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# **National Family Health Survey** **(MCH and Family Planning)**

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**Population Research Centre**  
**Patna University, Patna**  
**and**  
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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 recently attained statehood), 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. The final state-level reports are being written by representatives from the concerned PRC for each state, with the assistance of faculty members from IIPS and demographers from the East-West Center/Macro International. Each report has been reviewed by an Indian expert in the field of population sciences and revised after taking into consideration the suggestions of the reviewer.

The final reports contain invaluable information on fertility and family planning practices, and the status of health and welfare of Indian mothers and their children. The descriptive text of each final report presents the findings in a clear and thorough manner for use by population and health experts, policymakers and administrators.

Never before in India has such a large population and health survey been undertaken and completed in the stipulated time period. We are, therefore, very happy to present the final NFHS state-level report for Bihar. We 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.

**K.B. Pathak**  
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Thanks are due to all the members of the Steering Committee, Administrative and Financial Management Committee and Technical Advisory Committee for participating in various meetings and providing valuable guidance to the conducting of the NFHS.

The arduous task of data collection in Bihar was successfully carried out by the Centre for Development Research and Training (CFDRT), Madras. The efforts of Mr. P. Subramaniam, the Director, CFDRT and his team consisting of Mr. P.S. Sundaram, Dr. M.I. Soni and Ms. A. Mary Victoria are gratefully acknowledged.

A post-survey check of 5 percent of the NFHS sample undertaken by the Institute for Research in Medical Statistics (IRMS) reconfirmed the high quality of the NFHS data. Special thanks are due to Dr. Padam Singh, Director, IRMS, New Delhi, for undertaking this tedious task of post-survey check.

The unflinching efforts, the interest and the initiative taken by Prof. Tara Kanitkar, Prof. T.K. Roy, Dr. B.M. Ramesh of IIPS, Dr. Fred Arnold and Dr. Pavalavalli Govindasamy of the East-West Center/Macro International in the PRC Project are appreciated and acknowledged. It is only due to their hard work that the NFHS could be completed successfully, according to schedule. Sincere efforts and involvement of Mr. Prakash H. Fulpagare and Dr. Dharendra Kumar from IIPS, during the training of the field staff and data collection in Bihar are gratefully acknowledged. The help of all Research Officers at IIPS, especially the help of Mr. V. Jayachandran in the preparation of the report and that of Dr. B.S. Singh in producing the graphs for the report, is acknowledged.

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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 Survey Research Capabilities of the Population Research Centres (PRC's) 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 Bihar, conducted between March 1993 and June 1993 gathered information on a representative sample of 5,949 ever-married women age 13-49 from 4,748 households. The survey also collected information on 3,600 children of interviewed women born in the four years preceding the survey. In this report, the survey findings are generally shown for the whole state, urban and rural areas, and government-designated, high-fertility backward districts (6 districts out of a total of 42 districts are classified as backward districts).

The NFHS collected a variety of socioeconomic background information about the population in Bihar. Sixteen percent of the population in Bihar reside in urban areas. The age distribution of Bihar is typical of high fertility populations, with 42 percent of the population below age 15, and 7 percent age 60 or older at the time of the interview. The sex ratio of the *de facto* population is 986 females per 1,000 males for the state as a whole.

The mean household size is 6.2 persons per household and the mean number of persons per room is 2.8. Eighty-two percent of the household heads are Hindus, 16 percent are Muslims and the remaining 2 percent belong to other religious groups. There is a larger percentage of Muslim households in rural areas (17 percent) than in urban areas (10 percent). Ten percent of all household heads belong to scheduled castes and 9 percent to scheduled tribes. Only 17 percent of the households in Bihar have electricity, 9 percent have piped drinking water, and 16 percent have a sanitation facility.

Sixty percent of males and 29 percent of females age 6 years and above are literate. The median number of years of schooling is 3 for males and zero for females (a majority of females have never been to school). The school attendance rate among children age 6-14 is lower for females (38 percent) than males (64 percent). Given the low level of education and literacy in Bihar, a question on mothers' opinions concerning the appropriate level of education for their children was added to the NFHS in Bihar. Fifteen percent of ever-married women felt that no education is necessary for daughters and 4 percent felt that no education is necessary for sons. On the other hand, 45 percent of women felt that daughters should receive as much education as they want, as much as possible, or up to the professional level, and 72 percent of women had the same opinion concerning education of sons.

Marriage is nearly universal in Bihar. At the time of the survey, 51 percent of women age 15-19 were married. The singular mean age at marriage has risen steadily over the last several decades to a current level of 23.2 years for males and 18.0 years for females, an increase of one and a half years for both males and females since the 1981 Census. There has

also been a dramatic decline in the proportion of women marrying at young ages. The proportion of women marrying before age 13 declined from 42 percent of those age 45-49 to 12 percent of those age 15-19, and the proportion marrying before age 15 declined from 67 percent of women age 45-49 to 29 percent of those age 15-19. Nine percent of urban women and one-third of rural women age 15-19 married before age 15. The minimum legal age at marriage of 18 for females is widely ignored, with seven out of ten women age 20-24 married before age 18.

A special section on the cost of marriage and dowry was added to the NFHS in Bihar. The cost of marriage and dowry are borne by the parents of the bride in the majority of cases. Among women who knew the amount generally spent on the marriage of daughters, 34 percent spend less than Rs. 10,000, 38 percent spend Rs. 10,000 to Rs. 24,999, and 28 percent spend Rs. 25,000 or more per marriage, excluding the cash and gifts given as the dowry. Eleven percent of women said that no cash is given as dowry for the marriage of daughters and another 12 percent did not know the amount generally given. Among those who said that cash is given as dowry, 32 percent give less than Rs. 10,000, 37 percent give Rs. 10,000 to 24,999 and 31 percent give Rs. 25,000 or more.

Despite a steady decline over time, fertility remains high in Bihar. At current fertility levels, women will have an average of 4.0 children each during their childbearing years. The fertility rate in Bihar is 18 percent higher than the rate for all of India. The fertility rate is lower in urban areas (3.3 children per woman) than in rural areas (4.2 children per woman) and backward districts (4.1 children per woman).

Contraceptive knowledge is nearly universal in Bihar with 95 percent of women having knowledge of at least one modern family planning method. However, less than one in four women has ever used or is currently using a modern method. The most popular method of family planning is female sterilization, which is being used by 17 percent of the currently married women accounting for 75 percent of contraceptive prevalence. Contraceptive use is twice as high in urban areas as in rural areas (43 percent compared with 20 percent). Contraceptive use increases steadily with the level of education of women. Contraceptive use is three and a half times higher among Hindus than Muslims. The practice of family planning is lower among women from scheduled castes and scheduled tribes than among others. Current use is positively related to the number of living children a woman has, ranging from less than 2 percent for women with no children to 33 percent for women with four or more children. Furthermore, contraceptive use in Bihar reflects a preference for sons, with current use at each parity being ordinarily lowest for women with no sons and highest for women with all sons.

The mix of public and private sector sources varies according to the method used. For sterilization, both male and female, the government is the major source of supply; more than 83 percent of male and female sterilization operations were done at a government source. A majority of IUD insertions were done by the private medical sector (67 percent). Sixty-eight percent of pill users and 66 percent of condom users rely on the nonmedical private sector for their supply.

Overall, 66 percent of currently married nonusers do not intend to use contraception in the future, 23 percent intend to use it in the future and 11 percent are not sure of their

intentions. Sixty-one percent of the women who intend to use contraception in the future said they prefer terminal methods and one-third (33 percent) prefer modern spacing methods. Female sterilization is the most preferred method of intended users (61 percent), followed by pills (26 percent), and condoms and IUDs (3 percent each).

Overall, 42 percent of currently married women want another child in the future. Twenty-four percent want to delay the next birth for 2 or more years and 17 percent want another child soon. Slightly less than one-fourth (24 percent) want no more children in the future and another 19 percent of women or their husbands are sterilized. Among women who want another child, there is a strong preference for having a son. Forty-eight percent want a son, and only 6 percent want a daughter. Nineteen percent indicate no sex preference and 27 percent believe it is up to God. The desire to space children is very strong among women with fewer than three children. Twenty percent of currently married women with no children, 61 percent with one living child and 36 percent with two living children want to wait at least two years before having their next child. The mean ideal number of children is 3.4. The total wanted fertility rate of 3.2 children is 0.8 children less (20 percent lower) than the actual total fertility rate of 4.0.

Twenty-five percent of currently married women in Bihar have an *unmet* need for family planning (that is, they are not using contraception even though they do not want any more children or they want to wait at least two years before having their next child). Although there is a greater total demand for limiting methods (32 percent) than for spacing methods (16 percent), the *unmet* need for spacing (14 percent) is slightly higher than the *unmet* need for limiting methods (11 percent). Current programmes which emphasize limiting methods are least effective in meeting the needs of young married women who would like to space their births.

The NFHS also provides information on maternal and child health, and the prevalence of specific medical problems (malaria, blindness, tuberculosis, leprosy and physical impairment of the limbs) among all members of the household. Twenty-three per 1,000 persons suffer from partial blindness and 5 per 1,000 are completely blind. Physical impairment of the limbs affects 7 per 1,000, tuberculosis affects 6 per 1,000, and leprosy affects 1 per 1,000. The overall level of malaria in the three months prior to the survey was 14 per 1,000 population.

During the two weeks preceding the survey, 4 percent of children under age four had symptoms of acute respiratory infection (cough accompanied by fast breathing), 21 percent were sick with a fever, and 14 percent had diarrhoea. Just under three-fifths of children suffering from a fever or diarrhoea were taken to a health facility or provider and almost three-fourths of children who had symptoms of acute respiratory infection were taken to a health facility or provider.

Knowledge and use of Oral Rehydration Salt (ORS) packets for the treatment of diarrhoea are not widespread. Overall, 64 percent of mothers are not familiar with ORS and 76 percent have never used ORS. Moreover, only 12 percent of children with recent episodes of diarrhoea were treated with ORS and another 14 percent were treated with a recommended home solution.

Infant mortality rates have declined to some extent in Bihar during the 15 years prior to the survey, from 108 per 1,000 live births during 1978-82 to 89 per 1,000 live births during

1988-92 (0-4 years prior to survey), an average decline of nearly two infant deaths per 1,000 live births per year. However, despite the overall decline in all the mortality measures, 1 in 11 children still die within the first year of life, and 1 in 8 children die before reaching the age of five. Infant mortality rates are higher in rural areas than in urban areas, 94 compared with 59 per 1,000 live births. The infant mortality rate is well over three times higher for children with short birth intervals (less than 24 months) than for those with long birth intervals (48 months or more). The postneonatal, child and under-five mortality rates are higher for females than for males.

Both antenatal care and delivery services are inadequate in Bihar. For the majority of births (63 percent) during the last four years, women did not receive any antenatal care either at home or outside the home. Only 31 percent percent of births were to mothers who received two doses of tetanus toxoid vaccine and 21 percent were to those who were given iron and folic acid tablets. Eighty-seven percent of deliveries took place at home and only 19 percent were attended by a doctor or a nurse/midwife.

The Universal Immunization Programme has met with only limited success in Bihar. Fifty-four percent of young children (age 12-23 months) have not been vaccinated against any of the six preventable childhood diseases (tuberculosis, diphtheria, pertussis, tetanus, polio and measles). Only 11 percent have been fully vaccinated and the other 35 percent have been partly vaccinated. Boys are more likely than girls to have received each type of vaccination except polio given at birth.

The NFHS obtained fairly detailed information on infant feeding and child nutrition. Breastfeeding is nearly universal in Bihar with 95 percent of all children born in the four years preceding the survey having been breastfed. Children are breastfed for almost 27 months with very little variation for different groups of women. However, among the most recent births, less than 2 percent were first breastfed within one hour of birth and 12 percent were breastfed within 24 hours of birth. Although it is recommended that the first breast milk should be given to children because it contains colostrum, which provides natural immunity to children, the majority of women squeeze the first milk from their breast before breastfeeding their children. It is also recommended that children should be exclusively breastfed through age 4-6 months, but 46 percent of babies as young as 0-3 months are fed water or other supplements, thus jeopardizing their nutritional status and increasing the risk of infection.

Chronic and acute undernutrition are very high in Bihar. Three-fifths of all children are underweight and a similar proportion are stunted, and 31 percent and 40 percent are *severely* undernourished according to the weight-for-age and height-for-age measures, respectively. More than one in every five children is deemed to be excessively thin (wasted). Undernutrition varies substantially by age of children, being lowest in the first six months of life, when the majority of children are exclusively breastfed. Variations by most background characteristics are very modest, indicating that nutritional problems are common in every population subgroup. Educational level is the one characteristic that makes a big difference; undernutrition declines markedly with increasing educational attainment of the mother. However, nearly 80 percent of all children have illiterate mothers.

# 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 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 in the age group 13-49. Because of the scale of this undertaking, the data collection under the NFHS was carried out in three phases in 1992 and 1993. Andhra Pradesh, Himachal Pradesh, Madhya Pradesh, Tamil Nadu and West Bengal were the states covered in the first phase. The states covered in the second phase of the NFHS were Assam, Goa, Haryana, Karnataka, Kerala, Maharashtra, Rajasthan and Uttar Pradesh. In the third phase of the NFHS, 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 were covered.

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. 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 the state of Bihar, the survey was conducted by the Population Research Centre (PRC), Patna University in close collaboration with the Centre for Development Research and Training (CFDRT), a private research organization in Madras. The CFDRT Madras acted as a Consulting Organisation (CO) for the NFHS in Bihar.

### 1.2 Origin of the State

The origin of Bihar state can be traced back to the Vedic period. Bihar is mentioned in the *Vedas*, *Puranas* and epics. Bihar formed a part of Bengal presidency until a new province of Bihar and Orissa (combined) was created on 12 December 1911. Between 1931 and 1941 there was yet another partition and Bihar and Orissa became two separate provinces. Some portions of Bihar were ceded to West Bengal as a result of the Bihar and West Bengal (Transfer of Territories) Act, 1956 (Office of the Registrar General and Census Commissioner, 1967).

## 1.3 Geographic Features

### Physical Characteristics

Bihar is a land-locked state lying between  $21^{\circ}58'10''$  and  $27^{\circ}31'15''$  north latitudes, and  $83^{\circ}19'50''$  and  $88^{\circ}17'40''$  east longitudes. It is bounded on the north by Nepal, on the east by West Bengal, on the west by Uttar Pradesh and Madhya Pradesh and on the south by Orissa.

According to the 1981 Census, Bihar is divided on the basis of physical features into three regions, namely the Himalayan Foothills, the Bihar Plain and the Bihar Plateau. The Himalayan Foothills are located in the northern part of Paschim Champaran district. This region comprises the Dun and Sumeshwar ranges of the Siwalik hills which is a part of the Himalayan system. The Dun range is about 32 km in length and the Sumeshwar range is 72 km long with an altitude of 450 metres.

The Bihar plain is part of the Indo-Ganga plain which is Terai flat. The monotony is broken in the southern part of this region by an extension of the plateau margins. This plain is further divided into two micro-regions, i.e., North Bihar plain and South Bihar plain. The North Bihar plain is a riverine plain which extends from the Tarai of Nepal in the north to the northern bank of Ganga in the south. This plain is very fertile and densely populated. The general slope is towards the southeast, and the area is known for floods and frequent shifts in the channels of the Kosi river. The South Bihar plain extends roughly from 150 metres contour in the south to the bank of the Ganga river in the north. The general slope of the region is northeast with numerous isolated hills, including the Barabar, Rajgir and Kharagpur hills. Due to the intrusion of the Kharagpur hills toward the north, the Ganga takes a sharp bend near Munger district.

The Bihar plateau is more popularly known as the Chotanagpur plateau and consists of a series of plateaus of different elevations. The entire Chotanagpur plateau is very rich in mineral deposits. The Ranchi plateau is the highest, with an elevation of about 1,100 metres (also known as the 'Pat' lands), and consists of Deccan lava. The area east of the Ranchi plateau is the Hazaribagh plateau which extends to the Rajmahal hills with an average height of 600 metres above sea level. It is formed by the debris of the streams descending down the hills. The southern part of this region, known as the Singhbhum plateau, has an altitude of 150 metres with many hill rocks of 300 metres or more. Dalma and Baghmundi are the main ranges in this plateau. The region slopes towards the southeast direction (Director of Census Operations, Bihar, 1981).

The life line of this state is the Ganga river which enters the state from the west and flows towards the east. A large number of rivers join the Ganga from the north and south. Ghaghara, Gandak and Kosi are the main tributaries of the Ganga. Kosi, called "the sorrow of Bihar", is the widest river and frequently changes its course causing devastation. The Son, Punpun, Mohane and Gumani rivers are the right-bank tributaries of the Ganga. Other rivers that form the southern drainage system in Bihar are the South Koel, Subarnarekha, Damodar and Barkar.

Forests in the state are mainly confined to the Chotanagpur plateau. The total area under forests in the state was 29,226.09 km<sup>2</sup> during 1985-86, which accounts for 16.8 percent of the total area of the state.

### **Climate, Rainfall and Seasons**

The year in Bihar may be divided into three distinct seasons - winter from October to February, summer from March to mid-June and the monsoon from mid-June to September. Hot westerly winds begin in March and last until May. The temperature begins to rise in March, and the months of April and May are characterised by great heat and dryness. The monsoon sets in by around the middle of June, bringing in its wake a quick fall in the temperature and widespread rains ending in September. The cold season starts in November when both day and night temperatures drop rapidly. January is usually the coldest month (Office of Registrar General and Census Commissioner, 1967).

The temperature varies from region to region. The lowest temperature varies from 0°C to 4°C in Chotanagpur to 8°C to 11°C in other parts of the state. The mean maximum temperature in May varies between 35°C and 38°C in North Bihar and between 37°C and 41°C in South Bihar. Gaya is the hottest district in the state as well as in the country. The elevated portion of the Chotanagpur plateau has a relatively mild summer.

The state receives most of its rainfall from the southwest monsoon from June to September. The average rainfall is 1,200 mm and ranges from 1,000 mm to 2,000 mm.

