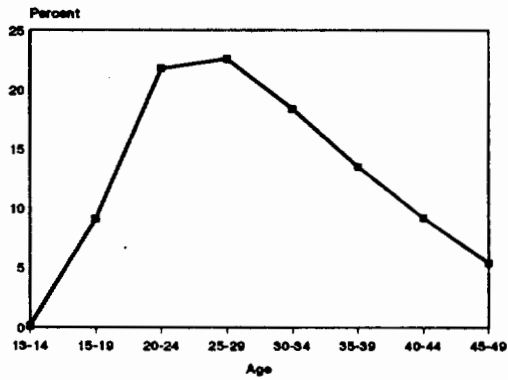
Percent distribution of ever-married women age 13-49, by selected background characteristics, according to residence, Northeastern states, 1993

Background characteristic	Nagaland				Tripura			
	Urban	Rural	Total	Total number of women	Urban	Rural	Total	Total number of women
Age								
13-14	--	--	--	0	--	0.8	0.6	7
15-19	2.1	4.0	3.6	41	6.3	9.1	8.5	94
20-24	12.5	18.3	17.1	196	13.6	18.1	17.2	189
25-29	20.4	22.9	22.4	257	20.8	21.2	21.1	232
30-34	15.0	12.5	13.1	150	21.7	13.3	15.0	165
35-39	20.4	14.3	15.6	179	17.6	16.0	16.4	180
40-44	12.5	11.8	11.9	137	12.2	11.0	11.3	124
45-49	17.1	16.3	16.4	189	7.7	10.5	9.9	109
Marital status								
Currently married	90.8	88.9	89.3	1026	91.0	91.2	91.2	1003
Widowed	5.8	5.9	5.9	68	6.3	4.9	5.2	57
Divorced	2.9	4.7	4.4	50	--	0.2	0.2	2
Separated	0.4	0.4	0.4	5	2.7	3.6	3.5	38
Education								
Illiterate	21.2	48.7	43.0	494	16.3	47.6	41.3	454
Literate, < primary complete	5.4	13.3	11.7	134	11.3	16.4	15.4	169
Primary school complete	13.3	17.1	16.3	187	22.6	18.5	19.4	213
Middle school complete	18.3	12.0	13.3	153	25.8	12.9	15.5	170
High school complete	35.4	8.5	14.1	162	13.1	3.4	5.4	59
Above high school	6.3	0.4	1.7	19	10.9	1.3	3.2	35
Religion								
Hindu	10.4	4.0	5.3	61	99.1	84.2	87.2	959
Muslim	2.1	0.3	0.7	8	0.5	9.7	7.8	86
Buddhist/Neo-Buddhist	--	--	--	0	0.5	2.7	2.3	25
Christian	87.1	94.5	93.0	1068	--	3.4	2.7	30
Jain	0.4	0.3	0.3	4	--	--	--	0
Other	0.0	0.9	0.7	8	--	--	--	0
Caste/tribe								
Scheduled caste	--	--	--	0	0.5	0.7	0.6	7
Scheduled tribe	86.7	98.3	95.9	1102	1.8	18.2	14.9	164
Other	13.3	1.7	4.1	47	97.7	81.1	84.5	929
Work status								
Not working	72.9	51.9	56.3	647	83.3	72.0	74.3	817
Working in family farm/business	2.1	18.5	15.1	173	0.5	12.7	10.3	113
Employed by someone else	9.6	4.0	5.1	59	15.8	12.2	12.9	142
Self-employed	15.4	25.6	23.5	270	0.5	3.1	2.5	28
Husband's education								
Illiterate	7.9	35.6	29.9	343	9.0	28.9	24.9	274
Literate, < primary complete	5.8	10.5	9.5	109	8.6	16.5	14.9	164
Primary school complete	12.1	19.7	18.1	208	17.2	19.2	18.8	207
Middle school complete	13.3	15.1	14.7	169	25.8	20.6	21.6	238
High school complete	43.3	16.0	21.7	249	23.1	9.8	12.5	137
Above high school	17.5	3.2	6.2	71	16.3	4.1	6.5	72
Don't know/missing	--	--	--	0	--	0.9	0.7	8
Total percent	100.0	100.0	100.0	NA	100.0	100.0	100.0	NA
Number of women	240	909	1149	1149	221	879	1100	1100

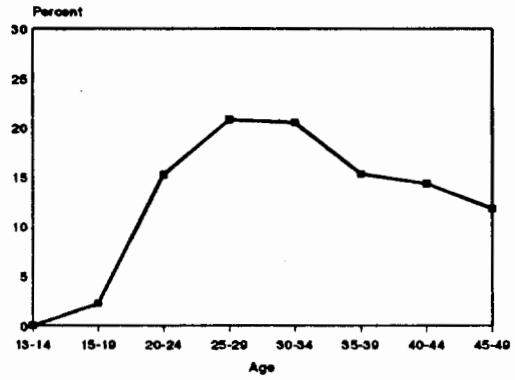
NA: Not applicable

-- Less than 0.05 percent

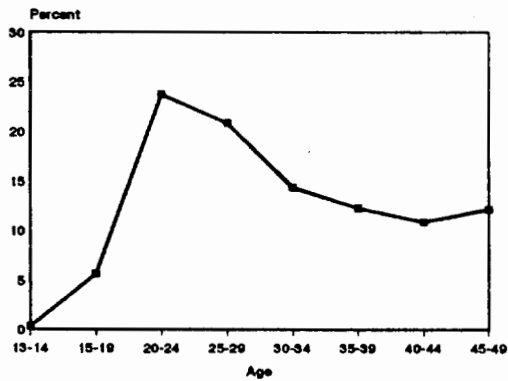
Figure 3.4 Age Distribution of Ever-Married Women



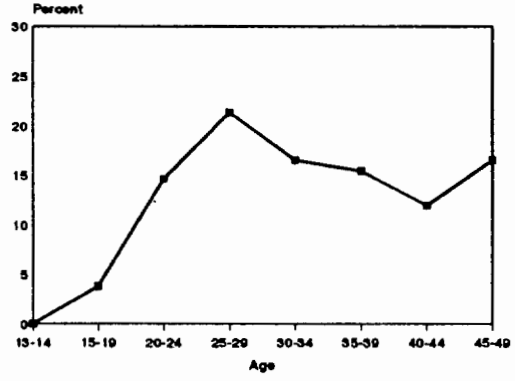
Arunachal Pradesh



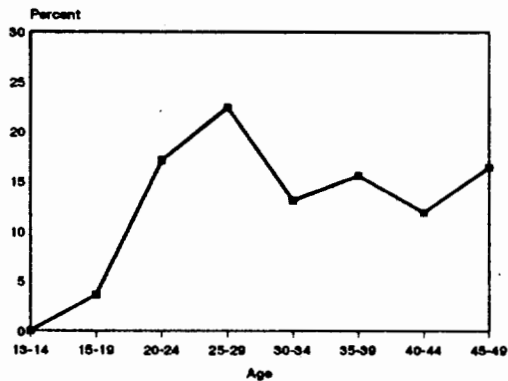
Manipur



Meghalaya



Mizoram



Nagaland



Tripura

NFHS, Northeastern states, 1993

Table 3.8 also shows the distribution of respondents by their work status and their husband's education. In the NFHS, work includes any kind of job for which the woman is paid in cash or in kind as well as unpaid work on a family farm or business. States vary in terms of the proportion of ever-married women who are working. The majority (53 percent) of women in Manipur work, and this percentage is 45 in Arunachal Pradesh, 44 in Nagaland, 42 in Meghalaya, 33 in Mizoram, and 26 in Tripura. A larger proportion of women in Manipur and Nagaland tend to be self-employed rather than employed in the family farm/business or by a nonfamily member.

In all the northeastern states husbands are more educated than their spouses in urban as well as in rural areas. The percentage of husbands with high school and above high school education is more than three times as high in urban areas as in rural areas in all the states except in Manipur and Meghalaya.

Table 3.9 shows differentials in the respondent's education by age and husband's education. In every state, the proportion illiterate generally increases with age, reflecting improvements in levels of education over time. A large majority of women (between 65 percent in Mizoram and 94 percent in Arunachal Pradesh) with illiterate husbands are illiterate themselves. Even among men who have completed high school (but have not gone to a higher level of education), around one-third in Arunachal Pradesh and Manipur and between 8 and 14 percent in Tripura, Nagaland and Meghalaya are married to illiterate women, reflecting the general tendency of men to marry women less educated than themselves.

Table 3.10 provides information on the exposure of respondents to the mass media. Approximately one-third of women in Manipur (32 percent), Tripura (35 percent) and Mizoram (39 percent) and more than half in Arunachal Pradesh (53 percent), Meghalaya (54 percent) and Nagaland (55 percent) are not regularly exposed to any kind of mass media (television, radio or cinema). The exposure of respondents to mass media is related to the household ownership of a radio or television. For example, only 36 and 14 percent of households own a radio or television, respectively, in Nagaland (Table 3.7) where the percentage of respondents not regularly exposed to any kind of mass media is the highest. The proportion of respondents who watch television at least once a week ranges from 23 percent in Nagaland to 38 percent in Manipur. The proportion of women listening to radio at least once a week is higher (between 38 percent in Meghalaya and 63 percent in Manipur).

There is no consistent pattern across the states in the exposure to mass media by age of the woman. However, there are substantial differences in media exposure by place of residence and education. In every state, the proportion of women who are regularly exposed to mass media is higher in urban than in rural areas, the difference being particularly large in Tripura and Meghalaya. A strong positive association exists between media exposure and education of women in all the northeastern states.

Table 3.9 Respondent's level of education by background characteristics

Percent distribution of ever-married women age 13-49 by highest level of education attained, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Respondent's level of education						Total percent	Number
	Illiterate	Literate, < primary complete	Primary school complete	Middle school complete	High school complete	Above high school		
ARUNACHAL PRADESH								
Age								
15-19	46.2	10.0	21.2	13.7	8.8	--	100.0	80
20-24	60.4	6.8	12.5	13.0	6.8	0.5	100.0	192
25-29	65.8	4.0	12.1	8.0	9.0	1.0	100.0	199
30-34	74.7	7.4	8.0	3.7	3.7	2.5	100.0	162
35-39	79.0	5.0	3.4	4.2	6.7	1.7	100.0	119
40-44	85.2	3.7	1.2	6.2	2.5	1.2	100.0	81
45-49	(93.8)	(--)	(--)	(4.2)	(2.1)	(--)	100.0	48
Husband's education								
Illiterate	94.2	2.0	2.7	0.8	0.3	--	100.0	400
Lit., < primary complete	77.9	12.8	5.8	3.5	--	--	100.0	86
Primary complete	66.7	12.8	16.2	4.3	--	--	100.0	117
Middle school complete	46.8	8.5	21.3	18.1	5.3	--	100.0	94
High school complete	30.2	4.8	20.6	22.2	22.2	--	100.0	126
Above high school	15.3	3.4	5.1	23.7	35.6	16.9	100.0	59
Total	69.5	5.7	9.5	7.9	6.2	1.1	100.0	882
MANIPUR								
Age								
20-24	38.6	10.3	12.4	17.9	17.2	3.4	100.0	145
25-29	41.4	7.1	11.6	10.6	21.7	7.6	100.0	198
30-34	36.4	10.3	10.8	10.3	19.5	12.8	100.0	195
35-39	54.1	13.7	4.8	7.5	7.5	12.3	100.0	146
40-44	60.3	8.1	8.8	7.4	7.4	8.1	100.0	136
45-49	67.9	14.3	2.7	7.1	5.4	2.7	100.0	112
Husband's education								
Illiterate	82.5	5.0	5.0	4.4	2.5	0.6	100.0	160
Lit., < primary complete	68.4	15.8	7.4	4.2	4.2	--	100.0	95
Primary complete	49.6	21.8	18.5	5.0	5.0	--	100.0	119
Middle school complete	54.7	12.2	13.4	12.2	7.6	--	100.0	172
High school complete	33.6	7.8	7.0	16.4	26.6	8.6	100.0	244
Above high school	13.5	5.5	4.9	14.1	28.2	33.7	100.0	163
Total	47.6	10.3	8.9	10.6	14.5	8.1	100.0	953
MEGHALAYA								
Age								
15-19	50.0	14.1	20.3	12.5	3.1	--	100.0	64
20-24	41.5	17.0	16.7	14.4	9.3	1.1	100.0	270
25-29	46.4	15.2	13.5	8.0	13.1	3.8	100.0	237
30-34	46.6	16.6	16.6	8.6	10.4	1.2	100.0	163
35-39	59.7	12.9	10.1	7.9	5.0	4.3	100.0	139
40-44	61.8	18.7	10.6	3.3	4.1	1.6	100.0	123
45-49	67.4	14.5	8.7	2.9	4.3	2.2	100.0	138
Husband's education								
Illiterate	84.1	7.6	5.9	1.3	1.1	--	100.0	473
Lit., < primary complete	43.9	32.6	16.7	3.0	3.8	--	100.0	132
Primary complete	40.7	36.6	14.5	5.5	2.8	--	100.0	145
Middle school complete	25.1	18.1	29.2	20.5	5.8	1.2	100.0	171
High school complete	13.9	8.4	18.7	22.9	31.9	4.2	100.0	166
Above high school	6.0	4.0	8.0	18.0	32.0	32.0	100.0	50
Total	51.4	15.7	13.7	8.8	8.2	2.2	100.0	1137

Table 3.9 Respondent's level of education by background characteristics (Contd.)

Percent distribution of ever-married women age 13-49 by highest level of education attained, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Respondent's level of education						Total percent	Number
	Illiterate	Literate, < primary complete	Primary school complete	Middle school complete	High school complete	Above high school		
MIZORAM								
Age								
15-19	(2.5)	(35.0)	(30.0)	(30.0)	(2.5)	(--)	100.0	40
20-24	3.9	13.7	35.9	28.1	17.0	1.3	100.0	153
25-29	5.8	22.9	24.2	23.3	20.6	3.1	100.0	223
30-34	9.9	24.4	24.4	25.6	12.8	2.9	100.0	172
35-39	5.6	37.9	26.1	17.4	11.2	1.9	100.0	161
40-44	11.3	41.1	29.0	8.9	8.9	0.8	100.0	124
45-49	16.3	55.2	15.7	6.4	5.8	0.6	100.0	172
Husband's education								
Illiterate	64.8	18.5	11.1	5.6	--	--	100.0	54
Lit., < primary complete	11.3	63.2	18.6	6.5	0.4	--	100.0	247
Primary complete	6.9	40.2	32.4	15.1	5.4	--	100.0	259
Middle school complete	3.4	22.5	35.8	26.0	11.3	1.0	100.0	204
High school complete	--	8.2	25.6	35.4	28.7	2.1	100.0	195
Above high school	--	3.5	10.5	24.4	46.5	15.1	100.0	86
Total	8.4	32.1	25.6	19.2	12.8	1.8	100.0	1045
MAGALAND								
Age								
15-19	(19.5)	(9.8)	(41.5)	(17.1)	(12.2)	(--)	100.0	41
20-24	29.1	11.2	23.5	20.4	14.3	1.5	100.0	196
25-29	31.1	15.2	17.9	15.6	17.1	3.1	100.0	257
30-34	39.3	11.3	18.0	13.3	15.3	2.7	100.0	150
35-39	45.8	11.2	16.8	14.0	11.2	1.1	100.0	179
40-44	58.4	14.6	7.3	5.8	13.9	--	100.0	137
45-49	67.7	6.3	5.8	6.9	12.2	1.1	100.0	189
Husband's education								
Illiterate	91.5	3.8	1.7	1.5	1.2	0.3	100.0	343
Lit., < primary complete	42.2	34.9	14.7	2.8	5.5	--	100.0	109
Primary complete	33.2	23.6	26.0	12.5	4.3	0.5	100.0	208
Middle school complete	18.9	12.4	33.1	23.7	10.7	1.2	100.0	169
High school complete	11.6	4.8	19.7	27.7	34.9	1.2	100.0	249
Above high school	5.6	1.4	8.5	14.1	53.5	16.9	100.0	71
Total	43.0	11.7	16.3	13.3	14.1	1.7	100.0	1149
TRIPURA								
Age								
15-19	36.2	16.0	29.8	16.0	2.1	--	100.0	94
20-24	37.0	16.9	21.2	19.6	3.7	1.6	100.0	189
25-29	34.5	14.7	20.3	19.0	7.3	4.3	100.0	232
30-34	38.8	13.3	16.4	20.6	5.5	5.5	100.0	165
35-39	45.0	12.2	16.7	13.3	8.3	4.4	100.0	180
40-44	56.5	13.7	16.1	5.6	6.5	1.6	100.0	124
45-49	50.5	22.9	14.7	8.3	0.9	2.8	100.0	109
Husband's education								
Illiterate	78.5	10.2	9.1	2.2	--	--	100.0	274
Lit., < primary complete	50.6	30.5	15.2	3.7	--	--	100.0	164
Primary complete	45.4	20.3	23.7	10.1	0.5	--	100.0	207
Middle school complete	18.1	15.5	31.9	31.9	2.1	0.4	100.0	238
High school complete	8.0	7.3	25.5	32.8	22.6	3.6	100.0	137
Above high school	1.4	2.8	2.8	22.2	30.6	40.3	100.0	72
Total	41.3	15.4	19.4	15.5	5.4	3.2	100.0	1100

Note: Total for Arunachal Pradesh includes 1 woman age 13-14, total for Manipur includes 21 women age 15-19, total for Meghalaya includes 3 women age 13-14, and total for Tripura includes 7 women age 13-14 and 8 women with missing information on husband's education, who are not shown separately.

() Based on 25-49 cases

-- Less than 0.05 percent

Table 3.10 Exposure to mass media

Percent of ever-married women age 13-49 who usually watch television or listen to the radio at least once a week or visit a cinema at least once a month or who are not regularly exposed to any of these media, by selected background characteristics, Northeastern states, 1993

Background characteristic	Exposure to mass media				Number of women
	Watches television at least once a week	Listens to the radio at least once a week	Visits cinema/theatre at least once a month	Not regularly exposed to any media	
ARUNACHAL PRADESH					
Age					
15-19	40.0	52.5	35.0	37.5	80
20-24	31.3	42.7	20.3	49.0	192
25-29	30.7	41.2	13.1	52.8	199
30-34	29.6	37.7	9.9	55.6	162
35-39	24.4	42.0	8.4	55.5	119
40-44	19.8	39.5	7.4	59.3	81
45-49	(12.5)	(18.8)	(2.1)	(79.2)	48
Residence					
Urban	47.7	50.0	24.6	40.0	130
Rural	25.4	39.1	12.6	55.7	752
Education					
Illiterate	14.2	28.5	6.5	67.4	613
Lit., < middle complete	49.3	59.0	29.9	32.1	134
Middle school complete	65.7	72.9	27.1	14.3	70
High school and above	83.1	83.1	43.1	7.7	65
Total	28.7	40.7	14.4	53.4	882
MANIPUR					
Age					
20-24	38.6	65.5	27.6	28.3	145
25-29	33.8	57.6	18.2	35.9	198
30-34	43.6	67.2	15.9	28.2	195
35-39	38.4	65.1	11.0	31.5	146
40-44	38.2	62.5	16.9	33.8	136
45-49	37.5	60.7	5.4	36.6	112
Residence					
Urban	55.7	74.3	26.4	19.5	307
Rural	29.9	57.7	11.8	38.2	646
Education					
Illiterate	20.5	48.2	9.9	47.8	454
Lit., < middle complete	38.3	66.1	14.8	28.4	183
Middle school complete	52.5	76.2	19.8	17.8	101
High school and above	68.8	85.6	30.2	9.3	215
Total	38.2	63.1	16.5	32.2	953

Table 3.10 Exposure to mass media (Contd.)

Percent of ever-married women age 13-49 who usually watch television or listen to the radio at least once a week or visit a cinema at least once a month or who are not regularly exposed to any of these media, by selected background characteristics, Northeastern states, 1993

Background characteristic	Exposure to mass media				Number of women
	Watches television at least once a week	Listens to the radio at least once a week	Visits cinema/theatre at least once a month	Not regularly exposed to any media	
MEGHALAYA					
Age					
15-19	17.2	34.4	7.8	54.7	64
20-24	23.7	35.9	7.0	55.2	270
25-29	22.8	34.2	5.5	57.4	237
30-34	22.7	39.3	4.9	52.8	163
35-39	28.1	38.8	5.8	51.1	139
40-44	20.3	48.0	4.1	47.2	123
45-49	29.0	35.5	1.4	52.2	138
Residence					
Urban	68.3	57.9	15.4	15.4	221
Rural	13.1	32.6	2.9	62.8	916
Education					
Illiterate	8.2	25.3	2.2	70.5	584
Lit., < middle complete	24.8	38.5	6.6	49.3	335
Middle school complete	51.0	65.0	11.0	20.0	100
High school and above	75.4	72.0	12.7	10.2	118
Total	23.8	37.6	5.4	53.6	1137
MIZORAM					
Age					
15-19	(25.0)	(67.5)	(2.5)	(27.5)	40
20-24	28.8	65.4	--	30.7	153
25-29	27.4	55.2	1.3	37.7	223
30-34	30.2	53.5	0.6	38.4	172
35-39	26.7	54.0	--	36.6	161
40-44	17.7	50.8	--	45.2	124
45-49	18.6	48.8	0.6	47.1	172
Residence					
Urban	41.0	67.7	0.6	23.0	517
Rural	9.8	42.8	0.6	54.0	528
Education					
Illiterate	2.3	18.2	1.1	80.7	88
Lit., < middle complete	15.1	51.2	0.8	44.4	603
Middle school complete	39.3	62.7	--	24.9	201
High school and above	60.1	81.7	--	9.8	153
Total	25.3	55.1	0.6	38.7	1045

Table 3.10 Exposure to mass media (Contd.)

Percent of ever-married women age 13-49 who usually watch television or listen to the radio at least once a week or visit a cinema at least once a month or who are not regularly exposed to any of these media, by selected background characteristics, Northeastern states, 1993

Background characteristic	Exposure to mass media				Number of women
	Watches television at least once a week	Listens to the radio at least once a week	Visits cinema/theatre at least once a month	Not regularly exposed to any media	
NAGALAND					
Age					
15-19	(2.4)	(36.6)	(2.4)	(63.4)	41
20-24	20.9	41.8	2.6	56.1	196
25-29	21.8	48.2	1.2	49.8	257
30-34	27.3	48.7	1.3	49.3	150
35-39	25.7	39.1	--	58.1	179
40-44	19.0	38.7	2.9	59.1	137
45-49	25.4	37.0	1.1	60.3	189
Residence					
Urban	59.2	69.6	3.8	24.6	240
Rural	12.9	35.2	0.9	63.6	909
Education					
Illiterate	6.3	16.4	0.2	81.6	494
Lit., < middle complete	20.6	51.4	1.2	46.7	321
Middle school complete	35.9	62.1	1.3	36.6	153
High school and above	59.1	80.7	5.5	15.5	181
Total	22.5	42.4	1.5	55.4	1149
TRIPURA					
Age					
15-19	27.7	44.7	6.4	41.5	94
20-24	31.7	58.7	12.7	34.9	189
25-29	32.3	57.3	6.9	32.3	232
30-34	46.1	69.1	6.7	23.0	165
35-39	33.3	52.8	3.9	38.3	180
40-44	33.1	54.8	3.2	38.7	124
45-49	33.9	52.3	3.7	38.5	109
Residence					
Urban	71.5	75.6	10.0	9.5	221
Rural	24.9	52.0	5.9	40.8	879
Education					
Illiterate	13.2	42.3	4.6	53.1	454
Lit., < middle complete	35.9	61.3	6.5	28.8	382
Middle school complete	58.8	68.8	7.6	16.5	170
High school and above	85.1	86.2	16.0	1.1	94
Total	34.3	56.7	6.7	34.5	1100

Note: Total for Arunachal Pradesh includes 1 woman age 13-14, total for Manipur includes 21 women age 15-19, total for Meghalaya includes 3 women age 13-14, and total for Tripura includes 7 women age 13-14, who are not shown separately.

() Based on 25-49 cases
 -- Less than 0.05 percent

CHAPTER 4

NUPTIALITY

This chapter presents findings on marriage patterns from the National Family Health Survey. Marriage is important in its own right, and also because it influences fertility and population growth, affects the nature of family relationships, and is inextricably linked to the status of women. After examining current marital status distributions, the chapter considers age at first marriage and marriage between relatives.

4.1 Current Marital Status

Table 4.1 shows the current marital status of women by state and age. Information on marital status comes from the Woman's Questionnaire, except for information on never married women which comes from the Household Questionnaire.

It is evident from Table 4.1 that marriage is virtually universal in every northeastern state and that marriages in Arunachal Pradesh, Tripura and Meghalaya take place at relatively young ages. The percentage married among women who are currently age 15-19 is higher in Arunachal Pradesh (29 percent), Tripura (28 percent) and Meghalaya (21 percent) than in the other northeastern states (6-11 percent). By age 20-24, 77 percent of women in Arunachal Pradesh, 66 percent in Tripura, 68 percent in Meghalaya, 57 percent in Nagaland, 51 percent in Mizoram, and 43 percent in Manipur are married. At age 45-49, only between 1 and 3 percent of women have never been married. The proportion widowed ranges narrowly across states between 2 and 4 percent. The proportion of women who are currently divorced or separated is 1 percent each in Arunachal Pradesh and Manipur, 3 percent each in Nagaland and Tripura, and 5-6 percent in Meghalaya and Mizoram.

4.2 Age at First Marriage

The description of marriage patterns can be sharpened by examining values of the Singulate Mean Age at Marriage (SMAM), which is calculated from the age-specific proportions never married for age groups 15-19 through 45-49 (Hajnal, 1953; Shryock and Siegel, 1980). Table 4.2 presents female and male SMAMs computed from the 1971 and 1981 Census, and from the NFHS for the northeastern states (the SMAMs for Mizoram from the censuses are not available). The SMAM for females from the NFHS is highest in Manipur (25 years), followed by Mizoram and Nagaland (23 years each), Meghalaya and Tripura (21 years each) and Arunachal Pradesh (20 years). In every state, males marry later than females, the difference ranging from 3 years in Nagaland and Manipur to 6 years in Tripura.

Together, the census and NFHS SMAMs in Table 4.2 also suggest how age at marriage has been changing in the northeastern states. In every state where the data on SMAM for different time periods are available, the SMAM for females increased between 1971 and 1993, except in Nagaland. The increase was largest in Manipur and Tripura where the SMAM for females increased by 2.8 years during 1971-93. During the same period, the SMAM for females in Nagaland decreased by 1.3 years. The SMAM for males increased by 2 years in Manipur and Tripura, but decreased in all other states during the last two decades.

Table 4.1 Current marital status

Percent distribution of women age 15-49 by current marital status according to age, Northeastern states, 1993

Age	Marital status					Total percent
	Never married	Currently married	Widowed	Divorced	Separated	
ARUNACHAL PRADESH						
15-19	70.7	28.6	0.4	0.4	--	100.0
20-24	23.4	75.8	0.4	0.4	--	100.0
25-29	8.4	88.8	2.3	--	0.5	100.0
30-34	2.7	91.3	5.4	--	0.6	100.0
35-39	0.6	90.2	8.4	--	0.8	100.0
40-44	1.2	87.8	9.8	--	1.2	100.0
45-49	3.2	82.7	14.1	--	--	100.0
Total	24.0	72.0	3.5	0.2	0.3	100.0
MANIPUR						
15-19	94.0	6.0	--	--	--	100.0
20-24	56.9	41.0	1.2	0.6	0.3	100.0
25-29	30.5	67.4	0.7	--	1.4	100.0
30-34	14.8	81.7	1.3	0.4	1.7	100.0
35-39	3.6	88.5	4.6	0.7	2.6	100.0
40-44	3.3	86.0	8.5	--	2.1	100.0
45-49	1.6	86.1	10.5	0.9	0.9	100.0
Total	40.6	55.5	2.5	0.3	1.1	100.0
MEGHALAYA						
15-19	79.4	18.3	0.3	--	2.0	100.0
20-24	32.2	61.0	1.0	0.5	5.3	100.0
25-29	8.7	84.4	1.5	1.2	4.2	100.0
30-34	3.0	88.1	2.4	--	6.5	100.0
35-39	0.9	85.6	7.8	0.7	5.0	100.0
40-44	1.7	83.9	11.2	--	3.2	100.0
45-49	0.7	77.0	15.1	2.2	5.0	100.0
Total	26.4	64.8	3.8	0.6	4.3	100.0
MIZORAM						
15-19	89.1	9.2	--	0.5	1.1	100.0
20-24	49.2	40.8	0.3	5.3	4.3	100.0
25-29	19.5	70.0	1.4	6.9	2.2	100.0
30-34	7.4	80.2	3.8	7.5	1.1	100.0
35-39	3.7	92.8	1.8	1.2	0.6	100.0
40-44	1.7	85.6	7.9	4.0	0.8	100.0
45-49	1.7	81.7	11.4	4.6	0.6	100.0
Total	34.7	56.6	2.8	4.1	1.7	100.0

Table 4.1 Current marital status (Contd)

Percent distribution of women age 15-49 by current marital status according to age, Northeastern states, 1993

Age	Marital status					Total percent
	Never married	Currently married	Widowed	Divorced	Separated	
MAGALAND						
15-19	88.5	11.3	--	0.2	--	100.0
20-24	42.6	50.6	0.9	5.3	0.6	100.0
25-29	19.5	75.1	1.6	3.8	--	100.0
30-34	6.2	81.3	4.4	6.9	1.3	100.0
35-39	--	90.5	8.4	1.1	--	100.0
40-44	0.7	81.2	14.5	2.9	0.7	100.0
45-49	0.5	88.9	9.5	1.1	--	100.0
Total	31.7	61.0	4.0	3.0	0.3	100.0
TRIPURA						
15-19	72.1	25.8	0.6	0.3	1.2	100.0
20-24	33.5	61.5	0.7	--	4.2	100.0
25-29	13.4	82.1	1.9	0.4	2.2	100.0
30-34	8.0	85.8	2.8	--	3.3	100.0
35-39	0.3	91.9	7.8	--	--	100.0
40-44	--	85.5	12.1	--	2.4	100.0
45-49	0.6	80.3	12.8	--	6.4	100.0
Total	26.3	67.2	3.8	0.1	2.6	100.0

-- Less than 0.05 percent

Table 4.2 Singulate mean age at marriage

Singulate mean age at marriage from selected sources, Northeastern states, 1971-93

State/sex	Census 1971	Census 1981	NFHS 1993
Arunachal Pradesh			
Male	25.6	U	24.9
Female	19.6	U	20.0
Manipur			
Male	26.4	27.3	28.3
Female	22.2	23.4	25.0
Meghalaya			
Male	25.5	26.0	25.1
Female	20.2	21.0	21.2
Mizoram			
Male	U	U	27.8
Female	U	U	22.9
Nagaland			
Male	27.8	29.0	25.8
Female	24.0	24.8	22.7
Tripura			
Male	25.3	26.8	27.3
Female	18.4	20.3	21.2

U: Not available

More detailed information on the age at first marriage is shown in Table 4.3. The table shows the percentage of all women who were ever married by specified exact ages and the

Table 4.3 Age at first marriage								
Percentage of women married before specific exact ages, and median age at first marriage, by current age, Northeastern states, 1993								
Current age ¹	Percentage ever married before exact age:						Percent never married	Median age at first marriage
	13	15	18	20	22	25		
ARUNACHAL PRADESH								
15-19	--	4.0	NA	NA	NA	NA	70.7	NC
20-24	--	5.2	43.9	64.2	NA	NA	23.4	18.5
25-29	3.7	12.4	51.5	70.4	81.0	85.6	8.4	17.9
30-34	2.4	10.2	47.5	72.1	84.1	93.7	2.7	18.2
35-39	2.5	10.0	46.8	70.1	82.7	91.9	0.6	18.2
40-44	3.7	9.8	40.2	62.2	80.5	92.7	1.2	18.6
45-49	2.0	12.1	32.3	50.4	68.5	88.7	3.2	19.9
20-49	2.1	9.4	45.8	67.1	79.4	86.2	9.6	18.3
25-49	3.0	11.0	46.6	68.2	81.1	90.1	4.1	18.2
MANIPUR								
15-19	--	--	NA	NA	NA	NA	94.0	NC
20-24	--	2.4	14.3	30.3	NA	NA	56.9	NC
25-29	--	4.9	23.5	36.1	49.5	63.2	30.5	22.1
30-34	--	3.5	21.4	38.5	53.3	68.6	14.8	21.5
35-39	0.7	2.0	22.5	43.6	64.1	79.9	3.6	20.5
40-44	0.7	5.0	28.4	53.3	71.1	85.3	3.3	19.7
45-49	0.9	5.3	24.6	51.0	72.9	85.2	1.6	19.9
20-49	0.2	3.7	21.2	39.2	53.7	65.3	25.8	NC
25-49	0.3	4.1	23.7	42.4	59.0	73.4	14.4	20.8
MEGHALAYA								
15-19	0.3	2.2	NA	NA	NA	NA	79.4	NC
20-24	0.3	4.5	28.1	48.5	NA	NA	32.2	NC
25-29	0.4	3.9	36.6	60.5	74.0	86.3	8.7	19.1
30-34	0.6	3.6	42.8	68.4	81.5	91.7	3.0	18.4
35-39	1.4	5.0	39.2	58.5	79.1	89.8	0.9	19.0
40-44	0.8	8.8	42.3	69.5	80.7	91.9	1.7	18.5
45-49	1.4	5.0	25.2	46.8	67.7	79.9	0.7	20.2
20-49	0.7	4.8	34.3	56.8	71.9	81.2	13.0	19.3
25-49	0.8	4.9	37.3	60.8	76.3	87.8	3.8	19.0
MIZORAM								
15-19	--	0.2	NA	NA	NA	NA	89.1	NC
20-24	--	1.0	13.3	32.8	NA	NA	49.2	NC
25-29	--	0.7	13.4	36.1	50.5	68.6	19.5	21.9
30-34	0.5	0.5	19.9	46.3	64.6	79.6	7.4	20.4
35-39	--	1.2	15.0	34.1	65.2	81.4	3.7	20.9
40-44	--	--	7.9	27.0	62.6	86.4	1.7	21.3
45-49	--	0.6	16.0	36.6	58.3	77.2	1.7	20.9
20-49	0.1	0.7	14.4	35.7	55.7	70.7	18.5	NC
25-49	0.1	0.6	14.7	36.6	59.1	77.1	8.5	21.0

Table 4.3 Age at first marriage (Contd.)

Percentage of women married before specific exact ages, and median age at first marriage, by current age, Northeastern states, 1993

Current age ¹	Percentage ever married before exact age:						Percent never married	Median age at first marriage
	13	15	18	20	22	25		
NAGALAND								
15-19	0.3	0.8	NA	NA	NA	NA	88.5	NC
20-24	--	1.5	16.4	41.3	NA	NA	42.6	NC
25-29	--	2.8	20.0	41.0	57.3	75.8	19.5	21.0
30-34	0.6	6.9	31.9	59.4	77.6	88.2	6.2	19.3
35-39	1.1	2.2	23.5	49.7	69.8	90.5	--	20.0
40-44	--	2.9	25.4	50.0	76.1	91.4	0.7	20.0
45-49	--	2.1	18.9	47.4	70.0	90.5	0.5	20.2
20-49	0.2	2.8	21.4	46.3	63.9	78.2	16.6	NC
25-49	0.3	3.2	23.1	48.1	67.9	85.5	7.5	20.1
TRIPURA								
15-19	1.2	7.7	NA	NA	NA	NA	72.1	NC
20-24	4.2	14.1	41.1	55.2	NA	NA	33.5	18.9
25-29	5.6	18.7	51.1	66.8	73.1	79.9	13.4	17.8
30-34	5.6	13.4	47.9	63.0	70.2	77.5	8.0	18.1
35-39	8.9	26.6	59.2	71.4	78.6	86.4	0.3	16.9
40-44	16.1	35.5	66.9	84.7	90.3	92.7	--	15.9
45-49	8.2	27.4	62.0	78.4	87.6	93.0	0.6	16.7
20-49	7.2	20.6	52.2	67.1	74.3	79.8	12.8	17.6
25-49	8.1	22.7	55.8	71.0	78.0	84.3	6.0	17.2

NA: Not applicable
 NC: Not calculated because less than 50 percent of women in the age group x to x+n have married by age x.
 -- Less than 0.05 percent
¹The current age groups include both never-married and ever-married women.

median age at first marriage¹ by current age. The median age at first marriage is used instead of the mean age at marriage (where both are calculated directly from reported ages at marriage) because the median, unlike the mean, is not biased by age truncation. (The survey interview marks the point of age truncation.) For example, in the 20-24 age cohort in Table 4.3, women's ages in Tripura are truncated somewhere between 20 and 25. The mean age at first marriage for this age cohort will ultimately be influenced by marriages that occur in this cohort after the survey. But the median age at first marriage for the cohort will not be so affected, because more than 50 percent of the women in the cohort married before age 20, implying that the median is also less than 20 and therefore determined before the survey occurred. In other

¹ Median age at first marriage is not calculated for age cohorts in which fewer than 50 percent of the women were married by the age that defines the lower boundary of the age group. The computation can not be made in these cohorts without introducing selectivity bias because the latest age that all women in the age group attained by the time of the survey is the age that defines the lower boundary of the age group. Suppose, for example, that at the time of the survey, 40 percent of women in the 15-19 age group had married by age 15 and 50 percent by age 19. It does not necessarily follow that 19 is the median, because the number of single women age 15, 16 and 17 at the time of the survey who subsequently marry at ages 16, 17 and 18 might be enough to lower the median to 18 by the time everyone in the cohort reaches age 20.

words, the mean is affected by age truncation between ages 20 and 25, but the median is not. It follows that the variation in median age at first marriage by age cohort, from oldest to youngest, reflects a trend over time that is not biased by age truncation.

Marriage before age 15 is not common in most northeastern states except in Tripura where 21 percent of women age 20-49 married before age 15. Cohort differences in the proportion marrying before age 18 suggest that there has been a general decline in early marriages in most of the northeastern states. For example, the percentage of women married before age 18 declined from 16 percent in the 45-49 age cohort to 13 percent in the 20-24 age cohort in Mizoram and from 62 percent in the 45-49 age cohort to 41 percent in the 20-24 age cohort in Tripura. The declines are less pronounced but still large at higher exact age cutoffs. Among women age 25-49, the median age at first marriage is the highest at 21.0 years in Mizoram followed by 20.8 years in Manipur, 20.1 years in Nagaland, 19.0 years in Meghalaya, 18.2 years in Arunachal Pradesh, and 17.2 in Tripura.

Table 4.4 shows the median age at first marriage for females by age group, residence and education. The median age at marriage of 20 years is the same in urban and rural areas of Nagaland. In every other state, except Arunachal Pradesh where the median age at marriage is one year lower in urban (17 years) than in rural areas (18 years), the median age at first marriage is higher in urban areas than in rural areas. The urban-rural difference is most pronounced in Tripura, where urban women marry, on average, 2 years later than rural women.

Table 4.4 Median age at first marriage								
Median age at first marriage among women age 20-49 years, by current age and selected background characteristics, Northeastern states, 1993								
Background characteristic	Current age						20-49	25-49
	20-24	25-29	30-34	35-39	40-49			
ARUNACHAL PRADESH								
Residence								
Urban	19.3	17.7	16.3	18.0	15.0	17.7	17.1	
Rural	18.4	17.9	18.3	18.2	19.5	18.4	18.4	
Education								
Illiterate	17.7	17.1	17.8	18.0	18.8	17.8	17.9	
Lit., < middle complete	18.5	18.2	18.2	17.3	20.0	18.3	18.2	
Middle school complete	18.9	19.6	22.0	20.2	20.5	19.7	20.3	
High school and above	NC	22.2	24.2	19.7	18.5	NC	20.9	
Total	18.5	17.9	18.2	18.2	18.9	18.3	18.2	
MANIPUR								
Residence								
Urban	NC	24.1	24.0	21.7	19.8	NC	21.6	
Rural	NC	21.5	20.6	20.2	19.8	NC	20.5	
Education								
Illiterate	NC	19.6	19.7	20.2	19.1	19.6	19.5	
Lit., < middle complete	NC	19.7	19.6	18.9	20.5	NC	19.9	
Middle school complete	NC	20.0	23.0	19.5	20.2	NC	20.8	
High school and above	NC	24.9	24.2	22.8	22.1	NC	24.2	
Total	NC	22.1	21.5	20.5	19.8	NC	20.8	

Table 4.4 Median age at first marriage (Contd.)

Median age at first marriage among women age 20-49 years, by current age and selected background characteristics, Northeastern states, 1993

Background characteristic	Current age						
	20-24	25-29	30-34	35-39	40-49	20-49	25-49
MEGHALAYA							
Residence							
Urban	NC	21.4	19.2	21.1	18.8	NC	19.8
Rural	19.8	18.7	18.2	18.7	19.6	19.0	18.8
Education							
Illiterate	18.5	18.2	18.2	18.5	19.5	18.7	18.7
Lit., < middle complete	19.3	18.8	18.1	17.5	18.5	18.7	18.4
Middle school complete	NC	20.4	20.2	21.2	20.1	NC	20.4
High school and above	NC	21.9	20.5	22.2	22.7	NC	22.1
Total	NC	19.1	18.4	19.0	19.4	19.3	19.0
MIZORAM							
Residence							
Urban	NC	23.3	21.0	20.8	21.3	NC	21.6
Rural	NC	20.2	19.5	21.0	21.1	NC	20.6
Education							
Illiterate	NC	19.0	18.9	20.0	20.6	19.7	19.7
Lit., < middle complete	NC	20.6	19.9	20.8	21.0	NC	20.7
Middle school complete	NC	21.1	20.3	20.6	22.0	NC	20.9
High school and above	NC	24.4	24.2	22.5	22.2	NC	24.1
Total	NC	21.9	20.4	20.9	21.1	NC	21.0
NAGALAND							
Residence							
Urban	NC	20.0	19.5	20.3	20.4	NC	20.1
Rural	NC	21.3	19.3	19.9	20.0	NC	20.1
Education							
Illiterate	NC	20.5	19.1	19.7	19.9	19.9	19.8
Lit., < middle complete	19.5	19.5	18.9	20.4	20.1	19.6	19.7
Middle school complete	NC	21.4	19.7	19.5	21.2	NC	20.3
High school and above	NC	23.8	21.1	22.4	20.9	NC	22.5
Total	NC	21.0	19.3	20.0	20.1	NC	20.1
TRIPURA							
Residence							
Urban	NC	20.4	19.3	20.0	17.5	19.5	19.0
Rural	18.5	17.1	17.3	16.5	16.1	17.0	16.7
Education							
Illiterate	16.0	16.0	16.5	15.8	15.8	16.0	16.0
Lit., < middle complete	18.2	17.1	17.0	16.7	16.4	17.1	16.8
Middle school complete	NC	20.5	19.6	18.0	17.5	NC	19.3
High school and above	NC	24.5	24.3	24.0	21.0	NC	24.2
Total	18.9	17.8	18.1	16.9	16.3	17.6	17.2

NC: Not calculated because less than 50 percent of the women have married for the first time by age 20

It also is considerably higher the more educated is the woman, with the median age at marriage increasing progressively as the level of education increases for most states. The difference in the median age at first marriage between illiterate women and those with at least a high school education ranges from around 3 years in Nagaland, Arunachal Pradesh and Meghalaya to 8 years in Tripura.

According to the Child Marriage Restraint Act of 1978, the minimum legal age at marriage in India is 18 years for women and 21 years for men. However, the percentage of women currently age 20-24 who married before age 18 is 44 percent in Arunachal Pradesh, 41 percent in Tripura, 28 percent in Meghalaya, and is between 13-16 percent in Manipur, Mizoram and Nagaland (Table 4.3). In the NFHS, respondents were asked about the legal minimum age at marriage for females and males in India. Table 4.5 presents the percentage of women who reported correctly the minimum legal age at marriage in India, by state. Except in Mizoram, where 55 percent of ever-married women could correctly report age 18 as the legal minimum age at marriage in India, less than 30 percent of women (the percentage ranges from 19 to 28 percent) in the other northeastern states could identify the legal age. In every state, the legal minimum age at marriage for males is less well known than is the legal minimum age at marriage for females.

State	Percentage who correctly know legal minimum age at marriage:		Number of women
	For males	For females	
Arunachal Pradesh	3.7	19.0	882
Manipur	5.1	20.9	953
Meghalaya	13.7	27.7	1137
Mizoram	28.4	54.7	1045
Nagaland	16.9	23.8	1149
Tripura	5.6	28.2	1100

4.3 Marriage Between Relatives

Table 4.6 provides information on marriage between relatives. For both social and biological reasons, marriage between relatives has implications for mortality and morbidity as well as fertility. For example, Bittles et al. (1992) found a positive association between consanguinity and fertility in 19 out of 22 populations. They also found that mortality was significantly higher among children of marriages between blood relatives than among other children. In analyzing the relationship between inbreeding and mortality, it is important to control for socioeconomic variables because of a tendency for marriages between relatives to be more common in lower socioeconomic groups whose mortality is higher primarily for socioeconomic reasons. Such a refined analysis is infeasible in this report, however, and will have to await further studies.

Table 4.6 Marriage between relatives

Percent distribution of ever-married women by relationship to current (last) husband, Northeastern states, 1993

State	First cousin		Second cousin	Other blood Uncle relation	Other non-blood Brother in-law relation	Other non-blood relation	Not related	Total per-cent	Number	
	Father's side	Mother's side								
Arunachal Pradesh	0.6	2.3	0.1	0.9	5.0	0.5	4.5	86.2	100.0	882
Manipur	1.5	0.6	--	--	2.6	0.2	0.2	94.9	100.0	953
Meghalaya	1.9	0.4	0.1	0.3	0.8	0.3	0.8	95.4	100.0	1137
Mizoram	0.1	0.2	0.2	--	0.4	--	0.3	98.9	100.0	1045
Nagaland	0.7	0.8	--	--	1.1	0.8	1.0	95.6	100.0	1149
Tripura	0.6	0.8	0.5	--	0.9	0.2	4.0	92.9	100.0	1100

-- Less than 0.05 percent

Table 4.6 indicates that consanguineous marriages are not very common in any of the northeastern states. However, the incidence is relatively higher in Arunachal Pradesh and Manipur. Three percent of ever-married women in Arunachal Pradesh married a first cousin (on either their father's side or their mother's side), and another 6 percent married a second cousin, uncle or other blood relative. In Manipur, 2 percent married a first cousin and another 3 percent married other blood relatives.

CHAPTER 5

FERTILITY

A major objective of the NFHS is to provide detailed information on fertility levels, differentials and trends in the northeastern states. This chapter presents a description of current and past fertility levels, cumulative fertility and family size, fertility levels by sociodemographic characteristics, pregnancy outcomes, birth intervals and durations of postpartum amenorrhoea, abstinence and nonsusceptibility. Topics such as age at first birth and age at last birth and teenage childbearing are also discussed.

The fertility measures are calculated from the birth history data. Birth intervals and mother's age at initiation of childbearing are computed from data on the timing of births. Several measures and procedures were undertaken to secure complete and accurate reporting of births, including their timing. First, women were asked about the number of sons and daughters presently living at home and elsewhere and those who had died. Second, for each live birth in the birth history, information was collected on the sex, age, and survival status of the child. For dead children, age at death was noted. Interviewers were given extensive training in probing techniques to help respondents to report accurately. Interviewers were instructed to check any documents (such as horoscopes, school certificates or vaccination cards) that might provide information on date of birth, and to probe for the reason for any birth interval of four or more years in order to prevent omission of births, especially births of children who died soon after birth. This additional probing also helped to obtain more accurate information on stillbirths and abortions.

Despite all these efforts to improve data quality, the NFHS may still be subject to the same kinds of errors inherent in all retrospective sample surveys -- namely, the omission of some births (especially births of children who died at very young ages) and the difficulty of determining birth dates accurately. However, these problems may not be particularly common in northeastern states (except Arunachal Pradesh) where the level of female literacy is comparatively higher than in most states of India.

5.1 Current Fertility Levels and Trends

Fertility levels, trends, and differentials are discussed using both summary and age-specific measures of fertility. Summary measures include the crude birth rate (CBR), the general fertility rate (GFR) and the total fertility rate (TFR). The crude birth rate is calculated both from births recorded in the Household Questionnaire and from births recorded in the birth history in the Woman's Questionnaire. All other fertility measures are computed from the birth history information in the Woman's Questionnaire. The crude birth rate calculated from births recorded in the Household Questionnaire pertains to the two-year period immediately preceding the survey. All other measures are calculated for the three-year period preceding the survey. A three-year period is chosen to get the most recent data while still retaining a reasonably large sample of births, and also to minimize problems of displacement of births from years immediately preceding the survey to earlier years.

Table 5.1 Current fertility

Age-specific and cumulative fertility rates, average number of children ever born (CEB) for women age 40-49, and crude birth rates, Northeastern states, 1990-92

Age	1990-92*					
	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
15-19	0.115	0.037	0.079	0.046	0.057	0.085
20-24	0.246	0.152	0.182	0.140	0.188	0.166
25-29	0.194	0.170	0.180	0.143	0.196	0.125
30-34	0.139	0.128	0.117	0.085	0.131	0.081
35-39	0.081	0.057	0.115	0.031	0.059	0.052
40-44	(0.039)	0.010	0.051	0.014	0.015	0.026
45-49	*	(0.000)	0.022	0.000	0.006	(0.000)
TFR 15-44	4.07	2.76	3.62	2.30	3.23	2.67
TFR 15-49	4.25	2.76	3.73	2.30	3.26	2.67
GFR	151	99	122	77	100	94
Mean CEB for women age 40-49	4.86	4.80	4.92	4.26	4.16	5.54
CBR based on						
Household birth record	32.1	23.0	30.4	21.0	28.7	23.2
Woman's birth history	34.6	24.4	31.9	20.8	31.3	23.1

Note: Rates are for the period 1-36 months before the interview except for the CBR from the household birth record which is based on the period 1-24 months before the interview. Rates for the age group 45-49 might be slightly biased due to truncation.

TFR: Total Fertility Rate for ages 15-44 and 15-49, expressed per woman.

GFR: General Fertility Rate (births to women age 13-49 divided by woman-years lived between age 15 and 49), expressed per 1,000 women.

() Based on 125-249 woman-years of exposure

* Rate not shown; based on fewer than 125 woman-years of exposure

CBR: Crude Birth Rate, expressed per 1,000 population.

*Three years preceding the survey

Crude Birth Rate

The two sets of crude birth rates shown in Table 5.1 are calculated alternatively from the household birth record (i.e., from births recorded in the Household Questionnaire) and from births recorded in the woman's birth history in the Woman's Questionnaire. The CBR from the household birth record is calculated as the annual number of births in the two-year period before the date of interview per 1,000 usual residents at the time of the survey. The denominator of this CBR estimate is adjusted by projecting the population backward to the mid-point of the time period using the intercensal population growth rate in each state. The CBR estimated from the birth histories refers to a three-year period before the interview. This CBR estimate is calculated as a sum of products, where each product is an age-specific birth rate multiplied by the ratio of females in the specific age group to the total *de facto* population.

Although the NFHS estimates of the CBR are based on information from two different parts of the interview (often with different respondents), the two estimates agree quite closely. The three-year CBR is higher than the two-year CBR in the majority of the northeastern states. The two-year birth rate varies from 21.0 in Mizoram to 32.1 in Arunachal Pradesh. In Manipur and Tripura, the two-year CBR is close to that of Mizoram, and in Meghalaya and Nagaland it is close to that of Arunachal Pradesh.

General Fertility Rate

The general fertility rate (GFR) in the NFHS is calculated by dividing the number of births to women age 13-49 during the three-year period preceding the survey by the number of woman-years lived between ages 15 and 49 during the period, and multiplying the result by 1,000. Like the CBR, the GFR varies widely from a high of 151 in Arunachal Pradesh to a low of 77 in Mizoram. The GFR is 100 in Nagaland and 122 in Meghalaya and under 100 in Manipur (99) and Tripura (94).

Age-Specific and Total Fertility Rates

The age-specific fertility rates (ASFRs) and total fertility rates shown in Table 5.1 are more refined fertility measures than the CBR or GFR, insofar as they are not affected by the age structure of the population. Both the ASFRs and the TFR are based on births during the three-year period preceding the survey. The numerator of an age-specific fertility rate is live births in a five-year age group, and the denominator is the number of woman-years lived in the same five-year age interval during the three-year time period. The TFR is a summary measure that is calculated as five times the sum (over five-year age groups) of the age-specific fertility rates. The TFR is interpreted as the number of children a woman would bear during her reproductive years (alternatively 15-44 or 15-49) if she were to experience the age-specific fertility rates prevailing during the three-year period preceding the survey.

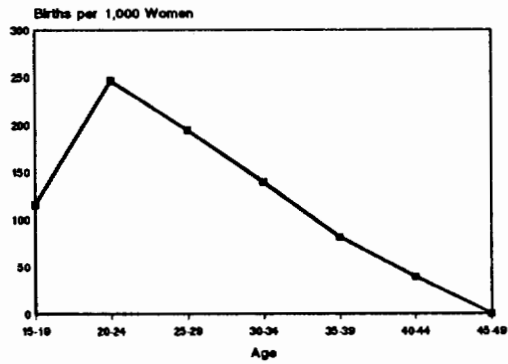
The TFR for the period 1990-92 is the same for both the 15-44 and 15-49 age ranges in Manipur, Mizoram and Tripura because there were no births to women age 45-49 during the three years preceding the survey. However, it is higher for the 15-49 age range than for the 15-44 age range in the other states. The TFR for the 15-49 age range is below the national TFR of 3.4 in Nagaland (3.3), Manipur (2.8), Tripura (2.7) and Mizoram (2.3), and higher than the national TFR in Arunachal Pradesh (4.3) and Meghalaya (3.7).

Age-specific fertility rates conform to the expected pattern, peaking at age 20-24 in Arunachal Pradesh, Meghalaya and Tripura and at age 25-29 in Manipur, Mizoram and Nagaland where childbearing tends to start somewhat later (Figure 5.1). Early childbearing is not very common in any of the northeastern states. The contribution of births to women under age 20 to total fertility ranges from 7 percent in Manipur to 15 percent in Tripura.

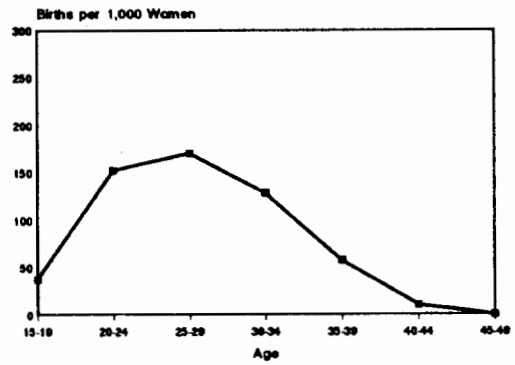
Fertility Trends

The trends in fertility levels can be studied by comparing the current fertility ((measured by the total fertility rate for the three years preceding the survey) and cohort fertility (measured by the number of children ever born to women age 40-49 at the time of the survey) as shown in Table 5.1. If there had been no change in fertility for three or more decades prior to the survey, the current and cohort fertility indicators would be nearly identical, differences being solely due to the slightly incomplete fertility of women age 40-49. If fertility has declined, current fertility will be lower than cohort fertility, with larger differences generally indicating more rapid decline.

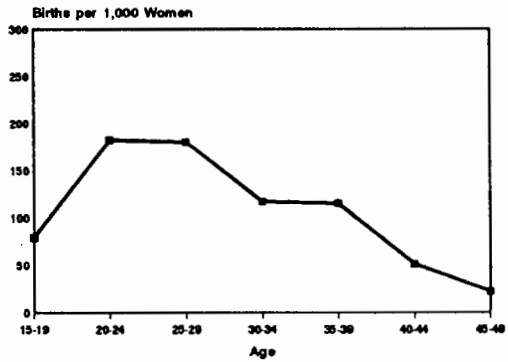
Figure 5.1 Age-Specific Fertility Rates



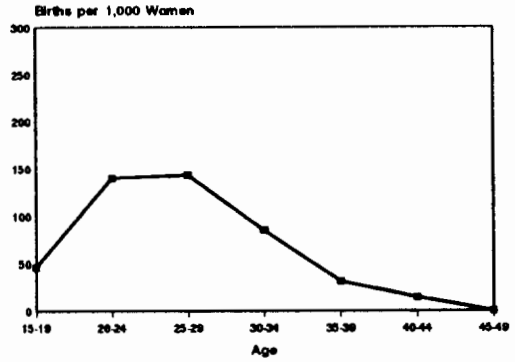
Arunachal Pradesh



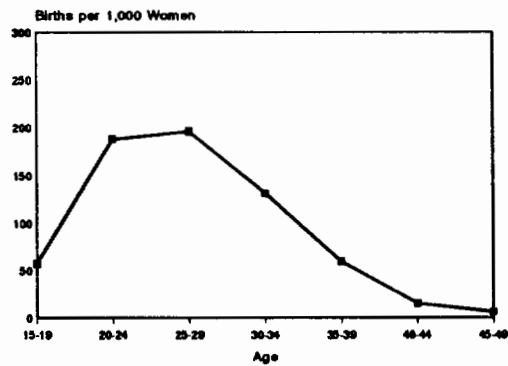
Manipur



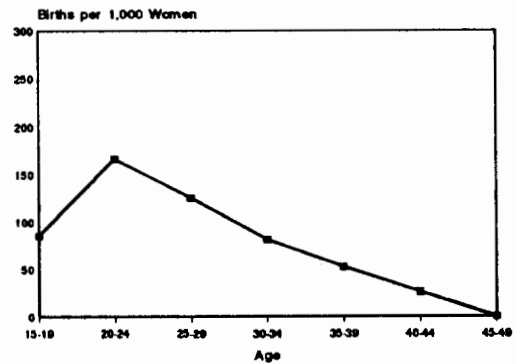
Meghalaya



Mizoram



Nagaland



Tripura

NFHS, Northeastern states, 1993

The current fertility is lower than the cohort fertility by 52 percent in Tripura, 43-46 percent in Manipur and Mizoram, 22-24 percent in Nagaland and Meghalaya and 13 percent in Arunachal Pradesh. The data suggest that fertility declined by about 3 children in Tripura and by only half a child in Arunachal Pradesh.

The most direct way of observing fertility trends is to examine changes in age-specific rates over time. Hence age-specific fertility rates for the four five-year time periods preceding the survey calculated from the birth history information are presented in Table 5.2. Because the

Table 5.2 Fertility trends				
Age-specific fertility rates for five-year periods preceding the survey, Northeastern states, 1993				
Maternal age at birth	Years preceding survey			
	0-4	5-9	10-14	15-19
ARUNACHAL PRADESH				
15-19	0.119	0.165	0.157	0.142
20-24	0.250	0.277	0.278	0.276
25-29	0.192	0.255	0.257	0.255
30-34	0.139	0.152	0.220	[0.222]
35-39	0.104	0.113	[0.084]	U
40-44	0.045	[0.084]	U	U
45-49	[0.053]	U	U	U
MANIPUR				
15-19	0.040	0.069	0.086	0.088
20-24	0.154	0.197	0.236	0.291
25-29	0.180	0.259	0.282	0.281
30-34	0.134	0.191	0.214	[0.300]
35-39	0.051	0.110	[0.143]	U
40-44	0.015	[0.049]	U	U
45-49	[0.000]	U	U	U
MEGHALAYA				
15-19	0.086	0.123	0.143	0.143
20-24	0.204	0.295	0.314	0.262
25-29	0.184	0.247	0.253	0.266
30-34	0.136	0.174	0.169	[0.189]
35-39	0.111	0.111	[0.136]	U
40-44	0.038	[0.074]	U	U
45-49	[0.022]	U	U	U
MIZORAM				
15-19	0.045	0.066	0.083	0.076
20-24	0.152	0.235	0.286	0.249
25-29	0.157	0.235	0.280	0.301
30-34	0.098	0.151	0.188	[0.223]
35-39	0.032	0.060	[0.108]	U
40-44	0.015	[0.028]	U	U
45-49	[0.000]	U	U	U
NAGALAND				
15-19	0.054	0.087	0.127	0.100
20-24	0.180	0.249	0.287	0.285
25-29	0.190	0.269	0.296	0.242
30-34	0.128	0.191	0.178	[0.198]
35-39	0.063	0.079	[0.075]	U
40-44	0.013	[0.022]	U	U
45-49	[0.006]	U	U	U

Table 5.2 Fertility trends (Contd.)				
Age-specific fertility rates for five-year periods preceding the survey, Northeastern states, 1993				
Maternal age at birth	Years preceding survey			
	0-4	5-9	10-14	15-19
TRIPURA				
15-19	0.100	0.132	0.158	0.148
20-24	0.181	0.255	0.252	0.285
25-29	0.137	0.227	0.246	0.266
30-34	0.088	0.168	0.173	[0.230]
35-39	0.051	0.096	[0.128]	U
40-44	0.025	[0.044]	U	U
45-49	[0.004]	U	U	U

Note: Age-specific fertility rates are per woman.
U: Not available
[] Truncated, censored

birth histories from which ASFRs are calculated were obtained for women below age 50 at the time of the survey, some rates for prior time periods are subject to a degree of truncation (i.e., censoring), and some cannot be calculated at all. The data confirm that fertility has declined in all age groups, including the prime reproductive ages. In all states and in almost every age group, fertility has declined steadily from the period 10-14 years before the survey to the period 0-4 years before the survey. A major fertility decline took place in all states during the last ten years.

Cumulative fertility at age 40 (calculated like the TFR but truncated at age 40) for the period 0-4 years preceding the survey (roughly 1988-92) is 4.0 in Arunachal Pradesh, 2.8 in Manipur, 3.6 in Meghalaya, 2.4 in Mizoram, 3.1 in Nagaland, and 2.8 in Tripura. Corresponding values for the period 10-14 years before the survey are 5.0, 4.8, 5.1, 4.7, 4.8 and 4.8, respectively in Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura. In other words, except in Arunachal Pradesh, fertility declined by about two children during the past 15 years. Mizoram had the greatest decline in fertility (almost 50 percent) and Arunachal Pradesh had the smallest decline (20 percent).

Marital duration-specific fertility rates¹ for the 20-year period before the survey, shown in Table 5.3, also confirm that fertility in the majority of the northeastern states began declining only during the past 15 years. Duration-specific fertility rates for the period 0-4 years before the survey differ only marginally among the northeastern states for women married less than 10 years. During the early years of marriage, duration-specific fertility rates declined only slightly during the last two decades, probably because the pattern of having children quickly after

¹Because information was collected only on a woman's age at effective marriage, but not the year and month of her effective marriage (which would be difficult to determine accurately in most cases), duration since first effective marriage is calculated as the woman's age at the specified time period minus the age at which she started living with her (first) husband. For those whose current age is the same as their age at effective marriage (marriage duration 0), the average period covered is only about six months rather than one full year. Hence, the 0-4 duration category effectively covers a period of only about 4.5 years, whereas all other duration categories cover 5 years.

Table 5.3 Fertility by marital duration

Fertility rates for ever-married women by duration since first effective marriage (in years) for five-year periods preceding the survey, Northeastern states, 1993

Duration of effective marriage	Years preceding survey			
	0-4	5-9	10-14	15-19
ARUNACHAL PRADESH				
0 - 4	0.340	0.352	0.346	0.325
5 - 9	0.235	0.286	0.295	0.280
10-14	0.172	0.187	0.213	(0.243)
15-19	0.112	0.143	(0.136)	*
20-24	0.070	(0.064)	*	*
25-29	(0.036)	*	*	*
MANIPUR				
0 - 4	0.330	0.375	0.397	0.411
5 - 9	0.226	0.293	0.313	0.331
10-14	0.148	0.224	0.216	0.269
15-19	0.052	0.098	0.154	*
20-24	0.015	0.065	*	*
25-29	0.004	*	*	*
MEGHALAYA				
0 - 4	0.337	0.425	0.414	0.373
5 - 9	0.208	0.282	0.289	0.276
10-14	0.148	0.181	0.183	0.198
15-19	0.098	0.099	0.114	*
20-24	0.043	0.081	*	*
25-29	0.027	*	*	*
MIZORAM				
0 - 4	0.323	0.402	0.414	0.374
5 - 9	0.158	0.247	0.265	0.335
10-14	0.066	0.088	0.165	0.178
15-19	0.022	0.061	0.087	*
20-24	0.012	0.038	*	*
25-29	0.000	*	*	*
NAGALAND				
0 - 4	0.323	0.399	0.396	0.333
5 - 9	0.203	0.283	0.299	0.295
10-14	0.125	0.170	0.171	0.147
15-19	0.047	0.077	0.065	0.113
20-24	0.024	0.023	0.028	0.000
25-29	0.006	0.028	0.000	*
TRIPURA				
0 - 4	0.307	0.319	0.321	0.294
5 - 9	0.192	0.293	0.269	0.313
10-14	0.120	0.191	0.226	0.257
15-19	0.069	0.153	0.208	(0.244)
20-24	0.034	0.094	(0.106)	*
25-29	0.024	(0.046)	*	*

Note: Duration-specific fertility rates are per woman. The duration of effective marriage is defined as the difference between the woman's age at the specified time period and the age she began living with her husband.

() Based on 125-249 woman-years of exposure

* Rate not shown; based on fewer than 125 woman-years of exposure

marriage has continued as age at marriage has risen (see Chapter 4). The rapidity of fertility decline increases with the increase in marital duration in all the northeastern states. The duration-specific rates for the period 0-4 years before the survey show that in the majority of the northeastern states childbearing is virtually complete before the fifteenth year of marriage.

5.2 Outcome of Pregnancies

Table 5.4 shows the outcome of all life-time pregnancies reported by ever-married women according to their current age. Information on stillbirths and spontaneous and induced abortions was obtained in the reproduction section of the Woman's Questionnaire.

Table 5.4 Outcome of pregnancy						
Percent distribution of all pregnancies of ever-married women by their outcome, according to age of the woman, Northeastern states, 1993						
Current age	Outcome of pregnancy				Total percent	Number of pregnancies
	Spontaneous abortion	Induced abortion	Still-birth	Live birth		
ARUNACHAL PRADESH						
15-19	7.1	--	1.8	91.1	100.0	56
20-24	4.3	0.6	3.4	91.7	100.0	350
25-29	1.7	0.7	2.1	95.5	100.0	606
30-34	2.9	0.2	2.6	94.3	100.0	645
35-39	3.3	1.6	3.0	92.2	100.0	575
40-44	5.1	--	1.2	93.7	100.0	428
45-49	6.8	--	3.4	89.8	100.0	265
Total	3.7	0.5	2.5	93.3	100.0	2925
MANIPUR						
20-24	4.9	0.9	1.8	92.4	100.0	225
25-29	3.6	3.4	1.5	91.5	100.0	527
30-34	4.7	1.8	1.0	92.6	100.0	685
35-39	4.7	2.0	1.7	91.7	100.0	709
40-44	5.0	3.0	2.2	89.8	100.0	738
45-49	7.1	2.5	1.6	88.7	100.0	630
Total	5.0	2.4	1.6	91.0	100.0	3526
MEGHALAYA						
15-19	(--)	(--)	(--)	(100.0)	100.0	38
20-24	3.2	--	3.0	93.8	100.0	403
25-29	2.2	--	2.5	95.3	100.0	642
30-34	2.4	0.5	1.2	95.9	100.0	654
35-39	2.7	0.2	1.9	95.3	100.0	638
40-44	1.6	--	0.8	97.6	100.0	620
45-49	2.9	0.1	0.8	96.1	100.0	722
Total	2.4	0.1	1.6	95.8	100.0	3717
MIZORAM						
20-24	6.5	--	7.0	86.4	100.0	199
25-29	3.0	--	4.5	92.5	100.0	494
30-34	2.8	0.2	2.8	94.3	100.0	581
35-39	3.8	--	2.8	93.4	100.0	652
40-44	4.5	--	3.8	91.6	100.0	572
45-49	2.4	--	3.8	93.8	100.0	808
Total	3.5	--	3.7	92.8	100.0	3327

Table 5.4 Outcome of pregnancy (Contd.)

Percent distribution of all pregnancies of ever-married women by their outcome, according to age of the woman, Northeastern states, 1993

Current age	Outcome of pregnancy				Total percent	Number of pregnancies
	Spontaneous abortion	Induced abortion	Still-birth	Live birth		
NAGALAND						
15-19	(--)	(--)	(--)	(100.0)	100.0	36
20-24	0.8	0.4	2.4	96.4	100.0	253
25-29	1.3	0.3	2.7	95.6	100.0	620
30-34	1.4	0.2	1.7	96.7	100.0	582
35-39	1.0	--	1.6	97.4	100.0	798
40-44	0.5	--	2.4	97.2	100.0	638
45-49	1.7	0.6	3.2	94.5	100.0	786
Total	1.1	0.2	2.3	96.3	100.0	3713
TRIPURA						
15-19	5.1	2.5	2.5	89.9	100.0	79
20-24	7.1	3.4	3.4	86.1	100.0	353
25-29	5.1	2.1	3.4	89.3	100.0	701
30-34	4.9	3.6	2.0	89.5	100.0	607
35-39	3.7	2.5	3.8	90.0	100.0	838
40-44	3.6	1.1	2.3	93.0	100.0	696
45-49	3.1	0.9	2.5	93.4	100.0	668
Total	4.4	2.2	2.9	90.5	100.0	3942

Note: There were no reported pregnancies to women age 13-14 in any of the Northeastern states. Total for Manipur includes 12 pregnancies to women age 15-19 and total for Mizoram includes 21 pregnancies to women age 15-19, which are not shown separately.

(.) Based on 25-49 pregnancies

-- Less than 0.05 percent

In any survey, it is more difficult to collect retrospective information on pregnancies than on live births, particularly on pregnancies spontaneously aborted within the first few months after conception. The total number of pregnancies and the percentage of all pregnancies that ended in spontaneous abortion are almost certainly underestimated, and should not be subject to very intensive interpretation. Stillbirths are probably much more accurately reported than abortions. Reports of induced abortions may be suppressed by respondents, or induced abortions may be reported as spontaneous abortions, so that the actual incidence of induced abortions may be much higher than is reported.

Among all pregnancies reported in the survey, more than 90 percent resulted in live births, less than 4 percent in stillbirths, 5 percent or less in spontaneous abortions and less than 3 percent in induced abortions in the northeastern states. The percentage of pregnancies resulting in live births is highest in Nagaland and Meghalaya (96 percent) and lowest in Manipur and Tripura (91 percent each). Correspondingly, Manipur and Tripura have the highest percentage of spontaneous and induced abortions (7 percent each) and Nagaland and Meghalaya have the lowest (1-3 percent). The proportions of pregnancies ending in live births or spontaneous abortions do not follow any fixed pattern with the increase in woman's age in the northeastern states, except in Tripura, where the percentage of live births tends to increase with age.

5.3 Children Ever Born and Living

The number of children a woman has ever borne is a cohort measure of fertility. Because it reflects fertility in the past, it provides a somewhat different picture of fertility levels, trends, and differentials than do period measures of fertility such as the CBR and the TFR. The distribution of women by number of children ever born is presented in Table 5.5 for all women (regardless of marital status) and for currently married women by age. This table also shows

Table 5.5 Children ever born and living															
Percent distribution of all women and currently married women age 15-49 by number of children ever born and mean number of children ever born (CEB) and living, according to age, Northeastern states, 1993															
Age	Children ever born											Total per-cent	Number of women	Mean CEB	Mean children living
	0	1	2	3	4	5	6	7	8	9	10+				
ARUNACHAL PRADESH															
All Women															
15-19	85.0	11.4	3.7	--	--	--	--	--	--	--	--	100.0	273	0.19	0.18
20-24	34.2	27.1	20.7	12.8	4.8	0.4	--	--	--	--	--	100.0	251	1.28	1.20
25-29	13.0	12.9	20.2	19.3	21.2	10.6	1.8	0.9	--	--	--	100.0	217	2.66	2.46
30-34	5.1	7.8	13.2	24.6	15.0	18.0	9.6	3.6	3.0	--	--	100.0	166	3.65	3.26
35-39	4.8	7.5	10.0	13.4	14.2	17.5	13.4	8.4	6.7	3.3	0.8	100.0	120	4.43	3.95
40-44	3.6	6.1	8.5	12.2	13.4	12.2	20.7	6.1	8.5	6.1	2.4	100.0	82	4.89	4.35
45-49	7.3	14.1	10.1	10.1	10.1	4.0	8.1	12.1	12.1	4.0	8.1	100.0	50	4.80	3.61
Total	31.6	13.9	13.1	12.6	10.0	7.5	4.9	2.5	2.2	0.9	0.6	100.0	1159	2.35	2.10
Currently Married Women															
15-19	50.0	37.2	12.8	--	--	--	--	--	--	--	--	100.0	78	0.63	0.62
20-24	13.7	35.3	27.4	16.8	6.3	0.5	--	--	--	--	--	100.0	190	1.68	1.57
25-29	5.2	14.0	21.8	21.8	22.8	11.4	2.1	1.0	--	--	--	100.0	193	2.91	2.69
30-34	2.6	6.6	13.2	25.0	16.4	18.4	10.5	3.9	3.3	--	--	100.0	152	3.83	3.42
35-39	4.6	7.4	8.3	12.0	14.8	16.7	14.8	9.3	7.4	3.7	0.9	100.0	108	4.58	4.08
40-44	2.8	5.6	6.9	13.9	12.5	12.5	20.8	6.9	9.7	6.9	1.4	100.0	72	5.01	4.47
45-49	(4.9)	(17.1)	(12.2)	(9.8)	(4.9)	(2.4)	(9.8)	(9.8)	(14.6)	(4.9)	(9.8)	100.0	41	(4.98)	(3.93)
Total	10.6	18.2	17.1	16.7	12.9	9.5	6.6	3.2	3.1	1.3	0.7	100.0	834	3.08	2.77
MANIPUR															
All Women															
15-19	96.8	3.2	--	--	--	--	--	--	--	--	--	100.0	349	0.03	0.03
20-24	66.1	17.5	8.6	5.1	1.5	1.2	--	--	--	--	--	100.0	336	0.62	0.58
25-29	35.4	16.5	16.5	14.0	12.6	2.8	1.8	0.4	--	--	--	100.0	285	1.69	1.57
30-34	22.2	8.7	14.0	19.2	14.9	9.2	6.6	3.9	1.3	--	--	100.0	229	2.77	2.61
35-39	6.2	3.3	9.9	15.8	16.5	23.8	9.9	8.6	2.6	1.3	2.0	100.0	151	4.29	3.94
40-44	7.6	3.6	3.6	14.2	16.4	18.5	11.4	14.2	7.1	2.1	1.4	100.0	141	4.71	4.28
45-49	3.3	4.4	7.0	12.3	17.6	14.1	16.7	10.5	8.8	3.5	1.8	100.0	114	4.91	4.42
Total	45.9	9.5	8.5	9.9	8.9	6.9	4.4	3.4	1.7	0.6	0.4	100.0	1605	2.00	1.84
Currently Married Women															
20-24	22.5	39.9	20.3	11.6	3.6	2.2	--	--	--	--	--	100.0	138	1.41	1.32
25-29	7.3	23.4	23.4	19.8	18.8	4.2	2.6	0.5	--	--	--	100.0	192	2.45	2.28
30-34	8.6	7.5	17.1	23.0	18.2	11.2	8.0	4.8	1.6	--	--	100.0	187	3.34	3.14
35-39	3.0	2.2	10.4	15.7	17.2	24.6	10.4	9.7	3.0	1.5	2.2	100.0	134	4.54	4.19
40-44	3.3	3.3	4.1	13.2	16.5	20.7	11.6	15.7	7.4	2.5	1.7	100.0	121	5.01	4.59
45-49	1.0	2.0	5.1	12.2	19.4	15.3	18.4	12.2	9.2	3.1	2.0	100.0	98	5.22	4.67
Total	9.0	15.0	14.5	16.4	15.4	11.8	7.4	6.1	2.8	0.9	0.8	100.0	891	3.40	3.13

Table 5.5 Children ever born and living (Contd.)

Percent distribution of all women and currently married women age 15-49 by number of children ever born and mean number of children ever born (CEB) and living, according to age, Northeastern states, 1993

Age	Children ever born											Total per-cent	Number of women	Mean CEB	Mean children living
	0	1	2	3	4	5	6	7	8	9	10+				
MEGHALAYA															
All Women															
15-19	89.4	9.0	1.6	--	--	--	--	--	--	--	--	100.0	311	0.12	0.11
20-24	47.5	24.4	16.3	9.3	2.5	--	--	--	--	--	--	100.0	398	0.95	0.88
25-29	16.0	11.6	25.8	23.1	16.2	6.2	0.8	--	0.4	--	--	100.0	260	2.36	2.23
30-34	6.0	8.9	10.7	17.9	17.9	21.4	11.9	3.6	1.8	--	--	100.0	168	3.73	3.53
35-39	5.2	8.6	9.3	13.5	15.0	15.0	12.8	15.0	2.9	2.1	0.7	100.0	140	4.33	4.05
40-44	3.3	4.8	8.8	16.0	12.8	16.8	14.4	9.6	6.4	2.4	4.8	100.0	125	4.83	4.66
45-49	5.0	5.0	8.6	15.8	14.4	10.1	11.5	8.6	9.4	2.2	9.4	100.0	139	5.00	4.64
Total	34.9	12.6	12.4	12.2	9.0	7.0	4.8	3.3	1.9	0.6	1.3	100.0	1542	2.31	2.17
Currently Married Women															
15-19	49.1	42.1	8.8	--	--	--	--	--	--	--	--	100.0	57	0.60	0.54
20-24	21.8	35.8	24.7	13.6	4.1	--	--	--	--	--	--	100.0	243	1.42	1.33
25-29	7.8	10.5	29.2	25.6	18.7	6.8	0.9	--	0.5	--	--	100.0	219	2.64	2.48
30-34	2.7	9.5	8.8	16.9	18.9	23.6	13.5	4.1	2.0	--	--	100.0	148	3.97	3.76
35-39	4.2	5.8	10.0	14.2	14.2	14.2	14.2	17.5	2.5	2.5	0.8	100.0	120	4.54	4.22
40-44	1.0	3.8	9.5	16.2	13.3	18.1	13.3	10.5	5.7	2.9	5.7	100.0	105	5.02	4.84
45-49	3.7	3.7	8.4	14.0	15.0	10.3	13.1	9.3	8.4	2.8	11.2	100.0	107	5.28	4.89
Total	11.2	16.3	17.3	16.3	12.6	9.7	6.7	4.8	2.2	0.9	1.9	100.0	999	3.19	2.99
MIZORAM															
All Women															
15-19	95.4	4.3	0.3	--	--	--	--	--	--	--	--	100.0	368	0.05	0.05
20-24	64.8	20.6	8.0	6.0	0.7	--	--	--	--	--	--	100.0	301	0.57	0.55
25-29	30.4	17.3	22.4	17.7	11.5	0.7	--	--	--	--	--	100.0	277	1.65	1.61
30-34	10.7	7.5	18.8	26.9	21.0	9.1	2.2	3.8	--	--	--	100.0	186	2.95	2.85
35-39	8.4	4.2	11.4	18.6	26.9	16.2	9.0	4.8	--	--	0.6	100.0	167	3.64	3.53
40-44	3.3	4.0	9.5	16.7	27.8	17.4	11.1	6.3	2.4	1.6	--	100.0	126	4.15	3.96
45-49	2.8	5.1	8.6	16.6	21.1	23.4	10.9	4.0	3.4	1.7	2.3	100.0	175	4.33	4.13
Total	42.1	10.1	10.5	12.4	11.9	6.8	3.2	1.9	0.6	0.3	0.3	100.0	1601	1.93	1.86
Currently Married Women															
15-19	(61.8)	(35.3)	(2.9)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	100.0	34	(0.41)	(0.41)
20-24	35.0	33.3	16.3	13.8	1.6	--	--	--	--	--	--	100.0	123	1.14	1.09
25-29	13.4	18.6	28.4	23.7	14.9	1.0	--	--	--	--	--	100.0	194	2.11	2.07
30-34	4.0	4.7	18.8	29.5	24.2	11.4	2.7	4.7	--	--	--	100.0	149	3.34	3.22
35-39	4.5	3.9	11.0	19.4	28.4	17.4	9.7	5.2	--	--	0.6	100.0	155	3.85	3.73
40-44	0.9	3.7	6.5	14.8	30.6	19.4	12.0	7.4	2.8	1.9	--	100.0	108	4.44	4.22
45-49	1.4	3.5	7.0	14.0	24.5	25.2	11.2	4.9	4.2	1.4	2.8	100.0	143	4.59	4.41
Total	11.7	12.3	15.2	19.1	19.8	11.4	5.3	3.3	1.0	0.4	0.6	100.0	906	3.08	2.97
NAGALAND															
All Women															
15-19	92.4	5.6	1.4	0.6	--	--	--	--	--	--	--	100.0	355	0.10	0.10
20-24	57.6	19.9	17.0	5.0	0.3	0.3	--	--	--	--	--	100.0	342	0.71	0.70
25-29	26.4	17.2	22.2	18.2	11.3	4.1	0.3	0.3	--	--	--	100.0	319	1.86	1.83
30-34	6.8	7.5	15.0	16.9	20.6	21.3	8.8	2.5	0.6	--	--	100.0	160	3.52	3.47
35-39	2.2	5.0	10.1	20.1	14.5	20.7	13.4	8.4	2.8	2.2	0.6	100.0	179	4.34	4.29
40-44	2.1	10.2	7.3	11.6	18.9	16.7	13.8	11.6	5.1	2.2	0.7	100.0	138	4.50	4.47
45-49	1.6	16.8	10.0	14.2	21.6	10.0	13.7	6.3	3.2	2.6	--	100.0	190	3.91	3.87
Total	37.4	12.5	12.2	10.9	9.7	7.5	5.0	2.9	1.1	0.7	0.1	100.0	1683	2.12	2.10

Table 5.5 Children ever born and living (Contd.)

Percent distribution of all women and currently married women age 15-49 by number of children ever born and mean number of children ever born (CEB) and living, according to age, Northeastern states, 1993

Age	Children ever born											Total per-cent	Number of women	Mean CEB	Mean children living
	0	1	2	3	4	5	6	7	8	9	10+				
NAGALAND															
Currently Married Women															
15-19	(35.0)	(47.5)	(12.5)	(5.0)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	100.0	40	(0.88)	(0.85)
20-24	24.9	30.6	33.5	9.8	0.6	0.6	--	--	--	--	--	100.0	173	1.32	1.31
25-29	7.5	19.6	28.8	23.3	14.6	5.4	0.4	0.4	--	--	--	100.0	240	2.38	2.34
30-34	0.8	5.4	15.4	14.6	24.6	25.4	10.8	2.3	0.8	--	--	100.0	130	3.92	3.86
35-39	2.5	4.9	9.3	19.1	14.2	22.2	13.0	8.6	3.1	2.5	0.6	100.0	162	4.40	4.35
40-44	0.9	6.3	5.4	11.6	17.0	19.6	16.1	14.3	5.4	2.7	0.9	100.0	112	4.90	4.87
45-49	1.2	18.3	8.9	13.0	21.3	9.5	14.2	7.1	3.6	3.0	--	100.0	169	3.98	3.93
Total	8.1	16.8	18.3	15.6	14.2	11.8	7.6	4.5	1.8	1.2	0.2	100.0	1026	3.20	3.15
TRIPURA															
All Women															
15-19	83.7	12.5	3.0	0.9	--	--	--	--	--	--	--	100.0	337	0.21	0.18
20-24	43.4	22.2	23.2	8.1	1.8	1.4	--	--	--	--	--	100.0	284	1.07	0.96
25-29	18.3	13.4	22.0	20.9	16.4	6.3	2.2	0.4	--	--	--	100.0	268	2.34	2.07
30-34	13.0	7.8	17.3	22.3	19.0	10.6	6.7	2.2	1.1	--	--	100.0	179	3.03	2.62
35-39	1.5	6.1	13.3	17.2	20.5	20.5	10.0	3.9	4.4	1.1	1.7	100.0	181	4.17	3.54
40-44	4.0	2.4	9.7	8.9	9.7	21.0	14.5	10.5	10.5	4.8	4.0	100.0	124	5.22	4.35
45-49	2.4	1.8	5.5	5.5	21.9	9.1	13.7	17.3	10.9	6.4	5.5	100.0	110	5.69	4.54
Total	32.9	11.5	14.0	11.5	10.5	7.6	4.7	3.0	2.4	1.0	0.9	100.0	1483	2.41	2.05
Currently Married Women															
15-19	43.7	41.4	11.5	3.4	--	--	--	--	--	--	--	100.0	87	0.75	0.62
20-24	14.9	32.0	34.9	13.1	2.9	2.3	--	--	--	--	--	100.0	175	1.64	1.48
25-29	4.5	13.6	25.9	25.0	20.0	7.7	2.7	0.5	--	--	--	100.0	220	2.79	2.48
30-34	3.2	7.1	20.1	26.0	20.8	12.3	7.1	1.9	1.3	--	--	100.0	154	3.37	2.92
35-39	0.6	5.4	12.7	17.5	22.3	19.9	10.8	3.6	4.2	1.2	1.8	100.0	166	4.25	3.62
40-44	2.8	0.9	9.4	8.5	10.4	19.8	14.2	11.3	12.3	5.7	4.7	100.0	106	5.48	4.61
45-49	2.3	2.3	1.1	2.3	20.5	10.2	14.8	21.6	11.4	8.0	5.7	100.0	88	6.07	4.85
Total	8.5	14.6	19.2	16.2	14.8	10.3	6.3	4.1	3.2	1.5	1.3	100.0	996	3.32	2.84

Note: Total for currently married women in Manipur includes 21 women age 15-19, who are not shown separately.
 () Based on 25-49 cases
 -- Less than 0.05 percent

the mean number of children ever born and the mean number of children still living. The percentage of all women age 15-19 who had never given birth varies from a low of 84 percent in Tripura to a high of 97 percent in Manipur. However, among currently married women age 15-19 the percentage who had never given birth is lower, ranging from 35 in Nagaland to 62 in Mizoram. The difference between the fertility of all women and currently married women is due to the proportion of all women who remain unmarried, which is more pronounced in the younger ages. The percentage of currently married women age 45-49 who have given birth to more than 4 children varies from 37 in Nagaland to 72 in Tripura.

Among all women age 15-49, the average number of living children is around 2 and among currently married women in the same age-group, the average number of living children

is around 3 in all the northeastern states. The average number of children ever born and children living increases steadily with age, both for all women and for currently married women in these states. It is not uncommon in sample surveys to find the mean number of children ever born for older age-groups declining, which may indicate deteriorating completeness of reporting of children ever born as women reach the end of the reproductive age-span. Although the steady increase with age in the NFHS mean number of children ever born does not provide conclusive evidence that births have been completely reported by older women, there is no indication of underreporting, either in the pattern or level of fertility.