## **1.4 Area and People**

### **Area and Administrative Divisions**

The state of Bihar is 173,847 km<sup>2</sup> in area and ranks ninth among the states and Union Territories of India. Bihar is densely populated with only 5.3 percent of the area of the country and 10.58 percent of its people. Patna, the capital of Bihar, is situated on the bank of the Ganga river. The state was divided into 7 administrative divisions and 31 districts in 1981. The numbers rose to 10 and 42, respectively, in 1991. There were 587 community development blocks (C.D. Blocks) in 1981.

### **People, Culture, Religion and Language**

Bihar has a glorious history which can be traced to Aryans who settled along the Indo-Gangetic plains. For over a thousand years, from the sixth century B.C. to the fifth century A.D., the history of India was much the history of Bihar (Diwakar, 1959). This period witnessed the rise and fall of the famous Maurya and Gupta empires in Bihar. The renowned ancient kingdoms of *Videha*, *Magadha*, and *Anga* were parts of Bihar. Pataliputra (present Patna) was the capital of *Magadha* for a long time and is best known in connection with the Maurya kings Chandragupta and Ashoka. *Mithila*, which was an important centre for Sanskrit learning as early as 1000 B.C., comprised three districts of Bihar, namely Darbhanga, Champaran and Muzaffarpur (The Imperial Gazetteer of India, 1908). *Vaisali* which was part of south Muzaffarpur district was a small kingdom known as the first republic, not only in India,

but also in the world. The famous treatise on statecraft, namely *Arthashastra*, is attributed to Kautilya (or Chanakya), who was Chandragupta Maurya's able minister (Smith, 1919).

Bihar was ruled by kings of the Gupta dynasty during the fourth and fifth centuries A.D. and flourished in several walks of life. It was a period known for economic prosperity, and for advancement in science, music, fine arts and literature. Architecture, sculpture and painting attained a high level of excellence during the Gupta rule. The Gupta regime was famous for its noninterfering, benevolent governance which provided health services, good roads and rest houses to pilgrims. The sciences of mathematics, astronomy and astrology were cultivated with much success during the Gupta period. Aryabhata and Varahmihir, two famous scientists, flourished in the Gupta regime. The reign of various kings of the Gupta dynasty from A.D. 320 to 480 is known in Indian history as the "Golden Age" (Smith, 1919).

Bihar is the land of Gautama Buddha and Mahavir Jain. Mahavir Jain founded the cognate creed of the Jains in Bihar and Gautama Buddha developed his religion in Magadha. In fact Bihar derives its name from the town of Vihar which means a Buddhist monastery (Imperial Gazetteer, 1908). Bihar-Shariff, considered to be the second Mecca by many Muslims, and Gaya, with the temple of *Vishnupada*, considered to be one of the holiest places, are situated within 200 km of Patna. Patna, the birth place of Guru Govind Singh, is very sacred to the Sikhs (Srinivasan et al., 1982).

In ancient times, Bihar was very famous for its various seats of learning. The universities of Nalanda, Vikram Shila (now Bhagalpur) and Udaatpuri (now Bihar-Shariff) were highly regarded centres of higher learning, which students and scholars from India and various other countries visited. Unfortunately, despite its glorious past history of learning, Bihar is now one of the most illiterate states in India.

Bihar is also a land of many freedom fighters such as Veer Kaur Singh, Birsamunda, Tilka Manjhi, Maulana Mazharul Haque, and Abdul Bari. Mahatma Gandhi started his "Freedom Movement" from Champaran in Bihar.

According to the 1981 Census, 83 and 14 percent of the population of Bihar are Hindus and Muslims, respectively (Office of the Registrar General and Census Commissioner, 1984a). The main language of the people is Hindi which is also the official language of the state. Besides Hindi a large percentage of Muslims speak Urdu. Bhojpuri, Magahi and Maithili are among the local dialects of the state.

## 1.5 Economy

Bihar is predominantly an agricultural state with about 87 percent of the population living in rural areas according to the 1991 Census. Agriculture is the single largest sector of the economy employing about 81 percent of the work force, 43.6 percent as cultivators and 37.1 percent as agricultural labourers (Office of the Registrar General and Census Commissioner, 1991a). Agriculture accounts for 40 percent of the state's income (averaging over the period 1986-89 at current prices). Bihar grows kharif and rabi crops and the major agricultural products include rice, bajra, maize, jowar, sugarcane, tur, potato and pulses. The main cash crops are sugarcane, potato, tobacco, oilseeds, onion, jute and mesta. Kharif and rabi food

grains constitute 64 and 36 percent of the total production of food grains in the state, respectively. They constitute 8.1 and 5.9 percent of the total production of kharif and rabi food grains in India (Centre for Monitoring Indian Economy, 1991).

Coal, bauxite, copper ore, gold, iron, silver, lime stone, mica, manganese, chromite, sulphur pyrites, graphite, vanadium, apatite, barytes, asbestos and dolomite are the principal minerals of the state. The state reserves 32.3 percent of the mineral resources of the country (the highest) and contributes 35 percent to the all-India production. The state's share of the national income from the mining sector was about 35 percent during 1960-61, and declined to about 25 percent during 1980-89. Although Bihar is rich in mineral resources, it is industrially not well developed. The state has a few industries, including manufacture of cement, fertilizer, caustic soda, alloy steel and steel rope. In the core sector, the state has steel plants at Bokaro and Jamshedpur, a sponge iron project at Chaudil, a copper complex at Ghatsila, coal mining industries, heavy engineering and forging plants at Ranchi, a caustic soda plant at Garhwa road (Palamu), a fertilizer factory at Sindri, an oil refinery at Barauni and an alloy steel plant at Patratu and Adityapur.

## 1.6 Basic Demographic Indicators

The basic demographic indicators for the state and for India are given in Table 1.1. Bihar is the second most populous state (after Uttar Pradesh) with a population of 86 million. The decadal population growth rate in the state during 1981-91 was almost the same as that for the nation as a whole (24 percent). The population density (per km<sup>2</sup>) in 1991 was 497 for the state compared to 273 for India. There is a large variation in the population density among the districts of the state, ranging from 127 in the newly created district of Gumla to 1,130 in the Patna district.

Eighty-seven percent of the population of Bihar live in rural areas compared to 74 percent in India. The sex ratio of the population (number of females per 1,000 males) is 911 in Bihar and 927 for all India. The percentage of the population age 0-14 years (41 percent) is considerably higher than in the country (36 percent), reflecting a higher fertility rate in the state. However, about 4 percent of the population in the state, as well as the country, is age 65 years or older. The percentage of children age 0-4 years has declined slightly during 1981-91 both at the state and country level, but the percentage of old persons (age 65+) has remained the same. In 1991, persons belonging to scheduled castes<sup>1</sup> and scheduled tribes<sup>2</sup>, constituted 14.6

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<sup>1</sup> The Government of India has identified certain castes as socially and economically backward and recognizing the need to protect them from social injustice and all forms of exploitation, the constitution of India has conferred on them special protection. The term "Scheduled caste" was used for these caste groups for the first time in India in the Government of India Act of 1935 (Office of the Registrar General and Census Commissioner, 1984b). The list of scheduled castes and scheduled tribes used in the 1981 Census was based on the Scheduled Castes and Scheduled Tribes Orders (Amendment) Act of 1976 (Central Act 108 of 1976). Scheduled castes refer to such caste races or tribes or parts of groups, within such castes, races or tribes as are declared to be scheduled castes by the President of India by public notification.

<sup>2</sup> Scheduled tribes refer to such tribe or tribal communities or parts of or groups within such tribes or tribal communities as are declared to be scheduled tribes by the president of India by public notification (Office of the Registrar General and Census Commissioner, 1984b).

and 7.7 percent of the population of Bihar compared with 16.7 and 8.0 percent of India, respectively.

Bihar is known as one of the most educationally backward states in India. The literacy rate among the population age 7 years and above, according to the 1991 Census, was 38.5 and 52.2 percent for the state and the country, respectively. The literacy rates for males and females of the state were 52.5 and 22.9 percent compared with 64.1 and 39.3 percent, respectively, for the country.

The crude birth rate of 32.3 per 1,000 population and the crude death rate of 10.9 per 1,000 population are higher than the all-India crude birth rate of 29.2 and crude death rate of 10.1 as estimated by the Sample Registration System (SRS) in 1992. The total fertility rate of 4.4 children per woman in Bihar is also higher than the all-India fertility rate of 3.6 children per woman in 1991. The annual exponential growth rate for Bihar was 2.11 percent compared with 2.14 percent for the country during 1981-91.

Table 1.1 also indicates that the infant mortality rate is lower in the state than in the country. The infant mortality rate estimated by the SRS was 73 per 1,000 live births in Bihar compared to 79 in India for the year 1992. The life expectancy for males in the state (58.2 years) and the country (58.1 years) are the same, whereas for females it is lower in the state (57.0 years) than in the country (59.1 years). The couple protection rate (defined as the percentage of eligible couples effectively protected against pregnancy) was 25 percent in Bihar compared with 44 percent in India for the year 1992.

Major demographic trends in the state are displayed in Table 1.2. The total population of the state was 56.4 million in 1971, 69.9 million in 1981 and 86.4 million in 1991. As such, there was an addition of 30 million persons during the last twenty years. The decadal growth rate increased from 21.3 percent for the period 1961-71 to 24.1 percent for 1971-81 and then declined slightly to 23.5 percent during 1981-91. The density of population (per km<sup>2</sup>) rose from 324 in 1971 to 405 in 1981 and 497 in 1991, indicating rising pressure of population on the land.

The percentage of urban population in Bihar increased from 10 percent in 1971 to 12.5 percent in 1981 and finally to 13.1 percent in 1991. The sex ratio declined from 954 in 1971 to 946 in 1981 and 911 in 1991. The percentage of the population age 0-14 declined by only 2 percentage points from 1971 to 1991 and the population age 65 years and above increased by less than 1 percentage point during the same period. The percentage of the population belonging to scheduled castes increased from 14.1 in 1971 to 14.6 in 1991, whereas the percentage belonging to scheduled tribes decreased from 8.8 to 7.7 percent during the same period.

Although the level of literacy during the period 1971-91 has increased, the literacy rate of females in Bihar is still very low. The percentage of males age 5 years and above who are literate increased by 7.5 percentage points compared with a 4.9 percentage point increase in female literacy during 1971-81, and increased 14.4 percentage points compared with 9.3 for females during 1981-91. According to the 1991 census, the literacy rate for males age 7 and above (53 percent) is more than double the literacy rate for females (23 percent).

<b>Table 1.1 Basic demographic indicators</b>		
<b>Basic demographic indicators for Bihar and India, 1981-1992</b>		
<b>Index</b>	<b>Bihar</b>	<b>India</b>
Population (1991)	86,374,465	846,302,688
Percent population increase (1981-91)	23.5	23.9
Density (Population/km <sup>2</sup> ) (1991)	497	273
Percent urban (1991)	13.1	26.1
Sex ratio (1991)	911	927
Percent 0-14 years old (1981)	41.7	39.6
(1991)	40.6	36.3
Percent 65+ years old (1981)	3.7	3.2
(1991)	3.8	3.8
Percent scheduled caste (1991)	14.6	16.7
Percent scheduled tribe (1991)	7.7	8.0
Percent literate (1991) <sup>1</sup>		
Male	52.5	64.1
Female	22.9	39.3
Total	38.5	52.2
Crude birth rate (1992)	32.3	29.2
Crude death rate (1992)	10.9	10.1
Exponential growth rate (1981-91)	2.11	2.14
Total fertility rate (1991)	4.4	3.6
Infant mortality rate (1992)	73	79
Life expectancy (1986-90)		
Male	55.7	57.7
Female	53.6	58.1
Couple protection rate (1992)	24.7	43.5

<sup>1</sup>Based on the population age 7 and above.  
Source: Office of the Registrar General (1992, 1993a, 1994a, 1994b); Office of the Registrar General and Census Commissioner (1987); Ministry of Health and Family Welfare (1991, 1992).

The crude birth rate in the state declined from 39.1 per 1,000 population in 1981 to 30.7 in 1991. The total fertility rate declined from 5.7 children per woman in 1981 to 4.8 children per woman in 1991. The crude death rate declined from 13.9 per 1,000 population in 1981 to 9.8 per 1,000 population in 1991.

The exponential rate of growth of the population of Bihar increased from 1.93 during 1961-71 to 2.16 during 1971-81 and then declined slightly to 2.11 during 1981-91. It is remarkable to note that Bihar experienced a rapid decline in infant mortality from the level of 118 per 1,000 live births in 1981 to 69 in 1991. The life expectancy has increased considerably, by 3 years for males and 4 years for females from 1981-86 to 1986-91. However, life expectancy for females remained considerably lower than life expectancy for males during the same periods, contrary to the pattern observed in most other Indian states and other countries. Government statistics reveal that the percentage of couples effectively protected by various methods of family planning in Bihar rose steadily from 5.5 in 1971 to 12.3 in 1981 and finally to 24.7 in 1992.

**Table 1.2 Trends in basic demographic indicators**

Trends in basic demographic indicators, Bihar, 1971-91

index	1971	1981	1991
Population	56,353,369	69,914,734	86,374,465
Percent population increase (previous decade)	21.3	24.1	23.5
Density (population/km <sup>2</sup> )	324	405	497
Percent urban	10.0	12.5	13.1
Sex ratio	954	946	911
Percent 0-14 years old	42.6	41.7	40.6
Percent 65+ years old	3.2	3.7	3.8
Percent scheduled caste	14.1	14.5	14.6
Percent scheduled tribe	8.8	8.3	7.7
Percent literate <sup>a</sup>			
Male	30.6	38.1	52.5
Female	8.7	13.6	22.9
Total	19.9	26.2	38.5
Crude birth rate	U	39.1	30.7
Crude death rate	U	13.9	9.8
Exponential growth rate	1.93	2.16	2.11
Total fertility rate	U	5.7	4.4
Infant mortality rate	U	118	69
Life expectancy			
Male	U	55.2 <sup>b</sup>	55.7 <sup>c</sup>
Female	U	52.9 <sup>b</sup>	53.6 <sup>c</sup>
Couple protection rate	5.5	12.3	24.7 <sup>d</sup>

U: Not available

<sup>a</sup>Based on the population age 5 and above for 1971 and 1981 and population age 7 and above for 1991.

<sup>b</sup>1981-86

<sup>c</sup>1986-90

<sup>d</sup>1992

Source: Office of the Registrar General (1982, 1985, 1992, 1993a, 1994a, 1994b); Office of the Registrar General and Census Commissioner (1974, 1976, 1984b, 1987); Ministry of Health and Family Welfare (1989, 1991, 1992).

## 1.7 Population and Family Welfare Policies and Programmes

Health and family planning services in Bihar, as in other states, are provided through a network of sub-centres, Primary Health Centres, Community Health Centres, Postpartum Centres, Voluntary Organizations and other facilities according to the national family welfare policy and guidelines provided under the family welfare programmes of the country. The clinical approach of the programme was followed by the extension education approach which was introduced in 1963-64. Mass vasectomy camps were organised during 1970-73. During the seventies, a community-oriented service network was developed in which family planning services were offered as part of the overall package of health services. This integrated and coordinated approach was implemented during the period 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 sole objective of reducing mortality and disabilities due to various diseases like diphtheria, tetanus, tuberculosis, typhoid and poliomyelitis by providing free vaccination services easily available to all eligible children and

expectant mothers. In order to speed up the pace of immunization the Universal Immunization Programme (UIP) was introduced during 1985-86 and is being implemented through the existing network of the Primary Health Care System.

The Area Project in Bihar was carried out in 11 districts of Bihar during 1981-87 with the financial assistance of UNFPA. The objective of the project was to make available integrated services for health and family welfare to the people and reduce maternal and child mortality and morbidity. The project also focused on increasing and satisfying the demand for contraceptive services, increasing the availability of trained manpower in the field, and providing buildings for health centres and residential purposes (Ministry of Health and Family Welfare, 1992). The multipurpose workers scheme launched by the government of India in 1974 included Bihar. The chief objective of the scheme was to establish a health delivery system in the rural areas through a team of multipurpose workers, including one male and one female for every 5,000 rural population. Implementation of the scheme involved training all existing health workers at different levels in multipurpose functions.

An Information Education and Communication (IEC) Training Programme was launched during 1987-88. The chief objective of the programme was to restructure the working pattern of the health personnel with regular supportive training and supervision, with a view to making the health infrastructure more responsive to people's needs. Districts and PHC-level training teams were formed in all districts and regular training programmes were started. A series of need assessments and situational materials were developed. The scheme seeks to promote voluntary community participation in health and family welfare by persons in the village at the rate of one person for 20 households. Further, it enhances mobility of grassroots workers by providing teams with bicycles, mopeds and motorcycles (Ministry of Health and Family Welfare, 1990). This scheme in Bihar has continued under the IPP-7 programme since 1987. The Child Survival and Safe Motherhood (CSSM) programme was recently started in Bihar (Ministry of Health and Family Welfare, 1993). The chief objective of this programme is to ensure survival of children and safe motherhood through different measures adopted by the government.

## **1.8 Health Priorities and Programmes**

Health conditions in Bihar are poor. The rapidly growing population is adversely affecting health and quality of life. Delivery of health services 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 identifies certain areas which need special attention. These areas are: (1) nutrition for all segments of population, (2) the immunization programme, (3) maternal and child health care, (4) prevention of food adulteration and maintenance of 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. Moreover, active community participation is one of the most important ingredients in the successful implementation of health programmes.

After India became a signatory to the Alma Ata Declaration of 1978 by committing itself to the goal of "Health for All" by 2000 A.D., the government concentrated on the development of rural health infrastructure so as to provide health care services to the rural population which

had, by and large, remained neglected. As of 1 April 1992, 2,494 Primary Health Centres, 14,799 sub-centres, and 106 Community Health Centres were functioning in the state and providing health and family welfare services to the rural population (Central Bureau of Health Intelligence, 1992).

## 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 countries<sup>1</sup>.

#### 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 ten-day training session for the interviewers and supervisors was conducted at the PRC. 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 Bihar used the standard Household Questionnaire, Woman's Questionnaire and Village Questionnaire which had been pretested. State-specific questions for Bihar on the topics of dowry and women's aspirations for

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<sup>1</sup> 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.

their children's education, were added to the Woman's Questionnaire. Questionnaires used in the Bihar NFHS were bilingual, consisting of questions in both Hindi 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 their age, sex, marital status, education, occupation and relationship to the head of the household, as well as their health status. The main purpose of this section of the Household Questionnaire was to identify women who were eligible for the Woman's Questionnaire (ever-married women age 13-49 years). In addition, the Household Questionnaire collected information on the household itself, 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.

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 the topic of dowry and educational aspirations for sons and daughters.

**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 boards used in the survey were constructed from acrylic and other synthetic materials with a metal frame to provide stability and durability.

The Village Questionnaire was used to collect information on the villages covered in the NFHS. The Village Questionnaire collected information on various amenities available in the village 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. The sample for the Bihar survey was designed to provide statistical estimates for the state as a whole, for urban and rural areas and for backward districts of the state<sup>2</sup>. The universe consists of all urban and rural areas of the state.

#### **Sample Size and Allocation**

The overall target sample size for Bihar was 5,550 completed interviews with eligible women. The target sample size was set considering the large size of the state, time and resources available for the survey and the need for separate estimates for regions consisting of backward districts. In order to allow for nonresponse at the household and individual respondent levels, the target sample of women (ever-married women age 13-49 years) was increased to a total of 6,105 women. All the districts in Bihar were subdivided into 15 contiguous regions according to their geophysical characteristics, each representing one or more of the 1981 Census regions. The fifteen regions are as follows:

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<sup>2</sup> The MOHFW, Government of India, has defined backward districts as those having a crude birth rate of 39 per 1,000 population or higher as estimated on the basis of data from the 1981 Census. Out of a total of 42 districts in Bihar, 6 districts are classified as backward according to this definition.

- Region 1 : Purnia, Araria, Kishanganj
- Region 2 : Darbhanga, Madhubani
- Region 3 : Sitamarhi, Muzaffarpur, Vaishali
- Region 4 : Saran, Siwan, Gopalganj
- Region 5 : Pashchim Champaran, Purba Champaran
- Region 6 : Begusarai
- Region 7 : Samastipur, Saharsa, Madhepura, Katihar
- Region 8 : Nalanda, Aurangabad
- Region 9 : Patna, Rohtas, Bhojpur
- Region 10 : Khagaria, Munger, Bhagalpur
- Region 11 : Godda, Sahibganj, Dumka, Deoghar
- Region 12 : Nawada, Jehanabad, Gaya
- Region 13 : Palamu, Lohardaga, Gumla, Ranchi
- Region 14 : Dhanbad, Giridih, Hazaribag
- Region 15 : Purbi Singhbhum, Paschimi Singhbhum

The required sampling rates were determined separately for groups of geographically contiguous backward and nonbackward districts. Within each group, the sampling rates were determined separately for the urban and rural areas, resulting in 6 different sampling domains. Note that in the first 2 groups, the urban and rural sampling rates are approximately equal, making the sample in those groups almost self-weighting.

The table below summarizes the allocation of the target sample size of 5,550 eligible women and Primary Sampling Units (PSUs) to different domains. The table also shows the overall sampling fraction (f) used for the selection of the sample in each domain.

	Eligible women			Primary Sampling Units			Sampling fraction	
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Domain 1 Region 7/ backward	70	930	1000	4	26	30	0.000691	0.000599
Domain 2 Region 12/ backward	100	900	1000	5	28	33	0.001052	0.000924
Domain 3 Regions 1-6, 8-11 and 13-15/ non-backward	830	2720	3550	51	134	185	0.000457	0.000217
Total	1000	4550	5550	51	134	185		

### The Rural Sample: The Frame, Stratification and Selection

In rural areas, the 1981 Census list of villages served as the sampling frame, and a two-stage sample design was adopted with the selection of villages in the first stage and households in selected villages in the next stage. Villages with less than 10 households were deleted as they represent a very small proportion of the population. As mentioned earlier, the first level of

stratification was geographic with the districts being subdivided into 15 contiguous regions according to their geophysical characteristics, and later into three domains - two domains each comprising three backward districts and one domain comprising all remaining 35 nonbackward districts.

The stratification at various levels was carried out in the following way:

Level 1: Regions

Level 2: In regions 11 and 13, villages were further stratified into two classes of equal size on the basis of their scheduled tribe population

In regions 7 and 12, villages were stratified into three classes of equal size by village size

In other regions, no further explicit stratification was necessary

Level 3: In regions 7 and 12, villages were implicitly stratified by the geographic location of the villages

In all other regions implicit stratification of villages was based on the village size (number of households)

The first two levels gave 21 explicit strata, within each of which villages were ordered for systematic selection with probability proportional to size (PPS). In ordering by size (except for regions 7 and 12), the order alternated between ascending and descending. The systematic selection was done separately in three domains: backward region I (region 7); backward regions II (region 12) and all other nonbackward regions. For the last domain, the list for all regions was put together and the selection was done with a single random start, going continuously from one stratum to another.

The overall sampling fraction (the probability,  $f$ , of selecting a woman from a domain) for each domain was computed as:

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

where  $n$  = number of women to be interviewed in a domain adjusted for 10 percent to account for nonresponse and other loss; and

$N$  = projected population of eligible women in a domain in December, 1992.

A total of 134 rural Primary Sampling Units (PSUs) were selected in the state. The selection of PSUs was systematic with probability proportional to size (PPS). On average, 30 households were selected from each PSU with fewer than 300 households in 1981, and 40 households from larger PSUs with 300 households or more. An objective procedure was used to group villages with less than 30 households so as to obtain PSUs of sufficient size. Grouping was done of neighbouring units within the same explicit stratum.

The probability of selecting a PSU from a domain ( $f_1$ ) was computed as:

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

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

A household listing operation carried out in each of the selected PSUs about two weeks prior to the data collection provided the necessary frame for selecting households at the second sampling stage. The household listing operation consisted of preparing up-to-date notional and layout sketch maps of each selected PSU, assigning numbers to structures, recording addresses of these structures, identifying the residential structures, and listing the names of heads of all the households in the residential structures in the selected PSU. If PSUs had fewer than 600 households, a complete household listing was done. If PSUs had 600 or more households, segmentation of the PSU was done on the basis of existing wards in the PSU, and two segments were selected using either systematic sampling or PPS sampling. The household listing in such PSUs was carried out in the selected segments. Fifteen household listing teams, each team comprising a lister and a mapper, were trained during 8-13 February, 1993 at Patna. The household listing operation started on 15 February, 1993. This operation was supervised by the senior field staff of CFDRT and PRC. Attempts were made not to miss any household in the selected PSU while listing. The households to be interviewed were selected from the household lists using systematic sampling with equal probability.

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

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

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**

In the urban areas, the list of Census Enumeration Blocks 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 three strata: self-selecting cities, district headquarter towns and other towns. A self-selecting city was defined as one whose selection probability was unity (for cities with a population in 1991 that was larger than the sampling interval). Within each stratum, the cities/towns were arranged following the same geographic stratification used in the rural areas, and within each domain by district, and a single systematic sample of areas was selected from each stratum.

In self-selecting cities, a two-stage sample design was adopted: selection of Census Enumeration Blocks followed by selection of households in each of the selected blocks.

Although it was desirable to select blocks with probability proportional to size (PPS), since the urban frame was not computerized yet, blocks were selected with equal probabilities. However, to improve control over sample sizes, 'packets' of 10 blocks each were selected with equal probability, the measures of size for each of the blocks in the selected packets were obtained, and one block per selected packet was selected with PPS.

For district headquarters and other towns, a three-stage sample was used: selection of towns with PPS, followed by PPS selection of two census blocks per selected town, and finally the selection of households from the selected block.

In Bihar, a total of 22 cities/towns and 51 blocks within these cities/towns was selected. As in the rural areas, a household listing was carried out in the selected blocks and, on average, 20 households per block were selected systematically.

The computation of various probabilities for the selection of the urban sample was done as follows:

The probability of selecting a city/town ( $f_1$ ) was computed as:

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

where  $a$  = number of cities/towns selected from the domain

$s_i$  = the population size of the selected city/town

$\Sigma s_i$  = the population size of the domain

The probability of selecting a block from a selected city/town ( $f_2$ ) was computed as:

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

where  $b$  = number of blocks to be selected from the city/town

$B_i$  = the population size of the selected block

$\Sigma B_i$  = the population size of the city/town

In cases where 'packets' were selected, the probability of selecting a block ( $f_2$ ) was computed as:

$$f_2 = \frac{b}{T} \times \frac{B_i}{\Sigma P_i}$$

where  $T$  = total number of packets in the city

$\Sigma P_i$  = population size of the packet

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

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

### Sample Weights

In Bihar, the sample was weighted at the level of sampling domains in the state. The final weights included in the state data sets are design weights (as per the sample design) adjusted for nonresponse, and normalized so that the total number of weighted cases is equal to the total number of unweighted cases.

### Design Weights

Let  $w_{Di}$  be the design weight for the  $i^{\text{th}}$  domain. Then

$$w_{Di} = \frac{f}{f_i}$$

in which

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

and

$$f_i = \frac{n_i}{N_i}$$

where  $f$  is the overall sampling fraction (i.e., for the entire sample in the state) and  $f_i$  is the domain sampling fraction. Note that  $n = \sum n_i$  and  $N = \sum N_i$ , where  $n$  is the number of women selected for the survey, and  $N$  is the total number of women age 13-49.

### Adjustment for Nonresponse

Let  $R_{Hi}$  and  $R_{wi}$  be the household response rate and the individual (women's) response rate, respectively. Then the household weight  $w_{Hi}$  is calculated as follows:

$$w_{Hi} = \frac{w_{Di}}{R_{Hi}}$$

The individual weight  $w_{wi}$  is calculated as follows:

$$w_{wi} = \frac{w_{Di}}{R_{Hi} \times R_{wi}}$$

## Normalized Weights for Households and Women

After adjustment for nonresponse, the weights are normalized so that the total number of weighted cases is equal to the total number of unweighted cases. The final household weight is:

$$W_{Hi} = \frac{\sum n_i}{\sum w_{Hi} \cdot n_i} \times w_{Hi}$$

Similarly for the individual weight:

$$W_{wi} = \frac{\sum n_i}{\sum w_{wi} \cdot n_i} \times w_{wi}$$

## Village Weights

The villages were selected using probability proportional to size. This introduces a bias because bigger villages have a greater chance of being selected than smaller villages. Village weights are therefore used to adjust for this bias. Let  $f_{1hi}$  be the selection probability of the  $i^{\text{th}}$  village in the  $h^{\text{th}}$  stratum<sup>3</sup>, and let  $W_D$  be the design weight for the domain in which the village is located. Then the village weights are calculated as follows:

$$w_{hi}' = \frac{1}{f_{1hi}} \times W_D$$

These weights are then normalized so that the weighted number of villages is equal to the unweighted number of villages. The normalized village weights are calculated as follows:

$$w_{hi} = w_{hi}' \times \frac{A}{\sum_{h,j} w_{hi}'}$$

where  $A$  is the total number of villages selected in the state.

## **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 for 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*

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<sup>3</sup> Within each sampling domain in the state, the villages were ordered according to a specified stratification scheme prior to selection.

*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 each from CFDR and the PRC were trained at the first and second Training of the Trainers Workshops held at Lonavala during December, 1991 and July, 1992, respectively.

Training of field staff for the main survey was conducted during 15 February-12 March 1993. A total of 50 persons (8 males and 42 females) were trained by the staff from the PRC, CFDR and IIPS. All the field interviewers were females and had received either a bachelor's or a master's degree. The field editors and supervisors were males. Representatives of Macro International were also present during training and field practice sessions.

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, two special lectures were arranged: one on the topic of family planning at the beginning of the section on contraception in the Woman's Questionnaire and one on maternal and child health practices, including immunizations, at the beginning of the section on health of children. Medical doctors conversant with the state's Maternal and Child Health (MCH) programme were the resource persons for these lectures. Female trainees who performed satisfactorily in the training programme were selected as interviewers for the main survey. In addition to the main training, two days' training was specially arranged for field editors and supervisors. The editors were trained to detect errors in the filled-in questionnaires and resolve problems. A list of checks to be made while editing the filled-in questionnaires was also supplied to them.

The fieldwork for the NFHS in Bihar was carried out by 9 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). The fieldwork was carried out simultaneously in four survey zones between 18 March and 12 June 1993. Assignment of Primary Sampling Units (PSUs) to the teams and various logistical decisions were made by the staff of CFDR designated as zonal coordinators. Each team was allowed a fixed period of time to complete fieldwork in a PSU before moving to the next PSU. All the teams started their fieldwork close to their zonal headquarters. 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 problems. 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 CFDRT, the PRC and IIPS maintained close contacts 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 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, which cannot be fully anticipated. All the teams in Bihar were provided with vehicles in the field to visit selected PSUs. However, some of the teams experienced difficulty in reaching PSUs located in hilly regions due to the absence of proper approachable roads. These PSUs were covered by foot and by using local means of transportation. Fieldwork in some parts of Bihar was delayed due to funds not reaching the field in time.

## **2.6 Data Processing**

All completed questionnaires for the Bihar NFHS were sent to the office of CFDRT in Madras 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 CFDRT office by specially trained office editors. This re-examination covered checking all skip sequences, checking circled response codes, and checking 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. All data entry and editing operations were

completed by 26 June 1993 (Fourteen days after the end of the fieldwork). 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 in Bihar was prepared in August, 1993. 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 fifteen 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, and infant and child mortality.

In order to maintain comparability with 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 Bihar were produced at IIPS based on this tabulation plan, with additional tables for the state-specific questions.

## **2.7 Areas for Reporting Survey Results**

In this report, survey results are reported for all of Bihar, as well as separately for the urban and rural areas and for all the backward districts combined. It should be noted that the urban and rural areas are nonoverlapping and they include all districts (backward and nonbackward) in the state. On the other hand, backward districts include urban and rural areas of these districts.

## **2.8 Sample Implementation**

Table 2.1 shows the results of household and individual interviews, response rates for the survey, and reasons for nonresponse. Of the 5,018 households selected in Bihar, interviews were completed in 95 percent of the cases. In 4 percent of the cases, the selected households were found to be absent and in 1 percent of cases they were vacant. The household response rate (the number of households interviewed per 100 occupied households) was 96 percent. A slightly higher response rate for the household interview was recorded in rural areas of the state (96 percent) than in urban areas (94 percent). The household response rate in backward districts was higher (97 percent) than that for the state as a whole.

In the interviewed households, 6,086 women were identified as eligible for the individual interview. Interviews were successfully completed with 98 percent of the eligible women. The individual response rate was slightly higher for rural areas and backward districts (98 percent) than for urban areas (97 percent).

Nonresponse at both the household and individual levels was primarily due to households being absent or an eligible female respondent not being at home despite repeated household visits. Cases where an eligible woman refused to give the interview were few (overall, only 0.1 percent). As in most sample surveys, the response rates were slightly lower in urban areas than in rural areas.

**Table 2.1 Sample results**

Sample results for households and eligible women (unweighted), Bihar, 1993

Result	Urban		Rural		Total		Backward districts	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Households selected</b>	1182	100.0	3836	100.0	5018	100.0	1653	100.0
Households completed (C)	1088	92	3660	95.4	4748	94.6	1595	96.5
Households with no competent respondent (HP)	2	0.2	0	--	2	--	0	--
Households absent (HA)	67	5.7	145	3.8	212	4.2	41	2.5
Households refused (R)	2	0.2	5	0.1	7	0.1	2	0.1
Households vacant/no dwelling (DV)	21	1.8	17	0.4	38	0.8	6	0.4
Dwellings destroyed (DD)	0	--	2	0.1	2	--	2	0.1
Dwellings not found (DNF)	0	--	1	--	1	--	1	0.1
Other (O)	2	0.2	6	0.2	8	0.2	6	0.4
<b>Households occupied</b>	1159	100.0	3811	100.0	4970	100.0	1639	100.0
Households interviewed	1088	93.9	3660	96.0	4748	95.5	1595	97.3
Households not interviewed	71	6.1	151	4.0	222	4.5	44	2.7
<b>Household response rate (HHR)<sup>1</sup></b>	NA	93.9	NA	96.0	NA	95.5	NA	97.3
<b>Eligible women</b>	1316	100.0	4770	100.0	6086	100.0	2128	100.0
Women interviewed (EWC)	1267	96.3	4682	98.2	5949	97.7	2067	97.1
Women not at home (EWNH)	37	2.8	68	1.4	105	1.7	46	2.2
Women refused (EWR)	3	0.2	5	0.1	8	0.1	4	0.2
Women partly interviewed (EWPC)	5	0.4	8	0.2	13	0.2	3	0.1
Other (EWO)	4	0.3	7	0.1	11	0.2	8	0.4
<b>Individual response rate (EWRR)<sup>2</sup></b>	NA	96.6	NA	98.3	NA	97.9	NA	97.5
<b>Overall response rate (ORR)<sup>3</sup></b>	NA	90.7	NA	94.4	NA	93.6	NA	94.9

NA: Not applicable

-- Less than 0.05 percent

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

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

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

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

<sup>3</sup>The overall response rate (ORR) is calculated as:

$$ORR = (HHR \times EWRR) / 100$$

## 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. The chapter also includes some comparisons of the NFHS results with results from the 1991 Census of India and the Sample Registration System.

#### 3.1 Age-Sex Distribution of the Household Population

The NFHS household population can be tabulated in two ways: *de facto* (the place each person slept the night before the survey interview) or *de jure* (the place of usual residence). The *de facto* and *de jure* populations in Bihar may differ because of temporary population movements. Table 3.1 shows the *de facto* population in the NFHS household sample, classified by age, sex and residence. In this table, the total population is divided into urban and rural areas. Backward districts, officially defined by the government as districts in which the estimated crude birth rate was 39 per 1,000 or higher in 1981, include both urban and rural areas. The total weighted *de facto* sample population is 29,456. The sample is 16 percent urban, and 15 percent of the population reside in backward districts.

The age distribution is typical of high fertility populations, with a higher proportion of the population in the younger age groups. Forty-two percent of the population are below 15 years of age and 7 percent are age 60 or more. The child population (below age 15) is higher in rural areas and backward districts (43 percent each) than in urban areas (38 percent).