The parity distribution for older currently married women provides a measure of primary sterility which is the proportion of women who are unable to have children. The proportion of currently married women age 45-49 with no children ever born ranges from 1 percent each in Manipur, Mizoram and Nagaland to 5 percent in Arunachal Pradesh. The mean number of children still living is 15 percent lower than the mean number of children ever born in Tripura and 10 percent lower in Arunachal Pradesh, reflecting a lower survival rate in the two states with the highest number of children ever born. The highest survival rate is found in Nagaland where the means for number of children ever born and still living are almost the same.

Table 5.6 shows differentials in the number of male and female children ever born by selected background characteristics of currently married women. To avoid the confounding influence of different age distributions of women in different groups, the mean values in the

Table 5.6 Mean number of children ever born by background characteristics

Age-standardized mean number of children ever born for currently married women, according to sex and selected background characteristics, Northeastern states, 1993

Background characteristic	Children ever born								
	Arunachal Pradesh			Manipur			Meghalaya		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Age									
15-19	0.3	0.3	0.6	0.3	0.2	0.5	0.3	0.3	0.6
20-24	0.8	0.9	1.7	0.6	0.8	1.4	0.8	0.6	1.4
25-29	1.5	1.4	2.9	1.3	1.2	2.4	1.3	1.4	2.6
30-34	2.0	1.8	3.8	1.7	1.7	3.3	2.2	1.7	4.0
35-39	2.3	2.2	4.6	2.4	2.1	4.5	2.6	2.0	4.5
40-44	2.7	2.3	5.0	2.8	2.2	5.0	2.6	2.4	5.0
45-49	(2.5)	(2.5)	(5.0)	2.8	2.4	5.2	2.7	2.6	5.3
Residence									
Urban	1.4	1.2	2.6	1.7	1.5	3.1	1.6	1.5	3.1
Rural	1.6	1.5	3.2	1.8	1.7	3.5	1.7	1.5	3.2
Education									
Illiterate	1.8	1.7	3.5	2.1	1.9	4.0	1.9	1.6	3.5
Literate, < middle complete	1.1	1.1	2.2	1.8	1.6	3.5	1.6	1.6	3.2
Middle school complete	1.3	0.9	2.1	1.4	1.4	2.8	1.3	1.2	2.5
High school and above	0.8	0.9	1.7	1.2	1.2	2.4	1.2	1.1	2.2
Total	1.6	1.5	3.1	1.8	1.6	3.4	1.7	1.5	3.2

Table 5.6 Mean number of children ever born by background characteristics (Contd.)

Age-standardized mean number of children ever born for currently married women, according to sex and selected background characteristics, Northeastern states, 1993

Background characteristic	Children ever born								
	Mizoram			Nagaland			Tripura		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Age									
15-19	(0.1)	(0.3)	(0.4)	(0.3)	(0.6)	(0.9)	0.4	0.4	0.7
20-24	0.6	0.5	1.1	0.7	0.6	1.3	0.8	0.8	1.6
25-29	1.1	1.0	2.1	1.3	1.1	2.4	1.6	1.2	2.8
30-34	1.7	1.7	3.3	1.9	2.0	3.9	1.8	1.6	3.4
35-39	2.0	1.9	3.9	2.4	2.0	4.4	2.2	2.0	4.2
40-44	2.4	2.0	4.4	2.5	2.4	4.9	3.0	2.5	5.5
45-49	2.4	2.2	4.6	2.1	1.9	4.0	3.1	3.0	6.1
Residence									
Urban	1.6	1.4	2.9	1.6	1.5	3.1	1.5	1.2	2.7
Rural	1.6	1.6	3.2	1.7	1.5	3.2	1.8	1.6	3.4
Education									
Illiterate	1.8	1.8	3.6	1.9	1.6	3.5	2.2	1.9	4.1
Literate, < middle complete	1.7	1.7	3.4	1.7	1.7	3.3	1.8	1.6	3.3
Middle school complete	1.4	1.2	2.6	1.4	1.4	2.8	1.2	1.0	2.2
High school and above	1.2	1.0	2.2	1.3	1.2	2.5	0.8	0.8	1.6
Total	1.6	1.5	3.1	1.7	1.5	3.2	1.7	1.5	3.3

Note: The means by residence and education are standardized on the age distribution of all currently married women in each state. There were no reported births for women age 13-14. Means are based on all women age 13-49.

() Based on 25-49 cases

table are all age-standardized using the age distribution of all currently married women in each state as the standard. The average number of males ever born is slightly higher than the average number of females ever born in all of the northeastern states, a biological pattern that is observed everywhere in the world. The mean number of children ever born is higher in rural than in urban areas in all the states, however the difference is very small in Meghalaya and Nagaland. Less educated women have a higher number of children than educated women in all the northeastern states, and the differences are particularly striking in some states. For example, the mean number of children ever born to illiterate women is twice as high as the mean number ever born to women with at least a high school education in Arunachal Pradesh and almost three times as high in Tripura.

5.4 Birth Order

The distribution of births during the three-year period before the survey by birth order is shown in Table 5.7. The proportion of first order births varies from 25 percent in Meghalaya to 30 percent in Mizoram. The percentages of births of order 4 or higher are substantial, ranging from a low of 25-30 in Mizoram and Tripura to a high of 37-38 in Arunachal Pradesh and Meghalaya, indicating that Mizoram and, to a lesser extent, Tripura are exceptions to the generally high percentage of high-order births in the northeastern states.

Table 5.7 Birth order

Percent distribution of births during the three years preceding the survey by order of birth, Northeastern states, 1993

State	Order of birth						Total percent	Number of births
	1	2	3	4	5	6+		
Arunachal Pradesh	26.1	19.3	17.9	15.4	8.4	12.8	100.0	486
Manipur	27.5	20.5	18.9	13.5	7.5	12.1	100.0	429
Meghalaya	24.9	21.6	15.6	11.0	9.3	17.6	100.0	527
Mizoram	30.4	24.6	20.3	14.2	4.1	6.4	100.0	345
Nagaland	27.8	24.1	16.4	10.4	10.4	10.8	100.0	518
Tripura	29.0	25.2	16.1	11.1	8.1	10.6	100.0	397

5.5 Birth Intervals

Birth intervals indicate the pace of childbearing. In addition, various studies have shown that children born too close to a previous birth are at increased risk of dying, especially if the interval between births is less than 24 months (Hobcraft et al., 1983; Govindasamy et al., 1993). Table 5.8 presents the percent distribution of second and third order births in the five-year period preceding the survey by interval since previous birth. In the northeastern states, the percentage of births occurring within 0-23 months varies from 22 in Tripura to 36 in Mizoram. More than one-third of births occur within 24-35 months of the previous birth in all the northeastern states. The median birth interval is more than 27 months in all states, with the highest interval of 33.9 months in Tripura.

Table 5.8 Birth intervals

Percent distribution of births during the five years preceding the survey by interval since previous birth, Northeastern states, 1993

State	Months since previous birth						Total percent	Median months since previous birth	Number of births
	<12	12-17	18-23	24-35	36-47	48+			
Arunachal Pradesh	0.8	8.5	19.6	36.3	16.4	18.4	100.0	29.8	603
Manipur	1.3	10.1	14.5	35.6	20.4	18.1	100.0	31.6	525
Meghalaya	0.9	11.4	22.1	36.1	16.9	12.5	100.0	27.5	664
Mizoram	1.5	13.4	20.7	34.9	13.2	16.3	100.0	27.6	410
Nagaland	2.8	10.5	20.2	37.8	16.7	11.9	100.0	28.1	563
Tripura	0.6	8.7	12.7	34.1	20.4	23.6	100.0	33.9	505

Note: First order births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth.

5.6 Age at First and Last Birth

The ages at onset and cessation of childbearing are important demographic determinants of fertility. A higher age at first birth and a lower age at last birth are indicators of lower fertility. The percent distribution of women by age at first birth as well as the median age at first birth, both classified by woman's current age, are shown in Table 5.9. The median age

Table 5.9 Age at first birth

Percent distribution of women by age at first birth, according to current age, Northeastern states, 1993

Current age ¹	No birth ²	Age at first birth						Total percent	Median age at first birth
		<15	15-17	18-19	20-21	22-24	25+		
ARUNACHAL PRADESH									
15-19	85.0	0.7	11.7	2.6	NA	NA	NA	100.0	NC
20-24	34.2	3.2	25.9	20.3	14.8	1.6	NA	100.0	NC
25-29	13.0	3.2	28.1	18.9	19.3	12.0	5.5	100.0	20.0
30-34	5.1	4.8	28.8	19.8	19.2	12.6	9.6	100.0	19.7
35-39	4.8	2.5	26.7	20.9	19.2	15.0	10.9	100.0	20.0
40-44	3.6	1.2	22.0	18.3	24.4	17.1	13.4	100.0	20.7
45-49	7.3	--	24.2	14.1	20.2	18.1	16.1	100.0	21.2
MANIPUR									
15-19	96.8	--	1.1	2.0	NA	NA	NA	100.0	NC
20-24	66.1	0.9	6.8	13.7	8.3	4.2	NA	100.0	NC
25-29	35.4	0.4	12.6	14.4	12.3	16.5	8.4	100.0	24.0
30-34	22.2	1.3	13.5	14.4	14.4	17.0	17.0	100.0	23.0
35-39	6.2	--	12.5	17.8	21.1	27.1	15.2	100.0	21.9
40-44	7.6	2.1	13.5	17.8	21.3	23.5	14.2	100.0	21.6
45-49	3.3	--	13.2	14.1	24.6	22.8	22.0	100.0	21.8
MEGHALAYA									
15-19	89.4	1.3	5.5	3.9	NA	NA	NA	100.0	NC
20-24	47.5	1.5	18.3	16.6	9.8	6.3	NA	100.0	NC
25-29	16.0	0.8	24.3	22.7	18.1	14.6	3.5	100.0	20.2
30-34	6.0	3.6	22.6	28.6	19.0	13.1	7.1	100.0	19.6
35-39	5.2	2.9	26.4	20.7	18.5	13.5	12.8	100.0	20.0
40-44	3.3	2.4	25.6	23.2	12.0	20.0	13.6	100.0	19.9
45-49	5.0	2.9	15.1	12.2	20.2	25.9	18.7	100.0	21.9
MIZORAM									
15-19	95.4	0.3	3.0	1.4	NA	NA	NA	100.0	NC
20-24	64.8	1.0	8.3	15.9	5.3	4.6	NA	100.0	NC
25-29	30.4	0.4	9.4	15.5	20.9	15.9	7.6	100.0	22.6
30-34	10.7	0.5	16.1	20.4	21.5	16.1	14.5	100.0	21.1
35-39	8.4	1.2	10.2	17.4	20.3	24.5	18.0	100.0	22.1
40-44	3.3	--	9.5	12.7	29.3	25.4	19.8	100.0	21.9
45-49	2.8	0.6	7.4	18.3	20.6	23.4	26.9	100.0	22.3
NAGALAND									
15-19	92.4	1.1	4.2	2.3	NA	NA	NA	100.0	NC
20-24	57.6	1.5	8.8	16.4	11.7	4.1	NA	100.0	NC
25-29	26.4	1.9	14.4	14.1	20.7	16.0	6.6	100.0	21.9
30-34	6.8	6.9	19.4	23.1	19.4	15.6	8.8	100.0	20.1
35-39	2.2	1.7	14.0	17.9	22.9	22.9	18.4	100.0	21.3
40-44	2.1	2.2	16.7	13.1	27.6	19.6	18.9	100.0	21.0
45-49	1.6	1.6	7.9	20.0	26.3	18.9	23.7	100.0	21.4

Table 5.9 Age at first birth (Contd.)

Percent distribution of women by age at first birth, according to current age, Northeastern states, 1993

Current age ¹	No birth ²	Age at first birth						Total percent	Median age at first birth
		<15	15-17	18-19	20-21	22-24	25+		
TRIPURA									
15-19	83.7	4.5	8.3	3.6	NA	NA	NA	100.0	NC
20-24	43.4	5.6	21.8	16.9	10.6	1.8	NA	100.0	NC
25-29	18.3	3.4	27.6	22.0	11.9	10.4	6.3	100.0	19.7
30-34	13.0	6.1	22.9	17.8	16.7	10.6	12.8	100.0	20.3
35-39	1.5	7.8	28.2	22.7	12.7	12.7	14.4	100.0	19.1
40-44	4.0	12.1	26.6	29.8	15.3	4.0	8.1	100.0	18.8
45-49	2.4	5.5	32.8	26.5	19.2	8.2	5.5	100.0	18.9

NA: Not applicable
 NC: Not calculated because less than 50 percent of the women in the age group x to x+n have had a birth by age x.
 -- Less than 0.05 percent
¹The current age groups include both never-married and ever-married women
²Never-married women are included in this category

at first birth is the age by which half the women have had their first birth. The median is undefined for women age 15-19 and 20-24 because in each of these age groups less than 50 percent of the women had a first birth before the age at the beginning of the interval.

With the exception of Tripura, the median age at first birth for women in most age groups in the northeastern states is above 20 years. In Tripura, the median age at first birth in all the age groups is 19-20 years. The median age at first birth does not increase for women in the younger age cohorts in most states indicating there has been no substantial change in the age women begin childbearing during the last two decades, perhaps because the age is fairly high even in older age cohorts. Manipur, which has the highest median age at first birth in the 25-29 age cohort (24 years), is an exception, with age at first birth increasing by more than two years from the 45-49 age cohort to the 25-29 age cohort. Tripura, with the lowest median age at first birth in the 25-29 age cohort (19.7), has also experienced a small increase of 0.8 years over the same age range. Among women age 25-29, the median age at first birth in Manipur is about 4 years higher than in Arunachal Pradesh, Meghalaya and Tripura and 1-2 years higher than in Mizoram and Nagaland.

Very early childbearing (below age 15) is not common for any of the age groups of women in the northeastern states. The percentage of births to women age 15-19 is 3 percent in Manipur, 5-11 percent in Mizoram, Nagaland, and Meghalaya, and 15-16 percent in Arunachal Pradesh and Tripura. The incidence of childbearing before age 18 has dropped dramatically over time in all the northeastern states.

The age at last birth is another important determinant of overall fertility levels. Table 5.10 shows the distribution of women by age at last birth for women age 40-44 and 45-49. The percentage of women age 40-49 who had their last birth before age 30 ranges from 27 percent in Manipur to 49 percent in Nagaland. More than 60 percent of women had their last birth before age 35 in all the northeastern states. Except in Arunachal Pradesh and Meghalaya,

Table 5.10 Age at last birth

Percent distribution of ever-married women age 40-49 by age at last birth, according to current age, Northeastern states, 1993

Current age	No birth	Age at last birth							Total percent	Number of women
		<20	20-24	25-29	30-34	35-39	40-44	45-49		
ARUNACHAL PRADESH										
40-44	2.5	2.5	13.6	25.9	21.0	25.9	8.6	NA	100.0	81
45-49	(4.2)	(4.2)	(12.5)	(16.7)	(31.3)	(14.6)	(8.3)	(8.3)	100.0	48
40-49	3.1	3.1	13.2	22.5	24.8	21.7	8.5	3.1	100.0	129
MANIPUR										
40-44	4.4	--	6.6	19.9	41.9	25.0	2.2	NA	100.0	136
45-49	1.8	0.9	5.4	15.2	38.4	25.9	12.5	--	100.0	112
40-49	3.2	0.4	6.0	17.7	40.3	25.4	6.9	--	100.0	248
MEGHALAYA										
40-44	1.6	4.1	16.3	28.5	16.3	23.6	9.8	NA	100.0	123
45-49	4.3	0.7	11.6	22.5	21.7	21.7	12.3	5.1	100.0	138
40-49	3.1	2.3	13.8	25.3	19.2	22.6	11.1	2.7	100.0	261
MIZORAM										
40-44	1.6	0.8	4.0	40.3	33.1	16.9	3.2	NA	100.0	124
45-49	1.2	1.2	9.3	23.3	30.8	26.2	8.1	--	100.0	172
40-49	1.4	1.0	7.1	30.4	31.8	22.3	6.1	--	100.0	296
NAGALAND										
40-44	1.5	2.9	17.5	24.1	29.2	21.2	3.6	NA	100.0	137
45-49	1.1	10.6	12.2	28.0	27.5	16.4	3.2	1.1	100.0	189
40-49	1.2	7.4	14.4	26.4	28.2	18.4	3.4	0.6	100.0	326
TRIPURA										
40-44	4.0	2.4	8.9	21.8	33.9	22.6	6.5	NA	100.0	124
45-49	1.8	2.8	1.8	26.6	27.5	25.7	12.8	0.9	100.0	109
40-49	3.0	2.6	5.6	24.0	30.9	24.0	9.4	0.4	100.0	233

NA: Not applicable
 () Based on 25-49 women
 -- Less than 0.05 percent

the percentage of women having a birth at age 45 or over is negligible.

5.7 Childbearing at Young Ages

Fertility among teenagers (those under age 20) is drawing increasing attention among policymakers. Table 5.11 presents the proportion of ever-married women age 13-19 who are either mothers or pregnant with their first child. The sum of these two proportions is taken as the proportion of teenage women who have begun childbearing. Among women who marry as

Table 5.11 Childbearing among ever-married women age 13-19

Percentage of ever-married women age 13-19 who are mothers or pregnant with their first child, Northeastern states, 1993

State	Percentage who are:		Percent who have begun childbearing	Number of women
	Mothers	Pregnant with first child		
Arunachal Pradesh	50.6	18.5	69.1	81
Meghalaya	49.3	22.4	71.6	67
Mizoram	(42.5)	(30.0)	(72.5)	40
Nagaland	(65.9)	(22.0)	(87.8)	41
Tripura	54.5	11.9	66.3	101

Note: Manipur is not included in the table because there were fewer than 25 ever-married women age 13-19 interviewed in that state.
() Based on 25-49 cases

teenagers, childbearing starts early in the northeastern states. Two-thirds or more of the ever-married women age 13-19 in all of the northeastern states, except Manipur (which has fewer than 25 ever-married women age 15-19), have begun childbearing.

5.8 Postpartum Amenorrhoea, Abstinence and Nonsusceptibility

The importance of lactational amenorrhoea and postpartum abstinence as determinants of fertility is well recognized. The duration of postpartum amenorrhoea (delayed resumption of ovulation) following a birth is closely associated with the duration of breastfeeding, which tends to suppress resumption of ovulation. Conception can also be delayed by prolonged postpartum abstinence. The total period of protection from amenorrhoea or abstinence or both is defined as the nonsusceptible duration. The median and mean number of months of postpartum amenorrhoea, postpartum abstinence and postpartum nonsusceptibility for births during the 3 years preceding the survey for each of the northeastern states are shown in Table 5.12. Estimates of medians and means are based on a smoothed distribution of the current status proportion in each month-since-birth age group. The table also provides the prevalence/incidence mean duration. The prevalence/incidence mean for nonsusceptibility, for example, is obtained by dividing the number of mothers who are nonsusceptible by the average number of births per month over a 36-month period.

The median duration of postpartum amenorrhoea ranges from 5-9 months and the mean ranges from 7-11 months in the northeastern states. The median duration of postpartum abstinence is much shorter than that of amenorrhoea, ranging from 1-7 months, and the variation among states within the range is higher. Overall, the median number of months that women remain nonsusceptible to pregnancy is 6 in Mizoram, 7-9 in Tripura and Manipur, and 10-11 in Arunachal Pradesh, Nagaland, and Meghalaya.

Table 5.12 Postpartum amenorrhoea, abstinence and nonsusceptibility

Median and mean durations of postpartum amenorrhoea, postpartum abstinence and postpartum nonsusceptibility, Northeastern states, 1993

State	Postpartum amenorrhoea			Postpartum abstinence			Postpartum nonsusceptibility		
	Median	Mean	Prevalence/ incidence/ mean	Median	Mean	Prevalence/ incidence/ mean	Median	Mean	Prevalence/ incidence/ mean
Arunachal Pradesh	9.3	11.0	10.5	1.8	4.9	4.1	10.6	12.1	11.6
Manipur	8.7	10.0	10.8	2.5	5.2	5.4	9.3	11.2	12.0
Meghalaya	8.7	9.9	10.5	4.0	11.7	11.4	11.0	15.8	16.0
Mizoram	5.1	7.5	7.4	1.3	4.5	4.3	6.0	9.6	9.6
Nagaland	6.3	7.2	7.2	7.2	12.1	12.0	10.7	14.5	14.7
Tripura	6.9	10.8	10.7	3.3	5.5	5.7	7.9	11.9	11.8

Note: Medians and means are for births during the three years preceding the survey and are based on current status. Nonsusceptible is defined as amenorrhoeic or abstaining or both.

CHAPTER 6

FAMILY PLANNING

Information about knowledge of family planning and use of contraception is of practical use to policymakers and programme administrators for formulating policies and strategies. This chapter begins with an appraisal of women's knowledge of contraceptive methods and sources of supply of modern contraceptive methods before moving on to a consideration of current and past practice of family planning. Special attention is focused on intentions to use family planning in the future and reasons for nonuse. This chapter also contains information on exposure to media coverage of family planning, interspousal discussions of family planning, and attitudes about family planning.

6.1 Knowledge of Family Planning Methods and Sources

Each respondent was asked the following question about her knowledge of family planning: "Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Which ways or methods have you heard about?" The respondent first named all the methods she knew or had heard of, without any prompting. Then the interviewer read out the name and a short description of each method not mentioned and asked if she knew of the method. Thus, the woman's knowledge of contraception is measured at three levels: a) methods the woman mentions on her own (spontaneously without probing), b) methods she says she knows when asked specifically about them (she recognizes the method after probing), and c) methods she has not heard of. Six modern methods (pills, IUDs, injections, condoms, female sterilization and male sterilization) as well as two traditional methods (periodic abstinence or the rhythm method, and withdrawal) were included. Any other methods mentioned by the respondent, such as herbs or breastfeeding, were also recorded. For each modern method known to the respondent, either spontaneously or after probing, she was asked if she knew where a person could go to get the method. If she reported knowing about the rhythm method, she was asked if she knew where a person could obtain advice on how to use the rhythm method.

Table 6.1 presents the extent of knowledge as assessed by spontaneous responses and probed responses for each of the northeastern states. Ever-married and currently married women do not differ much on knowledge of family planning methods. Over 90 percent of currently married women have knowledge of any modern family planning method in Manipur, Mizoram and Tripura, but the percentage drops to 77-78 in Arunachal Pradesh and Meghalaya, and is lowest in Nagaland at less than 50 percent (Figure 6.1). Female sterilization is the most widely known contraceptive method in all the northeastern states. The most well known among the spacing methods are the IUD and the pill, in all the northeastern states, except Nagaland and Tripura where the condom is slightly better known than the IUD. Injections are the least known method in all of the states, but in Tripura more than 40 percent of the women are aware of it. Traditional methods of contraception are less well known than modern methods in the northeastern states, varying from 11 percent in Nagaland to 86 percent in Tripura. Among the traditional methods, rhythm/periodic abstinence is better known than withdrawal in all the northeastern states.

Table 6.1 Knowledge of contraceptive methods and source of methods

Percentage of ever-married and currently married women knowing any contraceptive method and knowing a source, by specific method, Northeastern states, 1993

Method	Ever-married women				Currently married women			
	Knowing method			Knowing source ¹	Knowing method			Knowing source ¹
	Without probe	With probe	Total		Without probe	With probe	Total	
ARUNACHAL PRADESH								
Any method	51.2	25.7	77.0	69.0	52.0	25.7	77.7	70.2
Any modern method	51.1	25.7	76.9	68.5	51.9	25.9	77.7	69.7
Pill	33.4	20.2	53.6	46.5	34.4	20.8	55.2	47.9
Copper T/IUD	31.3	20.0	51.2	44.0	32.0	20.6	52.6	45.1
Injection	12.4	15.0	27.3	24.9	13.1	15.7	28.7	26.2
Condom	17.9	20.3	38.2	33.7	18.9	20.7	39.6	35.0
Female sterilization	44.6	29.8	74.4	65.4	45.3	29.8	75.1	66.5
Male sterilization	20.0	27.1	47.1	42.9	20.5	27.3	47.8	43.6
Any traditional method	8.2	18.0	26.2	NA	8.6	18.6	27.2	NA
Rhythm/periodic abstinence	7.6	16.9	24.5	21.5	8.0	17.4	25.4	22.3
Withdrawal	4.8	12.1	16.9	NA	5.0	12.6	17.6	NA
Other methods	0.6	NA	0.6	NA	0.6	NA	0.6	NA
Number of women	882	882	882	882	835	835	835	835
MANIPUR								
Any method	77.9	15.2	93.1	82.9	79.5	14.1	93.6	84.2
Any modern method	69.9	22.5	92.3	80.3	71.9	21.1	93.0	81.8
Pill	31.6	45.6	77.2	58.7	32.4	45.5	77.9	59.6
Copper T/IUD	42.3	38.1	80.4	66.1	43.9	37.1	81.0	67.3
Injection	1.6	4.0	5.6	4.2	1.6	4.0	5.6	4.2
Condom	21.3	38.4	59.7	47.3	22.0	38.3	60.3	48.1
Female sterilization	61.8	25.2	87.0	75.3	63.4	24.0	87.7	76.8
Male sterilization	54.6	32.0	86.6	74.0	56.0	31.4	87.4	75.3
Any traditional method	40.5	31.4	71.9	NA	41.2	31.2	72.4	NA
Rhythm/periodic abstinence	37.1	33.6	70.7	61.2	37.7	33.4	71.2	61.8
Withdrawal	18.5	25.7	44.2	NA	19.0	25.5	44.4	NA
Other methods	4.0	NA	4.0	NA	3.9	NA	3.9	NA
Number of women	953	953	953	953	891	891	891	891
MEGHALAYA								
Any method	58.1	18.8	77.0	70.6	59.4	18.7	78.0	71.4
Any modern method	51.2	24.5	75.7	69.9	52.0	25.0	76.9	70.8
Pill	30.6	27.6	58.2	51.2	31.2	27.2	58.5	51.4
Copper T/IUD	22.8	26.1	48.9	42.4	23.1	26.2	49.3	42.6
Injection	3.0	6.6	9.6	7.0	3.0	6.7	9.7	7.2
Condom	19.3	27.5	46.9	35.5	19.7	28.0	47.7	36.1
Female sterilization	38.7	32.0	70.7	64.0	39.3	32.5	71.9	65.1
Male sterilization	14.1	31.5	45.6	38.7	14.2	32.3	46.5	39.8
Any traditional method	17.7	24.7	42.4	NA	18.8	24.8	43.5	NA
Rhythm/periodic abstinence	4.3	30.7	35.0	19.1	4.3	31.2	35.5	20.0
Withdrawal	2.6	14.3	17.0	NA	2.7	15.0	17.7	NA
Other methods	14.7	NA	14.7	NA	15.7	NA	15.7	NA
Number of women	1137	1137	1137	1137	1002	1002	1002	1002

Table 6.1 Knowledge of contraceptive methods and source of methods (Contd.)

Percentage of ever-married and currently married women knowing any contraceptive method and knowing a source, by specific method, Northeastern states, 1993

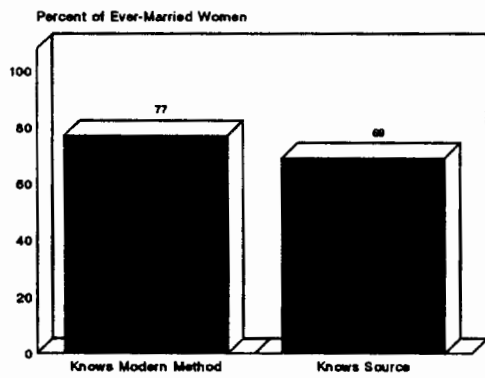
Method	Ever-married women				Currently married women			
	Knowing method			Knowing source ¹	Knowing method			Knowing source ¹
	Without probe	With probe	Total		Without probe	With probe	Total	
MIZORAM								
Any method	78.4	19.8	98.2	98.0	80.7	17.4	98.1	97.9
Any modern method	78.3	19.9	98.2	98.0	80.6	17.5	98.1	97.9
Pill	34.4	34.6	69.1	64.8	35.0	35.1	70.1	65.9
Copper T/IUD	44.3	31.4	75.7	71.9	45.5	30.7	76.2	72.2
Injection	0.2	1.3	1.5	1.1	0.2	1.5	1.8	1.3
Condom	14.0	44.9	58.9	54.0	14.9	46.1	61.0	55.6
Female sterilization	62.0	35.9	97.9	97.3	65.1	32.9	98.0	97.4
Male sterilization	4.1	67.2	71.3	69.5	4.4	66.9	71.3	69.3
Any traditional method	4.4	37.9	42.3	NA	4.7	39.0	43.7	NA
Rhythm/periodic abstinence	2.5	32.6	35.1	28.8	2.8	33.4	36.2	29.6
Withdrawal	2.3	28.0	30.3	NA	2.4	28.3	30.7	NA
Other methods	0.4	NA	0.4	NA	0.3	NA	0.3	NA
Number of women	1045	1045	1045	1045	906	906	906	906
NAGALAND								
Any method	32.2	11.3	43.5	39.3	32.9	11.5	44.4	40.2
Any modern method	32.0	11.4	43.4	39.3	32.8	11.5	44.3	40.2
Pill	16.3	7.7	24.0	23.0	16.8	8.1	24.9	23.7
Copper T/IUD	14.0	9.5	23.5	21.9	14.4	9.7	24.2	22.4
Injection	8.7	6.9	15.6	13.8	8.9	7.0	15.9	14.0
Condom	17.4	11.6	29.0	26.7	17.2	11.9	29.0	26.7
Female sterilization	21.1	8.9	30.0	26.8	21.6	8.8	30.4	27.1
Male sterilization	11.9	8.4	20.3	18.8	12.4	8.5	20.9	19.4
Any traditional method	6.5	3.8	10.4	NA	6.5	4.2	10.7	NA
Rhythm/periodic abstinence	6.0	3.3	9.3	8.3	6.1	3.6	9.7	8.6
Withdrawal	5.3	3.5	8.8	NA	5.6	3.7	9.3	NA
Other methods	0.9	NA	0.9	NA	0.8	NA	0.8	NA
Number of women	1149	1149	1149	1149	1026	1026	1026	1026
TRIPURA								
Any method	77.2	22.3	99.5	96.4	79.3	20.4	99.7	97.2
Any modern method	75.9	23.5	99.5	96.0	77.9	21.8	99.7	96.9
Pill	56.9	36.0	92.9	75.9	58.4	35.5	93.9	77.4
Copper T/IUD	23.8	40.2	64.0	52.4	24.7	40.3	65.0	53.7
Injection	4.5	37.6	42.1	32.3	4.4	37.7	42.1	32.7
Condom	23.0	43.6	66.6	55.2	24.2	43.9	68.1	56.9
Female sterilization	53.6	45.5	99.1	95.2	65.5	43.9	99.4	96.0
Male sterilization	18.6	70.1	88.7	84.2	19.0	70.2	89.2	84.9
Any traditional method	15.1	69.3	84.4	NA	15.7	70.1	85.7	NA
Rhythm/periodic abstinence	6.6	67.5	74.2	61.7	7.1	68.7	75.8	64.0
Withdrawal	3.1	63.9	67.0	NA	3.4	65.4	68.8	NA
Other methods	7.7	NA	7.7	NA	7.8	NA	7.8	NA
Number of women	1100	1100	1100	1100	1003	1003	1003	1003

NA: Not applicable

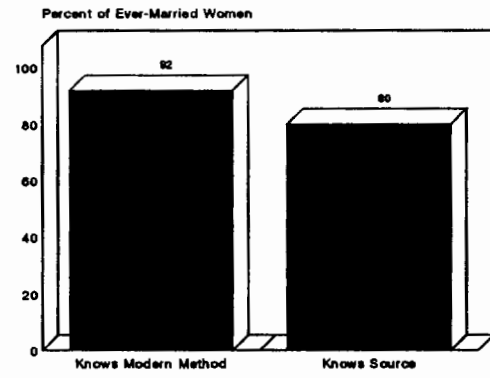
¹For modern methods, the source refers to a place that a person could go to get the method. For rhythm/periodic abstinence, the source refers to a source of advice on how to use periodic abstinence.

Figure 6.1

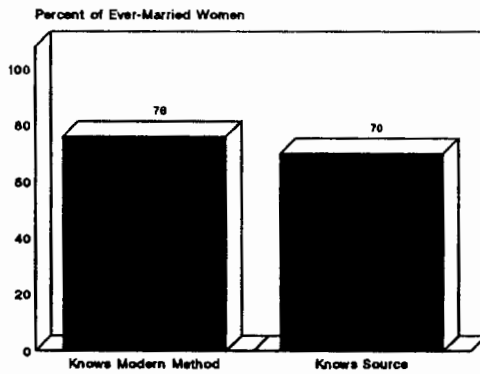
Knowledge of Modern Contraceptive Methods and Sources



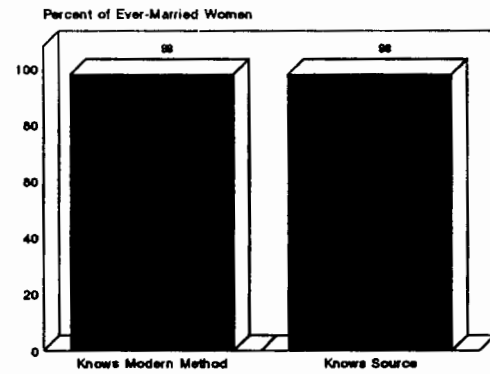
Arunachal Pradesh



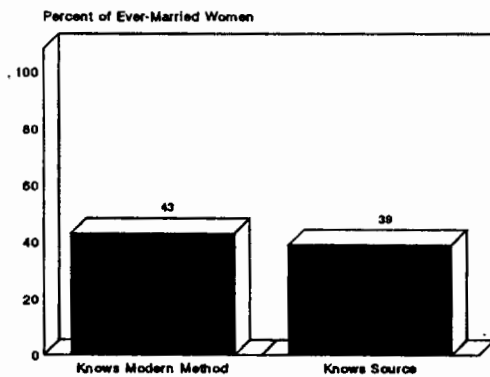
Manipur



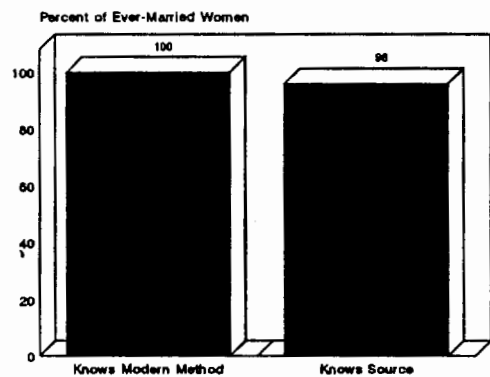
Meghalaya



Mizoram



Nagaland



Tripura

NFHS, Northeastern states, 1993

Table 6.1 and Figure 6.1 also provide information about the extent of knowledge about sources from which contraceptive methods can be obtained. The question about source of method was asked only of those women who knew about the method. Differences in the knowledge about sources of contraceptives follow a pattern similar to that of knowledge of methods in the northeastern states. Knowledge of sources is almost universal in Mizoram and Tripura, it declines to 70-84 percent in Arunachal Pradesh, Manipur and Meghalaya and is lowest in Nagaland at 40 percent. Women are most knowledgeable about the source of female sterilization in all states, followed by the IUD and the pill in most states.

Table 6.2 shows differentials in level of knowledge of modern contraceptive methods and sources of these methods among currently married women, by age, residence and education.

Table 6.2 Knowledge of methods and source by background characteristics				
Percentage of currently married women knowing any method and at least one modern method and knowing a source for a modern method by selected background characteristics, Northeastern states, 1993				
Background characteristic	Knows any method	Knows any modern method ¹	Knows source for any modern method	Number of women
ARUNACHAL PRADESH				
Age				
15-19	80.8	80.8	67.9	78
20-24	84.2	84.2	76.3	190
25-29	79.3	79.3	74.1	193
30-34	76.3	76.3	67.8	152
35-39	77.8	77.8	67.6	108
40-44	68.1	68.1	59.7	72
45-49	(56.1)	(56.1)	(51.2)	41
Residence				
Urban	93.5	93.5	91.1	124
Rural	75.0	75.0	66.0	711
Education				
Illiterate	70.0	70.0	59.5	573
Lit., < middle complete	91.5	91.5	86.0	129
Middle school complete	97.1	97.1	97.1	69
High school and above	98.4	98.4	98.4	64
Total	77.7	77.7	69.7	835
MANIPUR				
Age				
20-24	95.7	94.9	80.4	138
25-29	93.2	93.2	84.4	192
30-34	95.7	95.7	88.2	187
35-39	93.3	92.5	82.8	134
40-44	94.2	93.4	82.6	121
45-49	87.8	85.7	67.3	98
Residence				
Urban	98.6	98.3	89.3	291
Rural	91.2	90.5	78.2	600
Education				
Illiterate	90.6	89.9	75.7	415
Lit., < middle complete	93.6	92.5	81.5	173
Middle school complete	94.9	94.9	82.7	98
High school and above	99.0	99.0	94.1	205
Total	93.6	93.0	81.8	891

**Table 6.2 Knowledge of methods and source by background characteristics
(Contd.)**

Percentage of currently married women knowing any method and at least one modern method and knowing a source for a modern method by selected background characteristics, Northeastern states, 1993

Background characteristic	Knows any method	Knows any modern method ¹	Knows source for any modern method	Number of women
MEGHALAYA				
Age				
15-19	86.0	84.2	75.4	57
20-24	79.8	79.4	74.5	243
25-29	74.0	72.1	68.5	219
30-34	83.8	81.8	73.0	148
35-39	84.2	84.2	73.3	120
40-44	77.1	76.2	68.6	105
45-49	63.6	62.6	59.8	107
Residence				
Urban	88.5	88.5	78.5	191
Rural	75.6	74.2	68.9	811
Education				
Illiterate	65.4	63.4	57.4	517
Lit., < middle complete	89.5	89.1	82.0	294
Middle school complete	96.7	96.7	91.2	91
High school and above	93.0	93.0	88.0	100
Total	78.0	76.9	70.8	1002
MIZORAM				
Age				
15-19	(97.1)	(97.1)	(94.1)	34
20-24	98.4	98.4	98.4	123
25-29	97.4	97.4	97.4	194
30-34	99.3	99.3	98.7	149
35-39	99.4	99.4	99.4	155
40-44	96.3	96.3	96.3	108
45-49	97.9	97.9	97.9	143
Residence				
Urban	98.9	98.9	98.6	441
Rural	97.4	97.4	97.2	465
Education				
Illiterate	84.8	84.8	84.8	79
Lit., < middle complete	99.2	99.2	98.9	525
Middle school complete	99.4	99.4	99.4	170
High school and above	100.0	100.0	100.0	132
Total	98.1	98.1	97.9	906

The percentage of currently married women with knowledge of modern methods of contraception is higher in urban than in rural areas, except in Tripura, where it is almost the same by residence. In almost all states, the percentage of women with knowledge of modern methods increases steadily with the level of education. In most states, knowledge of modern methods and their sources is lower among older women age 40 or over than among others.

**Table 6.2 Knowledge of methods and source by background characteristics
(Contd.)**

Percentage of currently married women knowing any method and at least one modern method and knowing a source for a modern method by selected background characteristics, Northeastern states, 1993

Background characteristic	Knows any method	Knows any modern method ¹	Knows source for any modern method	Number of women
NAGALAND				
Age				
15-19	(37.5)	(37.5)	(27.5)	40
20-24	46.8	46.8	43.4	173
25-29	48.3	48.3	40.8	240
30-34	53.8	53.8	50.0	130
35-39	45.7	45.7	43.2	162
40-44	40.2	40.2	39.3	112
45-49	32.5	32.0	28.4	169
Residence				
Urban	66.5	66.1	63.3	218
Rural	38.5	38.5	33.9	808
Education				
Illiterate	26.7	26.7	22.8	438
Lit., < middle complete	45.7	45.7	41.3	300
Middle school complete	64.3	64.3	56.6	129
High school and above	74.8	74.2	71.1	159
Total	44.4	44.3	40.2	1026
TRIPURA				
Age				
15-19	97.7	97.7	94.3	87
20-24	99.4	99.4	98.9	175
25-29	100.0	100.0	98.6	220
30-34	100.0	100.0	98.1	154
35-39	100.0	100.0	96.4	166
40-44	100.0	100.0	95.3	106
45-49	100.0	100.0	92.0	88
Residence				
Urban	99.5	99.5	99.0	201
Rural	99.8	99.8	96.4	802
Education				
Illiterate	99.5	99.5	93.8	402
Lit., < middle complete	99.7	99.7	98.6	354
Middle school complete	100.0	100.0	99.4	157
High school and above	100.0	100.0	100.0	90
Total	99.7	99.7	96.9	1003

Note: Total includes 1 woman age 13-14 in Arunachal Pradesh, 21 women age 15-19 in Manipur, 3 women age 13-14 in Meghalaya, and 7 women age 13-14 in Tripura, who are not shown separately. There were no interviewed women age 13-14 in Manipur, Mizoram and Nagaland.

(¹) Based on 25-49 cases

¹Includes the pill, copper T/IUD, injections, condoms, female sterilization and male sterilization.

6.2 Contraceptive Use

Ever Use of Family Planning Methods

All respondents who knew at least one method of family planning were asked whether they had ever used each of the methods they knew. The use of contraception was further probed by asking those who reported not using any method whether they "ever used anything or tried in any way to delay or avoid getting pregnant". Table 6.3 presents the pattern of ever use by age, separately for ever-married and currently married women.

Table 6.3 Ever use of contraception

Percentage of ever-married and currently married women who have ever used any contraceptive method, by specific method and age, Northeastern states, 1993

Age	Any method	Any modern method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods	Number of women
ARUNACHAL PRADESH													
Ever-married women													
15-19	11.2	8.8	2.5	5.0	--	1.3	--	--	3.8	3.8	1.3	--	80
20-24	18.8	14.6	6.3	7.8	--	0.5	2.6	--	6.8	6.3	1.6	--	192
25-29	33.7	27.6	10.6	11.1	1.0	2.5	9.5	--	8.0	7.5	3.5	1.0	199
30-34	34.0	30.2	13.0	7.4	--	4.3	16.0	--	11.1	9.3	4.3	1.2	162
35-39	40.3	33.6	11.8	11.8	--	3.4	20.2	--	10.9	10.9	5.0	--	119
40-44	29.6	24.7	13.6	7.4	--	2.5	8.6	2.5	12.3	11.1	4.9	--	81
45-49	(18.8)	(16.7)	(8.3)	(6.3)	(--)	(--)	(10.4)	(2.1)	(4.2)	(4.2)	(--)	(--)	48
Total	28.1	23.5	9.6	8.6	0.2	2.3	9.8	0.3	8.5	7.8	3.2	0.5	882
Currently married women													
15-19	11.5	9.0	2.6	5.1	--	1.3	--	--	3.8	3.8	1.3	--	78
20-24	18.9	14.7	6.3	7.9	--	0.5	2.6	--	6.8	6.3	1.6	--	190
25-29	34.7	28.5	10.9	11.4	1.0	2.6	9.8	--	8.3	7.8	3.6	1.0	193
30-34	36.2	32.2	13.8	7.9	--	4.6	17.1	--	11.8	9.9	4.6	1.3	152
35-39	43.5	36.1	13.0	12.0	--	3.7	22.2	--	12.0	12.0	5.6	--	108
40-44	31.9	27.8	15.3	8.3	--	2.8	9.7	2.8	12.5	11.1	5.6	--	72
45-49	(22.0)	(19.5)	(9.8)	(7.3)	(--)	(--)	(12.2)	(2.4)	(4.9)	(4.9)	(--)	(--)	41
Total	29.5	24.7	10.2	9.0	0.2	2.4	10.3	0.4	8.9	8.1	3.4	0.5	835
MANIPUR													
Ever-married women													
20-24	23.4	13.8	4.8	9.0	--	1.4	--	--	12.4	11.0	2.8	--	145
25-29	36.9	24.7	4.5	12.6	--	2.0	7.6	0.5	16.7	15.7	3.5	0.5	198
30-34	51.8	34.9	4.1	20.5	--	3.6	10.3	2.1	25.1	21.0	4.1	2.1	195
35-39	54.1	34.9	6.8	13.7	--	2.1	15.8	2.7	25.3	25.3	2.7	0.7	146
40-44	54.4	35.3	3.7	6.6	--	4.4	16.9	8.8	27.9	25.7	0.7	3.7	136
45-49	45.5	26.8	1.8	7.1	--	0.9	14.3	5.4	24.1	19.6	1.8	4.5	112
Total	43.4	27.9	4.3	12.1	--	2.4	10.2	2.8	21.4	19.2	2.8	1.7	953
Currently married women													
20-24	24.6	14.5	5.1	9.4	--	1.4	--	--	13.0	11.6	2.9	--	138
25-29	37.5	25.5	4.7	13.0	--	2.1	7.8	0.5	16.7	15.6	3.6	0.5	192
30-34	53.5	36.4	4.3	21.4	--	3.7	10.7	2.1	25.7	21.4	4.3	2.1	187
35-39	56.7	38.1	7.5	14.9	--	2.2	17.2	3.0	25.4	25.4	3.0	0.7	134
40-44	57.0	38.8	4.1	7.4	--	5.0	19.0	9.1	27.3	25.6	0.8	2.5	121
45-49	46.9	29.6	1.0	8.2	--	1.0	16.3	6.1	23.5	19.4	2.0	4.1	98
Total	44.8	29.6	4.5	12.9	--	2.6	10.9	2.9	21.3	19.2	3.0	1.5	891

Table 6.3 Ever use of contraception (Contd.)

Percentage of ever-married and currently married women who have ever used any contraceptive method, by specific method and age, Northeastern states, 1993

Age	Any method	Any modern method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods	Number of women
MEGHALAYA													
Ever-married women													
15-19	5.3	3.1	3.1	--	--	--	--	--	1.6	1.6	--	--	64
20-24	11.9	5.9	1.9	1.9	--	1.1	1.1	--	7.4	4.4	4.1	3.3	270
25-29	26.0	14.8	8.0	3.0	--	0.8	3.4	0.4	11.4	3.4	5.9	7.6	237
30-34	35.0	25.2	6.7	7.4	--	1.2	14.1	--	13.5	7.4	5.5	8.0	163
35-39	30.2	23.7	7.2	2.9	--	2.2	15.8	1.4	7.9	2.2	2.9	7.2	139
40-44	37.4	24.4	4.9	3.3	--	2.4	17.1	1.6	16.3	8.9	5.7	10.6	123
45-49	31.2	19.6	2.9	--	--	0.7	16.7	0.7	14.5	6.5	5.1	8.7	138
Total	24.6	16.2	5.0	2.8	--	1.2	8.8	0.5	10.6	4.9	4.6	6.6	1137
Currently married women													
15-19	5.3	3.5	3.5	--	--	--	--	--	1.8	1.8	--	--	57
20-24	11.9	6.2	2.1	2.1	--	1.2	0.8	--	7.8	4.5	4.1	3.7	243
25-29	26.0	15.5	8.7	3.2	--	0.9	3.2	0.5	12.3	3.7	6.4	8.2	219
30-34	37.2	26.4	6.8	7.4	--	1.4	15.5	--	14.9	8.1	6.1	8.8	148
35-39	35.0	27.5	8.3	3.3	--	2.5	18.3	1.7	9.2	2.5	3.3	8.3	120
40-44	40.0	25.7	4.8	3.8	--	1.9	18.1	1.9	18.1	9.5	5.7	11.4	105
45-49	35.5	23.4	3.7	--	--	0.9	19.6	0.9	15.9	5.6	5.6	10.3	107
Total	26.5	17.5	5.5	3.1	--	1.3	9.4	0.6	11.6	5.1	4.9	7.3	1002
MIZORAM													
Ever-married women													
15-19	(7.5)	(5.0)	(5.0)	(--)	(--)	(--)	(--)	(--)	(2.5)	(2.5)	(--)	(--)	40
20-24	22.9	21.6	7.8	11.1	--	2.0	3.3	--	2.6	2.0	1.3	--	153
25-29	40.4	39.5	7.6	15.2	0.4	0.4	22.0	--	3.1	2.2	1.3	--	223
30-34	61.0	59.9	8.1	14.5	--	4.7	45.3	0.6	6.4	4.7	3.5	0.6	172
35-39	75.2	73.9	8.7	5.6	--	0.6	67.1	--	4.3	2.5	1.9	--	161
40-44	65.3	64.5	3.2	4.8	--	0.8	60.5	--	0.8	0.8	0.8	--	124
45-49	57.6	56.4	2.9	5.8	--	0.6	51.2	--	4.7	2.3	1.7	0.6	172
Total	51.1	50.0	6.5	9.7	0.1	1.4	38.6	0.1	3.7	2.5	1.7	0.2	1045
Currently married women													
15-19	(5.9)	(5.9)	(5.9)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	34
20-24	26.8	25.2	9.8	12.2	--	2.4	4.1	--	3.3	2.4	1.6	--	123
25-29	45.4	44.3	8.2	17.0	0.5	0.5	25.3	--	3.6	2.6	1.5	--	194
30-34	68.5	67.1	8.7	14.8	--	5.4	52.3	0.7	7.4	5.4	4.0	0.7	149
35-39	78.1	76.8	9.0	5.8	--	0.6	69.7	--	4.5	2.6	1.9	--	155
40-44	74.1	73.1	2.8	4.6	--	0.9	69.4	--	0.9	0.9	0.9	--	108
45-49	65.7	64.3	2.8	4.2	--	0.7	61.5	--	4.9	2.8	2.1	--	143
Total	57.4	56.2	7.1	9.9	0.1	1.7	44.5	0.1	4.1	2.8	2.0	0.1	906

The ever use of contraception among currently married women is highest in Tripura (71 percent), followed by Mizoram (57 percent), Manipur (45 percent), Arunachal Pradesh (30 percent), Meghalaya (27 percent), and Nagaland (19 percent) (Figure 6.2). This pattern suggests that wherever the knowledge of contraception is high, the ever use of a family planning method is also higher than where knowledge is low. Ever use of modern methods is highest in

Table 6.3 Ever use of contraception (Contd.)

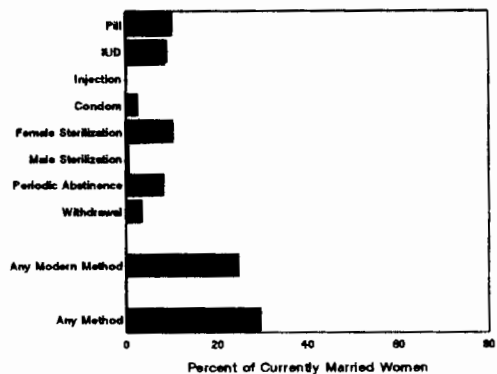
Percentage of ever-married and currently married women who have ever used any contraceptive method, by specific method and age, Northeastern states, 1993

Age	Any method	Any modern method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods	Number of women
NAGALAND													
Ever-married women													
15-19	(14.6)	(14.6)	(9.8)	(2.4)	(2.4)	(4.9)	(--)	(--)	(--)	(--)	(--)	(--)	41
20-24	10.7	10.2	3.1	0.5	--	7.1	1.0	--	1.0	0.5	1.0	--	196
25-29	12.1	12.1	5.1	2.7	0.8	4.3	3.1	--	0.8	0.8	0.8	0.4	257
30-34	29.3	28.7	10.7	6.0	3.3	10.7	8.7	--	2.0	0.7	1.3	0.7	150
35-39	26.3	26.3	5.6	6.7	2.2	6.1	12.8	--	2.8	1.7	2.8	--	179
40-44	20.4	20.4	8.0	3.6	1.5	6.6	8.8	--	2.2	1.5	1.5	--	137
45-49	16.9	16.4	10.6	1.6	1.6	7.9	4.2	0.5	1.6	1.1	1.6	--	189
Total	18.2	17.9	7.0	3.3	1.5	6.8	5.7	0.1	1.6	1.0	1.4	0.2	1149
Currently married women													
15-19	(12.5)	(12.5)	(10.0)	(--)	(2.5)	(5.0)	(--)	(--)	(--)	(--)	(--)	(--)	40
20-24	11.0	10.4	3.5	0.6	--	6.9	1.2	--	1.2	0.6	1.2	--	173
25-29	12.1	12.1	4.6	2.9	0.8	4.6	3.3	--	0.8	0.8	0.8	0.4	240
30-34	30.8	30.8	12.3	6.9	3.1	10.0	10.0	--	0.8	--	0.8	--	130
35-39	27.8	27.8	6.2	6.8	2.5	6.2	14.2	--	3.1	1.9	3.1	--	162
40-44	25.0	25.0	9.8	4.5	1.8	8.0	9.8	--	2.7	1.8	1.8	--	112
45-49	18.3	17.8	11.2	1.8	1.8	8.3	4.7	0.6	1.8	1.2	1.8	--	169
Total	19.2	19.0	7.5	3.5	1.6	6.9	6.3	0.1	1.6	1.0	1.5	0.1	1026
TRIPURA													
Ever-married women													
15-19	39.4	7.4	6.4	2.1	--	1.1	--	--	35.1	28.7	16.0	--	94
20-24	54.5	25.9	23.3	3.2	--	6.3	3.2	--	46.0	39.7	25.9	1.1	189
25-29	72.8	47.0	26.7	5.6	--	10.8	18.1	0.4	57.3	45.3	33.6	1.3	232
30-34	77.6	49.1	24.8	2.4	--	10.9	24.8	1.2	59.4	48.5	37.0	1.8	165
35-39	78.3	43.9	21.1	1.7	--	5.6	26.7	1.7	62.2	48.9	33.3	3.3	180
40-44	71.0	37.1	15.3	1.6	--	4.8	16.1	6.5	58.1	48.4	24.2	4.0	124
45-49	66.1	32.1	6.4	3.7	--	7.3	10.1	11.9	51.4	44.0	18.3	3.7	109
Total	67.2	36.9	19.7	3.1	--	7.3	15.3	2.5	53.8	44.0	28.5	2.1	1100
Currently married women													
15-19	42.5	8.0	6.9	2.3	--	1.1	--	--	37.9	31.0	17.2	--	87
20-24	57.7	28.0	25.1	3.4	--	6.9	3.4	--	48.6	42.3	27.4	1.1	175
25-29	75.0	48.6	27.7	5.9	--	10.9	19.1	0.5	59.1	46.4	35.0	1.4	220
30-34	80.5	51.9	26.0	2.6	--	11.7	26.6	1.3	61.0	49.4	39.6	1.9	154
35-39	83.1	47.0	22.3	1.8	--	6.0	28.9	1.8	66.3	51.8	36.1	3.6	166
40-44	76.4	41.5	17.0	1.9	--	5.7	18.9	6.6	62.3	51.9	26.4	4.7	106
45-49	69.3	35.2	6.8	4.5	--	8.0	12.5	12.5	53.4	47.7	20.5	3.4	88
Total	70.6	39.5	21.1	3.4	--	7.8	16.7	2.4	56.4	46.2	30.7	2.2	1003

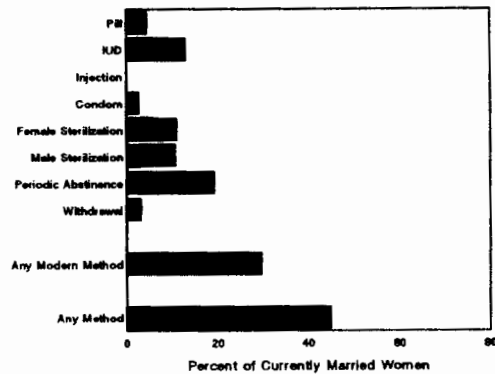
Note: Totals for both ever-married and currently married women include 1 woman age 13-14 in Arunachal Pradesh, 21 women age 15-19 in Manipur, 3 women age 13-14 in Meghalaya and 7 women age 13-14 in Tripura, who are not shown separately. There were no interviewed women age 13-14 in Manipur, Mizoram and Nagaland.

() Based on 25-49 cases
 -- Less than 0.05 percent

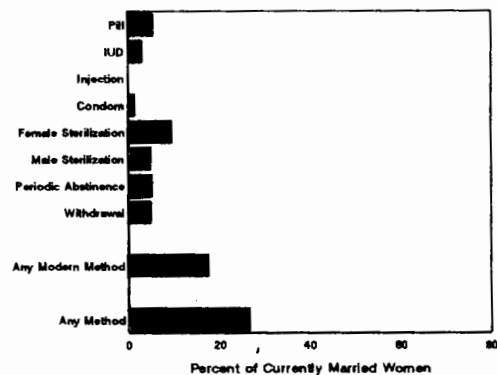
Figure 6.2 Ever Use of Contraception



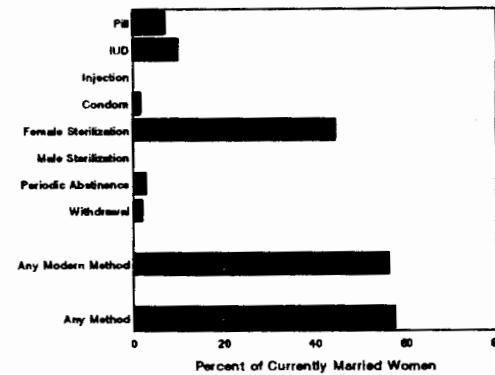
Arunachal Pradesh



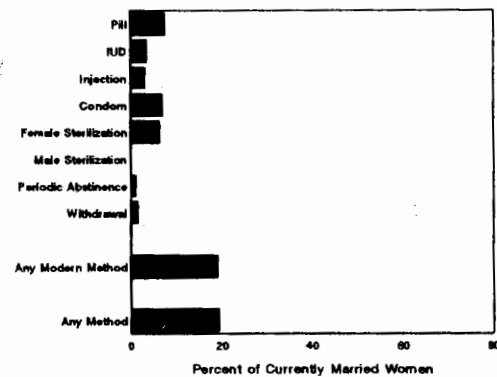
Manipur



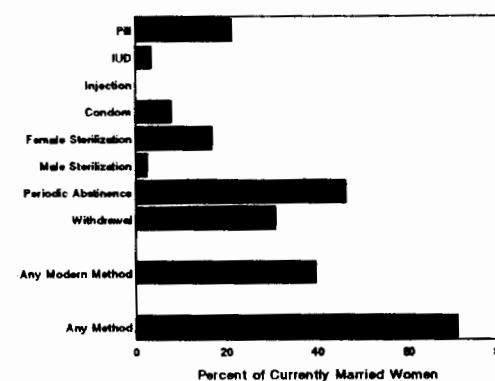
Meghalaya



Mizoram



Nagaland



Tripura

NFHS, Northeastern states, 1993

Mizoram (56 percent) which has the lowest fertility rate among the northeastern states, followed by Tripura (40 percent) and Manipur (30 percent). Among modern methods, almost an equal proportion of women in Arunachal Pradesh have ever used the pill, IUD and female sterilization, a greater proportion have used the IUD in Manipur, a greater proportion have used the pill in Nagaland and Tripura, and female sterilization is the most commonly used method in Meghalaya and Mizoram. Tripura and Manipur have a high rate of use of traditional methods, 56 percent in Tripura and 21 percent in Manipur compared with the other northeastern states (2-12 percent), and periodic abstinence is more popular among ever users than withdrawal.

Current Use of Family Planning Methods

Current use of contraception among currently married women age 13-49 shown in Table 6.4 is much higher in Tripura (56 percent) and Mizoram (54 percent), than in the other northeastern states (Manipur, 35 percent; Arunachal Pradesh, 24 percent; Meghalaya, 21 percent; and Nagaland, 13 percent) (Figure 6.3). Modern methods are used by a larger

Table 6.4 Current use of contraception

Percent distribution of currently married women by contraceptive method currently used, according to age, Northeastern states, 1993

Age	Any method	Any modern method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any traditional method	Periodic abstinence	Withdrawal	Other methods	Not using any method	Total percent	Number of women
ARUNACHAL PRADESH															
15-19	9.0	6.4	1.3	3.8	--	1.3	--	--	2.6	2.6	--	--	91.0	100.0	78
20-24	11.6	8.9	1.1	5.3	--	--	2.6	--	2.6	2.6	--	--	88.4	100.0	190
25-29	26.9	22.3	4.1	6.7	0.5	1.0	9.8	--	4.7	3.6	1.0	--	73.1	100.0	193
30-34	31.6	26.3	4.6	3.3	--	1.3	17.1	--	5.3	4.6	0.7	--	68.4	100.0	152
35-39	38.9	32.4	3.7	5.6	--	0.9	22.2	--	6.5	5.6	0.9	--	61.1	100.0	108
40-44	26.4	20.8	6.9	1.4	--	--	9.7	2.8	5.6	5.6	--	--	73.6	100.0	72
45-49	(17.1)	(14.6)	(--)	(--)	(--)	(--)	(12.2)	(2.4)	(2.4)	(2.4)	(--)	(--)	(82.9)	100.0	41
15-44	24.0	19.5	3.4	4.8	0.1	0.8	10.2	0.3	4.4	3.9	0.5	--	76.0	100.0	793
15-49	23.6	19.3	3.2	4.6	0.1	0.7	10.3	0.4	4.3	3.8	0.5	--	76.4	100.0	834
13-49	23.6	19.3	3.2	4.6	0.1	0.7	10.3	0.4	4.3	3.8	0.5	--	76.4	100.0	835
MANIPUR															
20-24	17.4	10.1	2.2	6.5	--	1.4	--	--	7.2	7.2	--	--	82.6	100.0	138
25-29	27.6	19.3	3.1	6.8	--	1.0	7.8	0.5	8.3	7.8	0.5	--	72.4	100.0	192
30-34	42.2	28.3	2.1	12.3	--	1.1	10.7	2.1	13.9	12.3	1.6	--	57.8	100.0	187
35-39	45.5	32.1	3.7	6.7	--	1.5	17.2	3.0	13.4	12.7	0.7	--	54.5	100.0	134
40-44	47.9	34.7	1.7	2.5	--	2.5	19.0	9.1	13.2	13.2	--	--	52.1	100.0	121
45-49	34.7	26.5	1.0	3.1	--	--	16.3	6.1	8.2	7.1	1.0	--	65.3	100.0	98
15-44	34.9	23.8	2.5	7.2	--	1.4	10.2	2.5	11.1	10.3	0.8	--	65.1	100.0	793
15-49	34.9	24.1	2.4	6.7	--	1.2	10.9	2.9	10.8	10.0	0.8	--	65.1	100.0	891
13-49	34.9	24.1	2.4	6.7	--	1.2	10.9	2.9	10.8	10.0	0.8	--	65.1	100.0	891

Table 6.4 Current use of contraception (Contd.)

Percent distribution of currently married women by contraceptive method currently used, according to age, Northeastern states, 1993

Age	Any method	Any modern method	Pill	IUD	In-jection	Con-dom	Fe-male ster-il-iza-tion	Male ster-il-iza-tion	Any trad. meth-od	Peri-odic absti-nence	With-drawal	Other meth-ods	Not using any method	Total per-cent	Number of women
MEGHALAYA															
15-19	3.5	3.5	3.5	--	--	--	--	--	--	--	--	--	96.5	100.0	57
20-24	9.1	3.7	0.4	2.1	--	0.4	0.8	--	5.3	2.1	0.8	2.5	90.9	100.0	243
25-29	19.6	11.9	5.5	2.3	--	0.5	3.2	0.5	7.8	0.9	1.4	5.5	80.4	100.0	219
30-34	31.8	24.3	4.7	4.1	--	--	15.5	--	7.4	0.7	0.7	6.1	68.2	100.0	148
35-39	32.5	25.8	0.8	2.5	--	2.5	18.3	1.7	6.7	--	--	6.7	67.5	100.0	120
40-44	28.6	22.9	--	2.9	--	--	18.1	1.9	5.7	2.9	--	2.9	71.4	100.0	105
45-49	22.4	21.5	0.9	--	--	--	19.6	0.9	0.9	0.9	--	--	77.6	100.0	107
15-44	20.5	14.3	2.6	2.5	--	0.6	8.2	0.6	6.2	1.2	0.7	4.3	79.5	100.0	892
15-49	20.7	15.1	2.4	2.2	--	0.5	9.4	0.6	5.6	1.2	0.6	3.8	79.3	100.0	999
13-49	20.7	15.1	2.4	2.2	--	0.5	9.4	0.6	5.6	1.2	0.6	3.8	79.3	100.0	1002
MIZORAM															
15-19	(5.9)	(5.9)	(5.9)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(94.1)	100.0	34
20-24	22.0	22.0	6.5	9.8	--	1.6	4.1	--	--	--	--	--	78.0	100.0	123
25-29	37.6	37.1	2.6	9.3	--	--	25.3	--	0.5	--	0.5	--	62.4	100.0	194
30-34	65.1	63.8	3.4	4.7	--	2.7	52.3	0.7	1.3	1.3	--	--	34.9	100.0	149
35-39	76.1	74.8	1.9	3.2	--	--	69.7	--	1.3	1.3	--	--	23.9	100.0	155
40-44	73.1	72.2	--	2.8	--	--	69.4	--	0.9	0.9	--	--	26.9	100.0	108
45-49	63.6	62.2	--	0.7	--	--	61.5	--	1.4	0.7	0.7	--	36.4	100.0	143
15-44	51.9	51.1	3.0	5.9	--	0.8	41.3	0.1	0.8	0.7	0.1	--	48.1	100.0	763
15-49	53.8	52.9	2.5	5.1	--	0.7	44.5	0.1	0.9	0.7	0.2	--	46.2	100.0	906
13-49	53.8	52.9	2.5	5.1	--	0.7	44.5	0.1	0.9	0.7	0.2	--	46.2	100.0	906
MAGALAND															
15-19	(5.0)	(5.0)	(2.5)	(--)	(--)	(2.5)	(--)	(--)	(--)	(--)	(--)	(--)	(95.0)	100.0	40
20-24	4.0	4.0	1.2	0.6	--	1.2	1.2	--	--	--	--	--	96.0	100.0	173
25-29	9.2	9.2	2.1	1.7	--	2.1	3.3	--	--	--	--	--	90.8	100.0	240
30-34	23.1	23.1	5.4	4.6	--	3.1	10.0	--	--	--	--	--	76.9	100.0	130
35-39	22.2	22.2	1.9	3.7	1.2	1.2	14.2	--	--	--	--	--	77.8	100.0	162
40-44	16.1	16.1	--	2.7	--	3.6	9.8	--	--	--	--	--	83.9	100.0	112
45-49	10.7	10.7	2.4	0.6	--	2.4	4.7	0.6	--	--	--	--	89.3	100.0	169
15-44	13.4	13.4	2.1	2.3	0.2	2.1	6.7	--	--	--	--	--	86.6	100.0	857
15-49	13.0	13.0	2.1	2.0	0.2	2.1	6.3	0.1	--	--	--	--	87.0	100.0	1026
13-49	13.0	13.0	2.1	2.0	0.2	2.1	6.3	0.1	--	--	--	--	87.0	100.0	1026

percentage of currently married women than traditional methods in all the northeastern states, except Tripura, where the percentage using modern and traditional methods is almost the same. Among the modern methods, female sterilization is the most popular contraceptive method. Female sterilization, however, is used at a lower rate in all the northeastern states (ranging from 6 to 17 percent of currently married women), except Mizoram (45 percent), than in the country as a whole (27 percent) (International Institute of Population Sciences, 1994). Among traditional methods, periodic abstinence is the most popular method in all the northeastern states.

Table 6.4 Current use of contraception (Contd.)

Percent distribution of currently married women by contraceptive method currently used, according to age, Northeastern states, 1993

Age	Any method	Any modern method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any method	Periodic abstinence	Withdrawal	Other methods	Not using any method	Total percent	Number of women
TRIPURA															
15-19	26.4	3.4	3.4	--	--	--	--	--	23.0	18.4	4.6	--	73.6	100.0	87
20-24	40.0	16.0	9.7	2.3	--	0.6	3.4	--	24.0	14.9	8.6	0.6	60.0	100.0	175
25-29	60.9	35.9	10.5	3.6	--	2.3	19.1	0.5	25.0	15.0	10.0	--	39.1	100.0	220
30-34	70.8	38.3	7.1	0.6	--	2.6	26.6	1.3	32.5	18.8	13.0	0.6	29.2	100.0	154
35-39	74.7	39.2	5.4	0.6	--	2.4	28.9	1.8	35.5	17.5	16.9	1.2	25.3	100.0	166
40-44	61.3	27.4	0.9	0.9	--	--	18.9	6.6	34.0	20.8	13.2	--	38.7	100.0	106
45-49	42.0	27.3	--	--	--	2.3	12.5	12.5	14.8	13.6	1.1	--	58.0	100.0	88
15-44	57.8	29.0	7.0	1.7	--	1.5	17.3	1.4	28.9	17.1	11.3	0.4	42.2	100.0	908
15-49	56.4	28.8	6.4	1.5	--	1.6	16.9	2.4	27.6	16.8	10.4	0.4	43.6	100.0	996
13-49	56.1	28.6	6.4	1.5	--	1.6	16.7	2.4	27.5	16.7	10.5	0.4	43.9	100.0	1003

Note: Total includes 1 woman age 13-14 in Arunachal Pradesh, 21 women age 15-19 in Manipur, 3 women age 13-14 in Meghalaya and 7 women age 13-14 in Tripura, who are not shown separately. There were no interviewed currently married women age 13-14 in Manipur, Mizoram and Nagaland.

() Based on 25-49 cases

-- Less than 0.05 percent

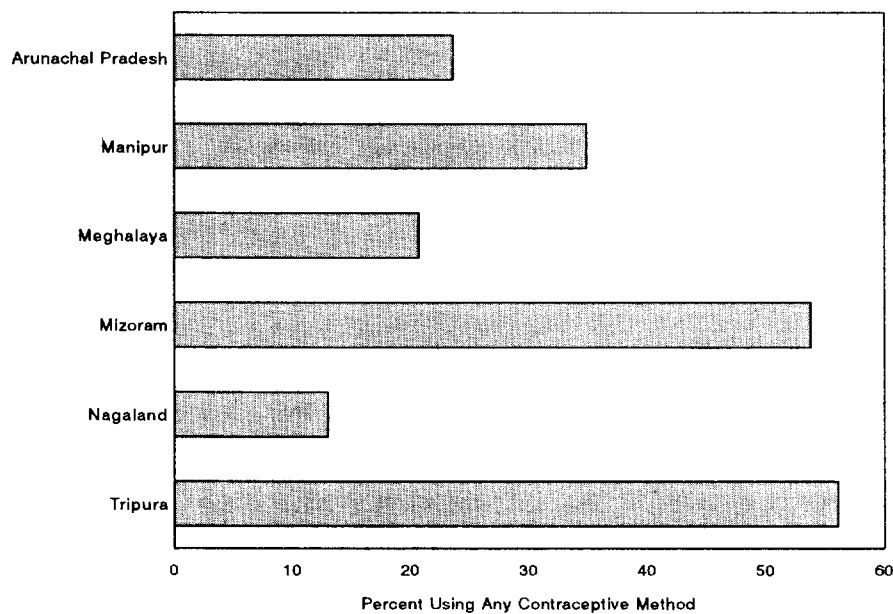
Meghalaya, Manipur and Tripura have a higher rate of use of traditional methods than in the country as a whole. As in most other Indian states, male sterilization is not common in any of the northeastern states.

The level of contraceptive use among currently married women varies by woman's age. Table 6.4 shows that the current contraceptive use rate of Tripura increases from 26 percent at age 15-19 to 75 percent at age 35-39 and declines thereafter. A similar pattern prevails in the other states. Among modern methods, female sterilization is the most used method above age 30, and its use rate peaks at age 35-39 in all the northeastern states except in Manipur where the use of female sterilization peaks at age 40-44.

Socioeconomic Differentials in Current Use of Family Planning

Socioeconomic differentials in current contraceptive use rates are presented in Table 6.5. Current use of contraception is higher in urban areas than in rural areas in all of the northeastern states. This is true in the case of modern methods as well as. For example, in Tripura, the northeastern state with the highest level of current use of family planning, 71 percent of currently married women in urban areas and 52 percent in rural areas use family planning. Use of modern methods in Tripura is 39 percent in urban areas and 26 percent in rural areas. The current use of traditional methods is also higher in urban areas than in rural areas in every state except in Meghalaya.

Figure 6.3
Current Use of Any Contraceptive Method



NFHS, Northeastern states, 1993

Table 6.5 Current use by background characteristics

Percent distribution of currently married women by contraceptive method currently used, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Any method	Any modern method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any method	Periodic abstinence	Withdrawal	Other methods	Not using any method	Total percent	Number of women
ARUNACHAL PRADESH															
Residence															
Urban	39.5	29.0	4.0	5.6	--	4.0	14.5	0.8	10.5	8.9	1.6	--	60.5	100.0	124
Rural	20.8	17.6	3.1	4.4	0.1	0.1	9.6	0.3	3.2	3.0	0.3	--	79.2	100.0	711
Education															
Illiterate	19.9	17.6	2.8	3.5	--	0.3	10.5	0.5	2.3	2.1	0.2	--	80.1	100.0	573
Literate, < middle	26.4	19.4	3.9	4.7	0.8	--	10.1	--	7.0	6.2	0.8	--	73.6	100.0	129
Middle complete	27.5	20.3	1.4	8.7	--	--	10.1	--	7.2	7.2	--	--	72.5	100.0	69
High school and above	46.9	32.8	7.8	9.4	--	6.3	9.4	--	14.1	10.9	3.1	--	53.1	100.0	64

Table 6.5 Current use by background characteristics (Contd.)

Percent distribution of currently married women by contraceptive method currently used, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Any method	Any modern method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any traditional method	Periodic abstinence	Withdrawal	Other methods	Not using any method	Total percent	Number of women
MANIPUR															
Residence															
Urban	44.3	31.6	3.4	12.0	--	1.7	11.0	3.4	12.7	12.0	0.7	--	55.7	100.0	291
Rural	30.3	20.5	1.8	4.2	--	1.0	10.8	2.7	9.8	9.0	0.8	--	69.7	100.0	600
Education															
Illiterate	30.4	22.9	1.7	5.3	--	0.7	12.3	2.9	7.5	7.2	0.2	--	69.6	100.0	415
Literate, < middle	35.3	23.7	1.2	4.0	--	1.2	12.1	5.2	11.6	10.4	1.2	--	64.7	100.0	173
Middle complete	40.8	24.5	6.1	5.1	--	1.0	9.2	3.1	16.3	16.3	--	--	59.2	100.0	98
High school and above	41.0	26.8	2.9	12.7	--	2.4	7.8	1.0	14.1	12.2	2.0	--	59.0	100.0	205
MEGHALAYA															
Residence															
Urban	31.9	27.7	3.7	3.7	--	0.5	19.4	0.5	4.2	2.1	2.1	--	68.1	100.0	191
Rural	18.0	12.1	2.1	1.8	--	0.5	7.0	0.6	5.9	1.0	0.2	4.7	82.0	100.0	811
Education															
Illiterate	17.0	10.3	1.2	1.4	--	--	7.0	0.8	6.8	1.2	0.2	5.4	83.0	100.0	517
Literate, < middle	20.1	17.0	3.4	2.0	--	0.7	10.2	0.7	3.1	0.7	0.3	2.0	79.9	100.0	294
Middle complete	30.8	25.3	4.4	4.4	--	1.1	15.4	--	5.5	--	1.1	4.4	69.2	100.0	91
High school and above	32.0	25.0	4.0	5.0	--	2.0	14.0	--	7.0	4.0	3.0	--	68.0	100.0	100
MIZORAM															
Residence															
Urban	57.1	55.8	3.6	4.5	--	1.4	46.0	0.2	1.4	0.9	0.5	--	42.9	100.0	441
Rural	50.5	50.1	1.5	5.6	--	--	43.0	--	0.4	0.4	--	--	49.5	100.0	465
Education															
Illiterate	35.4	35.4	1.3	1.3	--	--	32.9	--	--	--	--	--	64.6	100.0	79
Literate, < middle	58.5	57.9	2.1	4.6	--	--	51.0	0.2	0.6	0.4	0.2	--	41.5	100.0	525
Middle complete	49.4	48.2	1.8	6.5	--	1.2	38.8	--	1.2	0.6	0.6	--	50.6	100.0	170
High school and above	51.5	49.2	6.1	7.6	--	3.0	32.6	--	2.3	2.3	--	--	48.5	100.0	132
NAGALAND															
Residence															
Urban	20.6	20.6	3.2	3.2	--	1.8	11.9	0.5	--	--	--	--	79.4	100.0	218
Rural	10.9	10.9	1.9	1.7	0.2	2.2	4.8	--	--	--	--	--	89.1	100.0	808
Education															
Illiterate	6.6	6.6	0.9	--	0.5	1.4	3.9	--	--	--	--	--	93.4	100.0	438
Literate, < middle	16.0	16.0	1.7	3.3	--	3.3	7.7	--	--	--	--	--	84.0	100.0	300
Middle complete	17.8	17.8	3.1	4.7	--	2.3	7.8	--	--	--	--	--	82.2	100.0	129
High school and above	20.8	20.8	5.7	3.1	--	1.9	9.4	0.6	--	--	--	--	79.2	100.0	159

Table 6.5 Current use by background characteristics (Contd.)

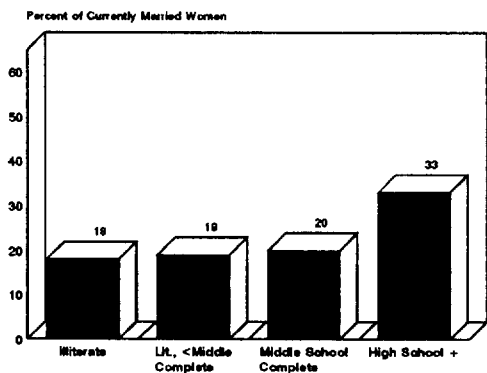
Percent distribution of currently married women by contraceptive method currently used, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Any method	Any modern method		Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods	Not using any method	Total percent	Number of women	
		Pill	IUD												
TRIPURA															
Residence															
Urban	71.1	39.3	9.5	2.0	--	2.5	23.4	2.0	31.8	15.4	15.9	0.5	28.9	100.0	201
Rural	52.4	25.9	5.6	1.4	--	1.4	15.1	2.5	26.4	17.0	9.1	0.4	47.6	100.0	802
Education															
Illiterate	45.0	22.1	4.0	0.5	--	0.7	15.9	1.0	22.9	15.7	6.5	0.7	55.0	100.0	402
Literate < middle	61.0	33.1	5.9	0.8	--	1.7	20.6	4.0	28.0	17.5	10.5	--	39.0	100.0	354
Middle complete	66.9	37.6	12.7	4.5	--	2.5	14.6	3.2	29.3	14.6	14.0	0.6	33.1	100.0	157
High school and above	67.8	24.4	7.8	3.3	--	3.3	8.9	1.1	43.3	21.1	22.2	--	32.2	100.0	90
-- Less than 0.05 percent															

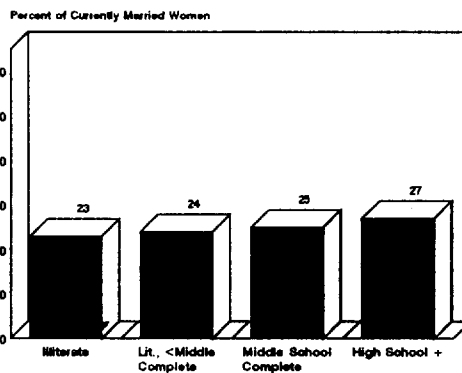
There is a positive relationship between level of education and current use of family planning in all of the northeastern states, as clearly seen from the use rate of illiterates and that of women who have completed at least high school (Figure 6.4). For instance, in Nagaland, the northeastern state with the lowest level of current use of family planning, 7 percent of illiterate women use family planning compared with 21 percent of women who have completed high school. The use rate of modern methods increases as the level of education increases in all of the northeastern states except Tripura. Among users, sterilization is more popular among illiterate women in all states, and the IUD, pill and traditional methods are generally more popular among educated women. In Tripura, where the use of traditional methods is highest among the northeastern states, traditional methods are used by a higher percentage of illiterate women and high school graduates than are other methods. In Mizoram and Nagaland, female sterilization is the most popular method at all educational levels.

The pattern of contraceptive use by the number and sex of living children for the northeastern states is presented in Table 6.6. Tripura stands out as having a relatively high level of use (more than 40 percent) among women with one child. The early use of contraception in Tripura is consistent with the fact that spacing methods are particularly popular in the state. There is a positive relationship between number of living children and current use in Arunachal Pradesh and Mizoram, and in the other states the positive relationship exists up to three children. For instance, in Meghalaya, current use of any method increases steadily from 4 percent for women with no living children to 32 percent for women with three living children, then decreases to 23 percent for women with four or more living children. The same trend is observed for female sterilization in the majority of the northeastern states. The data on current use by sex composition of living children indicate the existence of son preference. At each number of living children, current use of contraceptive methods is generally lowest among women with no sons in all the states.

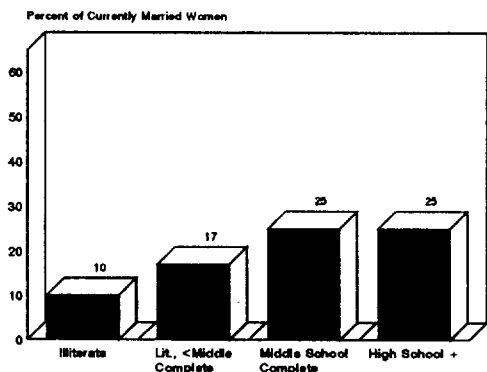
Figure 6.4 Current Use of Modern Contraceptive Methods By Education



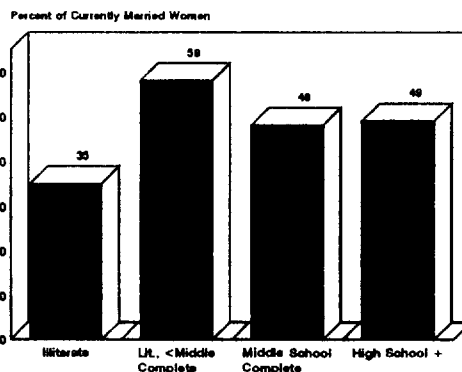
Arunachal Pradesh



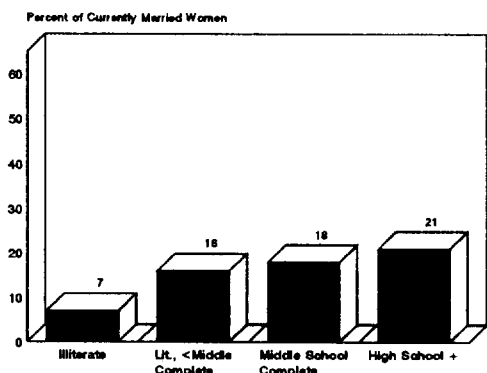
Manipur



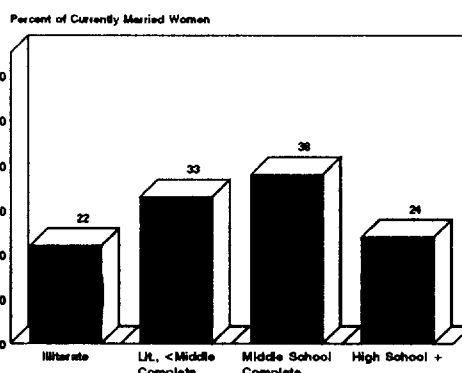
Meghalaya



Mizoram



Nagaland



Tripura

NFHS, Northeastern states, 1993

Table 6.6 Current use by number and sex of living children

Percentage of currently married women age 13-49 who are currently using any contraceptive method, according to number and sex of living children, Northeastern states, 1993

Number and sex of living children	Arunachal Pradesh		Manipur		Meghalaya		Mizoram		Nagaland		Tripura	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
None	4.1	98	4.8	84	4.0	124	0.9	107	2.4	85	15.7	102
1 child	14.2	169	20.3	143	13.5	178	25.2	119	7.3	177	45.1	173
1 son	19.8	101	26.6	64	14.3	98	33.3	69	6.4	110	49.5	91
No son	5.9	68	15.2	79	12.5	80	14.0	50	9.0	67	40.2	82
2 children	25.0	152	35.0	137	23.5	179	48.9	139	9.6	187	60.8	209
2 sons	(26.2)	42	(43.6)	39	20.8	53	(61.1)	36	(8.5)	47	61.4	57
1 son	29.2	72	35.6	73	24.7	81	43.5	69	10.6	94	64.6	113
No sons	(15.8)	38	(20.0)	25	(24.4)	45	(47.1)	34	(8.7)	46	(48.7)	39
3 children	25.5	141	46.9	162	32.1	162	67.0	191	17.5	160	71.4	196
3 sons	(30.8)	26	*	17	*	23	(71.9)	32	*	13	*	23
2 sons	33.3	51	51.4	70	39.7	58	67.5	77	17.1	82	67.4	92
1 son	19.2	52	41.3	63	27.0	63	71.9	64	21.6	51	77.0	61
No sons	*	12	*	12	*	18	*	18	*	14	*	20
4+ children	34.5	272	42.2	365	23.4	359	74.3	350	17.3	417	62.5	323
2+ sons	37.0	227	43.2	303	22.5	315	75.7	280	18.0	345	59.7	263
1 son	(24.4)	45	37.5	56	(30.6)	36	70.9	55	14.0	57	78.4	51
No sons	*	3	*	6	*	8	*	15	*	15	*	9
Total	23.6	835	34.9	891	20.7	1002	53.8	906	13.0	1026	56.1	1003

() Based on 25-49 cases

* Percentage not shown; based on fewer than 25 cases

Number of Children at First Use of Contraception

In order to examine the timing of initial contraceptive use, the NFHS included a question addressed to all women who had ever used a method on how many living children they had when they first used a method. The distribution of ever-married women by the number of living children they had when they used contraception for the first time is shown in Table 6.7.