Examination of the single-year age distributions (see Appendix Table B.1 and Figure 3.1) indicates substantial distortions of 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. The Myers' Indices computed for the male and female populations are 40.8 and 12.7, respectively. The corresponding indices for males and females in Bihar from the 1981 Census are 79.7 and 78.8, respectively (Office of the Registrar General and Census Commissioner, 1984c). 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. 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 member of the household. The Myers' Indices for males and females in the NFHS indicate that age reporting is better in the case of females than in the case of males. Figure 3.1 also indicates that the age distribution is smoother for women in the age group 13-49 than for other females or for males. 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 tabulating 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 other household respondent. No extensive probing techniques were adopted for obtaining age information in the household listing. For eligible women who were interviewed using the

**Table 3.1 Household population by age and sex**

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

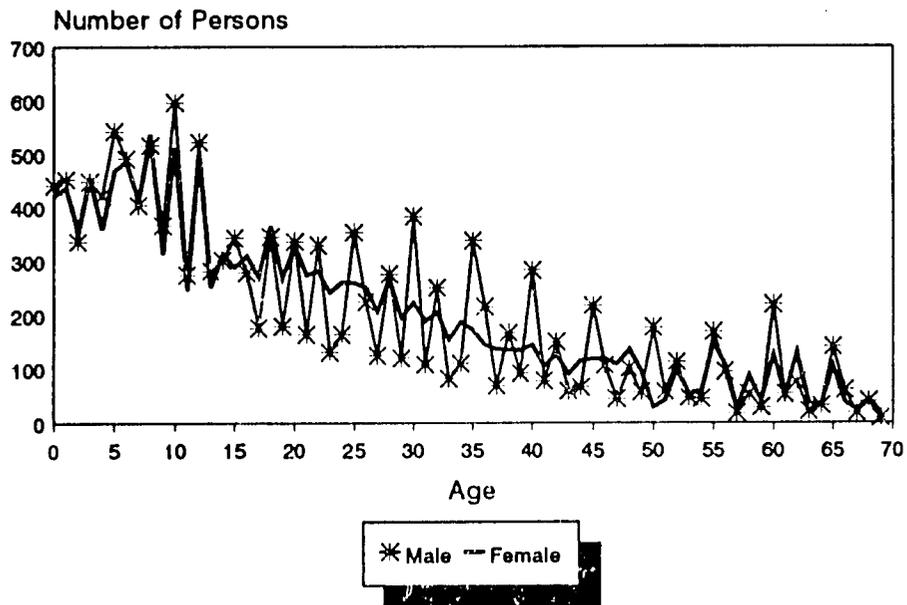
Age	Urban			Rural			Total			Backward districts		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
< 1	2.5	2.5	2.5	3.1	2.9	3.0	3.0	2.9	2.9	3.1	3.0	3.0
1 - 4	9.1	10.2	9.6	11.6	11.1	11.4	11.2	11.0	11.1	11.2	11.2	11.2
5 - 9	12.7	13.7	13.2	16.2	15.4	15.8	15.6	15.2	15.4	16.3	14.8	15.6
10-14	14.0	12.0	13.0	13.2	12.5	12.8	13.3	12.4	12.9	13.5	12.3	12.9
15-19	11.0	11.3	11.1	8.5	10.1	9.3	8.9	10.3	9.6	8.5	11.2	9.9
20-24	8.8	10.2	9.5	7.3	9.3	8.3	7.6	9.5	8.5	7.5	9.4	8.4
25-29	6.9	8.1	7.5	7.5	8.0	7.8	7.4	8.0	7.7	7.2	7.7	7.4
30-34	7.2	6.5	6.9	6.1	6.6	6.3	6.3	6.6	6.4	6.2	6.3	6.3
35-39	5.6	6.1	5.9	6.0	4.8	5.4	5.9	5.0	5.5	6.0	4.4	5.2
40-44	5.2	4.8	5.0	4.1	3.9	4.0	4.3	4.0	4.1	3.9	3.9	3.9
45-49	4.4	4.3	4.4	3.4	3.9	3.6	3.6	4.0	3.8	3.4	3.5	3.5
50-54	3.4	2.0	2.7	2.9	1.9	2.4	3.0	1.9	2.4	2.6	2.0	2.3
55-59	2.8	2.8	2.8	2.4	2.8	2.6	2.5	2.8	2.6	2.8	3.4	3.1
60-64	2.5	2.3	2.4	2.8	2.6	2.7	2.7	2.6	2.6	2.9	2.5	2.7
65-69	1.6	1.4	1.5	1.9	1.6	1.7	1.8	1.6	1.7	1.5	1.8	1.7
70-74	1.4	0.7	1.0	1.7	1.2	1.4	1.6	1.1	1.4	1.7	1.2	1.4
75-79	0.3	0.6	0.4	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6
80+	0.6	0.5	0.6	0.9	0.6	0.7	0.8	0.6	0.7	0.9	0.8	0.8
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
Number	2396	2200	4596	12439	12422	24861	14835	14622	29456	2197	2159	4356
Sex ratio	NA	NA	918	NA	NA	999	NA	NA	986	NA	NA	983

NA: Not applicable

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 on the Woman's Questionnaire is based on her month and year of birth, if known, or on her reported age otherwise. A variety of probing techniques were used to elicit accurate age information from the respondent. The data suggest that probing and other elaborate measures used for arriving at the age of the eligible women helped in reducing the biases in age reporting due to digit preference.

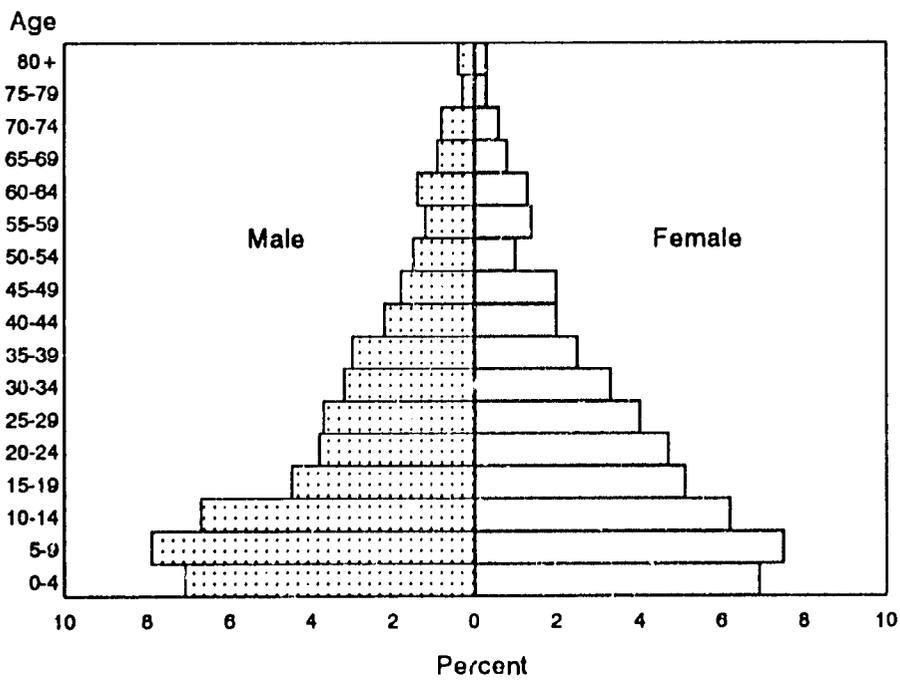
The distribution by five-year age groups is shown in the population pyramid in Figure 3.2. The irregular dip in the proportion of women at age 50-54 is indicative of a possible shifting of the age of women from age 50-54 to age 45-49 and age 55-59. This is an unusual phenomenon because in DHS surveys, it is generally found that there is a slight tendency to displace the age of women from age group 45-49 to 50-54, presumably to reduce the work load of the interviewer (Rutstein and Eicego, 1990). Perhaps, interviewers in the NFHS in Bihar were overcompensating because of warnings that questionnaires would be carefully scrutinized in the case of women recorded as age 50. However, the impact of this apparent shifting of age on the quality of data is minimal because the shifting is not pronounced.

Figure 3.1  
Number of Persons Reported at Each Age  
by Sex



NFHS, Bihar, 1993

Figure 3.2  
Population Pyramid of Bihar



NFHS, Bihar, 1993

The *de facto* population sex ratio (females per 1,000 males) is 918 in urban areas, 999 in rural areas, 986 for the state as a whole and 983 in backward districts. Roughly comparable figures from the 1991 Census are 844 in urban areas, 921 in rural areas and 911 in the state as a whole (Office of the Registrar General and Census Commissioner, 1991b). The discrepancy between the two sources is 7 percentage points (74 per 1,000) in urban areas, 8 percentage points (78 per 1,000) in rural areas and 8 percentage points (75 per 1,000) for the state as a whole, with the sex ratio consistently higher in the NFHS. Possible reasons for this pattern of differences are discussed later.

Table 3.2 compares the age distributions by sex from the NFHS *de jure* sample with the 1991 Sample Registration System (SRS). The SRS baseline survey counts all usual residents of the sample area (Office of the Registrar General, India, 1993a). By and large, the age distributions by sex are quite similar for the 1991 SRS and the NFHS.

Table 3.2 also provides information on sex ratios by age for the NFHS. The Sample Registration System (SRS) publishes percentage age distributions for the sample registration areas but not absolute numbers of population, so no population sex ratios can be computed from the SRS publication. The total population sex ratio for Bihar was 946 in the 1981 Census, 911 in the 1991 Census and 956 in the NFHS *de jure* sample. The NFHS *de jure* value is almost 5 percentage points (45 per 1,000) higher than the 1991 Census estimate (Office of the Registrar General and Census Commissioner, 1991b).

One difference between the two sources of data is the population coverage. The Census includes the institutional population, which is overwhelmingly male, whereas the NFHS excludes the institutional population. Aside from the difference in the coverage, the discrepancies in population sex ratios between the NFHS and the 1991 Census in Bihar could occur if the NFHS missed more males than females, or if the Census missed more females than males, or if both of these errors occurred. Sampling error in the NFHS does not account for such a large

Table 3.2 Population by age and sex from SRS and NFHS					
Percent distribution of the <i>de jure</i> population by age and sex from SRS and NFHS, Bihar, 1991-93					
Age	SRS (1991)		NFHS (1993)		Sex ratio
	Male	Female	Male	Female	
0 - 4	15.7	15.5	13.4	13.7	981
5 - 14	25.1	24.7	28.5	27.9	934
15-29	27.3	25.8	24.5	26.7	1043
30-49	20.4	21.8	20.6	20.2	935
50-64	7.9	8.1	8.2	7.6	879
65+	3.6	4.0	4.8	4.0	792
Total	100.0	100.0	100.0	100.0	956
Median age	U	U	19.3	19.2	NA

NA: Not applicable  
U: Not available  
Source for SRS: Office of the Registrar General (1993a).

difference. In fact, the sampling error for the *de facto* NFHS sex ratio is only 11.5, yielding a confidence interval of 963-1009. Even the lowest value in this range is considerably higher than the census values. Moreover, both urban and rural sex ratios are higher in the NFHS than in the 1991 Census, suggesting a systematic rather than a random pattern of differences.

Given the comparatively low status of women in Bihar, it seems highly unlikely that the NFHS missed more males than females. Moreover, the training and supervision of interviewers was much more thorough in the NFHS than in the Census. Therefore, the most likely source of the discrepancy in the estimated sex ratio is relative underenumeration of females in the 1991 Census, a possibility that has been mentioned by Premi (1991), among others. In general, according to post-enumeration checks, Indian censuses have consistently underenumerated females more than males although the gap has been decreasing with each successive census. Not yet published findings from the 1991 Census post-enumeration check for Bihar may shed some light on the discrepancy in sex ratios between the NFHS and the 1991 Census. Because of possible relative underenumeration of females in the 1991 Census, the differences in sex ratio estimates should not be taken as evidence that the NFHS is unrepresentative of the underlying population, especially since other comparisons generally indicate close agreement between the 1991 Census and the NFHS.

### 3.2 Marital Status

The NFHS gathered information on the marital status of all household members age 6 and over. Table 3.3 shows the marital status distribution of the *de facto* household population by age, sex and residence. Among females age 6 or more years, 56 percent are currently married and 37 percent have never been married. The percentage never married is higher for males (47 percent) than females. The percentage of females never married is lower in rural areas (36 percent) than in urban areas (40 percent). The proportion divorced or separated is small in Bihar, and the impact of widowhood is quite limited until the older ages. However, one-quarter of women age 55-59 and one-half of women age 60 and over are widows. The percent distribution of women by marital status in backward districts is similar to that in rural areas.

Of more interest is the proportion of persons who marry young. At age 15-19, the percentage ever married is 2 percent of males and 28 percent of females in urban areas, 11 percent of males and 56 percent of females in rural areas, and 16 percent of males and 60 percent of females in backward districts. By age 25-29, marriage is nearly universal for females and the percentage of males ever married reaches 72 percent in urban areas, 86 percent in rural areas, and 89 percent in backward districts. Overall, the table shows that women marry at much younger ages than men, and that both men and women in rural areas and backward districts marry at much younger ages than in urban areas. A more comprehensive discussion of marriage patterns is contained in the next chapter, which is devoted entirely to nuptiality.

**Table 3.3 Marital status of the household population**

Percent distribution of the *de facto* household population age 6 and above by marital status, according to age, sex and residence, Bihar, 1993

Age	Marital status						Total percent
	Never married	Currently married	Widowed	Divorced	Separated	DK/missing	
<b>URBAN</b>							
<b>Male</b>							
6 -12	99.3	0.2	0.2	--	0.2	0.3	100.0
13-14	99.4	--	0.6	--	--	--	100.0
15-19	97.6	2.4	--	--	--	--	100.0
20-24	69.6	29.4	0.7	0.3	--	--	100.0
25-29	28.1	71.2	0.4	--	0.3	--	100.0
30-34	9.8	86.4	2.1	--	1.3	0.4	100.0
35-39	3.5	96.0	0.5	--	--	--	100.0
40-44	1.4	98.0	--	0.6	--	--	100.0
45-49	0.3	98.7	1.0	--	--	--	100.0
50-54	1.8	91.2	6.9	--	--	--	100.0
55-59	--	90.6	9.4	--	--	--	100.0
60+	0.5	84.0	14.4	--	1.1	--	100.0
Total	50.9	46.6	2.1	0.1	0.2	0.1	100.0
<b>Female</b>							
6 -12	99.1	0.3	0.3	--	0.1	0.3	100.0
13-14	97.4	2.6	--	--	--	--	100.0
15-19	72.3	27.1	0.3	0.2	0.2	--	100.0
20-24	24.3	74.7	0.3	--	0.7	--	100.0
25-29	8.1	89.9	0.8	--	1.2	--	100.0
30-34	1.5	96.3	1.3	0.3	0.5	--	100.0
35-39	1.6	94.0	3.8	--	0.5	--	100.0
40-44	0.7	88.3	9.7	--	1.4	--	100.0
45-49	0.8	88.6	10.6	--	--	--	100.0
50-54	0.7	85.0	12.6	--	1.7	--	100.0
55-59	1.2	70.8	28.0	--	--	--	100.0
60+	1.9	52.9	45.3	--	--	--	100.0
Total	40.3	53.3	5.9	--	0.4	0.1	100.0
<b>RURAL</b>							
<b>Male</b>							
6 -12	99.2	0.4	0.1	--	0.3	0.1	100.0
13-14	98.6	1.3	--	--	--	0.1	100.0
15-19	89.2	10.3	0.1	0.1	0.3	--	100.0
20-24	48.1	50.7	0.7	--	0.4	--	100.0
25-29	14.2	84.8	0.4	0.2	0.4	0.1	100.0
30-34	3.6	94.4	1.5	--	0.4	0.1	100.0
35-39	1.9	96.0	1.8	--	0.3	--	100.0
40-44	0.1	96.3	2.6	--	1.0	--	100.0
45-49	1.0	91.7	7.3	--	--	0.1	100.0
50-54	0.1	92.6	6.7	--	0.5	--	100.0
55-59	0.1	90.8	8.0	0.5	0.6	--	100.0
60+	0.4	77.6	21.5	0.2	0.4	--	100.0
Total	46.5	49.7	3.3	0.1	0.4	--	100.0

**Table 3.3 Marital status of the household population (Contd.)**

Percent distribution of the *de facto* household population age 6 and above by marital status, according to age, sex and residence, Bihar, 1993

Age	Marital status						Total percent
	Never married	Currently married	Widowed	Divorced	Separated	DK/missing	
<b>RURAL</b>							
<b>Female</b>							
6 -12	98.6	0.6	0.4	0.1	0.2	0.2	100.0
13-14	94.0	6.0	--	--	--	--	100.0
15-19	44.3	54.8	0.2	0.2	0.4	--	100.0
20-24	7.1	91.2	0.8	0.1	0.8	--	100.0
25-29	1.3	96.4	2.1	--	0.2	--	100.0
30-34	0.8	96.2	2.3	0.2	0.6	--	100.0
35-39	0.3	92.9	6.0	0.3	0.5	--	100.0
40-44	0.3	90.3	8.7	0.4	0.4	--	100.0
45-49	0.9	86.1	12.3	0.3	0.4	--	100.0
50-54	--	81.2	18.0	0.1	0.6	--	100.0
55-59	--	75.3	24.7	--	--	--	100.0
60+	0.6	47.9	51.0	0.1	--	0.4	100.0
<b>Total</b>	<b>35.8</b>	<b>56.4</b>	<b>7.3</b>	<b>0.1</b>	<b>0.3</b>	<b>0.1</b>	<b>100.0</b>
<b>TOTAL</b>							
<b>Male</b>							
6 -12	99.2	0.3	0.1	--	0.3	0.1	100.0
13-14	98.7	1.1	0.1	--	--	0.1	100.0
15-19	90.9	8.7	--	0.1	0.3	--	100.0
20-24	52.2	46.7	0.7	0.1	0.3	--	100.0
25-29	16.3	82.7	0.4	0.1	0.4	--	100.0
30-34	4.7	92.9	1.6	--	0.6	0.2	100.0
35-39	2.2	96.0	1.6	--	0.2	--	100.0
40-44	0.4	96.6	2.1	0.1	0.8	--	100.0
45-49	0.8	93.1	6.0	--	--	0.1	100.0
50-54	0.5	92.4	6.8	--	0.4	--	100.0
55-59	0.1	90.7	8.2	0.4	0.5	--	100.0
60+	0.4	78.5	20.5	0.1	0.5	--	100.0
<b>Total</b>	<b>47.3</b>	<b>49.2</b>	<b>3.1</b>	<b>0.1</b>	<b>0.3</b>	<b>0.1</b>	<b>100.0</b>
<b>Female</b>							
6 -12	98.7	0.6	0.4	0.1	0.2	0.2	100.0
13-14	94.6	5.4	--	--	--	--	100.0
15-19	48.9	50.2	0.2	0.2	0.4	--	100.0
20-24	9.9	88.5	0.7	0.1	0.7	--	100.0
25-29	2.3	95.4	1.9	--	0.4	--	100.0
30-34	0.9	96.2	2.1	0.2	0.5	--	100.0
35-39	0.5	93.2	5.6	0.2	0.5	--	100.0
40-44	0.4	89.9	8.8	0.3	0.6	--	100.0
45-49	0.9	86.5	12.0	0.3	0.4	--	100.0
50-54	0.1	81.8	17.2	0.1	0.8	--	100.0
55-59	0.2	74.6	25.2	--	--	--	100.0
60+	0.8	48.5	50.3	0.1	--	0.3	100.0
<b>Total</b>	<b>36.5</b>	<b>55.9</b>	<b>7.1</b>	<b>0.1</b>	<b>0.4</b>	<b>0.1</b>	<b>100.0</b>

**Table 3.3 Marital status of the household population (Contd.)**

Percent distribution of the *de facto* household population age 6 and above by marital status, according to age, sex and residence, Bihar, 1993

Age	Marital status						Total percent
	Never married	Currently married	Widowed	Divorced	Separated	DK/missing	
<b>BACKWARD DISTRICTS</b>							
<b>Male</b>							
6 -12	99.3	0.5	--	--	--	0.2	100.0
13-14	97.5	2.1	--	--	--	0.4	100.0
15-19	84.5	15.0	0.3	--	0.2	--	100.0
20-24	43.9	55.4	0.2	--	0.5	--	100.0
25-29	11.3	87.3	0.3	--	0.7	0.3	100.0
30-34	3.9	93.5	1.8	--	--	0.8	100.0
35-39	2.0	96.5	0.8	0.3	0.4	--	100.0
40-44	1.2	95.0	3.0	--	0.8	--	100.0
45-49	1.8	90.8	6.9	--	--	0.5	100.0
50-54	0.9	89.7	8.7	--	0.6	--	100.0
55-59	0.6	91.4	7.4	--	0.6	--	100.0
60+	0.2	76.9	21.6	--	1.3	--	100.0
Total	45.9	50.3	3.3	--	0.4	0.2	100.0
<b>Female</b>							
6 -12	99.0	0.2	0.5	--	0.1	0.1	100.0
13-14	91.2	8.8	--	--	--	--	100.0
15-19	39.7	58.9	--	0.2	1.2	--	100.0
20-24	5.9	93.4	0.2	--	0.6	--	100.0
25-29	0.8	93.0	0.8	--	0.3	--	100.0
30-34	0.3	95.3	4.1	0.3	--	--	100.0
35-39	--	95.7	4.3	--	--	--	100.0
40-44	--	90.1	9.1	0.4	0.4	--	100.0
45-49	--	85.7	13.6	--	0.7	--	100.0
50-54	0.7	82.4	16.1	0.8	--	--	100.0
55-59	--	73.5	26.5	--	--	--	100.0
60+	1.0	48.1	50.1	0.6	0.2	--	100.0
Total	34.5	57.5	7.5	0.1	0.4	--	100.0
DK: Don't know							
-- Less than 0.05 percent							

### 3.3 Household Composition

Table 3.4 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 household members. Ninety-three percent of households are headed by males (96 percent in urban areas and 92 percent in rural areas). Household heads are slightly concentrated in the middle age groups of 30-44 and 45-59. The median age of household heads is three years higher in urban areas (45 years) than in rural areas (42 years). Overall, 82 percent of household heads are Hindu, 16 percent are Muslim and 2 percent belong to other religions. The proportion of Muslims is higher in rural areas, where they constitute 17 percent of household heads, than in urban areas (10 percent) and backward districts (12 percent). About 10 percent of household heads are classified as belonging to scheduled castes and 9 percent are members of scheduled tribes. Both of these groups are proportionately more likely to live in rural areas than in urban

**Table 3.4 Household composition**

Percent distribution of households by selected characteristics of household head and size, according to residence, Bihar, 1993

Characteristic	Residence			Backward districts
	Urban	Rural	Total	
<b>Sex of household head</b>				
Male	95.6	92.0	92.6	91.7
Female	4.4	8.0	7.4	8.3
<b>Age of household head</b>				
< 30	9.3	14.8	14.0	13.0
30-44	39.8	39.6	39.7	38.6
45-59	32.9	26.5	27.5	28.8
60+	18.0	19.0	18.9	19.6
Median age	45.2	42.2	42.6	42.8
<b>Marital status of household head</b>				
Never married	2.4	2.1	2.2	1.1
Currently married	90.7	88.3	88.6	88.9
Widowed	6.2	9.0	8.6	9.2
Divorced	0.2	0.1	0.1	0.1
Separated	0.5	0.5	0.5	0.5
<b>Religion of household head</b>				
Hindu	84.5	81.7	82.1	85.5
Muslim	9.8	16.8	15.7	12.1
Other	5.7	1.5	2.1	2.4
<b>Caste/tribe of household head</b>				
Scheduled caste	7.0	10.3	9.8	9.6
Scheduled tribe	4.9	9.2	8.6	0.1
Other	88.1	80.4	81.6	90.2
<b>Number of usual members</b>				
1	1.5	2.4	2.3	1.9
2	4.5	6.2	6.0	6.6
3	7.9	8.8	8.7	7.0
4	14.2	12.4	12.7	12.2
5	17.5	16.9	17.0	16.4
6	17.5	15.2	15.5	15.5
7	12.4	12.2	12.2	11.8
8	7.6	8.4	8.2	8.7
9+	16.9	17.4	17.4	20.0
Mean size	6.3	6.2	6.2	6.5
Total percent	100.0	100.0	100.0	100.0
Number of households	723	4025	4748	686

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

areas. According to the 1991 Census (Office of the Registrar General and Census Commissioner, 1992), the percentages of the population belonging to scheduled castes and scheduled tribes in Bihar were 14.6 and 7.7 percent, respectively. The mean NFHS household size is 6.2 persons per household and does not vary by residence. The profile of household heads according to these characteristics in backward districts is quite similar to the state as a whole.

Table 3.5 shows the percent distribution of the *de facto* household population by age, residence and sex. All subsequent tables in this chapter and in the following chapters are based on the *de facto* sample, unless otherwise specified<sup>1</sup>. Overall, 6 percent of the *de facto* population listed in the sample households at the time of the interview were visitors who did not usually live in the household. Visiting was common only among young women in the childbearing years and their children. This pattern undoubtedly results from the common practice of women returning to their parents' house to have their children (particularly the first one or two children) and staying there during the postpartum period.

### 3.4 Educational Attainment

The educational level of household members is an important characteristic because educational attainment often affects reproductive behaviour, the use of contraceptives, the health of children and proper hygienic practices. Table 3.6 reveals 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. More than two-thirds of females (71 percent) and two-fifths of males (40 percent) are illiterate. The NFHS levels of illiteracy are somewhat lower than the 1991 Census rates of 77 percent for females and 48 percent for males age 7 and above (Table 1.1). A higher percentage of males than females have completed each level of schooling. The median number of years of schooling for males is 3.0, but the majority of women have never been to school.

Urban areas have a wide lead over rural areas in both literacy and the level of education achieved. Urban women are more than twice as likely to be literate as rural women (62 percent compared to 23 percent). The difference in literacy rates by residence is less pronounced for males (85 percent in urban areas compared with 56 percent in rural areas). Literacy and educational attainment are slightly lower in backward districts than in the state as a whole, but the differences are not large.

Despite the overall low level of literacy, cohort differences suggest that it has increased over time (Figure 3.3). Although only 8 percent of women age 50 and over are literate, the literacy rate for females increases to 21 percent for those age 40-44, 30 percent for those age 20-24, and 42 percent for those age 10-14. The literacy gap between males and females has narrowed over time, but even at age 10-14, males are much more likely to be literate (72 percent) than females (42 percent).

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<sup>1</sup> It is expected that the *de facto* sample will be more representative of women in the state as a whole since all women are interviewed where they are staying at the time of the survey. A *de jure* sample, on the other hand, would miss usual residents who are temporarily staying elsewhere at the time of the survey.

**Table 3.5 Usual residents and visitors**

Percent distribution of the *de facto* household population by resident status in the household according to age, residence and sex, Bihar, 1993

Characteristic	Resident status		Total percent	Number
	Usual resident	Visitor		
<b>MALE</b>				
<b>Age</b>				
< 1	88.8	11.2	100.0	441
1 - 4	91.0	9.0	100.0	1658
5 -14	97.1	2.9	100.0	4294
15-19	96.7	3.3	100.0	1321
20-24	96.4	3.6	100.0	1125
25-29	95.2	4.8	100.0	1097
30-34	96.5	3.5	100.0	933
35-39	96.8	3.2	100.0	881
40-44	97.3	2.7	100.0	636
45-49	96.5	3.5	100.0	527
50+	98.9	1.1	100.0	1919
<b>Residence</b>				
Urban	95.3	4.7	100.0	2396
Rural	96.3	3.7	100.0	12439
Backward districts	95.7	4.3	100.0	2197
<b>Total</b>	<b>96.1</b>	<b>3.9</b>	<b>100.0</b>	<b>14835</b>
<b>FEMALE</b>				
<b>Age</b>				
< 1	86.4	13.6	100.0	422
1 - 4	90.9	9.1	100.0	1609
5 -14	96.4	3.6	100.0	4034
15-19	86.1	13.9	100.0	1500
20-24	83.6	16.4	100.0	1384
25-29	89.1	10.9	100.0	1175
30-34	94.6	5.4	100.0	959
35-39	97.5	2.5	100.0	726
40-44	98.3	1.7	100.0	586
45-49	98.4	1.6	100.0	580
50+	98.3	1.7	100.0	1643
<b>Residence</b>				
Urban	91.4	8.6	100.0	2200
Rural	93.2	6.8	100.0	12422
Backward districts	93.1	6.9	100.0	2159
<b>Total</b>	<b>93.0</b>	<b>7.0</b>	<b>100.0</b>	<b>14622</b>
<b>TOTAL</b>				
<b>Age</b>				
< 1	87.6	12.4	100.0	863
1 - 4	91.0	9.0	100.0	3267
5 -14	96.8	3.2	100.0	8328
15-19	91.1	8.9	100.0	2821
20-24	89.3	10.7	100.0	2509
25-29	92.1	7.9	100.0	2272
30-34	95.5	4.5	100.0	1892
35-39	97.1	2.9	100.0	1607
40-44	97.8	2.2	100.0	1221
45-49	97.5	2.5	100.0	1107
50+	98.6	1.4	100.0	3562
<b>Residence</b>				
Urban	93.4	6.6	100.0	4596
Rural	94.8	5.2	100.0	24861
Backward districts	94.4	5.6	100.0	4356
<b>Total</b>	<b>94.5</b>	<b>5.5</b>	<b>100.0</b>	<b>29456</b>

Note: Total includes 3 males and 4 females with missing information on age, who are not shown separately.

**Table 3.6 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, sex and residence, Bihar, 1993

Age	Educational level							Total percent	Total Number	Median number of years of schooling
	Illiterate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	Above high school	Missing			
<b>URBAN</b>										
<b>Male</b>										
6 - 9	17.9	78.9	3.2	--	--	--	--	100.0	240	1.6
10-14	10.9	30.1	38.8	18.7	1.4	--	0.1	100.0	335	5.6
15-19	9.7	4.6	13.1	21.3	44.1	7.2	--	100.0	263	10.1
20-24	12.0	4.0	9.7	11.7	30.8	31.8	--	100.0	210	11.0
25-29	16.5	4.0	7.9	8.2	28.7	34.7	--	100.0	166	10.7
30-34	16.3	3.8	8.1	13.3	26.0	32.1	0.4	100.0	173	10.5
35-39	15.4	3.5	6.3	10.1	27.6	37.1	--	100.0	135	10.9
40-44	19.2	3.2	11.0	5.4	21.1	39.5	0.6	100.0	125	10.9
45-49	11.7	4.8	11.6	7.6	25.8	37.2	1.4	100.0	107	10.9
50+	23.3	8.6	13.4	5.9	22.3	26.2	0.2	100.0	302	9.5
<b>Total</b>	<b>15.3</b>	<b>17.7</b>	<b>14.3</b>	<b>11.0</b>	<b>21.2</b>	<b>20.3</b>	<b>0.2</b>	<b>100.0</b>	<b>2055</b>	<b>8.6</b>
<b>Female</b>										
6 - 9	30.2	66.5	3.2	--	--	--	0.1	100.0	227	1.3
10-14	29.5	24.9	31.4	12.5	1.7	--	--	100.0	264	4.4
15-19	24.0	4.4	10.6	21.0	34.8	5.2	--	100.0	249	9.3
20-24	35.5	5.8	7.8	6.0	25.2	19.7	--	100.0	224	8.3
25-29	37.1	3.5	11.2	9.5	14.6	24.2	--	100.0	178	7.8
30-34	36.6	3.3	11.3	7.8	19.8	21.1	--	100.0	143	7.9
35-39	43.6	7.3	10.3	6.3	17.2	15.2	--	100.0	135	4.6
40-44	43.2	7.2	15.6	8.1	15.8	10.1	--	100.0	106	4.8
45-49	53.9	8.3	18.2	5.5	7.8	6.3	--	100.0	94	0.0
50+	66.4	5.0	13.1	2.9	8.6	3.5	0.3	100.0	224	0.0
<b>Total</b>	<b>38.4</b>	<b>15.6</b>	<b>13.4</b>	<b>8.4</b>	<b>14.6</b>	<b>9.5</b>	<b>0.1</b>	<b>100.0</b>	<b>1845</b>	<b>3.6</b>
<b>Total</b>										
6 - 9	23.8	72.9	3.2	--	--	--	0.1	100.0	467	1.5
10-14	19.1	27.8	35.5	16.0	1.5	--	0.1	100.0	600	5.3
15-19	16.6	4.5	11.9	21.2	39.6	6.2	--	100.0	512	9.7
20-24	24.1	4.9	8.7	8.8	27.9	25.6	--	100.0	434	10.3
25-29	27.2	3.7	9.6	8.8	21.4	29.2	--	100.0	344	10.1
30-34	25.5	3.6	9.5	10.8	23.2	27.1	0.2	100.0	315	10.0
35-39	29.5	5.4	8.3	8.2	22.4	26.1	--	100.0	270	9.7
40-44	30.3	5.0	13.1	6.7	18.7	26.0	0.3	100.0	232	8.7
45-49	31.5	6.5	14.7	6.6	17.4	22.7	0.7	100.0	200	7.6
50+	41.7	7.1	13.3	4.6	16.5	16.5	0.3	100.0	526	5.2
<b>Total</b>	<b>26.2</b>	<b>16.7</b>	<b>13.9</b>	<b>9.8</b>	<b>18.1</b>	<b>15.2</b>	<b>0.1</b>	<b>100.0</b>	<b>3900</b>	<b>6.7</b>
<b>RURAL</b>										
<b>Male</b>										
6 - 9	48.6	49.5	1.6	--	--	--	0.3	100.0	1538	0.9
10-14	32.1	32.7	27.1	7.1	0.9	--	0.1	100.0	1638	3.3
15-19	30.8	7.6	15.3	20.7	24.0	1.6	0.1	100.0	1053	7.4
20-24	34.8	4.8	11.8	11.3	27.1	10.2	--	100.0	914	7.7
25-29	44.1	4.8	10.9	10.3	19.4	10.4	--	100.0	931	5.3
30-34	51.3	6.3	13.4	9.0	13.8	6.1	0.1	100.0	760	0.0
35-39	49.9	4.9	12.4	9.8	16.1	6.9	--	100.0	746	1.0
40-44	48.9	7.6	14.0	10.5	14.3	4.7	--	100.0	511	1.0
45-49	47.2	7.3	13.6	7.3	18.9	5.3	0.4	100.0	421	3.0
50+	59.3	8.6	11.7	6.1	11.3	2.8	0.1	100.0	1617	0.0
<b>Total</b>	<b>44.4</b>	<b>17.4</b>	<b>13.3</b>	<b>8.5</b>	<b>12.4</b>	<b>4.0</b>	<b>0.1</b>	<b>100.0</b>	<b>10134</b>	<b>1.9</b>