The percent of contraceptors who initiated use of contraception before having any children varies from 3 in Mizoram to 17 in Tripura, and those who initiated use after having their first child varies from 11 percent in Nagaland to 37 percent in Tripura. A little more than two-thirds of the women in Tripura who had ever used contraception initiated use when they had fewer than three living children, and the corresponding proportion is less than one-third in Mizoram. The percent of contraceptors who initiated contraceptive use after having four or more living children varies from 16 percent in Tripura to 46 percent in Mizoram. There is evidence of a shift over time toward initiating contraceptive use at lower parities. For example, 100 percent of contraceptors in the 15-19 age group in both Tripura and Mizoram initiated use when

Table 6.7 Number of living children at first use

Percent distribution of ever-married women by number of living children at the time of first use of contraception, according to current age, Northeastern states, 1993

Current age	Never used	Number of living children at the time of first use					Missing	Total percent	Number of women
		0	1	2	3	4+			
ARUNACHAL PRADESH									
15-19	88.7	5.0	6.3	--	--	--	--	100.0	80
20-24	81.3	1.6	6.8	5.7	4.7	--	--	100.0	192
25-29	65.8	1.0	8.5	8.5	7.5	8.5	--	100.0	199
30-34	65.4	--	8.6	5.6	3.7	16.7	--	100.0	162
35-39	59.7	1.7	5.0	6.7	5.0	21.8	--	100.0	119
40-44	69.1	--	6.2	6.2	1.2	17.3	--	100.0	81
45-49	(81.3)	(--)	(8.3)	(2.1)	(--)	(8.3)	(--)	100.0	48
Total	71.5	1.2	7.3	5.8	4.2	10.0	--	100.0	882
MANIPUR									
20-24	76.6	3.4	13.8	4.8	1.4	--	--	100.0	145
25-29	63.1	1.5	15.7	7.6	8.1	4.0	--	100.0	198
30-34	48.2	0.5	16.9	12.8	10.3	10.8	0.5	100.0	195
35-39	45.9	0.7	15.1	8.2	11.6	18.5	--	100.0	146
40-44	44.9	0.7	7.4	6.6	10.3	30.1	--	100.0	136
45-49	53.6	0.9	12.5	5.4	8.0	19.6	--	100.0	112
Total	56.3	1.4	13.7	7.8	8.2	12.5	0.1	100.0	953
MEGHALAYA									
15-19	95.3	3.1	1.6	--	--	--	--	100.0	64
20-24	88.5	2.2	4.8	3.3	1.1	--	--	100.0	270
25-29	75.5	1.7	6.3	7.6	4.6	4.2	--	100.0	237
30-34	65.0	--	7.4	7.4	11.0	9.2	--	100.0	163
35-39	69.8	0.7	5.0	5.0	6.5	12.9	--	100.0	139
40-44	62.6	3.3	5.7	5.7	6.5	16.3	--	100.0	123
45-49	68.8	2.2	5.1	5.1	7.2	11.6	--	100.0	138
Total	75.4	1.8	5.5	5.3	5.2	6.9	--	100.0	1137
MIZORAM									
15-19	(92.5)	(2.5)	(5.0)	(--)	(--)	(--)	(--)	100.0	40
20-24	77.1	2.6	12.4	4.6	3.3	--	--	100.0	153
25-29	57.8	0.9	12.1	12.6	13.0	3.6	--	100.0	223
30-34	36.6	1.2	4.1	13.4	19.2	25.6	--	100.0	172
35-39	23.0	2.5	4.3	8.1	16.8	45.3	--	100.0	161
40-44	31.5	--	3.2	6.5	12.1	46.8	--	100.0	124
45-49	37.8	1.7	2.9	5.8	10.5	41.3	--	100.0	172
Total	46.7	1.5	6.8	8.5	12.2	24.3	--	100.0	1045
MAGALAND									
15-19	(85.4)	(9.8)	(4.9)	(--)	(--)	(--)	(--)	100.0	41
20-24	89.3	5.6	2.0	1.5	1.5	--	--	100.0	196
25-29	87.9	2.3	2.7	2.3	2.7	1.9	--	100.0	257
30-34	70.7	1.3	2.7	4.7	4.7	16.0	--	100.0	150
35-39	73.7	0.6	--	4.5	7.8	13.4	--	100.0	179
40-44	78.8	0.7	1.5	0.7	5.1	13.1	--	100.0	137
45-49	83.1	0.5	2.1	5.8	2.6	5.8	--	100.0	189
Total	81.7	2.3	2.0	3.1	3.7	7.1	--	100.0	1149

Table 6.7 Number of living children at first use (Contd.)

Percent distribution of ever-married women by number of living children at the time of first use of contraception, according to current age, Northeastern states, 1993

Current age	Never used	Number of living children at the time of first use					Missing	Total percent	Number of women
		0	1	2	3	4+			
TRIPURA									
15-19	60.6	22.3	17.0	--	--	--	--	100.0	94
20-24	45.5	18.0	24.3	10.1	2.1	--	--	100.0	189
25-29	27.2	13.8	29.3	11.2	11.6	6.9	--	100.0	232
30-34	22.4	5.5	32.1	14.5	17.0	8.5	--	100.0	165
35-39	20.0	9.4	25.6	14.4	9.4	21.1	--	100.0	180
40-44	29.0	5.6	21.8	10.5	11.3	21.8	--	100.0	124
45-49	33.9	6.4	16.5	10.1	8.3	24.8	--	100.0	109
Total	32.5	11.6	24.9	10.8	9.0	11.1	--	100.0	1100

Note: Total includes 1 woman age 13-14 in Arunachal Pradesh, 21 women age 15-19 in Manipur, 3 women age 13-14 in Meghalaya, and 7 women age 13-14 in Tripura. There were no interviewed women age 13-14 in Manipur, Mizoram and Nagaland.

(-) Based on 25-49 cases

-- Less than 0.05 percent

they had fewer than 2 children compared with only 35 and 7 percent of the 45-49 age group in Tripura and Mizoram, respectively.

Age at Sterilization

Table 6.8 shows, for currently married sterilized couples, the age of the woman when the couple obtained a sterilization. The percentage of couples who underwent sterilization before age 30 varies from 51 percent in Manipur to 65 percent in Meghalaya. The percentage sterilized after age 35 varies from 8 percent in Arunachal Pradesh to 19 percent in Manipur. There is not much difference in the median age at sterilization among the northeastern states, varying from 27.9 years in Meghalaya to 29.7 years in Manipur.

Table 6.8 Timing of sterilization

Percent distribution of sterilized couples by age at the time of sterilization, Northeastern states, 1993

State	Woman's age at the time of operation						Total percent	Number	Median age ¹
	<25	25-29	30-34	35-39	40-44	45-49			
Arunachal Pradesh	28.1	34.8	29.2	6.7	1.1	--	100.0	89	28.0
Manipur	15.4	35.8	30.1	17.1	1.6	--	100.0	123	29.7
Meghalaya	29.0	36.0	23.0	9.0	3.0	--	100.0	100	27.9
Mizoram	18.8	42.1	27.0	10.6	1.5	--	100.0	404	28.8
Nagaland	27.3	24.2	31.8	13.6	1.5	1.5	100.0	66	29.3
Tripura	25.5	32.8	26.0	10.9	4.2	0.5	100.0	192	28.1

-- Less than 0.05 percent

¹Median ages are calculated only for persons sterilized at less than 40 years of age to avoid problems of censoring.

6.3 Source of Supply of Contraception

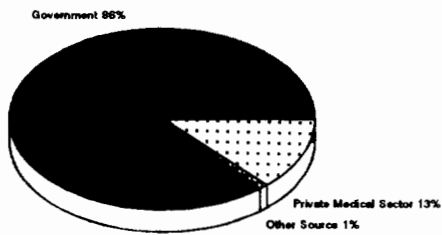
Family planning methods and services in the northeastern states are provided through a network of government hospitals and urban family welfare centres in urban areas and Primary Health Centres and sub-centres in rural areas. Besides these government outlets, family planning methods and services are also available at a number of private hospitals and clinics and nongovernmental organizations.

In order to assess the relative importance of various sources of contraceptive methods, the NFHS included a question on where current users of modern contraceptives obtain their methods. Overall, the public sector, including government/municipal hospitals, Primary Health Centres and other governmental health facilities, supplies 68 percent of all modern methods in Meghalaya, 71 percent in Nagaland, 75 percent in Tripura, 82 percent in Manipur, 86 percent in Arunachal Pradesh, and 91 percent in Mizoram (Table 6.9 and Figure 6.5). The private medical sector, including private hospitals or clinics, private doctors and pharmacies/drugstores, supplies from 8 percent of users in Mizoram to 31 percent in Meghalaya. Only around 4 percent of the couples rely on the other sources, such as shops, friends and relatives for their supply in Nagaland and Tripura, whereas in the rest of the states it is less than 2 percent.

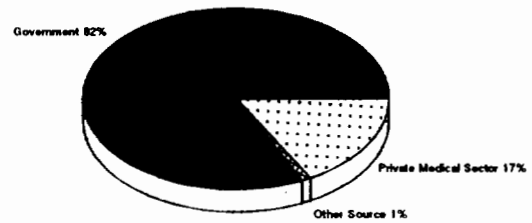
Source of supply	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Public sector	85.7	82.3	68.2	90.6	70.7	75.3
Government/municipal hospital	67.7	57.2	51.7	67.0	51.1	57.8
Primary Health Centre	14.9	16.3	15.2	11.7	6.0	15.7
Sub-centre	1.9	6.5	1.3	5.2	3.0	0.7
Family planning clinic	0.6	0.5	--	2.9	10.5	--
Public mobile clinic	--	1.9	--	2.3	--	--
Camp	0.6	--	--	1.3	--	1.0
Government paramedic	--	--	--	0.2	--	--
Private medical sector	13.0	16.7	31.1	8.1	24.8	21.3
Private hospital or clinic	3.7	2.3	15.2	3.1	7.5	1.4
Pharmacy/drugstore	6.2	5.6	6.0	1.5	7.5	17.4
Private doctor	3.1	8.8	9.9	2.7	9.0	2.4
Private mobile clinic	--	--	--	0.8	0.8	--
Field worker	--	--	--	--	--	--
Other source	1.2	0.9	0.7	1.3	4.5	3.5
Shop	1.2	0.5	0.7	0.8	3.8	0.7
Husband	--	0.5	--	--	0.8	1.0
Friend/relative	--	--	--	--	--	--
Other	--	--	--	0.4	--	1.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	161	215	151	479	133	287

-- Less than 0.05 percent

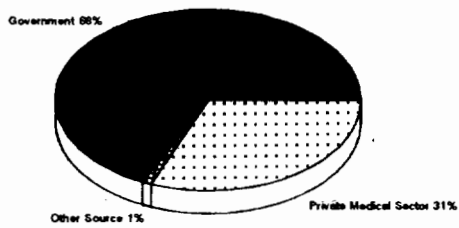
Figure 6.5
Sources of Family Planning Among Current Users of Modern Contraceptive Methods



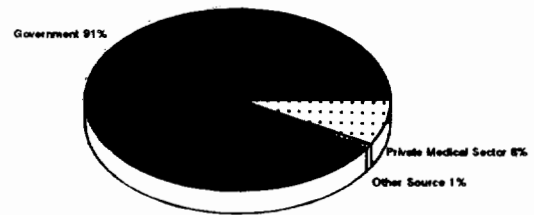
Arunachal Pradesh



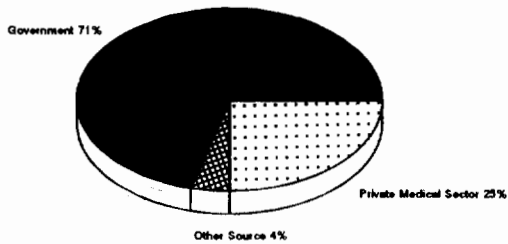
Manipur



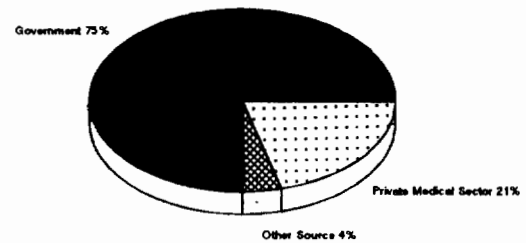
Meghalaya



Mizoram



Nagaland



Tripura

NFHS, Northeastern states, 1993

6.4 Intention to Use Family Planning in the Future

In the NFHS, all currently married pregnant women and nonpregnant women who were not using contraception at the time of the interview were asked about their future intentions regarding the use of family planning as well as their preferred method if they intended to use. This information may help family planning programme administrators to identify groups of potential users of family planning. Overall, more than 57 percent of current nonusers report that they do not intend to use contraception in the future in Arunachal Pradesh, Manipur, and Meghalaya and 35-47 percent do not intend to use in Mizoram, Nagaland, and Tripura (Table 6.10). More than 25 percent are unsure of their intention in Meghalaya, Mizoram and Nagaland. Among the intended users, the percentage that intend to use family planning within the next 12 months is 27 in Meghalaya, 34 percent in Mizoram, 40 percent in Arunachal Pradesh, 44 percent in Nagaland, 57 percent in Tripura and 81 percent in Manipur.

Among women who have never used contraception before, approximately one-half or more in Meghalaya, Arunachal Pradesh, Manipur and Nagaland do not intend to use in the future. Among the current nonusers, the percentage intending to use family planning in the future generally increases up to 2 or 3 children in every state, after which it decreases.

6.5 Reasons for Nonuse of Contraception

Currently married women who are not using any contraceptive method and who say that they do not intend to use contraception at any time in the future were asked to provide the main reason for their intention not to use in the future. Information about the reasons for nonuse is crucial for designing successful information programmes and for understanding the obstacles to further increase in contraceptive prevalence. Reasons for not intending to use any method are indicated in Table 6.11. Desire for additional children is the main reason for not intending to use contraception varying from 36 percent in Tripura to 67 percent in Mizoram. A larger percentage of women under age 30 gave this reason than older women.

In most states a larger percentage of women age 30 and over than younger women said they do not intend to use due to lack of knowledge. In Arunachal Pradesh, the state with the highest fertility rate among the northeastern states, lack of knowledge is reported by a larger percentage of women (14 percent) than in the other states. Religious and familial opposition is reported by a larger percentage of women age 30 and over than by younger women and the states with the highest rate of such opposition are Meghalaya (14 percent) and Nagaland (19 percent). Actual or perceived sterility including menopause, hysterectomy and difficulty in getting pregnant are also reported at a higher rate by women age 30 and over than by younger women. The highest rate of 46 percent of women age 30 and over reporting actual or perceived sterility as the main reason for not intending to use contraception in the future is in Tripura and the lowest rate of 11 percent is in Arunachal Pradesh.

Table 6.10 Future use

Percent distribution of currently married women who are not currently using any contraceptive method by intention to use in the future, according to number of living children and whether ever used contraception, Northeastern states, 1993

Past use/ intention to use in future	Number of living children ¹					Total
	0	1	2	3	4+	
ARUNACHAL PRADESH						
Never used contraception						
Intends to use in next 12 months	1.6	4.7	8.9	11.1	11.8	8.5
Intends to use later	6.3	16.2	12.1	6.5	5.1	9.4
Intends to use, unsure when	--	0.7	1.6	1.9	0.5	0.9
Unsure as to intention	15.9	13.5	20.2	13.0	15.9	15.7
Does not intend to use	76.2	60.8	46.8	59.3	55.9	57.8
Previously used contraception						
Intends to use in next 12 months	--	--	0.8	--	2.6	0.9
Intends to use later	--	2.0	4.8	3.7	2.6	2.8
Intends to use, unsure when	--	--	1.6	1.9	0.5	0.8
Unsure as to intention	--	0.7	1.6	1.9	1.0	1.1
Does not intend to use	--	1.4	1.6	0.9	4.1	2.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
All currently married nonusers						
Intends to use in next 12 months	1.6	4.7	9.7	11.1	14.4	9.4
Intends to use later	6.3	18.2	16.9	10.2	7.7	12.2
Intends to use, unsure when	--	0.7	3.2	3.7	1.0	1.7
Unsure as to intention	15.9	14.2	21.8	14.8	16.9	16.8
Does not intend to use	76.2	62.2	48.4	60.2	60.0	59.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	63	148	124	108	195	638
MANIPUR						
Never used contraception						
Intends to use in next 12 months	(2.6)	17.1	20.6	21.5	18.5	17.9
Intends to use later	(--)	4.7	4.1	5.4	1.8	3.3
Intends to use, unsure when	(--)	--	--	1.1	--	0.2
Unsure as to intention	(5.1)	7.8	3.1	5.4	3.2	4.7
Does not intend to use	(92.3)	62.8	51.5	40.9	61.3	58.8
Previously used contraception						
Intends to use in next 12 months	(--)	1.6	7.2	10.8	4.5	5.0
Intends to use later	(--)	0.8	4.1	3.2	0.9	1.7
Intends to use, unsure when	(--)	--	--	--	0.9	0.3
Unsure as to intention	(--)	0.8	2.1	1.1	--	0.7
Does not intend to use	(--)	4.7	7.2	10.8	9.0	7.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
All currently married nonusers						
Intends to use in next 12 months	(2.6)	18.6	27.8	32.3	23.0	22.9
Intends to use later	(--)	5.4	8.2	8.6	2.7	5.0
Intends to use, unsure when	(--)	--	--	1.1	0.9	0.5
Unsure as to intention	(5.1)	8.5	5.2	6.5	3.2	5.3
Does not intend to use	(92.3)	67.4	58.8	51.6	70.3	66.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	39	129	97	93	222	580

Table 6.10 Future use (Contd.)

Percent distribution of currently married women who are not currently using any contraceptive method by intention to use in the future, according to number of living children and whether ever used contraception, Northeastern states, 1993

Past use/ intention to use in future	Number of living children ¹					Total
	0	1	2	3	4+	
MEGHALAYA						
Never used contraception						
Intends to use in next 12 months	2.9	4.2	2.1	5.0	3.7	3.6
Intends to use later	15.7	10.1	9.2	7.4	3.1	7.4
Intends to use, unsure when	2.9	3.6	5.0	3.3	1.0	2.8
Unsure as to intention	18.6	29.2	25.5	19.0	26.1	24.9
Does not intend to use	60.0	50.0	48.2	55.4	56.3	53.7
Missing	--	0.6	--	--	--	0.1
Previously used contraception						
Intends to use in next 12 months	--	0.6	0.7	0.8	2.0	1.1
Intends to use later	--	0.6	3.5	3.3	2.0	2.0
Intends to use, unsure when	--	0.6	--	--	1.0	0.5
Does not intend to use	--	0.6	5.7	5.8	4.7	3.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
All currently married nonusers						
Intends to use in next 12 months	2.9	4.8	2.8	5.8	5.8	4.8
Intends to use later	15.7	10.7	12.8	10.7	5.1	9.4
Intends to use, unsure when	2.9	4.2	5.0	3.3	2.0	3.3
Unsure as to intention	18.6	29.2	25.5	19.0	26.1	24.9
Does not intend to use	60.0	50.6	53.9	61.2	61.0	57.5
Missing	--	0.6	--	--	--	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	70	168	141	121	295	795
MIZORAM						
Never used contraception						
Intends to use in next 12 months	3.2	9.3	9.6	16.9	4.2	8.6
Intends to use later	20.6	20.6	14.5	16.9	6.3	15.5
Intends to use, unsure when	--	2.8	--	2.8	--	1.2
Unsure as to intention	25.4	39.3	31.3	25.4	42.1	33.9
Does not intend to use	49.2	25.2	31.3	22.5	40.0	32.9
Previously used contraception						
Intends to use in next 12 months	--	0.9	4.8	2.8	--	1.7
Intend use later	--	1.9	3.6	4.2	2.1	2.4
Intend use unsure when	--	--	3.6	--	--	0.7
Unsure as to intention	1.6	--	--	4.2	2.1	1.4
Does not intend to use	--	--	1.2	4.2	3.2	1.7
Total Percent	100.0	100.0	100.0	100.0	100.0	100.0
All currently married nonusers						
Intends to use in next 12 months	3.2	10.3	14.5	19.7	4.2	10.3
Intends to use later	20.6	22.4	18.1	21.1	8.4	17.9
Intends to use, unsure when	--	2.8	3.6	2.8	--	1.9
Unsure as to intention	27.0	39.3	31.3	29.6	44.2	35.3
Does not intend to use	49.2	25.2	32.5	26.8	43.2	34.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	63	107	83	71	95	419

Table 6.10 Future use (Contd.)

Percent distribution of currently married women who are not currently using any contraceptive method by intention to use in the future, according to number of living children and whether ever used contraception, Northeastern states, 1993

Past use/ intention to use in future	Number of living children ¹					Total
	0	1	2	3	4+	
NAGALAND						
Never used contraception						
Intends to use in next 12 months	(--)	1.6	3.6	3.5	8.7	5.0
Intends to use later	(--)	7.1	6.5	3.5	3.7	4.7
Intends to use, unsure when	(--)	0.5	1.2	2.1	1.7	1.3
Unsure as to intention	(37.2)	29.3	48.5	35.2	34.1	36.2
Does not intend to use	(58.1)	54.3	36.7	45.1	43.9	45.6
Previously used contraception						
Intends to use in next 12 months	(--)	1.1	0.6	--	0.3	0.4
Intends to use later	(2.3)	1.1	0.6	--	--	0.4
Intends to use, unsure when	(--)	2.2	--	--	0.3	0.6
Unsure as to intention	(2.3)	2.2	1.8	7.0	5.1	4.0
Does not intend to use	(--)	0.5	0.6	3.5	2.3	1.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
All currently married nonusers						
Intends to use in next 12 months	(--)	2.7	4.1	3.5	9.0	5.5
Intends to use later	(2.3)	8.2	7.1	3.5	3.7	5.2
Intends to use, unsure when	(--)	2.7	1.2	2.1	2.0	1.9
Unsure as to intention	(39.5)	31.5	50.3	42.3	39.2	40.2
Does not intend to use	(58.1)	54.9	37.3	48.6	46.2	47.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	43	184	169	142	355	893
TRIPURA						
Never used contraception						
Intends to use in next 12 months	5.1	18.3	18.0	25.4	21.7	18.4
Intends to use later	18.6	15.4	16.9	6.8	4.7	11.8
Intends to use, unsure when	1.7	2.9	--	--	0.8	1.1
Unsure as to intention	10.2	7.7	6.7	--	2.3	5.2
Does not intend to use	49.2	25.0	25.8	23.7	32.6	30.5
Previously used contraception						
Intends to use in next 12 months	3.4	8.7	13.5	13.6	11.6	10.5
Intends to use later	6.8	13.5	9.0	8.5	3.1	8.0
Intends to use, unsure when	--	--	2.2	1.7	1.6	1.1
Unsure as to intention	1.7	2.9	1.1	1.7	0.8	1.6
Does not intend to use	3.4	5.8	6.7	18.6	20.9	11.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
All currently married nonusers						
Intends to use in next 12 months	8.5	26.9	31.5	39.0	33.3	28.9
Intends to use later	25.4	28.8	25.8	15.3	7.8	19.8
Intends to use, unsure when	1.7	2.9	2.2	1.7	2.3	2.3
Unsure as to intention	11.9	10.6	7.9	1.7	3.1	6.8
Does not intend to use	52.5	30.8	32.6	42.4	53.5	42.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	59	104	89	59	129	440

() Based on 25-49 cases

-- Less than 0.05 percent

¹Includes current pregnancy, if any

Table 6.11 Reasons for nonuse

Percent distribution of currently married women who are not using any contraceptive method and who do not intend to use in the future by main reason for not intending to use, according to age, Northeastern states, 1993

Reason	Arunachal Pradesh			Manipur			Meghalaya		
	Age <30	Age 30+	Total	Age <30	Age 30+	Total	Age <30	Age 30+	Total
Wants children	72.3	40.0	57.1	40.9	11.4	24.0	67.1	31.1	48.4
Wants a son	7.9	6.1	7.1	21.3	6.4	12.8	6.4	--	3.1
Wants a daughter	1.5	2.2	1.8	6.7	2.7	4.4	4.6	3.8	4.2
Worry about side effects	2.0	2.2	2.1	3.0	6.8	5.2	2.3	0.8	1.5
Can't work after sterilization	0.5	--	0.3	--	0.9	0.5	--	--	--
Lack of knowledge	9.9	19.4	14.4	1.8	8.6	5.7	0.5	4.6	2.6
Afraid of sterilization	1.0	8.3	4.5	3.0	3.2	3.1	0.9	2.5	1.8
Hard to get methods	--	--	--	--	--	--	--	--	--
Cost too much	--	2.2	1.0	--	--	--	0.5	1.3	0.9
Against religion	0.5	2.2	1.3	3.7	1.8	2.6	5.9	5.9	5.9
Opposed to family planning	--	0.6	0.3	--	2.3	1.3	5.9	6.3	6.1
Husband opposed	1.0	0.6	0.8	2.4	1.4	1.8	0.9	2.9	2.0
Other people opposed	--	1.1	0.5	--	0.5	0.3	0.9	--	0.4
Difficult to get pregnant	--	1.1	0.5	0.6	5.0	3.1	0.5	3.4	2.0
Menopausal/had hysterectomy	--	10.0	4.7	--	20.0	11.5	--	24.8	12.9
Health does not permit	1.0	1.1	1.0	0.6	12.3	7.3	--	0.8	0.4
Inconvenient	--	--	--	0.6	0.9	0.8	0.5	1.3	0.9
Doesn't like existing methods	2.5	1.1	1.8	14.6	14.5	14.6	2.7	9.7	6.3
Other	--	1.7	0.8	0.6	1.4	1.0	0.5	0.8	0.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	202	180	382	164	220	384	219	238	457
Reason	Mizoram			Nagaland			Tripura		
	Age <30	Age 30+	Total	Age <30	Age 30+	Total	Age <30	Age 30+	Total
Wants children	82.0	44.0	60.0	64.0	14.4	34.6	55.4	12.4	27.4
Wants a son	3.3	2.4	2.8	7.6	8.4	8.1	15.4	2.5	7.0
Wants a daughter	3.3	4.8	4.1	2.9	2.0	2.4	3.1	--	1.1
Worry about side effects	3.3	1.2	2.1	2.3	5.6	4.3	3.1	--	1.1
Can't work after sterilization	--	--	--	--	1.6	0.9	--	--	--
Lack of knowledge	--	7.1	4.1	2.9	3.2	3.1	1.5	--	0.5
Afraid of sterilization	--	2.4	1.4	0.6	3.2	2.1	1.5	5.8	4.3
Hard to get methods	--	--	--	--	0.4	0.2	--	--	--
Cost too much	--	--	--	4.7	2.0	3.1	--	0.8	0.5
Against religion	--	4.8	2.8	9.9	20.8	16.4	3.1	1.7	2.2
Opposed to family planning	--	2.4	1.4	--	1.6	0.9	1.5	5.0	3.8
Husband opposed	1.6	1.2	1.4	1.2	1.2	1.2	3.1	1.7	2.2
Other people opposed	--	--	--	--	--	--	1.5	--	0.5
Difficult to get pregnant	3.3	7.1	5.5	1.2	12.0	7.6	3.1	2.5	2.7
Menopausal/had hysterectomy	--	17.9	10.3	0.6	6.8	4.3	--	43.8	28.5
Health does not permit	3.3	1.2	2.1	1.2	8.0	5.2	--	2.5	1.6
Inconvenient	--	--	--	--	1.6	0.9	--	1.7	1.1
Doesn't like existing methods	--	3.6	2.1	1.2	6.0	4.0	1.5	3.3	2.7
Other	--	--	--	--	1.2	0.7	6.2	16.5	12.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	61	84	145	172	250	422	65	121	186

-- Less than 0.05 percent

6.6 Preferred Future Method of Family Planning

Women currently not using contraception who said they intend to use a method in the future were asked to specify the method of family planning they want to use. Table 6.12 shows that in Arunachal Pradesh, Mizoram and Nagaland, female sterilization is the most preferred method among women who intend to use contraception in the future. In Manipur, Meghalaya and Tripura, modern spacing methods, particularly the pill and IUD, are preferred more than terminal methods. The percentage of women who prefer the pill varies from 12 percent in Nagaland to 35 percent in Tripura. Although traditional methods are preferred by 25 percent of women in Meghalaya, the corresponding figure in Mizoram is less than 1 percent.

Preferred method	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Pill	28.2	27.9	26.6	27.8	11.6	34.8
Copper T/IUD	8.7	36.4	12.2	22.2	17.9	0.9
Injection	2.0	0.6	0.7	--	4.5	5.4
Condom	--	2.4	2.9	0.8	10.7	0.9
Female sterilization	45.0	14.5	21.6	47.6	34.8	32.1
Male sterilization	1.3	3.0	0.7	0.8	3.6	--
Periodic abstinence	4.7	12.7	12.2	0.8	1.8	8.5
Withdrawal	--	0.6	1.4	--	1.8	4.0
Other	0.7	0.6	11.5	--	6.3	3.1
Unsure	9.4	1.2	10.1	--	7.1	10.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	149	165	139	126	112	224

-- Less than 0.05 percent

6.7 Exposure to Family Planning Messages and Discussion and Approval of Family Planning

For many years, the family welfare programme has been utilizing the electronic mass media to promote family planning. In order to measure the spread of family planning messages through these media, the NFHS asked respondents whether they had heard such messages on radio and/or television in the past month. Table 6.13 shows that the percentage of women who heard a family planning message on the radio or the television in the month prior to the interview varies from 30 percent in Arunachal Pradesh to 63 percent in Manipur. Regardless of whether women had heard a family planning message on the radio and/or television, they were asked whether they considered it acceptable for family planning information to be provided on the radio or television. Although a large majority of the women (89 percent) in Tripura say it is acceptable to have family planning messages on the radio and television, in Meghalaya only 40 percent say such messages are acceptable.

All currently married nonsterilized women who knew at least one contraceptive method were asked how often they had talked with their husbands about family planning during the past

Table 6.13 Exposure to and acceptance of family planning messages and discussion and approval of family planning

Percentage of ever-married women who have heard a family planning message on the radio or television in the month prior to the interview, who approve media messages on family planning, and the percentage of nonsterilized currently married women knowing a contraceptive method who have discussed family planning with their husbands in the past year, and who approve and perceive that their husbands approve of family planning, Northeastern states, 1993

State	Heard family planning message on radio or television	Accept media messages on family planning	Discussed family planning with husband	Both husband and wife approve of family planning
Arunachal Pradesh	29.9	48.5	53.4	52.1
Manipur	63.3	66.7	71.7	59.2
Meghalaya	35.4	39.7	48.2	44.4
Mizoram	50.8	70.7	55.9	60.6
Nagaland	38.6	41.5	79.5	57.9
Tripura	38.1	89.3	64.7	80.7

year. The proportion of women who said they had discussed family planning with their husband varies from 48 percent in Meghalaya to 80 percent in Nagaland .

Information on attitudes about family planning was obtained by asking women whether they and their husbands approve or disapprove of couples using contraception to delay or avoid pregnancy. The percentage of couples who approve of family planning is highest in Tripura (81 percent) and lowest in Meghalaya (44 percent), which reflects the higher level of interspousal communication in Tripura (65 percent) than in Meghalaya (48 percent).

CHAPTER 7

FERTILITY PREFERENCES

In the NFHS, women were asked several questions about their desire for children in the future. The questions dealt with: (1) whether the woman wanted another child, (2) if so, how soon she would like to have her next child, and (3) how many children she would want in her lifetime if she could start over again. In addition, several questions were asked to ascertain the extent of sex preference. Information was collected on the preferred sex of the next child and the ideal number of children by sex. All these questions are analyzed in this chapter.

Interpretation of data on fertility preferences has always been a subject of controversy. Survey questions have been criticized on the grounds that answers may be misleading for a number of reasons. First, attitudes toward childbearing may not be fully formed, they may be held with little conviction and they may change over time. Moreover, the responses may not take into account the effect of social pressures or the attitudes of the husband and other family members, who may have a major influence on reproductive decisions. In addition, preferences for limiting family size can only be implemented if a woman has the means to fulfil her desires. Nevertheless, in the aggregate, data on fertility preferences can be useful as an indicator of general attitudes and the possible future course of fertility.

7.1 Desire for More Children

In the NFHS currently married women were asked "Would you like to have another child or would you prefer not to have any more children?" Women who did not have any children were asked whether or not they wanted to have any children. If a woman was pregnant, she was asked whether or not she wanted another child after the one she was expecting. Women who want another child were then asked about the preferred timing and sex of their next child.

Table 7.1 and Figure 7.1 provide information about the fertility preferences of currently married women. Overall, the percentage of women who say they want another child at some time in the future is 53 percent in Arunachal Pradesh and Meghalaya, 38 percent in Manipur and Mizoram, 26 percent in Nagaland and 29 percent in Tripura. In each state more than 50 percent of these women say they would like to wait at least two years before having their next birth. The percentages of women who would like to have another child soon (that is within two years) ranges from 6 percent in Nagaland to 21 percent in Arunachal Pradesh. More than 35 percent of women in Manipur, Nagaland and Tripura say they do not want any more children, and this percentage ranges from 10-24 percent in Mizoram, Meghalaya and Arunachal Pradesh. In this chapter, it is assumed that women who are sterilized (or whose husbands are sterilized) do not want any more children. If the percentage sterilized is combined with the percentage who want no more children, these two groups together constitute 69 percent of all currently married women in Tripura, 55 percent in Manipur and Mizoram, 42 percent in Nagaland, 35 percent in Arunachal Pradesh and 27 percent in Meghalaya.

To understand the total demand for contraception, it is of interest to add together women who do not want any more children (or who are sterilized) with women who want to delay their next birth for two years or longer. Overall, approximately 80-85 percent of women in Manipur,

Table 7.1 Fertility preferences

Percent distribution of currently married women by desire for children and preferred sex of additional child, according to number of living children, Northeastern states, 1993

Desire for children	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
ARUNACHAL PRADESH								
Desire for additional child								
Have another soon ²	55.2	29.1	18.5	20.1	7.2	9.9	9.1	20.5
Have another later ³	23.9	51.7	42.6	28.5	17.1	18.7	2.3	30.3
Have another, undecided when	7.5	1.7	2.5	2.1	--	3.3	2.3	2.4
Undecided	1.5	1.2	4.3	2.8	5.4	4.4	5.7	3.5
Up to God	9.0	4.7	2.5	4.9	5.4	5.5	10.2	5.4
Want no more	--	3.5	22.2	24.3	40.5	31.9	55.7	24.0
Sterilized	--	4.7	6.8	10.4	21.6	23.1	11.4	10.7
Declared infecund	3.0	3.5	0.6	6.9	2.7	3.3	3.4	3.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	67	172	162	144	111	91	88	835
Preferred sex of additional child								
Boy	(65.5)	55.6	62.1	65.8	(74.1)	(69.0)	*	62.6
Girl	(3.4)	20.4	12.6	17.8	(14.8)	(13.8)	*	14.6
Doesn't matter	(20.7)	13.4	15.5	5.5	(3.7)	(3.4)	*	12.2
Up to God	(10.3)	10.6	9.7	11.0	(7.4)	(13.8)	*	10.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	58	142	103	73	27	29	12	444
MANIPUR								
Desire for additional child								
Have another soon ²	(46.5)	12.0	15.9	3.6	4.1	--	1.6	8.5
Have another later ³	(32.6)	70.3	40.7	25.4	15.5	4.9	3.2	29.1
Have another, undecided when	(2.3)	1.3	0.7	--	0.7	--	--	0.6
Undecided	(--)	3.8	2.1	1.2	0.7	1.0	--	1.5
Up to God	(2.3)	3.8	2.1	3.6	2.0	--	1.6	2.4
Want no more	(4.7)	4.4	30.3	43.2	52.7	66.0	77.6	41.4
Sterilized	(2.3)	1.9	6.2	20.1	23.0	24.3	13.6	13.8
Declared infecund	(9.3)	2.5	2.1	3.0	1.4	3.9	2.4	2.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	43	158	145	169	148	103	125	891
Preferred sex of additional child								
Boy	(65.7)	60.6	72.3	(69.4)	(76.7)	*	*	67.4
Girl	(8.6)	21.2	19.3	(28.6)	(10.0)	*	*	19.1
Doesn't matter	(25.7)	16.7	6.0	(2.0)	(10.0)	*	*	12.1
Up to God	(--)	1.5	2.4	(--)	(3.3)	*	*	1.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	35	132	83	49	30	5	6	340

Table 7.1 Fertility preferences (Contd.)

Percent distribution of currently married women by desire for children and preferred sex of additional child, according to number of living children, Northeastern states, 1993

Desire for children	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
MEGHALAYA								
Desire for additional child								
Have another soon ²	46.7	19.8	17.5	9.2	8.5	6.1	6.0	14.7
Have another later ³	32.0	59.4	41.5	30.1	24.6	24.5	19.2	35.0
Have another, undecided when	6.7	5.2	3.8	2.3	4.6	1.0	1.3	3.5
Undecided	4.0	2.6	4.4	5.2	6.2	7.1	4.0	4.6
Up to God	1.3	4.7	6.6	12.1	11.5	11.2	11.9	8.7
Want no more	2.7	3.6	14.2	17.3	22.3	26.5	33.1	17.0
Sterilized	--	2.6	7.7	16.8	18.5	13.3	9.9	10.0
Declared infecund	6.7	2.1	4.4	6.9	3.8	10.2	14.6	6.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	75	192	183	173	130	98	151	1002
Preferred sex of additional child								
Boy	9.4	21.0	18.3	12.5	(20.4)	(12.9)	(15.0)	16.9
Girl	17.2	29.0	32.2	34.7	(26.5)	(29.0)	(10.0)	27.4
Doesn't matter	51.6	24.7	23.5	27.8	(38.8)	(45.2)	(55.0)	32.8
Up to God	21.9	25.3	26.1	25.0	(14.3)	(12.9)	(20.0)	22.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	64	162	115	72	49	31	40	533
MIZORAM								
Desire for additional child								
Have another soon ²	67.2	20.4	17.2	4.5	2.3	3.0	4.9	12.9
Have another later ³	20.3	65.7	35.8	20.6	7.0	5.9	4.9	24.3
Have another, undecided when	1.6	1.5	1.3	0.5	--	--	--	0.7
Undecided	--	1.5	0.7	2.0	2.9	4.0	4.9	2.2
Up to God	1.6	2.9	2.6	3.0	1.2	2.0	3.7	2.4
Want no more	--	0.7	11.9	13.6	11.0	12.9	17.1	10.2
Sterilized	--	5.1	29.1	53.3	73.3	71.3	59.8	44.6
Declared infecund	9.4	2.2	1.3	2.5	2.3	1.0	4.9	2.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	64	137	151	199	172	101	82	906
Preferred sex of additional child								
Boy	54.4	40.0	42.7	51.0	*	*	*	45.5
Girl	19.3	35.0	30.5	45.1	*	*	*	32.7
Doesn't matter	17.5	16.7	22.0	3.9	*	*	*	15.7
Up to God	8.8	8.3	4.9	--	*	*	*	6.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	57	120	82	51	16	9	8	343

Table 7.1 Fertility preferences (Contd.)

Percent distribution of currently married women by desire for children and preferred sex of additional child, according to number of living children, Northeastern states, 1993

Desire for children	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
NAGALAND								
Desire for additional child								
Have another soon ²	(20.0)	8.6	7.5	4.1	3.9	--	2.6	5.6
Have another later ³	(37.8)	40.6	22.5	17.1	8.6	5.7	2.6	18.7
Have another, undecided when	(4.4)	3.0	3.2	1.2	0.7	--	0.7	1.8
Undecided	(6.7)	5.1	7.0	5.9	6.6	8.1	6.6	6.4
Up to God	(20.0)	18.8	25.1	22.4	17.1	13.0	14.5	19.0
Want no more	(6.7)	13.7	27.3	31.2	48.0	56.9	54.6	35.1
Sterilized	(--)	2.0	4.3	9.4	11.2	7.3	7.9	6.4
Declared infecund	(4.4)	8.1	3.2	8.8	3.9	8.9	10.5	7.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	45	197	187	170	152	123	152	1026
Preferred sex of additional child								
Boy	(17.9)	21.4	27.4	(31.6)	*	*	*	25.5
Girl	(17.9)	18.4	16.1	(26.3)	*	*	*	19.5
Doesn't matter	(14.3)	29.1	30.6	(18.4)	*	*	*	26.2
Up to God	(50.0)	31.1	25.8	(23.7)	*	*	*	28.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	28	103	62	38	20	7	9	267
TRIPURA								
Desire for additional child								
Have another soon ²	81.3	24.7	6.9	2.0	--	1.1	--	12.6
Have another later ³	10.7	58.2	13.4	2.0	1.4	3.3	--	15.2
Have another, undecided when	4.0	--	1.4	--	--	--	1.1	0.7
Undecided	1.3	1.6	1.4	1.0	--	2.2	--	1.1
Up to God	--	--	0.9	--	0.7	--	--	0.3
Want no more	2.7	13.2	61.1	60.3	64.4	62.6	79.8	50.2
Sterilized	--	1.1	13.4	34.2	32.9	30.8	18.1	19.1
Declared infecund	--	1.1	1.4	0.5	0.7	--	1.1	0.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	75	182	216	199	146	91	94	1003
Preferred sex of additional child								
Boy	40.3	45.7	(57.4)	*	*	*	*	47.4
Girl	2.8	26.5	(21.3)	*	*	*	*	19.3
Doesn't matter	47.2	20.5	(17.0)	*	*	*	*	25.6
Up to God	9.7	7.3	(4.3)	*	*	*	*	7.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	72	151	47	8	2	4	1	285

() Based on 25-49 cases

* Percentage not shown; based on fewer than 25 cases

-- Less than 0.05 percent

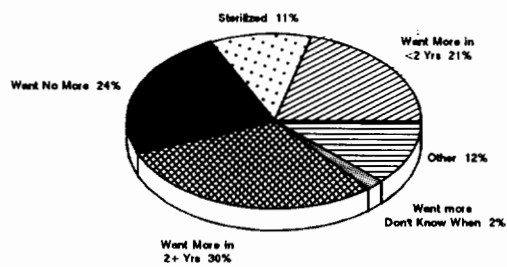
¹Includes current pregnancy, if any

²Wants next birth within 2 years

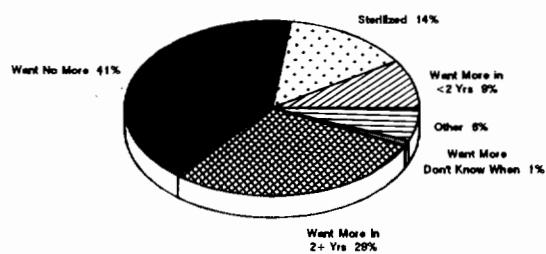
³Wants to delay next birth for 2 or more years

Figure 7.1

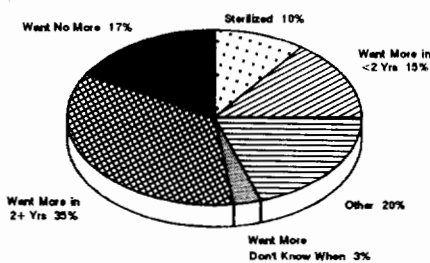
Fertility Preferences Among Currently Married Women Age 13-49



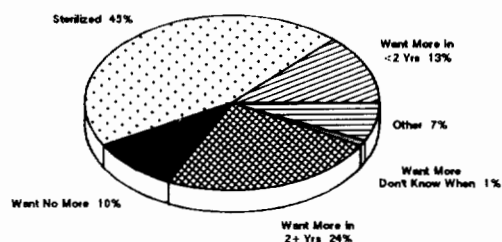
Arunachal Pradesh



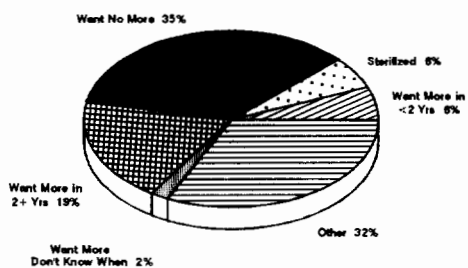
Manipur



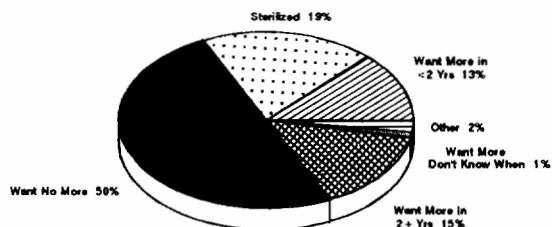
Meghalaya



Mizoram



Nagaland



Tripura

NFHS, Northeastern states, 1993

Mizoram and Tripura, and approximately 60-65 percent of women in Arunachal Pradesh, Meghalaya and Nagaland do not want children or want to wait at least two years to have another.

As expected, the desire for an additional child declines rapidly as the number of living children increases in every state. For example, the percentage of women who want another child drops from 87 percent of women with no children to 64 percent of women with two children in Arunachal Pradesh, the state with the highest fertility rate among the northeastern states, and from 89 percent to 54 percent (no children and two children, respectively) in Mizoram, the state with the lowest fertility. The proportion of women with two children who want another child drops as low as 22 percent in Tripura. The proportion of women with three children who desire another child is highest in Arunachal Pradesh (51 percent) and lowest in Tripura (4 percent).

Alternatively, the desire to space children increases as the number of children increases, from 24 percent of women with no children to a high of 52 percent of women with one child in Arunachal Pradesh, and from 20 percent of women with no children to a high of 66 percent of women with one child in Mizoram. Interestingly, the desire for spacing children is very strong for women who have fewer than three children. Over 30 percent of women in Meghalaya, Nagaland and Manipur with no children say that they would like to wait at least two years before having their first child. Similarly more than fifty percent of women with one child in all the northeastern states, except Nagaland, would like to wait at least two years before having their next child.

A majority of the women who want another child say they want the next child to be a son in Arunachal Pradesh (63 percent) and Manipur (67 percent), but the percentage is lower in Mizoram and Tripura (46-47 percent), and much lower in Nagaland (26 percent) and Meghalaya (17 percent). The preference for daughters is higher in Mizoram (33 percent) and Meghalaya (27 percent) than in all other northeastern states (15-19 percent). In Meghalaya, one-third of currently married women say that the sex of the child does not matter, which is highest among all the six states, and nearly one-fourth say it is up to God. Women who do not have any children strongly prefer to have a son, except in Meghalaya and Nagaland. It is interesting to note that women with no children in Nagaland have equal preference for a son or a daughter. Generally, son preference increases as the number of living children increases, except in Meghalaya and Mizoram.

The age pattern of fertility preferences shown in Table 7.2 is similar to the pattern by number of children discussed above. The majority of currently married women age 15-24 want to space their next birth. The proportion of such women is quite high in Arunachal Pradesh, Manipur, Meghalaya and Mizoram. By age 30-34 more than 50 percent of women in all states but Arunachal Pradesh and Meghalaya want to stop childbearing altogether, that is, they say they want no more children or are sterilized.

Table 7.3 shows the percentage of currently married women who want no more children by selected background characteristics of women and sheds more light on the potential demand for family planning among subgroups of the population. As before, women who are sterilized (or whose husbands are sterilized) are added to those who say they want no more children to

Table 7.2 Fertility preferences by age

Percent distribution of currently married women by desire for children, according to age, Northeastern States, 1993

Desire for children	Current age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
ARUNACHAL PRADESH								
Desire for additional child								
Have another soon ¹	28.2	20.0	23.3	21.7	12.0	18.1	(17.1)	20.5
Have another later ²	60.3	53.7	30.6	17.8	12.0	6.9	(--)	30.3
Have another, undecided when	--	3.2	2.6	2.0	2.8	2.8	(--)	2.4
Undecided	1.3	2.1	4.7	3.3	5.6	4.2	(2.4)	3.5
Up to God	6.4	4.2	4.1	6.6	3.7	9.7	(7.3)	5.4
Want no more	3.8	14.2	24.4	28.9	35.2	37.5	(34.1)	24.0
Sterilized	--	2.6	9.8	17.1	22.2	12.5	(14.6)	10.7
Declared infecund	--	--	0.5	2.6	6.5	8.3	(24.4)	3.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	78	190	193	152	108	72	41	835
MANIPUR								
Desire for additional child								
Have another soon ¹	*	10.9	10.4	12.3	7.5	1.7	2.0	8.5
Have another later ²	*	63.0	47.9	27.3	8.2	1.7	--	29.1
Have another, undecided when	*	--	1.0	0.5	0.7	--	--	0.6
Undecided	*	4.3	1.0	1.1	2.2	--	--	1.5
Up to God	*	4.3	2.6	1.1	3.0	3.3	--	2.4
Want no more	*	16.7	27.6	43.9	56.0	57.0	68.4	41.4
Sterilized	*	--	8.3	12.8	20.1	28.1	22.4	13.8
Declared infecund	*	0.7	1.0	1.1	2.2	8.3	7.1	2.8
Missing								
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	21	138	192	187	134	121	98	891
MEGHALAYA								
Desire for additional child								
Have another soon ¹	26.3	22.6	16.9	12.8	10.0	6.7	0.9	14.7
Have another later ²	56.1	55.6	45.7	29.1	20.0	11.4	3.7	35.0
Have another, undecided when	3.5	8.6	1.8	2.0	2.5	--	1.9	3.5
Undecided	5.3	2.5	6.4	6.1	6.7	4.8	0.9	4.6
Up to God	5.3	5.8	11.0	8.1	11.7	12.4	5.6	8.7
Want no more	3.5	4.1	14.2	24.3	21.7	28.6	32.7	17.0
Sterilized	--	0.8	3.7	15.5	20.0	20.0	20.6	10.0
Declared infecund	--	--	0.5	2.0	7.5	16.2	33.6	6.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	57	243	219	148	120	105	107	1002
MIZORAM								
Desire for additional child								
Have another soon ¹	(35.3)	18.7	17.5	14.1	10.3	1.9	6.3	12.9
Have another later ²	(61.8)	65.9	40.2	16.1	5.8	3.7	2.1	24.3
Have another, undecided when	(2.9)	0.8	0.5	--	--	1.9	0.7	0.7
Undecided	(--)	1.6	1.5	3.4	1.9	2.8	2.8	2.2
Up to God	(--)	0.8	2.1	2.7	2.6	2.8	4.2	2.4
Want no more	(--)	6.5	10.3	10.1	7.7	13.0	16.1	10.2
Sterilized	(--)	4.1	25.3	53.0	69.7	69.4	61.5	44.6
Declared infecund	(--)	1.6	2.6	0.7	1.9	4.6	6.3	2.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	34	123	194	149	155	108	143	906

Table 7.2 Fertility preferences by age (Contd.)

Percent distribution of currently married women by desire for children, according to age, Northeastern states, 1993

Desire for children	Current age							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
NAGALAND								
Desire for additional child								
Have another soon ¹	(10.0)	11.6	8.3	5.4	2.5	1.8	--	5.6
Have another later ²	(47.5)	45.7	26.7	10.0	6.8	3.6	1.2	18.7
Have another, undecided when	(7.5)	3.5	2.5	0.8	0.6	0.9	--	1.8
Undecided	(7.5)	5.2	6.7	10.8	8.0	4.5	3.6	61.4
Up to God	(17.5)	20.2	29.6	13.1	17.3	16.1	11.2	19.0
Want no more	(10.0)	12.1	22.5	45.4	43.2	58.9	50.9	35.1
Sterilized	(--)	1.2	3.3	10.0	14.2	9.8	5.3	6.4
Declared infecund	(--)	0.6	0.4	4.6	7.4	4.5	27.8	7.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	40	173	240	130	162	112	169	1026
TRIPURA								
Desire for additional child								
Have another soon ¹	31.0	22.9	13.6	7.8	3.6	3.8	2.3	12.6
Have another later ²	56.3	37.1	10.9	7.8	--	--	--	15.2
Have another, undecided when	3.4	0.6	0.9	--	0.6	--	--	0.7
Undecided	1.1	0.6	2.7	1.9	--	--	--	1.1
Up to God	--	0.6	0.5	--	--	0.9	--	0.3
Want no more	8.0	34.3	51.4	53.9	63.3	69.8	70.5	50.2
Sterilized	--	3.4	19.5	27.9	30.7	25.5	25.0	19.1
Declared infecund	--	0.6	0.5	0.6	1.8	--	2.3	0.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	87	175	220	154	166	106	88	1003

() Based on 25-49 cases

* Percentage not shown; based on fewer than 25 cases

-- Less than 0.05 percent

¹Wants next birth within 2 years

²Wants to delay next birth for 2 or more years

calculate this measure. Overall, a larger proportion of women in Manipur, Mizoram and Tripura say they do not want to have more children, irrespective of the background characteristics shown. Age differences have already been discussed above. In most states, the percentage of women who want no more children is larger in urban than in rural areas, and the difference is more prominent in Arunachal Pradesh, Meghalaya and Nagaland than in the other states. Educational attainment is not strongly related to fertility desires of women in all six of the northeastern states. In most states, the desire to stop childbearing increases with the number of living children up to 4 living children.

7.2 Need for Family Planning Services

Currently married women who say that they either do not want any more children or that they want to wait two or more years before having another child, but are not using contraception are defined as having an *unmet need* for family planning. Current users of family planning methods are said to have a *met need* for family planning. Table 7.4 shows the unmet need, met need and total demand for family planning according to whether there is a need for spacing or

Table 7.3 Desire to have no more children by background characteristics

Percentage of currently married women who want no more children by selected background characteristics, Northeastern states, 1993

Background characteristic	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Age						
13-19	3.8	*	3.3	(--)	(10.0)	7.4
20-29	25.6	27.9	11.0	25.9	20.6	56.2
30-39	50.8	64.8	40.7	70.4	56.5	88.1
40-49	49.6	87.7	50.9	79.7	61.2	95.4
Residence						
Urban	50.8	56.0	38.2	55.1	51.8	69.2
Rural	31.8	54.8	24.3	54.4	38.7	69.5
Education						
Illiterate	34.0	59.8	26.7	54.4	40.9	74.4
Literate, < middle complete	31.8	59.0	25.9	60.4	42.0	69.8
Middle school complete	40.6	54.1	27.5	46.5	35.7	62.4
High school and above	39.1	43.4	31.0	43.2	47.2	57.8
Number of living children¹						
None	NC	(7.0)	2.7	NC	(6.7)	2.7
1	9.9	7.7	8.4	8.5	19.7	16.1
2	31.3	39.5	25.7	47.6	34.7	76.3
3	34.1	67.5	40.1	69.9	44.0	95.7
4	62.5	76.6	46.4	86.2	62.7	97.8
5	60.3	90.7	41.6	85.7	65.0	94.1
6+	68.8	91.8	47.3	78.7	62.8	97.7
Total	34.6	55.2	26.9	54.7	41.5	69.4

Note: Women who have been sterilized, or whose husbands have been sterilized, are considered to want no more children.

NC: Not calculated because there are no cases on which to base a percentage

() Based on 25-49 cases

* Percentage not shown; based on fewer than 25 women

-- Less than 0.05 percent

¹Excludes pregnant women

limiting births. The table also contains detailed definitions of these concepts.

According to these definitions, overall more than 20 percent of women in Arunachal Pradesh, Manipur, Meghalaya and Nagaland have an unmet need for family planning. The unmet need for family planning is 12 percent in Mizoram and 14 percent in Tripura, respectively, the two states with the highest rate of contraceptive use among the northeastern states. Nagaland has the highest percentage of unmet need for family planning (27 percent). The unmet need for spacing births is greater than for limiting births in Arunachal Pradesh, Manipur, Meghalaya and Mizoram, but the reverse is the case in Nagaland and Tripura. The unmet need for spacing in Mizoram is three times as high as the unmet need for spacing.

Only 13 percent of currently married women in Nagaland are using family planning, and women in this state are also least likely to have their demand for family planning satisfied. On the other hand, 54 and 56 percent of women respectively in Mizoram and Tripura are currently using family planning and in these two states, more than 80 percent of the total demand for

Table 7.4 Need for family planning services

Percent of currently married women with unmet need, met need, and total demand for family planning (FP) services by selected background characteristics, Northeastern states, 1993

Background characteristic	Unmet need for FP ¹			Met need-currently using ²			Total demand for FP			Percent of need satisfied
	To space	To limit	Total	To space	To limit	Total	To space	To limit	Total	
ARUNACHAL PRADESH										
Age										
15-19	26.9	1.3	28.2	9.0	--	9.0	35.9	1.3	37.2	24.1
20-24	22.6	2.6	25.3	5.8	5.8	11.6	28.4	8.4	36.8	31.4
25-29	14.5	6.2	20.7	8.8	18.1	26.9	23.3	24.4	47.7	56.5
30-34	7.9	11.2	19.1	4.6	27.0	31.6	12.5	38.2	50.7	62.3
35-49	1.8	12.1	13.9	0.9	29.6	30.5	2.7	29.1	44.4	68.5
Residence										
Urban	14.5	11.3	25.8	8.1	31.5	39.5	22.6	42.7	65.3	60.5
Rural	12.7	6.8	19.4	4.8	16.0	20.8	17.4	22.8	40.2	51.7
Education										
Illiterate	10.5	8.0	18.5	3.5	16.4	19.9	14.0	24.4	38.4	51.8
Lit., < middle complete	17.1	5.4	22.5	7.8	18.6	26.4	24.8	24.0	48.8	54.0
Middle school complete	24.6	7.2	31.9	4.3	23.2	27.5	29.0	30.4	59.4	46.3
High school and above	14.1	6.3	20.3	17.2	29.7	46.9	31.3	35.9	67.2	69.8
Number of living children										
None	8.2	--	8.2	4.1	--	4.1	12.2	--	12.2	33.3
1	25.4	0.6	26.0	7.7	6.5	14.2	33.1	7.1	40.2	35.3
2	14.5	5.9	20.4	7.9	17.1	25.0	22.4	23.0	45.4	55.1
3	11.3	6.4	17.7	6.4	19.1	25.2	17.7	25.8	43.3	59.0
4	11.9	11.9	23.9	1.8	30.3	32.1	13.8	45.5	56.0	57.0
5	7.3	12.2	19.5	4.9	40.2	45.1	12.2	42.2	64.6	69.8
6+	--	23.8	23.8	--	27.4	27.4	--	52.4	51.2	53.5
Total	12.9	7.4	20.4	5.3	18.3	23.6	18.2	25.7	44.0	53.7
MANIPUR										
Age										
15-19	23.8	--	23.8	9.5	--	9.5	33.3	--	33.3	28.6
20-24	23.9	3.6	27.5	14.5	2.9	17.4	38.4	6.5	44.9	38.7
25-29	18.8	6.8	25.5	10.9	16.7	27.6	29.7	23.4	53.1	52.0
30-34	11.2	12.8	24.1	9.1	33.2	42.2	20.3	46.0	66.3	63.7
35-39	5.2	13.4	18.7	4.5	41.0	45.5	9.7	54.5	64.2	70.9
40-44	1.7	13.2	14.9	--	47.9	47.9	1.7	61.2	62.8	76.3
45-49	--	13.3	13.3	--	34.7	34.7	--	48.0	48.0	72.3
Residence										
Urban	10.7	8.2	18.9	10.0	34.4	44.3	20.6	42.6	63.2	70.1
Rural	12.2	10.8	23.0	6.2	24.2	30.3	18.3	35.0	53.3	56.9
Education										
Illiterate	11.3	9.9	21.2	4.6	25.8	30.4	15.9	35.7	51.6	58.9
Lit., < middle complete	10.4	13.9	24.3	5.8	29.5	35.3	16.2	43.4	59.5	59.2
Middle school complete	10.2	12.2	22.4	12.2	28.6	40.8	22.4	40.8	63.3	64.5
High school and above	14.1	5.9	20.0	12.2	28.8	41.0	26.3	34.6	61.0	67.2
Number of living children										
None	(13.1)	(--)	(13.1)	(3.6)	(1.2)	(4.8)	(16.7)	(1.2)	(17.9)	(26.7)
1	23.8	3.5	27.3	17.5	2.8	20.3	41.3	6.3	47.6	42.6
2	10.9	4.4	15.3	15.3	19.7	35.0	26.3	24.1	50.4	69.6
3	13.0	10.5	23.5	6.2	40.7	46.9	19.1	51.2	70.4	66.7
4	10.5	11.2	21.7	4.2	44.8	49.0	14.7	55.9	76.6	69.3
5	2.0	20.4	22.4	--	48.0	48.0	2.0	68.4	70.4	68.1
6+	4.8	22.2	25.0	0.8	29.0	29.8	5.6	49.2	54.8	54.4
Total	11.7	10.0	21.7	7.4	27.5	34.9	19.1	37.5	56.6	61.7

Table 7.4 Need for family planning services (Contd.)

Percent of currently married women with unmet need, met need, and total demand for family planning (FP) services by selected background characteristics, Northeastern states, 1993

Background characteristic	Unmet need for FP ¹			Met need-currently using ²			Total demand for FP			Percent of need satisfied
	To space	To limit	Total	To space	To limit	Total	To space	To limit	Total	
MEGHALAYA										
Age										
15-19	26.3	1.8	28.1	3.5	--	3.5	29.8	1.8	31.6	11.1
20-24	32.5	1.6	34.2	6.2	2.9	9.1	38.7	4.5	43.2	21.0
25-29	26.5	3.2	29.7	7.8	11.9	19.6	34.2	15.1	49.3	39.8
30-34	20.3	8.1	28.4	7.4	24.3	31.8	27.7	32.4	60.1	52.8
35-39	12.5	5.8	18.3	3.3	29.2	32.5	15.8	35.0	50.8	63.9
40-44	6.7	9.5	16.2	1.0	27.6	28.6	7.6	37.1	44.8	63.8
45-49	0.9	4.7	5.6	--	22.4	22.4	0.9	27.1	28.0	80.0
Residence										
Urban	23.0	6.3	29.3	5.8	26.2	31.9	28.8	32.5	61.3	52.1
Rural	20.0	4.2	24.2	4.8	13.2	18.0	24.8	17.4	42.2	42.7
Education										
Illiterate	18.0	3.5	21.5	3.9	13.2	17.0	21.9	16.6	38.5	44.2
Lit., < middle complete	20.7	7.8	28.6	4.4	15.6	20.1	25.2	23.5	48.6	41.3
Middle school complete	29.7	2.2	31.9	8.8	22.0	30.8	38.5	24.2	62.6	49.1
High school and above	25.0	3.0	28.0	9.0	23.0	32.0	34.0	26.0	60.0	53.3
Number of living children										
None	19.4	1.6	21.0	4.0	--	4.0	23.4	1.6	25.0	16.1
1	34.3	1.7	36.0	9.0	4.5	13.5	43.3	6.2	49.4	27.3
2	24.6	1.7	26.3	7.3	16.2	23.5	31.8	17.9	49.7	47.2
3	14.8	4.3	19.1	5.6	26.5	31.1	20.4	30.9	51.2	62.7
4	14.3	2.5	16.8	1.7	32.8	34.5	16.0	35.3	51.3	67.2
5	20.6	7.2	27.8	4.1	19.6	23.7	24.7	26.8	51.5	46.0
6+	11.2	14.7	25.9	0.7	13.3	14.0	11.9	28.0	39.9	35.1
Total	20.6	4.6	25.1	5.0	15.7	20.7	25.5	20.3	45.8	45.1
MIZORAM										
Age										
15-19	23.5	--	23.5	5.9	--	5.9	29.4	--	29.4	20.0
20-24	23.6	2.4	26.0	17.1	4.9	22.0	40.7	7.3	48.0	45.8
25-29	15.5	6.2	21.6	10.3	27.3	37.6	25.8	33.5	59.3	63.5
30-34	7.4	2.7	10.1	8.7	56.4	65.1	16.1	59.1	75.2	86.6
35-39	1.9	1.9	3.9	3.2	72.9	76.1	5.2	74.8	80.0	95.2
40-44	1.9	1.9	3.7	2.8	70.4	73.1	4.6	72.2	76.9	95.2
45-49	--	0.7	0.7	--	63.6	63.6	--	64.3	64.3	98.9
Residence										
Urban	10.0	2.9	12.9	8.6	48.5	57.1	18.6	51.5	70.1	81.6
Rural	8.4	2.6	11.0	5.6	44.9	50.5	14.0	47.5	61.5	82.2
Education										
Illiterate	7.6	3.8	11.4	1.3	34.2	35.4	8.9	38.0	46.8	75.7
Lit., < middle complete	8.4	2.5	10.9	5.3	53.1	58.5	13.7	55.6	69.3	84.3
Middle school complete	9.4	0.6	10.0	8.2	41.2	49.4	17.6	41.8	59.4	83.2
High school and above	12.9	6.1	18.9	15.9	35.6	51.5	28.8	41.7	70.5	73.1
Number of living children										
None	11.2	2.8	14.0	0.9	--	0.9	12.1	2.8	15.0	6.3
1	25.2	0.8	26.1	19.3	5.9	25.2	44.5	6.7	51.3	49.2
2	9.4	5.8	15.1	12.9	36.0	48.9	22.3	41.7	64.0	76.4
3	7.6	3.6	11.1	7.6	59.1	66.7	15.1	62.7	77.8	85.7
4	3.7	1.6	5.3	2.1	75.8	77.9	5.8	77.4	83.2	93.7
5	3.2	1.1	4.3	1.1	74.5	75.5	4.3	75.5	79.8	94.7
6+	3.1	3.1	6.3	--	59.4	59.4	3.1	62.5	65.6	90.5
Total	9.2	2.8	11.9	7.1	46.7	53.8	16.2	49.4	65.7	81.8

Table 7.4 Need for family planning services (Contd.)

Percent of currently married women with unmet need, met need, and total demand for family planning (FP) services by selected background characteristics, Northeastern states, 1993

Background characteristic	Unmet need for FP ¹			Met need-currently using ²			Total demand for FP			Percent of need satisfied
	To space	To limit	Total	To space	To limit	Total	To space	To limit	Total	
NAGALAND										
Age										
15-19	35.0	10.0	45.0	5.0	--	5.0	40.0	10.0	50.0	10.0
20-24	35.8	9.2	45.1	2.3	1.7	4.0	38.2	11.0	49.1	8.2
25-29	17.1	12.5	29.6	1.7	7.5	9.2	18.8	20.0	38.7	23.7
30-34	3.8	23.8	27.7	3.1	20.0	23.1	6.9	43.8	50.8	45.5
35-39	5.6	17.9	23.5	0.6	21.6	22.2	6.2	39.5	45.7	48.6
40-44	0.9	17.0	17.9	0.9	15.2	16.1	1.8	32.1	33.9	47.4
45-49	--	7.7	7.7	1.8	8.9	10.7	1.8	16.6	18.3	58.1
Residence										
Urban	10.1	17.4	27.5	2.8	17.9	20.6	12.8	35.3	48.2	42.9
Rural	13.6	12.9	26.5	1.6	9.3	10.9	15.2	22.2	37.4	29.1
Education										
Illiterate	8.7	12.1	20.8	0.2	6.4	6.6	8.9	18.5	27.4	24.2
Lit., < middle complete	14.0	15.7	29.7	2.3	13.7	16.0	16.3	29.3	45.7	35.0
Middle school complete	21.7	13.2	34.9	4.7	13.2	17.8	26.4	26.4	52.7	33.8
High school and above	15.1	15.7	30.8	3.1	17.6	20.8	18.2	33.3	51.6	40.2
Number of living children										
None	(36.5)	(2.4)	(38.8)	(2.4)	(--)	(2.4)	(38.8)	(2.4)	(41.2)	(5.7)
1	26.6	3.4	29.9	3.4	4.0	7.3	29.9	7.3	37.3	19.7
2	15.0	10.7	25.7	2.1	7.5	9.6	17.1	18.2	35.3	27.3
3	9.3	16.6	25.9	1.0	17.1	18.1	10.4	33.7	44.0	41.2
4	2.3	21.4	23.7	1.7	15.0	16.8	4.0	36.4	40.5	41.4
5	2.8	24.1	27.0	--	17.7	17.7	2.8	41.8	44.7	39.7
6+	--	15.7	15.7	2.9	12.9	15.7	2.9	28.6	31.4	50.0
Total	12.9	13.8	26.7	1.9	11.1	13.0	14.7	25.0	39.7	32.7

family planning is being met by current programmes. If all of the women who say they want to space or limit their births were to use family planning, the contraceptive prevalence rate could increase from 13 percent to 40 percent in Nagaland (the state with the lowest contraceptive prevalence) and from 56 to 70 percent in Tripura (the state with the highest contraceptive prevalence).

The unmet need for limiting childbearing increases steadily until age 30-39 and decreases thereafter in most states. The unmet need for spacing, on the other hand, is particularly strong for women under age 30 in Arunachal Pradesh, Manipur, Mizoram, Nagaland and women under age 35 in Meghalaya. This is the segment of the population whose family planning needs are least likely to be met by current programmes, primarily because the needs for spacing are not being satisfied. Ten to 54 percent of the total demand for family planning services is being met for married women age 15-19 and this figure gradually rises with the increase in the age of women to 58-99 percent for women age 45-49. Unmet need is highest in most age groups in Nagaland and lowest in Mizoram and Tripura.

The unmet need for family planning is higher in rural areas of Manipur and Tripura and in urban areas of Arunachal Pradesh, Meghalaya, Mizoram and Nagaland, but the total demand

Table 7.4 Need for family planning services (Contd.)

Percent of currently married women with unmet need, met need, and total demand for family planning (FP) services by selected background characteristics, Northeastern states, 1993

Background characteristic	Unmet need for FP ¹			Met need-currently using ²			Total demand for FP			Percent of need satisfied
	To space	To limit	Total	To space	To limit	Total	To space	To limit	Total	
TRIPURA										
Age										
15-19	21.8	1.1	23.0	25.3	1.1	26.4	47.1	2.3	49.4	53.5
20-24	12.6	5.7	18.3	22.3	17.7	40.0	34.9	23.4	58.3	68.6
25-29	3.2	10.5	13.6	11.8	49.1	60.9	15.0	59.5	74.5	81.7
30-34	2.6	11.0	13.6	6.5	64.3	70.8	9.1	75.3	84.4	83.8
35-39	--	9.6	9.6	--	74.7	74.7	--	84.3	84.3	88.6
40-44	--	9.4	9.4	--	61.3	61.3	--	70.8	70.8	86.7
45-49	--	5.7	5.7	--	42.0	42.0	--	47.7	47.7	88.1
Residence										
Urban	4.5	4.5	9.0	15.4	55.7	71.1	19.9	60.2	80.1	88.8
Rural	5.5	9.1	14.6	8.4	44.0	52.4	13.8	53.1	67.0	78.2
Education										
Illiterate	4.7	13.7	18.4	5.0	40.0	45.0	9.7	53.7	63.4	71.0
Lit., < middle complete	6.2	5.1	11.3	9.6	51.4	61.0	15.8	56.5	72.3	84.4
Middle school complete	6.4	3.2	9.6	17.2	49.7	66.9	23.6	52.9	76.4	87.5
High school and above	2.2	4.4	6.7	18.9	48.9	67.8	21.1	53.3	74.4	91.0
Number of living children										
None	8.8	1.0	9.8	15.7	--	15.7	24.5	1.0	25.5	61.5
1	15.0	2.9	17.9	34.1	11.0	45.1	49.1	13.9	63.0	71.6
2	6.7	5.7	12.4	6.7	54.1	60.8	13.4	59.8	73.2	83.0
3	1.4	7.7	9.0	3.2	67.6	70.7	4.5	75.2	79.7	88.7
4	0.6	15.6	16.2	1.2	67.7	68.9	1.8	83.2	85.0	81.0
5	--	16.3	16.3	--	59.3	59.3	--	75.6	75.6	78.5
6+	--	15.9	15.9	--	43.2	43.2	--	59.1	59.1	73.1
Total	5.3	8.2	13.5	9.8	46.4	56.1	15.1	54.5	69.6	80.7

Note: Total includes 1 and 7 women age 13-14 from Arunachal Pradesh and Tripura, respectively, who are not shown separately.

() Based on 25-49 cases

-- Less than 0.05 percent

¹Unmet need for spacing includes pregnant women whose pregnancy was mistimed, amenorrhoeic women whose last birth was mistimed, and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and say they want to wait 2 or more years for their next birth. Also included in unmet need for spacing are women who are unsure whether they want another child or who want another child but are unsure when to have the birth. Unmet need for limiting refers to pregnant women whose pregnancy was unwanted, amenorrhoeic women whose last child was unwanted and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and who want no more children.

²Using for spacing refers to women who are using some method of family planning and say they want to have another child or are undecided whether to have another. Using for limiting refers to women who are using and who want no more children. Note that the specific methods used are not taken into account here.

for family planning is much less likely to be satisfied in rural areas of all the northeastern states, except Mizoram. In urban areas, the percent of the total demand satisfied ranges from 43 to 89 percent, whereas for rural areas it ranges from 29 to 82 percent. Interestingly, the unmet need for family planning varies inconsistently among all the educational groups in most states, but the total needs of illiterate women are least likely to be satisfied by current family planning programmes in most states. The final panel in Table 7.4 indicates that current family planning services are particularly inadequate for satisfying the child spacing needs of women with less than three children.

7.3 Ideal Number of Children

The analysis above focuses on the respondent's reproductive desires for the future, implicitly taking into account the number of sons and daughters that she already has. In determining the ideal number of children, on the other hand, the respondent is asked to perform the more difficult abstract task of stating the number of children she would like to have had if she could start over again. In the NFHS, women who have no children were asked, "If you could choose exactly the number of children to have in your whole life, how many would that be?" Women who already had children were asked, "If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?" Some women had difficulty in answering this hypothetical question and the question often had to be repeated to ensure that it was understood by the respondent. Nevertheless, over 88 percent (97-99 percent in Manipur and Mizoram) of the respondents in the northeastern states were able to give a numerical response when asked for their ideal number of children.

The northeastern states differ considerably in the distribution of ever-married women according to the ideal number of children as shown in Table 7.5. For instance, three-quarters of women in Tripura consider 2-3 children as ideal whereas more than 60 percent of women in Arunachal Pradesh and Meghalaya consider 4 or more children as ideal. Almost no woman expressed a desire for fewer than two children and the proportion of women who thought that more than four children is ideal ranges from 2 percent in Tripura to 37 percent in Arunachal Pradesh. For those who gave numeric responses, the average number of children considered ideal in Arunachal Pradesh, Meghalaya, Mizoram and Nagaland ranges from 4.0 to 4.7 and it is 2.6 and 3.7 in Tripura and Manipur, respectively.

Although it is thought that some women adjust their ideal family size upwards over time as their number of children increases by way of rationalization, it is evident that a large proportion of women say that their ideal number of children is less than the number they already have. For example, among women who have five living children, 37 percent in Arunachal Pradesh (the state with the highest ideal number of children) and 74 percent in Tripura (the state with the lowest ideal number of children) state that their ideal family would consist of fewer than five children. However, only 7 percent of the women with four children in Arunachal Pradesh think that fewer than four children would be ideal compared with 57 percent in Tripura. Although family size norms are quite moderate in some states and high in others, it is evident that in some of the northeastern states a large proportion of women already have more children than they would consider ideal. This may be taken as an indicator of surplus or unwanted fertility.

Table 7.5 Ideal and actual number of children

Percent distribution of ever-married women by ideal number of children and mean ideal number of children for ever-married women and currently married women, according to number of living children, Northeastern states, 1993

Ideal number of children	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
ARUNACHAL PRADESH								
None	--	--	--	--	--	--	--	--
1	4.3	3.3	--	0.7	--	--	1.1	1.2
2	20.0	25.7	28.3	5.9	3.4	3.1	--	14.3
3	14.3	15.3	22.0	22.2	3.4	9.4	13.3	15.3
4	24.3	16.4	15.0	24.2	47.9	24.0	16.7	23.1
5	4.3	9.3	9.2	11.1	13.7	13.5	4.4	9.8
6+	22.9	25.1	19.1	26.1	21.4	33.3	56.7	27.6
Non-numeric responses	10.0	4.9	6.4	9.8	10.3	16.7	7.8	8.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	70	183	173	153	117	96	90	882
Mean ideal number ²								
Ever-married women	4.3	4.3	4.0	4.7	4.8	5.1	6.4	4.7
Currently married women	4.3	4.2	3.9	4.8	4.8	5.1	6.3	4.7
MANIPUR								
None	(--)	--	--	0.6	--	--	--	0.1
1	(6.4)	2.2	--	0.6	--	--	--	0.8
2	(23.4)	34.3	26.9	6.1	3.2	--	1.5	13.9
3	(40.4)	39.3	41.7	43.6	13.6	15.7	8.4	29.5
4	(17.0)	14.0	22.4	37.4	57.1	39.8	26.7	31.6
5	(8.5)	3.9	2.6	6.7	13.0	31.5	20.6	11.3
6+	(4.3)	4.5	4.5	3.9	11.0	10.2	34.4	10.2
Non-numeric responses	(--)	1.7	1.9	1.1	1.9	2.8	8.4	2.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	47	178	156	179	154	108	131	953
Mean ideal number ²								
Ever-married women	(3.1)	3.0	3.2	3.5	4.2	4.4	5.0	3.7
Currently married women	(3.1)	3.0	3.1	3.5	4.2	4.4	5.0	3.7
MEGHALAYA								
None	--	--	--	--	--	--	--	--
1	2.1	4.5	0.5	--	--	--	--	1.1
2	18.8	20.7	20.4	7.1	2.9	1.8	0.6	11.2
3	20.8	22.1	20.4	24.5	5.7	2.8	0.6	15.0
4	28.1	27.5	30.6	31.6	41.4	21.1	12.5	27.7
5	8.3	7.7	7.3	10.7	7.9	15.6	6.0	8.7
6+	17.7	11.7	11.7	15.8	35.7	45.9	67.3	27.4
Non-numeric responses	4.2	5.9	9.2	10.2	6.4	12.8	13.1	8.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	96	222	206	196	140	109	168	1137
Mean ideal number ²								
Ever-married women	3.9	3.6	3.7	4.1	5.0	5.7	7.2	4.6
Currently married women	3.9	3.6	3.8	4.2	5.0	5.7	7.2	4.7

Table 7.5 Ideal and actual number of children (Contd.)

Percent distribution of ever-married women by ideal number of children and mean ideal number of children for ever-married women and currently married women, according to number of living children, Northeastern states, 1993

Ideal number of children	Number of living children ¹							Total
	0	1	2	3	4	5	6+	
MIZORAM								
None	--	--	--	--	--	--	--	--
1	--	--	--	--	--	--	--	--
2	13.2	5.8	12.2	--	1.1	0.9	--	4.4
3	36.8	40.2	32.0	33.6	1.1	2.8	--	23.2
4	31.6	37.0	39.8	42.2	61.7	12.0	14.1	38.1
5	10.5	13.8	9.9	18.4	23.5	48.1	16.5	19.3
6+	6.6	3.2	5.5	4.9	12.6	36.1	68.2	14.5
Non-numeric responses	1.3	--	0.6	0.9	--	--	1.2	0.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	76	189	181	223	183	108	85	1045
Mean ideal number ²								
Ever-married women	3.6	3.7	3.7	4.0	4.5	5.3	6.4	4.3
Currently married women	3.6	3.7	3.8	4.0	4.6	5.3	6.3	4.3
NAGALAND								
None	1.7	0.4	--	--	--	--	--	0.2
1	5.1	18.4	--	--	--	--	--	4.0
2	13.6	20.5	47.1	4.7	2.4	1.6	--	14.5
3	10.2	10.3	9.3	46.6	1.2	1.6	--	12.4
4	32.2	26.1	26.0	24.9	71.2	12.5	6.8	28.6
5	3.4	2.6	4.9	5.2	8.8	54.7	6.8	10.8
6+	5.1	7.3	4.4	6.2	11.2	18.8	72.7	17.5
Non-numeric responses	28.8	14.5	8.3	12.4	5.3	10.9	13.7	11.9
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	59	234	204	193	170	128	161	1149
Mean ideal number ²								
Ever-married women	(3.4)	3.0	3.0	3.6	4.3	5.1	6.5	4.0
Currently married women	(3.5)	3.0	3.1	3.6	4.3	5.1	6.5	4.1
TRIPURA								
None	--	--	--	--	--	--	--	--
1	5.4	10.0	2.2	1.9	1.3	2.1	1.0	3.6
2	58.7	69.2	64.7	39.0	31.2	32.3	17.6	48.2
3	16.3	13.7	25.4	44.6	24.7	29.2	31.4	26.9
4	9.8	4.3	3.4	7.5	30.5	10.4	23.5	11.2
5	--	0.9	1.7	0.9	1.3	7.3	1.0	1.6
6+	--	0.5	--	0.5	0.6	1.0	1.0	0.5
Non-numeric responses	9.8	1.4	2.6	5.6	10.4	17.7	24.5	8.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	92	211	232	213	154	96	102	1100
Mean ideal number ²								
Ever-married women	2.3	2.2	2.4	2.7	3.0	2.9	3.1	2.6
Currently married women	2.3	2.2	2.3	2.6	3.0	2.9	3.2	2.6

() Based on 25-49 cases

-- Less than 0.05 percent

¹Includes current pregnancy, if any

²Means are calculated excluding the women giving non-numeric responses

Table 7.6 shows the mean ideal number of children for ever-married women by selected background characteristics. The mean ranges from 2.6 children in Tripura to 4.7 children in Arunachal Pradesh. The stated ideal family size is around half a child higher in rural areas than in urban areas in all the northeastern states except Arunachal Pradesh where it is more than one child higher. The most pronounced differentials are by educational attainment, particularly the woman's education. The average ideal family size is around one child higher for illiterate women than for women who have completed middle school or above, except in Arunachal Pradesh and Meghalaya where it is around one and a half to two children higher. The scenario is slightly less pronounced but similar when the husband's level of education is considered. There is little difference in the ideal number of children by the work status of the respondent.

Women who gave a numerical response to the question about the ideal number of children were further asked how many of these children they would like to be boys and how many they would like to be girls. The responses are shown in Table 7.7. The persistence of

Table 7.6 Ideal number of children by background characteristics						
Mean ideal number of children for ever-married women by selected background characteristics, Northeastern states, 1993						
Background characteristic	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Residence						
Urban	3.6	3.5	4.1	4.1	3.6	2.1
Rural	4.9	3.9	4.7	4.5	4.1	2.7
Education						
Illiterate	5.2	4.1	5.0	4.7	4.3	2.9
Lit., < middle complete	4.2	3.8	4.5	4.5	4.2	2.6
Middle school complete	3.3	3.5	3.9	3.9	3.6	2.2
High school and above	2.8	3.2	3.6	3.7	3.4	1.9
Work status						
Not working	4.4	3.7	4.6	4.2	4.2	2.5
Working in family farm/business	6.2	3.9	4.9	4.7	4.2	2.9
Employed by someone else	3.5	3.7	4.3	4.1	4.1	2.4
Self employed	4.6	3.8	5.1	4.2	3.6	(2.8)
Husband's education						
Illiterate	5.5	4.1	5.0	4.5	4.2	2.9
Lit., < primary complete	4.3	4.2	4.8	4.9	4.7	2.7
Primary school complete	4.2	3.9	4.5	4.3	4.2	2.7
Middle school complete	4.2	3.8	4.1	4.0	3.8	2.4
High school complete	3.9	3.5	4.2	4.0	3.7	2.3
Above high school	3.2	3.3	3.8	3.7	3.6	1.9
Total	4.7	3.7	4.6	4.3	4.0	2.6

Note: Means are calculated excluding women who gave non-numeric responses.
() Based on 25-49 cases

Table 7.7 Ideal sex composition of children by actual sex composition of living children

Mean ideal number of sons and daughters for ever-married women by sex composition of the living children, Northeastern states, 1993

Sex composition of living children	Arunachal Pradesh			Manipur			Meghalaya		
	Sons	Daughters	Gender doesn't matter	Sons	Daughters	Gender doesn't matter	Sons	Daughters	Gender doesn't matter
None	2.4	1.8	0.1	1.8	1.3	--	1.8	1.9	0.2
1 child	2.4	1.5	0.2	1.7	1.2	0.1	1.7	1.9	--
1 son	2.2	1.5	0.3	1.6	1.1	0.1	1.7	1.8	--
No sons	2.6	1.7	0.1	1.7	1.3	0.1	1.6	2.0	--
2 children	2.4	1.7	0.2	1.8	1.4	--	1.8	1.9	0.1
2 sons	(2.5)	(1.4)	(0.3)	(1.7)	(1.2)	(0.1)	2.1	1.8	--
1 son	2.2	1.7	0.1	1.8	1.4	--	1.8	2.0	0.1
No sons	(2.4)	(1.8)	(0.2)	(2.0)	(1.8)	(--)	(1.5)	(2.0)	(0.1)
3 children	2.7	1.8	0.2	2.0	1.5	--	2.0	2.2	--
3 sons	(2.8)	(1.4)	(0.5)	(2.2)	(1.5)	(--)	(1.9)	(2.0)	(0.1)
2 sons	2.6	1.7	0.1	1.9	1.3	0.1	2.1	2.1	--
1 son	(2.7)	(2.2)	(--)	1.9	1.7	--	1.9	2.3	--
4+ children	3.0	2.3	0.1	2.5	2.0	--	3.0	3.1	--
2 or more sons	3.0	2.4	0.2	2.5	2.0	--	3.1	3.1	--
1 son	(2.6)	(2.1)	(--)	2.2	1.9	0.1	(2.2)	(2.6)	(0.1)
Total	2.6	1.9	0.2	2.1	1.6	--	2.2	2.3	0.1

Sex composition of living children	Mizoram			Nagaland			Tripura		
	Sons	Daughters	Gender doesn't matter	Sons	Daughters	Gender doesn't matter	Sons	Daughters	Gender doesn't matter
None	1.9	1.8	--	1.8	1.7	--	1.0	0.8	0.4
1 child	1.9	1.8	--	1.6	1.4	--	1.2	0.9	0.2
1 son	2.0	1.7	--	1.5	1.2	--	1.2	0.8	0.2
No sons	1.9	1.8	--	1.6	1.6	--	1.1	0.9	0.2
2 children	2.0	1.7	--	1.6	1.5	--	1.3	0.9	0.2
2 sons	(2.1)	(1.7)	(--)	(2.0)	(1.2)	(--)	1.3	0.8	0.3
1 son	1.9	1.7	--	1.5	1.4	--	1.3	1.0	0.1
No sons	(1.8)	(1.9)	(--)	(1.3)	(1.8)	(--)	(1.3)	(1.0)	(0.1)
3 children	2.1	1.9	--	1.9	1.7	--	1.5	1.0	0.2
3 sons	2.2	1.8	--	(2.6)	(0.8)	(--)	(1.4)	(0.9)	(0.4)
2 sons	2.1	1.8	--	2.1	1.6	--	1.5	1.0	0.2
1 son	2.0	2.0	--	1.6	2.0	--	1.4	1.1	0.1
4+ children	2.7	2.5	--	2.7	2.6	--	1.6	1.2	0.2
2 or more sons	2.7	2.5	--	2.9	2.5	--	1.7	1.2	0.2
1 son	2.5	2.4	--	1.9	2.7	--	1.5	1.1	0.1
Total	2.2	2.0	--	2.1	1.9	--	1.4	1.0	0.2

Note: Table excludes women who gave non-numeric responses to the questions on the ideal number of sons and daughters. Total means are based on all women including women with 3 children but no sons and women with 4 children but no sons, the means for whom are not shown separately.

() Based on 25-49 cases

-- Less than 0.05 children

a preference for sons over daughters can be seen in this table. Overall, the ideal family size consists of at least two sons and less than two daughters in most states, with a very small percentage of women stating that the sex of the child does not matter. Son preference does not exist in Meghalaya, and is less pronounced in Mizoram and Nagaland than in Arunachal Pradesh, Manipur and Tripura. There is a general tendency for women who have more daughters to exhibit a weaker preference for sons, but no matter what the current composition of the family is, son preference exists in most states.

7.4 Fertility Planning

Another way to gauge the extent of unwanted fertility is to focus on recent births. For each child born in the four years before the survey and each current pregnancy, women were asked whether the pregnancy was wanted at that time (planned), wanted at a later time (mistimed), or not wanted at all (unwanted). Information from these questions may result in underestimation of unplanned childbearing due to rationalization. A woman may retrospectively declare an unplanned birth as one that was wanted at that time. Nevertheless, these questions form a potentially powerful indicator of the degree to which couples successfully control childbearing.