**Table 3.6 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, sex and residence, Bihar, 1993

Age	Educational level							Total percent	Total Number	Median number of years of schooling
	Illiterate	Literate, <primary complete	Primary school complete	Middle school complete	High school complete	Above high school	Miss- ing			
<b>RURAL</b>										
<b>Female</b>										
6 - 9	66.2	32.7	0.5	--	--	--	0.5	100.0	1521	0.0
10-14	62.5	20.3	12.5	4.1	0.6	--	0.1	100.0	1552	0.0
15-19	70.4	4.3	7.9	9.2	7.8	0.4	--	100.0	1251	0.0
20-24	76.2	4.0	6.6	3.3	9.0	0.9	--	100.0	1160	0.0
25-29	81.1	3.2	6.8	2.6	4.8	1.5	--	100.0	996	0.0
30-34	82.5	2.9	8.5	2.4	3.1	0.6	--	100.0	816	0.0
35-39	87.3	2.2	8.0	1.4	1.2	--	--	100.0	591	0.0
40-44	86.6	2.8	5.4	1.3	2.8	1.1	--	100.0	479	0.0
45-49	89.2	4.6	4.1	1.1	0.7	0.3	--	100.0	486	0.0
50+	95.7	1.9	1.9	0.1	0.1	0.1	0.2	100.0	1419	0.0
<b>Total</b>	<b>77.3</b>	<b>10.2</b>	<b>6.2</b>	<b>2.8</b>	<b>3.0</b>	<b>0.4</b>	<b>0.1</b>	<b>100.0</b>	<b>10273</b>	<b>0.0</b>
<b>Total</b>										
6 - 9	57.3	41.2	1.1	--	--	--	0.4	100.0	3061	0.0
10-14	46.9	26.7	20.0	5.6	0.7	--	0.1	100.0	3190	1.4
15-19	52.2	5.8	11.3	14.5	15.2	1.0	0.1	100.0	2309	0.0
20-24	57.9	4.3	2.9	6.9	17.0	5.0	--	100.0	2075	0.0
25-29	63.2	4.0	8.8	6.3	11.9	5.8	--	100.0	1927	0.0
30-34	67.4	4.6	10.8	5.6	8.3	3.3	--	100.0	1577	0.0
35-39	66.3	3.7	10.5	6.2	9.5	3.9	--	100.0	1339	0.0
40-44	67.2	5.3	9.8	6.1	8.8	2.9	--	100.0	990	0.0
45-49	69.7	5.9	8.5	4.0	9.1	2.6	0.2	100.0	907	0.0
50+	76.3	5.5	7.1	3.3	6.1	1.6	0.1	100.0	3036	0.0
<b>Total</b>	<b>61.0</b>	<b>13.7</b>	<b>9.7</b>	<b>5.6</b>	<b>7.7</b>	<b>2.2</b>	<b>0.1</b>	<b>100.0</b>	<b>20411</b>	<b>0.0</b>
<b>TOTAL</b>										
<b>Male</b>										
6 - 9	44.4	53.4	1.8	--	--	--	0.3	100.0	1778	0.9
10-14	28.5	32.3	29.1	9.1	0.9	--	0.1	100.0	1974	3.7
15-19	26.6	7.0	14.8	20.8	28.0	2.7	0.1	100.0	1321	8.2
20-24	30.6	4.6	11.4	11.4	27.8	14.3	--	100.0	1125	8.8
25-29	39.9	4.7	10.5	10.0	20.8	14.0	--	100.0	1097	6.8
30-34	44.8	5.8	12.4	9.8	16.1	10.9	0.1	100.0	933	4.5
35-39	44.6	4.7	11.5	9.8	17.9	11.6	--	100.0	881	5.2
40-44	43.0	6.7	13.4	9.5	15.7	11.5	0.1	100.0	636	5.0
45-49	40.1	6.8	13.2	7.3	20.3	11.8	0.6	100.0	527	5.5
50+	53.7	8.6	12.0	6.0	13.1	6.5	0.1	100.0	1919	0.0
<b>Total</b>	<b>39.5</b>	<b>17.4</b>	<b>13.5</b>	<b>8.9</b>	<b>13.9</b>	<b>6.7</b>	<b>0.1</b>	<b>100.0</b>	<b>12190</b>	<b>3.0</b>
<b>Female</b>										
6 - 9	61.5	37.1	0.9	--	--	--	0.5	100.0	1748	0.0
10-14	57.7	20.9	15.2	5.3	0.7	--	0.1	100.0	1816	0.0
15-19	62.7	4.3	8.3	11.2	12.3	1.2	--	100.0	1500	0.0
20-24	69.6	4.3	6.8	3.8	11.6	4.0	--	100.0	1384	0.0
25-29	74.4	3.3	7.5	3.6	6.3	4.9	--	100.0	1175	0.0
30-34	75.6	3.0	8.9	3.2	5.6	3.7	--	100.0	959	0.0
35-39	79.1	3.1	8.4	2.3	4.2	2.8	--	100.0	726	0.0
40-44	78.8	3.6	7.2	2.6	5.2	2.7	--	100.0	586	0.0
45-49	83.5	5.2	6.3	1.8	1.8	1.3	--	100.0	580	0.0
50+	91.7	2.4	3.4	0.5	1.2	0.6	0.2	100.0	1643	0.0
<b>Total</b>	<b>71.4</b>	<b>11.0</b>	<b>7.3</b>	<b>3.6</b>	<b>4.8</b>	<b>1.8</b>	<b>0.1</b>	<b>100.0</b>	<b>12118</b>	<b>0.0</b>

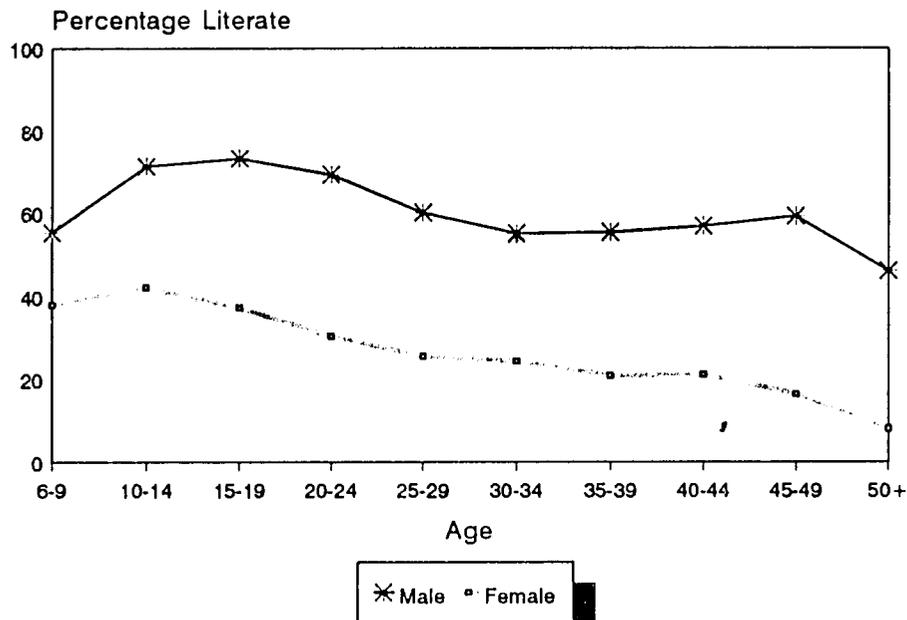
**Table 3.6 Educational level of the household population (Contd.)**

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, sex and residence, Bihar, 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	Miss- schooling			
<b>TOTAL</b>										
Total										
6 - 9	52.9	45.4	1.4	--	--	--	0.4	100.0	3528	0.0
10-14	42.5	26.8	22.4	7.3	0.8	--	0.1	100.0	3790	2.3
15-19	45.8	5.6	11.4	15.7	19.6	1.9	0.1	100.0	2821	4.2
20-24	52.1	4.4	8.9	7.2	18.9	8.6	--	100.0	2509	0.0
25-29	57.8	4.0	8.9	6.7	13.3	9.3	--	100.0	2272	0.0
30-34	60.5	4.4	10.6	6.5	10.8	7.2	0.1	100.0	1892	0.0
35-39	60.1	4.0	10.1	6.5	11.7	7.6	--	100.0	1609	0.0
40-44	60.2	5.2	10.4	6.2	10.6	7.3	0.1	100.0	1221	0.0
45-49	62.8	6.0	9.6	4.4	10.6	6.3	0.3	100.0	1107	0.0
50+	71.2	5.7	8.0	3.5	7.6	3.8	0.2	100.0	3562	0.0
Total	55.4	14.2	10.4	6.3	9.3	4.3	0.1	100.0	24311	0.0
<b>BACKWARD DISTRICTS</b>										
Male										
6 - 9	46.6	51.7	1.4	--	--	--	0.2	100.0	273	0.9
10-14	27.8	35.7	26.1	8.5	1.5	--	0.4	100.0	298	3.6
15-19	31.9	9.1	13.0	16.4	26.9	2.7	--	100.0	187	7.4
20-24	28.5	6.6	13.3	9.6	25.5	16.5	--	100.0	165	8.3
25-29	41.4	6.5	9.9	8.7	18.3	15.1	--	100.0	158	5.5
30-34	46.4	5.8	8.5	8.3	21.3	9.4	0.4	100.0	137	3.4
35-39	44.4	7.8	10.3	11.2	17.4	8.6	0.3	100.0	131	4.2
40-44	49.8	5.0	10.3	9.4	17.7	7.9	--	100.0	87	1.0
45-49	47.8	5.9	11.8	4.6	23.0	6.8	--	100.0	75	3.0
50+	59.9	8.9	11.5	5.8	10.3	3.6	--	100.0	287	0.0
Total	42.0	18.8	12.2	7.8	13.4	5.7	0.1	100.0	1797	2.3
Female										
6 - 9	58.9	39.7	0.8	0.2	--	--	0.3	100.0	248	0.0
10-14	59.6	22.5	13.1	4.2	0.4	--	0.1	100.0	265	0.0
15-19	67.0	6.1	6.8	8.8	10.0	1.4	--	100.0	242	0.0
20-24	79.4	3.7	4.1	2.6	8.5	1.8	--	100.0	203	0.0
25-29	80.0	4.1	5.9	2.4	5.1	2.6	--	100.0	166	0.0
30-34	83.1	2.3	7.0	2.1	4.4	1.1	--	100.0	136	0.0
35-39	81.7	6.0	8.5	1.4	1.6	0.8	--	100.0	94	0.0
40-44	82.6	3.7	8.8	1.1	2.6	1.2	--	100.0	84	0.0
45-49	86.5	5.5	6.4	1.2	0.5	--	--	100.0	76	0.0
50+	94.2	1.7	3.2	0.2	0.5	0.2	--	100.0	265	0.0
Total	75.0	11.7	6.2	2.7	3.5	0.9	--	100.0	1781	0.0
Total										
6 - 9	52.5	46.0	1.1	0.1	--	--	0.4	100.0	522	0.0
10-14	42.8	29.5	20.0	6.5	1.0	--	0.2	100.0	563	2.0
15-19	51.7	7.4	9.5	12.1	17.3	2.0	--	100.0	430	0.0
20-24	56.5	5.0	8.2	5.7	16.2	8.4	--	100.0	368	0.0
25-29	61.2	5.3	7.9	5.5	11.5	8.7	--	100.0	324	0.0
30-34	64.7	4.1	7.7	5.2	12.9	5.2	0.2	100.0	273	0.0
35-39	60.0	7.1	9.5	7.1	10.8	5.4	0.2	100.0	225	0.0
40-44	65.9	4.4	9.5	5.3	10.3	4.6	--	100.0	171	0.0
45-49	67.3	5.7	9.1	2.9	11.7	3.4	--	100.0	152	0.0
50+	76.4	5.4	7.5	3.1	5.6	2.0	--	100.0	552	0.0
Total	58.4	15.3	9.2	5.3	8.5	3.3	0.1	100.0	3579	0.0

- Less than 0.05 percent

Figure 3.3  
Percentage Literate by Age and Sex



NFHS, Bihar, 1993

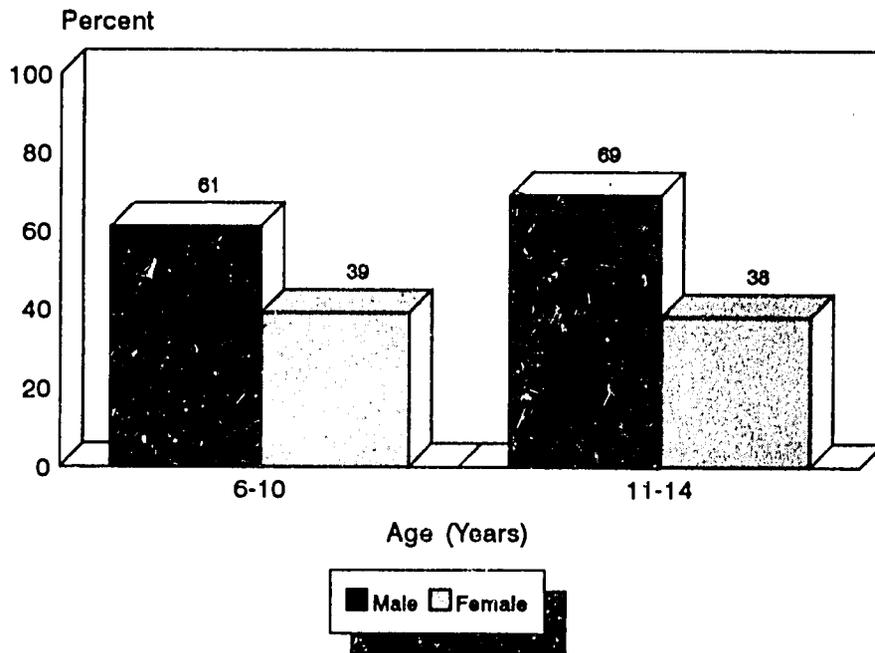
Table 3.7 and Figure 3.4 show school attendance rates for the school-age household population, by age, sex and residence. The table focuses on children age 6-14, because the Indian Constitution established a goal of providing free and compulsory education for children through age 14. In the state as a whole, only 51 percent of children age 6-14 attend school. In backward districts, the school attendance rate is only 1 percentage point below that for the state as a whole. As expected, the school attendance rate is much higher for males than for females (Figure 3. ). School attendance rates by sex in the state as a whole are 64 percent for males and 38 percent for females age 6-14. School attendance is also higher in urban areas (77 percent) than in rural areas (47 percent) and backward districts (50 percent)). The gap between

Table 3.7 School attendance

Percentage of the *de facto* household population age 6-14 years attending school by age, sex and residence, Bihar, 1993

Age	Male				Female				Total			
	Urban	Rural	Total	Backward districts	Urban	Rural	Total	Backward districts	Urban	Rural	Total	Backward districts
6 -10	83.0	57.0	60.6	58.0	69.3	34.0	38.5	39.7	76.5	45.7	49.9	49.3
11-14	86.2	64.9	68.8	65.1	65.6	33.0	37.9	36.6	77.1	49.1	53.8	51.7
6 -14	84.3	59.8	63.6	60.5	67.8	33.6	38.3	38.6	76.7	46.9	51.3	50.1

**Figure 3.4**  
**School Attendance by Age and Sex**



NFHS, Bihar, 1993

girls and boys in school attendance is more pronounced in rural areas (26 percentage points) than in urban areas (17 percentage points). The school attendance rate for rural females age 6-14 is only 34 percent. In spite of the educational advances that have been made over time, almost two-thirds (62 percent) of school-age girls in Bihar are not attending school.

### 3.5 Educational Aspirations for Children

Given the low level of educational attainment in Bihar and the influence that women may have on the education of their children, women in Bihar were asked how much education should be given to sons and daughters. Table 3.7A and 3.7B present the percent distribution of ever-married women age 13-49 according to the level of education they think their sons and daughters should have. The responses given were in both qualitative and quantitative terms. Fifteen percent of women said that no education is necessary for daughters and 8 percent had no opinion concerning education of daughters. Women in rural areas, illiterate women, Muslim women, women belonging to scheduled tribes and castes were more likely than others to state that education is not necessary for daughters. Twenty-two percent said that a daughter should be educated as much as she wants and 17 percent said she should be educated as much as possible. The aspirations for educating daughters are positively related to the educational attainment of women. For example, 51 percent of the women with at least a high school education said that daughters should be given as much education as they want and 28 percent said they should receive a professional level of education. On the other hand, only 17 percent of illiterate women

**Table 3.7A Educational aspirations for daughters**

Percent distribution of ever-married women age 13-49 according to the level of education aspired for daughters by background characteristics, Bihar, 1993

Background characteristic	Level of aspiration for daughter's education							Total percent
	No education is necessary	As much as she wants	As much as possible	Up to primary	Up to secondary	Up to professional	Don't know	
<b>Residence</b>								
Urban	5.3	40.2	13.0	3.9	17.2	16.3	4.0	100.0
Rural	16.7	19.2	17.3	9.9	23.5	4.6	8.9	100.0
Backward districts	11.0	23.2	13.7	10.6	26.5	6.4	8.6	100.0
<b>Education</b>								
Illiterate	18.8	17.3	17.9	10.9	22.5	2.5	10.0	100.0
Lit., < mid. complete	2.0	30.1	11.8	3.7	36.8	13.0	2.6	100.0
Middle school complete	1.2	45.0	16.6	1.4	15.3	20.1	0.4	100.0
High school and above	0.6	51.0	10.9	0.8	8.2	28.2	0.2	100.0
<b>Religion</b>								
Hindu	14.0	22.8	16.7	8.7	23.2	6.7	8.0	100.0
Muslim	20.0	18.4	17.4	11.2	20.1	3.7	9.1	100.0
Other	17.3	33.6	7.9	6.1	18.4	8.1	8.5	100.0
<b>Caste/tribe</b>								
Scheduled caste	19.8	16.8	16.9	9.6	23.3	3.1	10.4	100.0
Scheduled tribe	22.5	16.6	19.3	11.0	17.0	2.5	11.1	100.0
Other	13.7	23.5	16.4	8.7	23.1	7.0	7.6	100.0
<b>Total</b>	15.0	22.3	16.7	9.0	22.6	6.3	8.2	100.0

said that daughters should be given as much education as they want and only 3 percent said that they should be given a professional level of education.

Only 4 percent of women said that "no education" is necessary for sons and 6 percent had no opinion on how much education should be given to sons. Rural women, illiterate women and women of other religions, scheduled castes and tribes were more likely to say that no education is necessary for boys. Thirty-seven percent of women said that sons should be given as much education as they want, 18 percent said that sons should be educated as much as possible, and another 18 percent said that sons should be given a professional level of education. Urban women, women of other religions, those who have at least a middle school education, and nonscheduled caste/tribe women were more likely than others to say that sons should have as much education as they want or a professional level of education. It is obvious from Tables 3.7A and 3.7B that women think that sons should be more educated than daughters. A large-scale sample survey of 10,721 households conducted in Bihar during 1980-81 also found that the parents' aspirations regarding educational levels were higher for boys than for girls (Kanitkar, 1988).