Table 7.8 shows that 15 to 37 percent of all births in the northeastern states (including current pregnancies) in the four years before the survey were not planned at the time the woman became pregnant. This percentage is 30 or more in Meghalaya, Nagaland and Tripura and 18 or less in Arunachal Pradesh, Manipur and Mizoram. The proportion of mistimed births is high in all the northeastern states ranging from 9 percent in Arunachal Pradesh to 31 percent in Meghalaya, and it is higher than the proportion of unwanted births in four of the six northeastern states. These findings point to the need for effective family planning methods for timing births. The proportion of unwanted births is lower, ranging from 4 percent in Mizoram to 19 percent in Nagaland.

Differentials in fertility planning by residence are quite substantial in Arunachal Pradesh, Meghalaya and Mizoram where the proportions of unplanned births, both mistimed and unwanted are much higher in urban than in rural areas. Differentials by residence are very small in Manipur and Nagaland. Tripura is an exception regarding differentials by residence in that there is a higher proportion of unplanned births in rural than in urban areas due to the large proportion of unwanted births in rural areas (17 percent).

Contrary to expectations, illiterate women are less likely to have unplanned births than more educated women in four of the six northeastern states. However, the proportion of mistimed births in Manipur and unwanted births in Tripura is higher among illiterate and/or less educated women than among literate and more educated women. Major differences are apparent by birth order and the age of the mother at the time of the birth. First births are relatively well planned, second and third births are most likely to be mistimed and fourth and higher order births are particularly likely to be unwanted. The proportion of unwanted births of order four or higher is as high as 41 percent in Tripura and as low as 6 percent in Mizoram. The percentage of pregnancies that were planned decreases steadily with increasing age. For women age 35-49, it decreases to a level of around 50 percent in Meghalaya, Nagaland and Tripura and to a level of around 80 percent in the remaining three states. Over 35 percent of

Table 7.8 Fertility planning

Percent distribution of births during the four years preceding the survey and current pregnancies by fertility planning status, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Planning status of pregnancy				Total percent	Number of births
	Wanted then	Wanted later	Wanted no more	Missing		
ARUNACHAL PRADESH						
Residence						
Urban	75.8	13.1	11.1	--	100.0	99
Rural	86.4	8.7	4.8	--	100.0	641
Education						
Illiterate	87.7	5.9	6.5	--	100.0	511
Lit., < middle complete	79.1	16.5	4.3	--	100.0	115
Middle school complete	76.7	17.8	5.5	--	100.0	73
High school and above	(82.9)	(17.1)	(--)	(--)	100.0	41
Birth order¹						
1	91.9	8.1	--	--	100.0	186
2	82.9	16.5	0.6	--	100.0	158
3	84.7	9.9	5.3	--	100.0	131
4+	81.5	5.7	12.8	--	100.0	265
Mother's age at birth²						
15-19	86.7	12.6	0.7	--	100.0	143
20-24	87.6	9.7	2.7	--	100.0	258
25-29	83.4	10.2	6.4	--	100.0	187
30-34	81.8	5.7	12.5	--	100.0	88
35-49	80.9	1.6	17.5	--	100.0	63
Total	85.0	9.3	5.7	--	100.0	740
MANIPUR						
Residence						
Urban	82.6	10.3	6.5	0.5	100.0	184
Rural	81.5	12.8	5.1	0.6	100.0	475
Education						
Illiterate	82.7	12.2	4.1	1.1	100.0	271
Lit., < middle complete	75.2	17.9	6.2	0.7	100.0	145
Middle school complete	81.3	7.5	11.2	--	100.0	80
High school and above	86.5	9.2	4.3	--	100.0	163
Birth order¹						
1	94.5	3.3	1.6	0.5	100.0	183
2	83.6	15.0	1.4	--	100.0	140
3	80.0	13.6	5.6	0.8	100.0	125
4+	70.6	17.1	11.4	0.9	100.0	211
Mother's age at birth²						
15-19	(95.7)	(4.3)	(--)	(--)	100.0	47
20-24	84.2	12.3	3.1	0.4	100.0	228
25-29	80.6	12.0	6.5	0.9	100.0	216
30-34	76.0	15.7	8.3	--	100.0	121
35-49	(76.6)	(10.6)	(10.6)	(2.2)	100.0	47
Total	81.8	12.1	5.5	0.6	100.0	659

Table 7.8 Fertility planning (Contd.)

Percent distribution of births during the four years preceding the survey and current pregnancies by fertility planning status, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Planning status of pregnancy				Total percent	Number of births
	Wanted then	Wanted later	Wanted no more	Missing		
MEGHALAYA						
Residence						
Urban	43.8	47.5	8.6	--	100.0	162
Rural	69.5	26.8	3.7	--	100.0	702
Education						
Illiterate	73.1	24.0	2.9	--	100.0	383
Lit., < middle complete	58.2	34.9	6.8	--	100.0	292
Middle school complete	62.8	31.9	5.3	--	100.0	94
High school and above	52.6	43.2	4.2	--	100.0	95
Birth order¹						
1	69.5	29.1	1.4	--	100.0	220
2	61.7	36.8	1.6	--	100.0	193
3	66.9	28.1	5.0	--	100.0	139
4+	62.2	29.2	8.7	--	100.0	312
Mother's age at birth²						
15-19	76.3	22.2	1.5	--	100.0	135
20-24	63.8	33.7	2.5	--	100.0	323
25-29	63.2	32.8	4.0	--	100.0	201
30-34	66.0	25.8	8.2	--	100.0	97
35-49	53.3	33.3	13.4	--	100.0	105
Total	64.7	30.7	4.6	--	100.0	864
MIZORAM						
Residence						
Urban	80.5	13.5	6.0	--	100.0	282
Rural	90.3	7.4	2.2	--	100.0	269
Education						
Illiterate	(92.6)	(3.7)	(3.7)	(--)	100.0	27
Lit., < middle complete	86.6	9.3	4.1	--	100.0	291
Middle school complete	85.1	12.4	2.5	--	100.0	121
High school and above	80.4	13.4	6.3	--	100.0	112
Birth order¹						
1	91.7	8.3	--	--	100.0	181
2	78.4	14.9	6.7	--	100.0	134
3	83.5	11.0	5.5	--	100.0	109
4+	85.0	8.7	6.3	--	100.0	127
Mother's age at birth²						
15-19	88.7	11.2	--	--	100.0	80
20-24	88.1	9.8	2.1	--	100.0	194
25-29	83.1	10.9	6.0	--	100.0	183
30-34	81.0	14.3	4.8	--	100.0	63
35-49	(80.6)	(3.2)	(16.1)	(--)	100.0	31
Total	85.3	10.5	4.2	--	100.0	551

Table 7.8 Fertility planning (Contd.)

Percent distribution of births during the four years preceding the survey and current pregnancies by fertility planning status, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Planning status of pregnancy				Total percent	Number of births
	Wanted then	Wanted later	Wanted no more	Missing		
NAGALAND						
Residence						
Urban	57.8	21.1	21.1	--	100.0	109
Rural	63.3	18.3	18.3	--	100.0	633
Education						
Illiterate	68.6	14.7	16.7	--	100.0	245
Lit., < middle complete	57.1	21.3	21.6	--	100.0	282
Middle school complete	63.3	17.4	19.3	--	100.0	109
High school and above	62.3	22.6	15.1	--	100.0	106
Birth order¹						
1	65.0	28.8	6.2	--	100.0	226
2	69.2	16.0	14.8	--	100.0	169
3	64.8	16.4	18.9	--	100.0	122
4+	53.8	12.0	34.2	--	100.0	225
Mother's age at birth²						
15-19	56.6	31.3	12.1	--	100.0	99
20-24	66.8	19.6	13.6	--	100.0	286
25-29	67.3	15.9	16.8	--	100.0	214
30-34	51.2	12.2	36.6	--	100.0	82
35-49	51.7	11.1	36.6	--	100.0	60
Total	62.5	18.7	18.7	--	100.0	742
TRIPURA						
Residence						
Urban	75.3	15.3	9.4	--	100.0	85
Rural	69.3	14.3	16.5	--	100.0	540
Education						
Illiterate	69.3	8.2	22.5	--	100.0	280
Lit., < middle complete	69.4	20.4	10.2	--	100.0	216
Middle school complete	73.4	19.1	7.4	--	100.0	94
High school and above	(71.4)	(14.3)	(14.3)	(--)	100.0	35
Birth order¹						
1	86.2	13.3	0.6	--	100.0	181
2	72.7	25.3	2.0	--	100.0	150
3	68.0	19.0	13.0	--	100.0	100
4+	54.1	4.6	41.2	--	100.0	194
Mother's age at birth²						
15-19	75.7	23.6	0.7	--	100.0	144
20-24	74.3	17.6	8.1	--	100.0	210
25-29	68.1	9.2	22.7	--	100.0	141
30-34	62.2	5.4	32.4	--	100.0	74
35-49	(53.1)	(--)	(46.9)	(--)	100.0	49
Total	70.1	14.4	15.5	--	100.0	625

Note: Total includes 1 birth to a woman from Arunachal Pradesh, 3 births to women from Meghalaya, 1 birth to a woman from Nagaland and 7 births to women from Tripura, whose age at childbirth was < 15 years, who are not shown separately.

() Based on 25-49 cases

-- Less 0.05 percent

¹Includes current pregnancy, if any

²For current pregnancy, estimated maternal age at birth

all births in Nagaland and Tripura and around 15 percent of all births in Arunachal Pradesh, Meghalaya and Mizoram to women age 35-49 were reported to be unwanted.

The impact of unwanted fertility can be estimated by comparing *wanted fertility rates* with the total fertility rates presented in Chapter 5. The wanted fertility rate shown in Table 7.9 is calculated in the same way as the total fertility rate, except that unwanted births are excluded from the numerator. A birth is considered unwanted if the number of living children at the time of conception was greater than or equal to the current ideal number of children, as reported by the respondent. Women who gave a non-numeric response to the question on the ideal number of children were assumed to want all their births. The wanted fertility rate represents the level of fertility that theoretically would result if all unwanted births were prevented. A comparison of the total fertility rate with the total wanted fertility rate indicates the potential demographic impact of the elimination of all unwanted births. Table 7.9 shows total wanted fertility rates and total fertility rates by residence and education.

It is evident from Table 7.9 that the wanted total fertility rate is lower than the total fertility rate in all the northeastern states. Large differences in these two measures are observed only in Manipur and Tripura where the wanted TFR is 17 and 26 percent lower than the actual TFR, respectively. In the other states, the wanted TFR is 9-10 percent lower than the actual TFR.

Table 7.9 Wanted fertility rates		
Total wanted fertility rates and total fertility rates for the three years preceding the survey, Northeastern states, 1993		
State	Total wanted fertility rate	Total fertility rate
Arunachal Pradesh	3.84	4.25
Manipur	2.29	2.76
Meghalaya	3.39	3.73
Mizoram	2.09	2.30
Nagaland	2.95	3.26
Tripura	1.98	2.67

Note: Rates are calculated based on births in the period 1-36 months before the interview to women age 15-49. The total fertility rates are the same as those presented in Table 5.1.

CHAPTER 8

MORBIDITY AND MORTALITY

This chapter presents data on the prevalence of certain health conditions as well as mortality rates. This type of information is relevant both to the demographic assessment of the population and to health policies and programmes. The mortality estimates are also useful for projecting the future size of the population. More detailed information on the mortality of children can be used to identify sectors of the population which are at high risk and in need of health services.

The National Family Health Survey collected information on mortality and morbidity from both the Household and Woman's Questionnaire. The Household Questionnaire includes questions on individuals in the household suffering from blindness, tuberculosis, leprosy, physical impairment of the limbs, and malaria. The Household Questionnaire also includes a question on deaths occurring in the household during the two years before the survey and the Woman's Questionnaire collects information on the survival status of all births, the age at death if the child died, and the prevalence of common childhood illnesses. The prevalence and treatment of common childhood illnesses are discussed in Chapter 9.

8.1 Morbidity

Demographic sample surveys generally do not include questions on the prevalence of health conditions, hence there is not much experience with the results of such questions. The patterns shown by the morbidity data analyzed in this section are generally plausible, suggesting that the questions have provided useful information. At the same time, there is little to indicate whether the overall prevalence levels are correct. It is certainly possible that the results of the survey substantially understate the prevalence of these conditions because some survey respondents fail to report them.

It is worth noting some of the considerations that might be made in assessing the validity of these prevalence figures. Conditions carrying a stigma, such as leprosy, may be underreported due to intentional concealment by respondents or embarrassment on the part of interviewers about asking these questions. Respondents will be aware of certain conditions, such as blindness and physical impairment, but may be unaware of others unless they have been diagnosed by medical personnel. Moreover, given the linguistic diversity in India, local as well as national, respondents may know that a household member suffers from a given condition but fail to report it because they do not recognize the words used by the interviewer in asking the question.

Table 8.1 shows the prevalence of the five morbidity conditions (blindness, tuberculosis, leprosy, physical impairment of the limbs and malaria) among the household population by place of residence and age and sex. Of the five, malaria has the highest prevalence in all of the northeastern states ranging from 16 to 47 per 1,000 usual residents in the household during the three months prior to the survey. Blindness (partial or complete), reported for 8-15 per 1,000 usual residents in the household is the second most prevalent health condition in each state. The remaining health conditions have an overall prevalence of 11 or less per 1,000 in each state.

Table 8.1 Morbidity

Number of persons per 1,000 usual residents in the household suffering from blindness, tuberculosis, leprosy, physical impairment of the limbs and malaria according to age, sex and residence, Northeastern states, 1993

Demographic characteristic	Number of persons per 1,000 suffering from:						Number of usual residents
	Blindness		Tuberculosis	Leprosy	Physical impairment of limbs	Malaria during the last three months	
	Partial	Complete					
ARUNACHAL PRADESH							
Age							
0-14	0.9	2.6	4.7	0.4	3.8	33.7	2346
15-59	8.5	1.8	11.3	1.1	4.2	49.2	2828
60+	49.8	19.2	30.7	7.7	15.3	42.1	261
Sex							
Male	6.2	2.9	10.9	0.7	4.4	37.4	2755
Female	8.2	3.0	7.8	1.5	4.9	47.0	2680
Residence							
Urban	4.6	1.5	7.7	--	3.1	6.1	651
Rural	7.5	3.1	9.6	1.3	4.8	47.0	4784
Total	7.2	2.9	9.4	1.1	4.6	42.1	5435
MANIPUR							
Age							
0-14	4.2	2.1	2.1	1.7	5.1	12.3	2359
15-59	15.6	0.5	9.7	1.6	4.0	17.5	3717
60+	40.5	2.3	47.3	6.8	6.8	29.3	444
Sex							
Male	12.5	1.2	10.4	2.4	6.4	18.3	3281
Female	13.9	1.2	8.6	1.5	2.8	14.5	3239
Residence							
Urban	19.7	1.4	5.2	1.9	5.6	2.3	2135
Rural	10.0	1.1	11.6	2.1	4.1	23.3	4385
Total	13.2	1.2	9.5	2.0	4.6	16.4	6520
MEGHALAYA							
Age							
0-14	0.8	2.0	0.4	--	4.8	42.0	2498
15-59	6.8	1.6	4.7	0.3	5.6	51.3	3217
60+	42.3	9.4	14.1	--	23.5	46.9	213
Sex							
Male	4.3	2.6	4.6	0.3	6.6	46.5	3032
Female	6.9	1.4	1.7	--	5.2	48.0	2896
Residence							
Urban	3.2	3.2	4.0	--	2.4	11.9	1257
Rural	6.2	1.7	3.0	0.2	6.9	56.7	4671
Total	5.6	2.0	3.2	0.2	5.9	47.2	5928

Table 8.1 Morbidity (Contd.)

Number of persons per 1,000 usual residents in the household suffering from blindness, tuberculosis, leprosy, physical impairment of the limbs and malaria according to age, sex and residence, Northeastern states, 1993

Demographic characteristic	Number of persons per 1,000 suffering from:						Number of usual residents
	Blindness		Tuberculosis	Leprosy	Physical impairment of limbs	Malaria during the last three months	
	Partial	Complete					
MIZORAM							
Age							
0-14	5.4	0.5	0.9	0.9	1.8	35.2	2213
15-59	14.8	0.8	3.3	--	4.7	54.9	3590
60+	69.5	9.9	16.6	--	23.2	26.5	302
Sex							
Male	14.3	1.0	3.3	--	5.2	54.3	3074
Female	13.9	1.3	3.0	0.7	4.0	38.3	3031
Residence							
Urban	19.2	0.3	1.9	0.6	4.4	33.0	3179
Rural	8.5	2.1	4.4	--	4.8	60.8	2926
Total	14.1	1.1	3.1	0.3	4.6	46.4	6105
MAGALAND							
Age							
0-14	5.7	0.8	2.5	1.6	4.1	11.0	2444
15-59	15.0	1.8	6.0	1.5	15.9	40.0	3323
60+	66.2	--	22.1	--	14.7	29.4	136
Sex							
Male	10.8	1.3	5.7	0.7	10.5	26.6	2965
Female	14.0	1.4	4.1	2.4	11.6	28.9	2938
Residence							
Urban	10.6	1.6	2.4	--	8.1	17.1	1228
Rural	12.8	1.3	5.6	1.9	11.8	30.6	4675
Total	12.4	1.4	4.9	1.5	11.0	27.8	5903
TRIPURA							
Age							
0-14	3.9	1.3	--	--	5.6	24.3	2301
15-59	7.1	0.9	3.8	--	3.8	25.9	3397
60+	72.1	22.8	9.5	--	7.6	36.1	527
Sex							
Male	10.5	3.2	3.8	--	5.1	27.5	3129
Female	12.3	2.6	1.9	--	4.5	24.9	3096
Residence							
Urban	6.1	3.5	1.7	--	2.6	13.1	1148
Rural	12.6	2.8	3.2	--	5.3	29.2	5077
Total	11.4	2.9	2.9	--	4.8	26.2	6225

-- Less than 0.05 per 1,000

Partial and Complete Blindness

The level of partial blindness (including blindness in one eye and night blindness) ranges from 6 per 1,000 persons in Meghalaya to 14 per 1,000 in Mizoram. Compared to partial blindness the incidence of complete blindness is low in all the northeastern states. The overall level of complete blindness ranges from 1 per 1,000 in Manipur, Mizoram and Nagaland to 3 per 1,000 in Arunachal Pradesh and Tripura.

Partial blindness increases sharply with age in all the northeastern states, ranging from lows of 1-6 per 1,000 persons age 0-14 to highs of 41-72 per 1,000 persons age 60 and over. In the majority of the states the age differentials in complete blindness are also very significant, ranging from 1-3 per 1,000 persons age 0-14 to 0-23 per 1,000 persons age 60 and over.

In three states, namely Arunachal Pradesh, Meghalaya and Tripura, rural residents are about twice as likely to be partially blind as urban residents. In Manipur and Mizoram, on the other hand, urban residents are more than twice as likely to be partially blind as rural residents. The difference in partial blindness between urban and rural areas is not very large in Nagaland. The urban-rural differences in complete blindness are very small in most of the northeastern states. The differentials by gender in both partial and complete blindness are negligible in all the states.

Tuberculosis

The incidence of tuberculosis is high in Arunachal Pradesh and Manipur (more than 9 per 1,000) compared with other northeastern states. Except in Meghalaya, rural residents of the northeastern states are more prone to tuberculosis than urban residents. Females are less prone to tuberculosis than males in all the northeastern states. This gender difference in the incidence of tuberculosis is particularly large in Meghalaya. There is a positive relationship between prevalence of tuberculosis and increasing age in all the northeastern states. Among persons age 60 and above the prevalence of tuberculosis is the highest in Manipur at 47 per 1,000 and the lowest in Tripura at 10 per 1,000.

Leprosy

The reported prevalence of leprosy is 1 per 1,000 persons in Arunachal Pradesh and 2 per 1,000 persons in Manipur and Nagaland. In the states of Meghalaya, Mizoram and Tripura it is below 1 per 1,000. The reported prevalence of leprosy is high for persons above age 60 in Arunachal Pradesh and Manipur (7-8 per 1,000).

Physical Impairment of the Limbs

The overall prevalence rate of persons with physically impaired limbs is 5 per 1,000 in Arunachal Pradesh, Manipur, Mizoram, and Tripura. In the state of Meghalaya it is 6 per 1,000 and in Tripura it is 11 per 1,000. The prevalence rate for persons age 60 and over is high compared to younger ages in the states of Arunachal Pradesh, Meghalaya, Mizoram, and Nagaland (15 and above per 1,000 persons). In the majority of the northeastern states, differences in the prevalence of physical impairment of the limbs by gender and residence are

not very large.

Malaria

The prevalence of malaria throughout the year will not remain constant, because the incidence of malaria varies considerably by season. The NFHS in most of the northeastern states was taken during the rainy season in May and June when malaria rates are generally high. The overall level of malaria in the three months prior to the survey was above 40 per 1,000 persons in the states of Arunachal Pradesh, Meghalaya, and Mizoram. In the states of Nagaland and Tripura it is 26-28 per 1,000 persons and in Manipur it is 16 per 1,000. The incidence of malaria is two to ten times higher in rural areas than in urban areas in all the northeastern states. In most states, the prevalence of malaria is lower among younger persons age 14 and below than among older persons. There is no consistent pattern in the prevalence of malaria by gender, and the difference is negligible in four of the six states.

8.2 Crude Death Rates and Age-Specific Death Rates

Crude death rates (CDR) and age-specific death rates by sex for the usual resident population in the northeastern states from the NFHS are shown in Table 8.2. The crude death rate is based on deaths occurring to usual residents of the household during the two years preceding the survey as obtained from the Household Questionnaire. The CDR is calculated as the annual number of deaths in the two-year period before the date of interview per 1,000 usual residents. The denominator of this measure is calculated by projecting the number of usual residents at the time of the survey backwards to the mid-point of the time period on the basis of the intercensal population growth rate in the state. The intercensal growth rate is assumed to be the same for all age and sex groups.

Table 8.2 shows that the average annual crude death rate for the usually resident population is 1.9 to 3.4 per 1,000 in Nagaland and Mizoram, 5.8 to 8.2 per 1,000 in Arunachal Pradesh, Manipur and Meghalaya and 11.8 per 1,000 in Tripura for the two years before the NFHS (roughly 1991-92). The three-year moving averages of crude death rates for the northeastern states except for Mizoram are available from the Sample Registration System (Office of the Registrar General, 1994). The three-year moving averages of crude death rates for 1990-92 are 9.3 in Arunachal Pradesh, 5.6 in Manipur, 8.4 in Meghalaya, 3.7 in Nagaland, and 7.4 in Tripura. The NFHS and SRS estimates differ by less than 1 per 1,000 in Arunachal Pradesh and Manipur, the SRS rates are higher in Meghalaya and Nagaland and the NFHS rate is higher in Tripura.

As expected, the death rates are highest for children age 0-4. The death rates for persons age 50 and over are higher than for persons age 5-14. The death rates for persons age 0-4 and 50 and above are approximately twice as high in Tripura as in the other northeastern states.

In most countries, male death rates are higher than female death rates at nearly all ages. South Asia generally has been an exception in this respect, with higher death rates for females over much of the age span (Preston, 1990; Ghosh, 1987). The northeastern states do not follow the pattern of South Asian countries. In the majority of the northeastern states, male mortality rates are higher than female mortality rates in 0-4, 5-14, and 15-49 age groups.

Table 8.2 Crude death rates and age-sex specific death rates

Crude death rates (CDR) and age-sex specific death rates, Northeastern states, 1993

Age	Death rate			Number of usual residents		
	Male	Female	Total	Male	Female	Total
ARUNACHAL PRADESH						
0 - 4	19.2	18.1	18.7	431	399	830
5 -14	2.8	3.4	3.1	752	764	1516
15-49	4.8	4.0	4.4	1266	1281	2547
50+	20.2	28.4	23.8	306	236	542
CDR	8.3	8.0	8.2	2755	2680	5435
MANIPUR						
0 - 4	12.5	5.8	9.0	328	353	681
5 -14	1.1	1.2	1.2	873	805	1678
15-49	2.5	2.2	2.4	1656	1676	3332
50+	35.1	17.8	26.6	424	405	829
CDR	7.4	4.3	5.8	3281	3239	6520
MEGHALAYA						
0 - 4	24.3	16.6	20.6	423	404	827
5 -14	1.7	1.3	1.5	880	791	1671
15-49	4.5	1.0	2.8	1462	1529	2991
50+	21.2	17.9	20.0	267	172	439
CDR	8.0	4.2	6.2	3032	2896	5928
MIZORAM						
0 - 4	6.6	5.2	5.9	314	298	612
5 -14	--	0.6	0.3	815	786	1601
15-49	2.3	1.9	2.1	1611	1677	3288
50+	12.4	21.1	16.3	334	269	603
CDR	3.2	3.6	3.4	3074	3031	6105
MAGALAND						
0 - 4	11.7	7.1	9.5	402	367	769
5 -14	1.2	1.3	1.3	874	801	1675
15-49	0.4	--	0.2	1387	1709	3096
50+	3.5	8.6	4.3	302	61	363
CDR	2.5	1.5	1.9	2965	2938	5903
TRIPURA						
0 - 4	23.2	32.2	27.9	356	335	691
5 -14	3.1	0.6	1.9	837	773	1610
15-49	2.8	4.3	3.6	1483	1559	3042
50+	51.2	39.7	45.5	453	429	882
CDR	12.2	11.4	11.8	3129	3096	6225

Note: Crude death rates and age-sex specific death rates are based on the annual number of deaths reported for the *de jure* population during the two years prior to the survey.

-- Less than 0.05 per 1,000

8.3 Infant and Child Mortality

Definitions of Infant and Child Mortality

All respondents in the NFHS were asked to give a complete history of their births, including the sex, date of birth, survival status, and age at the time of the survey or age at death of each live birth. For children who had died, age at death was recorded in days for children dying in the first month of life, in months for children dying before their second birthday, and in years for children dying at later ages. This information was used to calculate the following direct estimates of infant and child mortality:¹

Neonatal mortality:	the probability of dying in the first month of life;
Postneonatal mortality:	the difference between infant and neonatal mortality;
Infant mortality (${}_1q_0$):	the probability of dying before the first birthday;
Child mortality (${}_5q_1$):	the probability of dying between the first and fifth birthday;
Under-five mortality(${}_5q_0$):	the probability of dying before the fifth birthday.

Assessment of Data Quality

The reliability of mortality estimates calculated from retrospective birth histories depends upon the completeness with which deaths of children are reported and the extent to which birth dates and ages at deaths are accurately reported and recorded. Estimated rates of infant and child mortality are subject to both sampling and nonsampling errors. While the sampling errors for various mortality estimates are provided in Appendix A, this section describes the results of various checks for nonsampling errors -- in particular, underreporting of deaths in early childhood (which would result in an underestimate of mortality) and misreporting the date of birth or age at death (which could distort the age pattern of under-five mortality).

Underreporting of infant deaths, in particular, is usually most severe for deaths which occur very early in infancy. If deaths in the early neonatal period are selectively underreported, then there will be an abnormally low ratio of deaths under seven days to all neonatal deaths and an abnormally low ratio of neonatal to infant mortality. Results from Table B.5 (see Appendix B) suggest that early infant deaths for the period 0-4 years prior to the survey have *not* been severely underreported in the northeastern states, since the ratios of deaths under seven days to all neonatal deaths are quite high (a ratio of less than 25 percent is often used as a guideline to indicate underreporting of early neonatal deaths). These ratios are high in all the northeastern

¹ A detailed description of the method for calculating the probabilities presented here is given in Rutstein (1984). The mortality estimates are not rates, but are true probabilities, calculated according to the conventional life table approach. For any calendar period, deaths and exposure in that period are first tabulated for the age intervals 0, 1-2, 3-5, 6-11, 12-23, 24-35, 36-47, and 48-59 months. Then age interval specific probabilities of survival are calculated. Finally, probabilities of mortality for larger age intervals are calculated by multiplying the relevant age interval survival probabilities together and subtracting the product from one:

$${}_nq_x = 1 - \prod_1 (1 - q_i)$$

states for the periods 0-4 years prior to the survey (ranging from 63 in Nagaland to 88 in Manipur). The ratios of infant deaths that occurred during the neonatal period (see Appendix Table B.6) are also quite high for the periods 0-4 years (ranging from 47 in Arunachal Pradesh to 63 in Meghalaya).

One problem that is inherent in most retrospective surveys is heaping of the age at death on certain digits, e.g., 6, 12 and 18 months. Misreporting of age at death will bias estimates of the age pattern of mortality if the net result of misreporting is the transference of deaths between age segments for which the rates are calculated; for example, an overestimate of child mortality relative to infant mortality may result if children dying during the first year of life are reported as having died at age one or older. Thus, heaping at 12 months can bias the mortality estimates because a certain fraction of these deaths, which are reported to have occurred after infancy (i.e., at ages 12-23 months), may have actually occurred during infancy (i.e., at ages 0-11 months). In this case, heaping would bias the infant mortality rate (${}_1q_0$) downward and child mortality (${}_4q_1$) upward.

The distributions of death occurring under age two years by age at death shown in Table B.6 in Appendix B provide evidence on the extent of age "heaping". While there is evidence of heaping in all the northeastern states, severe heaping at 12 months of age is observed only for Mizoram. Digit preference does not appear to be serious enough to alter substantially the rates calculated here for Arunachal Pradesh, Manipur, Meghalaya, Nagaland and Tripura. For example, even if as many as half of the deaths reported at 12 months were to be reassigned to the infant age segment for these five states, infant mortality would increase by only 5 percent in Arunachal Pradesh, 4 percent in Meghalaya, 3 percent each in Manipur and Nagaland, and 2 percent in Tripura for the 5-year period preceding the survey. However, due to heaping in the reporting of death at age 12 months, the percentage increase in infant mortality would be 22 percent in Mizoram if half the deaths recorded at 12 months were included in the infant mortality rate.

It is also important to note that the sampling variability for mortality estimates is relatively high in the northeastern states, particularly due to the small sample of ever-married women. For example, in Mizoram, both fertility and mortality rates have reached low levels and the NFHS estimates of infant and child mortality are based upon a small sample of 1,045 ever-married women. In Nagaland, the sample of ever-married women is 1,149, the crude death rate is among the lowest in the northeastern states according to both the NFHS (Table 8.2) and the SRS (Table 1.1), and therefore, the number of infant and child deaths recorded in the NFHS is also very small (Tables B.5 and B.6). As shown in Table A.2 of Appendix A, for example, the infant mortality estimate for Mizoram, 14.6 per 1,000 live births, has a standard error of 5.4, and the 95 percent confidence interval ranges from 3.9 to 25.3. The sampling error is even larger for infant mortality estimates for population subgroups.

Levels of Infant and Child Mortality

Table 8.3 shows various measures of infant and child mortality for the 5-year period preceding the survey. Infant mortality rates in the northeastern region vary dramatically from one state to another (Figure 8.1). The estimated NFHS infant mortality rates for 0-4 years prior to the survey (approximately 1988-92) for the northeastern states are, from lowest to highest per

Table 8.3 Infant and child mortality

Neonatal, postneonatal, infant, child and under-five mortality for the 5-year period preceding the survey, Northeastern states, 1993

State	Neonatal mortality (NN)	Postneonatal mortality ¹ (PNN)	Infant mortality (₁ q ₀)	Child mortality (₄ q ₁)	Under-five mortality (₅ q ₀)
Arunachal Pradesh	17.5	22.5	40.0	33.3	72.0
Manipur	25.1	17.3	42.4	20.2	61.7
Meghalaya	37.8	26.3	64.2	24.3	86.9
Mizoram	8.3	6.3	14.6	14.9	29.3
Nagaland	10.0	7.2	17.2	3.6	20.7
Tripura	43.6	32.3	75.8	31.2	104.6

¹Computed as the difference between infant and neonatal mortality

1,000 live births, 15 in Mizoram, 17 in Nagaland, 40 in Arunachal Pradesh, 42 in Manipur, 64 in Meghalaya, and 76 in Tripura. The infant mortality rates seem implausibly low in Nagaland and Mizoram, but the NFHS rate for Nagaland is consistent with the SRS estimate of 18 for 1989-91 (the SRS did not report an infant mortality rate for Mizoram for those years). With the exception of Tripura and Meghalaya, the infant mortality rates for the northeastern states are lower than the rates for most of the large states of India. Neonatal mortality accounts for the largest proportion (57-59 percent) of deaths under age one in every northeastern state except Arunachal Pradesh (44 percent).

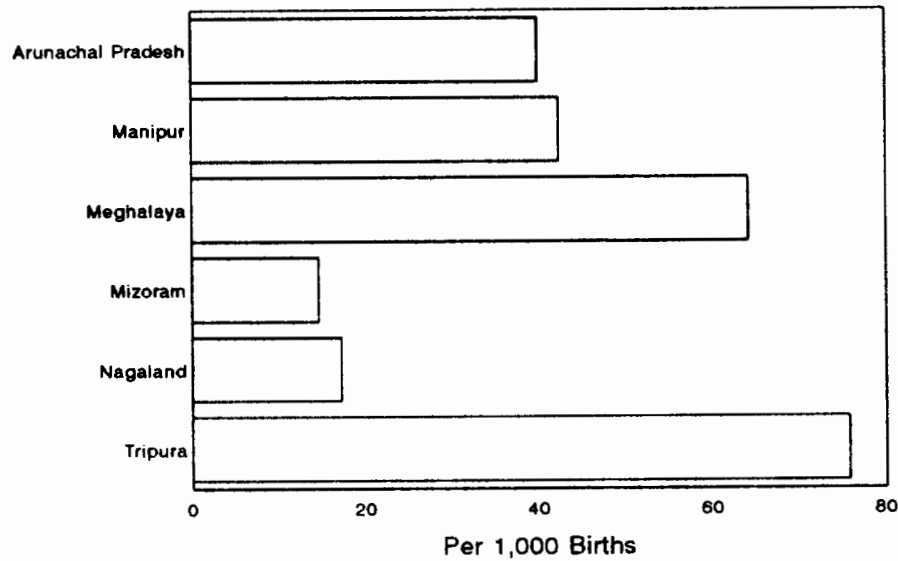
Child mortality ranges from 4 per 1,000 children who survive to age one in Nagaland to 33 per 1,000 in Arunachal Pradesh. The under-five mortality rate which summarizes the mortality measures for children under age 5, from lowest to highest per 1,000 live births, is 21 in Nagaland, 29 in Mizoram, 62 in Manipur, 72 in Arunachal Pradesh, 87 in Meghalaya and 105 in Tripura.

8.4 High-Risk Fertility Behaviour

In theory, the mother's age at the time of birth, the interval between births, and the order of a birth (all factors with a high risk of mortality for children) can be controlled by the parents if they want to increase the probability of survival of their children. Understanding the prevalence of high-risk births is, therefore, of interest for health and family planning policymakers and programme managers. Table 8.4 shows the percentages of births in the five years preceding the survey that fall into different child survival risk categories. The following types of births are considered to be in high-risk category:

- (1) Births to women under age 18
- (2) Births to women over age 34
- (3) Births within 24 months of a previous birth
- (4) Births of order 4 and above

**Figure 8.1
Infant Mortality Rates**



Note: Rates are for the 5-year period preceding the survey

NFHS, Northeastern states, 1993

The percentage of birth in any high-risk category varies from 47 percent each in Manipur and Mizoram to 57 percent each in Arunachal Pradesh and Meghalaya. The percentage of children born to mothers less than 18 years of age is highest (12 percent)² in Tripura. The percentage of children born to mothers over 34 is highest in Meghalaya (12 percent). One quarter of births in Mizoram and Meghalaya occurred within 24 months of a previous birth. Overall, there is substantial scope in each of the northeastern states for improving child survival by avoiding high-risk births.

² The percentages born to mothers less than 18 years of age is calculated by adding together the percentages in the two rows that include women in this age group. A similar procedure is used to calculate the percentage of children in the other risk groups.

Table 8.4 High-risk fertility behaviour

Percentage of children born in the last five years at elevated risk of mortality, according to category of increased risk by state, Northeastern states, 1993

High-risk category	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Not in any high-risk category	42.9	52.7	43.1	53.0	48.8	48.5
Single high-risk category						
Age<18: Age under 18 years at birth	7.4	1.9	5.3	3.1	4.1	10.7
Age>34: Age over 34 years at birth	1.1	1.0	0.2	0.5	0.8	0.9
BI<24 : Birth interval under 24 months	10.9	10.0	12.9	18.1	13.0	8.2
BO>3 : Birth order higher than 3	21.1	20.7	16.9	14.4	17.4	18.6
Subtotal	40.5	33.6	35.3	36.2	35.3	38.4
Multiple high-risk category						
Age<18 & BI<24*	1.0	--	0.9	--	0.3	1.3
Age>34 & BI<24	--	0.3	0.1	0.2	0.3	0.1
Age>34 & BO>3	5.5	4.6	8.3	4.2	5.0	5.5
Age>34 & BI<24 & BO>3	2.4	0.7	3.0	0.7	2.2	0.6
BI<24 & BO>3	7.7	8.2	9.3	5.7	8.2	5.6
Subtotal	16.6	13.8	21.6	10.8	15.9	13.1
In any high-risk category	57.1	47.3	56.9	47.0	51.2	51.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number						

BI: Birth interval, BO: Birth order

-- Less than 0.05 percent

*Also includes category age under 18 and birth order greater than 3.

CHAPTER 9

MATERNAL AND CHILD HEALTH

The importance of safe motherhood practices and child survival cannot be exaggerated in a country which has experienced high infant and child mortality and maternal mortality. Realizing the importance of maternal and child health care services, the Ministry of Health, Government of India, took concrete steps to strengthen maternal and child health services in the First and Second Five Year Plans (1951-56 and 1956-61). The integration of family planning services with maternal and child health services and nutrition services was introduced as a part of the Minimum Needs Programme during the Fifth Five Year Plan (1974-79). The primary objective was to provide minimum public health services to vulnerable groups of pregnant women, lactating mothers and preschool children (Kanitkar, 1979). Since then, the promotion of health of mothers and children has been one of the most important thrusts of the Family Welfare Programme in India and it has now been further strengthened by introducing the Child Survival and Safe Motherhood Programme (Ministry of Health and Family Welfare, 1993). The Ministry of Health and Family Welfare has also sponsored special schemes, under the Maternal and Child Health Programme, including the programme of Oral Rehydration Therapy (ORT), development of Regional Institutes of Maternal and Child Health in states where infant mortality rates are high, the Universal Immunization Programme, and the Maternal and Child Health Supplemental Programme within the Post-Partum Programme (Ministry of Health and Family Welfare, 1992).

In the northeastern states, as in other states of India, maternal and child health services are available at Primary Health Centres, sub-centres and hospitals run by the Government or they can be obtained in nursing homes and hospitals which are run either by private doctors or by nongovernment voluntary organizations, charitable trusts, etc. Since the majority of private doctors and hospitals are concentrated in urban areas, government health centres and government programmes play a vital role in the provision of maternal and child health (MCH) services in rural areas. The Female Health Worker who is an Auxiliary Nurse Midwife (ANM), not only assists the Medical Officer and the Female Health Assistant in providing these services but she is supposed to visit the households to register pregnant women and give them antenatal care throughout the pregnancy, natal care at the time of delivery and postnatal care for the mother and the child. She is supposed to refer all the cases with any complications (which are beyond her capacity to treat) to the Primary Health Centre. At the grass-roots level, in addition to the ANM, the Village Health Guide, selected by the community, is a link between the community and the government health functionaries. Since most of the deliveries in rural areas are still conducted at home, *dais* (traditional birth attendants) are important and recognizing their role, the government conducts training programmes for them. Apart from these workers, the *Anganwadi* workers under the Integrated Child Development Services Programme (in the blocks which are chosen for Integrated Child Development Services) also render MCH services and are supposed to work in coordination with the ANM.

One important objective of the NFHS is to provide information on maternal and child health care practices. The relevant information was collected in the Woman's Questionnaire from the mothers of all children born since 1 January 1989. The information covered matters related to pregnancy and childbirth; infant and child feeding practices, including breastfeeding;

vaccinations; episodes of illnesses such as acute respiratory infection, fever and diarrhoea and the treatment received; mothers' knowledge and use of Oral Rehydration Salts (ORS); and the level of child nutrition assessed by measuring the weight and height of children. This chapter analyzes the data collected on antenatal and delivery care, vaccination coverage, prevalence of acute respiratory infection, fever and diarrhoea and their treatment, and mothers' knowledge and use of ORS. Chapter 10 deals with infant feeding and child nutrition.

Although information was obtained for each child born since January 1989, the analysis carried out in this chapter relates to the children born during the four years preceding the survey. If a woman had more than one live birth during the four years preceding the survey, the information was collected for the three most recent live births, all of which are taken into account in the analysis.

9.1 Maternal Care Indicators

Antenatal Care

Antenatal care refers to pregnancy-related health care provided by a doctor or a health worker in a medical facility or at home. The Safe Motherhood Initiative proclaims that all pregnant women must receive basic but professional antenatal care (Harrison, 1990). Antenatal care can contribute significantly to the reduction of maternal morbidity and mortality because it includes advice on the correct diet and the provision of iron and folic acid tablets to pregnant women. Improved nutritional status, coupled with improved antenatal care, can help reduce the incidence of low birth weight babies and thus reduce perinatal, neonatal and infant mortality.

A pregnant woman can receive antenatal care either by visiting a doctor or other health professional in a medical facility, or by receiving a home visit from a health worker, or both. In the NFHS, each woman who had a live birth during the four years prior to the survey was initially asked whether any health worker visited her at home for an antenatal check-up when she was pregnant and, if so, at which month of pregnancy the first visit was made and how many such visits were made in all. Next she was asked whether she had gone for an antenatal check-up outside the home and whom she saw for the check-up. If she saw more than one person, information was collected on all persons seen. She was asked at which month of pregnancy she first went for an antenatal check-up and how many such visits she made.

Table 9.1 and Figure 9.1 show the percent distribution of live births in the last four years by the source of antenatal care received during pregnancy. Although the interviewer was instructed to record all responses if more than one source of antenatal care outside the home was mentioned for the same pregnancy, for the purpose of this tabulation only the provider with the highest qualification is considered. There is a wide range in the percentage of births for which mothers received antenatal care among the northeastern states. In Nagaland, 61 percent of births were to women who did not receive antenatal care, and in Meghalaya and Arunachal Pradesh around half of births were to women who did not receive it. By contrast, in the remaining northeastern states, the majority of births were to women who did receive antenatal care, 63-65 percent in Manipur and Tripura and 89 percent in Mizoram.

Table 9.1 Antenatal care

Percent distribution of live births during the four years preceding the survey by source of antenatal care (ANC) during pregnancy, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Antenatal care provider (outside home) ¹				No ANC	Missing	Total percent	Number of births
	ANC only at home from health worker	Doctor	Other health professional	Traditional birth attendant, other ²				
ARUNACHAL PRADESH								
Mother's age at birth								
< 20	--	51.6	2.3	--	46.1	--	100.0	128
20-34	1.6	47.6	0.9	--	49.9	--	100.0	443
35+	1.9	24.5	--	--	73.6	--	100.0	53
Birth order								
1	1.3	55.1	1.3	--	42.3	--	100.0	156
2-3	0.8	49.0	1.6	--	48.6	--	100.0	243
4-5	2.0	40.8	0.7	--	56.5	--	100.0	147
6+	1.3	32.1	--	--	66.7	--	100.0	78
Residence								
Urban	1.2	84.3	1.2	--	13.3	--	100.0	83
Rural	1.3	40.7	1.1	--	56.9	--	100.0	541
Education								
Illiterate	1.8	34.3	1.1	--	62.7	--	100.0	437
Literate, < middle complete	--	66.3	2.1	--	31.6	--	100.0	95
Middle school complete	--	75.4	--	--	24.6	--	100.0	61
High school and above	(--)	(100.0)	(--)	(--)	(--)	(--)	100.0	31
Total³	1.3	46.5	1.1	--	51.1	--	100.0	624
MANIPUR								
Mother's age at birth								
< 20	(--)	(70.7)	(--)	(--)	(29.3)	(--)	100.0	41
20-34	1.7	60.0	2.4	--	35.9	0.6	100.0	463
35+	(2.5)	(42.5)	(2.5)	(--)	(52.5)	(2.5)	100.0	40
Birth order								
1	0.7	77.3	1.4	--	20.6	0.7	100.0	141
2-3	2.3	62.4	1.4	--	33.9	0.5	100.0	218
4-5	1.7	48.7	3.5	--	46.1	--	100.0	115
6+	1.4	32.9	4.3	--	61.4	2.9	100.0	70
Residence								
Urban	0.6	75.0	1.9	--	22.5	0.6	100.0	160
Rural	2.1	53.1	2.3	--	42.4	0.8	100.0	384
Education								
Illiterate	0.9	45.3	2.2	--	50.2	1.3	100.0	225
Literate, < middle complete	2.6	55.3	2.6	--	39.5	0.9	100.0	114
Middle school complete	4.5	62.7	1.5	--	31.3	--	100.0	67
High school and above	0.7	84.8	2.2	--	12.3	--	100.0	138
Total³	1.7	59.6	2.2	--	36.6	--	100.0	544

Table 9.1 Antenatal care (Contd.)

Percent distribution of live births during the four years preceding the survey by source of antenatal care (ANC) during pregnancy, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Antenatal care provider (outside home) ¹				No ANC	Missing	Total percent	Number of births
	ANC only at home from health worker	Doctor	Other health professional	Traditional birth attendant, other ²				
MEGHALAYA								
Mother's age at birth								
< 20	0.8	35.0	2.5	--	61.7	--	100.0	120
20-34	1.2	46.7	5.3	0.8	45.9	--	100.0	488
35+	2.4	50.6	3.5	1.2	42.4	--	100.0	85
Birth order								
1	0.6	53.8	3.6	--	42.0	--	100.0	169
2-3	1.8	41.7	5.5	0.4	50.6	--	100.0	271
4-5	0.7	40.6	4.9	0.7	53.1	--	100.0	143
6+	1.8	46.4	3.6	2.7	45.5	--	100.0	110
Residence								
Urban	--	83.7	2.2	0.7	13.3	--	100.0	135
Rural	1.6	35.8	5.2	0.7	56.6	--	100.0	558
Education								
Illiterate	1.7	18.2	5.1	0.7	74.3	--	100.0	296
Literate, < middle complete	1.7	56.0	5.6	0.9	35.9	--	100.0	234
Middle school complete	--	68.3	2.4	--	29.3	--	100.0	82
High school and above	--	88.9	2.5	1.2	7.4	--	100.0	81
Total³	1.3	45.2	4.6	0.7	48.2	--	100.0	693
MIZORAM								
Mother's age at birth								
< 20	2.9	47.1	44.1	--	5.9	--	100.0	68
20-34	1.4	44.5	40.6	1.7	11.8	--	100.0	355
35+	(3.4)	(20.7)	(62.1)	(--)	(13.8)	(--)	100.0	29
Birth order								
1	0.7	52.2	39.7	0.7	6.6	--	100.0	136
2-3	2.5	45.8	39.8	2.0	10.0	--	100.0	201
4-5	1.2	31.8	49.4	1.2	16.5	--	100.0	85
6+	(3.3)	(20.0)	(53.3)	(--)	(23.3)	(--)	100.0	30
Residence								
Urban	--	56.1	36.7	0.4	6.8	--	100.0	237
Rural	3.7	29.3	48.8	2.3	15.8	--	100.0	215
Education								
Literate, < middle complete	2.9	33.6	51.2	1.2	11.1	--	100.0	244
Middle school complete	--	51.6	41.9	--	6.5	--	100.0	93
High school and above	1.1	68.1	22.0	2.2	6.6	--	100.0	91
Total³	1.8	43.4	42.5	1.3	11.1	--	100.0	452

Table 9.1 Antenatal care (Contd.)

Percent distribution of live births during the four years preceding the survey by source of antenatal care (ANC) during pregnancy, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Antenatal care provider (outside home) ¹				No ANC	Missing	Total percent	Number of births
	ANC only at home from health worker	Doctor	Other health professional	Traditional birth attendant, other ²				
NAGALAND								
Mother's age at birth								
< 20	1.1	30.0	4.4	--	64.4	--	100.0	90
20-34	1.4	33.2	6.1	0.6	58.7	--	100.0	491
35+	--	20.0	2.0	4.0	74.0	--	100.0	50
Birth order								
1	2.7	31.5	6.5	0.5	58.7	--	100.0	184
2-3	0.8	32.3	5.2	0.8	60.9	--	100.0	248
4-5	--	38.6	5.5	--	55.9	--	100.0	127
6+	1.4	18.1	4.2	2.8	73.6	--	100.0	72
Residence								
Urban	2.2	47.8	5.4	--	44.6	--	100.0	92
Rural	1.1	28.9	5.6	0.9	63.5	--	100.0	539
Education								
Illiterate	1.0	15.3	4.4	0.5	78.8	--	100.0	203
Literate, < middle complete	0.4	29.4	4.9	1.2	64.1	--	100.0	245
Middle school complete	2.0	46.9	7.1	1.0	42.9	--	100.0	98
High school and above	3.5	60.0	8.2	--	28.2	--	100.0	85
Total ³	1.3	31.7	5.5	0.8	60.7	--	100.0	631
TRIPURA								
Mother's age at birth								
< 20	2.3	60.2	5.3	0.8	31.6	--	100.0	133
20-34	1.1	58.7	4.1	0.6	35.5	--	100.0	363
35+	(7.1)	(45.2)	(4.8)	(--)	(42.9)	(--)	100.0	42
Birth order								
1	0.6	73.4	3.2	1.3	21.4	--	100.0	154
2-3	1.8	61.9	3.2	0.5	32.6	--	100.0	218
4-5	1.9	40.2	5.6	--	52.3	--	100.0	107
6+	5.1	35.6	10.2	--	49.2	--	100.0	59
Residence								
Urban	--	98.6	--	--	1.4	--	100.0	73
Rural	2.2	51.6	5.2	0.6	40.4	--	100.0	465
Education								
Illiterate	2.9	37.2	6.3	0.4	53.1	--	100.0	239
Literate, < middle complete	1.0	67.0	4.2	0.5	27.2	--	100.0	191
Middle school complete	--	84.6	1.3	1.3	12.8	--	100.0	78
High school and above	(3.3)	(96.7)	(--)	(--)	(--)	(--)	100.0	30
Total ³	1.9	58.0	4.5	0.6	35.1	--	100.0	538

Note: ANC refers to pregnancy-related health care provided by a doctor or a health worker in a medical facility or at home.

() Based on 25-49 cases

-- Less than 0.05 percent

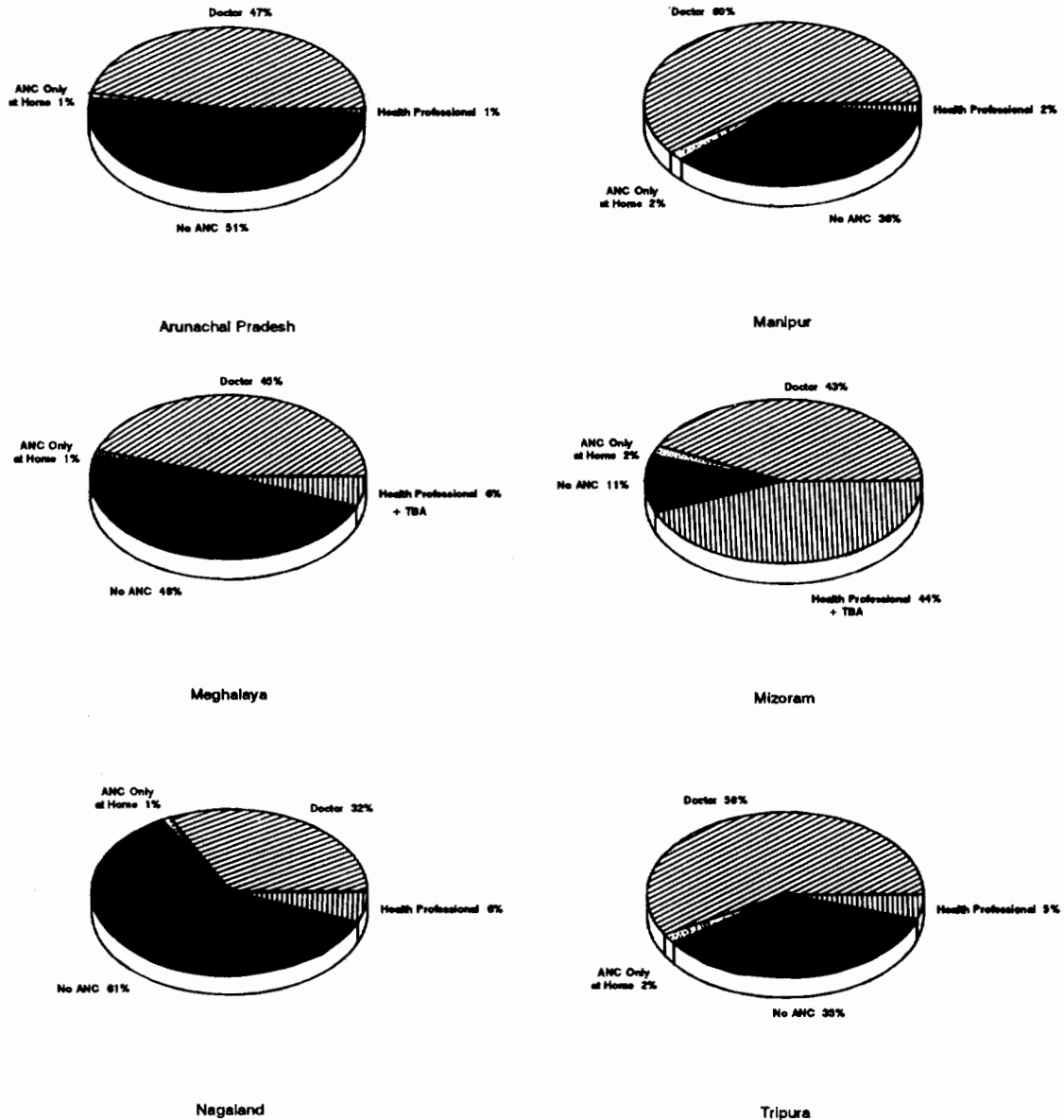
¹Includes women who received ANC outside the home, whether or not they also received ANC at home from a health worker. If more than one source of ANC was mentioned, only the provider with the highest qualifications is considered.

²Includes hakim and "Don't know"

³Births in the period 1-47 months prior to the survey. Total for Mizoram includes 24 births to illiterate women, which are not shown separately.

Figure 9.1

Sources of Antenatal Care (ANC) During Pregnancy



Note: Based on births in the four years preceding the survey

NFHS, Northeastern states, 1993

In all of the northeastern states, except Mizoram, the majority of births whose mothers were provided antenatal care received it from allopathic doctors. In Mizoram, other health professionals (nurses, midwives and practitioners of other systems of medicine such as Ayurvedic or Homoeopathic) provided antenatal care in an equal proportion to allopathic doctors.

The differentials in the percentage of births for which mothers received antenatal care by background characteristics are also presented in Table 9.1. The percentage of births that did not receive antenatal care is the highest among women age 35 and over in all the northeastern states, except Meghalaya, and lowest among young women age 20 or less in most states. Except for Meghalaya and Nagaland, there is a negative relationship between birth order and overall utilization of antenatal care services, with first order births the most likely to receive care and births of order 6 or higher the least likely to receive it.

The urban-rural differences in the utilization of antenatal care services are substantial in all the northeastern states. The rate of utilization is 50 percent higher in urban than in rural areas in Manipur and Tripura and approximately twice as high in the other states.

In all the northeastern states, except Mizoram, the proportion of births whose mothers received any antenatal care as well as antenatal care from an allopathic doctor increases with the educational level of the mother. For example, in Nagaland, the state with the lowest percentage of births that received antenatal care, 79 percent of births to illiterate mothers, but only 28 percent of births to mothers who completed at least high school did not receive antenatal care.

Number and Timing of Antenatal Care Visits

The number of antenatal care visits and the timing of the first antenatal check-up are important for the health of the mother and the outcome of the pregnancy. Ideally, for normal cases, antenatal care visits after confirmation of pregnancy should be scheduled at intervals of four weeks throughout the first seven months, then every two weeks until the last month and weekly thereafter (McDonald and Pritchard, 1980). However, it is often difficult for working women from lower socioeconomic groups to attend an antenatal clinic that often since they may face the loss of wages in such cases. Under these circumstances, a minimum of four antenatal visits are recommended, during the third, sixth, eighth and ninth months of the pregnancy (Park and Park, 1989).

Table 9.2 and Figure 9.2 show the percent distribution of live births in the last four years by number and timing of antenatal care visits in the northeastern states. Among births for which the mother received any form of antenatal care, the median frequency of antenatal care visits of any type varies from 2.8 in Nagaland to 4.8 in Mizoram. In all of the states, the median frequency of outside visits is relatively higher than the median frequency of home visits. No home visits were made by health workers to mothers of more than 85 percent of births in all the northeastern states.

Obstetricians advise that antenatal care should begin, at the latest, six weeks after the last menstrual period. However, studies undertaken to measure the impact of the initial antenatal visit show that, even when antenatal care is initiated as late as the third trimester, there is a

Table 9.2 Number of antenatal care visits and stage of pregnancy

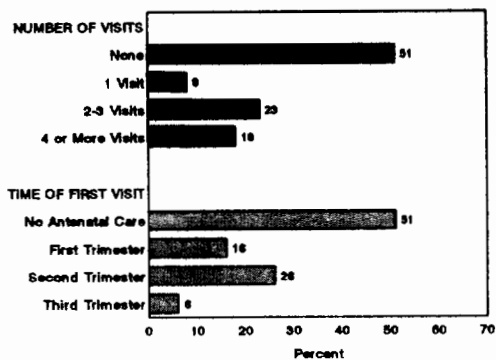
Percent distribution of live births during the four years preceding the survey by number of antenatal care (ANC) visits, and by the stage of pregnancy at the time of the first visit, Northeastern states, 1993

ANC visits/ months pregnant	Arunachal Pradesh			Manipur			Meghalaya			Mizoram			Nagaland			Tripura		
	Home visits	Outside visits	Any type	Home visits	Outside visits	Any type	Home visits	Outside visits	Any type	Home visits	Outside visits	Any type	Home visits	Outside visits	Any type	Home visits	Outside visits	Any type
Number of ANC visits																		
None	97.4	52.4	51.1	97.4	38.2	36.6	97.7	49.5	48.2	86.5	12.8	11.1	94.3	62.0	60.7	95.5	37.0	35.1
1 visit	1.3	7.1	7.9	1.1	9.9	10.7	0.6	2.3	2.7	3.5	8.4	7.3	1.7	10.3	9.2	0.9	8.6	8.7
2-3 visits	1.1	23.2	23.2	1.3	32.5	32.9	1.2	20.5	20.6	6.2	27.9	27.4	3.3	25.5	25.4	3.2	30.3	30.1
4 or more visits	0.2	17.3	17.8	0.2	19.3	19.9	0.6	27.7	28.4	3.8	50.9	54.2	0.6	2.1	4.6	0.4	24.2	26.0
Don't know/missing	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	0.2	--	--	--
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Median number of visits (for those with ANC)																		
	2.0	3.5	3.5	2.3	3.4	3.4	2.7	4.3	4.3	2.8	4.6	4.8	2.5	2.7	2.8	2.7	3.5	3.5
Months pregnant at the time of the first ANC visit																		
No antenatal care	97.4	52.4	51.1	97.4	38.2	36.6	97.7	49.5	48.2	86.5	12.8	11.1	94.3	62.0	60.7	95.5	37.0	35.1
First trimester	0.5	16.0	16.3	1.7	29.6	31.1	0.9	24.5	25.1	3.8	33.6	36.1	1.3	14.1	14.6	0.6	28.1	28.3
Second trimester	1.4	25.5	26.3	0.2	19.9	19.5	1.0	21.6	22.2	8.0	45.1	44.7	3.2	16.0	16.8	3.3	27.3	28.8
Third trimester	0.6	6.1	6.3	0.7	12.3	12.9	0.4	4.3	4.5	1.8	8.4	8.2	1.1	7.8	7.8	0.6	7.6	7.8
Don't know/missing	--	--	--	--	--	--	--	--	--	--	--	--	0.2	0.2	0.2	--	--	--
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Median months pregnant at first visit (for those with ANC)																		
	5.5	5.2	5.2	3.6	4.3	4.1	5.3	4.1	4.1	5.2	4.6	4.5	5.3	5.0	4.9	5.3	4.7	4.8
Number of live births¹																		
	624	624	624	544	544	544	693	693	693	452	452	452	631	631	631	538	538	538

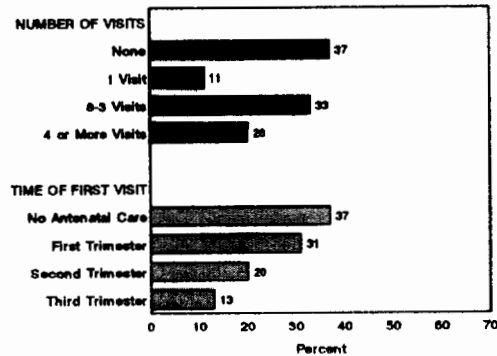
-- Less than 0.05 percent

¹Births in the period 1-47 months prior to the survey

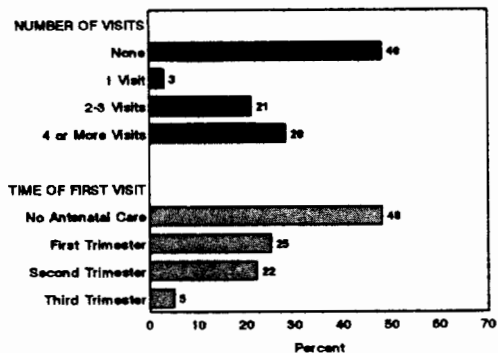
Figure 9.2 Number and Timing of Antenatal Visits



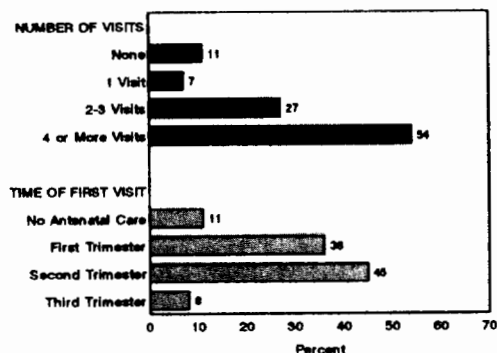
Arunachal Pradesh



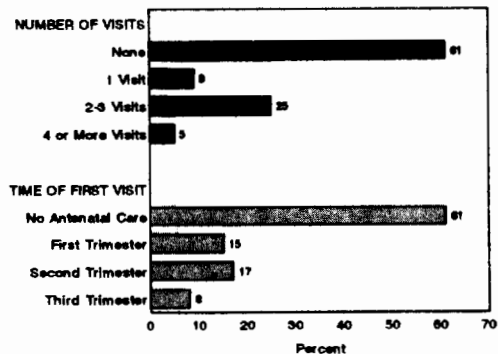
Manipur



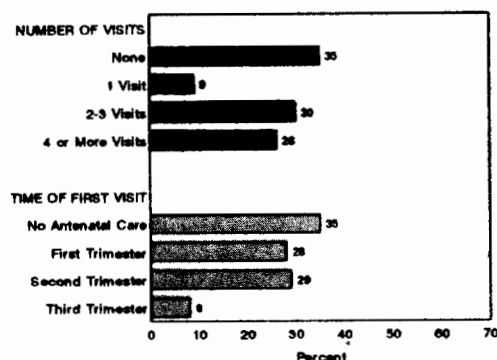
Meghalaya



Mizoram



Nagaland



Tripura

Note: Based on births in the period 1-47 months preceding the survey

NFHS, Northeastern states, 1993

substantial reduction in perinatal mortality (Ramachandran, 1992). The percentage of births during the four years prior to the survey, for which the mothers received any type of antenatal care in the first trimester, ranges from 15 percent in Nagaland to 36 percent in Mizoram. In Arunachal Pradesh (26 percent), Mizoram (45 percent), Nagaland (17 percent) and Tripura (29 percent) the largest percentage of first antenatal care visits were in the second trimester, whereas in Manipur (31 percent) and Meghalaya (25 percent) the largest percentage were in the first trimester. The median gestational age for the first antenatal care visit of any type (for those who received antenatal care) varies from 4.1 months in Manipur and Meghalaya to 5.2 months in Arunachal Pradesh. The difference between the median gestational age for visits outside the home and for home visits is not large. Pregnant women in the northeastern states receive antenatal care quite late in their pregnancy and consequently the number of visits are also fewer than desired. The lack of timely antenatal care puts women and their children at higher risk of mortality.

Tetanus Toxoid Vaccination

In India, an important cause of death among neonates is neonatal tetanus, which is caused by infection of the newborn (usually at the umbilical stump) by tetanus organisms. Neonatal tetanus is most common when the delivery takes place in an unhygienic environment and nonsterilized instruments are used for cutting the umbilical cord. Tetanus typically develops during the first or second week of life and is fatal in 70 to 90 percent of cases (Foster, 1984). Where expert medical help is not available, as is common in many rural areas, the fatality rate is close to 100 percent. However, neonatal tetanus is a preventable disease. Two doses of tetanus toxoid vaccine given one month apart during early pregnancy are nearly 100 percent effective in preventing tetanus among newborns and mothers. Immune protection is transferred to the baby through the placenta when the mother is immunized.

In India, the tetanus immunization programme for expectant mothers was initiated in 1975-76 and was integrated with the Expanded Programme on Immunization (EPI) in 1978 (Ministry of Health and Family Welfare, 1991). In order to hasten the pace of implementation of the immunization programme, the Government of India started a special programme called the Universal Immunization Programme (UIP) in 1985-86. In 1986 the UIP was recognized as one of the seven Technology Missions. One important objective of the UIP was to protect all pregnant women against tetanus by 1990. According to the National Immunization Schedule, a pregnant woman should receive two doses of tetanus toxoid injection, the first when she is 16 weeks pregnant and the second when she is 20 weeks pregnant. Reinoculation is recommended every three years. If the initial doses were received less than three years ago, a single booster injection is recommended. (Central Bureau of Health Intelligence, 1991).

In the NFHS, each mother who had a live birth during the past four years was asked whether she was given an injection in the arm to prevent her and her baby from getting tetanus and, if so, how many times. The distribution of births by the number of tetanus toxoid injections given to mothers, by selected background characteristics, is shown in Table 9.3. The percentage of live births for which women received two doses or more of the tetanus toxoid vaccine is 30-33 in Meghalaya, Arunachal Pradesh and Nagaland, 43-48 in Mizoram and Manipur, and 59 in Tripura. It is interesting to note that although Mizoram has the highest percentage of births for which mothers received antenatal care (89 percent), the percentage of

Table 9.3 Tetanus toxoid vaccination

Percent distribution of live births during the four years preceding the survey by number of tetanus toxoid injections and whether the respondent was given iron/folic tablets during pregnancy, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Number of tetanus toxoid injections				Total percent	Percent given iron/folic tablets	Number of births
	None	One dose	Two doses or more	Don't know/missing			
ARUNACHAL PRADESH							
Mother's age at birth							
< 20	53.9	10.9	35.2	--	100.0	50.8	128
20-34	55.8	10.4	33.2	0.7	100.0	45.6	443
35+	73.6	13.2	13.2	--	100.0	22.6	53
Birth order							
1	48.1	10.3	41.7	--	100.0	53.2	156
2	47.7	14.4	37.1	0.8	100.0	51.5	132
3	63.1	7.2	29.7	--	100.0	39.6	111
4	65.2	7.6	27.2	--	100.0	39.1	92
5	61.8	16.4	21.8	--	100.0	43.6	55
6+	67.9	10.3	19.2	2.6	100.0	30.8	78
Residence							
Urban	28.9	14.5	55.4	1.2	100.0	74.7	83
Rural	61.2	10.2	28.3	0.4	100.0	40.1	541
Education							
Illiterate	68.0	9.8	21.7	0.5	100.0	33.6	437
Lit., < middle complete	41.1	15.8	43.2	--	100.0	63.2	95
Middle school complete	26.2	8.2	63.9	1.6	100.0	72.1	61
High school and above	(9.7)	(12.9)	(77.4)	(--)	100.0	(90.3)	31
Total¹	56.9	10.7	31.9	0.5	100.0	44.7	624
MANIPUR							
Mother's age at birth							
< 20	(31.7)	(7.3)	(61.0)	(--)	100.0	(48.8)	41
20-34	37.8	13.6	48.6	--	100.0	35.4	463
35+	(57.5)	(15.0)	(27.5)	(--)	100.0	(22.5)	40
Birth order							
1	24.1	11.3	64.5	--	100.0	47.5	141
2	31.9	14.2	54.0	--	100.0	41.6	113
3	37.1	17.1	45.7	--	100.0	35.2	105
4	47.9	13.7	38.4	--	100.0	31.5	73
5	(45.2)	(14.3)	(40.5)	(--)	100.0	(23.8)	42
6+	68.6	8.6	22.9	--	100.0	12.9	70
Residence							
Urban	24.4	11.9	63.7	--	100.0	48.7	160
Rural	44.8	13.8	41.4	--	100.0	29.9	384
Education							
Illiterate	56.4	10.2	33.3	--	100.0	26.7	225
Lit., < middle complete	42.1	19.3	38.6	--	100.0	30.7	114
Middle school complete	31.3	11.9	56.7	--	100.0	38.8	67
High school and above	10.9	13.8	75.4	--	100.0	52.2	138
Total¹	38.8	13.2	48.0	--	100.0	35.5	544

Table 9.3 Tetanus toxoid vaccination (Contd.)

Percent distribution of live births during the four years preceding the survey by number of tetanus toxoid injections and whether the respondent was given iron/folic tablets during pregnancy, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Number of tetanus toxoid injections				Total percent	Percent given iron/folic tablets	Number of births
	None	One dose	Two doses or more	Don't know/missing			
MEGHALAYA							
Mother's age at birth							
< 20	66.7	8.3	25.0	--	100.0	37.5	120
20-34	53.3	15.0	31.8	--	100.0	52.0	488
35+	51.8	20.0	27.1	1.2	100.0	52.9	85
Birth order							
1	48.5	12.4	39.1	--	100.0	56.8	169
2	56.8	15.4	27.8	--	100.0	45.7	162
3	56.9	11.9	31.2	--	100.0	49.5	109
4	55.1	14.1	30.8	--	100.0	46.2	78
5	67.7	15.4	16.9	--	100.0	46.2	65
6+	55.5	18.2	25.5	0.9	100.0	49.1	110
Residence							
Urban	18.5	32.6	48.9	--	100.0	83.0	135
Rural	64.3	10.0	25.4	0.2	100.0	41.6	558
Education							
Illiterate	78.7	8.8	12.5	--	100.0	24.0	296
Lit., < middle complete	49.1	15.8	34.6	0.4	100.0	60.7	234
Middle school complete	31.7	14.6	53.7	--	100.0	69.5	82
High school and above	12.3	30.9	56.8	--	100.0	91.4	81
Total¹	55.4	14.4	30.0	0.1	100.0	49.6	693
MIZORAM							
Mother's age at birth							
< 20	10.3	22.1	67.6	--	100.0	79.4	68
20-34	14.6	43.4	40.0	2.0	100.0	61.7	355
35+	(17.2)	(69.0)	(13.8)	(--)	100.0	(51.7)	29
Birth order							
1	9.6	14.0	74.3	2.2	100.0	75.7	136
2	12.5	50.9	36.6	--	100.0	64.3	112
3	16.9	50.6	30.3	2.2	100.0	56.2	89
4	13.3	61.7	21.7	3.3	100.0	58.3	60
5	(28.0)	(48.0)	(24.0)	(--)	100.0	(60.0)	25
6+	(23.3)	(63.3)	(13.3)	(--)	100.0	(43.3)	30
Residence							
Urban	5.9	46.0	46.8	1.3	100.0	70.9	237
Rural	23.3	37.2	37.7	1.9	100.0	55.8	215
Education							
Lit., < middle complete	17.2	41.8	38.9	2.0	100.0	59.0	244
Middle school complete	4.3	49.5	46.2	--	100.0	82.8	93
High school and above	3.3	37.4	57.1	2.2	100.0	64.8	91
Total¹	14.2	41.8	42.5	1.5	100.0	63.7	452

Table 9.3 Tetanus toxoid vaccination (Contd.)

Percent distribution of live births during the last four years preceding the survey by number of tetanus toxoid injections and whether the respondent was given iron/folic tablets during pregnancy, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Number of tetanus toxoid injections				Total percent	Percent given iron/folic tablets	Number of births
	None	One dose	Two doses or more	Don't know/missing			
MAGALAND							
Mother's age at birth							
< 20	63.3	6.7	28.9	1.1	100.0	24.4	90
20-34	53.8	11.4	34.4	0.4	100.0	24.8	491
35+	70.0	2.0	26.0	2.0	100.0	14.0	50
Birth order							
1	52.2	10.3	36.4	1.1	100.0	26.6	184
2	57.0	10.7	31.5	0.7	100.0	22.1	149
3	56.6	10.1	33.3	--	100.0	27.3	99
4	53.6	11.6	34.8	--	100.0	29.0	69
5	56.9	15.5	27.6	--	100.0	22.4	58
6+	68.1	1.4	29.2	1.4	100.0	12.5	72
Residence							
Urban	39.1	12.0	48.9	--	100.0	34.8	92
Rural	59.4	9.6	30.2	0.7	100.0	22.1	539
Education							
Illiterate	74.4	5.9	19.2	0.5	100.0	12.8	203
Lit., < middle complete	58.4	11.0	30.6	--	100.0	20.0	245
Middle school complete	41.8	14.3	41.8	2.0	100.0	33.7	98
High school and above	24.7	11.8	62.4	1.2	100.0	50.6	85
Total¹	56.4	10.0	33.0	0.6	100.0	23.9	631
TRIPURA							
Mother's age at birth							
< 20	26.3	7.5	66.2	--	100.0	55.6	133
20-34	36.4	4.7	57.9	1.1	100.0	52.1	363
35+	(47.6)	(9.5)	(42.9)	(--)	100.0	(54.8)	42
Birth order							
1	18.2	5.8	76.0	--	100.0	64.9	154
2	20.9	4.5	73.1	1.5	100.0	61.2	134
3	44.0	7.1	47.6	1.2	100.0	41.7	84
4	47.5	8.2	42.6	1.6	100.0	45.9	61
5	(69.6)	(--)	(30.4)	(--)	100.0	(30.4)	46
6+	55.9	8.5	35.6	--	100.0	45.8	59
Residence							
Urban	4.1	6.8	84.9	4.1	100.0	80.8	73
Rural	39.6	5.6	54.6	0.2	100.0	48.8	465
Education							
Illiterate	56.5	6.3	36.4	0.8	100.0	37.7	239
Lit., < middle complete	22.0	5.2	71.7	1.0	100.0	60.2	191
Middle school complete	11.5	5.1	83.3	--	100.0	74.4	78
High school and above	(3.3)	(6.7)	(90.0)	(--)	100.0	(76.7)	30
Total¹	34.8	5.8	58.7	0.7	100.0	53.2	538

() Based on 25-49 cases

-- Less than 0.05 percent

¹Births in the period 1-47 months prior to the survey. Total for Mizoram includes 24 births to illiterate women, which are not shown separately.

births for which mothers received two doses of tetanus toxoid injection is quite low, probably because for a large proportion of births, mothers received antenatal care from health professionals other than allopathic doctors. In all of the northeastern states, the tetanus toxoid coverage is more than one and a half times higher in urban areas than in rural areas. The urban-rural difference is particularly large in Meghalaya, Mizoram and Tripura.

For births in the last four years, tetanus toxoid coverage was lower for older mothers age 35 and above, and mothers pregnant with higher order births in all the northeastern states, except in Meghalaya. A marked positive relationship is observed between the educational attainment of the mother and the coverage rate for tetanus toxoid vaccination. For example, in Arunachal Pradesh, illiterate women received at least one tetanus toxoid injection for only 32 percent of their births compared with 90 percent for women who completed high school.

Iron and Folic Acid Tablets

Proper maternal nutrition is important for the healthy intrauterine growth of the baby and may affect the baby's birth weight. Various studies in different parts of India have indicated the percentage of low birth weight babies (weighing less than 2,500 grams) ranged from 15 in Thiruvananthapuram to 46 in Vadodara (Nutrition Foundation of India, 1993). Overall, around one-third of babies in India are low birth weight, suggesting a nutritional deficiency among many expectant mothers. Improvement in the mother's nutritional status, coupled with proper health care during pregnancy can substantially increase birth weights (Ramachandran, 1992). To this end, the provision of iron and folic acid tablets to pregnant women as a prophylaxis against nutritional anaemia forms an integral part of MCH activities in the Indian Family Welfare Programme (Ministry of Health and Family Welfare, 1991). It is recommended that a pregnant woman take 100 tablets of iron and folic acid during her pregnancy, and health workers are instructed accordingly.

In the NFHS, information was collected on whether the mother had received iron and folic acid tablets during each pregnancy resulting in a live birth during the last four years. The results are presented in Table 9.3. Less than half the births were to mothers who had received iron and folic acid tablets during pregnancy in three of the six northeastern states (24 percent in Nagaland, 36 percent in Manipur and 45 percent in Arunachal Pradesh); the rates are higher in Meghalaya at 50 percent, Tripura at 53 percent and Mizoram at 64 percent. The differentials in the distribution of iron and folic acid tablets by background characteristics are almost the same as those for tetanus toxoid injections.

Place of Delivery and Assistance During Delivery

From the standpoint of child survival and the health of the mother, it is advantageous for the birth of the baby to take place under proper hygienic conditions with the assistance of a trained medical practitioner.

Table 9.4 and Figure 9.3 present the percent distribution of live births occurring during the four years preceding the survey by place of delivery and selected background characteristics. The percentage of live births that occurred in a health facility (both public and private) ranges from 6 percent in Nagaland to 49 percent in Mizoram. Most of the institutional deliveries took

Table 9.4 Place of delivery

Percent distribution of live births during the four years preceding the survey by place of delivery, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Place of delivery						Total percent	Number of live births ¹
	Health facility/Institution		Home			Don't know/missing		
	Public	Private	Own home	Parents' home	Other			
ARUNACHAL PRADESH								
Mother's age at birth								
< 20	28.9	0.8	65.6	4.7	--	--	100.0	128
20-34	17.2	0.9	80.8	1.1	--	--	100.0	443
35+	11.3	--	88.7	--	--	--	100.0	53
Birth order								
1	30.1	3.2	62.8	3.8	--	--	100.0	156
2-3	20.2	--	77.8	2.1	--	--	100.0	243
4-5	11.6	--	88.4	--	--	--	100.0	147
6+	7.7	--	92.3	--	--	--	100.0	78
Residence								
Urban	44.6	3.6	50.6	1.2	--	--	100.0	83
Rural	15.2	0.4	82.6	1.8	--	--	100.0	541
Education								
Illiterate	11.4	0.2	86.7	1.6	--	--	100.0	437
Lit., < middle complete	26.3	--	70.5	3.2	--	--	100.0	95
Middle school complete	39.3	--	59.0	1.6	--	--	100.0	61
High school and above	(64.5)	(12.9)	(22.6)	(--)	(--)	(--)	100.0	31
Antenatal care visits								
None	2.2	--	95.9	1.9	--	--	100.0	319
1-3 visits	26.3	1.0	70.1	2.6	--	--	100.0	194
4+ visits	55.0	2.7	42.3	--	--	--	100.0	111
Total¹	19.1	0.8	78.4	1.8	--	--	100.0	624
MANIPUR								
Mother's age at birth								
< 20	(31.7)	(--)	(58.5)	(9.8)	(--)	(--)	100.0	41
20-34	22.0	0.9	66.3	9.9	0.2	0.6	100.0	463
35+	(15.0)	(--)	(75.0)	(7.5)	(--)	(2.5)	100.0	40
Birth order								
1	38.3	0.7	51.1	8.5	0.7	0.7	100.0	141
2-3	20.6	0.5	66.5	11.9	--	0.5	100.0	218
4-5	13.9	1.7	77.4	7.0	--	--	100.0	115
6+	8.6	--	78.6	10.0	--	2.9	100.0	70
Residence								
Urban	36.9	1.3	51.9	9.4	--	0.6	100.0	160
Rural	16.1	0.5	72.4	9.9	0.3	0.8	100.0	384
Education								
Illiterate	9.3	--	80.9	8.4	--	1.3	100.0	225
Lit., < middle complete	13.2	--	68.4	16.7	0.9	0.9	100.0	114
Middle school complete	25.4	3.0	65.7	6.0	--	--	100.0	67
High school and above	49.3	1.4	41.3	8.0	--	--	100.0	138
Antenatal care visits								
None	2.0	--	86.9	9.0	--	2.0	100.0	199
1-3 visits	24.5	0.4	64.1	10.5	0.4	--	100.0	237
4+ visits	54.6	2.8	33.3	9.3	--	--	100.0	108
Total¹	22.2	0.7	66.4	9.7	0.2	0.7	100.0	544

Table 9.4 Place of delivery (Contd.)

Percent distribution of live births during the four years preceding the survey by place of delivery, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Place of delivery						Total percent	Number of live births ¹
	Health facility/ Institution		Home			Don't know/ missing		
	Public	Private	Own home	Parents' home	Other			
MEGHALAYA								
Mother's age at birth								
< 20	14.2	7.5	65.8	11.7	0.8	--	100.0	120
20-34	23.0	9.8	58.2	9.0	--	--	100.0	488
35+	15.3	7.1	74.1	3.5	--	--	100.0	85
Birth order								
1	23.1	11.2	52.1	13.0	0.6	--	100.0	169
2-3	21.8	9.6	58.7	10.0	--	--	100.0	271
4-5	19.6	7.0	67.8	5.6	--	--	100.0	143
6+	14.5	7.3	74.5	3.6	--	--	100.0	110
Residence								
Urban	46.7	26.7	21.5	4.4	0.7	--	100.0	135
Rural	14.2	4.8	71.1	9.9	--	--	100.0	558
Education								
Illiterate	6.4	2.4	82.8	8.1	0.3	--	100.0	296
Lit., < middle complete	22.6	9.8	56.4	11.1	--	--	100.0	234
Middle school complete	31.7	14.6	43.9	9.8	--	--	100.0	82
High school and above	54.3	25.9	16.0	3.7	--	--	100.0	81
Antenatal care visits								
None	3.3	1.2	85.6	9.9	--	--	100.0	334
1-3 visits	29.0	7.4	53.7	9.3	0.6	--	100.0	162
4+ visits	42.6	23.9	26.9	6.6	--	--	100.0	197
Total ¹	20.5	9.1	61.5	8.8	0.1	--	100.0	693
MIZORAM								
Mother's age at birth								
< 20	60.3	1.5	27.9	8.8	1.5	--	100.0	68
20-34	41.7	5.4	43.7	9.3	--	--	100.0	355
35+	(37.9)	(3.4)	(41.4)	(13.8)	(3.4)	(--)	100.0	29
Birth order								
1	56.6	8.8	25.0	9.6	--	--	100.0	136
2-3	44.3	3.5	43.3	8.5	0.5	--	100.0	201
4-5	31.8	2.4	54.1	10.6	1.2	--	100.0	85
6+	(23.3)	(--)	(63.3)	(13.3)	(--)	(--)	100.0	30
Residence								
Urban	59.5	6.8	28.3	5.5	--	--	100.0	237
Rural	27.4	2.3	55.3	14.0	0.9	--	100.0	215
Education								
Lit., < middle complete	36.9	1.6	51.2	9.8	0.4	--	100.0	244
Middle school complete	49.5	4.3	39.8	6.5	--	--	100.0	93
High school and above	67.0	14.3	11.0	7.7	--	--	100.0	91
Antenatal care visits								
None	8.0	2.0	64.0	24.0	2.0	--	100.0	50
1-3 visits	38.2	1.3	48.4	11.5	0.6	--	100.0	157
4+ visits	55.5	7.3	31.8	5.3	--	--	100.0	245
Total ¹	44.2	4.6	41.2	9.5	0.4	--	100.0	452

Table 9.4 Place of delivery (Contd.)

Percent distribution of live births during the four years preceding the survey by place of delivery, according to selected background characteristics, Northeastern states, 1993

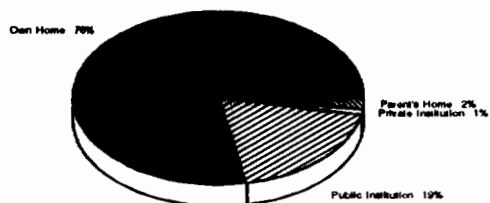
Background characteristic	Place of delivery						Total percent	Number of live births ¹
	Health facility/ Institution		Home			Don't know/ missing		
	Public	Private	Own home	Parents' home	Other			
MAGALAND								
Mother's age at birth								
< 20	6.7	1.1	91.1	1.1	--	--	100.0	90
20-34	4.7	0.6	91.6	2.4	0.6	--	100.0	491
35+	10.0	--	90.0	--	--	--	100.0	50
Birth order								
1	9.8	1.1	84.2	4.9	--	--	100.0	184
2-3	2.4	0.4	95.2	1.6	0.4	--	100.0	248
4-5	4.7	0.8	93.7	--	0.8	--	100.0	127
6+	5.6	--	93.1	--	1.4	--	100.0	72
Residence								
Urban	9.8	1.1	84.8	4.3	--	--	100.0	92
Rural	4.6	0.6	92.6	1.7	0.6	--	100.0	539
Education								
Illiterate	4.9	0.5	93.1	1.0	0.5	--	100.0	203
Lit., < middle complete	4.9	0.4	91.8	2.0	0.8	--	100.0	245
Middle school complete	4.1	1.0	92.9	2.0	--	--	100.0	98
High school and above	9.4	1.2	84.7	4.7	--	--	100.0	85
Antenatal care visits								
None	2.3	--	95.3	1.8	0.5	--	100.0	383
1-3 visits	8.3	1.8	87.2	2.3	0.5	--	100.0	218
4+ visits	(24.1)	(--)	(72.4)	(3.4)	(--)	(--)	100.0	29
Total¹	5.4	0.6	91.4	2.1	0.5	--	100.0	631
TRIPURA								
Mother's age at birth								
< 20	30.1	0.8	59.4	8.3	1.5	--	100.0	133
20-34	31.1	1.1	62.5	5.0	0.3	--	100.0	363
35+	(16.7)	(--)	(83.3)	(--)	(--)	(--)	100.0	42
Birth order								
1	49.4	1.3	41.6	7.8	--	--	100.0	154
2-3	28.9	1.4	61.9	6.4	1.4	--	100.0	218
4-5	14.0	--	84.1	1.9	--	--	100.0	107
6+	10.2	--	88.1	1.7	--	--	100.0	59
Residence								
Urban	74.0	6.8	16.4	2.7	--	--	100.0	73
Rural	22.8	--	70.8	5.8	0.6	--	100.0	465
Education								
Illiterate	15.1	--	80.8	4.2	--	--	100.0	239
Lit., < middle complete	31.9	--	59.2	7.9	1.0	--	100.0	191
Middle school complete	55.1	2.6	37.2	5.1	--	--	100.0	78
High school and above	(66.7)	(10.0)	(20.0)	(--)	(3.3)	(--)	100.0	30
Antenatal care visits								
None	6.3	--	88.4	4.2	1.1	--	100.0	189
1-3 visits	26.8	--	64.6	8.1	0.5	--	100.0	209
4+ visits	65.7	3.6	27.9	2.9	--	--	100.0	140
Total¹	29.7	0.9	63.4	5.4	0.6	--	100.0	538

() Based on 25-49 cases

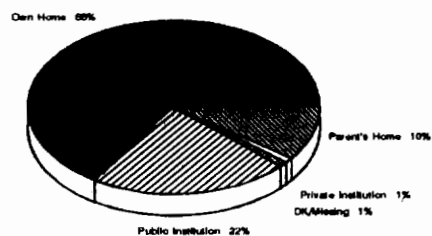
-- Less than 0.05 percent

¹Births in the period 1-47 months prior to the survey. Total for Mizoram includes 24 births to illiterate women and total for Nagaland includes 1 birth with missing information on antenatal care, which are not shown separately.

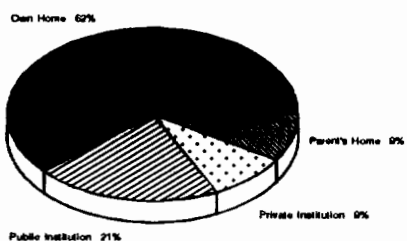
Figure 9.3 Place of Delivery



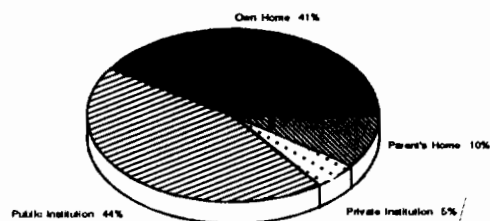
Arunachal Pradesh



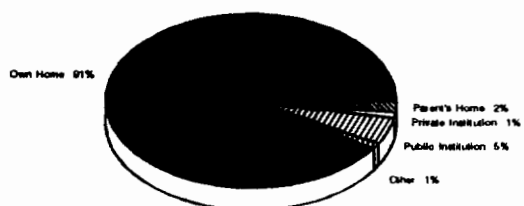
Manipur



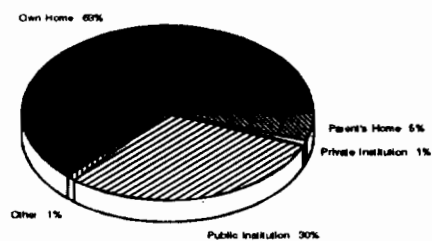
Meghalaya



Mizoram



Nagaland



Tripura

Note: Based on births in the period 1-47 months preceding the survey

NFHS, Northeastern states, 1993

place in public institutions, with less than 1 percent taking place in private institutions in four of the six states. The practice of daughters going to their parents' home for the first one or two deliveries is not very prevalent in any of the northeastern states, as the percentage of such deliveries is 10 percent or less in each state. In contrast, the practice of giving birth in the mother's own home is very prevalent. The majority of births in all states, except Mizoram, take place in the mother's own home, and even in Mizoram 41 percent take place there.

Births to young women less than 20 years of age are more likely to occur in medical institutions and those to older women age 35 or more are more likely to occur in the mother's own home. In Nagaland, 90 percent or more of all births, irrespective of the mother's age, take place in the mother's own home. A higher percentage of first order births than others take place in medical institutions and, conversely, a higher percentage of high order births, particularly those of order 6 or more, take place in the mother's own home.

Although institutional births are more common in urban than in rural areas in all of the states, the majority of both urban and rural births take place in the mother's own home in Arunachal Pradesh, Manipur, and Nagaland. As expected, there is a positive relationship between the level of education of the mother and the percentage of births that take place in institutions. The majority of births to women who have at least a high school education take place in institutions and the majority of births to illiterate mothers take place in the mother's own home, except in Nagaland, where most births take place in the mother's own home regardless of the level of education of the mother.

The percentage of institutional deliveries is strongly related to the number of antenatal care visits the mother had. For births to mothers with no antenatal care visits, only 2-10 percent were delivered in institutions compared with 24-67 percent of births to mothers who had four or more visits. This could be due to the availability of services for both antenatal care and delivery and/or due to complications during pregnancy which may lead women to seek more antenatal care. It is also possible that the increase in the number of visits could have established rapport between the provider of services and the user of services, which led users to seek an institutional delivery. Although the vast majority of births in the northeastern states take place in the mother's own home, the percentage decreases as the number of antenatal visits increases.

Table 9.5 and Figure 9.4 present information on assistance during delivery by selected background characteristics. As in the case of antenatal care, the interviewer was instructed to record all responses if more than one person was reported to have assisted during the delivery. However, in Table 9.5 and Figure 9.4, only the most highly qualified attendant is considered if there is more than one attendant. The percentage of births attended by a doctor or nurse/midwife is low, ranging from 21-41 percent, in all the northeastern states, except Mizoram where it is 62 percent. In Manipur, Mizoram and Tripura nearly one-fourth to one-half of all births were attended by traditional birth attendants. More than half of all the births in Arunachal Pradesh and Nagaland were attended by relatives and others.

Births to mothers below age 20, lower order births and births to mothers residing in urban areas are more likely to have received assistance from a doctor during delivery. The percentage of births attended by a doctor increases steadily with the level of education of the mother in most states. For example, in Meghalaya, 5 percent of births to illiterate mothers and

Table 9.5 Assistance during delivery

Percent distribution of live births during the four years preceding the survey by type of assistance during delivery, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Attendant assisting during delivery ¹					Total percent	Number of live births ²
	Doctor	Nurse/ midwife	Traditional birth attendant	Relative/ other	None		
ARUNACHAL PRADESH							
Mother's age at birth							
< 20	22.7	7.8	20.3	45.3	3.9	100.0	128
20-34	14.2	5.6	16.3	58.7	5.2	100.0	443
35+	5.7	5.7	5.7	69.8	13.2	100.0	53
Birth order							
1	27.6	7.7	16.7	46.2	1.9	100.0	156
2-3	14.0	7.4	20.2	54.7	3.7	100.0	243
4-5	8.8	4.8	10.9	68.0	7.5	100.0	147
6+	6.4	1.3	12.8	64.1	15.4	100.0	78
Residence							
Urban	43.4	9.6	7.2	34.9	4.8	100.0	83
Rural	10.9	5.5	17.6	60.3	5.7	100.0	541
Mother's education							
Illiterate	7.6	5.3	18.8	61.3	7.1	100.0	437
Lit., < middle complete	17.9	8.4	11.6	60.0	2.1	100.0	95
Middle school complete	37.7	6.6	9.8	42.6	3.3	100.0	61
High school and above	(71.0)	(9.7)	(6.5)	(12.9)	(--)	100.0	31
Antenatal care							
None	1.3	1.3	20.1	69.9	7.5	100.0	319
1-3 visits	21.1	9.3	11.3	54.1	4.1	100.0	194
4+ visits	45.0	14.4	13.5	24.3	2.7	100.0	111
Place of delivery							
Institution	70.2	27.4	--	2.4	--	100.0	124
Home/other	1.6	0.8	20.2	70.4	7.0	100.0	500
Total²	15.2	6.1	16.2	56.9	5.6	100.0	624

50 percent of births to mothers who have completed high school are assisted by a doctor. As expected, more frequent antenatal care visits are associated with a higher percentage of births attended by doctors.

Most institutional deliveries in Arunachal Pradesh (70 percent), Manipur (99 percent), Meghalaya (60 percent) and Tripura (62 percent) were attended by a doctor, whereas in Mizoram (55 percent) and Nagaland (50 percent), one half or more of the institutional deliveries were attended by nurses or midwives. The majority of the deliveries at home (own home or parents' home) were attended by only relatives and other untrained persons in Arunachal Pradesh, Meghalaya and Nagaland, and by traditional birth attendants in Manipur, Mizoram and Tripura.

Table 9.5 Assistance during delivery (Contd.)

Percent distribution of live births during the four years preceding the survey by type of assistance during delivery, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Attendant assisting during delivery ¹					Total percent	Number of live births ²
	Doctor	Nurse/ midwife	Traditional birth attendant	Relative/ other	None		
MANIPUR							
Mother's age at birth							
< 20	(34.1)	(14.6)	(39.0)	(9.8)	(2.4)	100.0	41
20-34	26.1	14.5	38.7	18.4	2.4	100.0	463
35+	(20.0)	(10.0)	(42.5)	(22.5)	(5.0)	100.0	40
Birth order							
1	44.7	12.8	29.8	11.3	1.4	100.0	141
2-3	24.8	19.3	39.9	13.3	2.8	100.0	218
4-5	17.4	11.3	43.5	24.3	3.5	100.0	115
6+	8.6	5.7	47.1	35.7	2.9	100.0	70
Residence							
Urban	40.0	23.1	35.0	1.9	--	100.0	160
Rural	20.6	10.4	40.6	24.7	3.6	100.0	384
Mother's education							
Illiterate	11.6	9.3	51.1	24.4	3.6	100.0	225
Lit., < middle complete	14.9	13.2	47.4	19.3	5.3	100.0	114
Middle school complete	34.3	14.9	38.8	11.9	--	100.0	67
High school and above	55.8	22.5	12.3	9.4	--	100.0	138
Antenatal care							
None	4.0	6.0	53.3	32.7	4.0	100.0	199
1-3 visits	29.5	18.6	35.9	13.5	2.5	100.0	237
4+ visits	60.2	19.4	19.4	0.9	--	100.0	108
Place of delivery							
Institution	99.2	0.8	--	--	--	100.0	125
Home/other	4.5	18.2	50.6	23.3	3.4	100.0	419
Total²	26.3	14.2	39.0	18.0	2.6	100.0	544

Delivery Characteristics

The percentage distribution of live births in the last four years according to complications during delivery, prematurity, birth weight and mother's estimate of the baby's size at birth is presented in Table 9.6. The vast majority of deliveries, 85-98 percent, had no complications during delivery. Twelve percent of births in Arunachal Pradesh, 7 percent in Mizoram, 4 percent in Tripura and 3 percent in Manipur were characterized by a long period of labour. Less than 1 percent (Manipur) to 3 percent (Meghalaya, Mizoram and Tripura) of births occurred by Caesarian section (C-section). A small percentage of live births (2-4 percent) were reported as premature in the northeastern states.

A large majority of babies in the northeastern states, except Mizoram, were not weighed at birth and even if the baby was weighed, many mothers did not remember the birth weight. Thus, the resulting sample of birth weights is small and subject to substantial selection bias. Among births for which birth weight is reported, less than 30 percent weighed less than 2.5

Table 9.5 Assistance during delivery (Contd.)

Percent distribution of live births during the four years preceding the survey by type of assistance during delivery, according to selected background characteristics, Northeastern States, 1993

Background characteristic	Attendant assisting during delivery ¹					Total percent	Number of live births ²
	Doctor	Nurse/ midwife	Traditional birth attendant	Relative/ other	None		
MEGHALAYA							
Mother's age at birth							
< 20	14.2	15.8	20.8	48.3	0.8	100.0	120
20-34	19.9	20.5	22.3	36.9	0.4	100.0	488
35+	16.5	10.6	25.9	47.1	--	100.0	85
Birth order							
1	24.9	15.4	21.9	37.3	0.6	100.0	169
2-3	18.5	19.6	22.1	39.9	--	100.0	271
4-5	14.0	23.8	23.1	38.5	0.7	100.0	143
6+	14.5	13.6	23.6	47.3	0.9	100.0	110
Residence							
Urban	51.1	25.2	8.1	15.6	--	100.0	135
Rural	10.6	16.8	26.0	46.1	0.5	100.0	558
Mother's education							
Illiterate	4.7	9.8	32.4	52.4	0.7	100.0	296
Lit., < middle complete	20.1	24.4	19.7	35.5	0.4	100.0	234
Middle school complete	32.9	19.5	12.2	35.4	--	100.0	82
High school and above	49.4	32.1	4.9	13.6	--	100.0	81
Antenatal care							
None	3.9	9.3	28.4	57.8	0.6	100.0	334
1-3 visits	19.8	24.1	20.4	35.8	--	100.0	162
4+ visits	42.1	29.4	14.2	13.7	0.5	100.0	197
Place of delivery							
Institution	59.5	37.1	2.0	1.4	--	100.0	205
Home/other	1.2	10.7	31.2	56.4	0.5	100.0	488
Total²	18.5	18.5	22.5	40.1	0.4	100.0	693

kilograms in all the northeastern states. The percentage weighing less than 2.5 kilograms was lowest in Mizoram (6 percent).

Because most deliveries in India take place at home where it is difficult to weigh newborns, a question on the size of the baby at birth was asked in the NFHS. Experience has shown that the mother can give useful information about the size of the newborn baby. In the state of Tripura, 44 percent of births are reported to be small in size. Almost one in five births were reported to be small in size in the states of Arunachal Pradesh, Meghalaya, and Mizoram. Only 7 percent of babies in Nagaland were reported to be small in size.

Table 9.5 Assistance during delivery (Contd.)

Percent distribution of live births during the four years preceding the survey by type of assistance during delivery, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Attendant assisting during delivery ¹					Total percent	Number of live births ²
	Doctor	Nurse/ midwife	Traditional birth attendant	Relative/ other	None		
MIZORAM							
Mother's age at birth							
< 20	27.9	50.0	14.7	7.4	--	100.0	68
20-34	19.7	39.7	26.5	14.1	--	100.0	355
35+	(31.0)	(17.2)	(41.4)	(10.3)	(--)	100.0	29
Birth order							
1	31.6	46.3	16.9	5.1	--	100.0	136
2-3	18.4	42.8	27.9	10.9	--	100.0	201
4-5	16.5	25.9	34.1	23.5	--	100.0	85
6+	(13.3)	(30.0)	(26.7)	(30.0)	(--)	100.0	30
Residence							
Urban	32.5	48.1	15.6	3.8	--	100.0	237
Rural	9.8	30.7	36.7	22.8	--	100.0	215
Mother's education							
Lit., < middle complete	15.6	36.5	32.4	15.6	--	100.0	244
Middle school complete	21.5	48.4	22.6	7.5	--	100.0	93
High school and above	39.6	48.4	8.8	3.3	--	100.0	91
Antenatal care							
None	4.0	16.0	28.0	52.0	--	100.0	50
1-3 visits	15.9	36.9	35.7	11.5	--	100.0	157
4+ visits	29.0	46.5	18.8	5.7	--	100.0	245
Place of delivery							
Institution	46.4	55.2	0.9	0.4	--	100.0	221
Home/other	0.9	25.1	49.3	24.7	--	100.0	231
Total²	21.7	39.8	25.7	12.8	--	100.0	452

9.2 Child Care Indicators

Vaccination of Children

The National Immunization Programme is being implemented in India on a priority basis as part of the National Health Policy (Gupta and Murli, 1989). An important component of the child health care system in India is the immunization of children against six serious but preventable diseases, namely, tuberculosis, diphtheria, pertussis, tetanus, polio and measles. In 1978, the Government of India started the Expanded Programme on Immunization (EPI) to reduce morbidity, mortality and disabilities due to these six diseases by making free vaccination services easily available to all eligible children. Immunization against polio was introduced in 1979-80, and tetanus toxoid for school children was added in 1980-81. BCG was brought under the EPI in 1981-82. The latest addition to the programme is vaccination against measles, introduced in 1985-86 (Ministry of Health and Family Welfare, 1991).

Table 9.5 Assistance during delivery (Contd.)

Percent distribution of live births during the four years preceding the survey by type of assistance during delivery, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Attendant assisting during delivery ¹					Total percent	Number of live births ²
	Doctor	Nurse/ midwife	Traditional birth attendant	Relative/ other	None		
NAGALAND							
Mother's age at birth							
< 20	6.7	20.0	11.1	62.2	--	100.0	90
20-34	4.9	16.9	11.2	61.9	5.1	100.0	491
35+	4.0	14.0	10.0	64.0	8.0	100.0	50
Birth order							
1	8.2	18.5	12.0	59.2	2.2	100.0	184
2-3	2.8	17.3	12.1	61.7	6.0	100.0	248
4-5	3.9	18.9	10.2	62.2	4.7	100.0	127
6+	6.9	9.7	6.9	70.8	5.6	100.0	72
Residence							
Urban	7.6	38.0	8.7	43.5	2.2	100.0	92
Rural	4.6	13.5	11.5	65.3	5.0	100.0	539
Mother's education							
Illiterate	4.9	10.3	7.4	70.0	7.4	100.0	203
Lit., < middle complete	1.6	15.5	14.3	64.9	3.7	100.0	245
Middle school complete	8.2	16.3	10.2	61.2	4.1	100.0	98
High school and above	11.8	38.8	11.8	36.5	1.2	100.0	85
Antenatal care							
None	2.1	9.7	13.6	68.7	6.0	100.0	383
1-3 visits	9.2	25.7	7.3	55.0	2.8	100.0	218
4+ visits	(13.8)	(51.7)	(6.9)	(27.6)	(--)	100.0	29
Place of delivery							
Institution	(44.8)	(50.0)	(--)	(5.2)	(--)	100.0	38
Home/other	2.5	15.0	11.8	65.7	4.8	100.0	593
Total²	5.1	17.1	11.1	62.1	4.6	100.0	631

The Government of India started a special programme in 1985-86, called the Universal Immunization Programme (UIP), to provide impetus to the immunization scheme. This programme was designated as one of the seven Technology Missions with the objective of vaccinating at least 85 percent of all infants by 1990 against six vaccine preventable diseases, and of achieving self-sufficiency in vaccine production and manufacture of cold chain equipment (Ministry of Health and Family Welfare, 1991). The standard immunization schedule developed for the immunization programme for children contains the information on age at which each vaccine is administered, the number of doses to be given and the route of vaccination (intramuscular, oral or subcutaneous). Vaccinations received by infants and children are usually recorded on a vaccination card which is given to the mother of each child.

To make interviewers aware of different aspects of immunization and child health, a lecture was arranged by a medical doctor during the training of interviewers in the northeastern states. During the field work, each mother was asked whether she had a vaccination card for each child born since January 1989. If a card was available, the interviewer was required to

Table 9.5 Assistance during delivery (Contd.)

Percent distribution of live births during the four years preceding the survey by type of assistance during delivery, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Attendant assisting during delivery ¹					Total percent	Number of live births ²
	Doctor	Nurse/ midwife	Traditional birth attendant	Relative/ other	None		
TRIPURA							
Mother's age at birth							
< 20	20.3	12.0	45.9	21.8	--	100.0	133
20-34	20.9	14.3	48.2	15.2	1.4	100.0	363
35+	(19.0)	(2.4)	(59.5)	(14.3)	(4.8)	100.0	42
Birth order							
1	40.3	11.0	35.7	13.0	--	100.0	154
2-3	18.3	16.1	49.5	15.6	0.5	100.0	218
4-5	6.5	11.2	57.9	22.4	1.9	100.0	107
6+	3.4	8.5	61.0	20.3	6.8	100.0	59
Residence							
Urban	61.6	19.2	17.8	--	1.4	100.0	73
Rural	14.2	11.8	53.3	19.4	1.3	100.0	465
Mother's education							
Illiterate	7.1	9.6	57.7	23.0	2.5	100.0	239
Lit., < middle complete	22.0	13.6	50.3	13.6	0.5	100.0	191
Middle school complete	41.0	20.5	29.5	9.0	--	100.0	78
High school and above	(66.7)	(13.3)	(13.3)	(6.7)	(--)	100.0	30
Antenatal care							
None	4.8	5.3	60.8	27.5	1.6	100.0	189
1-3 visits	12.9	15.8	54.1	15.3	1.9	100.0	209
4+ visits	53.6	18.6	23.6	4.3	--	100.0	140
Place of delivery							
Institution	63.1	36.4	--	0.5	--	100.0	165
Home/other	1.9	2.4	70.0	23.8	1.9	100.0	373
Total²	20.6	12.8	48.5	16.7	1.3	100.0	538

() Based on 25-49 cases

-- Less than 0.05 percent

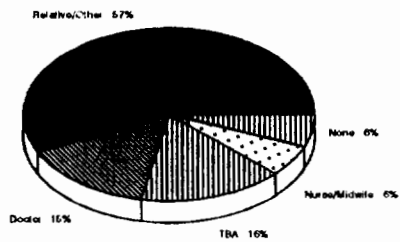
¹If the respondent mentioned more than one attendant, only the most qualified attendant is considered in this tabulation.

²Births in the period 1-47 months prior to the survey. Total for Mizoram includes 24 births to illiterate women; and the total for Nagaland includes 1 birth with missing information on antenatal care visits, which are not shown separately.

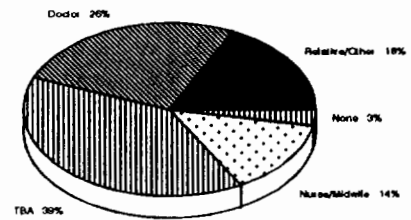
copy carefully the dates on which the child received vaccinations against each disease. When the mother could not produce the vaccination card she was asked whether the child had received any vaccinations. If any vaccination had been received, then the mother was asked whether the child had received a vaccination against tuberculosis (BCG); diphtheria, whooping cough (pertussis) and tetanus (DPT); polio and measles. For DPT and polio, information was obtained on the number of injections or oral doses given.

Table 9.7 presents the percentage of children age 12-23 months who received each vaccine at any time before the interview and the percentage of children who received each

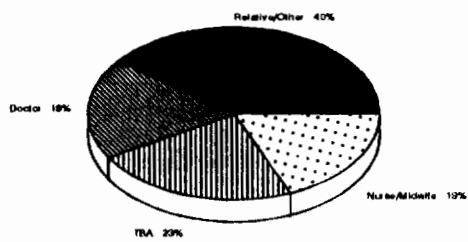
Figure 9.4 Assistance During Delivery



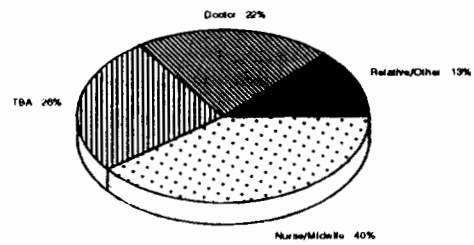
Arunachal Pradesh



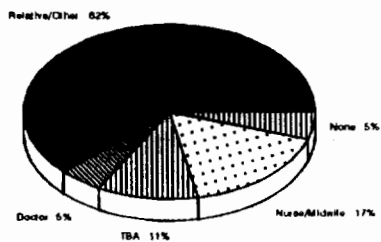
Manipur



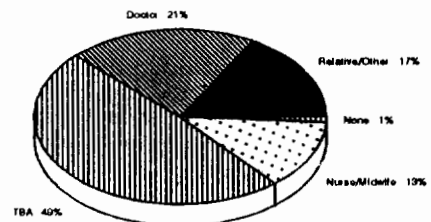
Meghalaya



Mizoram



Nagaland



Tripura

Note: Based on births in the period 1-47 months preceding the survey

NFHS, Northeastern states, 1993

Table 9.6 Delivery characteristics

Percent distribution of live births during the four years preceding the survey by whether the delivery had complications, whether premature, and by birth weight and the mother's estimate of the baby's size at birth, Northeastern states, 1993

Delivery characteristic	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Complications at delivery¹						
No complications	84.5	91.9	93.9	84.5	98.3	88.5
Caesarian section	1.0	0.2	2.6	2.9	1.1	3.2
Use of forceps	0.6	--	0.3	1.8	--	1.3
Excessive bleeding	2.9	2.4	1.0	2.0	0.2	0.4
Long period of labour	12.0	3.3	1.2	7.3	0.3	4.3
Delayed delivery of placenta	1.8	1.3	0.6	1.8	0.2	1.1
Other	--	0.6	0.4	0.7	--	1.5
Premature birth						
Yes	4.0	2.6	1.6	1.8	2.2	1.5
No	95.4	96.7	96.7	98.0	93.8	98.0
Don't know/missing	0.6	0.7	1.7	0.2	4.0	0.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Birth weight						
Less than 2.5 kg	3.0	5.1	5.5	3.5	0.2	5.2
2.5 kg or more	12.3	14.2	23.1	56.4	1.3	13.4
Don't know/missing	1.9	1.3	0.4	--	0.6	5.2
Not weighed	82.7	79.4	71.0	40.0	97.9	76.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Size at birth						
Large	18.8	32.0	19.2	19.9	15.4	19.0
Average	58.5	51.3	54.4	60.6	72.4	36.4
Small	22.1	15.4	18.9	19.0	6.5	44.4
Don't know/missing	0.6	1.3	7.5	0.4	5.7	0.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of births ²	624	544	693	452	631	538

-- Less than 0.05 percent

¹Percentages may sum to more than 100.0 because multiple complications could be recorded.

²Births in the period 1-47 months prior to the survey.

vaccine before 12 months of age, by source (i.e., vaccination card or mother's report). The age group below 12 months was chosen for analysis because international guidelines specify that children should be fully immunized by the time they complete their first year of life. The denominator for any given row in the table is the number of children age 12-23 months. The numerator of each entry in the row labelled "Vaccination card" is the number of children who received the specific vaccination or dose any time prior to the survey, as indicated in the vaccination card seen by the interviewer. The numerator for this row also includes those cases where a card was shown but (1) there was an indication on the card that the vaccination was given but the actual date was either missing or inconsistent or (2) there was no record of receipt of the vaccination on the card, but the mother reported that the vaccination was given. The numerator for each entry in the row labelled "Mother's report" is the number of children whose mothers did not show a card to the interviewer but reported that the child had received the vaccination. The numerator for each entry in the row labelled "Either source" is the sum of the

Table 9.7 Vaccinations by source of information

Among children age 12-23 months, the percentage who have received each vaccine at any time before the interview and before 12 months of age, according to whether the information is from the vaccination card or from the mother, Northeastern states, 1993

Source of information	Percentage vaccinated among children age 12-23 months											
	BCG	Polio 0	DPT			Polio			Measles	All ¹	None	Number of children
			1	2	3	1	2	3				
ARUNACHAL PRADESH												
Vaccinated at any time before interview												
Vaccination card	88.3	--	96.7	95.0	85.0	95.0	93.3	85.0	56.7	51.7	--	60
Mother's report	21.0	4.0	22.0	16.0	11.0	20.0	15.0	11.0	10.0	5.0	76.0	100
Either source	46.3	2.5	50.0	45.6	38.8	48.1	44.4	38.8	27.5	22.5	47.5	160
Vaccinated by 12 months of age²												
	44.4	2.5	48.2	42.3	35.5	46.4	40.3	36.3	21.5	17.5	49.3	160
MANIPUR												
Vaccinated at any time before interview												
Vaccination card	96.3	--	100.0	90.7	79.6	100.0	90.7	79.6	61.1	57.4	--	54
Mother's report	39.7	5.5	41.1	30.1	16.4	37.0	21.9	9.6	19.2	8.2	56.2	73
Either source	63.8	3.1	66.1	55.9	43.3	63.8	51.2	39.4	37.0	29.1	32.3	127
Vaccinated by 12 months of age²												
	62.5	3.1	64.9	54.7	39.2	62.6	49.0	36.6	32.5	25.2	33.5	127
MEGHALAYA												
Vaccinated at any time before interview												
Vaccination card	100.0	--	95.5	86.4	72.7	95.5	86.4	72.7	31.8	31.8	--	22
Mother's report	33.6	1.6	26.2	20.5	13.9	25.4	22.1	14.8	9.8	5.7	64.8	122
Either source	43.8	1.4	36.8	30.6	22.9	36.1	31.9	23.6	13.2	9.7	54.9	144
Vaccinated by 12 months of age²												
	43.8	1.4	36.8	27.2	21.4	36.1	28.4	22.0	7.9	5.8	54.9	144
MIZORAM												
Vaccinated at any time before interview												
Vaccination card	(90.5)	(--)	(100.0)	(100.0)	(95.2)	(100.0)	(100.0)	(95.2)	(76.2)	(76.2)	(--)	42
Mother's report	69.1	7.4	73.5	67.6	57.4	69.1	61.8	52.9	58.8	44.1	23.5	68
Either source	77.3	4.2	83.6	80.0	71.8	80.9	76.4	69.1	65.5	56.4	14.5	110
Vaccinated by 12 months of age²												
	77.3	4.2	83.6	80.0	71.8	80.9	76.4	69.1	63.3	54.5	14.5	110
NAGALAND												
Vaccinated at any time before interview												
Mother's report	10.6	2.8	10.6	7.8	4.3	11.3	9.9	7.1	7.8	1.4	85.1	141
Either source	19.4	3.1	21.2	16.9	12.5	21.9	18.8	15.0	10.0	3.8	75.0	160
Vaccinated by 12 months of age²												
	19.4	3.1	21.2	16.9	10.6	21.9	18.8	12.7	8.0	2.5	75.0	160

Table 9.7 Vaccinations by source of information

Among children age 12-23 months, the percentage who have received each vaccine at any time before the interview and before 12 months of age, according to whether the information is from the vaccination card or from the mother, Northeastern states, 1993

Source of information	Percentage vaccinated among children age 12-23 months											Number of children
	BCG	Polio 0	DPT			Polio			Measles	All ¹	None	
			1	2	3	1	2	3				
TRIPURA												
Vaccinated at any time before interview												
Vaccination card	73.1	--	100.0	80.8	57.7	100.0	80.8	57.7	63.5	40.4	--	52
Mother's report	14.5	1.4	24.6	15.9	13.0	24.6	14.5	13.0	2.9	2.9	73.9	69
Either source	39.7	0.8	57.0	43.8	32.2	57.0	43.0	32.2	28.9	19.0	42.1	121
Vaccinated by 12 months of age²	33.4	0.8	50.0	38.3	27.6	50.0	37.6	27.6	20.8	14.3	49.0	121

-- Less than 0.05 percent

() Based on 25-49 cases

¹Children who are fully vaccinated, i.e., those who have received BCG, measles and three doses of DPT and polio vaccine (excluding polio 0).

²For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination. Totals for "Vaccinated at any time before the interview" and "Vaccinated by 12 months of age" in Nagaland include 19 children whose vaccination status was determined from the vaccination card, who are not shown separately.

mother's report. Because the date of vaccination was not asked of the mother if she could not show the card, the proportion of vaccinations given during the first year of life among children whose information is based on the mother's report is assumed to be the same as the proportion of vaccinations given during the first year of life among children with a written record of vaccination.

Among all the children in the age group 12-23 months, the percentage for whom vaccination cards were seen ranges from a low of 12 in Nagaland to a high of 43 in Tripura. As expected, levels of vaccination coverage are much higher for children whose vaccination cards were seen by the interviewer than for children who either did not have a card or whose card was not seen.

Based on the information either recorded on a card or reported by the mother, the percentage of children fully vaccinated¹ is highest in Mizoram (56 percent), followed by

¹ They had received BCG, measles, and three doses of DPT and polio (excluding polio 0). Polio 0 had been introduced only recently and because this vaccination is given at the time of birth, many mothers may not know or remember whether the first dose of polio vaccine was given just after birth or later. Therefore, the coverage of polio 0 reported in this survey may be subject to response errors.

Manipur (29 percent), Arunachal Pradesh (23 percent), Tripura (19 percent), Meghalaya (10 percent) and Nagaland (4 percent). One of the major objectives of the UIP was to vaccinate at least 85 percent of all infants against six vaccine preventable diseases by 1990. It is, therefore, a matter of great concern that none of these states has achieved this target even in 1993. The immunization coverage is particularly low in Nagaland and Meghalaya (Figure 9.5).

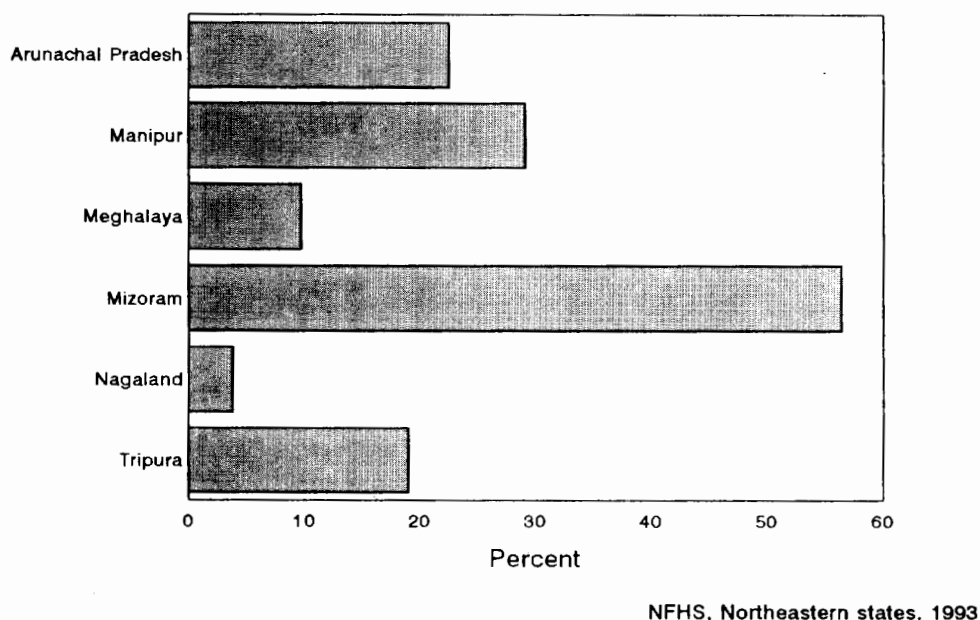
The highest coverage is for the first dose of DPT in all the states, except Meghalaya, followed by the first dose of the polio vaccine. However, the rates of coverage for the third doses of both vaccines are lower ranging from 13 percent in Nagaland to 72 percent in Mizoram for DPT 3 and from 15 percent to 69 percent in the same two states for polio 3. The DPT and polio coverage rates are almost the same because both the vaccines are usually administered together. The continuation rate from the first to the third doses of the DPT and polio vaccines varies from state to state. For example, in Mizoram, nearly 14 percent of children dropped out by the third dose of both vaccines, whereas, the dropout rate in Tripura was 44 percent. The coverage against measles varies from 10 percent in Nagaland to 66 percent in Mizoram.

According to the immunization schedule, all primary vaccinations, including measles, should be completed by the time the child is 12 months old. The data presented in Table 9.7 indicate that most vaccinations were given within the first year of life in most northeastern states. In Mizoram, all of the vaccinated children received these vaccines in the first year of life, except for measles. A substantial proportion of children in every northeastern state who were vaccinated against measles, were vaccinated after their first birthday, although the vaccine is supposed to be given when the child is nine months old.

Table 9.8 shows the percentage of children age 1-3 years with vaccination cards shown to the interviewer and the percentage receiving various vaccinations during the first year of life, according to current age of the child. The table illustrates changes in the vaccination coverage over time. The method of estimating vaccination coverage by 12 months of age is the same as that used in Table 9.7. Among children without a vaccination card, the proportion vaccinated during the first year of life is estimated separately for children in each age group. The row labelled "No vaccinations" indicates the percentage of children who have not received any vaccination by 12 months of age. The percentage of children whose vaccination status was determined by seeing a vaccination card is highest for children age 12-23 months in all the northeastern states, except in Mizoram and Tripura, where cards were seen for a higher proportion of children in older age groups. This reflects the increased use of vaccination cards in recent years in most states. In addition, in many cases the vaccination cards, particularly of older children, are either lost or discarded once they have completed their vaccinations.

In general, the highest level of vaccination coverage against all diseases is observed for children age 12-23 months; coverage then declines progressively with increasing age. However, the pattern is not uniform for all the states, nor for each type of vaccine. In Meghalaya and Mizoram, the vaccination coverage is the highest for children age 24-35 months.

Figure 9.5
Percentage of Children Age 12-23 Months Who
Have Received All Vaccinations



Child Morbidity and Treatment Patterns

Because the two major causes of death among infants and children under 5 years in India are acute respiratory infection and diarrhoea (Central Bureau of Health Intelligence, 1991), the NFHS collected information on the occurrence of the symptoms of these two diseases. Information was also collected on recent episodes of fever.

The mothers of children born during the four years preceding the survey were asked a series of questions on the incidence of cough, fever, and diarrhoea during the last two weeks and the type of treatment given to the children. Information on prevalence and treatment of these conditions is presented in Tables 9.9 to 9.13. Table 9.9 shows the percentage of children with cough accompanied by rapid breathing, i.e., symptoms of acute respiratory infection (ARI), fever and diarrhoea during the two weeks prior to the survey, and the percentage with diarrhoea in the 24 hours before the survey by selected background characteristics.

The percentage of children suffering from ARI symptoms during the two weeks preceding the survey varied from 4 percent in Mizoram to 23 percent in Tripura. The most vulnerable period for ARI was age 6-11 months in Meghalaya, Tripura, Arunachal Pradesh and Manipur, but the differences by age were not large in the latter two states. On the other hand, in Nagaland ARI symptoms were least prevalent in children age 6-11 months. In most states males have a higher prevalence of ARI than females. The relationship between birth order and ARI

Table 9.8 Vaccinations in the first year of life by current age

Among children one to three years of age, the percentage with a vaccination card which was shown to the interviewer and the percentage who had received each vaccine during the first year of life, according to the current age of the child, Northeastern states, 1993

Vaccination status	Arunachal Pradesh				Manipur				Meghalaya			
	Current age of child in months				Current age of child in months				Current age of child in months			
	12-23	24-35	36-47	Total	12-23	24-35	36-47	Total	12-23	24-35	36-47	Total
Vaccination card shown to interviewer	37.5	36.2	19.3	31.4	42.5	34.8	14.6	30.9	15.3	13.7	8.2	12.2
Percent vaccinated at 0-11 months ¹												
BCG	44.4	43.3	24.5	37.8	62.5	51.0	27.6	47.3	43.8	49.2	41.5	44.8
Polio 0	2.5	2.0	2.1	2.2	3.1	6.1	8.9	6.0	1.4	--	1.2	0.8
DPT												
1	48.2	47.4	24.1	40.4	64.9	48.0	28.0	47.2	36.8	40.2	30.8	35.8
2	42.3	43.2	21.4	36.1	54.7	44.0	22.4	40.6	27.2	32.6	26.6	28.8
3	35.5	33.0	18.9	29.5	39.2	35.1	14.2	29.7	21.4	23.8	21.1	22.1
Polio												
1	46.4	48.1	21.9	39.3	62.6	47.4	28.0	46.2	36.1	40.7	29.2	35.2
2	40.3	45.1	20.9	35.9	49.0	41.1	21.5	37.4	28.4	33.4	26.0	29.2
3	36.3	35.0	16.3	29.6	36.6	34.2	12.5	28.0	22.0	23.3	20.0	21.7
Measles	21.5	20.3	10.6	17.7	32.5	21.6	5.8	20.1	7.9	8.2	--	5.2
All vaccinations ²	17.5	12.5	8.6	13.0	25.2	18.0	3.3	15.6	5.8	6.9	--	4.1
No vaccinations	49.3	49.9	73.5	57.0	33.5	49.4	69.3	50.5	54.9	50.1	60.4	55.2
Number of children	160	149	140	449	127	132	123	382	144	161	171	476

Table 9.8 Vaccinations in the first year of life by current age (Contd.)

Among children one to three years of age, the percentage with a vaccination card which was shown to the interviewer and the percentage who had received each vaccine during the first year of life, according to the current age of the child, Northeastern states, 1993

Vaccination status	Mizoram				Nagaland				Tripura			
	Current age of child in months				Current age of child in months				Current age of child in months			
	12-23	24-35	36-47	Total	12-23	24-35	36-47	Total	12-23	24-35	36-47	Total
Vaccination card shown to interviewer	38.2	40.0	35.5	38.0	11.9	4.9	4.0	7.1	43.0	49.3	47.9	46.9
Percent vaccinated at 0-11 months ¹												
BCG	77.3	83.3	88.3	82.9	19.4	13.0	11.9	15.0	33.4	29.8	26.3	29.6
Polio 0	4.2	5.1	5.6	5.1	3.1	0.6	4.0	2.5	0.8	--	--	0.3
DPT												
1	83.6	84.2	87.4	85.0	21.2	16.0	10.8	16.4	50.0	51.1	40.2	46.9
2	80.0	81.6	85.5	82.3	16.9	12.3	8.9	13.0	38.3	38.9	35.1	37.4
3	71.8	70.3	70.7	70.9	10.6	9.9	7.9	9.6	27.6	28.5	26.3	27.5
Polio												
1	80.9	82.5	86.4	83.3	21.9	16.0	10.8	16.7	50.0	51.3	40.9	47.2
2	76.4	75.7	80.1	77.3	18.8	13.6	8.9	14.1	37.6	40.5	34.9	37.6
3	69.1	70.3	67.3	68.9	12.7	9.9	8.7	10.6	27.6	26.6	25.8	26.6
Measles	63.3	71.1	51.3	62.2	8.0	2.7	4.8	5.2	20.8	17.6	16.3	18.1
All vaccinations ²	4.5	57.8	46.0	52.9	2.5	1.6	2.4	2.2	14.3	9.8	11.3	11.7
No vaccinations	14.5	13.2	11.7	13.2	75.0	80.9	87.3	80.6	49.0	45.8	57.0	50.8
Number of children	110	115	107	332	160	162	126	448	121	134	142	397

-- Less than 0.05 percent

¹ Information was obtained either from the vaccination card or from the mother if there was not written record. For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with written record of vaccinations.

² Children who have received BCG, measles and three doses of DPT and polio vaccines (excluding polio 0).

Table 9.9 Prevalence of acute respiratory infection, fever and diarrhoea

Among all children under four years of age, the percentage who were ill with a cough accompanied by fast breathing, fever and diarrhoea during the two weeks before the survey, and the percentage with diarrhoea in the 24 hours before the survey, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Percentage of children suffering in previous two weeks from:					Number of children
	Cough accompanied by fast breathing	Fever	Diarrhoea ¹		Any diarrhoea in previous 24 hours ²	
			Any	Bloody		
ARUNACHAL PRADESH						
Child's age						
< 6 months	11.7	18.2	13.0	--	10.4	77
6 -11 months	12.5	25.0	22.2	4.2	11.1	72
12-23 months	7.5	24.4	20.6	1.3	11.9	160
24-35 months	10.1	21.5	18.8	2.0	11.4	149
36-47 months	5.0	12.1	12.9	2.9	7.9	140
Sex						
Male	8.5	21.8	18.9	1.9	12.0	317
Female	8.9	18.1	16.0	2.1	8.9	281
Birth order						
1	12.4	23.5	18.3	2.0	12.4	153
2-3	8.7	17.0	17.5	2.2	11.4	229
4-5	5.0	22.1	19.3	2.1	7.9	140
6+	7.9	18.4	13.2	1.3	9.2	76
Residence						
Urban	4.9	28.0	9.8	1.2	6.1	82
Rural	9.3	18.8	18.8	2.1	11.2	516
Mother's education						
Illiterate	7.3	19.7	17.5	1.5	10.4	412
Lit., < middle complete	11.6	22.1	20.0	4.2	11.6	95
Middle school complete	11.5	23.0	14.8	3.3	11.5	61
High school and above	(13.3)	(13.3)	(16.7)	(--)	(6.7)	30
Total	8.7	20.1	17.6	2.0	10.5	598

varies dramatically among the northeastern states; it is highest for birth order 3 and below in Arunachal Pradesh and Tripura, highest for birth order 4 and above in Manipur, and varies inconsistently in the other three states.

The incidence of ARI was higher in rural than urban areas in the states of Arunachal Pradesh, Manipur and Mizoram, whereas, urban areas had a higher prevalence of ARI than rural areas in Meghalaya, Nagaland and Tripura. The pattern in the prevalence of ARI by mother's education also varies greatly among the northeastern states, with no identifiable relationship between ARI and the mother's education in most states.

Fever was the most prevalent of the three conditions examined in all of the northeastern states. The highest rate of fever was in Tripura where more than one-third of children (36 percent) suffered from fever during the two weeks prior to the survey. The lowest rate of fever was 16 percent each in Meghalaya and Nagaland. Children age 6-35 months had higher rates

Table 9.9 Prevalence of acute respiratory infection, fever and diarrhoea (Contd.)

Among all children under four years of age, the percentage who were ill with a cough accompanied by fast breathing, fever and diarrhoea during the two weeks before the survey, and the percentage with diarrhoea in the 24 hours before the survey, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Percentage of children suffering in previous two weeks from:					Number of children
	Cough accompanied by fast breathing	Fever	Diarrhoea ¹		Any diarrhoea in previous 24 hours ²	
			Any	Bloody		
MANIPUR						
Child's age						
< 6 months	14.5	21.7	8.4	--	4.8	83
6 -11 months	18.3	28.3	13.3	--	8.3	60
12-23 months	17.3	34.6	16.5	3.1	11.0	127
24-35 months	14.4	24.2	13.6	3.0	8.3	132
36-47 months	9.8	17.9	8.9	0.8	4.9	123
Sex						
Male	16.1	29.1	13.8	2.8	8.3	254
Female	12.9	21.8	11.1	0.7	7.0	271
Birth order						
1	10.9	24.6	13.0	2.2	9.4	138
2-3	13.5	25.5	10.6	1.4	6.7	208
4-5	19.8	22.5	11.7	1.8	6.3	111
6+	16.2	30.9	17.6	1.5	8.8	68
Residence						
Urban	9.7	19.4	5.8	1.3	5.2	155
Rural	16.5	27.8	15.1	1.9	8.6	370
Mother's education						
Illiterate	16.8	29.9	14.5	2.3	9.3	214
Lit., < middle complete	13.0	23.1	13.0	1.9	7.4	108
Middle school complete	19.7	28.8	12.1	3.0	7.6	66
High school and above	9.5	18.2	8.8	--	5.1	137
Total	14.5	25.3	12.4	1.7	7.6	525

of fever than those less than 6 months of age or more than 35 months of age. Fever was more prevalent among males than females. In Arunachal Pradesh, Meghalaya, Mizoram and Nagaland fever was more common in urban than in rural areas, but the reverse is true for Manipur and Tripura. There is no apparent relationship between the prevalence of fever and birth order or the educational level of the mother.

Table 9.9 provides two types of prevalence estimates for diarrhoea including (1) a period prevalence measure, namely the percentage of children under age four whose mothers reported that they had diarrhoea in the two-week period before the interview and (2) a point prevalence measure, namely the percentage of children under 4 years whose mothers reported that they had diarrhoea in the 24-hour period before the interview. Both of these measures are affected by the reliability of the mother's recall of when the diarrhoeal episode occurred. In addition, the NFHS questions allow estimation of the proportion of children under four years who had bloody

Table 9.9 Prevalence of acute respiratory infection, fever and diarrhoea (Contd.)

Among all children under four years of age, the percentage who were ill with a cough accompanied by fast breathing, fever and diarrhoea during the two weeks before the survey, and the percentage with diarrhoea in the 24 hours before the survey, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Percentage of children suffering in previous two weeks from:					Number of children
	Cough accompanied by fast breathing	Fever	Diarrhoea ¹		Any diarrhoea in previous 24 hours ²	
			Any	Bloody		
MEGHALAYA						
Child's age						
< 6 months	4.0	14.0	7.0	1.0	6.0	100
6 -11 months	11.3	15.5	4.2	--	2.8	71
12-23 months	6.3	20.8	12.5	1.4	9.0	144
24-35 months	5.6	18.6	8.1	--	6.2	161
36-47 months	4.7	9.9	7.6	--	4.1	171
Sex						
Male	5.5	16.5	6.7	0.3	5.2	345
Female	6.3	14.9	10.3	0.7	6.6	302
Birth order						
1	4.6	15.0	5.9	0.7	2.6	153
2-3	7.1	16.9	11.4	0.4	8.3	254
4-5	4.4	14.1	3.7	--	2.2	135
6+	6.7	16.2	10.5	1.0	9.5	105
Residence						
Urban	6.5	21.8	8.1	--	5.6	124
Rural	5.7	14.3	8.4	0.6	5.9	523
Mother's education						
Illiterate	5.0	10.4	7.5	0.4	6.1	279
Lit., < middle complete	8.8	20.7	10.1	0.9	7.4	217
Middle school complete	1.4	17.6	10.8	--	5.4	74
High school and above	5.2	19.5	3.9	--	1.3	77
Total	5.9	15.8	8.3	0.5	5.9	647

diarrhoea, a symptom of dysentery, during the two weeks preceding the survey.

The prevalence of diarrhoea during the two weeks prior to the survey also varied among states. Tripura recorded the lowest incidence of 4 percent of any type of diarrhoea and 1 percent of bloody diarrhoea. At the other extreme, in Mizoram more than one-fifth (22 percent) of the children under 4 years of age suffered from any type of diarrhoea and 5 percent from bloody diarrhoea. These two states also occupied the extreme positions for the incidence of diarrhoea during the 24 hours prior to the interview. Thirteen percent of children in Mizoram and 1 percent in Tripura suffered from diarrhoea during the 24 hour period prior to the interview. Children age 6-35 months tend to have a higher prevalence of diarrhoea than younger or older children. In four of the six states (Arunachal Pradesh, Manipur, Mizoram and Nagaland) males had a higher prevalence of diarrhoea than females, and in four of the six states (Arunachal Pradesh, Manipur, Nagaland and Tripura) prevalence of diarrhoea was higher in

Table 9.9 Prevalence of acute respiratory infection, fever and diarrhoea (Contd.)

Among all children under four years of age, the percentage who were ill with a cough accompanied by fast breathing, fever and diarrhoea during the two weeks before the survey, and the percentage with diarrhoea in the 24 hours before the survey, according to selected background characteristics, Northeastern states 1993

Background characteristic	Percentage of children suffering in previous two weeks from:					Number of children
	Cough accompanied by fast breathing	Fever	Diarrhoea ¹		Any diarrhoea in previous 24 hours ²	
			Any	Bloody		
MIZORAM						
Child's age						
< 6 months	6.2	24.6	15.4	--	7.7	65
6 -11 months	(4.7)	(32.6)	(14.0)	(2.3)	(9.3)	43
12-23 months	5.5	30.9	26.4	9.1	15.5	110
24-35 months	4.3	24.3	24.3	5.2	13.0	115
36-47 months	0.9	23.4	23.4	4.7	13.1	107
Sex						
Male	5.5	27.3	25.9	6.8	12.7	220
Female	2.7	25.9	18.6	3.2	12.3	220
Birth order						
1	2.2	17.0	23.7	4.4	14.1	135
2-3	5.2	30.2	21.9	4.2	12.0	192
4-5	3.6	32.5	27.7	9.6	15.7	83
6+	(6.7)	(30.0)	(3.3)	(--)	(--)	30
Residence						
Urban	3.9	27.6	25.9	4.3	15.5	232
Rural	4.3	25.5	18.3	5.8	9.1	208
Mother's education						
Lit., < middle complete	4.6	28.5	25.9	5.4	14.6	239
Middle school complete	2.2	27.0	22.5	7.9	14.6	89
High school and above	2.2	21.1	16.7	2.2	7.8	90
Total	4.1	26.6	22.3	5.0	12.5	440

rural than in urban areas. Due to seasonal variations in the incidence of diarrhoea, these estimates may not reflect the average situation throughout the year. There is no consistency in the pattern of occurrence of diarrhoea by educational level of the mother.

Treatment of ARI

Table 9.10 presents information on the type of treatment received by children under 4 years of age suffering from ARI. It may be noted that due to a small number of children suffering from ARI, the data are not shown for Mizoram. The percentage of such children who were taken to a health facility for treatment varies from 32 percent in Nagaland to 87 percent in Meghalaya. However, for both of these states the sample size is very small and therefore results are not conclusive. One-fifth (in Tripura) to one-half (in Nagaland) of children did not receive any treatment for ARI. Sick children were most often treated with cough syrup. Antibiotic pills or syrup and injections constituted an important part of treatment in Arunachal Pradesh (17 percent each). Home remedy or herbal medicines were used to treat one-fifth of

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Among all children under four years of age, the percentage who were ill with a cough accompanied by fast breathing, fever and diarrhoea during the two weeks before the survey, and the percentage with diarrhoea in the 24 hours before the survey, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Percentage of children suffering in previous two weeks from:					Number of children
	Cough accompanied by fast breathing	Fever	Diarrhoea ¹		Any diarrhoea in previous 24 hours ²	
			Any	Bloody		
NAGALAND						
Child's age						
< 6 months	9.1	14.3	9.1	3.9	2.6	77
6 -11 months	2.2	9.7	6.5	--	1.1	93
12-23 months	6.3	20.0	15.0	2.5	6.3	160
24-35 months	8.0	16.0	10.5	2.5	1.9	162
36-47 months	4.8	15.9	11.9	3.2	4.8	126
Sex						
Male	7.3	18.2	14.4	3.2	4.5	313
Female	4.9	13.4	7.9	1.6	2.6	305
Birth order						
1	5.0	15.0	11.1	1.7	3.3	180
2-3	5.3	16.0	10.7	1.6	2.9	244
4-5	10.3	18.3	15.1	4.8	6.3	126
6+	4.4	13.2	5.9	2.9	1.5	68
Residence						
Urban	8.0	19.3	4.5	--	1.1	88
Rural	5.8	15.3	12.3	2.8	4.0	530
Mother's education						
Illiterate	2.5	12.5	7.0	1.0	2.5	200
Lit., < middle complete	10.0	18.8	18.8	4.6	5.4	240
Middle school complete	8.3	18.8	9.4	2.1	4.2	96
High school and above	1.2	12.2	1.2	--	--	82
Total	6.1	15.9	11.2	2.4	3.6	618

the children suffering from ARI in Manipur.

Treatment of Fever

Table 9.11 shows the type of treatment given to children suffering from fever during the two weeks prior to the survey. The proportion of children with fever who were taken to a health facility or provider for the treatment of fever varies from around one-third in Manipur, Mizoram and Nagaland to more than one-half in Meghalaya and Tripura. The proportion of children who did not receive any treatment varies from 9 percent in Mizoram to 42 percent in Nagaland. Variation in the type of treatment is also apparent among the states. A substantial proportion of children were treated with antibiotic pills or syrup in Manipur, Meghalaya, Mizoram and Tripura. Injections in Nagaland, anti-malarial medicines in Arunachal Pradesh, and home remedies and herbal medicines in Manipur were used to treat a larger percentage of children than in other states. The largest percentage of children in each state were treated with

Table 9.9 Prevalence of acute respiratory infection, fever and diarrhoea (Contd.)

Among all children under four years of age, the percentage who were ill with a cough accompanied by fast breathing, fever and diarrhoea during the two weeks before the survey, and the percentage with diarrhoea in the 24 hours before the survey, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Percentage of children suffering in previous two weeks from:					Number of children
	Cough accompanied by fast breathing	Fever	Diarrhoea ¹		Any diarrhoea in previous 24 hours ²	
			Any	Bloody		
TRIPURA						
Child's age						
< 6 months	25.4	38.1	--	--	--	63
6 -11 months	(30.8)	(41.0)	(2.6)	(--)	(--)	39
12-23 months	22.3	39.7	5.0	0.8	3.3	121
24-35 months	24.6	33.6	3.7	0.7	--	134
36-47 months	18.3	31.0	4.2	0.7	1.4	142
Sex						
Male	24.5	35.2	3.4	0.4	1.5	261
Female	21.0	35.7	3.8	0.8	0.8	238
Birth order						
1	30.7	41.4	5.7	0.7	3.6	140
2-3	22.0	33.7	3.4	0.5	0.5	205
4-5	16.7	35.3	2.0	1.0	--	102
6+	17.3	26.9	1.9	--	--	52
Residence						
Urban	28.4	32.8	1.5	--	1.5	67
Rural	22.0	35.9	3.9	0.7	1.2	432
Mother's education						
Illiterate	18.3	33.5	4.6	0.5	0.9	218
Lit., < middle complete	27.7	41.2	4.0	1.1	1.7	177
Middle school complete	24.0	32.0	--	--	--	75
High school and above	(24.1)	(24.1)	(3.4)	(--)	(3.4)	29
Total	22.8	35.5	3.6	0.6	1.2	499

Note: Figures are for children born in the period 1-47 months prior to the survey. Total for Mizoram includes 22 children of illiterate mothers, who are not shown separately.
 -- Less than 0.05 percent
 () Based on 25-49 cases
¹Includes diarrhoea in the past 24 hours
²Includes diarrhoea with blood

other (indigenous) medicines.

Treatment of Diarrhoea

Deaths from acute diarrhoea are most often due to the dehydration resulting from loss of water and electrolytes (Black, 1984). Such deaths can be prevented by prompt administration of rehydration solutions, which can be easily prepared at home. To check deaths related to diarrhoea among children, the government has launched the Oral Rehydration Therapy Programme as one of its priority activities for child survival. A major purpose of this programme is to increase awareness among women and in the community about the causes and treatment of diarrhoea. Oral Rehydration Salts (ORS) packets are made widely available and

Table 9.10 Treatment of acute respiratory infection

Among all children under four years of age who had cough accompanied by fast breathing during the two weeks before the survey, the percentage taken to a health facility or provider and percentage given treatment, Northeastern states, 1993

State	Among children with cough and fast breathing							
	Percentage taken to a health facility or provider ¹	Percentage treated with						Number of children
		Antibiotic pill or syrup	Injection	Cough syrup	Home remedy/ herbal medicine	Other	None	
Arunachal Pradesh	50.0	17.3	17.3	50.0	1.9	17.3	30.8	52
Manipur	39.5	15.8	10.5	35.5	19.7	14.5	23.7	76
Meghalaya	(86.8)	(36.8)	(13.2)	(68.4)	(7.9)	(13.2)	(5.3)	38
Nagaland	(31.6)	(13.2)	(10.5)	(31.6)	--	(7.9)	(52.6)	38
Tripura	59.6	12.3	2.6	31.6	7.9	51.8	18.4	114

Note: The treatment pattern for 19 children in Mizoram who suffered from acute respiratory infection is not shown.

Table 9.11 Treatment of fever

Among all children under four years of age suffering from fever during the two weeks before the survey, the percentage taken to a health facility or provider and type of treatment given, Northeastern states, 1993

State	Among children with fever							
	Percentage taken to a health facility or provider ¹	Percentage treated with						Number of children
		Anti-malarial	Antibiotic pill or syrup	Injection	Home remedy/ herbal medicine	Other	None	
Arunachal Pradesh	44.2	18.3	17.5	15.8	2.5	36.7	35.0	120
Manipur	34.6	6.0	18.8	3.8	16.5	39.8	30.1	133
Meghalaya	59.8	9.8	21.6	10.8	3.9	55.9	13.7	102
Mizoram	35.0	11.1	30.8	0.9	--	62.4	9.4	117
Nagaland	33.7	5.1	11.2	16.3	2.0	34.7	41.8	98
Tripura	55.4	2.8	14.7	1.7	5.1	63.8	23.7	177

mothers are taught how to use them. The programme also promotes the use of easily prepared home-made solution made from sugar, salt and water, known as Recommended Home Solution (RHS). The use of these therapies is promoted through the electronic and print media as well as through adult literacy classes. Instructions are provided for the proper use and availability of ORS and preparation of RHS. Documentaries covering the topic of diarrhoea among children and use of ORS and preparation of RHS are regularly shown in cinema theatres and on television. All India Radio also frequently airs messages on ORS and RHS. In order to gauge the extent of knowledge and use of oral rehydration, the NFHS asked mothers of children born during the last four years a series of questions regarding the knowledge and use of ORS and RHS. If the respondent had more than three births during the four year period before the

survey, the questions on diarrhoea were asked only for the last three births.

Table 9.12 shows percentages of mothers who know about and have ever used ORS packets at some time in the past. There is a marked interstate variation in the knowledge and use of ORS. In Manipur, Mizoram and Tripura, three-fourths or more of the mothers know about ORS packets. On the other hand, less than half of the mothers in Arunachal Pradesh (44 percent), Meghalaya (40 percent) and Nagaland (20 percent) had heard about ORS packets. In the states where the knowledge of ORS is high, the use is also high. For example, in Manipur 60 percent had ever used ORS, but in Nagaland, only 6 percent had ever used it.

No consistent pattern is observed in the knowledge and use of ORS packets by mother's age in the northeastern states. As expected, both knowledge and use of ORS are higher among urban mothers in most states, although the urban-rural difference is small in Arunachal Pradesh. Level of knowledge and use of ORS are positively related to the educational attainment of mothers. Mass media has evidently played an important role in oral rehydration programmes. Both knowledge and use of ORS are quite high among mothers exposed to electronic mass media compared with those with no exposure. Only Nagaland is an exception, where the use of ORS is higher among rural mothers and among those who are not exposed to any electronic media.

Table 9.13 shows the type of treatment obtained for children who had diarrhoea during the two weeks before the survey. Due to the small number of children who suffered from diarrhoea, the treatment pattern is not shown for Tripura. The proportion of children who were taken to a health facility or provider for treatment varies from a low of 12 percent in Nagaland to a high of 67 percent in Meghalaya. Only in Manipur, were more than half of the children who suffered from diarrhoea were treated with ORS packets. The use of such packets is very low in Nagaland (20 percent) and Mizoram (21 percent). Recommended Home Solution (RHS) is most commonly used in Manipur (31 percent) and least commonly used in Mizoram (8 percent). In order to reduce dehydration due to diarrhoea, mothers are also taught to increase the supply of fluids to children with diarrhoea. The children for whom the supply of liquids was increased during diarrhoea varies from a high of 23 percent in Nagaland to a low of 6 percent in Meghalaya. The fluids used include plain water, lemon and sugar water drink, milk, juice, soup, tea, barley water, or breast milk. A large proportion of children, were not given ORS, RHS or an increased supply of fluids: two-thirds in Mizoram, three-fifths in Arunachal Pradesh, more than half in Meghalaya and Nagaland, and one-third in Manipur.

Although fluid therapy alone may be useful in preventing deaths from acute dehydration, treatment with antibiotics may be useful in reducing the duration and volume of diarrhoea. The highest proportion of those who were given antibiotics is in Meghalaya (35 percent) and the lowest is in Nagaland (only 4 percent). A very small proportion of children suffering from diarrhoea were given injections. Nearly half of the children in Nagaland were not given any kind of treatment for diarrhoea. In other states, the proportions of untreated children is considerably lower, particularly in Manipur and Meghalaya, where only 6-7 percent of children did not receive any treatment for diarrhoea.

Table 9.12 Knowledge and ever use of ORS packets

Percentage of mothers with births during the four years preceding the survey who know about and have ever used ORS packets, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Arunachal Pradesh			Manipur			Meghalaya		
	Know about packets	Have ever used packets	Number of mothers	Know about packets	Have ever used packets	Number of mothers	Know about packets	Have ever used packets	Number of mothers
Mother's age									
15-19	(50.0)	(27.5)	40	*	*	11	(33.3)	(18.2)	33
20-24	43.4	28.3	152	90.5	62.9	105	44.8	20.7	174
25-29	47.8	32.1	134	81.8	57.3	143	35.2	16.9	142
30-34	45.8	28.9	83	87.6	61.9	113	32.9	15.2	79
35-49	29.7	15.6	64	80.6	59.7	62	44.2	27.9	86
Residence									
Urban	44.8	28.4	67	96.2	69.7	132	58.2	30.6	98
Rural	43.6	27.6	406	80.8	56.0	302	35.1	17.3	416
Mother's education									
Illiterate	35.5	22.1	321	76.6	54.9	175	32.3	13.0	223
Lit., < middle complete	51.3	30.8	78	84.8	58.7	92	41.7	22.9	175
Middle school complete	(72.7)	(56.8)	44	90.9	65.5	55	44.8	20.7	58
High school and above	(70.0)	(36.7)	30	97.3	67.0	112	55.2	36.2	58
Mother's exposure to media									
Exposed to media	56.2	35.0	226	91.2	65.5	284	52.6	29.4	228
Watches television weekly	62.7	39.6	134	96.9	68.7	163	57.9	31.4	121
Listens to radio weekly	56.2	35.6	194	90.6	64.4	267	51.6	29.9	184
Visits cinema/theatre monthly	66.7	47.4	78	98.6	72.2	72	*	*	23
Not exposed to any of the media	32.4	21.1	247	74.7	50.0	150	29.0	12.2	286
Total	43.8	27.7	473	85.5	60.1	434	39.5	19.8	514

Table 9.12 Knowledge and ever use of ORS packets (Contd.)

Percentage of mothers with births during the four years preceding the survey who know about and have ever used ORS packets, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Mizoram			Nagaland			Tripura		
	Know about ORS packets	Have ever used ORS packets	Number of mothers	Know about ORS packets	Have ever used ORS packets	Number of mothers	Know about ORS packets	Have ever used ORS packets	Number of mothers
Mother's age									
15-19	*	*	16	(18.5)	(7.4)	27	78.8	38.5	52
20-24	78.3	32.6	92	15.9	4.5	132	83.2	57.3	131
25-29	76.3	44.3	131	20.5	6.0	166	82.1	49.3	140
30-34	75.4	42.0	69	27.9	10.3	68	75.9	53.4	58
35-49	(63.4)	(34.1)	41	20.3	4.3	69	70.1	52.2	67
Residence									
Urban	80.9	46.1	178	26.9	3.0	67	95.5	58.2	67
Rural	67.8	31.6	171	19.0	6.6	395	76.6	50.1	381
Mother's education									
Illiterate	*	*	21	13.9	5.3	151	68.7	41.9	198
Lit., < middle complete	69.2	34.6	185	14.8	4.5	176	83.1	50.0	154
Middle school complete	92.8	52.2	69	31.1	5.4	74	94.0	68.7	67
High school and above	87.8	47.3	74	37.7	13.1	61	(100.0)	(82.8)	29
Mother's exposure to media									
Exposed to media	81.3	42.5	214	25.0	5.0	200	86.6	57.2	276
Watches television weekly	87.6	45.4	97	35.5	3.9	76	92.8	58.6	111
Listens to radio weekly	80.6	40.3	191	24.9	4.7	193	86.7	56.8	241
Visits cinema/theatre monthly	*	*	3	*	*	2	*	*	23
Not exposed to any of the media	63.7	33.3	135	16.4	6.9	262	68.0	41.9	172
Total	74.5	39.0	349	20.1	6.1	462	79.5	51.3	448

() Based on 25-49 cases

* Percentage not shown; based on fewer than 25 cases

Table 9.13 Treatment of diarrhoea

Among children under four years who had diarrhoea in the past two weeks, the percentage taken for treatment to a health facility or provider, the percentage who received increased fluids and oral rehydration therapy (ORT), either an oral rehydration solution made from a packet (ORS) or a recommended home solution (RHS), the percentage who received neither ORT nor increased fluids, and the percentage given other treatments, Northeastern states, 1993

State	Percent taken to a health facility or provider ¹	Oral Rehydration								Number of children with diarrhoea	
		ORS packets	RHS at home	Either ORS or RHS	In-creased fluids	Not given ORS, RHS or in-creased fluids	Anti-biotics	Injec-tion	Home remedy, other		None
Arunachal Pradesh	38.1	26.7	12.4	33.3	9.5	61.0	15.2	6.7	41.9	28.6	105
Manipur	40.0	52.3	30.8	63.1	12.3	33.8	24.6	3.1	33.8	6.2	65
Meghalaya	66.7	38.9	11.1	40.7	5.6	53.7	35.2	1.9	46.3	7.4	54
Mizoram	31.6	21.4	8.2	24.5	13.3	67.3	26.5	--	42.9	22.4	98
Nagaland	11.6	20.3	14.5	24.6	23.2	56.5	4.3	2.9	11.6	49.3	69

Note: Table is based on children born in the period 1-47 months prior to the survey. The treatment pattern for 18 children in Tripura who suffered from diarrhoea is not shown.

-- Less than 0.05 percent

ORS: An oral rehydration solution made from a packet

RHS: A recommended home solution of sugar, salt and water

¹Includes government/municipal hospital, private hospital/clinic, Primary Health Centre, sub-centre, doctor, or other health professional

CHAPTER 10

INFANT FEEDING AND CHILD NUTRITION

Infant feeding practices and child nutrition have significant effects on child survival, maternal health and fertility. Breastfeeding improves the nutritional status of young children and reduces morbidity and mortality. Breast milk not only provides the child with important nutrients but also protects the child against certain infections. The timing and type of supplementary foods introduced in the infant's diet also have significant effects on the nutritional status of the child. The duration and intensity (i.e., frequency) of breastfeeding have additional effects on duration of postpartum amenorrhoea, birth intervals, and fertility. This chapter discusses the information collected on the infant feeding, including both breastfeeding and supplementary feeding. Also included is a brief discussion of the nutritional status of children under four years of age as measured by height and weight of children.

10.1 Breastfeeding and Supplementation

The Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding (1990) and the WHO Working Group on Infant Feeding (World Health Organization, 1991) have made several recommendations on the feeding of infants and young children. These international recommendations state that infants should be given only breast milk up to 4-6 months of age. Aside from breast milk, no other foods or liquids are needed during this period. At age 4-6 months, adequate and appropriate complementary foods should be added to the infant's diet in order to provide sufficient nutrients for optimal growth. It is recommended that breastfeeding should continue, along with complementary foods, up through the second year of life or beyond. It is further recommended that a feeding bottle with a nipple should not be used at any age, for reasons having to do mainly with sanitation and prevention of infections. The Baby Friendly Hospitals Initiative, launched by WHO, additionally recommends early initiation of breastfeeding, immediately after childbirth.

Several indicators of breastfeeding practices have been suggested by WHO to guide countries in the gathering of information for measuring and evaluating infant feeding practices. These indicators include the ever breastfeeding rate, the exclusive breastfeeding rate, the timely complementary feeding rate, the continued breastfeeding rate, and the bottle feeding rate. The *exclusive breastfeeding rate* is defined as the proportion of infants under four months who receive only breast milk. The *timely complementary feeding rate* is the proportion of infants age 6-9 months who receive both breast milk and solid or semi-solid food. The *continued breastfeeding rate through one year of age* is the proportion of children age 12-25 months who are still being breastfed. The *continued breastfeeding rate through two years of age* is the proportion of children age 20-23 months who are still breastfed. The *bottle feeding rate* is the proportion of infants who are fed using a bottle with a nipple. These indicators are highlighted in the presentation of data on breastfeeding and other feeding practices in this chapter.

In the NFHS, data on breastfeeding and supplementation were obtained from a series of questions in Section 4 of the Woman's Questionnaire. These questions pertain to births since January 1989. For any given woman, a maximum of three births was included in the analysis.

Table 10.1 shows the percentages of children ever breastfed by selected background characteristics. This information is reported for children born in the four years preceding the

Table 10.1 Initiation of breastfeeding					
Percentage of all children who were ever breastfed and the percentage of last-born children who started breastfeeding within one hour and one day of birth, among children born during the four years preceding the survey, according to selected background characteristics, Northeastern states, 1993					
Background characteristic	Among all children:		Among last-born children:		
	Percentage ever breastfed	Number of children	Percent started breastfeeding within 1 hour of birth	Percent started breastfeeding within 1 day of birth ¹	Number of children
ARUNACHAL PRADESH					
Sex of child					
Male	95.5	333	41.4	77.8	261
Female	98.0	294	39.7	82.2	214
Residence					
Urban	97.6	83	17.6	69.1	68
Rural	96.5	544	44.5	81.6	407
Mother's education					
Illiterate	96.6	440	46.6	85.7	322
Lit., < middle complete	96.8	95	31.6	65.8	79
Middle school complete	96.7	61	(20.5)	(70.5)	44
High school and above	(96.8)	31	(30.0)	(66.7)	30
Assistance at delivery					
Health professional	96.2	133	25.0	72.2	108
Traditional birth attendant	99.0	102	64.8	81.7	71
Other or none	96.2	392	40.5	82.1	296
Place of delivery					
Institution	95.9	124	25.6	70.3	101
Home/other	96.8	503	44.6	82.3	374
Total	96.7	627	40.6	79.8	475
MANIPUR					
Sex of child					
Male	94.0	266	10.4	26.4	212
Female	92.0	288	13.7	23.5	226
Residence					
Urban	90.7	161	3.7	15.7	134
Rural	93.9	393	15.8	28.9	304
Mother's education					
Illiterate	93.0	227	15.2	25.8	178
Lit., < middle complete	90.8	119	10.8	26.9	93
Middle school complete	94.1	68	9.1	32.7	55
High school and above	94.3	140	9.8	17.9	112
Assistance at delivery					
Health professional	95.0	221	7.6	15.8	184
Traditional birth attendant	90.3	216	9.4	20.5	171
Other or none	94.0	117	27.7	54.2	83
Place of delivery					
Institution	91.9	125	6.5	18.7	107
Home/other	94.1	429	14.0	21.7	328
Total	93.0	554	12.1	24.9	438

Table 10.1 Initiation of breastfeeding (Contd.)

Percentage of all children who were ever breastfed and the percentage of last-born children who started breastfeeding within one hour and one day of birth, among children born during the four years preceding the survey, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Among all children:		Among last-born children:		
	Percentage ever breastfed	Number of children	Percent started breastfeeding within 1 hour of birth	Percent started breastfeeding within 1 day of birth ¹	Number of children
MEGHALAYA					
Sex of child					
Male	97.1	375	9.6	69.7	271
Female	95.4	323	6.9	68.3	246
Residence					
Urban	97.1	136	7.0	60.0	100
Rural	96.1	562	8.6	71.2	417
Mother's education					
Illiterate	99.0	300	10.8	76.7	223
Lit., < middle complete	93.2	235	6.3	69.3	176
Middle school complete	93.9	82	10.3	65.5	58
High school and above	97.5	81	3.3	43.3	60
Assistance at delivery					
Health professional	93.1	259	3.6	53.1	192
Traditional birth attendant	100.0	157	16.2	86.5	111
Other or none	97.2	282	8.4	74.3	214
Place of delivery					
Institution	92.7	207	2.6	45.5	154
Home/other	97.7	491	10.7	79.0	363
Total	96.3	698	8.3	69.1	517
MIZORAM					
Sex of child					
Male	97.5	236	26.7	64.4	180
Female	96.4	224	33.3	71.9	171
Residence					
Urban	97.5	239	27.9	68.7	179
Rural	96.4	221	32.0	67.4	172
Mother's education					
Illiterate	(92.0)	25	*	*	21
Lit., < middle complete	97.2	248	28.3	70.6	187
Middle school complete	96.8	95	27.5	65.2	69
High school and above	97.8	92	31.1	60.8	74
Assistance at delivery					
Health professional	96.5	282	28.6	68.2	217
Traditional birth attendant	97.5	119	31.5	64.1	92
Other or none	98.3	59	(33.3)	(76.2)	42
Place of delivery					
Institution	96.0	224	27.1	67.8	177
Home/other	97.9	236	32.7	68.4	174
Total	97.0	460	29.9	68.1	351

Table 10.1 *Initiation of breastfeeding (Contd.)

Percentage of all children who were ever breastfed and the percentage of last-born children who started breastfeeding within one hour and one day of birth, among children born during the four years preceding the survey, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Among all children:		Among last-born children:		
	Percentage ever breastfed	Number of children	Percent started breastfeeding within 1 hour of birth	Percent started breastfeeding within 1 day of birth ¹	Number of children
NAGALAND					
Sex of child					
Male	92.3	324	66.1	86.4	236
Female	92.4	315	62.4	81.0	226
Residence					
Urban	92.5	93	61.2	82.1	67
Rural	92.3	546	64.8	84.1	395
Mother's education					
Illiterate	92.2	206	66.9	84.1	151
Lit., < middle complete	91.1	248	67.6	86.4	176
Middle school complete	96.9	98	60.8	82.4	74
High school and above	90.8	87	52.5	77.0	61
Assistance at delivery					
Health professional	94.3	141	62.7	84.3	102
Traditional birth attendant	81.7	71	(52.2)	(65.2)	46
Other or none	93.4	427	66.6	86.3	314
Place of delivery					
Institution	(97.4)	39	(53.9)	(69.2)	26
Home/other	92.0	600	65.1	84.6	436
Total	92.3	639	64.3	83.8	462
TRIPURA					
Sex of child					
Male	95.4	285	6.7	28.4	225
Female	96.6	264	8.0	27.6	225
Residence					
Urban	96.0	75	3.0	31.3	67
Rural	96.0	474	8.1	27.4	383
Mother's education					
Illiterate	95.1	247	11.0	30.5	200
Lit., < middle complete	96.4	194	3.2	22.7	154
Middle school complete	97.4	78	4.5	26.9	67
High school and above	(96.7)	30	(10.3)	(41.4)	29
Assistance at delivery					
Health professional	97.2	181	2.8	30.3	142
Traditional birth attendant	94.8	267	8.6	25.8	221
Other or none	97.0	101	11.5	29.9	87
Place of delivery					
Institution	97.0	166	2.3	30.8	130
Home/other	95.5	383	9.4	26.9	320
Total	96.0	549	7.3	28.0	450

Note: Table is based on children born in the four years preceding the survey, whether living or dead at the time of interview.

() Based on 25-49 cases

* Percentage not shown; based on fewer than 25 cases

¹Includes children who started breastfeeding within one hour of birth

survey. In India, traditionally breast milk has been the main source of nutrition for infants and young children. It not only provides important nutrients, but also protects the child against certain infections. Breastfeeding is nearly universal in the northeastern states, with more than 95 percent of all children born in the 4 years preceding the survey having been breastfed in Arunachal Pradesh, Meghalaya, Mizoram and Tripura. In Manipur and Nagaland, the percentage of breastfed children is 93 and 92 percent, respectively. The practice of breastfeeding is universal with marginal variation by sex of the child, place of residence, mother's educational level, assistance at the time of delivery, and place of delivery.

The early initiation of breastfeeding is important because it benefits both the mother and the infant. As soon as the infant starts suckling at the breast, the hormone oxytocin is released, resulting in uterine contractions which reduce the risk of postpartum haemorrhage and facilitate expulsion of the placenta. It is also recommended that the first breast milk should be given to the child rather than squeezed from the breast and thrown away because it contains colostrum, which provides natural immunity to the child. Colostrum and breast milk are sufficient for new born infants and it is not necessary to feed them anything else. In fact, when the neonate is given anything else, contaminants may cause infection, leading to diarrhoea.

Table 10.1 shows how soon after birth breastfeeding was initiated among children who were ever breastfed. This information was collected for the most recent birth of each woman who had given birth in the four years before the survey. Although almost all children are breastfed, it is rare for breastfeeding to begin soon after delivery, particularly in Manipur, Meghalaya and Tripura, where only around one-tenth of the last-born children were breastfed within one hour of birth. In Manipur and Tripura, breastfeeding did not start for three-fourths of the children even in the first 24 hours of their lives. Among the northeastern states, Nagaland fares best in terms of initiation of breastfeeding, where 64 percent of the last-born children were breastfed within one hour and 84 percent within 24 hours of birth. NFHS data not shown in the table indicate that the practice of squeezing the first milk from the breast before women begin breastfeeding their babies is very common in most of the northeastern states. In every state, the first milk is squeezed from the breast for more than two-fifths of breastfed children. The practice is most common in Mizoram (79 percent), Manipur and Tripura (69 percent each) and Meghalaya (64 percent). The practice is least evident in Arunachal Pradesh (44 percent) and Nagaland (49 percent).

There is little difference in the timing of initiation of breastfeeding by the sex of the child. However, there are some differences according to other background characteristics and the circumstances of delivery. A larger percentage of rural children begin breastfeeding within one hour and within the first 24 hours of birth than urban children in all of the northeastern states, and the urban-rural differentials are strikingly large in the states of Arunachal Pradesh and Manipur. Educational level of the mother seems to affect the initiation of breastfeeding in a negative way, that is women with a higher level of education tend to postpone the initiation of breastfeeding in most states. The postponement of breastfeeding is more likely for children whose births took place in a health facility and for children whose births were attended by health professionals than for children born at home and attended by traditional birth attendants or others. This implies that health attendants in health facilities should be trained to instruct mothers in early breastfeeding.

For children currently being breastfed, mothers were asked if the child had been given any other liquids or solid foods at any time during the previous day or night. The results are presented in Table 10.2, according to the child's age. Children who received nothing but breast milk during the previous 24 hours are defined as being *exclusively breastfed*, while *full breastfeeding* refers to both those who were given only breast milk and those who received breast milk and plain water only. The sample size for most categories is small, and the results are to be used cautiously. Exclusive breastfeeding is quite common for very young children (up to 3 months of age) in Arunachal Pradesh (74 percent) and Manipur (70 percent), less common

Table 10.2 Breastfeeding status by child's age							
Percent distribution of living children by breastfeeding status, according to child's age in months, Northeastern states, 1993							
Percentage among all living children							
Age in months	Not breast-feeding	Exclusively breastfed	Breastfeeding and			Total percent	Number of living children
			Plain water only	Supple-ments	DK Supple-ments		
ARUNACHAL PRADESH							
0 - 3	(--)	(73.9)	(4.3)	(21.7)	(--)	100.0	46
4 - 7	3.2	35.5	9.7	51.6	--	100.0	62
8 -11	(--)	(15.9)	(--)	(84.1)	(--)	100.0	44
12-15	2.0	6.0	4.0	88.0	--	100.0	50
16-19	(12.8)	(4.3)	(4.3)	(78.7)	(--)	100.0	47
20-23	27.0	1.6	1.6	69.8	--	100.0	63
24-27	(29.2)	(--)	(--)	(64.6)	(6.3)	100.0	38
28-31	59.3	--	1.7	33.9	5.1	100.0	59
32-35	(64.3)	(2.4)	(--)	(33.3)	(--)	100.0	42
36-39	(75.6)	(--)	(--)	(24.4)	(--)	100.0	45
40-43	(78.0)	(--)	(2.4)	(12.2)	(7.3)	100.0	41
44-47	87.0	--	--	11.1	1.9	100.0	54
MANIPUR							
0 - 3	--	70.4	--	29.6	--	100.0	54
4 - 7	3.3	37.7	3.3	55.7	--	100.0	61
8 -11	(2.6)	(5.3)	(--)	(92.1)	(--)	100.0	38
12-15	(10.5)	(5.3)	(--)	(84.2)	(--)	100.0	38
16-19	20.0	--	--	80.0	--	100.0	50
20-23	(38.5)	(2.6)	(--)	(53.8)	(5.1)	100.0	39
24-27	44.1	--	--	52.5	3.4	100.0	59
28-31	(34.5)	(--)	(3.4)	(62.1)	(--)	100.0	29
32-35	(54.5)	(--)	(--)	(45.5)	(--)	100.0	44
36-39	(60.4)	(--)	(--)	(29.2)	(10.4)	100.0	48
40-43	(61.4)	(--)	(--)	(29.5)	(9.1)	100.0	44
44-47	(77.4)	(--)	(--)	(22.6)	(--)	100.0	31
MEGHALAYA							
0 - 3	1.6	18.0	6.6	73.8	--	100.0	61
4 - 7	6.8	10.8	6.8	75.7	--	100.0	74
8 -11	(19.5)	(--)	(--)	(80.5)	(--)	100.0	41
12-15	36.4	--	1.8	61.8	--	100.0	55
16-19	46.3	--	--	53.7	--	100.0	54
20-23	(48.6)	(--)	(--)	(51.4)	(--)	100.0	35
24-27	72.6	--	1.4	26.0	--	100.0	73
28-31	(83.3)	(--)	(--)	(16.7)	(--)	100.0	42
32-35	(80.4)	(--)	(--)	(17.4)	(2.2)	100.0	46
36-39	88.3	--	--	11.7	--	100.0	77
40-43	94.3	--	--	5.7	--	100.0	53
44-47	(90.2)	(--)	(--)	(9.8)	(--)	100.0	41

Table 10.2 Breastfeeding status by child's age (Contd.)

Percent distribution of living children by breastfeeding status, according to child's age in months, Northeastern states, 1993

Age in months	Percentage among all living children						Number of living children
	Not breast-feeding	Exclusively breastfed	Breastfeeding and			Total percent	
			Plain water only	Supple-ments	DK Supple-ments		
MIZORAM							
0 - 3	(--)	(45.5)	(31.8)	(22.7)	(--)	100.0	44
4 - 7	(--)	(22.5)	(22.5)	(55.0)	(--)	100.0	40
8 - 11	(6.3)	(--)	(12.5)	(81.3)	(--)	100.0	32
12-15	(18.4)	(2.6)	(--)	(78.9)	(--)	100.0	38
16-19	(46.5)	(--)	(--)	(53.5)	(--)	100.0	43
20-23	(62.1)	(--)	(--)	(37.9)	(--)	100.0	29
24-27	(63.0)	(--)	(--)	(37.0)	(--)	100.0	46
28-31	(78.0)	(--)	(--)	(22.0)	(--)	100.0	41
32-35	(82.1)	(--)	(3.6)	(14.3)	(--)	100.0	28
36-39	(95.5)	(--)	(--)	(4.5)	(--)	100.0	44
40-43	(93.5)	(--)	(--)	(6.5)	(--)	100.0	31
44-47	(96.9)	(--)	(--)	(3.1)	(--)	100.0	32
NAGALAND							
0 - 3	--	61.1	24.1	14.8	--	100.0	54
4 - 7	1.5	35.3	13.2	50.0	--	100.0	68
8 - 11	1.8	8.9	12.5	75.0	1.8	100.0	56
12-15	29.7	6.8	13.5	50.0	--	100.0	74
16-19	33.3	1.9	3.7	59.3	1.9	100.0	54
20-23	(53.1)	(6.3)	(9.4)	(31.3)	(--)	100.0	32
24-27	81.2	--	--	17.4	1.4	100.0	69
28-31	80.4	--	1.8	10.7	7.1	100.0	56
32-35	(64.9)	(2.7)	(--)	(10.8)	(21.6)	100.0	37
36-39	80.3	--	--	9.1	10.6	100.0	66
40-43	(80.6)	(--)	(--)	(2.8)	(16.7)	100.0	36
TRIPURA							
0 - 3	(2.1)	(47.9)	(10.4)	(39.6)	(--)	100.0	48
4 - 7	(8.1)	(8.1)	(--)	(83.8)	(--)	100.0	37
8 - 11	(3.7)	(--)	(14.8)	(81.5)	(--)	100.0	27
12-15	1.9	--	5.6	92.6	--	100.0	54
16-19	(5.6)	(2.8)	(2.8)	(88.9)	(--)	100.0	36
20-23	(25.8)	(--)	(3.2)	(71.0)	(--)	100.0	31
24-27	20.4	--	1.9	77.8	--	100.0	54
28-31	(27.8)	(--)	(--)	(72.2)	(--)	100.0	36
32-35	(45.5)	(--)	(--)	(54.5)	(--)	100.0	44
36-39	63.2	--	--	36.8	--	100.0	57
40-43	(67.4)	(--)	(--)	(32.6)	(--)	100.0	43
44-47	(69.0)	(--)	(--)	(28.6)	(2.4)	100.0	42

Note: Breastfeeding status refers to last 24 hours. Children classified as "Breastfeeding and plain water only" receive no supplements. Breastfeeding status of 24 children in Nagaland age 44-47 is not shown.