### 3.6 Housing Characteristics

Table 3.8 provides information on housing characteristics by residence. In the state as a whole, only 17 percent of households have electricity. A majority of households in urban

**Table 3.7B Educational aspirations for sons**

Percent distribution of ever-married women age 13-49 according to the level of education aspired for sons by background characteristics, Bihar, 1993

Background characteristic	Level of aspiration for son's education						Don't know	Total percent
	No education is necessary	As much as he wants	As much as possible	Up to primary	Up to secondary	Up to professional		
<b>Residence</b>								
Urban	1.8	48.7	11.9	0.5	8.2	25.9	3.0	100.0
Rural	4.3	34.6	18.9	2.1	16.8	16.2	7.0	100.0
Backward districts	2.7	35.5	14.7	1.5	14.8	25.1	5.7	100.0
<b>Education</b>								
Illiterate	5.0	32.3	19.7	2.4	18.6	14.1	7.8	100.0
Lit., < mid. complete	0.1	47.4	11.0	0.1	7.3	32.3	1.7	100.0
Middle school complete	--	55.0	14.0	--	4.4	26.3	0.3	100.0
High school and above	0.3	58.0	10.2	0.4	1.1	29.2	0.8	100.0
<b>Religion</b>								
Hindu	3.6	37.6	18.0	1.7	15.2	17.8	6.2	100.0
Muslim	5.5	31.5	17.8	3.2	17.8	16.5	7.6	100.0
Other	8.9	41.3	12.4	0.5	12.1	17.8	7.0	100.0
<b>Caste/tribe</b>								
Scheduled caste	7.1	30.5	20.5	2.3	19.0	12.4	8.2	100.0
Scheduled tribe	8.4	26.3	23.5	2.0	17.6	10.8	11.4	100.0
Other	3.1	38.5	17.0	1.9	15.0	18.9	5.7	100.0
<b>Total</b>	<b>4.0</b>	<b>36.7</b>	<b>17.9</b>	<b>1.9</b>	<b>15.6</b>	<b>17.6</b>	<b>6.4</b>	<b>100.0</b>

-- Less than 0.05 percent

areas have electricity (67 percent), but only 8 percent have electricity in rural areas and 10 percent have it in backward districts.

The types of water and sanitary facilities are important determinants of the health status of household members, particularly of children. The seriousness of major childhood diseases such as diarrhoea can be reduced by proper hygienic practices. The NFHS contained questions on sanitary facilities and the source of water the household uses for bathing and washing as well as the source of drinking water. Regarding the source of drinking water, 9 percent of households have piped water, 55 percent get water from a handpump, and 34 percent from open wells. As in the case of electricity, there are large urban-rural differences in the source of drinking water. The percentage of households with piped drinking water is 42 percent in urban areas but only 3 percent in rural areas and 5 percent in backward districts. The sources of water used for bathing and washing are very similar to the sources of drinking water.

Only 13 percent of households have a flush toilet (using either piped water or bucket water for flushing), 3 percent have a pit toilet or latrine, and 84 percent have no facility. Again there are large differences by residence; 62 percent of households in urban areas, 5 percent in rural areas, and 8 percent in backward districts have a flush toilet, whereas 32 percent of households in urban areas, 93 percent in rural areas and 88 percent in backward districts have no toilet facility.

**Table 3.8 Housing characteristics**

Percent distribution of households by housing characteristics, according to residence, Bihar, 1993

Housing characteristic	Residence			Backward districts
	Urban	Rural	Total	
<b>Electricity</b>				
Yes	67.4	7.5	16.6	9.5
No	32.6	92.5	83.4	90.5
<b>Source of bathing/washing water</b>				
Piped	37.6	2.5	7.9	4.5
Handpump	30.6	58.0	53.9	61.7
Well water	30.5	34.3	33.8	31.6
Surface water	0.3	4.6	4.0	1.4
Other	0.9	0.5	0.6	0.9
<b>Source of drinking water</b>				
Piped	41.7	2.6	8.5	4.6
Handpump	30.5	59.5	55.1	62.8
Well water	26.5	35.8	34.4	30.8
Surface water	0.1	1.5	1.3	0.4
Other	1.1	0.7	0.7	1.4
<b>Sanitation facility</b>				
Flush	61.5	4.6	13.2	7.7
Pit toilet/latrine	6.0	2.6	3.1	4.4
Other	0.3	0.1	0.1	0.2
No facility	32.2	92.7	83.5	87.7
<b>Type of fuel for cooking</b>				
Wood	23.5	56.0	51.1	47.0
Cow dung cakes	8.3	28.4	25.3	41.1
Coal/coke/lignite/charcoal	29.0	5.7	9.3	3.0
Kerosene	4.7	0.3	0.9	0.3
Electricity	2.6	0.1	0.4	0.1
Liquid petroleum gas	29.1	0.6	4.9	1.3
Other	2.8	9.0	8.0	7.1
<b>Type of house</b>				
Kachcha	26.9	78.6	70.7	75.8
Semi-pucca	13.8	13.8	13.8	14.5
Pucca	59.3	7.6	15.5	9.7
<b>Place where livestock is kept</b>				
Inside the house	10.5	23.7	21.6	28.4
Outside the house	12.8	40.2	36.0	33.6
No livestock	76.7	36.2	42.3	38.0
<b>Persons per room</b>				
< 3.0	63.6	57.0	58.0	58.7
3.0-4.9	23.4	27.7	27.0	25.7
5.0-6.9	9.3	10.8	10.6	10.7
7.0 +	3.6	4.5	4.3	4.9
Don't know/missing	0.1	--	--	--
Mean	2.7	2.9	2.8	2.8
<b>Total percent</b>	100.0	100.0	100.0	100.0
<b>Number of households</b>	723	4025	4748	686

-- Less than 0.05 percent

Several types of fuel are used for cooking in Bihar, but wood is the most common fuel. In the state as a whole, 51 percent of households rely on wood, 25 percent on cow dung cakes and 24 percent on other fuels, primarily liquid petroleum gas. The majority of urban households (58 percent) rely on liquid petroleum gas and coal/coke/lignite/charcoal, but 84 percent of rural households and 88 percent of those in backward districts use wood or cow dung for cooking.

The quality of housing construction is an indicator of the well-being of households. Seventy-one percent of houses are *kachcha* (made from mud, thatch, or other low-quality materials), 14 percent are *semi-pucca* (partly low-quality and partly high-quality materials) and 16 percent are *pucca* (high-quality materials throughout, including roof, walls, and floor). More than three-fourths (79 percent) of the houses in rural areas and 76 percent in backward districts are classified as *kachcha*, whereas 59 percent of houses in urban areas are *pucca*.

The NFHS also collected information on whether households own any livestock. Fifty-eight percent of the households in Bihar own livestock, 64 percent in rural areas, 62 percent in backward districts and 23 percent in urban areas. A follow-up question was asked on where the livestock are kept at night, since keeping them inside the house may adversely affect the health of the residents. Nearly 22 percent of all households, 24 percent of rural households, and 28 percent of households in backward districts have livestock that are kept inside the house at night.

Crowded conditions may also be related to health as well as to the quality of life. Congestion in the household is virtually the same in all residence categories at around 3.0 persons per room overall. Fifty-eight percent of households have fewer than three persons per room. Fifteen percent of households, however, have five or more persons per room and four percent of households are very crowded with seven or more persons per room.

Table 3.9 contains a number of measures related to the socioeconomic status of the household, for example, household ownership of land, livestock by type, and durable goods by type. Overall, 45 percent of households are landless; 72 percent in urban areas, 41 percent in rural areas and 47 percent in backward districts. In rural areas, among those who have land, 61 percent irrigate at least some of their land. Ownership of livestock is closely associated with ownership of land. One-third of rural households have one or more head of bullock, 29 percent have cows, 20 percent have goats and 19 percent have buffalo. The percentage of households with various types of livestock are similar in rural areas and backward districts.

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. In the state as a whole, only 42 percent of households have a clock/watch, 38 percent have a bicycle, 27 percent have radios, 11 percent have television sets and 10 percent have sewing machine. Smaller percentages own motorcycles (6 percent), water pumps (5 percent), refrigerators (3 percent) and cars (1 percent). Urban households are much more likely to have each of these nonagricultural durable goods than are rural households, and backward districts are less likely to have these than the state as a whole.

**Table 3.9 Household ownership of land, livestock and durable goods**

Percentage of households owning agricultural land, livestock and various consumer durable goods according to residence, Bihar, 1993

Item owned	Residence			Backward districts
	Urban	Rural	Total	
<b>Agricultural land</b>				
No land	71.7	40.7	45.4	47.3
<b>Irrigated land only</b>				
< 1 Acre	4.0	11.7	10.5	10.2
1-5 Acres	3.3	8.9	8.1	8.8
6+ Acres	2.7	1.9	2.0	2.1
<b>Non-irrigated land only</b>				
< 1 Acre	3.1	8.3	7.5	5.8
1-5 Acres	5.8	12.0	11.1	5.9
6+ Acres	2.3	2.7	2.6	0.7
<b>Irrigated and non-irrigated land</b>				
< 1 Acre	1.2	5.1	4.5	6.7
1-5 Acres	3.1	5.7	5.3	8.7
6+ Acres	2.8	3.0	3.0	3.9
Total percent	100.0	100.0	100.0	100.0
<b>Livestock</b>				
Bullock	6.8	33.9	29.8	30.7
Cow	12.3	29.2	26.6	30.0
Buffalo	5.5	18.8	16.8	22.3
Goat	7.9	19.9	18.1	18.5
Sheep	--	0.6	0.5	0.7
Camel	--	--	--	0.1
Other	1.2	2.4	2.2	3.2
No livestock	76.7	36.2	42.3	38.0
<b>Consumer durable goods</b>				
Sewing machine	35.8	5.5	10.1	6.1
Clock/watch	79.2	35.3	42.0	38.7
Radio	56.5	21.6	26.9	23.9
Television	48.5	3.7	10.6	5.0
Refrigerator	18.6	0.7	3.4	1.1
Bicycle	55.0	34.6	37.7	30.8
Motorcycle/scooter	25.2	2.8	6.2	2.5
Car	5.4	0.1	0.9	--
Bullock cart	1.1	3.0	2.7	0.7
Thresher	1.2	2.3	2.1	2.6
Tractor	1.0	0.5	0.6	0.3
Water pump	2.8	5.1	4.8	8.1
Number of households	723	4025	4748	686

-- Less than 0.05 percent

### 3.7 Background Characteristics of Respondents

Whereas most of 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 3.10 exhibits several important background characteristics of respondents. Through age 20-24, the percentage in each age group increases, reflecting the increase in the proportion married in successive age groups. The decline after age 20-24, by which time most women have already married, reflects the normal pyramidal shape of the age distribution. This age pattern is similar across various residence categories (Figure 3.5), although the percentages in the younger age groups are smaller in urban areas, reflecting the somewhat later age at marriage in urban areas (see the earlier discussion of Table 3.3.). Ninety-six percent of respondents are currently married, and among the remainder most are widowed. Less than 1 percent are divorced or separated. The distribution of respondents by religion and caste/tribe is similar to that discussed in the previous section for households. Backward districts are very similar to the state as a whole.

Table 3.10 also exhibits the distribution of respondents by respondent's work status and 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. Three-fourths of the respondents report that they are not working, and this percentage differs considerably by residence category. In urban areas only 13 percent of respondents are currently working compared with 27 and 31 percent in rural areas and backward districts, respectively. Seven percent of women report that they are working on a family farm or in some other family business, 16 percent are employed by someone else, and 3 percent are self-employed. The low level of outside employment is consistent with the belief among some groups that it is a social disgrace for women to work for wages or profit. More than three-quarters of all respondents (78 percent) are illiterate and only 8 percent have at least completed high school. Thirty percent of respondents have completed at least high school in urban areas compared with 4 percent in rural areas in the state. Forty-five percent of husbands are illiterate. The proportion of husbands who are illiterate is 19 percent in urban areas, 49 percent in rural areas and 47 percent in backward districts. The percentage of husbands with at least a high school education is more than twice as high in urban areas (57 percent) as in rural areas (24 percent). Overall, 29 percent of husband's have attained at least high school level of education.

Table 3.11 highlights further details on the respondent's education, broken down by selected background characteristics. The proportion illiterate generally increases with age, reflecting improvements in levels of education over time. A notably high proportion of women age 15-19 (80 percent) are illiterate because about 51 percent of those age 15-19 are married (Table 3.3) and women who marry young tend to be less educated. The percentage illiterate is 77 percent among Hindus, 88 percent among Muslims and 67 percent among women of other religions. Ninety-one and 87 percent of women belonging to scheduled castes and scheduled tribes are illiterate, respectively, compared with 76 percent of women belonging to other groups. With respect to husband's literacy, 98 percent of women with illiterate husbands are illiterate themselves. Even among men who have completed high school (but have not gone on to a

**Table 3.10 Background characteristics of respondents**

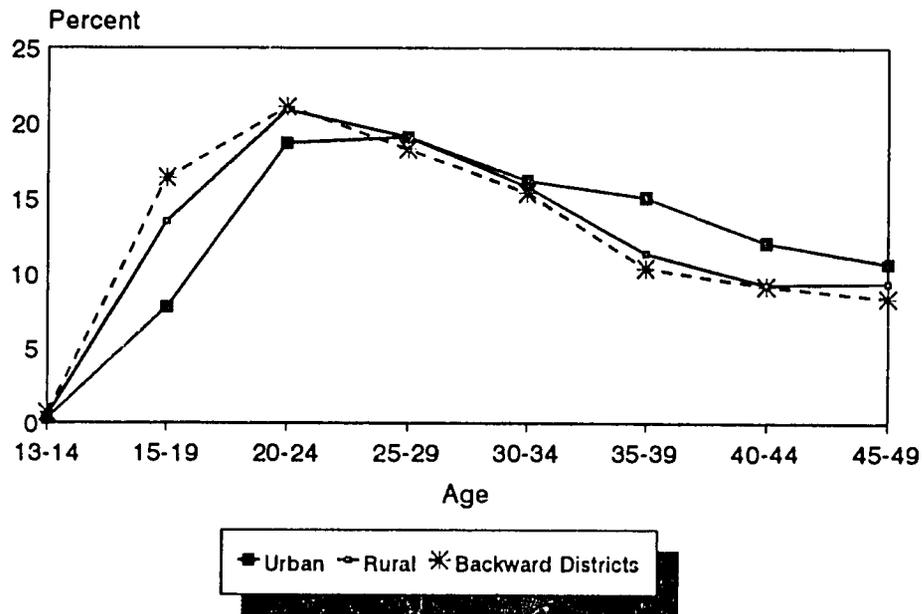
Percent distribution of ever-married women age 13-49 by selected background characteristics, according to residence, Bihar, 1993

Background characteristic	Residence				Total number of women	
	Urban	Rural	Total	Backward districts	Weighted	Unweighted
<b>Age</b>						
13-14	0.3	0.5	0.5	0.7	29	32
15-19	7.8	13.5	12.7	16.4	755	782
20-24	18.7	20.9	20.6	21.1	1226	1217
25-29	19.1	19.1	19.1	18.3	1134	1122
30-34	16.2	15.8	15.9	15.4	945	941
35-39	15.1	11.4	12.0	10.4	712	711
40-44	12.1	9.3	9.7	9.2	579	587
45-49	10.7	9.4	9.6	8.4	568	557
<b>Marital status</b>						
Currently married	95.6	95.6	95.6	95.9	5687	5695
Widowed	3.5	3.7	3.7	3.2	217	207
Divorced	0.1	0.1	0.1	0.1	7	6
Separated	0.8	0.6	0.6	0.8	38	41
<b>Education</b>						
Illiterate	45.1	83.9	78.3	82.5	4656	4523
Literate, < primary complete	4.8	2.6	2.9	3.1	175	189
Primary school complete	13.1	6.7	7.6	6.1	454	465
Middle school complete	7.4	2.4	3.1	2.4	185	200
High school complete	16.4	3.7	5.6	4.8	332	384
Above high school	13.3	0.6	2.5	1.1	148	168
<b>Religion</b>						
Hindu	84.3	82.3	82.6	86.1	4912	4990
Muslim	11.3	16.4	15.6	12.0	931	834
Sikh	0.5	0.1	0.1	0.2	8	12
Buddhist	1.4	--	0.2	1.4	12	37
Christian	1.6	0.6	0.8	--	45	39
Jain	0.3	--	--	--	2	3
Other	0.8	0.6	0.6	0.3	38	34
<b>Caste/tribe</b>						
Scheduled caste	8.0	10.3	10.0	9.9	593	589
Scheduled tribe	4.4	8.8	8.1	0.1	483	347
Other	87.6	80.9	81.9	90.0	4872	5013
<b>Work status</b>						
Not working	87.5	73.0	75.1	69.3	4468	4415
Working in family farm/business	2.5	7.6	6.8	8.6	407	433
Employed by someone else	7.7	16.9	15.5	19.6	924	955
Self-employed	2.3	2.6	2.5	2.5	151	166
<b>Husband's education</b>						
Illiterate	19.4	49.0	44.7	47.2	2659	2535
Literate, < primary complete	3.4	5.6	5.2	6.1	312	314
Primary school complete	10.3	11.5	11.3	10.6	672	652
Middle school complete	9.5	9.5	9.5	7.7	563	544
High school complete	24.2	18.0	18.9	20.6	1126	1188
Above high school	33.2	6.3	10.2	7.6	608	706
Don't know/missing	0.1	0.1	0.1	0.3	8	10
Total percent	100.0	100.0	100.0	100.0	NA	NA
<b>Number of women</b>						
Weighted	867	5082	5949	887	5949	NA
Unweighted	1267	4682	5949	2067	NA	5949

NA: Not applicable

-- Less than 0.05 percent

**Figure 3.5**  
**Age Distribution of Ever-Married**  
**Women by Residence**



NFHS, Bihar, 1993

higher level of education), the majority have married illiterate women, reflecting the general tendency of men to marry women with less education than themselves.

Backward districts conform quite closely to the pattern just described for rural areas of the state. However, there are considerable differences between urban and rural areas. For example, in urban areas 42 percent of Hindu women and 68 percent of Muslim women are illiterate, which is a considerably larger difference by religion than observed in rural areas. In urban areas, educational advances by women have evidently been confined largely to the Hindu community and not shared to any great extent by the Muslim community.