DK: Don't know

() Based on 25-49 cases

-- Less than 0.05 percent

in Nagaland (61 percent), Tripura (48 percent) and Mizoram (46 percent), and least common in Meghalaya (18 percent). In Meghalaya, nearly three-fourths of the children age 0-3 months are provided with supplements. Although exclusive breastfeeding in Mizoram is comparatively low for children age 0-3 months, full breastfeeding is more common than in all other states. The percentage of babies age 4-7 months being exclusively breastfed drops off rapidly to 38 percent or less of children in all states, and is particularly low in Meghalaya (11 percent) and Tripura (8 percent).

At age 4-7 months, supplements other than plain water are given in addition to breast milk to more than three-fourths of the babies in Tripura and Meghalaya and to half or more children in the other states. Even though supplements are given to 75 percent or more children by age 8-11 months, breastfeeding typically continues for long durations. After two years of life (age 24-27 months), around three-fourths of children continue breastfeeding in Tripura and Arunachal Pradesh, more than one half in Manipur, more than one-third in Mizoram, more than one-fourth in Meghalaya and one-fifth in Nagaland. Even after three years of life (age 36-39 months), two-fifths of the children are still being breastfed in Manipur and Tripura, one-fourth in Arunachal Pradesh, one-fifth in Nagaland, one-tenth in Meghalaya, and one-twentieth in Mizoram.

Table 10.3 shows in more detail the types of food supplementation received by currently breastfeeding last-born children under four years of age during the 24 hours before the interview. The use of infant formula in the age group 0-3 months is very low in the northeastern states, ranging from 4 percent of babies in Arunachal Pradesh, Manipur, and Tripura to 9 percent in Mizoram. It reaches a peak at age 8-11 months (in all states except Tripura where it peaks at age 4-7 months), before it starts declining again. Among children above two years of age, the use of infant formula is highest in Arunachal Pradesh (23 percent) and lowest in Tripura (7 percent).

Supplementation of breast milk by other milk rises steadily with age in most states, with minor deviations, reaching 42 to 65 percent at age 24-47 months in all but one state. Supplementation by other liquids, such as juice or tea, also rises with age in all the northeastern states, and at age 24-47 months is around 80 percent or more in Arunachal Pradesh, Manipur, Meghalaya, and Mizoram. Supplementation by solid or mushy food shows much the same pattern in Arunachal Pradesh, Manipur and Mizoram, where 2 to 4 percent of breastfeeding children age 0-3 months and around 90 percent of those age two years and above are given such supplements. In Meghalaya, the practice of giving solid or mushy food starts from a very young age, as half of the breastfeeding babies age 0-3 months are given solid/mushy foods. In Nagaland, on the other hand, supplementary feeding of solid and mushy foods starts quite late, from almost nil at age 0-3 months to 68 percent at age 2 years and above.

The use of a bottle with a nipple to feed children is of interest to both demographers and health personnel. Bottle feeding has a direct effect on the mother's exposure to the risk of pregnancy because the period of amenorrhoea (if not yet over) is shortened when mothers feed their children from bottles with nipples. In addition, because it is difficult to sterilize the nipple properly, the use of bottles exposes children to an increased risk of developing diarrhoea and other diseases. The use of bottles with nipples at age 0-3 months varies in the northeastern states from 4 percent of infants in Manipur to 19 percent in Tripura. Among children age 8-11

Table 10.3 Type of supplementation by child's age

Percentage of last-born breastfeeding children receiving food supplementation by type and percentage using a bottle with a nipple, according to child's age in months, Northeastern states, 1993

Age in months	Percentage of breastfeeding children who are:					Number of breastfeeding children
	Receiving supplement				Using bottle with a nipple	
	Infant formula	Other milk	Other liquid	Solid/mushy food		
ARUNACHAL PRADESH						
0 - 3	(4.3)	(15.2)	(8.7)	(2.2)	(10.9)	46
4 - 7	20.0	28.3	21.7	16.7	1.7	60
8 - 11	(36.4)	(29.5)	(50.0)	(65.9)	(6.8)	44
12-23	26.5	44.1	69.1	83.1	5.9	136
24-47	23.3	44.4	78.9	87.8	6.7	90
MANIPUR						
0 - 3	3.7	13.0	16.7	3.7	3.7	54
4 - 7	5.1	20.3	27.1	28.8	8.5	59
8 - 11	(16.2)	(40.5)	(70.3)	(78.4)	(5.4)	37
12-23	15.6	40.6	70.8	91.7	10.4	96
24-47	11.5	42.3	82.7	96.2	7.7	104
MEGHALAYA						
0 - 3	8.3	28.3	23.3	50.0	18.3	60
4 - 7	14.5	43.5	30.4	56.5	24.6	69
8 - 11	(30.3)	(75.8)	(63.6)	(84.8)	(27.3)	33
12-23	9.8	42.7	69.5	93.9	6.1	82
24-47	11.8	62.7	86.3	90.2	5.9	51
MIZORAM						
0 - 3	(9.1)	(4.5)	(13.6)	(2.3)	(9.1)	44
4 - 7	(32.5)	(25.0)	(12.5)	(32.5)	(12.5)	40
8 - 11	(40.0)	(50.0)	(30.0)	(66.7)	(26.7)	30
12-23	18.5	35.4	66.2	92.3	15.4	65
24-47	(8.3)	(33.3)	(91.7)	(94.4)	(8.3)	36
NAGALAND						
0 - 3	7.4	3.7	5.6	--	9.3	54
4 - 7	28.4	28.4	19.4	29.9	17.9	67
8 - 11	44.4	44.4	33.3	46.3	42.6	54
12-23	34.3	52.9	48.0	61.8	36.3	102
24-47	(16.1)	(64.5)	(64.5)	(67.7)	(16.1)	31
TRIPURA						
0 - 3	(4.3)	(21.3)	(19.1)	(8.5)	(19.1)	47
4 - 7	(26.5)	(61.8)	(38.2)	(44.1)	(41.2)	34
8 - 11	(15.4)	(34.6)	(23.1)	(76.9)	(23.1)	26
12-23	8.2	41.8	29.1	92.7	5.5	110
24-47	7.1	52.9	40.0	99.3	2.9	140

Note: Supplementation status refers to the last 24 hours. Percentages by type of supplement among breastfeeding children may sum to more than 100.0 because children may have received more than one type of supplement.

() Based on 25-49 cases

-- Less than 0.05 percent

months, 43 percent are bottlefed in Nagaland and this percentage is 27 percent each in Meghalaya and Mizoram, 23 percent in Tripura, 9 percent in Arunachal Pradesh and 5 percent in Manipur.

The duration of breastfeeding is the most widely studied indicator of breastfeeding. Several statistics describing the length of breastfeeding (such as the median duration of exclusive breastfeeding, full breastfeeding, and breastfeeding of any kind including partial breastfeeding) by selected background characteristics are shown in Table 10.4. The median length of breastfeeding varies from around 18 months in Meghalaya and Mizoram to 33.8 months in Tripura. Since supplementation begins quite early, the median length of exclusive breastfeeding

Table 10.4 Median duration of breastfeeding by background characteristics

Median durations of any, exclusive and full breastfeeding among children under four years, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Arunachal Pradesh				Manipur			
	Median durations (months) ¹				Median durations (months) ¹			
	Any breast-feeding	Exclusive breast-feeding	Full breast-feeding ²	Number of children	Any breast-feeding	Exclusive breast-feeding	Full breast-feeding ²	Number of children
Sex of child								
Male	27.4	2.9	3.8	333	32.5	4.6	4.6	266
Female	28.9	5.7	6.7	294	22.9	3.3	3.7	288
Residence								
Urban	27.6	2.2	2.5	83	30.5	3.3	4.1	161
Rural	27.8	4.4	5.6	544	21.3	3.9	4.1	393
Mother's education								
Illiterate	26.2	4.0	5.2	440	30.5	4.7	4.7	227
Literate., < middle complete	29.3	3.6	5.2	95	21.7	2.9	3.4	119
Middle school complete	29.6	0.8	0.8	61	22.0	2.5	2.5	68
High school and above	(12.5)	(1.6)	(1.6)	31	31.9	4.5	5.0	140
Mother's work status								
Not working	27.8	3.4	4.8	326	24.5	3.8	3.8	287
Working in family farm/business	28.5	0.8	0.8	140	23.3	2.3	2.8	106
Employed by someone else	(16.5)	(5.5)	(6.5)	45	(6.5)	(4.5)	(4.5)	40
Self employed	25.5	5.4	6.3	116	34.5	0.8	0.8	121
Mother's exposure to media								
Exposed to media	28.4	2.2	2.5	299	33.6	5.1	5.1	353
Watches television weekly	28.9	2.1	2.5	166	37.8	4.2	4.2	194
Listens to radio weekly	28.2	2.3	4.5	254	33.0	5.0	5.0	333
Visits cinema/theatre monthly	28.5	5.3	5.9	100	31.6	7.4	7.4	89
Not exposed to any of the media	26.3	4.5	6.0	328	18.0	2.4	2.7	201
Assistance at delivery								
Health professional	29.9	3.6	4.8	133	40.7	5.3	6.1	221
Traditional birth attendant	29.0	8.5	8.5	102	19.7	3.3	3.3	216
Other or none	27.2	3.5	4.5	392	20.5	2.9	2.9	117
Total¹	27.8	4.0	5.1	627	28.5	3.8	4.1	554
Mean for all children¹	29.5	5.8	6.9	NA	30.8	5.1	5.3	NA
P/I for all children²	29.2	5.3	6.4	NA	31.1	5.7	5.9	NA

Table 10.4 Median duration of breastfeeding by background characteristics (Contd.)

Median durations of any, exclusive and full breastfeeding among children under four years, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Meghalaya				Mizoram			
	Median durations (months) ¹				Median durations (months) ¹			
	Any breast-feeding	Exclusive breast-feeding	Full breast-feeding ²	Number of children	Any breast-feeding	Exclusive breast-feeding	Full breast-feeding ²	Number of children
Sex of child								
Male	18.1	0.5	0.6	375	16.3	1.5	5.3	236
Female	18.8	0.5	0.5	323	23.1	1.8	4.7	224
Residence								
Urban	13.6	1.4	1.4	136	17.1	0.8	3.6	239
Rural	19.7	0.4	0.5	562	18.8	3.2	6.5	221
Mother's education								
Illiterate	24.7	0.5	0.5	300	(21.7)	(5.5)	(5.5)	25
Literate, < middle complete	18.5	0.6	0.6	235	17.9	0.7	6.6	248
Middle school complete	13.8	0.6	1.5	82	20.0	2.4	4.1	95
High school and above	11.1	0.4	0.4	81	15.2	0.6	1.8	92
Mother's work status								
Not working	18.8	0.5	0.6	433	18.7	1.7	5.7	341
Working in family farm/business	23.5	0.4	0.4	105	(15.9)	(1.9)	(2.5)	47
Employed by someone else	19.3	0.5	0.5	118	19.0	1.5	2.0	52
Self employed	(11.4)	(0.4)	(0.4)	42	*	*	*	20
Mother's exposure to media								
Exposed to media	14.5	0.6	0.6	310	16.5	0.8	3.4	278
Watches television weekly	13.1	0.7	0.7	168	15.7	0.6	2.0	125
Listens to radio weekly	13.7	0.6	0.6	250	17.5	0.7	4.1	245
Visits cinema/theatre monthly	(12.5)	(0.8)	(0.8)	31	*	*	*	4
Not exposed to any of the media	20.0	0.4	0.5	388	19.5	4.1	6.9	182
Assistance at delivery								
Health professional	12.5	0.5	0.5	259	16.2	1.0	3.7	282
Traditional birth attendant	22.8	0.4	0.5	157	19.7	4.9	6.1	119
Other or none	22.5	0.6	0.6	282	20.5	0.6	7.0	59
Total	18.4	0.5	0.5	698	18.2	1.6	5.0	460
Mean for all children¹	20.1	1.8	2.5	NA	22.2	3.4	5.9	NA
P/I for all children³	20.1	1.3	2.0	NA	22.2	3.1	6.0	NA

and the median length of full breastfeeding are very low in every state. For example, the median length of exclusive breastfeeding varies from under 1 month in Meghalaya and Nagaland to around 4 months in Arunachal Pradesh and Manipur. The mean length of breastfeeding is somewhat longer than the median length, reflecting the fact that some children are breastfed for very long periods of time.

Estimates of both the means and the medians are based on current proportions of children breastfeeding in each age group rather than on the mother's recall because current status information is usually more accurate. An alternative measure of the duration of breastfeeding is the prevalence-incidence mean, which is calculated as the 'prevalence' of breastfeeding divided by its 'incidence'. In this case, prevalence is defined as the number of children whose

Table 10.4 Median duration of breastfeeding by background characteristics (Contd.)

Median durations of any, exclusive and full breastfeeding among children under four years, according to selected background characteristics, Northeastern states, 1993

Background characteristic	Nagaland				Tripura			
	Median durations (months) ¹				Median durations (months) ¹			
	Any breast-feeding	Exclusive breast-feeding	Full breast-feeding ²	Number of children	Any breast-feeding	Exclusive breast-feeding	Full breast-feeding ²	Number of children
Sex of child								
Male	21.6	0.6	5.2	324	33.9	0.8	1.6	285
Female	20.5	0.7	5.6	315	33.8	1.5	2.0	264
Residence								
Urban	18.5	0.4	5.0	93	12.5	0.5	0.5	75
Rural	21.5	0.7	5.5	546	33.8	1.7	2.3	474
Mother's education								
Illiterate	20.8	0.7	5.4	206	33.9	1.7	2.4	247
Literate., < middle complete	22.2	3.8	6.1	248	33.6	0.6	0.6	194
Middle school complete	25.2	3.7	4.5	98	20.5	0.8	2.5	78
High school and above	12.5	0.4	4.2	87	(20.5)	(0.8)	(0.8)	30
Mother's work status								
Not working	20.6	0.6	5.5	442	33.6	1.3	1.6	410
Working in family farm/business	16.5	0.6	5.9	65	31.5	0.8	3.3	68
Employed by someone else	(16.5)	(1.9)	(4.5)	31	20.5	0.8	0.8	65
Self employed	14.0	4.9	4.9	101	*	*	*	6
Mother's exposure to media								
Exposed to media	20.7	0.5	5.0	289	35.7	1.0	1.7	331
Watches television weekly	12.5	0.4	4.5	103	36.8	0.6	0.6	125
Listens to radio weekly	20.5	0.5	5.0	281	35.8	1.0	1.8	291
Visits cinema/theatre monthly	*	*	*	3	(0.4)	(0.4)	(0.4)	27
Not exposed to any of the media	21.4	3.7	5.7	350	33.1	1.3	1.9	218
Assistance at delivery								
Health professional	21.3	0.6	5.2	141	20.5	1.5	1.5	181
Traditional birth attendant	20.5	5.6	7.3	71	33.1	0.8	1.2	267
Other or none	21.1	0.6	5.3	427	35.2	3.6	4.8	101
Total	21.2	0.7	5.4	639	33.8	1.2	1.8	549
Mean for all children¹	23.5	5.0	8.0	NA	31.9	2.7	4.1	NA
P/I for all children³	25.1	5.3	8.6	NA	31.0	2.3	3.6	NA

() Based on 25-49 cases

* Median not shown; based on fewer than 25 cases

¹Median and mean based on current status

²Either exclusively breastfed or received breast milk and plain water only

³Prevalence-incidence mean

mothers were breastfeeding at the time of the survey and incidence is defined as the average number of births per month (averaged over a 48-month period to overcome problems of seasonality of births and possible reference period errors). For each measure of breastfeeding, the prevalence-incidence means for each state are very close to the means calculated in the conventional manner.

The background characteristics are not related to the duration of breastfeeding in a uniform way in all the states. In Manipur, male children are breastfed for a much longer duration (32.5 months) than female children (22.9 months). The opposite is the case in Mizoram, where breastfeeding continues for 16.3 months for male children compared with 23.1 months for female children. In all the other northeastern states the duration of breastfeeding differs little by gender. In four of the six states rural children are breastfed for a longer duration than urban children. The difference is notable in Tripura, where urban children breastfeed for 12.5 months compared with 33.8 months for rural children. Manipur is an exception in that the duration of breastfeeding is much longer in urban (30.5 months) than in rural areas (21.3 months). In most states, children of illiterate or less educated mothers breastfeed for a longer period of time than children of mothers who have completed at least high school.

In Arunachal Pradesh and Meghalaya, children of mothers who were working on the family farm or in a family business are breastfed for longer durations than other children, and the difference is pronounced in Meghalaya. In Manipur, children of self-employed women are breastfed for a much longer duration than the children of nonworking women (34.5 months compared with 24.5 months). In Tripura and Nagaland, children of nonworking mothers are breastfed for a longer duration (33.6 and 20.6 months, respectively) than others. In Mizoram, however, the mother's work status is not related to the duration of breastfeeding of children.

The exposure to mass media makes a noticeable difference in the breastfeeding duration only in Manipur and Meghalaya. In Manipur, children whose mothers were exposed to mass media breastfeed for a longer duration (33.6 months) than those whose mothers are not exposed to mass media (18.0 months). On the contrary, in Meghalaya, children of mothers exposed to mass media breastfeed for 14.5 months compared with 20.0 months for children of mothers not exposed to mass media.

Assistance at the time of delivery has a noticeable relationship to the duration of breastfeeding in Manipur, Meghalaya, Mizoram and Tripura. In Manipur, children whose births were assisted by a health professional are breastfed for twice the duration of children whose births were assisted by a traditional birth attendant (40.7 months compared with 20.5 months). Contrary to this, in Tripura, children whose births were assisted by a health professional are breastfed for nearly half the duration of those whose births were assisted by others or not assisted at all (20.5 months compared to 35.2 months). The pattern for Meghalaya and Mizoram is similar to that observed for Tripura.

10.2 Nutritional Status of Children

One of the major contributions of the National Family Health Survey to the study of child health is the anthropometric data collected for children under four years of age. Both weight and height measurements were obtained for each child. The weight of each child was measured using a Salter scale, which is a hanging spring balance. Children under two years old were measured lying down on an adjustable measuring board, while those age two and above were measured in a standing position. The guidelines given in the United Nations Manual, "How to Weigh and Measure Children" (United Nations, 1986), were followed when training the field staff on measurement of height and weight of children. The data on weight and height were used to calculate three summary indices of nutritional status, which affect children's

susceptibility to disease and their chances of survival. These indices were:

- weight-for-age
- height-for-age
- weight-for-height

The nutritional status of children calculated according to these measures is compared with the nutritional status of an international reference population that has been recommended by the World Health Organization (Dibley et al., 1987a, 1987b). The use of this reference population is based on the empirical finding that well-nourished children in all population groups for which data exist follow very similar growth patterns (Martorell and Habicht, 1986). A recent scientific report from the Nutrition Foundation of India (Agarwal et al., 1991) has concluded that the WHO standard is applicable to Indian children in general.

The three nutritional status indices are expressed in standard deviation units (z-scores) from the median for the international reference population. Children who fall more than two standard deviations below the reference median are considered to be *undernourished*, while those who fall more than three standard deviations below the reference median are considered to be *severely undernourished*.

Each of the indices provides somewhat different information about the nutritional status of children. The height-for-age index measures linear growth retardation among children. Children who are more than two standard deviations below the median of the reference population in terms of height-for-age are considered short for their age or *stunted*. The percentage in this category indicates the prevalence of chronic undernutrition which often leads to chronic or recurrent diarrhoea. Stunting is typically associated with inadequate food intake resulting from poor feeding practices or from the lack of sufficient food, as well as the existence of adverse environmental conditions for an extended period of time. Height-for-age is, therefore, a measure of the long-term effects of undernutrition.

The weight-for-height index measures the body mass in relation to the body length. Children who are more than two standard deviations below the median of the reference population in terms of their weight-for-height are considered to be too thin or *wasted*. The percentage in this category indicates the prevalence of acute undernutrition. This condition is associated with the failure to receive adequate nutrition in the period immediately before the survey and may be the result of seasonal variations in food supply or recent episodes of illness (especially diarrhoea).

Weight-for-age is a composite measure which takes into account both chronic and acute undernutrition. Children who are more than two standard deviations below the reference median on this index are considered *underweight*.

The validity of these indices is determined by many factors, including the coverage of the population of children and accurate anthropometric measurements. The proportion of children for whom weight and height measurements could not be taken (usually because the child was not at home or because the mother refused to allow the measurements to be taken) is quite high in the NFHS for some of the northeastern states. Forty-one percent of living children

under four were not weighed and measured in Tripura, and this proportion is 31 percent in Arunachal Pradesh, 29 percent in Meghalaya, and 24 percent in Nagaland. However, more than four-fifths of the children were weighed and measured in Manipur and Mizoram (see Table B.3 in Appendix B). Also excluded from the analysis are children whose month and year of birth were not reported by the mother, and those with grossly improbable weight and height measurements. In addition, two of the three indices (height-for-age and weight-for-age) are sensitive to misreporting of children's ages, including heaping on preferred digits. The weight-for-height index is only one which does not depend upon accurate age reporting.

Table 10.5 shows the nutritional status of children by selected demographic characteristics. Undernutrition varies considerably across states. The proportion of children underweight is highest in Tripura (49 percent), closely followed by Meghalaya (46 percent) and Arunachal Pradesh (40 percent). Undernutrition is relatively low in Manipur, Mizoram and Nagaland where 28-30 percent of children are underweight. Stunting is most evident in Arunachal Pradesh (54 percent) and Meghalaya (51 percent) and least evident in Manipur (34 percent) and Nagaland (32 percent). On the basis of weight-for-age, the proportion of severely undernourished children varies from 5 percent in Mizoram to 19 percent in Tripura. Severe undernutrition based on height-for-age varies from 13 percent in Nagaland to 38 percent in Meghalaya. The most serious nutritional problem, wasting, is quite evident in Meghalaya and Tripura, affecting 18-19 percent of children. Wasting is least common in Mizoram, where only 2 percent of children are too thin for their height.

All the measures of undernutrition vary substantially according to the child's age (Figure 10.1). In all the states, there is a marked increase in the prevalence of undernutrition even in the first year of life. Undernutrition is lowest in the first six months of life, when most babies are being fully breastfed. The percentage of underweight and stunted children increases with age in every state, except for some minor deviations from this general pattern. However, the prevalence of wasting reaches a peak at age 12-23 months and starts declining thereafter in all states except Meghalaya and Nagaland.

Nutritionally, male children are at a disadvantage in Meghalaya and Nagaland, and female children are at a slight disadvantage in Arunachal Pradesh and Mizoram. The gender gap is notable in Meghalaya, where 49 percent of males and 42 percent of females are underweight, 54 percent of males and 48 percent of females are stunted, and 23 percent of males and 14 percent of females are wasted. In Nagaland, although a higher percentage of male children are underweight than female children (32 percent compared with 26 percent), the differences between males and females are much smaller according to the measures for stunting and wasting. In Arunachal Pradesh and Mizoram, on the other hand, 1-3 percent more females than males are underweight and stunted. The weight-for-height data suggest that wasting is one and a half to two times more common among male than female children in all the states, except Nagaland.

The birth order of children does not seem to make much difference in their nutritional status. The slight variations in undernutrition which exist according to birth order vary from state to state. In contrast, the length of the birth interval is negatively related to the percentage of children who are undernourished, according to most measures in most states. But there are

Table 10.5 Nutritional status by demographic characteristics

Among children under four years of age, the percentage classified as undernourished according to three anthropometric indices of nutritional status, by demographic characteristics, Northeastern states, 1993

Demographic characteristic	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	
ARUNACHAL PRADESH							
Child's age							
< 6 months	(5.3)	(5.3)	(2.6)	(15.8)	(2.6)	(5.3)	38
6-11 months	(13.9)	(30.6)	(16.7)	(33.3)	(2.8)	(11.1)	36
12-23 months	16.5	48.1	35.4	58.2	8.9	22.8	79
24-35 months	18.6	46.4	33.0	61.9	2.1	8.2	97
36-47 months	12.5	43.8	31.3	67.5	1.3	6.3	80
Sex							
Male	14.1	41.2	26.0	54.2	4.5	13.6	177
Female	15.0	37.9	30.1	53.6	2.6	8.5	153
Birth order							
1	15.7	37.1	23.6	57.3	3.4	13.5	89
2-3	10.7	38.5	25.4	52.5	4.1	9.8	122
4-5	20.3	43.0	31.6	49.4	3.8	10.1	79
6+	(12.5)	(42.5)	(37.5)	(60.0)	(2.5)	(12.5)	40
Previous birth interval²							
First birth	15.7	37.1	23.6	57.3	3.4	13.5	89
< 24 months	15.0	45.0	35.0	60.0	6.7	13.3	60
24-47 months	12.7	38.8	27.6	51.5	2.2	9.7	134
48+ months	(17.0)	(40.4)	(27.7)	(46.8)	(4.3)	(8.5)	47
Total	14.5	39.7	27.9	53.9	3.6	11.2	330
MANIPUR							
Child's age							
< 6 months	--	1.4	1.4	6.9	--	6.9	72
6-11 months	--	18.2	3.6	18.2	1.8	3.6	55
12-23 months	8.8	34.3	18.6	30.4	2.0	16.7	102
24-35 months	10.7	41.7	9.7	35.0	1.0	8.7	103
36-47 months	11.0	41.0	37.0	63.0	1.0	5.0	100
Sex							
Male	7.5	30.0	14.6	34.7	1.9	11.3	213
Female	6.8	30.1	17.4	32.4	0.5	6.4	219
Birth order							
1	5.4	27.0	13.5	27.0	1.8	7.2	111
2-3	6.5	27.8	17.2	33.7	--	8.3	169
4-5	7.3	29.2	11.5	31.3	2.1	7.3	96
6+	12.5	44.6	25.0	50.0	1.9	16.1	56
Previous birth interval²							
First birth	5.4	27.0	13.5	27.0	1.8	7.2	111
< 24 months	13.5	33.8	20.3	37.8	--	10.8	74
24-47 months	5.5	31.1	16.4	37.7	1.1	9.3	183
48+ months	7.8	28.1	14.1	28.1	1.6	7.8	64
Total	7.2	30.1	16.0	33.6	1.2	8.8	432

Table 10.5 Nutritional status by demographic characteristics (Contd.)

Among children under four years of age, the percentage classified as undernourished according to three anthropometric indices of nutritional status, by demographic characteristics, Northeastern states, 1993

Demographic characteristic	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	
MEGHALAYA							
Child's age							
< 6 months	(2.7)	(16.2)	(5.6)	(10.8)	(13.5)	(16.2)	37
6-11 months	(9.1)	(27.3)	(9.1)	(18.2)	(3.0)	(27.3)	33
12-23 months	21.3	49.3	48.0	60.0	1.3	18.7	75
24-35 months	22.8	55.3	46.5	58.8	4.4	14.9	114
36-47 months	15.8	48.4	44.2	61.1	5.3	22.1	95
Sex							
Male	18.1	48.9	41.5	53.7	6.4	23.4	188
Female	16.3	41.6	34.9	47.6	3.0	13.9	166
Birth order							
1	21.1	44.4	37.8	46.7	4.4	22.2	90
2-3	15.5	45.3	37.2	47.3	3.4	12.8	148
4-5	11.1	44.4	42.9	63.5	9.5	20.6	63
6+	22.6	49.1	37.7	52.8	3.8	28.3	53
Previous birth interval²							
First birth	20.7	43.5	37.0	45.7	4.3	21.7	92
< 24 months	19.3	43.4	37.3	51.8	3.6	15.7	83
24-47 months	15.6	49.0	42.9	55.1	2.7	14.3	147
48+ months	(9.4)	(40.6)	(25.0)	(43.8)	(18.8)	(40.6)	32
Total	17.2	45.5	38.4	50.8	4.8	18.9	354
MIZORAM							
Child's age							
< 6 months	--	2.0	--	--	2.0	2.0	50
6-11 months	(17.6)	(29.4)	(20.6)	(29.4)	(--)	(2.9)	34
12-23 months	4.4	37.8	20.0	46.7	--	3.3	90
24-35 months	8.5	31.9	22.3	48.9	1.1	3.2	94
36-47 months	1.1	28.4	12.5	55.7	--	--	88
Sex							
Male	5.5	26.8	16.9	40.4	1.1	2.7	183
Female	5.2	29.5	15.0	42.2	--	1.7	173
Birth order							
1	3.6	27.3	14.5	36.4	0.9	2.7	110
2-3	6.7	29.8	16.6	45.0	0.7	2.6	151
4-5	5.7	22.9	14.3	37.1	--	--	70
6+	(4.0)	(36.0)	(24.0)	(52.0)	(--)	(4.0)	25
Previous birth interval²							
First birth	3.6	27.0	14.4	36.9	0.9	2.7	111
< 24 months	3.9	23.4	14.3	53.2	--	1.3	77
24-47 months	7.4	32.0	17.2	41.8	0.8	3.3	122
48+ months	(6.5)	(28.3)	(19.6)	(30.4)	(--)	(--)	46
Total	5.3	28.1	16.0	41.3	0.6	2.2	356

Table 10.5 Nutritional status by demographic characteristics (Contd.)

Among children under four years of age, the percentage classified as undernourished according to three anthropometric indices of nutritional status, by demographic characteristics, Northeastern states, 1993

Demographic characteristic	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	
NAGALAND							
Child's age							
< 6 months	1.9	3.8	3.8	15.4	3.8	7.7	52
6 -11 months	4.9	16.4	8.2	11.5	3.3	9.8	61
12-23 months	5.9	33.1	11.0	34.7	2.5	14.4	118
24-35 months	10.4	38.3	18.3	37.4	0.9	15.7	115
36-47 months	11.6	33.7	18.6	47.7	2.3	11.6	86
Sex							
Male	7.3	31.7	14.1	34.1	2.0	13.7	205
Female	7.9	26.0	12.3	30.8	2.6	11.9	227
Birth order							
1	7.8	28.9	15.6	36.7	1.6	10.2	128
2-3	6.8	29.0	12.3	34.0	3.1	13.6	162
4-5	7.7	28.6	9.9	24.2	1.1	14.3	91
6+	9.8	27.5	15.7	31.4	3.9	13.7	51
Previous birth interval²							
First birth	7.8	28.9	15.6	36.7	1.6	10.2	128
< 24 months	8.4	37.3	14.5	32.5	3.6	16.9	83
24-47 months	7.7	26.4	12.1	31.9	2.2	13.2	182
48+ months	(5.1)	(20.5)	(7.7)	(20.5)	(2.6)	(10.3)	39
Total	7.6	28.7	13.2	32.4	2.3	12.7	432
TRIPURA							
Child's age							
< 6 months	(9.7)	(16.1)	(6.5)	(16.1)	(--)	(3.2)	31
12-23 months	25.9	50.6	25.9	50.6	2.5	28.4	81
24-35 months	20.8	55.8	15.6	49.4	--	19.5	77
36-47 months	14.8	58.0	29.6	58.0	--	11.1	81
Sex							
Male	16.8	47.7	19.4	47.1	0.6	20.6	155
Female	20.6	50.0	23.5	44.9	0.7	14.0	136
Birth order							
1	20.4	43.0	19.4	41.9	--	16.1	93
2-3	13.5	44.1	18.0	37.8	--	16.2	111
4-5	17.5	56.1	22.8	56.1	1.8	17.5	57
6+	(33.3)	(70.0)	(36.7)	(70.0)	(3.3)	(26.7)	30
Previous birth interval²							
First birth	20.4	43.0	19.4	41.9	--	16.1	93
< 24 months	(20.6)	(58.8)	(26.5)	(61.8)	(2.9)	(23.5)	34
24-47 months	15.1	52.8	22.6	48.1	0.9	17.9	106
48+ months	20.7	44.8	19.0	39.7	--	15.5	58
Total	18.6	48.8	21.3	46.0	0.7	17.5	291

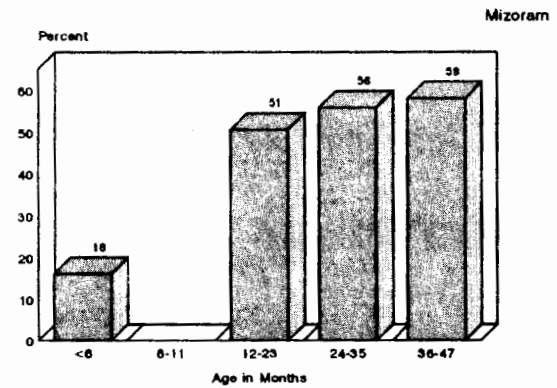
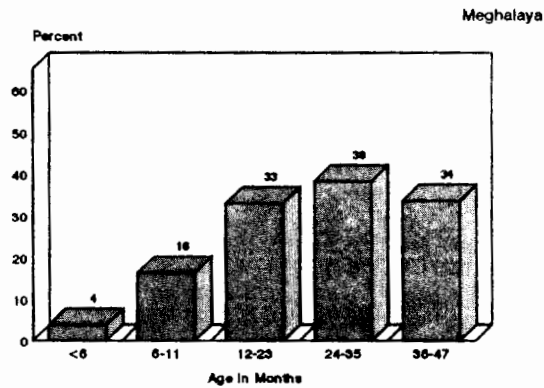
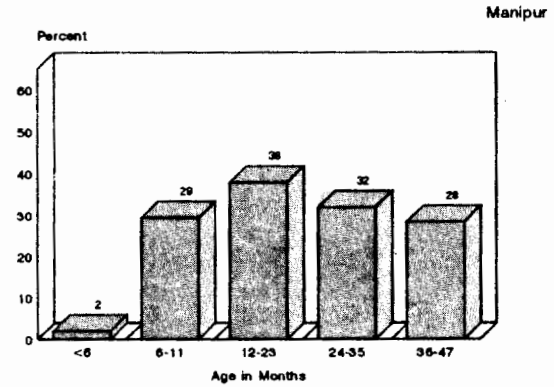
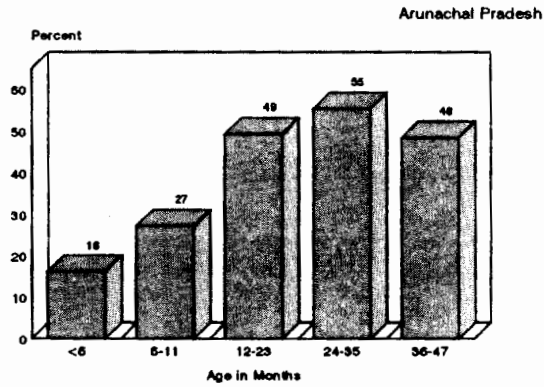
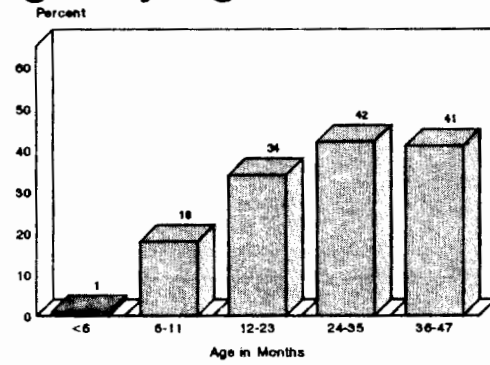
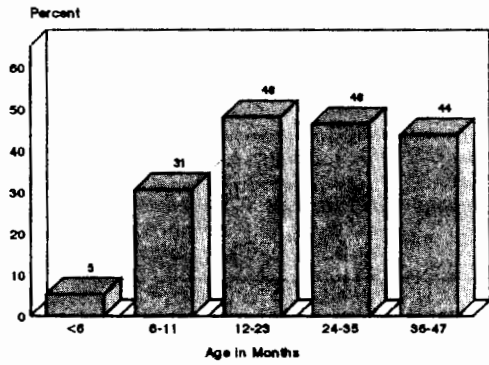
Note: Figures are for children born 1-47 months prior to the survey. Each of the indices is expressed in standard deviation units (SD) from the median of the International Reference Population. The percentages of children who are more than three and more than two standard deviation units below the median of the International Reference Population (-3SD and -2SD) are shown according to selected characteristics. Total for Tripura includes 21 children age 6-11 months, who are not shown separately. () Based on 25-49 cases

-- Less than 0.05 percent

¹Also includes the children who are below -3 standard deviations from the International Reference Population median

²In the case of first-born twins, both are counted as first births because neither has a previous birth interval

Figure 10.1
 Percentage of Children Under Age Four Who Are Underweight by Age



Nagaland

Tripura

Note: Percentage of Children more than 2 standard deviations below the median of the International Reference Population. Children age 6-11 in Tripura are not shown due to small number.

NFHS, Northeastern states, 1993

exceptions to this negative relationship between previous birth interval and different measurements of undernutrition. For example, in Meghalaya a higher percentage of children with birth intervals of two or more years are undernourished than those with shorter intervals.

Table 10.6 shows nutritional status by selected background characteristics. Undernutrition is consistently higher in rural areas than in urban areas according to most

Table 10.6 Nutritional status by background characteristics							
Among children under four years of age, the percentage classified as undernourished according to three anthropometric indices of nutritional status, by selected background characteristics, Northeastern states, 1993							
Background characteristic	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below 2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	
ARUNACHAL PRADESH							
Residence							
Urban	(25.5)	(36.2)	(29.8)	(61.7)	(4.3)	(14.9)	47
Rural	12.7	40.3	27.6	52.7	3.5	10.6	283
Mother's education							
Illiterate	14.4	44.1	31.0	54.1	3.5	10.5	229
Lit., < middle complete	13.2	28.3	22.6	56.6	3.8	9.4	53
Middle school complete	(18.2)	(33.3)	(21.2)	(54.5)	(6.1)	(18.2)	33
Total	14.5	39.7	27.9	53.9	3.6	11.2	330
MANIPUR							
Residence							
Urban	8.3	25.9	16.7	29.6	1.9	10.2	108
Rural	6.8	31.6	15.7	34.9	0.9	8.3	324
Mother's education							
Illiterate	11.6	37.2	20.3	41.3	1.7	12.2	172
Lit., < middle complete	4.2	27.4	14.7	32.6	1.1	7.4	95
Middle school complete	(4.1)	(34.7)	(12.2)	(34.7)	(2.0)	(6.1)	49
High school and above	4.3	19.8	12.1	22.4	--	6.0	116
Total	7.2	30.1	16.0	33.6	1.2	8.8	432
MEGHALAYA							
Residence							
Urban	7.8	37.5	18.8	29.7	3.1	14.1	64
Rural	19.3	47.2	42.8	55.5	5.2	20.0	290
Mother's education							
Illiterate	20.1	54.7	50.4	61.2	6.5	21.6	139
Lit., < middle complete	18.0	42.2	30.5	45.3	5.5	18.8	128
Middle school complete	(17.8)	(44.4)	(40.0)	(46.7)	(--)	(17.8)	46
High school and above	(4.8)	(26.2)	(21.4)	(38.1)	(2.4)	(11.9)	42
Total	17.2	45.5	38.4	50.8	4.8	18.9	354
MIZORAM							
Residence							
Urban	2.7	22.0	12.1	29.1	0.5	2.2	182
Rural	8.0	34.5	20.1	54.0	0.6	2.3	174
Mother's education							
Lit., < middle complete	5.0	31.7	15.6	42.7	--	1.0	199
Middle school complete	5.5	26.0	19.2	47.9	1.4	2.7	73
High school and above	4.6	18.5	12.3	26.2	1.5	4.6	65
Total	5.3	28.1	16.0	41.3	0.6	2.2	356

Table 10.6 Nutritional status by background characteristics (Contd.)

Among children under four years of age, the percentage classified as undernourished according to three anthropometric indices of nutritional status, by selected background characteristics, Northeastern states, 1993

Background characteristic	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	Percentage below -3 SD	Percentage below -2 SD ¹	
NAGALAND							
Residence							
Urban	7.0	19.7	12.7	31.0	1.4	5.6	71
Rural	7.8	30.5	13.3	32.7	2.5	14.1	361
Mother's education							
Illiterate	8.7	40.0	17.3	39.3	2.0	17.3	150
Lit., < middle complete	5.3	24.0	8.0	28.7	1.3	9.3	150
Middle school complete	9.2	23.7	17.1	35.5	1.3	10.5	76
High school and above	8.9	17.9	10.7	19.6	7.1	12.5	56
Total	7.6	28.7	13.2	32.4	2.3	12.7	432
TRIPURA							
Residence							
Urban	10.5	31.6	14.0	33.3	--	8.8	57
Rural	20.5	53.0	23.1	49.1	0.9	19.7	234
Mother's education							
Illiterate	30.8	64.4	37.5	59.6	1.0	21.2	104
Lit., < middle complete	16.7	48.2	15.8	49.1	0.9	20.2	114
Middle school complete	5.7	34.0	9.4	30.2	--	11.3	53
Total	18.6	48.8	21.3	46.0	0.7	17.5	291

Note: Figures are for children born 1-47 months prior to the survey. Each of the indices is expressed in standard deviation units (SD) from the median of the International Reference Population. The percentages of children who are more than three and more than two standard deviation units below the median of the International Reference Population (-3SD and -2SD) are shown according to selected characteristics. Total includes 15 children whose mothers have a high school and above education for Arunachal Pradesh, 19 children whose mothers are illiterate for Mizoram and 20 children whose mothers have a high school and above education for Tripura, who are not shown separately.

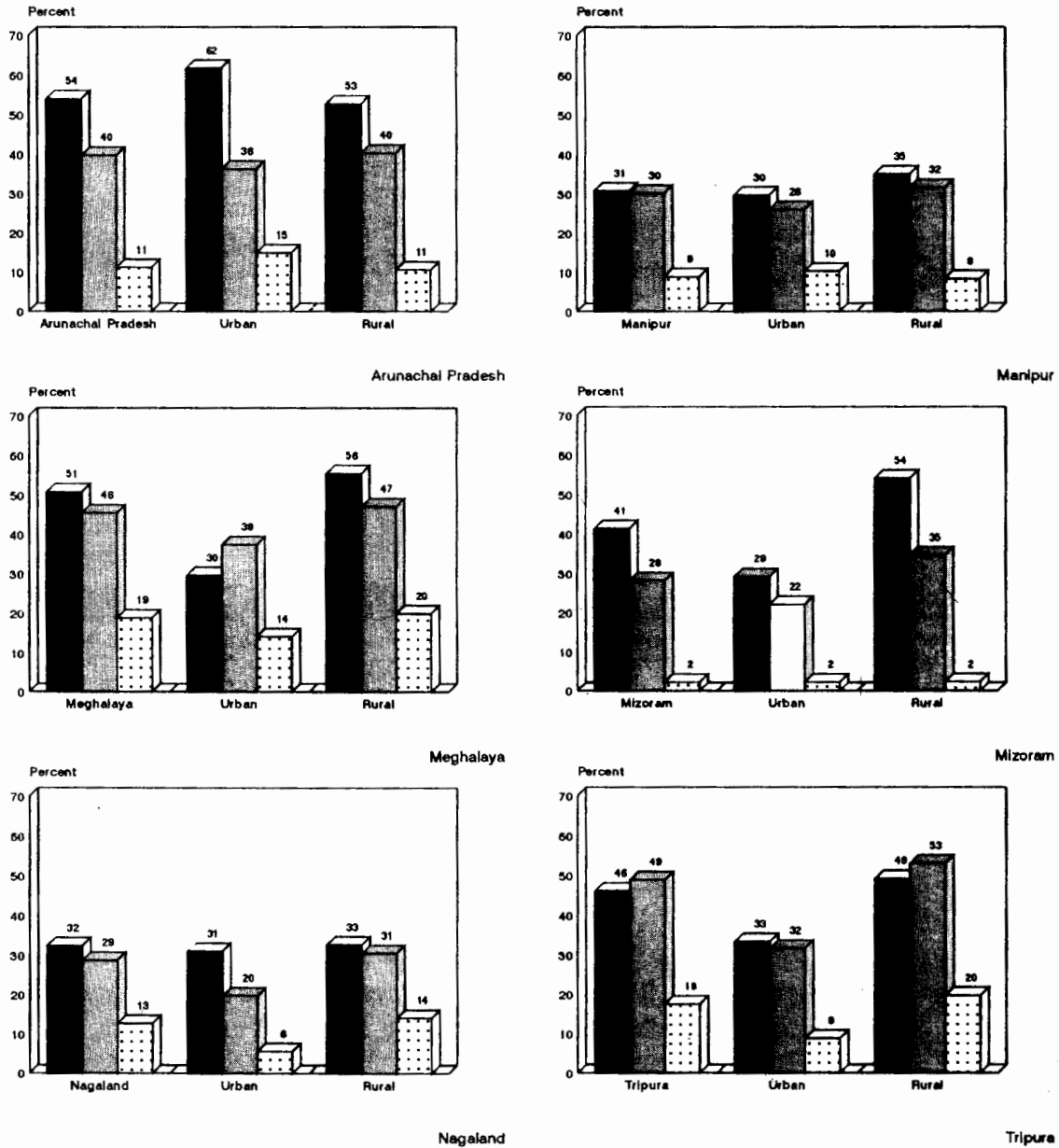
() Based on 25-49 cases

-- Less than 0.05 percent

¹Also includes the children who are below -3 standard deviations from the International Reference Population median

measures in most states (Figure 10.2). The urban-rural differences in the percentage of children undernourished is particularly large in Meghalaya, Mizoram, Nagaland and Tripura. For most of the measures, undernutrition declines steadily with the increasing educational attainment of the mother. However, even among the children of women with at least a middle school education (the category which can be compared across all the six states), a substantial proportion are underweight (ranging from 24 percent in Nagaland to 44 percent in Meghalaya) and stunted (ranging from 30 percent in Tripura to 55 percent in Arunachal Pradesh).

Figure 10.2 Undernutrition Among Children Under Four Years of Age



Note: Percentage of children more than 2 standard deviations below the median of the International Reference Population

NFHS, Northeastern states, 1993



CHAPTER 11

KNOWLEDGE ABOUT AIDS

Acquired Immune Deficiency Syndrome, or AIDS, as it is more commonly known, was first recognized in 1981. Since the beginning of the pandemic, it is estimated that over 16 million individuals throughout the world have been infected with the human immunodeficiency virus (HIV), which causes AIDS, and between mid-1993 and mid-1994 about 1.5 million people developed AIDS - three times as many as in the previous 12-month period (World Health Organization, 1994). The estimated total number of actual AIDS cases in adults and children since 1981 is four million, of which over 240,000 (6.0 percent) are from Asia. A large proportion (30-50 percent) of these infected individuals are expected to die within 5-10 years of acquiring the infection (World Health Organization, 1992). Because of the high case fatality rate and the lack of a curative treatment or vaccine, the HIV/AIDS pandemic is one of the most serious health problems in the world.

Within a few years after AIDS was first identified, its cause and mode of transmission were documented. The virus that causes AIDS may remain in a state of latency for some time without causing clinical disease. It is thought that once an individual becomes infected with the virus, he or she remains infected for life. The clinical manifestations of AIDS result primarily from critical injury to the immune system. Soon after becoming infected with HIV, some people have an acute self-limiting illness, indistinguishable from many other mild viral illnesses. After the healthy carrier state, which may last as long as 10 years (longer in some cases), most infected people progress to the full long-term clinical illness stage - the stage at which AIDS itself is contracted.

Epidemiological studies have demonstrated that the major routes of HIV transmission are sexual intercourse, intravenous injections (e.g., transfusions of HIV-contaminated blood or injections using HIV-contaminated needles) and transmission from infected mothers to unborn foetuses through the placenta. Female sex workers in India have significant levels of HIV infection, and a major route of transmission of the virus is along well-established truck routes of the country, where contact between sex workers and the drivers is common. The available evidence indicates that HIV cannot be transmitted through food, water, vectors, or casual contact. Increasingly, HIV is found in association with sexually transmitted diseases (STDs) and tuberculosis, compounding an already alarming public health problem. In urban areas of Tamil Nadu, Gujarat, Karnataka, Punjab, and West Bengal, HIV prevalence levels in STD patients are now estimated to be about 1 percent (World Health Organization, 1994).

India established a National AIDS Control Organization (NACO) under the Ministry of Health and Family Welfare in 1989. Prior to this, attempts were made by various non-governmental organizations (NGOs) to raise awareness of the AIDS syndrome and implement small-scale prevention programmes, concentrating in the perceived higher-risk areas of Bombay, Calcutta, Madras, and Delhi. As the NGO work continues to make important contributions in the field of AIDS prevention, statistics compiled at the national level reveal the spread of HIV in India (based on NACO's monthly update on HIV infection in India, compiled from medical records submitted by 59 hospitals and major medical research centres throughout India).

The updates show that by June of 1988 nearly 120,000 persons from high-risk groups in India had been screened for the virus. Of these cases, 370 tested HIV-positive, and 22 of them (15 Indians and 7 foreigners) were diagnosed as having actually contracted AIDS. It was subsequently determined that 21 of these 22 AIDS cases were transmitted through sexual intercourse, and one through blood transfusion. According to another set of estimates, by 1988 16 patients (14 Indians and 2 foreigners) had died of AIDS in India (Khurana, 1989). Approximately 600,000 persons were HIV positive in India in 1992, and the number of HIV positive cases among those screened (who tend to be from high-risk groups) had shown an increase from 2.5 per 1,000 population in 1986 to 11.2 per 1,000 in 1992 (Ministry of Health and Family Welfare, 1993a).

Three-fourths of AIDS cases identified up to March, 1993, had reportedly acquired the virus through sexual intercourse, 12 percent through blood transfusions, and 7 percent through sharing unsterilized needles. It is estimated that if the transmission of HIV continues at the same pace, about five million persons in India will be infected by the year 2000, and the number of AIDS cases will exceed one million (Ministry of Health and Family Welfare, 1993b).

Recent estimates from the NACO monthly updates show that as of 31 March 1994 a total of 15,017 cases were confirmed HIV-positive (using the Western Blot test), out of 2,052,856 samples screened, resulting in a sero-positivity rate of 7.3 per 1,000 (National AIDS Control Organization, 1994). The number of AIDS cases *reported* in India was 713 (551 males and 162 females), although according to WHO estimates, the actual number is substantially larger.

The prevalence of the HIV infection as measured in 1994 was substantially larger than in 1988, when high-risk groups were first screened. Unless serious interventions are undertaken in the area of prevention, there is great potential for a further acceleration in HIV prevalence. To summarize the recent situation in India: (1) HIV infection is rapidly spreading beyond those few areas in the country considered to be of especially high risk, and is at different epidemiological stages even within the same state; (2) the epidemic has begun to spread to the general population, mainly through heterosexual contact with those categorized as "high-risk" groups; and (3) the interaction of HIV infection with sexually transmitted diseases (STDs) and tuberculosis, both widely prevalent throughout India, presents an even more challenging public health problem. The correlation between HIV and tuberculosis may result in a resurgence of tuberculosis (56 percent of reported AIDS cases in India have tuberculosis). Stemming STDs is essential to slowing the transmission of HIV. Fewer than 10 percent of STD patients seek treatment from public health centres, and the quality of case management and care provided at public as well as private centres is generally low (Lal, 1994).

Within this public health context, the NFHS in the northeastern states included a series of questions on knowledge of AIDS. These were included as state-specific questions in addition to the core questions used in all states. Ever-married women age 13-49 were first asked if they had ever heard of an illness called AIDS. Respondents indicating knowledge of AIDS were asked further questions about the sources of their knowledge, their knowledge of the mechanisms of AIDS transmission, whether they believe the transmission of AIDS is preventable, and if so, their perception of the precautions a person can take to avoid AIDS. These questions enable measurement of the extent of knowledge about AIDS among women thus generating information that will be useful for planning and implementing AIDS prevention programmes.

11.1 Knowledge of AIDS

Knowledge of AIDS among women age 13-49 varies dramatically among the northeastern states (Table 11.1). In Mizoram and Manipur, where the incidence of AIDS is reported to be high, a large majority of women (85 and 73 percent, respectively) reported having heard about the disease. In Arunachal Pradesh and Tripura, on the other hand, fewer than 1 in 6 women have heard about AIDS. Twenty-seven and 41 percent of women in Meghalaya and Nagaland, respectively have heard of AIDS.

State	Percentage who have heard about AIDS
Arunachal Pradesh	16.2
Manipur	72.5
Meghalaya	26.7
Mizoram	84.8
Nagaland	40.9
Tripura	13.2

11.2 Source of Knowledge About AIDS

As part of the AIDS prevention programme, the Government of India has been using the mass media, especially the electronic media, to create awareness among the general public about AIDS and how to prevent its spread. In the NFHS, women who had heard about AIDS were asked about the information sources through which they came to know about AIDS. Table 11.2 shows that radio and television are the most important sources of knowledge about AIDS in most states.

State	Among those who have heard about AIDS, percentage obtaining knowledge from:					
	Radio	Television	News-papers	Maga-zines	Friends/relatives	Other sources
Arunachal Pradesh	45.5	60.1	28.0	23.8	34.3	11.9
Manipur	62.8	22.3	20.8	4.6	54.4	28.5
Meghalaya	37.5	31.9	44.7	21.7	68.8	14.1
Mizoram	58.7	10.8	50.8	16.0	69.4	26.3
Nagaland	73.4	43.2	34.3	19.8	57.9	39.6
Tripura	44.8	53.8	40.0	11.7	22.1	20.7

Note: Percentages may sum to more than 100.0 because multiple responses were allowed.

Television is a source of knowledge for 60 percent of women in Arunachal Pradesh. The role of television in spreading the knowledge of AIDS is limited in Manipur (where radio plays a major role) and in Meghalaya and Mizoram (where the largest percentage of women heard about AIDS from friends and relatives).

11.3 Misconceptions About AIDS

Misconceptions about the disease among the general public make it difficult to implement preventive measures against AIDS and to provide effective care and treatment of the persons affected with AIDS. NFHS respondents were asked if they thought that one could get AIDS from various commonly occurring social situations such as shaking hands with someone who has AIDS, hugging and kissing someone with AIDS, sharing clothes or eating utensils with someone with AIDS, or stepping on the urine or stools of a person who has AIDS. Respondents were also asked whether they thought they could get AIDS from mosquito, flea and bedbug bites. Medical professionals believe that these situations pose an extremely low risk of transmission of AIDS. Women were also asked if they thought AIDS is curable or if they thought that an AIDS vaccine exists. Results are shown in Table 11.3.

The most common misconception in most of the northeastern states is that AIDS can be transmitted through insect bites. Among the women who have heard about AIDS, 82 percent in Tripura, 80 percent in Mizoram, 71 percent in Meghalaya, and 57 percent in Arunachal Pradesh think that AIDS can be transmitted through mosquito, flea and bedbug bites. That kissing someone with AIDS will transmit the disease is the opinion of more than 50 percent of women in all the northeastern states, except Nagaland. Wearing the clothes and sharing eating utensils are considered more important modes of transmitting the disease in Meghalaya (70 and 56 percent, respectively) and Tripura (70 and 73 percent, respectively) than in the other states. Not many women think that AIDS can be contracted through shaking hands with someone with AIDS, ranging from 6 percent in Nagaland to 35 percent in Tripura. The majority of women

Table 11.3 Misconceptions about AIDS

Among women who have heard about AIDS, the percentage having misconceptions about different ways of getting AIDS, and the percentage who think AIDS is curable or that there is a vaccine against AIDS, Northeastern states, 1993

State	Percentage ¹ who think it is possible to get AIDS from:							Percentage who think:	
	Shaking hands with someone with AIDS	Hugging with someone with AIDS	Kissing someone with AIDS	Wearing clothes of someone with AIDS	Sharing eating utensils with someone with AIDS	Stepping on urine/stools of someone with AIDS	Mosquito, flea, bedbug bites	AIDS is curable	An AIDS vaccine exists
Arunachal Pradesh	25.9	31.5	56.6	41.3	46.9	42.0	57.3	25.9	16.8
Manipur	11.4	16.9	55.4	32.9	28.2	16.9	30.2	14.9	14.6
Meghalaya	22.0	17.8	52.6	70.1	55.9	35.5	70.7	8.2	3.6
Mizoram	20.4	24.6	77.3	35.8	31.8	58.0	80.0	19.4	23.8
Nagaland	5.5	10.4	45.5	20.6	18.9	22.3	24.9	9.4	8.3
Tripura	34.5	45.5	64.8	69.7	73.1	76.6	82.1	41.4	3.4

¹Percentages may sum to more than 100.0 since multiple responses were allowed.

in each of the northeastern states correctly believe that AIDS is not yet curable and that a AIDS vaccine does not yet exist.

11.4 Knowledge of Prevention of AIDS

An open-ended question was asked of women about the precautions to be taken to avoid contraction of AIDS. The results in Table 11.4 suggest that the majority of women who know about AIDS correctly believe that AIDS can be avoided by practising "safe sex"¹. The percentage of such respondents ranges from 25 in Arunachal Pradesh to 88 in Mizoram. Another 13 percent in Mizoram to 59 percent in Nagaland stated that using condoms during intercourse would prevent the spread of AIDS. Forty-six percent of women in Mizoram, 45 percent in Nagaland and 24 percent in Manipur say that sterilizing needles/syringes for injection would prevent the spread of AIDS. Checking blood prior to transfusion as a means to prevent AIDS is mentioned by less than a quarter of women who know about AIDS in all states except Nagaland. Avoiding pregnancy when infected with AIDS to prevent transmission to the unborn child is mentioned by less than 3 percent of women in Tripura and Mizoram, and up to 35 percent of women in Nagaland.

State	Percentage who believe AIDS can be avoided by:				
	Using condoms during intercourse	Practising safe sex	Checking blood prior to transfusion	Sterilizing needles/syringes for injections	Avoiding pregnancy when infected with AIDS
Arunachal Pradesh	47.6	24.5	21.0	18.9	9.8
Manipur	18.1	48.6	6.7	24.3	9.1
Meghalaya	19.4	67.8	23.0	23.7	13.5
Mizoram	13.4	88.1	11.9	45.5	2.7
Nagaland	58.9	48.1	28.1	45.1	34.5
Tripura	29.7	35.2	13.1	13.1	--

Note: Percentages may sum to more than 100.0 since multiple responses were allowed.
 -- Less than 0.05 percent

It is clear that the extent of knowledge about AIDS, its causes and prevention vary significantly among the northeastern states. Although knowledge of transmission is widespread in Mizoram and Manipur, it is very low in Tripura and Arunachal Pradesh. Misconceptions about AIDS transmission are also widespread in all the northeastern states. These findings emphasize the importance of focusing more attention on increasing awareness of the existence of AIDS, its modes of transmission and its prevention.

¹ "Safe sex" was not defined for respondents, so different respondents might have had different prevention measures in mind when using that term.

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APPENDIX A

ESTIMATES OF SAMPLING ERRORS

The estimates from a sample survey are affected by two types of errors: (1) nonsampling errors and (2) sampling errors. Nonsampling errors are the result of errors committed in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the NFHS to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of women selected in the NFHS is only one of many samples that could have been selected from the same population, using the same design and expected sample size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. The sampling error is a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

The sampling error is usually measured in terms of the *standard error* for a particular statistic (for example, mean or percentage), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of women had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the NFHS sample is the result of a multi-stage stratified sample design, and consequently, it is necessary to use more complex formulas. The computer software used to calculate sampling errors for the NFHS is the ISSA Sampling Error Module (ISSAS). This module uses the linear Taylor series approximation method for variance estimation, known as the CLUSTERS model, for survey estimates that are means, proportions or ratios. The JACKKNIFE repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The ISSAS package treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the total sample value for variable y , and x represents the total number of cases in the group or subgroup under consideration. The variance of r is computed using the formula given below, with the standard error being the square root of the variance:

$$\text{var}(r) = \frac{1-f}{x^2} \sum_{h=1}^H \left[\frac{m_h}{m_h-1} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which

$$z_{hi} = y_{hi} - r x_{hi}$$

$$z_h = y_h - r x_h$$

where

- h represents the stratum which varies from 1 to H,
- m_h is the total number of PSUs selected in the h^{th} stratum,
- y_{hi} is the sum of the values of variable y in PSU i in the h^{th} stratum,
- x_{hi} is the sum of the number of cases in PSU i in the h^{th} stratum, and
- f is the overall sampling fraction, which is so small that ISSAS ignores it.

In addition to the standard errors, ISSAS computes the design effect (DEFT) for each estimate, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. ISSAS also computes the relative error and confidence limits for the estimates.

Sampling errors for the NFHS are calculated for selected variables considered to be of primary interest. The results are presented in this appendix for each northeastern state. For each variable, the type of statistic (mean, proportion, ratio or rate) and the base population are given in Table A.1. Table A.2 presents the value of the statistic (R), its standard error (SE), the number of cases (N), the standard error assuming a simple random sample (SER), the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits ($R \pm 2SE$), for each variable.

Table A.1 List of selected variables for sampling errors, Northeastern states, 1993

VARIABLE	ESTIMATE	BASE POPULATION
Sex ratio	Ratio	Household <i>de facto</i> population
Illiterate	Proportion	Household <i>de facto</i> population age 6 and older
Different sources of drinking water	Proportion	Households
Illiterate	Proportion	Ever-married women 13-49
With secondary education or more	Proportion	Ever-married women 13-49
Currently married	Proportion	Ever-married women 13-49
Children ever born	Mean	Ever-married women 13-49
Children surviving	Mean	Ever-married women 13-49
Know at least one contraceptive method	Proportion	Currently married women 13-49
Know source for any modern method	Proportion	Currently married women 13-49
Have ever used any method	Proportion	Currently married women 13-49
Currently using any method	Proportion	Currently married women 13-49
Currently using any modern method	Proportion	Currently married women 13-49
Currently using pills	Proportion	Currently married women 13-49
Currently using Copper T/IUD	Proportion	Currently married women 13-49
Currently using condoms	Proportion	Currently married women 13-49
Currently using female sterilization	Proportion	Currently married women 13-49
Currently using male sterilization	Proportion	Currently married women 13-49
Currently using periodic abstinence	Proportion	Currently married women 13-49
Using public source for modern method	Proportion	Current users of modern methods
Do not want any more children	Proportion	Currently married women 13-49
Want to delay birth at least 2 years	Proportion	Currently married women 13-49
Ideal number of children	Mean	Ever-married women 13-49
Ideal number of sons	Mean	Ever-married women 13-49
Ideal number of daughters	Mean	Ever-married women 13-49
Received no antenatal care	Proportion	Births in the last 4 years
Received tetanus toxoid (2 doses)	Proportion	Births in the last 4 years
Received medical assistance at delivery	Proportion	Births in the last 4 years
Had diarrhoea in the last 24 hours	Proportion	Children under 4 years old
Had diarrhoea in the last 2 weeks	Proportion	Children under 4 years old
Treated with ORS packets	Proportion	Children under 4 with diarrhoea in last 2 weeks
Consulted medical personnel for diarrhoea	Proportion	Children under 4 with diarrhoea in last 2 weeks
Showing vaccination card	Proportion	Children 12-23 months
Received BCG vaccination	Proportion	Children 12-23 months
Received DPT vaccination (3 doses)	Proportion	Children 12-23 months
Received polio vaccination (3 doses)	Proportion	Children 12-23 months
Received measles vaccination	Proportion	Children 12-23 months
Fully vaccinated	Proportion	Children 12-23 months
Knows about AIDS	Proportion	Ever-married women 13-49
Fertility rates	Rate	All women, population
Mortality rates	Rate	Births, population

Table A.2 Sampling errors, Northeastern states, 1993

Variable/ state	Value (R)	Standard error (SE)	Number of cases (N)	Standard error assum- ing SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
							R-2SE	R+2SE
SEX RATIO (Household <i>de facto</i> population)								
Arunachal Pradesh	977	22.8	2735	20.83	1.096	0.023	931.6	1023.0
Manipur	1011	20.5	3208	19.52	1.050	0.020	969.9	1051.9
Meghalaya	964	21.4	3012	20.00	1.068	0.022	921.4	1006.9
Mizoram	985	21.8	3047	21.22	1.027	0.022	941.3	1028.5
Nagaland	994	18.1	2913	20.61	0.877	0.018	957.7	1029.9
Tripura	999	25.0	3110	20.71	1.209	0.025	949.0	1049.1
ILLITERATE (Household <i>de facto</i> population, age 6 and over)								
Arunachal Pradesh	0.479	0.020	4411	0.010	1.882	0.041	0.440	0.519
Manipur	0.260	0.013	5579	0.007	1.736	0.050	0.234	0.286
Meghalaya	0.364	0.023	4859	0.012	1.930	0.062	0.319	0.409
Mizoram	0.089	0.012	5256	0.005	2.275	0.137	0.064	0.113
Nagaland	0.242	0.016	4860	0.009	1.754	0.066	0.210	0.274
Tripura	0.272	0.012	5331	0.008	1.397	0.043	0.249	0.296
PIPED WATER AS SOURCE OF DRINKING WATER (Households)								
Arunachal Pradesh	0.681	0.044	961	0.015	2.917	0.065	0.593	0.768
Manipur	0.412	0.035	1086	0.015	2.309	0.084	0.343	0.481
Meghalaya	0.425	0.043	992	0.016	2.758	0.102	0.339	0.512
Mizoram	0.380	0.040	1087	0.015	2.744	0.106	0.299	0.461
Nagaland	0.702	0.038	1060	0.014	2.736	0.055	0.625	0.779
Tripura	0.255	0.026	1139	0.013	2.020	0.102	0.202	0.307
PUMPED WATER AS SOURCE OF DRINKING WATER (Households)								
Arunachal Pradesh	0.077	0.025	961	0.009	2.883	0.322	0.027	0.127
Manipur	0.058	0.023	1086	0.007	3.211	0.393	0.012	0.104
Meghalaya	0.050	0.011	992	0.007	1.551	0.214	0.029	0.072
Mizoram	0.021	0.007	1087	0.004	1.505	0.311	0.008	0.034
Nagaland	0.019	0.007	1060	0.004	1.728	0.383	0.004	0.033
Tripura	0.186	0.023	1139	0.012	1.988	0.123	0.140	0.232
WELL WATER AS SOURCE OF DRINKING WATER (Households)								
Arunachal Pradesh	0.087	0.025	961	0.009	2.791	0.291	0.037	0.138
Manipur	0.026	0.010	1086	0.005	1.994	0.372	0.007	0.045
Meghalaya	0.202	0.033	992	0.013	2.571	0.163	0.136	0.267
Mizoram	0.064	0.010	1087	0.007	1.329	0.154	0.045	0.084
Nagaland	0.266	0.034	1060	0.014	2.511	0.128	0.198	0.334
Tripura	0.355	0.028	1139	0.014	1.972	0.079	0.299	0.411
SURFACE WATER AS SOURCE OF DRINKING WATER (Households)								
Arunachal Pradesh	0.150	0.025	961	0.012	2.150	0.165	0.100	0.199
Manipur	0.472	0.041	1086	0.015	2.719	0.087	0.390	0.555
Meghalaya	0.320	0.033	992	0.015	2.257	0.105	0.253	0.386
Mizoram	0.387	0.036	1087	0.015	2.419	0.092	0.316	0.459
Nagaland	0.012	0.008	1060	0.003	2.327	0.642	0.000	0.028
Tripura	0.083	0.021	1139	0.008	2.603	0.256	0.041	0.126
OTHER SOURCE OF DRINKING WATER (Households)								
Arunachal Pradesh	0.005	0.003	961	0.002	1.184	0.529	0.000	0.011
Manipur	0.032	0.013	1086	0.005	2.477	0.412	0.006	0.059
Meghalaya	0.003	0.002	992	0.002	1.021	0.589	0.000	0.007
Mizoram	0.147	0.024	1087	0.011	2.209	0.161	0.100	0.195
Nagaland	0.001	0.001	1060	0.001	1.000	1.000	0.000	0.003
Tripura	0.121	0.020	1139	0.010	2.029	0.162	0.082	0.160

Table A.2 Sampling errors, Northeastern states, 1993 (Contd.)

Variable/ state	Value (R)	Standard error (SE)	Number of cases (N)	Standard error assum- ing SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
							R-2SE	R+2SE
ILLITERATE (Ever-married women age 13-49)								
Arunachal Pradesh	0.695	0.025	882	0.016	1.626	0.036	0.645	0.745
Manipur	0.476	0.024	953	0.016	1.461	0.050	0.429	0.524
Meghalaya	0.514	0.030	1137	0.015	1.990	0.057	0.455	0.573
Mizoram	0.084	0.018	1045	0.009	2.134	0.218	0.048	0.121
Nagaland	0.430	0.026	1149	0.015	1.759	0.060	0.379	0.481
Tripura	0.413	0.019	1100	0.015	1.285	0.046	0.375	0.451
WITH SECONDARY EDUCATION OR MORE (Ever-married women age 13-49)								
Arunachal Pradesh	0.074	0.011	882	0.009	1.247	0.149	0.052	0.096
Manipur	0.226	0.022	953	0.014	1.602	0.096	0.182	0.269
Meghalaya	0.104	0.014	1137	0.009	1.549	0.135	0.076	0.132
Mizoram	0.146	0.012	1045	0.011	1.078	0.081	0.123	0.170
Nagaland	0.158	0.014	1149	0.011	1.316	0.090	0.129	0.186
Tripura	0.085	0.011	1100	0.008	1.296	0.128	0.064	0.107
CURRENTLY MARRIED (Ever-married women age 13-49)								
Arunachal Pradesh	0.947	0.009	882	0.008	1.249	0.010	0.928	0.966
Manipur	0.935	0.008	953	0.008	0.947	-0.008	0.920	0.950
Meghalaya	0.881	0.011	1137	0.010	1.185	0.013	0.859	0.904
Mizoram	0.867	0.011	1045	0.011	1.003	0.012	0.846	0.888
Nagaland	0.893	0.009	1149	0.009	0.990	-0.010	0.875	0.911
Tripura	0.912	0.010	1100	0.009	1.201	0.011	0.891	0.932
MEAN NUMBER OF CHILDREN EVER BORN (Ever-married women age 15-49)								
Arunachal Pradesh	3.093	0.090	882	0.076	1.181	0.029	2.913	3.273
Manipur	3.365	0.093	953	0.074	1.263	0.028	3.179	3.551
Meghalaya	3.133	0.078	1137	0.070	1.107	0.025	2.977	3.289
Mizoram	2.953	0.062	1045	0.061	1.011	0.021	2.829	3.077
Nagaland	3.112	0.092	1149	0.062	1.485	0.030	2.928	3.297
Tripura	3.245	0.074	1100	0.070	1.065	0.023	3.096	3.393
MEAN NUMBER OF CHILDREN SURVIVING (Ever-married women age 15-49)								
Arunachal Pradesh	2.761	0.096	882	0.067	1.421	0.035	2.569	2.952
Manipur	3.100	0.071	953	0.066	1.065	0.023	2.958	3.241
Meghalaya	2.947	0.069	1137	0.067	1.033	0.023	2.809	3.086
Mizoram	2.846	0.060	1045	0.059	1.023	0.021	2.726	2.966
Nagaland	3.074	0.091	1149	0.062	1.480	0.030	2.891	3.257
Tripura	2.759	0.065	1100	0.059	1.110	0.024	2.629	2.889
KNOW AT LEAST ONE CONTRACEPTIVE METHOD (Currently married women age 13-49)								
Arunachal Pradesh	0.777	0.030	835	0.014	2.066	0.038	0.718	0.837
Manipur	0.936	0.019	891	0.008	2.260	0.020	0.899	0.973
Meghalaya	0.780	0.039	1002	0.013	3.017	0.051	0.701	0.859
Mizoram	0.981	0.008	906	0.005	1.829	0.008	0.965	0.998
Nagaland	0.444	0.020	1026	0.016	1.285	0.045	0.405	0.484
Tripura	0.997	0.002	1003	0.002	1.013	0.002	0.994	1.003
KNOW SOURCE FOR ANY MODERN METHOD (Currently married women age 13-49)								
Arunachal Pradesh	0.697	0.031	835	0.016	1.967	0.045	0.634	0.760
Manipur	0.818	0.027	891	0.013	2.112	0.033	0.764	0.873
Meghalaya	0.708	0.040	1002	0.014	2.768	0.056	0.628	0.787
Mizoram	0.979	0.008	906	0.005	1.757	0.009	0.962	0.996
Nagaland	0.402	0.019	1026	0.015	1.247	0.048	0.363	0.440
Tripura	0.969	0.007	1003	0.005	1.234	0.007	0.956	0.983

Table A.2 Sampling errors, Northeastern states, 1993 (Contd.)

Variable/ state	Value (R)	Standard error (SE)	Number of cases (N)	Standard error assum- ing SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
							R-2SE	R+2SE
HAVE EVER USED ANY METHOD (Currently married women age 13-49)								
Arunachal Pradesh	0.295	0.026	835	0.016	1.616	0.087	0.244	0.346
Manipur	0.448	0.023	891	0.017	1.387	0.052	0.402	0.494
Meghalaya	0.265	0.021	1002	0.014	1.510	0.079	0.223	0.308
Mizoram	0.574	0.015	906	0.016	0.915	0.026	0.544	0.604
Nagaland	0.192	0.013	1026	0.012	1.029	0.066	0.167	0.217
Tripura	0.706	0.018	1003	0.014	1.244	0.025	0.670	0.742
CURRENTLY USING ANY METHOD (Currently married women age 13-49)								
Arunachal Pradesh	0.236	0.021	835	0.015	1.422	0.089	0.194	0.278
Manipur	0.349	0.024	891	0.016	1.481	0.068	0.302	0.396
Meghalaya	0.207	0.019	1002	0.013	1.501	0.093	0.168	0.245
Mizoram	0.538	0.016	906	0.017	0.966	0.030	0.506	0.570
Nagaland	0.130	0.008	1026	0.010	0.791	0.064	0.113	0.146
Tripura	0.561	0.020	1003	0.016	1.336	0.037	0.519	0.603
CURRENTLY USING ANY MODERN METHOD (Currently married women age 13-49)								
Arunachal Pradesh	0.193	0.018	835	0.014	1.328	0.094	0.157	0.229
Manipur	0.241	0.017	891	0.014	1.174	0.070	0.208	0.275
Meghalaya	0.151	0.016	1002	0.011	1.390	0.104	0.119	0.182
Mizoram	0.529	0.015	906	0.017	0.888	0.028	0.499	0.558
Nagaland	0.130	0.008	1026	0.010	0.791	0.064	0.113	0.146
Tripura	0.286	0.016	1003	0.014	1.108	0.055	0.254	0.318
CURRENTLY USING PILLS (Currently married women age 13-49)								
Arunachal Pradesh	0.032	0.007	835	0.006	1.130	0.214	0.018	0.046
Manipur	0.024	0.006	891	0.005	1.164	0.251	0.012	0.035
Meghalaya	0.024	0.005	1002	0.005	1.025	0.207	0.014	0.034
Mizoram	0.025	0.006	906	0.005	1.103	0.227	0.014	0.037
Nagaland	0.021	0.005	1026	0.005	1.145	0.242	0.011	0.032
Tripura	0.064	0.010	1003	0.008	1.252	0.151	0.044	0.083
CURRENTLY USING COPPER T/IUD (Currently married women age 13-49)								
Arunachal Pradesh	0.046	0.009	835	0.007	1.224	0.194	0.028	0.063
Manipur	0.067	0.009	891	0.008	1.088	0.136	0.049	0.086
Meghalaya	0.022	0.007	1002	0.005	1.442	0.304	0.009	0.035
Mizoram	0.051	0.010	906	0.007	1.386	0.199	0.031	0.071
Nagaland	0.020	0.005	1026	0.004	1.151	0.249	0.010	0.031
Tripura	0.015	0.004	1003	0.004	1.121	0.289	0.006	0.024
CURRENTLY USING CONDOMS (Currently married women age 13-49)								
Arunachal Pradesh	0.007	0.002	835	0.003	0.821	0.334	0.002	0.012
Manipur	0.012	0.004	891	0.004	1.001	0.300	0.005	0.020
Meghalaya	0.005	0.003	1002	0.002	1.179	0.526	0.000	0.010
Mizoram	0.007	0.001	906	0.003	0.547	0.223	0.004	0.010
Nagaland	0.021	0.004	1026	0.005	0.898	0.189	0.013	0.030
Tripura	0.016	0.004	1003	0.004	0.982	0.242	0.008	0.024
CURRENTLY USING FEMALE STERILIZATION (Currently married women age 13-49)								
Arunachal Pradesh	0.103	0.010	835	0.011	0.980	0.100	0.082	0.124
Manipur	0.109	0.012	891	0.010	1.181	0.113	0.084	0.134
Meghalaya	0.094	0.011	1002	0.009	1.230	0.121	0.071	0.116
Mizoram	0.445	0.014	906	0.017	0.877	0.033	0.416	0.474
Nagaland	0.063	0.009	1026	0.008	1.147	0.138	0.046	0.081
Tripura	0.167	0.014	1003	0.012	1.146	0.081	0.140	0.195

Table A.2 Sampling errors, Northeastern states, 1993 (Contd.)

Variable/ state	Value (R)	Standard error (SE)	Number of cases (N)	Standard error assum- ing SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
							R-2SE	R+2SE
CURRENTLY USING MALE STERILIZATION (Currently married women age 13-49)								
Arunachal Pradesh	0.004	0.002	835	0.002	0.992	0.572	0.000	0.008
Manipur	0.029	0.005	891	0.006	0.934	0.181	0.019	0.040
Meghalaya	0.006	0.002	1002	0.002	0.958	0.390	0.001	0.011
Mizoram	0.001	0.001	906	0.001	1.008	1.008	0.000	0.003
Nagaland	0.001	0.001	1026	0.001	1.003	1.003	0.000	0.003
Tripura	0.024	0.006	1003	0.005	1.292	0.261	0.011	0.036
CURRENTLY USING PERIODIC ABSTINENCE (Currently married women age 13-49)								
Arunachal Pradesh	0.038	0.007	835	0.007	1.089	0.189	0.024	0.053
Manipur	0.100	0.015	891	0.010	1.518	0.153	0.069	0.130
Meghalaya	0.012	0.003	1002	0.003	1.015	0.291	0.005	0.019
Mizoram	0.007	0.002	906	0.003	0.825	0.336	0.002	0.011
Nagaland	0.000	0.000	1026	NC	NC	NC	0.000	0.000
Tripura	0.167	0.013	1003	0.012	1.130	0.080	0.140	0.193
USING PUBLIC SOURCE FOR MODERN METHOD (Current users of modern methods)								
Arunachal Pradesh	0.857	0.032	161	0.028	1.152	0.037	0.793	0.921
Manipur	0.823	0.023	215	0.026	0.890	0.028	0.777	0.870
Meghalaya	0.682	0.038	151	0.038	1.000	0.056	0.606	0.758
Mizoram	0.906	0.018	479	0.013	1.353	0.020	0.870	0.942
Nagaland	0.707	0.036	133	0.040	0.905	0.051	0.635	0.778
Tripura	0.753	0.031	287	0.026	1.221	0.041	0.690	0.815
DO NOT WANT ANY MORE CHILDREN (Currently married women age 13-49)								
Arunachal Pradesh	0.240	0.019	835	0.015	1.300	0.080	0.201	0.278
Manipur	0.414	0.018	891	0.017	1.109	0.044	0.378	0.451
Meghalaya	0.170	0.013	1002	0.012	1.121	0.078	0.143	0.196
Mizoram	0.102	0.011	906	0.010	1.094	0.108	0.080	0.124
Nagaland	0.351	0.016	1026	0.015	1.042	0.044	0.320	0.382
Tripura	0.502	0.019	1003	0.016	1.212	0.038	0.464	0.541
WANT TO DELAY BIRTH AT LEAST TWO YEARS (Currently married women age 13-49)								
Arunachal Pradesh	0.303	0.020	835	0.016	1.283	0.067	0.262	0.344
Manipur	0.291	0.016	891	0.015	1.074	0.056	0.258	0.323
Meghalaya	0.350	0.014	1002	0.015	0.933	0.040	0.322	0.378
Mizoram	0.243	0.014	906	0.014	0.988	0.058	0.215	0.271
Nagaland	0.187	0.012	1026	0.012	0.953	0.062	0.164	0.210
Tripura	0.152	0.011	1003	0.011	0.925	0.069	0.131	0.172
IDEAL NUMBER OF CHILDREN (Ever-married women age 13-49)								
Arunachal Pradesh	4.671	0.138	805	0.083	1.673	0.030	4.394	4.947
Manipur	3.741	0.069	928	0.042	1.651	0.019	3.603	3.880
Meghalaya	4.613	0.119	1036	0.065	1.822	0.026	4.376	4.850
Mizoram	4.288	0.047	1040	0.044	1.068	0.011	4.195	4.382
Nagaland	4.034	0.075	1012	0.054	1.383	0.018	3.884	4.183
Tripura	2.570	0.038	1012	0.027	1.405	0.015	2.494	2.646
IDEAL NUMBER OF SONS (Ever-married women age 13-49)								
Arunachal Pradesh	2.614	0.088	805	0.054	1.613	0.034	2.439	2.789
Manipur	2.071	0.037	928	0.025	1.472	0.018	1.996	2.146
Meghalaya	2.214	0.065	1036	0.036	1.783	0.029	2.084	2.344
Mizoram	2.237	0.034	1040	0.027	1.265	0.015	2.169	2.306
Nagaland	2.088	0.040	1011	0.033	1.232	0.019	2.008	2.168
Tripura	1.364	0.028	1009	0.022	1.253	0.021	1.307	1.420

Table A.2 Sampling errors, Northeastern states, 1993 (Contd.)

Variable/ state	Value (R)	Standard error (SE)	Number of cases (N)	Standard error assum- ing SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
							R-2SE	R+2SE
IDEAL NUMBER OF DAUGHTERS (Ever-married women age 13-49)								
Arunachal Pradesh	1.889	0.063	805	0.042	1.492	0.033	1.764	2.015
Manipur	1.628	0.036	928	0.024	1.500	0.022	1.556	1.700
Meghalaya	2.341	0.064	1036	0.037	1.723	0.027	2.214	2.468
Mizoram	2.047	0.023	1040	0.025	0.940	0.011	2.000	2.094
Nagaland	1.933	0.045	1011	0.032	1.394	0.023	1.842	2.023
Tripura	1.014	0.021	1009	0.016	1.281	0.021	0.972	1.056
RECEIVED NO ANTENATAL CARE (Births in last 4 years)								
Arunachal Pradesh	0.511	0.032	624	0.023	1.378	0.063	0.447	0.575
Manipur	0.366	0.039	544	0.024	1.618	0.107	0.288	0.444
Meghalaya	0.482	0.040	693	0.023	1.743	0.082	0.403	0.561
Mizoram	0.111	0.028	452	0.017	1.633	0.257	0.054	0.167
Nagaland	0.607	0.029	631	0.024	1.209	0.047	0.550	0.664
Tripura	0.351	0.035	538	0.023	1.503	0.099	0.281	0.421
RECEIVED TETANUS TOXOID (2 Doses) (Births in last 4 years)								
Arunachal Pradesh	0.319	0.031	624	0.021	1.450	0.097	0.257	0.381
Manipur	0.480	0.035	544	0.024	1.475	0.074	0.409	0.550
Meghalaya	0.300	0.029	693	0.020	1.460	0.098	0.241	0.359
Mizoram	0.425	0.027	452	0.024	1.112	0.064	0.370	0.479
Nagaland	0.330	0.027	631	0.022	1.216	0.082	0.276	0.384
Tripura	0.587	0.034	538	0.024	1.433	0.058	0.519	0.655
RECEIVED MEDICAL ASSISTANCE AT DELIVERY (Births in last 4 years)								
Arunachal Pradesh	0.213	0.024	624	0.018	1.288	0.111	0.166	0.260
Manipur	0.404	0.034	544	0.024	1.390	0.083	0.337	0.472
Meghalaya	0.369	0.038	693	0.022	1.725	0.102	0.294	0.445
Mizoram	0.615	0.033	452	0.027	1.245	0.054	0.549	0.681
Nagaland	0.222	0.028	631	0.020	1.389	0.124	0.167	0.277
Tripura	0.335	0.030	538	0.023	1.324	0.088	0.275	0.394
HAD DIARRHOEA IN THE LAST 24 HOURS (Children under 4 years of age)								
Arunachal Pradesh	0.105	0.021	598	0.014	1.544	0.199	0.063	0.147
Manipur	0.076	0.014	525	0.012	1.155	0.179	0.049	0.103
Meghalaya	0.059	0.014	647	0.010	1.319	0.230	0.032	0.086
Mizoram	0.125	0.015	440	0.016	0.889	0.116	0.096	0.154
Nagaland	0.036	0.006	618	0.008	0.792	0.179	0.023	0.048
Tripura	0.012	0.005	499	0.005	1.030	0.417	0.002	0.022
HAD DIARRHOEA IN THE LAST 2 WEEKS (Children under 4 years of age)								
Arunachal Pradesh	0.176	0.023	598	0.017	1.394	0.132	0.129	0.222
Manipur	0.124	0.016	525	0.015	1.087	0.130	0.092	0.156
Meghalaya	0.083	0.014	647	0.012	1.216	0.172	0.055	0.112
Mizoram	0.223	0.017	440	0.021	0.797	0.077	0.189	0.257
Nagaland	0.112	0.017	618	0.015	1.147	0.156	0.077	0.146
Tripura	0.036	0.009	499	0.009	0.997	0.243	0.019	0.054
TREATED WITH ORS PACKETS (Children with diarrhoea in the last 2 weeks)								
Arunachal Pradesh	0.267	0.049	105	0.046	1.053	0.183	0.169	0.364
Manipur	0.523	0.083	65	0.065	1.279	0.158	0.358	0.689
Meghalaya	0.389	0.076	54	0.073	1.044	0.196	0.236	0.541
Mizoram	0.214	0.055	98	0.044	1.252	0.255	0.105	0.324
Nagaland	0.203	0.099	69	0.055	1.805	0.490	0.004	0.402
Tripura	0.444	0.145	18	0.122	1.188	0.327	0.154	0.735

Table A.2 Sampling errors, Northeastern states, 1993 (Contd.)

Variable/ state	Value (R)	Standard error (SE)	Number of cases (N)	Standard error assum- ing SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
							R-2SE	R+2SE
CONSULTED MEDICAL PERSONNEL FOR DIARRHOEA (Children with diarrhoea in the last 2 weeks)								
Arunachal Pradesh	0.381	0.060	105	0.050	1.199	0.157	0.261	0.501
Manipur	0.400	0.072	65	0.061	1.178	0.180	0.256	0.544
Meghalaya	0.667	0.066	54	0.071	0.929	0.099	0.535	0.798
Mizoram	0.316	0.061	98	0.049	1.258	0.193	0.194	0.438
Nagaland	0.116	0.037	69	0.043	0.868	0.322	0.041	0.191
Tripura	0.611	0.113	18	0.125	0.907	0.185	0.385	0.837
SHOWING VACCINATION CARD (Children age 12-23 months)								
Arunachal Pradesh	0.375	0.044	160	0.038	1.153	0.118	0.286	0.464
Manipur	0.425	0.063	127	0.044	1.436	0.149	0.298	0.552
Meghalaya	0.153	0.034	144	0.030	1.149	0.226	0.084	0.222
Mizoram	0.382	0.050	110	0.046	1.089	0.132	0.281	0.483
Nagaland	0.119	0.018	160	0.026	0.696	0.150	0.083	0.154
Tripura	0.430	0.051	121	0.045	1.135	0.119	0.328	0.532
RECEIVED BCG VACCINATION (Children age 12-23 months)								
Arunachal Pradesh	0.463	0.039	160	0.040	0.985	0.084	0.384	0.541
Manipur	0.638	0.053	127	0.043	1.227	0.082	0.533	0.743
Meghalaya	0.438	0.053	144	0.042	1.272	0.121	0.332	0.543
Mizoram	0.773	0.040	110	0.040	1.004	0.052	0.692	0.853
Nagaland	0.194	0.033	160	0.031	1.070	0.173	0.127	0.261
Tripura	0.397	0.055	121	0.044	1.240	0.139	0.286	0.507
RECEIVED DPT VACCINATION (3 DOSES) (Children age 12-23 months)								
Arunachal Pradesh	0.388	0.043	160	0.039	1.109	0.111	0.302	0.473
Manipur	0.433	0.054	127	0.044	1.221	0.125	0.325	0.541
Meghalaya	0.229	0.035	144	0.035	0.997	0.153	0.159	0.299
Mizoram	0.718	0.043	110	0.043	1.011	0.060	0.631	0.805
Nagaland	0.125	0.026	160	0.026	0.997	0.209	0.073	0.177
Tripura	0.322	0.047	121	0.043	1.115	0.147	0.228	0.417
RECEIVED POLIO VACCINATION (3 DOSES) (Children age 12-23 months)								
Arunachal Pradesh	0.388	0.039	160	0.039	0.996	0.099	0.310	0.465
Manipur	0.394	0.057	127	0.044	1.306	0.145	0.280	0.508
Meghalaya	0.236	0.036	144	0.035	1.006	0.151	0.165	0.308
Mizoram	0.691	0.049	110	0.044	1.119	0.071	0.592	0.790
Nagaland	0.150	0.026	160	0.028	0.929	0.175	0.098	0.202
Tripura	0.322	0.047	121	0.043	1.115	0.147	0.228	0.417
RECEIVED MEASLES VACCINATION (Children age 12-23 months)								
Arunachal Pradesh	0.275	0.036	160	0.035	1.020	0.131	0.203	0.347
Manipur	0.370	0.067	127	0.043	1.565	0.180	0.237	0.503
Meghalaya	0.132	0.031	144	0.028	1.107	0.237	0.069	0.194
Mizoram	0.655	0.040	110	0.045	0.885	0.061	0.574	0.735
Nagaland	0.100	0.027	160	0.024	1.133	0.269	0.046	0.154
Tripura	0.289	0.042	121	0.041	1.008	0.144	0.206	0.372
FULLY VACCINATED (Children age 12-23 months)								
Arunachal Pradesh	0.225	0.033	160	0.033	0.996	0.146	0.159	0.291
Manipur	0.291	0.064	127	0.040	1.591	0.221	0.163	0.420
Meghalaya	0.097	0.024	144	0.025	0.984	0.250	0.049	0.146
Mizoram	0.564	0.041	110	0.047	0.868	0.073	0.481	0.646
Nagaland	0.038	0.019	160	0.015	1.289	0.516	0.000	0.076
Tripura	0.190	0.040	121	0.036	1.129	0.212	0.110	0.271

Table A.2 Sampling errors, Northeastern states, 1993 (Contd.)

Variable/ state	Value (R)	Standard error (SE)	Number of cases (N)	Standard error assum- ing SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
							R-2SE	R+2SE
KNOWLEDGE ABOUT AIDS (Ever-married women age 13-49)								
Arunachal Pradesh	0.162	0.019	882	0.012	1.563	0.120	0.123	0.201
Manipur	0.725	0.022	953	0.014	1.549	0.031	0.680	0.770
Meghalaya	0.267	0.023	1137	0.013	1.732	0.085	0.222	0.313
Mizoram	0.848	0.022	1045	0.011	2.022	0.027	0.803	0.893
Nagaland	0.409	0.025	1149	0.015	1.695	0.060	0.360	0.458
Tripura	0.132	0.015	1100	0.010	1.423	0.110	0.103	0.161

Table A.2 Sampling errors, Northeastern states, 1993 (Contd.)

Variable/state	Value (R)	Standard error (SE)	Relative error (SE/R)	Confidence limits	
				R-2SE	R+2SE
TOTAL FERTILITY RATE (Age group 15-49)					
Arunachal Pradesh	4.252	0.267	0.063	3.718	4.787
Manipur	2.765	0.133	0.048	2.500	3.030
Meghalaya	3.732	0.020	0.062	3.272	4.193
Mizoram	2.296	0.125	0.054	2.046	2.546
Nagaland	3.259	0.244	0.075	2.771	3.747
Tripura	2.675	0.153	0.057	2.368	2.982
TOTAL FERTILITY RATE (Age group 15-44)					
Arunachal Pradesh	4.070	0.222	0.055	3.626	4.514
Manipur	2.765	0.133	0.048	2.500	3.030
Meghalaya	3.621	0.223	0.061	3.176	4.066
Mizoram	2.296	0.125	0.054	2.046	2.546
Nagaland	3.228	0.240	0.074	2.748	3.707
Tripura	2.675	0.153	0.057	2.368	2.982
AGE-SPECIFIC FERTILITY RATE (Age group 15-19)					
Arunachal Pradesh	0.115	0.010	0.087	0.095	0.135
Manipur	0.037	0.008	0.209	0.021	0.052
Meghalaya	0.079	0.009	0.117	0.060	0.097
Mizoram	0.046	0.008	0.181	0.029	0.062
Nagaland	0.057	0.009	0.162	0.039	0.076
Tripura	0.085	0.008	0.094	0.069	0.101
AGE-SPECIFIC FERTILITY RATE (Age group 20-24)					
Arunachal Pradesh	0.246	0.014	0.058	0.217	0.274
Manipur	0.152	0.009	0.063	0.133	0.171
Meghalaya	0.182	0.012	0.064	0.159	0.205
Mizoram	0.140	0.009	0.066	0.122	0.159
Nagaland	0.188	0.012	0.064	0.164	0.212
Tripura	0.166	0.012	0.074	0.141	0.190
AGE-SPECIFIC FERTILITY RATE (Age group 25-29)					
Arunachal Pradesh	0.194	0.016	0.085	0.161	0.227
Manipur	0.170	0.012	0.072	0.145	0.194
Meghalaya	0.180	0.020	0.110	0.140	0.220
Mizoram	0.143	0.013	0.092	0.117	0.170
Nagaland	0.196	0.015	0.078	0.165	0.226
Tripura	0.125	0.010	0.081	0.105	0.145
AGE-SPECIFIC FERTILITY RATE (Age group 30-34)					
Arunachal Pradesh	0.139	0.019	0.134	0.102	0.177
Manipur	0.128	0.014	0.107	0.100	0.155
Meghalaya	0.117	0.014	0.117	0.090	0.144
Mizoram	0.085	0.012	0.135	0.062	0.108
Nagaland	0.131	0.023	0.175	0.085	0.177
Tripura	0.081	0.012	0.144	0.058	0.105
AGE-SPECIFIC FERTILITY RATE (Age group 35-39)					
Arunachal Pradesh	0.081	0.016	0.202	0.048	0.113
Manipur	0.057	0.011	0.192	0.035	0.079
Meghalaya	0.115	0.019	0.168	0.077	0.154
Mizoram	0.031	0.008	0.275	0.014	0.048
Nagaland	0.059	0.012	0.205	0.035	0.083
Tripura	0.052	0.010	0.197	0.031	0.072

Table A.2 Sampling errors, Northeastern states, 1993 (Contd.)

Variable/state	Value (R)	Standard error (SE)	Relative error (SE/R)	Confidence limits	
				R-2SE	R+2SE
AGE-SPECIFIC FERTILITY RATE (Age group 40-44)					
Arunachal Pradesh	0.039	0.015	0.367	0.010	0.069
Manipur	0.010	0.005	0.503	0.000	0.021
Meghalaya	0.051	0.014	0.270	0.024	0.079
Mizoram	0.014	0.006	0.443	0.002	0.026
Nagaland	0.015	0.008	0.569	0.000	0.032
Tripura	0.026	0.010	0.399	0.005	0.047
AGE-SPECIFIC FERTILITY RATE (Age group 45-49)					
Arunachal Pradesh	0.036	0.022	0.600	0.000	0.080
Manipur	0.000	0.000	NC	0.000	0.000
Meghalaya	0.022	0.010	0.437	0.003	0.042
Mizoram	0.000	0.000	NC	0.000	0.000
Nagaland	0.006	0.005	0.721	0.000	0.015
Tripura	0.000	0.000	NC	0.000	0.000
NEONATAL MORTALITY RATE (5-year period preceding survey)					
Arunachal Pradesh	17.478	4.721	0.270	8.036	26.920
Manipur	25.052	5.598	0.223	13.856	36.248
Meghalaya	37.841	6.944	0.184	23.953	51.729
Mizoram	8.258	4.177	0.506	0.000	16.611
Nagaland	10.000	4.588	0.459	0.824	19.176
Tripura	43.570	8.420	0.193	26.730	60.409
INFANT MORTALITY ${}_5q_0$ (5-year period preceding survey)					
Arunachal Pradesh	39.992	8.088	0.202	23.816	56.169
Manipur	42.354	7.857	0.186	26.640	58.068
Meghalaya	64.153	9.361	0.146	45.432	82.875
Mizoram	14.605	5.351	0.366	3.903	25.307
Nagaland	17.187	5.171	0.301	6.846	27.528
Tripura	75.828	9.342	0.123	57.145	94.512
CHILD MORTALITY ${}_5q_1$ (5-year period preceding survey)					
Arunachal Pradesh	33.321	7.760	0.233	17.801	48.842
Manipur	20.164	4.892	0.243	10.380	29.948
Meghalaya	24.320	5.067	0.208	14.186	34.453
Mizoram	14.943	4.729	0.316	5.485	24.401
Nagaland	3.559	2.006	0.564	0.000	7.572
Tripura	31.166	6.437	0.207	18.292	44.040
UNDER-FIVE MORTALITY ${}_5q_0$ (5-year period preceding survey)					
Arunachal Pradesh	71.981	11.599	0.161	48.783	95.179
Manipur	61.664	7.931	0.129	45.802	77.525
Meghalaya	86.913	10.935	0.126	65.043	108.783
Mizoram	29.330	6.282	0.214	16.766	41.894
Nagaland	20.685	5.147	0.249	10.391	30.979
Tripura	104.631	10.686	0.102	83.259	126.003
CRUDE BIRTH RATE (Based on Household Questionnaire)					
Arunachal Pradesh	32.086	1.558	0.049	28.970	35.202
Manipur	22.969	1.357	0.059	20.255	25.683
Meghalaya	30.372	1.893	0.062	26.586	34.158
Mizoram	21.001	1.054	0.050	18.893	23.109
Nagaland	28.693	2.548	0.089	23.597	33.789
Tripura	23.245	1.395	0.060	20.455	26.035

Table A.2 Sampling errors, Northeastern states, 1993 (Contd.)

Variable/state	Value (R)	Standard error (SE)	Relative error (SE/R)	Confidence limits	
				R-2SE	R+2SE
CRUDE DEATH RATE (Based on Household Questionnaire)					
Arunachal Pradesh	8.164	1.295	0.159	5.574	10.754
Manipur	5.823	0.912	0.157	3.999	7.647
Meghalaya	6.162	0.662	0.107	5.288	7.486
Mizoram	3.387	0.496	0.146	2.395	4.379
Nagaland	1.948	0.360	0.185	1.228	2.668
Tripura	11.830	1.224	0.103	9.382	14.278
CRUDE RATE OF NATURAL INCREASE (Based on Household Questionnaire)					
Arunachal Pradesh	23.921	1.890	0.079	20.141	27.701
Manipur	17.146	1.727	0.101	13.692	20.600
Meghalaya	24.210	1.851	0.076	20.508	27.912
Mizoram	17.614	1.137	0.065	15.340	19.888
Nagaland	26.745	2.541	0.095	21.663	31.827
Tripura	11.415	1.760	0.154	7.895	14.935
CRUDE BIRTH RATE (Based on birth history)					
Arunachal Pradesh	34.600	1.378	0.040	31.844	37.355
Manipur	24.373	1.045	0.043	22.284	26.462
Meghalaya	31.943	1.645	0.051	28.654	35.233
Mizoram	20.756	1.059	0.051	18.638	22.874
Nagaland	31.313	1.861	0.059	27.590	35.035
Tripura	23.132	1.144	0.049	20.845	25.420

SRS: Simple random sample

NC: Not calculated because the denominator is 0.000

APPENDIX B

DATA QUALITY TABLES

The purpose of this appendix is to provide the data user with an initial view of the general quality of the NFHS data. While Appendix A is concerned with sampling errors and their effects on the survey results, the tables in this appendix refer to possible *nonsampling* errors: for example, digit preference; rounding or heaping on certain ages or dates; omission of events occurring further in the past; deliberate distortion of information by some interviewers in an attempt to lighten their work loads; noncooperation of the respondent in providing information or refusal to have children measured and weighed. A description of the magnitude of such nonsampling errors is provided in the following paragraphs.

The distribution of the *de facto* household population by single year of age is presented in Table B.1 (See also Figure 3.1). In many (but not all) cases, the respondent was the head of the household. In cases where an eligible woman was later interviewed with the Woman's Questionnaire, her own reported age from the Woman's Questionnaire was substituted for the age in the household listing when there was a difference, because it was assumed that she would be better able than the household respondent to report her own age.

It is well documented that ages are poorly reported in most parts of India. Ages are of little relevance to much of the rural population in particular, and no amount of probing will ensure that ages are properly recorded. In interviewer training for the NFHS, a great deal of emphasis was placed on obtaining as accurate information as possible on ages and dates of events. Nevertheless, it is clear that age reporting in the NFHS shares the same problems inherent in all Indian censuses and surveys. Heaping on ages ending in 0 and 5 is severe, particularly in the older age groups, and the typical pattern of heaping on ages 8, 10 and 12 is also evident. However, the NFHS age data are evidently of considerably better quality than age data from other sources.

Table B.2 examines the possibility that some eligible women (that is, ever-married women age 13-49) were not properly identified in the NFHS. In some surveys, interviewers may try to reduce their work load by pushing women out of the eligible age range or recording ever-married women as never married so that they will not have to be interviewed. If such practices were being followed to a noticeable extent, Table B.2 would normally show (1) a shortage of ever-married women in the 45-49 age group and an excess in the 50-54 age group or (2) an unusually low proportion of ever-married women by age. In Arunachal Pradesh and Manipur, fewer ever-married women are identified in the 45-49 age group than in the 50-54 age group, indicating a possible shifting of women's ages from the 45-49 age group to the 50-54 age group. It has been observed in the Demographic and Health Surveys that there is usually a slight tendency to increase the age of women from age group 45-49 to 50-54, presumably to move women out of the eligible age range and reduce the workload of the interviewer. In the remaining four northeastern states, however, there is an irregular dip in the proportion of women at age 50-54, indicating a possible shifting of women's ages from the 50-54 age group to the 45-49 age group. Perhaps interviewers in these states were overcompensating because of warnings that questionnaires would be carefully scrutinized for this kind of bias. However, the impact of the apparent shifting on the quality of data on fertility and contraception is minimal because

Table B.1 Household age distribution

Single year age distribution of the *de facto* household population by sex, Northeastern states, 1993

Age	Arunachal Pradesh										Manipur									
	Male		Female		Male		Female		Male		Female		Male		Female					
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent				
<1	91	3.3	77	2.9	38	32	1.2	24	0.9	<1	69	2.2	84	2.6	38	40	1.2	35	1.1	
1	76	2.8	80	3.0	39	11	0.4	24	0.9	1	66	2.1	64	2.0	39	17	0.5	22	0.7	
2	88	3.2	78	2.9	40	97	3.5	43	1.6	2	68	2.1	68	2.1	40	77	2.4	68	2.1	
3	89	3.3	90	3.4	41	2	0.1	10	0.4	3	61	1.9	65	2.0	41	10	0.3	7	0.2	
4	85	3.1	75	2.8	42	17	0.6	17	0.6	4	71	2.2	81	2.5	42	24	0.7	35	1.1	
5	80	2.9	88	3.3	43	3	0.1	12	0.4	5	90	2.8	83	2.6	43	15	0.5	27	0.8	
6	88	3.2	89	3.3	44	3	0.1	10	0.4	6	105	3.3	98	3.0	44	15	0.5	14	0.4	
7	72	2.6	80	3.0	45	86	3.1	33	1.2	7	74	2.3	80	2.5	45	42	1.3	46	1.4	
8	99	3.6	103	3.9	46	4	0.1	12	0.4	8	104	3.2	94	2.9	46	16	0.5	21	0.6	
9	69	2.5	67	2.5	47	5	0.2	9	0.3	9	73	2.3	62	1.9	47	16	0.5	23	0.7	
10	88	3.2	101	3.8	48	23	0.8	6	0.2	10	104	3.2	94	2.9	48	27	0.8	25	0.8	
11	48	1.8	49	1.8	49	4	0.1	8	0.3	11	70	2.2	60	1.9	49	6	0.2	10	0.3	
12	81	3.0	74	2.8	50	59	2.2	44	1.6	12	88	2.7	94	2.9	50	49	1.5	24	0.7	
13	67	2.4	44	1.6	51	1	--	11	0.4	13	92	2.9	77	2.4	51	3	0.1	13	0.4	
14	60	2.2	70	2.6	52	12	0.4	17	0.6	14	61	1.9	59	1.8	52	18	0.6	26	0.8	
15	59	2.2	65	2.4	53	8	0.3	4	0.1	15	79	2.5	96	3.0	53	17	0.5	19	0.6	
16	72	2.6	75	2.8	54	6	0.2	3	0.1	16	66	2.1	78	2.4	54	12	0.4	20	0.6	
17	39	1.4	43	1.6	55	46	1.7	45	1.7	17	62	1.9	54	1.7	55	30	0.9	53	1.6	
18	83	3.0	63	2.4	56	7	0.3	3	0.1	18	100	3.1	78	2.4	56	17	0.5	13	0.4	
19	35	1.3	46	1.7	57	2	0.1	0	--	19	42	1.3	43	1.3	57	12	0.4	16	0.5	
20	75	2.7	87	3.3	58	6	0.2	3	0.1	20	94	2.9	105	3.2	58	14	0.4	15	0.5	
21	18	0.7	44	1.6	59	2	0.1	3	0.1	21	54	1.7	50	1.5	59	8	0.2	3	0.1	
22	53	1.9	49	1.8	60	61	2.2	49	1.8	22	66	2.1	71	2.2	60	69	2.2	57	1.8	
23	23	0.8	50	1.9	61	2	0.1	1	--	23	60	1.9	62	1.9	61	2	0.1	4	0.1	
24	24	0.9	38	1.4	62	3	0.1	1	--	24	41	1.3	65	2.0	62	18	0.6	7	0.2	
25	79	2.9	61	2.3	63	4	0.1	1	--	25	86	2.7	87	2.7	63	3	0.1	5	0.2	
26	31	1.1	36	1.3	64	0	--	0	--	26	38	1.2	52	1.6	64	11	0.3	4	0.1	
27	20	0.7	36	1.3	65	20	0.7	15	0.6	27	52	1.6	43	1.3	65	28	0.9	24	0.7	
28	45	1.6	63	2.4	66	0	--	1	--	28	52	1.6	69	2.1	66	8	0.2	5	0.2	
29	17	0.6	40	1.5	67	2	0.1	2	0.1	29	23	0.7	41	1.3	67	7	0.2	5	0.2	
30	98	3.6	72	2.7	68	2	0.1	1	--	30	102	3.2	108	3.3	68	3	0.1	9	0.3	
31	5	0.2	28	1.0	69	1	--	1	--	31	14	0.4	24	0.7	69	4	0.1	3	0.1	
32	31	1.1	32	1.2	70+	60	2.2	32	1.2	32	37	1.2	43	1.3	70+	85	2.6	81	2.5	
33	7	0.3	24	0.9	Total	2735	100.0	2673	100.0	33	30	0.9	37	1.1	Don, t know					
34	12	0.4	22	0.8						34	33	1.0	26	0.8	missing	1	--	1	--	
35	105	3.8	49	1.8						35	91	2.8	52	1.6						
36	22	0.8	22	0.8						36	33	1.0	32	1.0						
37	10	0.4	18	0.7						37	33	1.0	24	0.7	Total	3208	100.0	3243	100.0	

Table B.1 Household age distribution (Contd.)

Single year age distribution of the *de facto* household population by sex, Northeastern states, 1993

Meghalaya										Mizoram									
Age	Male		Female		Age	Male		Female		Age	Male		Female		Age	Male		Female	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent		Number	Percent	Number	Percent		Number	Percent	Number	Percent
<1	90	3.0	83	2.9	38	26	0.9	30	1.0	<1	66	2.2	57	1.9	38	34	1.1	41	1.4
1	86	2.9	62	2.1	39	8	0.3	16	0.6	1	57	1.9	63	2.1	39	18	0.6	20	0.7
2	80	2.7	83	2.9	40	102	3.4	62	2.1	2	61	2.0	66	2.2	40	65	2.1	58	1.9
3	95	3.2	81	2.8	41	3	0.1	12	0.4	3	69	2.3	55	1.8	41	18	0.6	9	0.3
4	73	2.4	96	3.3	42	17	0.6	22	0.8	4	67	2.2	58	1.9	42	29	1.0	28	0.9
5	106	3.5	122	4.2	43	11	0.4	19	0.7	5	95	3.1	78	2.6	43	22	0.7	22	0.7
6	111	3.7	109	3.8	44	4	0.1	12	0.4	6	70	2.3	78	2.6	44	10	0.3	13	0.4
7	92	3.1	57	2.0	45	83	2.8	47	1.6	7	87	2.9	73	2.4	45	56	1.8	39	1.3
8	98	3.3	96	3.3	46	6	0.2	22	0.8	8	72	2.4	80	2.7	46	19	0.6	29	1.0
9	68	2.3	51	1.8	47	7	0.2	16	0.6	9	69	2.3	73	2.4	47	16	0.5	34	1.1
10	121	4.0	93	3.2	48	13	0.4	31	1.1	10	87	2.9	86	2.9	48	21	0.7	52	1.7
11	61	2.0	53	1.8	49	8	0.3	24	0.8	11	83	2.7	68	2.3	49	21	0.7	26	0.9
12	93	3.1	87	3.0	50	59	2.0	17	0.6	12	89	2.9	81	2.7	50	58	1.9	17	0.6
13	56	1.9	59	2.0	51	8	0.3	6	0.2	13	93	3.1	81	2.7	51	14	0.5	5	0.2
14	71	2.4	66	2.3	52	10	0.3	13	0.4	14	71	2.3	86	2.9	52	11	0.4	19	0.6
15	75	2.5	56	1.9	53	8	0.3	1	--	15	98	3.2	85	2.8	53	16	0.5	6	0.2
16	61	2.0	75	2.6	54	5	0.2	8	0.3	16	73	2.4	81	2.7	54	11	0.4	9	0.3
17	55	1.8	37	1.3	55	30	1.0	17	0.6	17	66	2.2	82	2.7	55	17	0.6	21	0.7
18	80	2.7	81	2.8	56	8	0.3	7	0.2	18	87	2.9	76	2.5	56	17	0.6	16	0.5
19	40	1.3	45	1.5	57	5	0.2	2	0.1	19	48	1.6	56	1.9	57	11	0.4	4	0.1
20	75	2.5	123	4.2	58	7	0.2	5	0.2	20	99	3.2	99	3.3	58	9	0.3	10	0.3
21	28	0.9	54	1.9	59	7	0.2	2	0.1	21	42	1.4	58	1.9	59	12	0.4	8	0.3
22	52	1.7	86	3.0	60	43	1.4	27	0.9	22	65	2.1	47	1.6	60	27	0.9	22	0.7
23	40	1.3	69	2.4	61	0	--	3	0.1	23	59	1.9	58	1.9	61	2	0.1	5	0.2
24	39	1.3	66	2.3	62	6	0.2	4	0.1	24	45	1.5	48	1.6	62	7	0.2	7	0.2
25	87	2.9	89	3.1	63	1	--	3	0.1	25	79	2.6	69	2.3	63	10	0.3	7	0.2
26	57	1.9	64	2.2	64	2	0.1	1	--	26	47	1.5	56	1.9	64	7	0.2	5	0.2
27	42	1.4	32	1.1	65	19	0.6	11	0.4	27	54	1.8	59	2.0	65	15	0.5	20	0.7
28	70	2.3	53	1.8	66	2	0.1	3	0.1	28	44	1.4	71	2.4	66	9	0.3	11	0.4
29	18	0.6	27	0.9	67	1	--	1	--	29	29	1.0	30	1.0	67	2	0.1	9	0.3
30	128	4.2	67	2.3	68	3	0.1	3	0.1	30	100	3.3	81	2.7	68	7	0.2	4	0.1
31	7	0.2	21	0.7	69	2	0.1	0	--	31	21	0.7	27	0.9	69	5	0.2	5	0.2
32	36	1.2	29	1.0	70+	38	1.3	37	1.3	32	34	1.1	51	1.7	70+	58	1.9	53	1.8
33	12	0.4	25	0.9						33	26	0.9	19	0.6					
34	16	0.5	26	0.9	Total	3012	100.0	2904	100.0	34	16	0.5	18	0.6	Total	3047	100.0	3001	100.0
35	104	3.5	65	2.2						35	75	2.5	56	1.9					
36	23	0.8	23	0.8						36	31	1.0	28	0.9					
37	14	0.5	9	0.3						37	19	0.6	29	1.0					

Table B.1 Household age distribution (Contd.)

Single year age distribution of the *de facto* household population by sex, Northeastern states, 1993

Age	Nagaland								Tripura										
	Male		Female		Male		Female		Male		Female		Male		Female				
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent			
<1	98	3.4	71	2.5	38	33	1.1	38	1.3	<1	58	1.9	62	2.0	38	31	1.0	33	1.1
1	61	2.1	81	2.8	39	14	0.5	21	0.7	1	74	2.4	64	2.1	39	22	0.7	31	1.0
2	85	2.9	83	2.9	40	95	3.3	91	3.1	2	66	2.1	63	2.0	40	70	2.3	38	1.2
3	77	2.6	65	2.2	41	10	0.3	5	0.2	3	88	2.8	72	2.3	41	21	0.7	18	0.6
4	79	2.7	62	2.1	42	23	0.8	14	0.5	4	71	2.3	73	2.3	42	22	0.7	27	0.9
5	95	3.3	91	3.1	43	6	0.2	14	0.5	5	100	3.2	95	3.1	43	5	0.2	29	0.9
6	94	3.2	96	3.3	44	5	0.2	14	0.5	6	86	2.8	90	2.9	44	8	0.3	22	0.7
7	90	3.1	61	2.1	45	75	2.6	76	2.6	7	92	3.0	83	2.7	45	72	2.3	25	0.8
8	105	3.6	77	2.7	46	11	0.4	17	0.6	8	94	3.0	83	2.7	46	11	0.4	27	0.9
9	70	2.4	87	3.0	47	6	0.2	22	0.8	9	57	1.8	66	2.1	47	11	0.4	22	0.7
10	102	3.5	97	3.4	48	21	0.7	53	1.8	10	110	3.5	97	3.1	48	21	0.7	28	0.9
11	55	1.9	43	1.5	49	15	0.5	22	0.8	11	59	1.9	45	1.4	49	9	0.3	19	0.6
12	90	3.1	98	3.4	50	100	3.4	15	0.5	12	90	2.9	109	3.5	50	67	2.2	31	1.0
13	58	2.0	66	2.3	51	5	0.2	2	0.1	13	73	2.3	51	1.6	51	10	0.3	19	0.6
14	94	3.2	69	2.4	52	9	0.3	2	0.1	14	73	2.3	64	2.1	52	13	0.4	19	0.6
15	72	2.5	73	2.5	53	5	0.2	0	--	15	56	1.8	59	1.9	53	4	0.1	3	0.1
16	65	2.2	90	3.1	54	8	0.3	0	--	16	68	2.2	83	2.7	54	8	0.3	12	0.4
17	45	1.5	42	1.5	55	50	1.7	7	0.2	17	48	1.5	54	1.7	55	42	1.4	61	2.0
18	70	2.4	93	3.2	56	5	0.2	0	--	18	100	3.2	86	2.8	56	9	0.3	5	0.2
19	34	1.2	57	2.0	57	7	0.2	0	--	19	42	1.4	67	2.2	57	5	0.2	5	0.2
20	89	3.1	141	4.9	58	9	0.3	0	--	20	67	2.2	68	2.2	58	14	0.5	13	0.4
21	30	1.0	29	1.0	59	5	0.2	0	--	21	48	1.5	58	1.9	59	7	0.2	3	0.1
22	37	1.3	61	2.1	60	45	1.5	10	0.3	22	80	2.6	83	2.7	60	66	2.1	78	2.5
23	39	1.3	60	2.1	61	2	0.1	1	--	23	36	1.2	47	1.5	61	3	0.1	2	0.1
24	35	1.2	51	1.8	63	1	--	0	--	24	32	1.0	49	1.6	62	7	0.2	8	0.3
25	89	3.1	137	4.7	64	1	--	3	0.1	25	77	2.5	62	2.0	63	8	0.3	2	0.1
26	35	1.2	47	1.6	65	10	0.3	5	0.2	26	34	1.1	54	1.7	64	5	0.2	2	0.1
27	29	1.0	45	1.6	66	2	0.1	3	0.1	27	45	1.4	56	1.8	65	42	1.4	31	1.0
28	56	1.9	59	2.0	67	1	--	2	0.1	28	55	1.8	55	1.8	66	3	0.1	3	0.1
29	29	1.0	31	1.1	68	5	0.2	1	--	29	16	0.5	55	1.8	67	1	--	2	0.1
30	117	4.0	92	3.2	70+	34	1.2	13	0.4	30	86	2.8	54	1.7	68	6	0.2	2	0.1
31	13	0.4	10	0.3						31	19	0.6	26	0.8	69	5	0.2	1	--
32	16	0.5	29	1.0	Total	2913	100.0	2895	100.0	32	41	1.3	30	1.0	70+	125	4.0	124	4.0
33	11	0.4	14	0.5						33	25	0.8	39	1.3	Total	3110	100.0	3107	100.0
34	10	0.3	16	0.6						34	27	0.9	36	1.2					
35	75	2.6	83	2.9						35	113	3.6	68	2.2					
36	24	0.8	22	0.8						36	24	0.8	27	0.9					
37	22	0.8	15	0.5						37	27	0.9	29	0.9					

Note: The *de facto* population includes residents and nonresidents who slept in the household the night before the interview.

-- Less than 0.05 percent

Table B.2 Age distribution of eligible and interviewed women

Percent distribution of the *de facto* household population of women age 10-54 and of interviewed women age 13-49, and percentage of eligible women who were interviewed, Northeastern states, 1993

Age	Arunachal Pradesh					Manipur				
	All women	Ever-married women	Interviewed women Number	Percent interviewed	Percent interviewed	All women	Ever-married women	Interviewed women Number	Percent interviewed	Percent interviewed
10-12	224	0	NA	NA	NA	248	0	NA	NA	NA
13-14	114	1	1	0.1	100.0	136	0	0	--	NC
15-19	292	86	80	9.1	93.0	349	21	21	2.2	100.0
20-24	268	205	192	21.8	93.7	353	151	145	15.2	96.0
25-29	236	216	199	22.6	92.1	292	203	198	20.8	97.5
30-34	178	173	162	18.4	93.6	238	203	195	20.5	96.1
25-39	137	136	119	13.5	87.5	165	159	146	15.3	91.8
40-44	92	91	81	9.2	89.0	151	146	136	14.3	93.2
45-49	68	65	48	5.4	73.8	125	123	112	11.8	91.1
50-54	79	78	NA	NA	NA	102	101	NA	NA	NA
13-49	1385	973	882	100.0	90.6	1809	1006	953	100.0	94.7
Age	Meghalaya					Mizoram				
	All women	Ever-married women	Interviewed women Number	Percent interviewed	Percent interviewed	All women	Ever-married women	Interviewed women Number	Percent interviewed	Percent interviewed
10-12	233	4	NA	NA	NA	235	0	NA	NA	NA
13-14	125	3	3	0.3	100.0	167	0	0	--	NC
15-19	294	64	64	5.6	100.0	380	43	40	3.8	93.0
20-24	398	270	270	23.7	100.0	310	158	153	14.6	96.8
25-29	265	242	237	20.8	97.9	285	229	223	21.3	97.4
30-34	168	163	163	14.3	100.0	196	182	172	16.5	94.5
25-39	143	142	139	12.2	97.9	174	168	161	15.4	95.8
40-44	127	125	123	10.8	98.4	130	128	124	11.9	96.9
45-49	140	139	138	12.1	99.3	180	177	172	16.5	97.2
50-54	45	45	NA	NA	NA	56	52	NA	NA	NA
13-49	1660	1148	1137	100.0	99.0	1822	1085	1045	100.0	96.3
Age	Nagaland					Tripura				
	All women	Ever-married women	Interviewed women Number	Percent interviewed	Percent interviewed	All women	Ever-married women	Interviewed women Number	Percent interviewed	Percent interviewed
10-12	238	3	NA	NA	NA	251	2	NA	NA	NA
13-14	135	0	0	NC	--	115	7	7	0.6	100.0
15-19	355	41	41	3.6	100.0	349	97	94	8.5	96.9
20-24	342	196	196	17.1	100.0	305	203	189	17.2	93.1
25-29	319	257	257	22.4	100.0	282	244	232	21.1	95.1
30-34	161	151	150	13.1	99.3	185	170	165	15.0	97.1
25-39	179	179	179	15.6	100.0	188	187	180	16.4	96.3
40-44	138	137	137	11.9	100.0	134	134	124	11.3	92.5
45-49	190	189	189	16.4	100.0	121	120	109	9.9	90.8
50-54	19	18	NA	NA	NA	84	83	NA	NA	NA
13-49	1819	1150	1149	100.0	99.9	1679	1162	1100	100.0	94.7

Note: The *de facto* population includes all residents and nonresidents who slept in the household the night before the interview.

-- Less than 0.05 percent

NA: Not applicable

NC: Not calculated because the denominator is 0

of the small number of older women involved.

One traditional measure of the quality of data is the extent to which information is missing on key variables. Although completeness of responses does not necessarily indicate that the results are accurate, the existence of missing information for a large number of cases would suggest that the data collection was not carried out with sufficient care. The extent of missing information is very low in every northeastern state on all of the measures shown in Table B.3 except for the measurement of the height and weight of young children. The data are exceptionally complete for month and year of birth (although for 9 percent of births in Arunachal Pradesh, the month of birth was missing), age at death, age at first marriage, woman's education, child's size at birth and prevalence of diarrhoea in the two weeks preceding the NFHS. The proportion of children for whom data on height and weight are available is 86 percent in Manipur, 84 percent in Mizoram, 76 percent in Nagaland, 71 percent in Meghalaya, 69 percent in Arunachal Pradesh and 59 percent in Tripura. It may be noted here that in any survey many children cannot be measured because they are not at home or they are ill at the time of the survey. In some cases when the child was at home, either the child refused to be measured or the mother refused to allow the child to be measured because of cultural beliefs, and no amount of persuasion could change their mind.

Another measure of data quality is the completeness and accuracy of information on births. Table B.4 examines the distribution of births by calendar year to identify any unusual patterns which may indicate that births have been omitted or that the ages of children have been displaced. Overall, 99 percent of living and dead children listed in the birth history had complete birth dates recorded in the states of Manipur, Meghalaya, Mizoram and Tripura. Thus, the completeness of data on birth dates is exceptionally good. Although the annual number of births does fluctuate somewhat, real annual fluctuations are to be expected and there is no evidence of the wholesale omission of births or displacement of birth dates which would substantially affect the fertility rate estimates for recent years for these states.

It should be noted that many surveys that include both demographic information and health information for children below a specified age have been subject to a substantial amount of age displacement. In particular, there is often a tendency for interviewers to "age" children out of the eligible period for asking health questions. This problem was well known before the NFHS began; therefore, interviewer training stressed this issue to try to avoid any biases due to age displacement. In all the northeastern states, the cutoff date for asking the health questions was 1 January 1989. An examination of Table B.4 indicates that there is heaping of births at calendar year 1988 in all the northeastern states except Tripura, and the extent of displacement is greater in Nagaland, Mizoram and Meghalaya than in other states.

Table B.5 presents information on the reporting of age at death in days for the births during the five years preceding the survey. Results from the table suggest that early infant deaths have not been severely underreported in the NFHS, since the ratios of deaths under seven days to all neonatal deaths are quite high (a ratio of less than 25 percent is often used as a guideline to indicate underreporting of early neonatal deaths). The ratios range from 63-64 percent in Nagaland and Arunachal Pradesh to 88 percent in Manipur. The small numbers of deaths reported in the northeastern states do not allow the study of the extent of misreporting of age at death due to a preference for reporting the age at death at certain digits.

Table B.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions, Northeastern states, 1993

Subject	Reference group	Arunachal Pradesh		Manipur		Meghalaya		Mizoram		Nagaland		Tripura	
		Percentage missing information	Number of cases	Percentage missing information	Number of cases	Percentage missing information	Number of cases	Percentage missing information	Number of cases	Percentage missing information	Number of cases	Percentage missing information	Number of cases
Birth date	Births in last 15 years												
Month only		9.23	2124	1.08	2229	0.83	2515	0.39	2041	3.17	2458	0.26	2321
Month and year		0.09	2124	0.00	2229	0.08	2515	0.10	2041	0.00	2458	0.00	2321
Age at death	Deaths to births in last 15 years												
		1.06	189	0.00	150	0.00	146	0.00	68	0.00	33	0.00	289
Age at 1st marriage	Ever-married women	0.23	882	0.00	953	0.09	1137	0.00	1045	0.00	1149	2.64	1100
Woman's education	Ever-married women	0.00	882	0.00	953	0.00	1137	0.00	1045	0.00	1149	0.00	1100
Child's size at birth	All births in last 0-47 months	0.00	627	0.72	554	0.00	698	0.00	460	0.00	639	0.00	549
Anthropometry¹	Living children age 0-47 months												
Height		30.28	601	13.83	535	28.33	653	15.85	448	24.12	626	39.88	509
Weight		30.45	601	14.02	535	27.72	653	15.85	448	23.64	626	32.81	509
Height or weight		30.62	601	14.39	535	28.79	653	15.85	448	24.28	626	40.86	509
Diarrhoea in last 2 weeks	Living children age 0-47 months	0.17	601	0.00	535	0.15	652	0.00	448	0.48	626	0.20	509

¹Child not measured

Table B.4 Births by calendar year

Distribution of births by calendar year for living (L), dead (D), and all (T) children, according to reporting completeness, sex ratio at birth, and ratio of births by calendar year, Northeastern states, 1993

Calendar year	Number of births			Percent with complete birth date ¹			Sex ratio at birth ²			Calendar year ratio ³		
	L	D	T	L	D	T	L	D	T	L	D	T
ARUNACHAL PRADESH												
1993	77	2	79	100.0	*	100.0	925	*	881	NA	NA	NA
1992	150	4	154	99.3	*	98.7	66	*	638	NA	NA	NA
1991	162	7	169	97.5	*	97.0	1189	*	1224	*	140	114
1990	136	6	142	95.6	*	95.1	889	*	919	*	55	90
1989	133	15	148	91.0	*	91.2	822	*	783	*	136	92
1988	165	16	181	91.5	*	89.5	919	*	989	*	107	117
1987	147	15	162	89.8	*	87.7	987	*	952	*	94	100
1986	128	16	144	92.2	*	91.0	829	*	823	*	119	88
1985	153	12	165	90.2	*	88.5	987	*	1037	*	77	114
1984	131	15	146	89.3	*	85.6	1426	*	1318	*	120	96
1983	126	13	139	92.9	*	90.6	800	*	805	*	173	190
1987-91	746	48	794	95.0	(81.3)	94.2	887	(1087)	899	NA	NA	NA
1982-86	685	71	756	90.8	67.6	88.6	986	868	974	NA	NA	NA
1977-81	466	73	539	87.8	86.3	87.6	894	1028	911	NA	NA	NA
1972-76	296	47	343	84.8	(83.0)	84.5	862	(958)	874	NA	NA	NA
1971 or earlier	165	52	217	89.7	82.7	88.0	719	1167	808	NA	NA	NA
All	2435	293	2728	91.0	79.9	89.8	901	993	910	NA	NA	NA
MANIPUR												
1993	52	1	53	100.0	*	100.0	1167	*	1208	NA	NA	NA
1992	138	4	142	100.0	*	100.0	1123	*	1152	NA	NA	NA
1991	147	6	153	100.0	*	100.0	1100	*	1068	113	*	113
1990	123	6	129	100.0	*	100.0	952	*	955	95	*	96
1989	113	4	117	100.0	*	100.0	1132	*	1167	77	*	74
1988	169	17	186	99.4	*	98.4	965	*	918	122	*	126
1987	165	13	178	99.4	*	98.3	1171	*	1225	97	*	98
1986	170	6	176	98.8	*	98.9	889	*	872	108	*	103
1985	150	13	163	98.7	*	98.2	1174	*	1063	97	*	99
1984	140	12	152	100.0	*	99.3	687	*	652	98	*	98
1983	137	9	146	100.0	*	100.0	1076	*	1028	94	*	93
1987-91	690	37	727	99.9	(94.6)	99.6	(1048)	850	1036	NA	NA	NA
1982-86	762	53	815	99.3	92.5	98.9	984	606	954	NA	NA	NA
1977-81	627	66	693	99.2	87.9	98.1	866	650	843	NA	NA	NA
1972-76	462	50	512	97.8	88.0	96.9	901	786	889	NA	NA	NA
1971 or earlier	361	46	407	98.3	(80.4)	96.3	(752)	840	762	NA	NA	NA
All	2954	253	3207	99.1	88.5	98.3	931	733	914	NA	NA	NA

Table B.4 Births by calendar year (Contd.)

Distribution of births by calendar year for living (L), dead (D), and all (T) children, according to reporting completeness, sex ratio at birth, and ratio of births by calendar year, Northeastern states, 1993

Calendar year	Number of births			Percent with complete birth date ¹			Sex ratio at birth ²			Calendar year ratio ³		
	L	D	T	L	D	T	L	D	T	L	D	T
MEGHALAYA												
1993	94	4	98	98.9	*	99.0	1000	*	922	NA	NA	NA
1992	162	12	174	100.0	*	99.4	705	*	706	NA	NA	NA
1991	157	14	171	98.7	*	98.8	1039	*	1012	94	*	95
1990	173	13	186	99.4	*	99.5	784	*	824	116	*	116
1989	142	7	149	100.0	*	100.0	1185	*	1099	75	*	72
1988	205	24	229	100.0	*	99.6	1113	*	1101	116	*	124
1987	211	10	221	99.1	*	98.6	1110	*	1085	108	*	104
1986	185	10	195	99.5	*	99.0	814	*	806	104	*	105
1985	144	8	152	100.0	*	100.0	714	*	689	82	*	82
1984	165	10	175	98.8	*	98.9	833	*	822	118	*	118
1983	136	9	145	99.3	*	99.3	744	*	747	85	*	86
1987-91	839	70	909	99.6	97.1	99.4	946	842	938	NA	NA	NA
1982-86	841	47	888	99.3	(95.7)	99.1	852	(621)	839	NA	NA	NA
1977-81	636	27	663	99.1	(96.3)	98.9	871	(929)	873	NA	NA	NA
1972-76	486	36	522	99.4	(97.2)	99.2	898	(440)	858	NA	NA	NA
1971 or earlier	455	27	482	99.3	(100.0)	99.4	970	(1250)	984	NA	NA	NA
All	3351	211	3562	99.3	97.2	99.2	905	730	894	NA	NA	NA
MIZORAM												
1993	72	0	72	100.0	*	100.0	636	*	636	NA	NA	NA
1992	100	2	102	100.0	*	100.0	1083	*	1040	NA	NA	NA
1991	130	3	133	100.0	*	100.0	1203	*	1180	129	*	127
1990	101	6	107	100.0	*	100.0	836	*	783	92	*	95
1989	90	2	92	100.0	*	100.0	1250	*	1300	60	*	59
1988	201	5	206	99.5	*	99.5	827	*	856	177	*	178
1987	137	2	139	100.0	*	100.0	986	*	986	77	*	75
1986	155	9	164	100.0	*	100.0	845	*	885	117	*	122
1985	128	1	129	100.0	*	100.0	939	*	955	89	*	86
1984	132	3	135	99.2	*	99.3	1200	*	1177	92	*	93
1983	158	5	163	98.7	*	98.8	1026	*	1038	120	*	119
1987-91	622	18	640	99.8	*	99.8	994	*	988	NA	NA	NA
1982-86	710	20	730	99.6	*	99.6	989	*	1000	NA	NA	NA
1977-81	664	33	697	99.4	(100.0)	99.4	908	(1750)	936	NA	NA	NA
1972-76	518	19	537	99.8	*	99.8	970	*	960	NA	NA	NA
1971 or earlier	388	22	410	99.0	*	98.8	788	*	745	NA	NA	NA
All	2974	112	3086	99.6	99.1	99.5	930	898	929	NA	NA	NA

Table B.4 Births by calendar year (Contd.)

Distribution of births by calendar year for living (L), dead (D), and all (T) children, according to reporting completeness, sex ratio at birth, and ratio of births by calendar year, Northeastern states, 1993

Calendar year	Number of births			Percent with complete birth date ¹			Sex ratio at birth ²			Calendar year ratio ³		
	L	D	T	L	D	T	L	D	T	L	D	T
NAGALAND												
1993	77	2	79	98.7	*	98.7	750	*	717	NA	NA	NA
1992	199	4	203	98.5	*	98.5	1052	*	1030	NA	NA	NA
1991	158	3	161	99.4	*	98.8	975	*	963	90	*	90
1990	151	2	153	98.0	*	97.4	1127	*	1155	106	*	105
1989	128	3	131	96.9	*	96.9	753	*	747	70	*	71
1988	213	5	218	97.7	*	97.2	902	*	896	136	*	138
1987	185	1	186	97.8	*	97.8	968	*	979	98	*	97
1986	162	2	164	96.3	*	95.7	862	*	885	88	*	88
1985	183	2	185	97.8	*	97.8	743	*	762	115	*	115
1984	156	3	159	95.5	*	95.6	1053	*	1039	84	*	85
1983	188	1	189	97.3	*	97.4	918	*	909	139	*	138
1987-91	849	17	866	98.1	*	97.8	961	*	955	NA	NA	NA
1982-86	874	9	883	97.0	*	96.9	900	*	907	NA	NA	NA
1977-81	718	5	723	94.8	*	94.9	1028	*	1031	NA	NA	NA
1972-76	609	8	617	91.3	*	91.2	1057	*	1057	NA	NA	NA
1971 or earlier	405	3	408	85.4	*	85.3	709	*	707	NA	NA	NA
All	3532	44	3576	94.6	(86.4)	94.5	936	(913)	936	NA	NA	NA
TRIPURA												
1993	38	5	43	100.0	*	100.0	1375	*	1389	NA	NA	NA
1992	114	11	125	100.0	*	100.0	1111	*	1049	NA	NA	NA
1991	127	9	136	100.0	*	100.0	924	*	943	101	*	101
1990	137	8	145	100.0	*	100.0	779	*	790	103	*	101
1989	140	12	152	99.3	*	99.3	1091	*	1054	102	*	100
1988	137	21	158	100.0	*	100.0	804	*	796	94	*	96
1987	152	24	176	100.0	*	100.0	1054	*	978	100	*	101
1986	167	22	189	98.8	*	98.9	943	*	835	104	*	103
1985	169	22	191	100.0	*	99.0	857	*	891	111	*	107
1984	139	29	168	100.0	(100.0)	100.0	878	(933)	888	91	(126)	96
1983	137	24	161	100.0	*	99.4	804	*	789	95	*	94
1987-91	655	61	716	99.8	100.0	99.9	928	794	914	NA	NA	NA
1982-86	764	121	885	99.7	97.5	99.4	905	704	875	NA	NA	NA
1977-81	606	108	714	100.0	99.1	99.9	805	742	794	NA	NA	NA
1972-76	461	101	562	99.8	99.0	99.6	987	1020	993	NA	NA	NA
1971 or earlier	511	138	649	99.4	97.8	99.1	943	792	908	NA	NA	NA
All	3035	534	3569	99.8	98.5	99.6	911	804	894	NA	NA	NA

NA: Not applicable

() Based on 25-49 cases

* Percentage/ratio not shown; based on fewer than 25 cases

¹Both year and month of birth given

² $(B_f/B_m) \times 1,000$, where B_f and B_m are the numbers of female and male births

³ $[2B_x / (B_{x-1} + B_{x+1})] \times 100$, where B_x is the number of births in calendar year x

Table B.5. Reporting of age at death in days

Distribution of reported deaths under 1 month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, for the births during the five years preceding the survey, Northeastern states, 1993

Age at death (days)	Births during the five years preceding the survey					
	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
<1	3	5	13	0	4	7
1	0	4	9	2	1	4
2	3	1	2	0	0	3
3	1	0	2	2	0	2
4	0	1	0	0	0	2
5	1	3	0	0	0	3
6	1	0	0	0	0	0
7	0	0	4	1	0	2
8	0	0	0	0	1	0
9	1	1	1	0	0	0
10	0	0	1	0	0	1
11	1	0	0	0	0	3
12	1	0	0	0	0	0
13	0	0	0	0	0	0
14	0	1	0	0	0	1
15	1	0	1	0	1	0
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	0	0	0	0	1
19	0	0	0	0	0	0
20	1	0	0	0	0	0
21	0	0	0	0	0	0
22	0	0	1	0	1	0
23	0	0	0	0	0	0
24	0	0	0	0	0	0
25	0	0	0	0	0	0
26	0	0	0	0	0	0
27	0	0	0	0	0	0
28	0	0	0	0	0	0
29	0	0	0	0	0	1
30	0	0	0	0	0	0
0-30	14	16	34	5	8	30
Percent early neonatal ¹	64	88	77	80	63	70

¹Death during first 6 days divided by deaths during first 30 days

Table B.6 shows the percentage of infant deaths that occurred during the neonatal period during the five years preceding the survey. These ratios are also quite high, suggesting that there is no major omission of early deaths. The ratios range from 47 percent in Arunachal Pradesh to 63 percent in Meghalaya. One problem that is inherent in most retrospective surveys is heaping of the age at death on certain digits, e.g., 6, 12 and 18 months. Misreporting of age at death will bias estimates of the age pattern of mortality if the net result of misreporting is the transference of deaths between age segments for which the rates are calculated; for example, an overestimate of child mortality relative to infant mortality may result if children dying during the first year of life are reported as having died at age one year or older. Thus, heaping at 12 months can bias the mortality estimates because certain fraction of these deaths, which are reported to have occurred after infancy (that is, at age 12-23 months), may have actually

Table B.6 Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at age under one month, for births during the five years preceding the survey, Northeastern states, 1993

Age at death (months)	Births during the five years preceding the survey					
	Arunachal Pradesh	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
<1	14	16	34	5	8	30
1	2	1	5	1	1	10
2	3	2	4	2	1	2
3	1	2	4	0	2	2
4	3	2	1	0	1	1
5	0	0	1	0	0	0
6	1	0	0	0	2	2
7	0	2	1	0	0	1
8	2	2	1	1	0	0
9	1	0	0	0	0	0
10	1	0	3	0	0	0
11	2	0	0	0	0	1
12	3	2	4	5	1	2
13	0	0	0	0	0	0
14	2	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	0	0	0	0
17	0	0	0	0	0	0
18	0	0	0	0	0	0
19	0	0	0	0	0	0
20	1	0	0	0	0	0
0-11	30	27	54	9	15	49
Percent neonatal ¹	47	59	63	56	53	61

¹Deaths during first month divided by deaths during first year

occurred during infancy (that is, at age 0-11 months). In this case, heaping would bias the infant mortality rate downward and child mortality upward.

Examination of the distribution of deaths under age two years during the five years prior to the survey by month of death (Table B.6) indicates that although there is some heaping in all the northeastern states, severe heaping at 12 months of age is observed only for Mizoram. Digit preference does not appear to be serious enough to alter substantially the rates calculated here for Arunachal Pradesh, Manipur, Meghalaya, Nagaland and Tripura. For example, even if as many as half of the deaths reported at 12 months were to be reassigned to the infant age segment for these five states, infant mortality would increase by only 5 percent in Arunachal Pradesh, 4 percent in Meghalaya, 3 percent each in Manipur and Nagaland, and 2 percent in Tripura for the 5-year period preceding the survey. However, due to heaping in the reporting of death at age 12 months, the percentage increase in infant mortality would be 22 percent in Mizoram if half the deaths recorded at 12 months were included in the infant mortality rate.

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**Honorary Director, Population
Research Centre, Visakhapatnam**

**Representative of the United
States Agency for International
Development, New Delhi**

**Representative of the East-
West Center, Honolulu, USA**

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Dr. T.K. Roy, IIPS
(Convenors)**

**Prof. M.K. Premi
Former President, Indian Association
for the Study of Population**

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APPENDIX D
SURVEY INSTRUMENTS

**NATIONAL FAMILY HEALTH SURVEY
(MCH AND FAMILY PLANNING)
HOUSEHOLD QUESTIONNAIRE**

**CONFIDENTIAL
For Research
Purposes Only**

INDIA 1992-1993

IDENTIFICATION																																					
NAME OF STATE _____	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> <tr><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td><td style="width: 25px; height: 25px;"></td></tr> </table>																																				
PSU NUMBER.....																																					
NAME OF DISTRICT _____																																					
NAME OF TEHSIL/TALUK _____																																					
URBAN/RURAL (urban=1, rural=2).....																																					
NAME OF TOWN AND TOWN BLOCK OR VILLAGE _____																																					
LARGE CITY/SMALL CITY/TOWN/RURAL AREA..... (large city=1, small city=2, town=3, rural area=4)																																					
HOUSEHOLD NUMBER.....																																					
NAME OF HOUSEHOLD HEAD _____																																					
ADDRESS OF HOUSEHOLD _____ _____ _____																																					

INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY <table border="1" style="width: 20px; height: 20px;"></table>
				MONTH <table border="1" style="width: 20px; height: 20px;"></table>
				YEAR <table border="1" style="width: 20px; height: 20px;"></table>
INTERVIEWER'S NAME	_____	_____	_____	NAME <table border="1" style="width: 20px; height: 20px;"></table>
RESULT*	_____	_____	_____	RESULT <table border="1" style="width: 20px; height: 20px;"></table>
NEXT VISIT: DATE TIME	_____	_____	<table border="1" style="width: 40px; height: 40px; background-color: #cccccc;"></table>	TOTAL NUMBER OF VISITS <table border="1" style="width: 20px; height: 20px;"></table>
<p>*RESULT CODES:</p> <p>1 COMPLETED</p> <p>2 HOUSEHOLD PRESENT BUT NO COMPETENT RESP. AT HOME</p> <p>3 HOUSEHOLD ABSENT</p> <p>4 POSTPONED</p> <p>5 REFUSED</p> <p>6 DWELLING VACANT OR ADDRESS NOT A DWELLING</p> <p>7 DWELLING DESTROYED</p> <p>8 DWELLING NOT FOUND</p> <p>9 OTHER _____</p> <p align="center">(SPECIFY)</p>				<p>TOTAL IN HOUSEHOLD <table border="1" style="width: 20px; height: 20px;"></table></p> <p>TOTAL ELIGIBLE WOMEN <table border="1" style="width: 20px; height: 20px;"></table></p> <p>LINE NO. OF RESP. TO HOUSEHOLD SCHEDULE <table border="1" style="width: 20px; height: 20px;"></table></p>

NAME	SPOT-CHECKED BY	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY
DATE	_____	_____	_____	_____	<table border="1" style="width: 20px; height: 20px;"></table>

200

HOUSEHOLD SCHEDULE

1	RECORD THE TIME.	HOUR..... <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>				
		MINUTES..... <table border="1" style="display: inline-table; width: 40px; height: 20px; vertical-align: middle;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>				

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD*	RESIDENCE		SEX	AGE	IF AGED 6 YEARS OR OLD				
			Does (NAME) usually live here?	Did (NAME) stay here last night?			MARITAL STATUS**	EDUCATION			IF ATTEND
(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household.	What is the relationship of (NAME) to the head of the household?	Does (NAME) usually live here?	Did (NAME) stay here last night?	Is (NAME) male or female?	How old is (NAME)?	What is the current marital status of (NAME)?	Can (NAME) read and write?	Has (NAME) ever been to school?	What is the highest grade (NAME) completed?***	

LINE NO.	RELATIONSHIP TO HEAD OF HOUSEHOLD*	RESIDENCE		SEX		AGE	IF AGED 6 YEARS OR OLD								
		YES NO	YES NO	M F	IN YEARS		CM S W D NM	YES NO	YES NO	GRADE					
01	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2 3 4 5	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>		
02	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2 3 4 5	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>		
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04	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2 3 4 5	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>		
05	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2 3 4 5	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>		
06	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2 3 4 5	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>		
07	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>			1 2 3 4 5	1 2	1 2	<table border="1" style="width: 40px; height: 20px;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>		
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Now I would like some information about the people who usually live in your household or who are staying with you now.

ER		AFTER COMPLETING COLUMNS 1-14 FOR ALL LISTED PERSONS, ASK:						ELIGI- BILITY
ED SCHOOL	OCCUPATION	Does anyone listed suffer from:						CIRCLE LINE NUMBER OF WOMEN ELIGIBLE FOR INDI- VIDUAL INTERVIEW (EVER MARRIED FEMALES AGED 13-49) (20)
IF AGED LESS THAN 15 YEARS	What kind of work does (NAME) do most of the time? (14)	Blindness?	Tuberculosis?	Leprosy?	Any physical impairment of limbs?		Did anyone listed suffer from malaria any time during the last THREE months? (19)	
Is (NAME) still in school? (13)		RECORD FOR EACH PERSON (15)	RECORD FOR EACH PERSON (16)	RECORD FOR EACH PERSON (17)	RECORD FOR EACH PERSON (18)			
YES NO		YES YES NO PART COMP IAL LETE	YES NO	YES NO	YES YES YES NO HAN LEGS BO DS TH	YES NO		
1 2		1 2 3	1 2	1 2	1 2 3 4	1 2	01	
1 2		1 2 3	1 2	1 2	1 2 3 4	1 2	02	
1 2		1 2 3	1 2	1 2	1 2 3 4	1 2	03	
1 2		1 2 3	1 2	1 2	1 2 3 4	1 2	04	
1 2		1 2 3	1 2	1 2	1 2 3 4	1 2	05	
1 2		1 2 3	1 2	1 2	1 2 3 4	1 2	06	
1 2		1 2 3	1 2	1 2	1 2 3 4	1 2	07	
1 2		1 2 3	1 2	1 2	1 2 3 4	1 2	08	

HOUSEHOLD SCHEDULE (CONTINUED)

(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
			YES NO	YES NO	M F	IN YEARS	CM S W D NM	YES NO	YES NO	GRADE
09			1 2	1 2	1 2		1 2 3 4 5	1 2	1 2	
10			1 2	1 2	1 2		1 2 3 4 5	1 2	1 2	
11			1 2	1 2	1 2		1 2 3 4 5	1 2	1 2	
12			1 2	1 2	1 2		1 2 3 4 5	1 2	1 2	
13			1 2	1 2	1 2		1 2 3 4 5	1 2	1 2	
14			1 2	1 2	1 2		1 2 3 4 5	1 2	1 2	
15			1 2	1 2	1 2		1 2 3 4 5	1 2	1 2	
16			1 2	1 2	1 2		1 2 3 4 5	1 2	1 2	
17			1 2	1 2	1 2		1 2 3 4 5	1 2	1 2	
18			1 2	1 2	1 2		1 2 3 4 5	1 2	1 2	

TICK HERE IF CONTINUATION SHEET USED

- 21 Just to make sure that I have a complete listing:
- 1) Are there any other persons such as small children or infants that we have not listed?
 - 2) In addition, are there any other people who may not be members of your family, such as domestic servants, lodgers or friends who usually live here?
 - 3) Do you have any guests or temporary visitors staying here, or anyone else who stayed here last night?

* CODES FOR Q.4
 RELATIONSHIP TO HEAD OF HOUSEHOLD:

01= HEAD	05= GRANDCHILD	09= BROTHER OR SISTER-IN-LAW
02= WIFE OR HUSBAND	06= PARENT	10= OTHER RELATIVE
03= SON OR DAUGHTER	07= PARENT-IN-LAW	11= ADOPTED/FOSTER CHILD
04= SON OR DAUGHTER-IN-LAW	08= BROTHER OR SISTER	12= NOT RELATED
		98= DK

(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
YES NO		YES YES NO PART COMP IAL LETE	YES NO	YES NO	YES YES YES NO HAN LEGS BO DS TH	YES NO	
1 2		1 2 3	1 2	1 2	1 2 3 4	1 2	
	<input type="checkbox"/>						09
	<input type="checkbox"/>						10
	<input type="checkbox"/>						11
	<input type="checkbox"/>						12
	<input type="checkbox"/>						13
	<input type="checkbox"/>						14
	<input type="checkbox"/>						15
	<input type="checkbox"/>						16
	<input type="checkbox"/>						17
	<input type="checkbox"/>						18

TOTAL NUMBER OF ELIGIBLE WOMEN

YES → ENTER EACH IN TABLE NO

YES → ENTER EACH IN TABLE NO

YES → ENTER EACH IN TABLE NO

** CODES FOR Q.9
MARITAL STATUS:
1= CURRENTLY MARRIED
2= SEPARATED
3= WIDOWED
4= DIVORCED
5= NEVER MARRIED

***CODES FOR Q.12
GRADE:
00=LESS THAN 1
YEAR COMPLETED
98=DK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
22	What is the main source of water your household uses for bathing and washing?	PIPED WATER PIPED INTO RESIDENCE/YARD/PLOT.....11 → 24 PUBLIC TAP.....12 GROUND WATER HANDPUMP IN YARD/PLOT.....21 → 24 PUBLIC HANDPUMP.....22 WELL WATER WELL IN RESIDENCE/YARD/PLOT...23 → 24 PUBLIC WELL.....24 SURFACE WATER SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 DAM.....34 RAINWATER.....41 TANKER TRUCK.....51 OTHER.....81 (SPECIFY)	
23	How long does it take to go there, get water, and come back in one trip?	MINUTES..... <input type="text"/> <input type="text"/> <input type="text"/>	
24	Does your household get drinking water from this same source?	YES.....1 → 26 NO.....2	
25	What is the main source of drinking water for members of your household?	PIPED WATER PIPED INTO RESIDENCE/YARD/PLOT.....11 PUBLIC TAP.....12 GROUND WATER HANDPUMP IN YARD/PLOT.....21 PUBLIC HANDPUMP.....22 WELL WATER WELL IN RESIDENCE/YARD/PLOT...23 PUBLIC WELL.....24 SURFACE WATER SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 DAM.....34 RAINWATER.....41 TANKER TRUCK.....51 BOTTLED WATER.....61 OTHER.....81 (SPECIFY)	
26	What kind of toilet facility does your household have?	FLUSH TOILET OWN FLUSH TOILET.....11 SHARED FLUSH TOILET.....12 PUBLIC FLUSH TOILET.....13 PIT TOILET/LATRINE OWN PIT TOILET/LATRINE.....21 SHARED PIT TOILET/LATRINE.....22 PUBLIC PIT TOILET/LATRINE.....23 NO FACILITY/BUSH/FIELD.....31 OTHER.....41 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO																																																
36	Does this household own any agricultural land?	YES.....1 NO.....2	→39																																																
37	What is the size of <u>non-irrigated</u> land under cultivation, in acres?	ACRES..... <input type="text"/> <input type="text"/> <input type="text"/> NONE.....000 LESS THAN ONE.....996																																																	
38	What is the size of <u>irrigated</u> land under cultivation, in acres?	ACRES..... <input type="text"/> <input type="text"/> <input type="text"/> NONE.....000 LESS THAN ONE.....996																																																	
39	Does this household own any livestock?	YES.....1 NO.....2	→42																																																
40	What type of livestock do you own? RECORD ALL MENTIONED.	BULLOCK.....A COW.....B BUFFALO.....C GOAT.....D SHEEP.....E CAMEL.....F OTHER.....G (SPECIFY)																																																	
41	Where do you usually keep the animals at night?	IN THE HOUSE.....1 OUTSIDE THE HOUSE.....2																																																	
42	Does the household own any of the following? A sewing machine? A clock or watch? A sofa set? A fan? A radio or transistor? A refrigerator? A television? A VCR or VCP? A bicycle? A motorcycle or scooter? A car? A bullock cart? A thresher? A tractor? A water pump?	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>SEWING MACHINE.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>CLOCK/WATCH.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>SOFA SET.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>FAN.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>RADIO/TRANSISTOR.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>REFRIGERATOR.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>TELEVISION.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>VCR/VCP.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>BICYCLE.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>MOTORCYCLE/SCOOTER.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>CAR.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>BULLOCK CART.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>THRESHER'.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>TRACTOR.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>WATER PUMP.....</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	SEWING MACHINE.....	1	2	CLOCK/WATCH.....	1	2	SOFA SET.....	1	2	FAN.....	1	2	RADIO/TRANSISTOR.....	1	2	REFRIGERATOR.....	1	2	TELEVISION.....	1	2	VCR/VCP.....	1	2	BICYCLE.....	1	2	MOTORCYCLE/SCOOTER.....	1	2	CAR.....	1	2	BULLOCK CART.....	1	2	THRESHER'.....	1	2	TRACTOR.....	1	2	WATER PUMP.....	1	2	
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NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
43	<p>Now I would like to ask you about the births that have taken place to any member of your household or visitor during the last two years.</p>	<p>YES.....1 NO.....2</p>	45
44	<p>How many births took place?</p>	<p>TOTAL BIRTHS..... <input type="text"/></p>	
45	<p>Did any visitor to this household give birth to a child since (Pongal/Makar Sankranti/January) 1991?</p>	<p>YES.....1 NO.....2</p>	47
46	<p>How many births took place?</p>	<p>TOTAL BIRTHS..... <input type="text"/></p>	
47	<p>CHECK 44 AND 46:</p> <p>ONE OR MORE BIRTHS <input type="checkbox"/> NO BIRTHS <input type="checkbox"/></p>		58

RECORD NAMES OF BIRTHS SINCE JANUARY 1991 IN 48. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.

48	49	50	51	52	53	54	55	56
What name was given to the baby born (first/next)?	Was the mother a usual resident of the household or a visitor?	RECORD LINE NUMBER OF MOTHER IN THE HOUSEHOLD SCHEDULE.	How old was the mother at the time of birth of (NAME)? RECORD AGE IN COMPLETED YEARS.	RECORD SINGLE OR MULTIPLE BIRTH STATUS.	Is (NAME) a boy or a girl?	In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season was he/she born?	Is (NAME) still alive?	IF DEAD: How old was he/she when he/she died? IF "1 YEAR", PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN ONE MONTH

01 (NAME)	RESIDENT...1 VISITOR...2	LINE NUMBER <input type="text"/> <input type="text"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/> <input type="text"/>	SINGLE...1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> <input type="text"/> YEAR... <input type="text"/> <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> <input type="text"/> MONTHS..2 <input type="text"/> <input type="text"/>
02 (NAME)	RESIDENT...1 VISITOR...2	LINE NUMBER <input type="text"/> <input type="text"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/> <input type="text"/>	SINGLE...1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> <input type="text"/> YEAR... <input type="text"/> <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> <input type="text"/> MONTHS..2 <input type="text"/> <input type="text"/>
03 (NAME)	RESIDENT...1 VISITOR...2	LINE NUMBER <input type="text"/> <input type="text"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/> <input type="text"/>	SINGLE...1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> <input type="text"/> YEAR... <input type="text"/> <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> <input type="text"/> MONTHS..2 <input type="text"/> <input type="text"/>
04 (NAME)	RESIDENT...1 VISITOR...2	LINE NUMBER <input type="text"/> <input type="text"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/> <input type="text"/>	SINGLE...1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> <input type="text"/> YEAR... <input type="text"/> <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> <input type="text"/> MONTHS..2 <input type="text"/> <input type="text"/>
05 (NAME)	RESIDENT...1 VISITOR...2	LINE NUMBER <input type="text"/> <input type="text"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/> <input type="text"/>	SINGLE...1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> <input type="text"/> YEAR... <input type="text"/> <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> <input type="text"/> MONTHS..2 <input type="text"/> <input type="text"/>
06 (NAME)	RESIDENT...1 VISITOR...2	LINE NUMBER <input type="text"/> <input type="text"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/> <input type="text"/>	SINGLE...1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> <input type="text"/> YEAR... <input type="text"/> <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> <input type="text"/> MONTHS..2 <input type="text"/> <input type="text"/>

57 | COMPARE SUM OF 44 AND 46 WITH NUMBER OF BIRTHS IN 48 AND MARK:

NUMBERS ARE SAME NUMBERS ARE DIFFERENT → PROBE AND RECONCILE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
58	<p>Now I would like to ask you about the deaths of any member of your household or visitor during the last two years.</p> <p>Did any usual resident of this household die since (Pongal/Makar Sankranti/January) 1991 in this (city/town/village) or outside?</p>	<p>YES.....1</p> <p>NO.....2</p>	60
59	How many persons died?	TOTAL DEATHS..... <input type="text"/>	
60	Did any visitor to this household die since (Pongal/Makar Sankranti/January) 1991?	<p>YES.....1</p> <p>NO.....2</p>	62
61	How many deaths took place?	TOTAL DEATHS..... <input type="text"/>	
62	CHECK 59 AND 61:	<p>ONE OR MORE DEATHS <input type="checkbox"/></p> <p>NO DEATHS <input type="checkbox"/></p>	75

RECORD NAMES OF DEATHS SINCE JANUARY 1991 IN 63.

63	64	65	66	67	68	69	70	71	72	73
What (was/were) the name(s) of the person(s) who died?	Was (NAME) a usual resident of the household or a visitor?	Was (NAME) a male or a female?	How old was he/she when he/she died? RECORD DAYS IF LESS THAN ONE MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS	In what month and year did (NAME) die?	CHECK 65 AND 66: DECEASED WAS FEMALE AGED 13-49 AT THE TIME OF DEATH	Was (NAME) pregnant when she died?	Did (NAME) die during childbirth?	Did (NAME) die within two months after the end of a pregnancy or childbirth?	Was the death of (NAME) due to a complication of the pregnancy or childbirth?	What were the major symptoms observed before the death of (NAME)?

01 _____ (NAME)	RESIDENT...1 VISITOR...2	MALE.....1 FEMALE...2	DAYS....1 MONTHS..2 YEARS...3	MONTH.. YEAR...	YES.....1 NO.....2 (GO TO 73)↙	YES.....1 (GO TO 72)↙ NO.....2	YES.....1 (GO TO NEXT DEATH)↙ NO.....2	YES.....1 NO.....2 (GO TO 73)↙	YES.....1 (GO TO NEXT DEATH)↙ NO.....2	<input type="checkbox"/> SYMPTOMS _____ _____
02 _____ (NAME)	RESIDENT...1 VISITOR...2	MALE.....1 FEMALE...2	DAYS....1 MONTHS..2 YEARS...3	MONTH.. YEAR...	YES.....1 NO.....2 (GO TO 73)↙	YES.....1 (GO TO 72)↙ NO.....2	YES.....1 (GO TO NEXT DEATH)↙ NO.....2	YES.....1 NO.....2 (GO TO 73)↙	YES.....1 (GO TO NEXT DEATH)↙ NO.....2	<input type="checkbox"/> SYMPTOMS _____ _____
03 _____ (NAME)	RESIDENT...1 VISITOR...2	MALE.....1 FEMALE...2	DAYS....1 MONTHS..2 YEARS...3	MONTH.. YEAR...	YES.....1 NO.....2 (GO TO 73)↙	YES.....1 (GO TO 72)↙ NO.....2	YES.....1 (GO TO NEXT DEATH)↙ NO.....2	YES.....1 NO.....2 (GO TO 73)↙	YES.....1 (GO TO NEXT DEATH)↙ NO.....2	<input type="checkbox"/> SYMPTOMS _____ _____

878

74 COMPARE SUM OF 59 AND 61 WITH NUMBER OF DEATHS IN 63 AND MARK:

NUMBERS ARE SAME NUMBERS ARE DIFFERENT → PROBE AND RECONCILE

75 RECORD THE TIME.

HOUR.....
MINUTES.....

SECTION 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
101	RECORD THE TIME.	HOUR..... <input type="text"/> <input type="text"/> MINUTES..... <input type="text"/> <input type="text"/>	
102	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you live in a city or in a village?	CITY/TOWN.....1 VILLAGE.....2	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)?	YEARS..... <input type="text"/> <input type="text"/> ALWAYS.....95 VISITOR.....96	→105 →105
104	Just before you moved here, did you live in a city or in a village?	CITY/TOWN.....1 VILLAGE.....2	
105	In what month and year were you born?	MONTH..... <input type="text"/> <input type="text"/> DK MONTH.....98 YEAR..... <input type="text"/> <input type="text"/> DK YEAR.....98	
106	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS..... <input type="text"/> <input type="text"/>	
107	What is your current marital status?	CURRENTLY MARRIED.....1 SEPARATED.....2 WIDOWED.....3 DIVORCED.....4 NEVER MARRIED.....5	→111 →111 →111 →111 →END
108	Are you living with your husband now or is he staying elsewhere?	LIVING WITH HIM.....1 STAYING ELSEWHERE.....2	→111

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO				
109	During the last four weeks, did you stay with your husband at any time?	YES.....1 NO.....2	→111				
110	For how long have you and your husband not been living together? RECORD MONTHS OR YEARS.	MONTHS.....1 YEARS.....2	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>				
111	Now I would like to ask you some questions on your marriage. Have you been married only once or more than once?	ONCE.....1 MORE THAN ONCE.....2	→115				
112	How old were you at the time of your <u>first</u> marriage?	AGE IN COMPLETED YEARS.....	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>				
113	How old were you when you started living with your <u>first</u> husband?	AGE IN COMPLETED YEARS..... GAUNA HAD NOT TAKEN PLACE..... 96	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>				
114	How old were you when your first marriage dissolved?	AGE IN COMPLETED YEARS.....	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>				
115	How old were you at the time of your [current] marriage?	AGE IN COMPLETED YEARS.....	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>				
116	How old were you when you started living with your [current] husband?	AGE IN COMPLETED YEARS..... GAUNA HAS NOT TAKEN PLACE.....96	→END				

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
117	Before you got married, was your [current] husband related to you in any way?	YES.....1 NO.....2	→119
118	What type of relationship was it?	FIRST COUSIN ON FATHER'S SIDE...1 FIRST COUSIN ON MOTHER'S SIDE...2 SECOND COUSIN.....3 UNCLE.....4 OTHER BLOOD RELATIVE.....5 BROTHER-IN-LAW.....6 OTHER NON-BLOOD RELATIVE.....7	
119	What is the minimum legal age at marriage for a girl in India?	AGE IN YEARS..... <input type="text"/> DK.....98	
120	What is the minimum legal age at marriage for a boy in India?	AGE IN YEARS..... <input type="text"/> DK.....98	
121	Have you ever attended school?	YES.....1 NO.....2	→124
122	What is the highest grade you completed?	GRADE..... <input type="text"/>	
123	CHECK 122:	GRADE 0-5 <input type="checkbox"/> GRADE 6-12 <input type="checkbox"/> GRADE 13+ <input type="checkbox"/>	→126 →125
124	Can you read and write?	YES.....1 NO.....2	→126
125	What is the highest degree you have obtained?	DEGREE NOT COMPLETED.....01 NON-TECHNICAL DEGREE BACHELOR'S DEGREE.....02 MASTER'S DEGREE.....03 Ph.D.....04 TECHNICAL DEGREE BACHELOR'S DEGREE.....05 MASTER'S DEGREE.....06 TECHNICAL DIPLOMA/CERTIFICATE NOT EQUIVALENT TO DEGREE.....07 NON-TECHNICAL DIPLOMA/CERTIF. NOT EQUIVALENT TO DEGREE.....08 OTHER DEGREE.....09 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO						
126	Do you usually listen to a radio at least once a week?	YES.....1 NO.....2							
127	Do you usually watch television at least once a week?	YES.....1 NO.....2							
128	Do you usually go to a Cinema Hall or Theatre to see a movie at least once a month?	YES.....1 NO.....2							
129	<p>CHECK Q.5 IN THE HOUSEHOLD SCHEDULE:</p> <p>THE WOMAN INTERVIEWED IS NOT A USUAL RESIDENT</p> <p><input type="checkbox"/> ↓</p>	<p>THE WOMAN INTERVIEWED IS A USUAL RESIDENT</p> <p><input type="checkbox"/> → 201</p>							
130	How long have you been visiting in this house?	DAYS.....1 <table border="1"><tr><td></td><td></td></tr></table> MONTHS.....2 <table border="1"><tr><td></td><td></td></tr></table> YEARS.....3 <table border="1"><tr><td></td><td></td></tr></table>							
131	How much longer do you intend to stay here?	DAYS.....1 <table border="1"><tr><td></td><td></td></tr></table> MONTHS.....2 <table border="1"><tr><td></td><td></td></tr></table> YEARS.....3 <table border="1"><tr><td></td><td></td></tr></table> DK.....998							
132	What is the main reason for your visiting this household?	VISITING FOR DELIVERY PURPOSE..1 VISITING FOR OTHER PURPOSE.....2							
133	<p>Now I would like to ask about the place in which you usually live.</p> <p>Do you usually live in a city, in a town, or in a village? IF CITY:</p> <p>In which city do you live? _____</p>	LARGE CITY (1 MILLION +).....1 SMALL CITY.....2 TOWN.....3 VILLAGE.....4							

134

In which state do you usually live?

ANDHRA PRADESH.....	01
ARUNACHAL PRADESH.....	02
ASSAM.....	03
BIHAR.....	04
GOA.....	05
GUJARAT.....	06
HARYANA.....	07
HIMACHAL PRADESH.....	08
JAMMU & KASHMIR.....	09
KARNATAKA.....	10
KERALA.....	11
MADHYA PRADESH.....	12
MAHARASHTRA.....	13
MANIPUR.....	14
MEGHALAYA.....	15
MIZORAM.....	16
NAGALAND.....	17
ORISSA.....	18
PUNJAB.....	19
RAJASHTAN.....	20
SIKKIM.....	21
TAMIL MADU.....	22
TRIPURA.....	23
UTTAR PRADESH.....	24
WEST BENGAL.....	25
ANDMAN & NICOBAR ISLANDS.....	26
CHANDIGARH.....	27
DADRA & NAGAR HAVELI.....	28
DAMAN & DIU.....	29
DELHI.....	30
LAKSHADWEEP.....	31
PONDICHERY.....	32
OUTSIDE INDIA.....	33

135

Now I would like to ask about the household in which you usually live.

What is the main source of water your household uses for bathing and washing?

PIPED WATER	
PIPED INTO	
RESIDENCE/YARD/PLOT.....	11 → 137
PUBLIC TAP.....	12
GROUND WATER	
HANDPUMP IN YARD/PLOT.....	21 → 137
PUBLIC HANDPUMP.....	22
WELL WATER	
WELL IN RESIDENCE/YARD/PLOT... ..	23 → 137
PUBLIC WELL.....	24
SURFACE WATER	
SPRING.....	31
RIVER/STREAM.....	32
POND/LAKE.....	33
DAM.....	34
RAINWATER.....	41
TANKER TRUCK.....	51
OTHER.....	81
(SPECIFY)	

136

How long does it take to go there, get water, and come back in one trip?

MINUTES.....

137

Does your household get drinking water from this same source?

YES.....	1 → 139
NO.....	2

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
138	What is the main source of drinking water for members of your household?	PIPED WATER PIPED INTO RESIDENCE/YARD/PLOT.....11 PUBLIC TAP.....12 GROUND WATER HANDPUMP IN YARD/PLOT.....21 PUBLIC HANDPUMP.....22 WELL WATER WELL IN RESIDENCE/YARD/PLOT...23 PUBLIC WELL.....24 SURFACE WATER SPRING.....31 RIVER/STREAM.....32 POND/LAKE.....33 DAM.....34 RAINWATER.....41 TANKER TRUCK.....51 BOTTLED WATER.....61 OTHER _____ 81 (SPECIFY)	
139	What kind of toilet facility does your household have?	FLUSH TOILET OWN FLUSH TOILET.....11 SHARED FLUSH TOILET.....12 PUBLIC FLUSH TOILET.....13 PIT TOILET/LATRINE OWN PIT TOILET/LATRINE.....21 SHARED PIT TOILET/LATRINE....22 PUBLIC PIT TOILET/LATRINE....23 NO FACILITY/BUSH/FIELD.....31 OTHER _____ 41 (SPECIFY)	
140	What is the main source of lighting for your household?	ELECTRICITY.....1 KEROSENE.....2 GAS.....3 OIL.....4 OTHER _____ 5 (SPECIFY)	
141	How many rooms are there in your household?	ROOMS..... <input style="width: 20px; height: 20px; border: 1px solid black; display: inline-block; vertical-align: middle;" type="text"/> <input style="width: 20px; height: 20px; border: 1px solid black; display: inline-block; vertical-align: middle;" type="text"/>	
142	Do you have a separate room which is used as a kitchen?	YES.....1 NO.....2	
143	What type of fuel does your household mainly use for cooking?	WOOD.....01 COW DUNG CAKES.....02 COAL/COKE/LIGNITE.....03 CHARCOAL.....04 KEROSENE.....05 ELECTRICITY.....06 LIQUID PETROLEUM GAS.....07 BIO-GAS.....08 OTHER _____ 09 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
144	<p>What materials have been used for the construction of roof, walls and floor of the house where you usually live?</p> <p>ROOF _____ WALLS _____ FLOOR _____</p>	<p>PUCCA.....1 KACHHA.....2 SEMI-PUCCA.....3</p>	
145	<p>What is the religion of the head of the household?</p>	<p>HINDU.....01 SIKH.....02 BUDDHIST/NEO BUDDHIST.....03 CHRISTIAN.....04 JAIN.....05 JEWISH.....06 MUSLIM.....07 ZOROASTRIAN.....08 NO RELIGION.....09 OTHER _____ 10 (SPECIFY)</p>	
146	<p>Does the head of the household belong to a scheduled tribe?</p>	<p>YES.....1 NO.....2 → 148</p>	
147	<p>What is the name of the tribe?</p>	<p>TRIBE _____ <input type="text"/> <input type="text"/> <input type="text"/> (NAME)</p>	→ 149
148	<p>To which caste does the head of the household belong?</p>	<p>CASTE _____ <input type="text"/> <input type="text"/> <input type="text"/> (NAME) NO CASTE.....996</p>	
149	<p>Does your household own any agricultural land?</p>	<p>YES.....1 NO.....2 → 152</p>	
150	<p>What is the size of <u>non-irrigated</u> land under cultivation, in acres?</p>	<p>ACRES..... <input type="text"/> <input type="text"/> <input type="text"/> NONE.....000 LESS THAN ONE.....996</p>	
151	<p>What is the size of <u>irrigated</u> land under cultivation, in acres?</p>	<p>ACRES..... <input type="text"/> <input type="text"/> <input type="text"/> NONE.....000 LESS THAN ONE.....996</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO																																																
152	Does your household own any livestock?	YES.....1 NO.....2	→ 155																																																
153	What type of livestock do you own? RECORD ALL MENTIONED.	BULLOCK.....A COW.....B BUFFALO.....C GOAT.....D SHEEP.....E CAMEL.....F OTHER _____ G (SPECIFY)																																																	
154	Where do you usually keep the animals at night?	IN THE HOUSE.....1 OUTSIDE THE HOUSE.....2																																																	
155	Does the household own any of the following?	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr><td>SEWING MACHINE.....</td><td>1</td><td>2</td></tr> <tr><td>CLOCK/WATCH.....</td><td>1</td><td>2</td></tr> <tr><td>SOFA SET.....</td><td>1</td><td>2</td></tr> <tr><td>FAN.....</td><td>1</td><td>2</td></tr> <tr><td>RADIO/TRANSISTOR.....</td><td>1</td><td>2</td></tr> <tr><td>REFRIGERATOR.....</td><td>1</td><td>2</td></tr> <tr><td>TELEVISION.....</td><td>1</td><td>2</td></tr> <tr><td>VCR/VCP.....</td><td>1</td><td>2</td></tr> <tr><td>BICYCLE.....</td><td>1</td><td>2</td></tr> <tr><td>MOTORCYCLE/SCOOTER.....</td><td>1</td><td>2</td></tr> <tr><td>CAR.....</td><td>1</td><td>2</td></tr> <tr><td>BULLOCK CART.....</td><td>1</td><td>2</td></tr> <tr><td>TRACTOR.....</td><td>1</td><td>2</td></tr> <tr><td>THRESHER.....</td><td>1</td><td>2</td></tr> <tr><td>WATER PUMP.....</td><td>1</td><td>2</td></tr> </tbody> </table>		YES	NO	SEWING MACHINE.....	1	2	CLOCK/WATCH.....	1	2	SOFA SET.....	1	2	FAN.....	1	2	RADIO/TRANSISTOR.....	1	2	REFRIGERATOR.....	1	2	TELEVISION.....	1	2	VCR/VCP.....	1	2	BICYCLE.....	1	2	MOTORCYCLE/SCOOTER.....	1	2	CAR.....	1	2	BULLOCK CART.....	1	2	TRACTOR.....	1	2	THRESHER.....	1	2	WATER PUMP.....	1	2	
	YES	NO																																																	
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TRACTOR.....	1	2																																																	
THRESHER.....	1	2																																																	
WATER PUMP.....	1	2																																																	
156	How many people are there in your household?	NUMBER OF PERSONS.....	<input type="text"/> <input type="text"/>																																																

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO				
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES.....1 NO.....2	→206				
202	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES.....1 NO.....2	→204				
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME..... DAUGHTERS AT HOME.....	<table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>				
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES.....1 NO.....2	→206				
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE..... DAUGHTERS ELSEWHERE.....	<table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>				
206	Have you ever given birth to a boy or a girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed any sign of life but only survived a few hours or days?	YES.....1 NO.....2	→208				
207	In all, how many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD..... GIRLS DEAD.....	<table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>				
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE RECORD '00'.	TOTAL.....	<table border="1"> <tr><td> </td><td> </td></tr> </table>				

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
209	<p>CHECK 208:</p> <p>Just to make sure that I have this right: you have had in TOTAL ___ births during your life. Is that correct?</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/> → PROBE AND CORRECT 201-208 AS NECESSARY</p> <p style="margin-left: 100px;">↓</p>		
210	Have you ever had a stillbirth?	YES.....1 NO.....2 → 212	
211	How many stillbirths have you had?	NUMBER OF STILLBIRTHS..... <input type="text"/>	
212	Have you ever had an abortion? PROBE FOR SPONTANEOUS AND INDUCED ABORTIONS.	YES.....1 NO.....2 → 214	
213	How many abortions have you had? PROBE FOR NUMBER OF SPONTANEOUS AND INDUCED ABORTIONS. IF NONE, RECORD '0'.	SPONTANEOUS ABORTIONS..... <input type="text"/> INDUCED ABORTIONS..... <input type="text"/>	
214	CHECK 208: ONE OR MORE BIRTHS <input type="checkbox"/> NO BIRTHS <input type="checkbox"/> → 226		

Now I would like to talk to you about all the births in your lifetime, whether currently alive or not, starting with the first one you had.