Table 3.12 provides information on the exposure of respondents to mass media. Seventy-one percent of women are not regularly exposed to any kind of mass media (television, radio or cinema). This is not surprising in light of the fact that only 27 percent of households own a radio and only 11 percent own a television (Table 3.9). This fact highlights the difficulty of diffusing information on family planning, health and other topics through the mass media. Only 26 percent of women normally listen to the radio at least once a week; 13 percent watch television at least once a week; and 5 percent go to a cinema hall or theatre to see a movie at least once a month. Exposure to mass media varies sharply according to some of the background characteristics of the woman. The proportion who watch television at least once a week is rather constant above age 24 at about 15 percent, whereas women under age 25 are less likely to watch television. This lower percentage is due to the fact that young married women

**Table 3.11 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 and residence, Bihar, 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		
<b>URBAN</b>								
<b>Age</b>								
15-19	57.2	4.3	11.3	11.6	15.0	0.7	100.0	68
20-24	46.5	3.1	10.4	6.9	21.5	11.6	100.0	162
25-29	41.3	4.3	12.1	8.6	13.4	20.4	100.0	165
30-34	37.2	2.9	12.3	7.6	20.3	19.8	100.0	141
35-39	43.5	6.5	12.1	5.7	16.3	16.0	100.0	131
40-44	46.9	4.3	16.4	7.0	16.4	9.0	100.0	105
45-49	52.7	10.7	18.8	5.7	8.1	4.0	100.0	92
<b>Religion</b>								
Hindu	41.8	4.1	13.9	8.0	18.2	14.0	100.0	730
Muslim	67.5	11.7	9.3	3.8	4.0	3.6	100.0	98
Other	50.3	1.7	6.6	4.7	13.5	23.1	100.0	39
<b>Caste/tribe</b>								
Scheduled caste	73.2	4.3	5.4	6.4	8.6	2.1	100.0	70
Scheduled tribe	41.0	2.0	11.7	5.9	10.3	29.3	100.0	38
Other	42.7	5.0	13.9	7.5	17.4	13.5	100.0	759
<b>Husband's education</b>								
Illiterate	95.9	0.4	1.4	0.4	0.9	--	100.0	168
Lit., < primary complete	93.0	4.7	--	1.1	1.1	--	100.0	30
Primary school complete	76.3	4.8	14.3	2.9	1.7	--	100.0	89
Middle school complete	51.5	8.1	21.8	13.2	5.5	--	100.0	82
High school complete	30.0	6.9	23.0	13.9	22.4	3.8	100.0	210
Above high school	9.3	5.0	11.2	7.0	30.3	37.2	100.0	287
<b>Total</b>	<b>45.1</b>	<b>4.8</b>	<b>13.1</b>	<b>7.4</b>	<b>16.4</b>	<b>13.3</b>	<b>100.0</b>	<b>867</b>
<b>RURAL</b>								
<b>Age</b>								
13-14	(70.5)	(5.6)	(18.2)	(5.6)	--	--	100.0	27
15-19	82.7	2.2	7.1	4.5	3.2	0.2	100.0	687
20-24	79.2	2.9	6.8	3.2	7.1	0.8	100.0	1064
25-29	82.3	2.9	6.1	2.0	5.3	1.4	100.0	969
30-34	84.1	1.9	8.9	2.1	2.6	0.4	100.0	805
35-39	87.6	2.2	8.1	1.2	0.9	--	100.0	581
40-44	88.6	2.3	4.1	1.3	2.5	1.1	100.0	474
45-49	90.8	3.9	3.5	1.1	0.6	--	100.0	476
<b>Religion</b>								
Hindu	82.8	2.4	7.1	2.6	4.3	0.7	100.0	4162
Muslim	90.1	3.7	4.4	0.7	0.9	0.2	100.0	833
Other	76.7	--	9.8	6.8	6.8	--	100.0	67
<b>Caste/tribe</b>								
Scheduled caste	93.4	0.2	2.9	1.7	1.7	--	100.0	524
Scheduled tribe	90.8	1.7	3.1	2.0	1.4	1.0	100.0	445
Other	82.0	3.0	7.6	2.5	4.3	0.7	100.0	4113
<b>Husband's education</b>								
Illiterate	98.4	0.6	0.9	--	0.1	--	100.0	2491
Lit., < primary complete	92.8	4.9	2.0	0.1	0.1	--	100.0	283
Primary school complete	89.7	4.0	5.1	1.1	0.1	--	100.0	583
Middle school complete	80.6	3.2	11.5	2.9	1.8	--	100.0	481
High school complete	58.8	4.3	18.6	7.4	10.6	0.3	100.0	916
Above high school	30.9	7.5	17.2	9.8	25.4	9.2	100.0	321
<b>Total</b>	<b>83.9</b>	<b>2.6</b>	<b>6.7</b>	<b>2.4</b>	<b>3.7</b>	<b>0.6</b>	<b>100.0</b>	<b>5082</b>

**Table 3.11 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 and residence, Bihar, 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		
<b>TOTAL</b>								
<b>Age</b>								
13-14	(69.4)	(5.1)	(20.3)	(5.1)	(--)	(--)	100.0	29
15-19	80.4	2.3	7.5	5.1	4.3	0.3	100.0	755
20-24	74.9	2.9	7.3	3.7	9.0	2.2	100.0	1226
25-29	76.3	3.1	7.0	3.0	6.5	4.2	100.0	1134
30-34	77.1	2.0	9.4	2.9	5.3	3.3	100.0	945
35-39	79.5	3.0	8.8	2.0	3.8	2.9	100.0	712
40-44	81.1	2.7	6.3	2.4	5.0	2.5	100.0	579
45-49	84.6	5.0	6.0	1.9	1.8	0.7	100.0	568
<b>Religion</b>								
Hindu	76.7	2.7	8.1	3.4	6.3	2.7	100.0	4912
Muslim	87.7	4.5	4.9	1.0	1.3	0.5	100.0	931
Other	67.0	0.6	8.6	6.0	9.2	8.5	100.0	106
<b>Caste/tribe</b>								
Scheduled caste	91.1	0.7	3.2	2.3	2.5	0.3	100.0	593
Scheduled tribe	86.9	1.7	3.7	2.3	2.1	3.3	100.0	483
Other	75.9	3.3	8.5	3.3	3.3	2.7	100.0	4872
<b>Husband's education</b>								
Illiterate	98.3	0.6	0.9	--	0.1	--	100.0	2659
Lit., < primary complete	92.8	4.9	1.8	0.2	0.2	--	100.0	312
Primary school complete	87.9	4.1	6.3	1.3	0.3	--	100.0	672
Middle school complete	76.4	3.9	13.0	4.4	2.3	--	100.0	563
High school complete	53.4	4.8	19.4	8.6	12.8	1.0	100.0	1126
Above high school	20.7	6.3	14.3	8.5	27.7	22.4	100.0	608
<b>Total</b>	<b>78.3</b>	<b>2.9</b>	<b>7.6</b>	<b>3.1</b>	<b>5.6</b>	<b>2.5</b>	<b>100.0</b>	<b>5949</b>

come from among the less educated, lower socioeconomic groups, as mentioned earlier. The proportion who listen to the radio at least once a week ranges between 23 and 28 percent, with younger women more likely to listen to the radio than older women. The percentage of women who go to the cinema/theatre at least once a month ranges from 4 to 10 percent, with younger women more likely to go to the cinema/theatre.

Exposure to all types of media is much higher in urban areas than in rural areas. Backward districts differ little in media exposure from rural areas of the state. There are very large differences in media exposure by education, with exposure greater for those with more education. The members of other religious groups have higher media exposure than either Hindus or Muslims. Women from scheduled castes and scheduled tribes are least likely to be exposed to mass media, particularly radio and television broadcasts, than others.

**Table 3.11 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 and residence, Bihar, 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		
<b>BACKWARD DISTRICTS</b>								
<b>Age</b>								
15-19	77.6	3.4	5.8	6.5	6.3	0.3	100.0	145
20-24	81.4	3.1	4.4	2.2	7.7	1.1	100.0	188
25-29	81.8	3.4	5.5	1.4	5.5	2.5	100.0	162
30-34	84.1	1.4	7.1	1.7	4.5	1.1	100.0	137
35-39	83.4	4.4	8.3	1.0	2.2	0.9	100.0	93
40-44	86.1	2.4	6.4	1.2	2.7	1.2	100.0	82
45-49	88.0	4.1	6.6	1.2	--	--	100.0	74
<b>Religion</b>								
Hindu	82.5	2.6	5.8	2.7	5.3	1.1	100.0	764
Muslim	81.9	6.3	8.1	--	2.6	1.2	100.0	106
Other	(89.1)	(3.9)	(5.1)	(1.9)	(--)	(--)	100.0	17
<b>Caste/tribe</b>								
Scheduled caste	93.5	1.4	2.0	1.6	1.4	--	100.0	88
Other (Non-SC/ST)	81.4	3.2	6.5	2.5	5.1	1.2	100.0	798
<b>Husband's education</b>								
Illiterate	98.8	0.6	0.5	--	0.1	--	100.0	419
Lit., < primary complete	87.6	7.5	2.3	1.3	1.3	--	100.0	54
Primary school complete	88.2	5.3	5.0	0.7	0.8	--	100.0	94
Middle school complete	78.0	4.7	11.5	4.3	1.6	--	100.0	68
High school complete	62.4	4.6	14.6	7.2	10.9	0.3	100.0	182
Above high school	28.3	5.7	16.9	5.4	29.8	13.9	100.0	67
<b>Total</b>	<b>82.5</b>	<b>3.1</b>	<b>6.1</b>	<b>2.4</b>	<b>4.8</b>	<b>1.1</b>	<b>100.0</b>	<b>887</b>

Note: Total includes 8 women with missing information on husband's education, 3 urban women age 13-14, 6 women age 13-14 from backward districts and 2 scheduled tribe women from backward districts, who are not shown separately.

( ) Based on 25-49 unweighted cases.

-- Less than 0.05 percent

**Table 3.12 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, Bihar, 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	
<b>Age</b>					
13-14	(7.7)	(23.0)	(10.3)	(69.4)	29
15-19	6.7	26.8	5.8	71.4	755
20-24	11.3	28.0	5.6	69.2	1226
25-29	13.9	27.9	6.0	68.2	1134
30-34	14.7	25.0	5.2	70.8	945
35-39	14.6	22.9	4.7	73.5	712
40-44	13.1	25.0	3.5	70.7	579
45-49	15.2	22.5	4.6	72.4	568
<b>Residence</b>					
Urban	53.1	52.8	19.8	32.0	867
Rural	5.8	21.3	2.8	77.1	5082
Backward districts	7.1	24.8	4.4	72.6	887
<b>Education</b>					
Illiterate	3.7	16.7	1.8	81.8	4656
Lit., < middle complete	30.1	50.0	12.0	40.2	628
Middle school complete	42.7	57.8	17.6	30.0	185
High school and above	65.0	71.2	25.4	16.5	480
<b>Religion</b>					
Hindu	13.8	26.6	5.7	69.4	4912
Muslim	5.7	21.6	2.6	77.1	931
Other	22.6	31.1	8.1	62.9	106
<b>Caste/tribe</b>					
Scheduled caste	5.4	15.9	1.5	82.5	593
Scheduled tribe	7.6	13.9	2.3	83.8	483
Other	14.0	28.3	6.0	67.7	4872
<b>Total</b>	<b>12.7</b>	<b>25.9</b>	<b>5.2</b>	<b>70.5</b>	<b>5949</b>

( ) Based on 25-49 unweighted cases

## CHAPTER 4

### NUPTIALITY

This chapter presents findings on marriage patterns from the National Family Health Survey. Marriage is of particular interest, not only because of its importance in its own right, but also because of its influence on fertility and population growth. Marriage patterns are also important from a sociological point of view and they are inextricably linked to the status of women.

#### 4.1 Current Marital Status

Table 4.1 shows the current marital status of women by residence 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. Table 4.1 repeats some of the information in Table 3.3, which also includes information for males and covers a wider range of ages. The percentages never married in the two tables differ slightly due to differential nonresponse among eligible women.

It is evident from Table 4.1 that marriage is virtually universal in Bihar and that marriages in rural areas and backward districts take place at relatively young ages. Eighty-seven percent of women age 15-49 are ever married, only 3 percent are widowed and less than 1 percent are divorced or separated. The percentage ever married at age 15-19 is 51 percent for the state as a whole, 26 percent in urban areas, 56 percent in rural areas and 60 percent in backward districts.

#### 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). The singulate mean age at marriage computed from various sources is presented in Table 4.2. Female values of SMAM from the NFHS are 20.3 years in urban areas, 17.6 in rural areas and 18.0 overall. On average, males marry 5.2 years later than females. Marriage ages are consistently higher in urban areas, with both men and women marrying almost three years later than in rural areas. The SMAM for females rose by four years during the last three decades (from 14.3 years in 1961 to 18.0 years in 1993). The SMAM for males rose by four years over the same period. The SMAM for males and females in backward districts is 22.1 and 17.4 years, respectively, similar to the rural areas.

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 married before specified exact ages and the

**Table 4.1 Current marital status**

Percent distribution of women age 15-49 by current marital status according to age and residence, Bihar, 1993

Age	Marital status					Total percent
	Never married	Currently married	Widowed	Divorced	Separated	
<b>URBAN</b>						
15-19	73.9	25.5	0.3	0.2	0.2	100.0
20-24	23.8	75.2	0.4	--	0.7	100.0
25-29	8.0	90.4	0.8	--	0.8	100.0
30-34	1.6	96.2	1.4	0.3	0.5	100.0
35-39	1.7	93.8	3.9	--	0.6	100.0
40-44	0.6	88.8	9.2	--	1.4	100.0
45-49	0.8	87.5	10.9	--	0.8	100.0
Total	23.3	73.3	2.7	0.1	0.6	100.0
<b>RURAL</b>						
15-19	44.2	55.1	0.2	0.1	0.3	100.0
20-24	7.2	91.2	0.7	--	0.9	100.0
25-29	1.4	95.8	2.1	0.2	0.5	100.0
30-34	0.9	95.9	2.5	--	0.8	100.0
35-39	0.2	93.1	5.9	0.3	0.5	100.0
40-44	0.3	91.2	8.4	--	0.1	100.0
45-49	1.2	85.4	12.7	0.3	0.4	100.0
Total	11.5	84.6	3.3	0.1	0.5	100.0
<b>TOTAL</b>						
15-19	49.0	50.3	0.3	0.1	0.3	100.0
20-24	9.9	88.6	0.6	--	0.9	100.0
25-29	2.2	95.2	1.9	0.1	0.5	100.0
30-34	0.9	96.1	2.3	--	0.7	100.0
35-39	0.6	93.1	5.5	0.2	0.5	100.0
40-44	0.5	90.6	8.6	--	0.3	100.0
45-49	0.8	86.0	12.5	0.3	0.5	100.0
Total	13.3	82.9	3.2	0.1	0.6	100.0
<b>BACKWARD DISTRICTS</b>						
15-19	40.2	58.3	--	0.2	1.2	100.0
20-24	5.7	93.5	--	--	0.7	100.0
25-29	0.6	97.5	0.9	--	1.0	100.0
30-34	0.3	95.3	3.8	0.3	0.3	100.0
35-39	--	95.6	4.4	--	--	100.0
40-44	--	91.1	8.4	--	0.4	100.0
45-49	--	85.2	14.0	--	0.7	100.0
Total	11.2	85.2	2.8	0.1	0.7	100.0

-- Less than 0.05 percent

**Table 4.2 Singulate mean age at marriage**

Singulate mean age at marriage from selected sources, Bihar, 1961-93

Source	Singulate mean age at marriage		
	Male	Female	Difference
1961 Census	18.9	14.3	4.6
1971 Census	20.0	15.3	4.7
1981 Census	21.6	16.6	5.0
1993 NFHS			
Urban	25.4	20.3	5.1
Rural	22.7	17.6	5.1
Total	23.2	18.0	5.2
Backward districts	22.1	17.4	4.7

median age at first marriage<sup>1</sup>, by current age and residence. The median age at first marriage for a cohort of women is the age by which 50 percent of them marry.

The median age at first marriage is used in place of the mean age at marriage because the median is unaffected by age truncation. For example, the mean age at first marriage for the cohort of women age 20-24 at the time of the survey will be affected by marriages that occur after the survey, but the median age at first marriage for this cohort will not be so affected as long as at least half of the women have married by age 20. This means that changes in the median age at first marriage by age cohort (from oldest to youngest) can meaningfully be interpreted as a trend over time.

Table 4.3 reveals some dramatic trends, especially for marriages at very young ages. Although marriage before age 15 has been quite common in Bihar, it has decreased in recent times. The proportion marrying before age 13 declined from 42 percent in the 45-49 age cohort to 12 percent in the 15-19 age cohort. Marriages before age 15 have been virtually eliminated in urban areas. The declines are less pronounced, but still large, at higher exact ages. The median age at first marriage correspondingly increased from 13.7 years in the 45-49 age cohort to 15.8 years in the 20-24 age cohort, a rise of 2.1 years. Although the median cannot be calculated for the 15-19 age group, it is almost certain to rise well above the median of 15.8 years observed for the 20-24 age group. The median age at marriage has been rising in both urban and rural areas, but the rate of increase has been faster in urban areas. At age 20-24, urban women now marry three years later than rural women. Women in backward districts marry almost one and a half years earlier than women in the state as a whole.

<sup>1</sup> Median age at first marriage is not calculated for age cohorts in which 50 percent of the women have not married by the start of the age group. The computation can not be made because the latest age that all women in the age group have attained by the time of the survey is the starting age. This means that, in order to avoid selectivity bias, the last exact age that can be considered for a particular age group is the lower boundary of that age group.

**Table 4.3 Age at first marriage**

Percentage of women married by specific exact ages, and median age at first marriage, by current age and residence, Bihar, 1993

Current age <sup>1</sup>	Percentage ever married before age:						Percent never married	Median age at first marriage
	13	15	18	20	22	25		
<b>URBAN</b>								
15-19	3.9	9.1	NA	NA	NA	NA	73.9	NC
20-24	4.7	16.9	44.2	65.5	NA	NA	23.8	18.4
25-29	9.3	22.0	53.5	69.6	79.4	89.1	8.0	17.5
30-34	11.5	24.6	54.0	70.9	80.6	91.1	1.6	17.5
35-39	15.0	26.9	62.0	82.1	87.9	96.0	1.7	16.6
40-44	21.0	40.1	72.8	83.8	92.4	95.2	0.6	15.8
45-49	25.8	44.3	80.6	90.7	95.2	96.0	0.8	15.4
20-49	12.6	26.5	57.9	74.7	82.5	88.8	8.2	16.9
25-49	15.2	29.7	62.3	77.7	85.7	92.9	3.1	16.6
<b>RURAL</b>								
15-19	