RECORD NAMES OF ALL THE BIRTHS IN 216. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.

216	217	218	219	220	221 IF ALIVE:	222 IF ALIVE:	223 IF DEAD:
What name was given to your (first, next) baby?	RECORD SINGLE OR MULTIPLE BIRTH STATUS.	Is (NAME) a boy or a girl?	In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season was he/she born?	Is (NAME) still alive?	How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	Is (NAME) living with you?	How old was he/she when he/she died? IF "1 YEAR", PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS.

01 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
02 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
03 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
04 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
05 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
06 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
07 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

216	217	218	219	220	221 IF ALIVE:	222 IF ALIVE:	223 IF DEAD:
What name was given to your next baby?	RECORD SINGLE OR MULTIPLE BIRTH STATUS.	Is (NAME) a boy or a girl?	In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season was he/she born?	Is (NAME) still alive?	How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	Is (NAME) living with you?	How old was he/she when he/she died? IF "1 YEAR", PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH, MONTHS IF LESS THAN TWO YEARS, OR YEARS.

08 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS...1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/>
09 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS...1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/>
10 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS...1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/>
11 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS...1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/>
12 <hr/> (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. YEAR... <input type="text"/> <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/> <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS...1 MONTHS..2 YEARS...3 <input type="text"/> <input type="text"/> <input type="text"/>

224	<p>COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK:</p> <p>NUMBERS ARE SAME <input type="checkbox"/> NUMBERS ARE DIFFERENT <input type="checkbox"/> → (PROBE AND RECONCILE)</p> <p>CHECK: FOR EACH BIRTH: YEAR OF BIRTH IS RECORDED. FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED. FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED. FOR AGE AT DEATH 12 MONTHS: PROBE TO DETERMINE EXACT NUMBER OF MONTHS. FOR EACH CALENDAR BIRTH INTERVAL 4 OR 4+ YEARS: EXPLANATION IS GIVEN.</p> <div style="float: right; border: 1px solid black; width: 30px; height: 40px; margin-left: 10px;"></div>
225	<p>CHECK 219 AND ENTER THE NUMBER OF BIRTHS SINCE JANUARY 1989. IF NONE, RECORD '0'.</p> <div style="float: right; border: 1px solid black; width: 30px; height: 30px; margin-left: 10px;"></div>

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
226	CHECK 107: CURRENTLY MARRIED <input type="checkbox"/> WIDOWED DIVORCED SEPARATED <input type="checkbox"/>	_____ → 232	232
227	Are you pregnant now?	YES.....1 NO.....2 UNSURE.....8	230
228	How many months pregnant are you?	MONTHS..... <input type="text"/>	
229	At the time you became pregnant, did you want to become pregnant <u>then</u> , did you want to wait until <u>later</u> , or did you <u>not want</u> to become pregnant at all?	THEN.....1 LATER.....2 NOT AT ALL.....3	232
230	Are you currently menstruating?	YES1 NO IN MENOPAUSE.....2 NO IN AMENORRHOEA.....3 NEVER MENSTRUATED.....4	232
231	When did your last menstrual period start?	MONTH..... <input type="text"/> YEAR..... <input type="text"/>	
232	How old were you when you experienced your first monthly period?	AGE IN YEARS..... <input type="text"/>	

SECTION 3. CONTRACEPTION

301

Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Which ways or methods have you heard about?

CIRCLE CODE 1 IN 302 FOR EACH METHOD MENTIONED SPONTANEOUSLY.
 THEN PROCEED DOWN THE COLUMN, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY.
 CIRCLE CODE 2 IF METHOD IS RECOGNIZED, AND CODE 3 IF NOT RECOGNIZED.
 THEN, FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN 302, ASK 303-304 BEFORE PROCEEDING TO THE NEXT METHOD.

	302	303	304
	Have you ever heard of (METHOD)? READ DESCRIPTION OF EACH METHOD.	Have you ever used (METHOD)?	Do you know where a person could go to get (METHOD)?
01	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
	<u>Pill</u> Women can take a pill every day.		
02	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
	<u>Loop or Copper I</u> Women can have a loop or coil placed inside them by a doctor or a nurse.		
03	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
	<u>Injections</u> Women can have an injection given by a doctor or nurse which stops them from becoming pregnant for several months.		
04	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
	<u>Condom or Nirodh</u> Men can use a rubber sheath during sexual intercourse.		
05	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3	Have you ever had an operation to avoid having any more children? YES.....1 NO.....2	YES.....1 NO.....2
	<u>Female sterilization</u> Women can have an operation to avoid having any more children.		

	302	303	304
	Have you ever heard of (METHOD)? READ DESCRIPTION OF EACH METHOD.	Have you ever used (METHOD)?	Do you know where a person could go to get (METHOD)?
06	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3 <u>Male sterilization</u> Men can have an operation to avoid having any more children.	Has your husband ever had an operation to avoid having any more children? YES.....1 NO.....2	YES.....1 NO.....2
07	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3 <u>Rhythm or Periodic abstinence</u> Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to become pregnant.	YES.....1 NO.....2	Do you know where a person can obtain advice on how to practice periodic abstinence? YES.....1 NO.....2
08	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3 <u>Withdrawal</u> Men can be careful and pull out before climax.	YES.....1 NO.....2	
09	Have you heard of any other ways or methods that women or men can use to avoid pregnancy? 1 _____ (SPECIFY) 2 _____ (SPECIFY) 3 _____ (SPECIFY)	YES/SPONTANEOUS.....1 NO.....3 YES.....1 NO.....2 YES.....1 NO.....2 YES.....1 NO.....2	
305	CHECK, 303: NOT A SINGLE "YES" (NEVER USED) <input type="checkbox"/>	AT LEAST ONE "YES" (EVER USED) <input type="checkbox"/>	SKIP TO 308

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
306	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES..... <input type="checkbox"/> NO..... <input type="checkbox"/>	344
307	What have you used or done? CORRECT 303-305 (AND 302 IF NECESSARY).		
308	Now I would like to ask you about the time when you first did something or used a method to avoid getting pregnant. How many living children did you have at that time, if any? IF NONE, RECORD '00'.	NUMBER OF CHILDREN..... <input type="text"/>	
309	CHECK 107:	CURRENTLY MARRIED <input type="checkbox"/> WIDOWED DIVORCED SEPARATED <input type="checkbox"/>	352
310	CHECK 227:	NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/>	345
311	CHECK 303:	NEITHER STERILIZED <input type="checkbox"/> HE OR SHE STERILIZED <input type="checkbox"/>	313A
312	Are you or your husband currently doing something or using any method to delay or avoid getting pregnant?	YES..... 1 NO..... 2	342

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
313	Which method are you using?	PILL.....01 LOOP/COPPER T.....02 → 321 INJECTION.....03 → 328 CONDOM/NIRODH.....04 → 330 FEMALE STERILIZATION.....05 MALE STERILIZATION.....06 → 332 RHYTHM/PERIODIC ABSTINENCE.....07 WITHDRAWAL.....08 → 341 OTHER.....09 (SPECIFY)	
313A	CIRCLE '05' FOR FEMALE STERILIZATION. CIRCLE '06' FOR MALE STERILIZATION.		
314	For how many months have you been using the pill continuously? IF LESS THAN 1 MONTH, RECORD '00'.	MONTHS..... <input type="text"/> <input type="text"/> 8 YEARS OR LONGER.....96	
315	At the time you first started using the pill, did you consult a doctor or a nurse ?	YES.....1 NO.....2	
316	Once you started using the pill, did a health worker come to visit you for a follow-up related to your use of the pill?	YES.....1 NO.....2	
317	Once you started using the pill, did you go to consult a medical or health person about your experience with the use of the pill?	YES.....1 NO.....2	
318	Have you had any problems with the use of the pill?	YES.....1 NO.....2 → 320	
319	What problems have you had? RECORD ALL PROBLEMS MENTIONED.	CRAMPS.....A WEIGHT GAIN.....B DIZZINESS.....C BODY ACHE.....D SPOTTING/BLEEDING.....E WHITE DISCHARGE.....F BREAST TENDERNESS.....G NAUSEA/VOMITING.....H CANCER.....I ALLERGY.....J HEADACHE.....K OTHER.....L (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
326	Have you had any problems with the use of the (LOOP/COPPER T)?	YES.....1 NO.....2	→352
327	What problems have you had? RECORD ALL PROBLEMS MENTIONED	CRAMPS.....A BACKACHE.....B IRREGULAR PERIODS.....C EXCESSIVE BLEEDING.....D WEAKNESS/INABILITY TO WORK.....E EXPULSION.....F OTHER _____ G (SPECIFY)	→352
328	For how many months have you been using injections continuously? IF LESS THAN 1 MONTH, RECORD '00'.	MONTHS..... <input type="text"/> <input type="text"/> 8 YEARS OR LONGER.....96	
329	Where did you obtain the injection the last time? _____ (NAME OF HOSPITAL IF CODE 11 OR 21)	PUBLIC SECTOR GOVT./MUNICIPAL HOSPITAL.....11 PRIMARY HEALTH CENTRE.....12 SUB-CENTRE.....13 FAMILY PLANNING CLINIC.....14 MOBILE CLINIC.....15 GOVERNMENT PARAMEDIC.....16 PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL OR CLINIC....21 PRIVATE DOCTOR.....22 MOBILE CLINIC.....23 OTHER _____ 31 (SPECIFY)	→352
330	For how many months have you been using (condoms/Nirodhs) continuously? IF LESS THAN 1 MONTH, RECORD '00'.	MONTHS..... <input type="text"/> <input type="text"/> 8 YEARS OR LONGER.....96	
331	Where did you obtain the (condoms/Nirodhs) the last time? _____ (NAME OF HOSPITAL IF CODE 11 OR 21)	PUBLIC SECTOR GOVT./MUNICIPAL HOSPITAL.....11 PRIMARY HEALTH CENTRE.....12 SUB-CENTRE.....13 FAMILY PLANNING CLINIC.....14 MOBILE CLINIC.....15 GOVERNMENT PARAMEDIC.....16 PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL OR CLINIC....21 PHARMACY/DRUGSTORE.....22 PRIVATE DOCTOR.....23 MOBILE CLINIC.....24 FIELD WORKER.....25 OTHER PRIVATE SECTOR SHOP.....31 HUSBAND.....32 FRIENDS/RELATIVES.....33 OTHER _____ 41 (SPECIFY) DK.....98	→352

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
339	(Have you/Has your husband) had any problems as a result of the sterilization (operation)?	YES.....1 NO.....2	→352
340	What problems (have you/has he) had? RECORD ALL PROBLEMS MENTIONED	FEVER.....A PAIN/BACKACHE.....B SEPSIS.....C WEAKNESS/INABILITY TO WORK.....D FAILURE/GOT PREGNANT.....E LOSS OF SEXUAL POWER.....F OTHER _____ G (SPECIFY)	→352
341	For how many months have you been using (CURRENT METHOD) continuously? IF LESS THAN 1 MONTH, RECORD '00'	MONTHS..... 8 YEARS OR LONGER.....96	→350
342	What is the main reason you stopped using family planning?	METHOD FAILED/GOT PREGNANT.....01 LACK OF SEXUAL SATISFACTION.....02 CREATED MENSTRUAL PROBLEM.....03 CREATED HEALTH PROBLEM.....04 INCONVENIENT TO USE.....05 HARD TO GET METHOD.....06 PUT ON WEIGHT.....07 DID NOT LIKE THE METHOD.....08 WANTED TO HAVE A CHILD.....09 WANTED TO REPLACE DEAD CHILD...10 LACK OF PRIVACY FOR USE.....11 OTHER _____ 12 (SPECIFY)	→345

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO					
343	What was the outcome of that pregnancy?	INDUCED ABORTION.....1 SPONTANEOUS ABORTION.....2 STILLBIRTH.....3 LIVE BIRTH.....4						
344	CHECK 107:	<table border="0"> <tr> <td>CURRENTLY MARRIED</td> <td><input type="checkbox"/></td> <td>WIDOWED DIVORCED SEPARATED</td> <td><input type="checkbox"/></td> <td>→352</td> </tr> </table>		CURRENTLY MARRIED	<input type="checkbox"/>	WIDOWED DIVORCED SEPARATED	<input type="checkbox"/>	→352
CURRENTLY MARRIED	<input type="checkbox"/>	WIDOWED DIVORCED SEPARATED	<input type="checkbox"/>	→352				
345	Do you intend to use a method to delay or avoid pregnancy at any time in the future?	YES.....1 NO.....2 DK.....8	→347 →352					
346	What is the main reason you do not intend to use a method?	WANTS CHILDREN.....01 WANTS A SON.....02 WANTS A DAUGHTER.....19 LACK OF KNOWLEDGE.....03 AFRAID OF STERILIZATION.....04 CAN'T WORK AFTER STERILIZATION.....05 COST TOO MUCH.....06 WORRY ABOUT SIDE EFFECTS.....07 HARD TO GET METHODS.....08 AGAINST RELIGION.....09 OPPOSED TO FAMILY PLANNING.....10 HUSBAND OPPOSED.....11 OTHER PEOPLE OPPOSED.....12 DIFFICULT TO GET PREGNANT.....13 HEALTH DOES NOT PERMIT.....14 MENOPAUSAL/HAD HYSTERECTOMY.....15 INCONVENIENT.....16 DON'T LIKE EXISTING METHODS.....17 OTHER.....18 (SPECIFY)	→350					
347	Do you intend to use a method within the next 12 months?	YES.....1 NO.....2 DK.....8						
348	When you use a method, which method would you prefer to use?	PILL.....01 LOOP/COPPER T.....02 INJECTION.....03 CONDOM/NIRODH.....04 FEMALE STERILIZATION.....05 MALE STERILIZATION.....06 RHYTHM/PERIODIC ABSTINENCE.....07 WITHDRAWAL.....08 OTHER.....09 (SPECIFY) UNSURE.....98	→350					

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO									
349	<p>Where can you get (METHOD MENTIONED IN 348)?</p> <p>_____ (NAME OF HOSPITAL IF CODE 11 OR 21)</p>	<p>PUBLIC SECTOR</p> <p>GOVT./MUNICIPAL HOSPITAL.....11</p> <p>PRIMARY HEALTH CENTRE.....12</p> <p>SUB-CENTRE.....13</p> <p>FAMILY PLANNING CLINIC.....14</p> <p>MOBILE CLINIC.....15</p> <p>GOVERNMENT PARAMEDIC.....16</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PRIVATE HOSPITAL OR CLINIC....21</p> <p>PHARMACY/DRUGSTORE.....22</p> <p>PRIVATE DOCTOR.....23</p> <p>MOBILE CLINIC.....24</p> <p>FIELD WORKER.....25</p> <p>OTHER PRIVATE SECTOR</p> <p>SHOP.....31</p> <p>FRIENDS/RELATIVES.....32</p> <p>OTHER.....41</p> <p>(SPECIFY)</p> <p>DK.....98</p>	→352									
350	<p>Do you know of a place where you can obtain a method of family planning?</p>	<p>YES.....1</p> <p>NO.....2</p>	→352									
351	<p>Where is that?</p> <p>_____ (NAME OF HOSPITAL IF CODE 11 OR 21)</p>	<p>PUBLIC SECTOR</p> <p>GOVT./MUNICIPAL HOSPITAL.....11</p> <p>PRIMARY HEALTH CENTRE.....12</p> <p>SUB-CENTRE.....13</p> <p>FAMILY PLANNING CLINIC.....14</p> <p>MOBILE CLINIC.....15</p> <p>GOVERNMENT PARAMEDIC.....16</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PRIVATE HOSPITAL OR CLINIC....21</p> <p>PHARMACY/DRUGSTORE.....22</p> <p>PRIVATE DOCTOR.....23</p> <p>MOBILE CLINIC.....24</p> <p>FIELD WORKER.....25</p> <p>OTHER PRIVATE SECTOR</p> <p>SHOP.....31</p> <p>FRIENDS/RELATIVES.....32</p> <p>OTHER.....41</p> <p>(SPECIFY)</p>										
352	<p>In the last month, have you heard a message about family planning on:</p> <p>the radio?</p> <p>television?</p>	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>RADIO.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>TELEVISION.....</td> <td>1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	RADIO.....	1	2	TELEVISION.....	1	2	
	YES	NO										
RADIO.....	1	2										
TELEVISION.....	1	2										
353	<p>Is it acceptable or not acceptable to you for family planning information to be provided on the radio or television?</p>	<p>ACCEPTABLE.....1</p> <p>NOT ACCEPTABLE.....2</p> <p>DK.....8</p>										

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO										
343	What was the outcome of that pregnancy?	INDUCED ABORTION.....1 SPONTANEOUS ABORTION.....2 STILLBIRTH.....3 LIVE BIRTH.....4											
344	CHECK 107:	<table border="0"> <tr> <td>CURRENTLY MARRIED</td> <td><input type="checkbox"/></td> <td>WIDOWED DIVORCED SEPARATED</td> <td><input type="checkbox"/></td> <td>→352</td> </tr> <tr> <td></td> <td>v</td> <td></td> <td></td> <td></td> </tr> </table>		CURRENTLY MARRIED	<input type="checkbox"/>	WIDOWED DIVORCED SEPARATED	<input type="checkbox"/>	→352		v			
CURRENTLY MARRIED	<input type="checkbox"/>	WIDOWED DIVORCED SEPARATED	<input type="checkbox"/>	→352									
	v												
345	Do you intend to use a method to delay or avoid pregnancy at any time in the future?	YES.....1 →347 NO.....2 DK.....8 →352											
346	What is the main reason you do not intend to use a method?	WANTS CHILDREN.....01 WANTS A SON.....02 WANTS A DAUGHTER.....19 LACK OF KNOWLEDGE.....03 AFRAID OF STERILIZATION.....04 CAN'T WORK AFTER STERILIZATION.....05 COST TOO MUCH.....06 WORRY ABOUT SIDE EFFECTS.....07 HARD TO GET METHODS.....08 AGAINST RELIGION.....09 OPPOSED TO FAMILY PLANNING.....10 HUSBAND OPPOSED.....11 OTHER PEOPLE OPPOSED.....12 DIFFICULT TO GET PREGNANT.....13 HEALTH DOES NOT PERMIT.....14 MENOPAUSAL/HAD HYSTERECTOMY.....15 INCONVENIENT.....16 DON'T LIKE EXISTING METHODS.....17 OTHER.....18 (SPECIFY)	→350										
347	Do you intend to use a method within the next 12 months?	YES.....1 NO.....2 DK.....8											
348	When you use a method, which method would you prefer to use?	PILL.....01 LOOP/COPPER T.....02 INJECTION.....03 CONDOM/NIRODH.....04 FEMALE STERILIZATION.....05 MALE STERILIZATION.....06 RHYTHM/PERIODIC ABSTINENCE.....07 WITHDRAWAL.....08 OTHER.....09 (SPECIFY) UNSURE.....98	→350										

SECTION 4A. PREGNANCY AND BREASTFEEDING

401	CHECK 225: ONE OR MORE BIRTHS SINCE JAN. 1989 <input type="checkbox"/>	NO BIRTHS SINCE JAN. 1989 <input type="checkbox"/> → (SKIP TO 501)
-----	--	---

402 ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 1989 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, RECORD ONLY THE LAST 3 BIRTHS).

Now I would like to ask you some more questions about the health of all your children born in the past four years. (We will talk about one child at a time.)

LINE NUMBER FROM Q. 216	<input type="text"/>	<input type="text"/>	<input type="text"/>
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FROM Q. 216 AND Q. 220	LAST BIRTH	NEXT-TO-LAST BIRTH	.SECOND-FROM-LAST BIRTH
	NAME _____	NAME _____	NAME _____
	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>

403	THEN.....1 (SKIP TO 405)← LATER.....2 NO MORE.....3 (SKIP TO 405)← At the time you became pregnant with (NAME), did you want to become pregnant <u>then</u> , did you want to wait until <u>later</u> or did you want <u>no (more)</u> children at all?	THEN.....1 (SKIP TO 405)← LATER.....2 NO MORE.....3 (SKIP TO 405)←	THEN.....1 (SKIP TO 405)← LATER.....2 NO MORE.....3 (SKIP TO 405)←
-----	--	--	--

404	MONTHS.....1 <input type="text"/> YEARS.....2 <input type="text"/> DK.....998	MONTHS.....1 <input type="text"/> YEARS.....2 <input type="text"/> DK.....998	MONTHS.....1 <input type="text"/> YEARS.....2 <input type="text"/> DK.....998
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How much longer would you like to have waited?

405	YES.....1 NO.....2 (SKIP TO 408)← When you were pregnant with (NAME), did any health worker visit you at home for an antenatal check-up?	YES.....1 NO.....2 (SKIP TO 408)←	YES.....1 NO.....2 (SKIP TO 408)←
-----	---	---	---

406	MONTHS..... <input type="text"/>	MONTHS..... <input type="text"/>	MONTHS..... <input type="text"/>
-----	----------------------------------	----------------------------------	----------------------------------

How many months pregnant were you when a health worker first visited you?

	NAME _____ LAST BIRTH	NAME _____ NEXT-TO-LAST BIRTH	NAME _____ SECOND-FROM-LAST BIRTH	
407	How many times did she visit you? NO. OF VISITS..... <input type="text"/> <input type="text"/>	NO. OF VISITS..... <input type="text"/> <input type="text"/>	NO. OF VISITS..... <input type="text"/> <input type="text"/>	
408	When you were pregnant with (NAME), did you go for an antenatal check-up? YES.....1 NO.....2 (SKIP TO 412)←	YES.....1 NO.....2 (SKIP TO 412)←	YES.....1 NO.....2 (SKIP TO 412)←	
409	Whom did you see? Anyone else? RECORD ALL PERSONS SEEN.	HEALTH PROFESSIONAL DOCTOR.....A AYURVEDIC DOCTOR/VAID...B HOMEOPATH.....C NURSE/MIDWIFE.....D OTHER HEALTH PROFSSNL...E OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT.....F TRADITIONAL BIRTH ATTENDANT.....G HAKIM.....H OTHER.....I (SPECIFY)	HEALTH PROFESSIONAL DOCTOR.....A AYURVEDIC DOCTOR/VAID...B HOMEOPATH.....C NURSE/MIDWIFE.....D OTHER HEALTH PROFSSNL...E OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT.....F TRADITIONAL BIRTH ATTENDANT.....G HAKIM.....H OTHER.....I (SPECIFY)	HEALTH PROFESSIONAL DOCTOR.....A AYURVEDIC DOCTOR/VAID...B HOMEOPATH.....C NURSE/MIDWIFE.....D OTHER HEALTH PROFSSNL...E OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT.....F TRADITIONAL BIRTH ATTENDANT.....G HAKIM.....H OTHER.....I (SPECIFY)
410	How many months pregnant were you when you first went for an antenatal check-up? MONTHS..... <input type="text"/> <input type="text"/>	MONTHS..... <input type="text"/> <input type="text"/>	MONTHS..... <input type="text"/> <input type="text"/>	
411	How many times did you go for an antenatal check-up? NO. OF TIMES..... <input type="text"/> <input type="text"/> (SKIP TO 413)←	NO. OF TIMES..... <input type="text"/> <input type="text"/> (SKIP TO 413)←	NO. OF TIMES..... <input type="text"/> <input type="text"/> (SKIP TO 413)←	
412	What is the main reason you did not go for an antenatal check-up?	LACK OF KNOWLEDGE OF SERVICES.....01 NOT NECESSARY.....02 NOT CUSTOMARY.....03 FINANCIAL COST.....04 INCONVENIENT.....05 POOR QUALITY SERVICE...06 HEALTH STAFF VISIT AT HOME.....07 NO TIME TO GO.....08 NOT PERMITTED TO GO....09 OTHER.....10 (SPECIFY)	LACK OF KNOWLEDGE OF SERVICES.....01 NOT NECESSARY.....02 NOT CUSTOMARY.....03 FINANCIAL COST.....04 INCONVENIENT.....05 POOR QUALITY SERVICE...06 HEALTH STAFF VISIT AT HOME.....07 NO TIME TO GO.....08 NOT PERMITTED TO GO....09 OTHER.....10 (SPECIFY)	LACK OF KNOWLEDGE OF SERVICES.....01 NOT NECESSARY.....02 NOT CUSTOMARY.....03 FINANCIAL COST.....04 INCONVENIENT.....05 POOR QUALITY SERVICE...06 HEALTH STAFF VISIT AT HOME.....07 NO TIME TO GO.....08 NOT PERMITTED TO GO....09 OTHER.....10 (SPECIFY)

SECTION 4A. PREGNANCY AND BREASTFEEDING

401	CHECK 225: ONE OR MORE BIRTHS SINCE JAN. 1989 <input type="checkbox"/>	NO BIRTHS SINCE JAN. 1989 <input type="checkbox"/> → (SKIP TO 501)
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402 ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 1989 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, RECORD ONLY THE LAST 3 BIRTHS).

Now I would like to ask you some more questions about the health of all your children born in the past four years. (We will talk about one child at a time.)

LINE NUMBER FROM Q. 216	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
FROM Q. 216 AND Q. 220	LAST BIRTH NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	NEXT-TO-LAST BIRTH NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	SECOND-FROM-LAST BIRTH NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>

403 At the time you became pregnant with (NAME), did you want to become pregnant <u>then</u> , did you want to wait until <u>later</u> or did you want <u>no (more)</u> children at all?	THEN.....1 (SKIP TO 405)←2 LATER.....2 NO MORE.....3 (SKIP TO 405)←3	THEN.....1 (SKIP TO 405)←2 LATER.....2 NO MORE.....3 (SKIP TO 405)←3	THEN.....1 (SKIP TO 405)←2 LATER.....2 NO MORE.....3 (SKIP TO 405)←3
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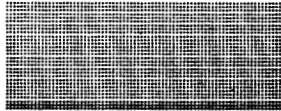
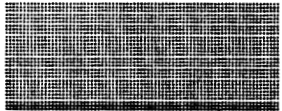
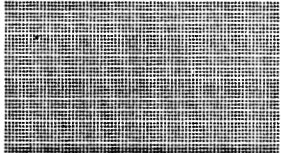
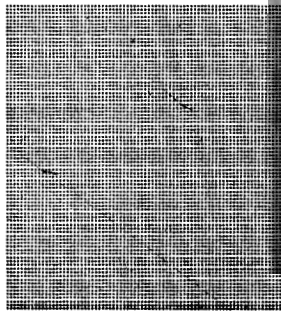
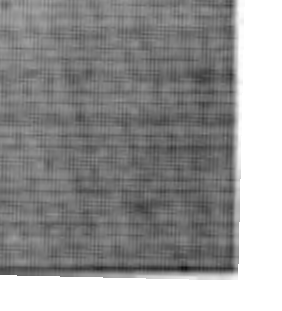
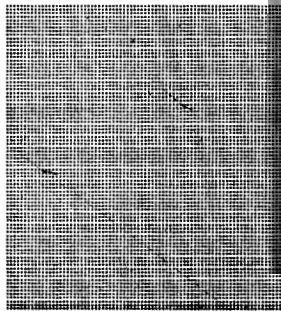
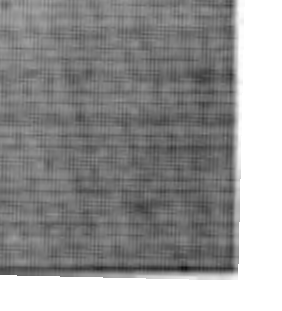
404 How much longer would you like to have waited?	MONTHS.....1 <input type="text"/> <input type="text"/> YEARS.....2 <input type="text"/> <input type="text"/> DK.....998	MONTHS.....1 <input type="text"/> <input type="text"/> YEARS.....2 <input type="text"/> <input type="text"/> DK.....998	MONTHS.....1 <input type="text"/> <input type="text"/> YEARS.....2 <input type="text"/> <input type="text"/> DK.....998
---	---	---	---

405 When you were pregnant with (NAME), did any health worker visit you at home for an antenatal check-up?	YES.....1 NO.....2 (SKIP TO 408)←2	YES.....1 NO.....2 (SKIP TO 408)←2	YES.....1 NO.....2 (SKIP TO 408)←2
---	--	--	--

406 How many months pregnant were you when a health worker first visited you?	MONTHS..... <input type="text"/> <input type="text"/>	MONTHS..... <input type="text"/> <input type="text"/>	MONTHS..... <input type="text"/> <input type="text"/>
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	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
413	<p>Were you given any iron folic tablets during this pregnancy?</p> <p>YES.....1 NO.....2</p>	<p>YES.....1 NO.....2</p>	<p>YES.....1 NO.....2</p>
414	<p>When you were pregnant with (NAME), were you given an injection in the arm to prevent you and the baby from getting tetanus, that is, convulsions?</p> <p>YES.....1 NO.....2 (SKIP TO 416) ← DK.....8</p>	<p>YES.....1 NO.....2 (SKIP TO 416) ← DK.....8</p>	<p>YES.....1 NO.....2 (SKIP TO 416) ← DK.....8</p>
415	<p>During this pregnancy how many times did you get this injection?</p> <p>TIMES..... <input type="text"/> DK.....8</p>	<p>TIMES..... <input type="text"/> DK.....8</p>	<p>TIMES..... <input type="text"/> DK.....8</p>
416	<p>Where did you give birth to (NAME)?</p> <p>HOME YOUR HOME.....11 PARENTS' HOME.....12 OTHER HOME.....13</p> <p>PUBLIC SECTOR GVT./MUNICIPAL HOSPITAL..21 PRIMARY HEALTH CENTRE..22 SUB-CENTRE.....23</p> <p>PRIVATE SECTOR PRIVATE HOSPITAL/ CLINIC/MATERNITY HOME..31 OTHER.....41 (SPECIFY)</p>	<p>HOME YOUR HOME.....11 PARENTS' HOME.....12 OTHER HOME.....13</p> <p>PUBLIC SECTOR GVT./MUNICIPAL HOSPITAL..21 PRIMARY HEALTH CENTRE..22 SUB-CENTRE.....23</p> <p>PRIVATE SECTOR PRIVATE HOSPITAL/ CLINIC/MATERNITY HOME..31 OTHER.....41 (SPECIFY)</p>	<p>HOME YOUR HOME.....11 PARENTS' HOME.....12 OTHER HOME.....13</p> <p>PUBLIC SECTOR GVT./MUNICIPAL HOSPITAL..21 PRIMARY HEALTH CENTRE..22 SUB-CENTRE.....23</p> <p>PRIVATE SECTOR PRIVATE HOSPITAL/ CLINIC/MATERNITY HOME..31 OTHER.....41 (SPECIFY)</p>

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
417	<p>HEALTH PROFESSIONAL DOCTOR.....A AYURVEDIC DOCTOR/VAID...B NURSE/MIDWIFE.....C ANM/LHV.....D</p> <p>OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT.....E TRADITIONAL BIRTH ATTENDANT.....F RELATIVE/FRIEND.....G OTHER.....H (SPECIFY) NO ONE.....I</p> <p>Who assisted with the delivery of (NAME)?</p> <p>Anyone else?</p> <p>PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING.</p>	<p>HEALTH PROFESSIONAL DOCTOR.....A AYURVEDIC DOCTOR/VAID...B NURSE/MIDWIFE.....C ANM/LHV.....D</p> <p>OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT.....E TRADITIONAL BIRTH ATTENDANT.....F RELATIVE/FRIEND.....G OTHER.....H (SPECIFY) NO ONE.....I</p>	<p>HEALTH PROFESSIONAL DOCTOR.....A AYURVEDIC DOCTOR/VAID...B NURSE/MIDWIFE.....C ANM/LHV.....D</p> <p>OTHER PERSON TRAINED (TRADITIONAL) BIRTH ATTENDANT.....E TRADITIONAL BIRTH ATTENDANT.....F RELATIVE/FRIEND.....G OTHER.....H (SPECIFY) NO ONE.....I</p>
418	<p>ON TIME.....1 PREMATURELY.....2 DK.....8</p> <p>Was (NAME) born on time or prematurely?</p>	<p>ON TIME.....1 PREMATURELY.....2 DK.....8</p>	<p>ON TIME.....1 PREMATURELY.....2 DK.....8</p>
419	<p>YES.....1 NO.....2 (SKIP TO 421)←</p> <p>Were there any complications in the delivery of (NAME)?</p>	<p>YES.....1 NO.....2 (SKIP TO 421)←</p>	<p>YES.....1 NO.....2 (SKIP TO 421)←</p>
420	<p>CAESARIAN SECTION.....A USE OF FORCEPS.....B EXCESSIVE BLEEDING.....C LONG PERIOD OF LABOR.....D DELAYED DELIVERY OF PLACENTA.....E OTHER.....F (SPECIFY)</p> <p>What were the complications?</p> <p>RECORD ALL MENTIONED.</p>	<p>CAESARIAN SECTION.....A USE OF FORCEPS.....B EXCESSIVE BLEEDING.....C LONG PERIOD OF LABOR.....D DELAYED DELIVERY OF PLACENTA.....E OTHER.....F (SPECIFY)</p>	<p>CAESARIAN SECTION.....A USE OF FORCEPS.....B EXCESSIVE BLEEDING.....C LONG PERIOD OF LABOR.....D DELAYED DELIVERY OF PLACENTA.....E OTHER.....F (SPECIFY)</p>
421	<p>LARGE.....1 AVERAGE.....2 SMALL.....3 DK.....8</p> <p>When (NAME) was born, was he/she: large, average or small?</p>	<p>LARGE.....1 AVERAGE.....2 SMALL.....3 DK.....8</p>	<p>LARGE.....1 AVERAGE.....2 SMALL.....3 DK.....8</p>
422	<p>YES.....1 NO.....2 (SKIP TO 424)←</p> <p>Was (NAME) weighed at birth?</p>	<p>YES.....1 NO.....2 (SKIP TO 425)←</p>	<p>YES.....1 NO.....2 (SKIP TO 425)←</p>

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
423	<p>How much did (NAME) weigh?</p> <p>GRAMS.....1 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>POUNDS OUNCES</p> <p>POUNDS....2 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>DK.....99998</p>	<p>GRAMS.....1 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>POUNDS OUNCES</p> <p>POUNDS....2 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>DK.....99998</p>	<p>GRAMS.....1 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>POUNDS OUNCES</p> <p>POUNDS....2 <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>DK.....99998</p>
424	<p>Has your period returned since the birth of (NAME)?</p> <p>YES1 (SKIP TO 426) ←</p> <p>NO.....2 (SKIP TO 427) ←</p>		
425		<p>YES1</p> <p>NO.....2 (SKIP TO 429) ←</p>	<p>YES1</p> <p>NO.....2 (SKIP TO 429) ←</p>
426	<p>For how many months after the birth of (NAME) did you <u>not</u> have a period?</p> <p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>	<p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>	<p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>
427	<p>CHECK 227:</p> <p>RESPONDENT PREGNANT?</p> <p>NOT PREGNANT <input type="checkbox"/></p> <p>PREGNANT OR UNSURE <input type="checkbox"/></p> <p>(SKIP TO 429)</p>		
428	<p>Have you resumed sexual relations since the birth of (NAME)?</p> <p>YES.....1</p> <p>NO.....2 (SKIP TO 430) ←</p>		
429	<p>For how many months after the birth of (NAME) did you <u>not</u> have sexual relations?</p> <p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>	<p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>	<p>MONTHS..... <input type="text"/> <input type="text"/></p> <p>DK.....98</p>

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
430	<p>Did you ever breastfeed (NAME)?</p> <p>YES.....1 (SKIP TO 432)←</p> <p>NO.....2</p>	<p>YES.....1 (SKIP TO 440)←</p> <p>NO.....2</p>	<p>YES.....1 (SKIP TO 440)←</p> <p>NO.....2</p>
431	<p>Why did you not breastfeed (NAME)?</p> <p>MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 OTHER.....08 (SPECIFY) (SKIP TO 442)←</p>	<p>MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 OTHER.....08 (SPECIFY) (SKIP TO 442)←</p>	<p>MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 INSUFFICIENT MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 OTHER.....08 (SPECIFY) (SKIP TO 442)←</p>
432	<p>How long after birth did you first put (NAME) to the breast?</p> <p>IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.</p> <p>IMMEDIATELY.....000</p> <p>HOURS.....1 <input type="text"/> <input type="text"/></p> <p>DAYS.....2 <input type="text"/> <input type="text"/></p>		
433	<p>Did you squeeze out the milk from the breast before you first put (NAME) to the breast?</p> <p>YES.....1 NO.....2</p>		
434	<p>CHECK 220: CHILD ALIVE?</p> <p>ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> ↓ ↓ v v (SKIP TO 440)</p>		
435	<p>Are you still breastfeeding (NAME)?</p> <p>YES.....1 NO.....2 (SKIP TO 440)←</p>		
436	<p>How many times did you breastfeed last night between sunset and sunrise?</p> <p>IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE ANSWER.</p> <p>NUMBER OF NIGHTTIME FEEDINGS <input type="text"/></p>		
437	<p>How many times did you breastfeed yesterday during the daylight hours?</p> <p>IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE ANSWER.</p> <p>NUMBER OF DAYTIME FEEDINGS <input type="text"/></p>		

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
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438

At any time yesterday or last night, was (NAME) given any of the following?:

	YES	NO
Plain water?	PLAIN WATER.....1	2
Sugar/honey water?	SUGAR/HONEY WATER....1	2
Juice?	JUICE.....1	2
Tea?	TEA.....1	2
Baby formula?	BABY FORMULA.....1	2
Fresh milk?	FRESH MILK.....1	2
Tinned/powdered milk?	TINNED/POWDERED MILK.1	2
Other liquids?	OTHER LIQUIDS.....1	2
Any solid or mushy food?	SOLID/MUSHY FOOD.....1	2

439 CHECK 438:
FOOD OR LIQUID GIVEN
YESTERDAY?

"YES" TO ONE OR MORE

"NO" TO ALL

↓ (SKIP TO 444)

↓ (SKIP TO 443)

440

	MONTHS.....	MONTHS.....	MONTHS.....
For how many months did you breastfeed (NAME)?	UNTIL DIED.....96 (SKIP TO 443)←	UNTIL DIED.....96 (SKIP TO 443)←	UNTIL DIED.....96 (SKIP TO 443)←

441

Why did you stop breastfeeding (NAME)?

	LAST BIRTH	NEXT-TO-LAST BIRTH	SECOND-FROM-LAST BIRTH
MOTHER ILL/WEAK.....01	MOTHER ILL/WEAK.....01	MOTHER ILL/WEAK.....01	
CHILD ILL/WEAK.....02	CHILD ILL/WEAK.....02	CHILD ILL/WEAK.....02	
CHILD DIED.....03	CHILD DIED.....03	CHILD DIED.....03	
NIPPLE/BREAST PROBLEM...04	NIPPLE/BREAST PROBLEM...04	NIPPLE/BREAST PROBLEM...04	
INSUFFICIENT MILK.....05	INSUFFICIENT MILK.....05	INSUFFICIENT MILK.....05	
MOTHER WORKING.....06	MOTHER WORKING.....06	MOTHER WORKING.....06	
CHILD REFUSED.....07	CHILD REFUSED.....07	CHILD REFUSED.....07	
WEANING AGE.....08	WEANING AGE.....08	WEANING AGE.....08	
BECAME PREGNANT.....09	BECAME PREGNANT.....09	BECAME PREGNANT.....09	
STARTED USING CONTRACEPTION.....10	STARTED USING CONTRACEPTION.....10	STARTED USING CONTRACEPTION.....10	
OTHER.....11 (SPECIFY)	OTHER.....11 (SPECIFY)	OTHER.....11 (SPECIFY)	

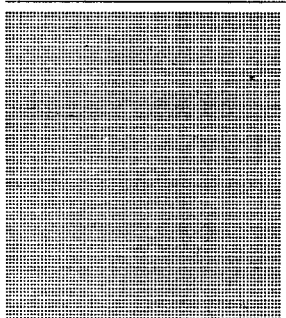
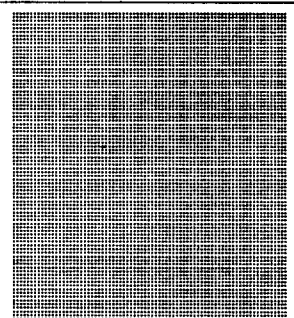
442 CHECK 220:
CHILD ALIVE?

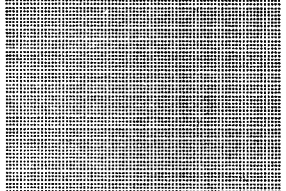
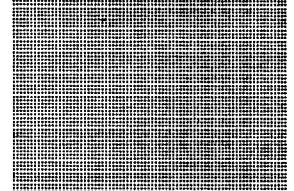
	LAST BIRTH	NEXT-TO-LAST BIRTH	SECOND-FROM-LAST BIRTH
ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	
↓ (SKIP TO 444)	↓ (SKIP TO 444)	↓ (SKIP TO 444)	

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
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443	Was (NAME) ever given water or anything else to drink or eat (other than breastmilk)?	YES.....1	YES.....1	YES.....1
		NO.....2 (SKIP TO 447) ←	NO.....2 (SKIP TO 447) ←	NO.....2 (SKIP TO 447) ←

444	How many months old was (NAME) when you started giving the following on a regular basis?	Plain water?	AGE IN MONTHS..... <input type="text"/> <input type="text"/>	AGE IN MONTHS..... <input type="text"/> <input type="text"/>	AGE IN MONTHS..... <input type="text"/> <input type="text"/>
			NOT GIVEN.....96	NOT GIVEN.....96	NOT GIVEN.....96
		Formula or milk other than breastmilk?	AGE IN MONTHS..... <input type="text"/> <input type="text"/>	AGE IN MONTHS..... <input type="text"/> <input type="text"/>	AGE IN MONTHS..... <input type="text"/> <input type="text"/>
			NOT GIVEN.....96	NOT GIVEN.....96	NOT GIVEN.....96
	Other liquids?	AGE IN MONTHS..... <input type="text"/> <input type="text"/>	AGE IN MONTHS..... <input type="text"/> <input type="text"/>	AGE IN MONTHS..... <input type="text"/> <input type="text"/>	
		NOT GIVEN.....96	NOT GIVEN.....96	NOT GIVEN.....96	
	Any solid or mushy food?	AGE IN MONTHS..... <input type="text"/> <input type="text"/>	AGE IN MONTHS..... <input type="text"/> <input type="text"/>	AGE IN MONTHS..... <input type="text"/> <input type="text"/>	
		NOT GIVEN.....96	NOT GIVEN.....96	NOT GIVEN.....96	
	IF LESS THAN 1 MONTH, RECORD '00'.		(SKIP TO 447)	(SKIP TO 447)	

445	CHECK 220: CHILD ALIVE?	ALIVE <input type="checkbox"/>	DEAD <input type="checkbox"/>		
		(SKIP TO 447)			

446	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES.....1		
		NO.....2		
		DK.....8		

447 → GO BACK TO 403 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, GO TO FIRST COLUMN OF 448.

SECTION 4B. IMMUNIZATION AND HEALTH

448 ENTER THE LINE NUMBER AND NAME OF EACH BIRTH SINCE JANUARY 1989 IN THE TABLE. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, RECORD ONLY THE LAST 3 BIRTHS).

LINE NUMBER FROM Q. 216	<input type="text"/>	<input type="text"/>	<input type="text"/>																																																																																																																								
FROM Q. 216 AND Q. 220	LAST BIRTH NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	NEXT-TO-LAST BIRTH NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>	SECOND-FROM-LAST BIRTH NAME _____ ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/>																																																																																																																								
449 Do you have a card where (NAME'S) vaccinations are written down? IF YES: May I see it, please?	YES, SEEN.....1 (SKIP TO 451)← YES, NOT SEEN.....2 (SKIP TO 453)← NO CARD.....3	YES, SEEN.....1 (SKIP TO 451)← YES, NOT SEEN.....2 (SKIP TO 453)← NO CARD.....3	YES, SEEN.....1 (SKIP TO 451)← YES, NOT SEEN.....2 (SKIP TO 453)← NO CARD.....3																																																																																																																								
450 Did you ever have a vaccination card for (NAME)?	YES.....1 (SKIP TO 453)← NO.....2	YES.....1 (SKIP TO 453)← NO.....2	YES.....1 (SKIP TO 453)← NO.....2																																																																																																																								
451 (1) COPY VACCINATION DATES FOR EACH VACCINE FROM THE CARD. (2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE RECORDED.	<table border="1"> <thead> <tr> <th></th> <th>DAY</th> <th>MO</th> <th>YR</th> </tr> </thead> <tbody> <tr><td>BCG</td><td></td><td></td><td></td></tr> <tr><td>P0</td><td></td><td></td><td></td></tr> <tr><td>D1</td><td></td><td></td><td></td></tr> <tr><td>D2</td><td></td><td></td><td></td></tr> <tr><td>D3</td><td></td><td></td><td></td></tr> <tr><td>P1</td><td></td><td></td><td></td></tr> <tr><td>P2</td><td></td><td></td><td></td></tr> <tr><td>P3</td><td></td><td></td><td></td></tr> <tr><td>MEA</td><td></td><td></td><td></td></tr> </tbody> </table>		DAY	MO	YR	BCG				P0				D1				D2				D3				P1				P2				P3				MEA				<table border="1"> <thead> <tr> <th></th> <th>DAY</th> <th>MO</th> <th>YR</th> </tr> </thead> <tbody> <tr><td>BCG</td><td></td><td></td><td></td></tr> <tr><td>P0</td><td></td><td></td><td></td></tr> <tr><td>D1</td><td></td><td></td><td></td></tr> <tr><td>D2</td><td></td><td></td><td></td></tr> <tr><td>D3</td><td></td><td></td><td></td></tr> <tr><td>P1</td><td></td><td></td><td></td></tr> <tr><td>P2</td><td></td><td></td><td></td></tr> <tr><td>P3</td><td></td><td></td><td></td></tr> <tr><td>MEA</td><td></td><td></td><td></td></tr> </tbody> </table>		DAY	MO	YR	BCG				P0				D1				D2				D3				P1				P2				P3				MEA				<table border="1"> <thead> <tr> <th></th> <th>DAY</th> <th>MO</th> <th>YR</th> </tr> </thead> <tbody> <tr><td>BCG</td><td></td><td></td><td></td></tr> <tr><td>P0</td><td></td><td></td><td></td></tr> <tr><td>D1</td><td></td><td></td><td></td></tr> <tr><td>D2</td><td></td><td></td><td></td></tr> <tr><td>D3</td><td></td><td></td><td></td></tr> <tr><td>P1</td><td></td><td></td><td></td></tr> <tr><td>P2</td><td></td><td></td><td></td></tr> <tr><td>P3</td><td></td><td></td><td></td></tr> <tr><td>MEA</td><td></td><td></td><td></td></tr> </tbody> </table>		DAY	MO	YR	BCG				P0				D1				D2				D3				P1				P2				P3				MEA			
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	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____	
452	<p>Has (NAME) received any vaccinations that are not recorded on this card?</p> <p>RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, DPT 1-3, POLIO 0-3 AND/OR MEASLES VACCINE(S).</p>	<p>YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 451) _____ (SKIP TO 455) ←</p> <p>NO.....2 DK.....8 (SKIP TO 455) ←</p>	<p>YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 451) _____ (SKIP TO 455) ←</p> <p>NO.....2 DK.....8 (SKIP TO 455) ←</p>	<p>YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 451) _____ (SKIP TO 455) ←</p> <p>NO.....2 DK.....8 (SKIP TO 455) ←</p>
453	<p>Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases?</p>	<p>YES.....1 NO.....2 (SKIP TO 455) ← DK.....8</p>	<p>YES.....1 NO.....2 (SKIP TO 455) ← DK.....8</p>	<p>YES.....1 NO.....2 (SKIP TO 455) ← DK.....8</p>
454	<p>Please tell me if (NAME) (has) received any of the following vaccinations:</p> <p>A BCG vaccination against tuberculosis, that is, an injection in the left shoulder that caused a scar?</p> <p>A vaccination against diphtheria, whooping cough and tetanus given as an injection?</p> <p>IF YES: How many times?</p> <p>Polio vaccine, that is, drops in the mouth?</p> <p>IF YES: How many times?</p> <p>IF YES:</p> <p>When was the first polio vaccine given -- just after birth or later?</p> <p>An injection against measles?</p>	<p>YES.....1 NO.....2 DK.....8</p> <p>YES.....1 NO.....2 DK.....8</p> <p>NUMBER OF TIMES..... <input type="text"/></p> <p>YES.....1 NO.....2 DK.....8</p> <p>NUMBER OF TIMES..... <input type="text"/></p> <p>YES.....1 NO.....2 DK.....8</p> <p>NUMBER OF TIMES..... <input type="text"/></p> <p>JUST AFTER BIRTH.....1 LATER.....2 DK.....8</p> <p>YES.....1 NO.....2 DK.....8</p>	<p>YES.....1 NO.....2 DK.....8</p> <p>YES.....1 NO.....2 DK.....8</p> <p>NUMBER OF TIMES..... <input type="text"/></p> <p>YES.....1 NO.....2 DK.....8</p> <p>NUMBER OF TIMES..... <input type="text"/></p> <p>YES.....1 NO.....2 DK.....8</p> <p>NUMBER OF TIMES..... <input type="text"/></p> <p>JUST AFTER BIRTH.....1 LATER.....2 DK.....8</p> <p>YES.....1 NO.....2 DK.....8</p>	<p>YES.....1 NO.....2 DK.....8</p> <p>YES.....1 NO.....2 DK.....8</p> <p>NUMBER OF TIMES..... <input type="text"/></p> <p>YES.....1 NO.....2 DK.....8</p> <p>NUMBER OF TIMES..... <input type="text"/></p> <p>YES.....1 NO.....2 DK.....8</p> <p>NUMBER OF TIMES..... <input type="text"/></p> <p>JUST AFTER BIRTH.....1 LATER.....2 DK.....8</p> <p>YES.....1 NO.....2 DK.....8</p>

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____	
455	Was a dose of vitamin A liquid ever given to (NAME) to protect him/her from night blindness? YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	
456	Did (NAME) ever have: Whooping cough? WHOOPING COUGH.... 1 2 Measles? MEASLES..... 1 2 Polio? POLIO..... 1 2 Diphtheria? DIPHTHERIA..... 1 2 Chicken pox? CHICKEN POX..... 1 2 Rickets? RICKETS..... 1 2	YES NO WHOOPING COUGH.... 1 2 MEASLES..... 1 2 POLIO..... 1 2 DIPHTHERIA..... 1 2 CHICKEN POX..... 1 2 RICKETS..... 1 2	YES NO WHOOPING COUGH.... 1 2 MEASLES..... 1 2 POLIO..... 1 2 DIPHTHERIA..... 1 2 CHICKEN POX..... 1 2 RICKETS..... 1 2	YES NO WHOOPING COUGH.... 1 2 MEASLES..... 1 2 POLIO..... 1 2 DIPHTHERIA..... 1 2 CHICKEN POX..... 1 2 RICKETS..... 1 2
457	CHECK 220: CHILD ALIVE?	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> (SKIP TO 459)	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> (SKIP TO 459)	ALIVE <input type="checkbox"/> DEAD <input type="checkbox"/> (SKIP TO 459)
458	GO BACK TO 449 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, SKIP TO 489.			
459	Has (NAME) been ill with a fever at any time in the last 2 weeks? YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	
460	Has (NAME) been ill with a cough at any time in the last 2 weeks? YES.....1 NO.....2 DK.....8 (SKIP TO 464) ←	YES.....1 NO.....2 DK.....8 (SKIP TO 464) ←	YES.....1 NO.....2 DK.....8 (SKIP TO 464) ←	
461	Has (NAME) been ill with a cough in the last 24 hours? YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____	
462	For how many days (has the cough lasted/did the cough last)? IF LESS THAN 1 DAY, RECORD '00'	DAYS..... <input type="text"/> <input type="text"/>	DAYS..... <input type="text"/> <input type="text"/>	DAYS..... <input type="text"/> <input type="text"/>
463	When (NAME) was ill with a cough, did he/she breathe faster than usual with short, rapid breaths?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
464	CHECK 459 AND 460: FEVER OR COUGH?	"YES" IN EITHER 459 OR 460 <input type="checkbox"/> YES <input type="checkbox"/> OTHER (SKIP TO 469)	"YES" IN EITHER 459 OR 460 <input type="checkbox"/> YES <input type="checkbox"/> OTHER (SKIP TO 469)	"YES" IN EITHER 459 OR 460 <input type="checkbox"/> YES <input type="checkbox"/> OTHER (SKIP TO 469)
465	Did you seek advice or treatment for the fever/cough?	YES.....1 NO.....2 (SKIP TO 467) ←	YES.....1 NO.....2 (SKIP TO 467) ←	YES.....1 NO.....2 (SKIP TO 467) ←
466	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR GVT/MUNICIPAL HOSPITAL..A PRIMARY HEALTH CENTRE...B SUB-CENTRE.....C MOBILE CLINIC.....D VILLAGE HEALTH GUIDE...E GOVERNMENT PARAMEDIC...F PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC...G PHARMACY/DRUGSTORE.....H PRIVATE DOCTOR.....I MOBILE CLINIC.....J COMMUNITY HEALTH WORKER.K OTHER PRIVATE SECTOR SHOP.....L TRADITIONAL PRACTITIONER.....M OTHER _____ N (SPECIFY)	PUBLIC SECTOR GVT/MUNICIPAL HOSPITAL..A PRIMARY HEALTH CENTRE...B SUB-CENTRE.....C MOBILE CLINIC.....D VILLAGE HEALTH GUIDE...E GOVERNMENT PARAMEDIC...F PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC...G PHARMACY/DRUGSTORE.....H PRIVATE DOCTOR.....I MOBILE CLINIC.....J COMMUNITY HEALTH WORKER.K OTHER PRIVATE SECTOR SHOP.....L TRADITIONAL PRACTITIONER.....M OTHER _____ N (SPECIFY)	PUBLIC SECTOR GVT/MUNICIPAL HOSPITAL..A PRIMARY HEALTH CENTRE...B SUB-CENTRE.....C MOBILE CLINIC.....D VILLAGE HEALTH GUIDE...E GOVERNMENT PARAMEDIC...F PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC...G PHARMACY/DRUGSTORE.....H PRIVATE DOCTOR.....I MOBILE CLINIC.....J COMMUNITY HEALTH WORKER.K OTHER PRIVATE SECTOR SHOP.....L TRADITIONAL PRACTITIONER.....M OTHER _____ N (SPECIFY)
467	Was anything given to treat the fever/cough?	YES.....1 NO.....2 (SKIP TO 469) ← DK.....8	YES.....1 NO.....2 (SKIP TO 469) ← DK.....8	YES.....1 NO.....2 (SKIP TO 469) ← DK.....8

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____	
468	INJECTION.....A ANTIBIOTIC (PILL OR SYRUP).....B ANTIMALARIAL (PILL OR SYRUP).....C COUGH SYRUP.....D OTHER PILL OR SYRUP.....E UNKNOWN PILL OR SYRUP...F HOME REMEDY/ HERBAL MEDICINE.....G OTHER.....H (SPECIFY)	INJECTION.....A ANTIBIOTIC (PILL OR SYRUP).....B ANTIMALARIAL (PILL OR SYRUP).....C COUGH SYRUP.....D OTHER PILL OR SYRUP.....E UNKNOWN PILL OR SYRUP...F HOME REMEDY/ HERBAL MEDICINE.....G OTHER.....H (SPECIFY)	INJECTION.....A ANTIBIOTIC (PILL OR SYRUP).....B ANTIMALARIAL (PILL OR SYRUP).....C COUGH SYRUP.....D OTHER PILL OR SYRUP.....E UNKNOWN PILL OR SYRUP...F HOME REMEDY/ HERBAL MEDICINE.....G OTHER.....H (SPECIFY)	
469	What was given to treat the fever/cough? Anything else? RECORD ALL MENTIONED.	YES.....1 (SKIP TO 471)← NO.....2 DK.....8	YES.....1 (SKIP TO 471)← NO.....2 DK.....8	YES.....1 (SKIP TO 471)← NO.....2 DK.....8
470	→ GO BACK TO 449 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, SKIP TO 489.			
471	Has (NAME) had diarrhoea in the last 24 hours?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8
472	For how many days (has the diarrhoea lasted/did the diarrhoea last)? IF LESS THAN 1 DAY, RECORD '00'	DAYS..... <input type="text"/> <input type="text"/>	DAYS..... <input type="text"/> <input type="text"/>	DAYS..... <input type="text"/> <input type="text"/>
473	Was there any blood in the stools?	YES.....1 NO.....2 DK.....8	YES.....1 NO.....2 DK.....8 (SKIP TO 477)	YES.....1 NO.....2 DK.....8 (SKIP TO 477)
474	CHECK 430/435: LAST CHILD STILL BREASTFEEDING?	YES <input type="checkbox"/> NO <input type="checkbox"/> ↓ (SKIP TO 477)		
475	During (NAME)'s diarrhoea, did you change the frequency of breastfeeding?	YES.....1 NO.....2 (SKIP TO 477)←		
476	Did you <u>increase</u> the number of breastfeeds or <u>reduce</u> them, or did you <u>stop completely</u> ?	INCREASED.....1 REDUCED.....2 STOPPED COMPLETELY.....3		

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____	
477	(Aside from breastmilk) Was he/she given the same amount of fluids to drink as before the diarrhoea, or more, or less?	SAME.....1 MORE.....2 LESS.....3 DK.....8	SAME.....1 MORE.....2 LESS.....3 DK.....8	
478	Did you seek advice or treatment for the diarrhoea?	YES.....1 NO.....2 (SKIP TO 480)←	YES.....1 NO.....2 (SKIP TO 480)←	
479	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR GVT/MUNICIPAL HOSPITAL..A PRIMARY HEALTH CENTRE..B SUB-CENTRE.....C MOBILE CLINIC.....D VILLAGE HEALTH GUIDE...E GOVERNMENT PARAMEDIC...F PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....G PHARMACY/DRUGSTORE....H PRIVATE DOCTOR.....I MOBILE CLINIC.....J COMMUNITY HEALTH WORKER.K OTHER PRIVATE SECTOR SHOP.....L TRADITIONAL PRACTITIONER.....M OTHER _____ N (SPECIFY)	PUBLIC SECTOR GVT/MUNICIPAL HOSPITAL..A PRIMARY HEALTH CENTRE..B SUB-CENTRE.....C MOBILE CLINIC.....D VILLAGE HEALTH GUIDE...E GOVERNMENT PARAMEDIC...F PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....G PHARMACY/DRUGSTORE....H PRIVATE DOCTOR.....I MOBILE CLINIC.....J COMMUNITY HEALTH WORKER.K OTHER PRIVATE SECTOR SHOP.....L TRADITIONAL PRACTITIONER.....M OTHER _____ N (SPECIFY)	PUBLIC SECTOR GVT/MUNICIPAL HOSPITAL..A PRIMARY HEALTH CENTRE..B SUB-CENTRE.....C MOBILE CLINIC.....D VILLAGE HEALTH GUIDE...E GOVERNMENT PARAMEDIC...F PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC....G PHARMACY/DRUGSTORE....H PRIVATE DOCTOR.....I MOBILE CLINIC.....J COMMUNITY HEALTH WORKER.K OTHER PRIVATE SECTOR SHOP.....L TRADITIONAL PRACTITIONER.....M OTHER _____ N (SPECIFY)
480	Was anything given to treat the diarrhoea?	YES.....1 NO.....2 (SKIP TO 482)← DK.....8	YES.....1 NO.....2 (SKIP TO 482)← DK.....8	
481	What was given to treat the diarrhoea? Anything else? RECORD ALL MENTIONED.	ORS FLUID FROM PACKET...A RECOMMENDED HOME FLUID...B ANTIBIOTIC (PILL OR SYRUP).....C OTHER PILL OR SYRUP.....D INJECTION.....E (I.V.) INTRAVENOUS.....F HOME REMEDIES/ HERBAL MEDICINES.....G OTHER _____ H (SPECIFY)	ORS FLUID FROM PACKET...A RECOMMENDED HOME FLUID...B ANTIBIOTIC (PILL OR SYRUP).....C OTHER PILL OR SYRUP.....D INJECTION.....E (I.V.) INTRAVENOUS.....F HOME REMEDIES/ HERBAL MEDICINES.....G OTHER _____ H (SPECIFY)	ORS FLUID FROM PACKET...A RECOMMENDED HOME FLUID...B ANTIBIOTIC (PILL OR SYRUP).....C OTHER PILL OR SYRUP.....D INJECTION.....E (I.V.) INTRAVENOUS.....F HOME REMEDIES/ HERBAL MEDICINES.....G OTHER _____ H (SPECIFY)

		LAST BIRTH		NEXT-TO-LAST BIRTH		SECOND-FROM-LAST BIRTH	
		NAME _____		NAME _____		NAME _____	
482	CHECK 481: ORS FLUID FROM PACKET MENTIONED?	YES, ORS FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 484)	NO, ORS FLUID NOT MENTIONED <input type="checkbox"/> ↓	YES, ORS FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 484)	NO, ORS FLUID NOT MENTIONED <input type="checkbox"/> ↓	YES, ORS FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 484)	NO, ORS FLUID NOT MENTIONED <input type="checkbox"/> ↓
483	Was (NAME) given fluid made from an ORS packet when he/she had the diarrhoea?	YES.....1 NO.....2 (SKIP TO 485)← DK.....8	YES.....1 NO.....2 (SKIP TO 485)← DK.....8	YES.....1 NO.....2 (SKIP TO 485)← DK.....8	YES.....1 NO.....2 (SKIP TO 485)← DK.....8	YES.....1 NO.....2 (SKIP TO 485)← DK.....8	YES.....1 NO.....2 (SKIP TO 485)← DK.....8
484	For how many days was (NAME) given the ORS fluid? IF LESS THAN 1 DAY, RECORD '00'	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98
485	CHECK 481: RECOMMENDED HOME FLUID MENTIONED?	YES, HOME FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 487)	NO, HOME FLUID NOT MENTIONED <input type="checkbox"/> ↓	YES, HOME FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 487)	NO, HOME FLUID NOT MENTIONED <input type="checkbox"/> ↓	YES, HOME FLUID MENTIONED <input type="checkbox"/> ↓ (SKIP TO 487)	NO, HOME FLUID NOT MENTIONED <input type="checkbox"/> ↓
486	Was (NAME) given a recommended home fluid made from sugar, salt and water when he/she had the diarrhoea?	YES.....1 NO.....2 (SKIP TO 488)← DK.....8	YES.....1 NO.....2 (SKIP TO 488)← DK.....8	YES.....1 NO.....2 (SKIP TO 488)← DK.....8	YES.....1 NO.....2 (SKIP TO 488)← DK.....8	YES.....1 NO.....2 (SKIP TO 488)← DK.....8	YES.....1 NO.....2 (SKIP TO 488)← DK.....8
487	For how many days was (NAME) given the fluid made from sugar, salt and water? IF LESS THAN 1 DAY, RECORD '00'.	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98	DAYS..... <input type="text"/> <input type="text"/> DK.....98
488	→ GO BACK TO 449 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, GO TO 489.						

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
489	<p>CHECK 481 AND 483 (ALL COLUMNS):</p> <p>ORS FLUID FROM PACKET GIVEN TO ANY CHILD <input type="checkbox"/></p> <p>ORS FLUID FROM PACKET NOT GIVEN TO ANY CHILD OR 481 AND 483 NOT ASKED <input type="checkbox"/></p>		492
490	<p>Have you ever heard of a special product called ORS you can get for the treatment of diarrhoea?</p>	<p>YES.....1</p> <p>NO.....2</p>	492
491	<p>Have you ever seen a packet like one of these before?</p> <p>SHOW BOTH THE W.H.O. AND A COMMERCIAL PACKET.</p>	<p>YES.....1</p> <p>NO.....2</p>	496
492	<p>Have you ever prepared a solution with one of these packets to treat diarrhoea for yourself or someone else?</p> <p>SHOW BOTH THE W.H.O. AND A COMMERCIAL PACKET.</p>	<p>YES.....1</p> <p>NO.....2</p>	495
493A	<p>The last time you prepared the ORS, did you use the free W.H.O. packet(SHOW THE W.H.O. PACKET) or an alternative commercial packet (SHOW THE COMMERCIAL PACKET)?</p>	<p>FREE WHO PACKET.....1</p> <p>ALTERNATIVE COMMERCIAL PACKET....2</p>	
493	<p>The last time you prepared the ORS, did you prepare the whole packet at once or only part of the packet?</p>	<p>WHOLE PACKET AT ONCE.....1</p> <p>PART OF PACKET.....2</p> <p>DK.....8</p>	495
494	<p>How much water did you use to prepare ORS the last time you made it?</p>	<p>200 ML. GLASSES.....1 <input type="checkbox"/></p> <p>1½ LITER.....901</p> <p>1 LITER.....902</p> <p>1 1½ LITERS.....903</p> <p>2 LITERS.....904</p> <p>FOLLOWED PACKAGE INSTRUCTIONS.905</p> <p>OTHER.....906</p> <p>(SPECIFY)</p> <p>DK.....998</p>	
495	<p>Where can you get the ORS packet?</p> <p>PROBE: Anywhere else?</p> <p>RECORD ALL PLACES MENTIONED.</p>	<p>PUBLIC SECTOR</p> <p>GVT/MUNICIPAL HOSPITAL.....A</p> <p>PRIMARY HEALTH CENTRE.....B</p> <p>SUB-CENTRE.....C</p> <p>MOBILE CLINIC.....D</p> <p>VILLAGE HEALTH GUIDE.....E</p> <p>GOVERNMENT PARAMEDIC.....F</p> <p>PRIVATE MEDICAL SECTOR</p> <p>PVT. HOSPITAL/CLINIC.....G</p> <p>PHARMACY/DRUGSTORE.....H</p> <p>PRIVATE DOCTOR.....I</p> <p>MOBILE CLINIC.....J</p> <p>COMMUNITY HEALTH WORKER.....K</p> <p>OTHER PRIVATE SECTOR</p> <p>SHOP.....L</p> <p>TRADITIONAL PRACTITIONER.....M</p> <p>OTHER.....N</p> <p>(SPECIFY)</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
496	CHECK 481 AND 486 (ALL COLUMNS):		
	HOME-MADE FLUID GIVEN TO ANY CHILD	HOME-MADE FLUID NOT GIVEN TO ANY CHILD OR 481 AND 486 NOT ASKED	501

497

Where did you learn to prepare the recommended home fluid made from sugar, salt and water given to (NAME) when he/she had diarrhoea?

PUBLIC SECTOR	
GVT/MUNICIPAL HOSPITAL.....	11
PRIMARY HEALTH CENTRE.....	12
SUB-CENTRE.....	13
MOBILE CLINIC.....	14
VILLAGE HEALTH GUIDE.....	15
GOVERNMENT PARAMEDIC	16
PRIVATE MEDICAL SECTOR	
PVT. HOSPITAL/CLINIC.....	21
PHARMACY/DRUGSTORE.....	22
PRIVATE DOCTOR.....	23
MOBILE CLINIC.....	24
COMMUNITY HEALTH WORKER.....	25
OTHER PRIVATE SECTOR	
SHOP.....	31
TRADITIONAL PRACTITIONER.....	32
MASS MEDIA	
TELEVISION.....	41
RADIO.....	42
PRINTED MATERIAL.....	43
OTHER.....	51
(SPECIFY)	

41

SECTION 5. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
501	<p>CHECK 107:</p> <p>CURRENTLY MARRIED <input type="checkbox"/> WIDOWED DIVORCED SEPARATED <input type="checkbox"/></p>		514
502	<p>CHECK 313:</p> <p>NEITHER STERILIZED <input type="checkbox"/> HE OR SHE STERILIZED <input type="checkbox"/></p>		508
503	<p>CHECK 227:</p> <p>NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/></p> <p>Now I have some questions about the future. Would you like to have (a/another) child or would you prefer not to have any (more) children?</p> <p>Now I have some questions about the future. After the child you are expecting, would you like to have another child or would you prefer not to have any more children?</p>	<p>HAVE A (ANOTHER) CHILD.....1 NO MORE/NONE.....2 SAYS SHE CAN'T GET PREGNANT....3 UP TO GOD.....4 UNDECIDED OR DK.....8</p>	510
504	<p>Would you prefer your next child to be a boy or a girl or doesn't it matter?</p>	<p>BOY.....1 GIRL.....2 DOESN'T MATTER.....3 UP TO GOD.....4</p>	
505	<p>CHECK 227:</p> <p>NOT PREGNANT OR UNSURE <input type="checkbox"/> PREGNANT <input type="checkbox"/></p> <p>How long would you like to wait from now before the birth of (a/another) child?</p> <p>How long would you like to wait after the birth of the child you are expecting before the birth of another child?</p>	<p>MONTHS.....1 <input type="text"/><input type="text"/></p> <p>YEARS.....2 <input type="text"/><input type="text"/></p> <p>SOON/NOW.....994</p> <p>SAYS SHE CAN'T GET PREGNANT...995</p> <p>OTHER _____ 996 (SPECIFY)</p> <p>DK.....998</p>	510

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO																						
513	Do you think your husband wants the <u>same</u> number of children that you want, or does he want <u>more</u> or <u>fewer</u> than you want?	SAME NUMBER.....1 MORE CHILDREN.....2 FEWER CHILDREN.....3 DK.....8																							
514	How long should a couple wait before starting sexual intercourse after the birth of a baby?	DAYS.....1 <table border="1"><tr><td></td><td></td></tr></table> MONTHS.....2 <table border="1"><tr><td></td><td></td></tr></table> YEARS.....3 <table border="1"><tr><td></td><td></td></tr></table> UP TO COUPLE.....995 OTHER _____ 996 (SPECIFY)																							
515	In general, do you approve or disapprove of couples using a method to avoid getting pregnant?	APPROVE.....1 DISAPPROVE.....2																							
516	<p>CHECK 220:</p> <p>HAS LIVING CHILD(REN) <input type="checkbox"/> NO LIVING CHILDREN <input type="checkbox"/></p> <p>v _____ v _____</p> <p>If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?</p> <p>If you could choose exactly the number of children to have in your whole life, how many would that be?</p> <p>RECORD SINGLE NUMBER OR OTHER ANSWER.</p>	NUMBER..... <table border="1"><tr><td></td><td></td></tr></table> OTHER ANSWER _____ 96 → 518 (SPECIFY)																							
517	How many of these children would you like to be boys and how many would you like to be girls?	<table border="1"> <thead> <tr> <th></th> <th>BOYS</th> <th>GIRLS</th> <th>EITHER</th> </tr> </thead> <tbody> <tr> <td>NUMBER...</td> <td><table border="1"><tr><td></td><td></td></tr></table></td> <td><table border="1"><tr><td></td><td></td></tr></table></td> <td><table border="1"><tr><td></td><td></td></tr></table></td> </tr> <tr> <td>OTHER _____</td> <td colspan="3">999996</td> </tr> <tr> <td></td> <td colspan="3">(SPECIFY)</td> </tr> </tbody> </table>		BOYS	GIRLS	EITHER	NUMBER...	<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>			OTHER _____	999996				(SPECIFY)			
	BOYS	GIRLS	EITHER																						
NUMBER...	<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>			<table border="1"><tr><td></td><td></td></tr></table>																		
OTHER _____	999996																								
	(SPECIFY)																								
518	In your opinion, what is the ideal interval between the birth of one child and the birth of the next child?	MONTHS.....1 <table border="1"><tr><td></td><td></td></tr></table> YEARS.....2 <table border="1"><tr><td></td><td></td></tr></table> OTHER _____ 996 (SPECIFY)																							

SECTION 6. HUSBAND'S BACKGROUND AND WOMAN'S WORK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
601	<p>CHECK 107:</p> <p>CURRENTLY MARRIED <input type="checkbox"/> WIDOWED DIVORCED <input type="checkbox"/> SEPARATED <input type="checkbox"/></p> <p>ASK QUESTIONS ABOUT CURRENT OR MOST RECENT HUSBAND.</p>		603
602	<p>How old was your husband on his last birthday?</p>	<p>AGE IN COMPLETED YEARS..... <input type="text"/> <input type="text"/></p>	
603	<p>Did your (last) husband ever attend school?</p>	<p>YES.....1 NO.....2</p>	606
604	<p>What is the highest grade he completed?</p>	<p>GRADE..... <input type="text"/> <input type="text"/></p>	
605	<p>CHECK 604:</p> <p>GRADE 0-5 <input type="checkbox"/> GRADE 6-12 <input type="checkbox"/> GRADE 13+ <input type="checkbox"/></p>		608 607
606	<p>(Can/Could) he read and write?</p>	<p>YES.....1 NO.....2</p>	608
607	<p>What is the highest degree he obtained?</p>	<p>DEGREE NOT COMPLETED.....01 NON-TECHNICAL DEGREE BACHELOR'S DEGREE.....02 MASTER'S DEGREE.....03 Ph.D.....04 TECHNICAL DEGREE BACHELOR'S DEGREE.....05 MASTER'S DEGREE.....06 TECHNICAL DIPLOMA/CERTIFICATE NOT EQUIVALENT TO DEGREE.....07 NON-TECHNICAL DIPLOMA/CERTIF. NOT EQUIVALENT TO DEGREE.....08 OTHER DEGREE.....09 (SPECIFY)</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
608	What kind of work does (did) your (last) husband mainly do?	<div style="text-align: right; margin-bottom: 5px;"><input type="checkbox"/> <input type="checkbox"/></div> <hr/> <hr/> <hr/>	
609	CHECK 608: WORKS (WORKED) IN AGRICULTURE <input type="checkbox"/> DOES (DID) NOT WORK IN AGRICULTURE <input type="checkbox"/>	→ 611	
610	(Does/did) your husband work mainly on his own land or family land, or (does/did) he rent land, or (does/did) he work on someone else's land?	HIS/FAMILY LAND.....1 RENTED LAND.....2 SOMEONE ELSE'S LAND.....3	
611	Aside from your own housework, are you currently working?	YES.....1 NO.....2	→ 613
612	As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any of these things or any other work?	YES.....1 NO.....2	→ 620
613	What is your occupation, that is, what kind of work do you do?	<div style="text-align: right; margin-bottom: 5px;"><input type="checkbox"/> <input type="checkbox"/></div> <hr/> <hr/> <hr/>	
614	In your current work, do you work on the family farm/business, are you employed by someone else, or are you self-employed?	FAMILY FARM/BUSINESS.....1 EMPLOYED BY SOMEONE ELSE.....2 SELF-EMPLOYED.....3	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO																		
615	Do you earn cash for this work? PROBE: Do you make money for working?	YES.....1 NO.....2																			
616	Do you do this work at home or away from home?	HOME.....1 AWAY.....2																			
617	CHECK 219/220/222: HAS CHILD BORN SINCE JAN. 1989 AND LIVING AT HOME? YES <input type="checkbox"/> NO <input type="checkbox"/>		620																		
618	While you are working, do you <u>usually</u> have (NAME OF YOUNGEST CHILD AT HOME) with you, <u>sometimes</u> have him/her with you, or <u>never</u> have him/her with you?	USUALLY.....1 SOMETIMES.....2 NEVER.....3	620																		
619	Who usually takes care of (NAME OF YOUNGEST CHILD AT HOME) while you are working?	HUSBAND.....01 OLDER CHILD(REN).....02 OTHER RELATIVES.....03 NEIGHBORS.....04 FRIENDS.....05 SERVANTS/HIRED HELP.....06 CHILD IS IN SCHOOL.....07 INSTITUTIONAL CHILDCARE.....08 OTHER _____ 09 (SPECIFY)																			
620	RECORD THE TIME	HOUR..... <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table> MINUTES.....																			
621	PRESENCE OF OTHERS DURING MOST OF THE INTERVIEW TIME.	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">YES</th> <th style="text-align: center;">NO</th> </tr> </thead> <tbody> <tr> <td>CHILDREN UNDER 10.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>HUSBAND.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>MOTHER-IN-LAW.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>OTHER MALES.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>OTHER FEMALES.....</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> </tbody> </table>		YES	NO	CHILDREN UNDER 10.....	1	2	HUSBAND.....	1	2	MOTHER-IN-LAW.....	1	2	OTHER MALES.....	1	2	OTHER FEMALES.....	1	2	
	YES	NO																			
CHILDREN UNDER 10.....	1	2																			
HUSBAND.....	1	2																			
MOTHER-IN-LAW.....	1	2																			
OTHER MALES.....	1	2																			
OTHER FEMALES.....	1	2																			

SECTION 7. HEIGHT AND WEIGHT

701	CHECK 219/220:	<input type="checkbox"/> ONE OR MORE LIVING CHILDREN BORN SINCE JAN. 1989	<input type="checkbox"/> NO LIVING CHILDREN BORN SINCE JAN. 1989 → END
------------	----------------	--	--

INTERVIEWER: IN 702 (COLUMNS 1-3) RECORD THE LINE NUMBER FOR EACH CHILD BORN SINCE JANUARY 1989 AND STILL ALIVE. IN 703 AND 704 RECORD THE NAME AND BIRTH DATE FOR ALL LIVING CHILDREN BORN SINCE JANUARY 1989. IN 705 AND 707 RECORD THE HEIGHT AND WEIGHT OF THE LIVING CHILDREN. (NOTE:IF THERE ARE MORE THAN 3 LIVING CHILDREN BORN SINCE JANUARY 1989, USE ADDITIONAL FORMS).

	1 YOUNGEST LIVING CHILD	2 NEXT-TO- YOUNGEST LIVING CHILD	3 SECOND-TO- YOUNGEST LIVING CHILD
702 LINE NO. FROM Q.216	□ □	□ □	□ □
703 NAME FROM Q.216 FOR CHILDREN	(NAME) _____	(NAME) _____	(NAME) _____
704 DATE OF BIRTH FROM Q.219 FOR CHILDREN, COPY MONTH AND YEAR OF BIRTH AND ASK FOR DAY OF BIRTH	DAY..... □ □ MONTH.... □ □ YEAR..... □ □	DAY..... □ □ MONTH.... □ □ YEAR..... □ □	DAY..... □ □ MONTH.... □ □ YEAR..... □ □
705 HEIGHT (in centimeters)	□ □ □ . □	□ □ □ . □	□ □ □ . □
706 WAS HEIGHT/LENGTH OF CHILD MEASURED LYING DOWN OR STANDING UP?	LYING.....1 STANDING.....2	LYING.....1 STANDING.....2	LYING.....1 STANDING.....2
707 WEIGHT (in kilograms)	□ □ . □	□ □ . □	□ □ . □
708 DATE WEIGHED AND MEASURED	DAY..... □ □ MONTH.... □ □ YEAR..... □ □	DAY..... □ □ MONTH.... □ □ YEAR..... □ □	DAY..... □ □ MONTH.... □ □ YEAR..... □ □
709 RESULT	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY)	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY)	CHILD MEASURED.1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED..4 MOTHER REFUSED.5 OTHER.....6 (SPECIFY)
710 NAME OF MEASURER: _____	□ □	NAME OF ASSISTANT: _____	□ □

INTERVIEWER'S OBSERVATIONS
(To be filled in after completing interview)

Comments About Respondent: _____

Comments on Specific Questions: _____

Any Other Comments: _____

SUPERVISOR'S OBSERVATIONS

Name of Supervisor: _____ Date: _____

EDITOR'S OBSERVATIONS

NATIONAL FAMILY HEALTH SURVEY
(MCH AND FAMILY PLANNING)
VILLAGE SHCHEDULE

CONFIDENTIAL
For Research
Purpose only

INDIA 1992-1993

IDENTIFICATION																					
NAME OF STATE _____	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>																				
PSU NUMBER.....																					
NAME OF DISTRICT _____																					
NAME OF TEHSIL/TALUK _____																					
NAME OF THE VILLAGE _____																					
TOTAL POPULATION OF THE VILLAGE ACCORDING TO THE 1981 CENSUS.....	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>																				

1. Current population of the village:
2. Area of the village (in Hectares):
3. Total number of households in the village:
4. Total arable land in the village (in Hectares):
 - (1) Irrigated land.....1
 - (2) Non-irrigated land.....2
5. Main sources of irrigation in the village:

RAIN WATER.....	A
TANK/POND.....	B
STREAM/RIVER.....	C
CANAL.....	D
WELL.....	E
TUBE WELL.....	F
OTHERS.....	G

(SPECIFY)
6. Distance from the nearest town (in kilometers):
7. Distance from the Block Headquarters (in kilometers):
8. Distance from the Tehsil Headquarters (in kilometers):
9. Distance from the nearest railway station (in kilometers):
10. Distance from the nearest bus stand (in kilometers):
11. Whether the village is connected by all-weather road: YES.....1]
 (SKIP TO 13) ←
 NO.....2
12. Distance from the nearest pucca road (in kilometers):
13. Main sources of drinking water in the village:

PIPED WATER.....	A
OPEN WELL.....	B
TUBE WELL/BORE WELL....	C
RIVER/SPRING/POND/LAKE.	D
OTHERS.....	E

(SPECIFY)

14. Is the village electrified? YES.....1

NO.....2

15. Educational facilities in the village:

Facilities	Whether available in the village	Distance from the nearest facility available (in Kms)
Primary School	YES.....1 (GO TO NEXT FACILITY) ←] NO.....2	<input type="text"/> <input type="text"/>
Middle School	YES.....1 (GO TO NEXT FACILITY) ←] NO.....2	<input type="text"/> <input type="text"/>
Secondary School	YES.....1 (GO TO NEXT FACILITY) ←] NO.....2	<input type="text"/> <input type="text"/>
Higher Secondary School	YES.....1 (GO TO NEXT FACILITY) ←] NO.....2	<input type="text"/> <input type="text"/>
College	YES.....1 (GO TO NEXT FACILITY) ←] NO.....2	<input type="text"/> <input type="text"/>
Adult Education Classes	YES.....1 (GO TO NEXT FACILITY) ←] NO.....2	<input type="text"/> <input type="text"/>
Anganawadi	YES.....1 (GO TO NEXT FACILITY) ←] NO.....2	<input type="text"/> <input type="text"/>
Jana Sikshana Nilayam	YES.....1 NO.....2	<input type="text"/> <input type="text"/>

16. Health Facilities:

Facilities	Whether available in the village	Distance from the nearest facility available (in Kms)
Primary Health Centre	YES.....1 (GO TO NEXT FACILITY) ← NO.....2	<input type="text"/> <input type="text"/>
Sub-Centre	YES.....1 (GO TO NEXT FACILITY) ← NO.....2	<input type="text"/> <input type="text"/>
Government Hospital	YES.....1 (GO TO NEXT FACILITY) ← NO.....2	<input type="text"/> <input type="text"/>
Hospital by NGO	YES.....1 (GO TO NEXT FACILITY) ← NO.....2	<input type="text"/> <input type="text"/>
Private Hospital	YES.....1 (GO TO NEXT FACILITY) ← NO.....2	<input type="text"/> <input type="text"/>
Dispensary/Clinic	YES.....1 (GO TO NEXT FACILITY) ← NO.....2	<input type="text"/> <input type="text"/>
Village Health Guide	YES.....1 (GO TO NEXT FACILITY) ← NO.....2	<input type="text"/> <input type="text"/>
Trained Birth Attendent	YES.....1 (GO TO NEXT FACILITY) ← NO.....2	<input type="text"/> <input type="text"/>
Family Planning/ Health by NGO	YES.....1 (GO TO NEXT FACILITY) ← NO.....2	<input type="text"/> <input type="text"/>
Mobile Health Unit/ Visit	YES.....1 NO.....2	<input type="text"/> <input type="text"/>

17. Total number of Television sets in the Village:

18. The type of drainage facility in the village: UNDERGROUND DRAINAGE....1
OPEN DRAINAGE.....2
NO.....3

19. Total number of tractors in the village:

20. Total number of thrashers in the village:

21. Total number of Gobar gas plants in the village:

22. Total number of cars in the village:

23. Total number of vans/matadors in the village:

24. Total number of trucks in the village:

25. Total number of motor cycles/scooters in the village:

26. Other facilities:

Facilities	Whether available in the village	
	YES	NO
Bank.....1		2
Credit cooperative society.....1		2
Agricultural cooperative society.....1		2
Fishermen's cooperative society.....1		2
Milk cooperative society.....1		2
Post Office.....1		2
Market / Shop.....1		2
Fair price shop.....1		2
Cinema house/Tent.....1		2
Pharmacy / Medical shop.....1		2
Mahila Mandal.....1		2
Youth club.....1		2

27. Did the village experience any natural calamity during last two years? YES.....1
 (SKIP TO 29)
 NO.....2

28. What was the nature of the calamity?

- FLOOD.....A
- DROUGHT.....B
- CYCLONE.....C
- EARTH QUAKE.....D
- ANY OTHER _____ E
 (SPECIFY)

29. Major epidemics and diseases in the village during the last one year:

1. _____
2. _____
3. _____
4. _____

30. Mass media / other educational activities for Health and Family Welfare carried out during the last one year in the village:

- 1. Number of film shows held:

--	--
- 2. Number of exhibitions held:

--	--
- 3. Number of drama / song performances held:

--	--
- 4. Number of group meetings held:

--	--
- 5. Number of times family welfare/health worker visited the village in a month:

--	--

31. Any Family welfare / health posters distributed? YES.....1
 NO.....2

32. Any Leader's Orientation Training Camp held? YES.....1
 NO.....2
 (SKIP TO 34)

33. Number of local leaders trained at the camp:

--	--

34. Rural Development Programmes :

Programme	Whether there are any beneficiaries in the village:	Total number of beneficiaries
Integrated Rural Development Programme (IRDP)	YES.....1	<input type="text"/> <input type="text"/>
	NO.....2 (GO TO NEXT PROGRAMME) ↙	
National Rural Employment Programme (NREP)	YES.....1	<input type="text"/> <input type="text"/>
	NO.....2 (GO TO NEXT PROGRAMME) ↙	
Training Rural Youth for Self Employment (TRYSEM)	YES.....1	<input type="text"/> <input type="text"/>
	NO.....2 (GO TO NEXT PROGRAMME) ↙	
Employment Guarantee Scheme	YES.....1	<input type="text"/> <input type="text"/>
	NO.....2	

35. Major sources of information for filling in the Village Schedule:
(RECORD ALL THE SOURCES)

- Sarpanch.....A
 - Patwari.....B
 - Gram Sevak.....C
 - School Teacher.....D
 - Health personnel.....E
 - Others.....F
- (Specify)

36. Any other relevant comments:
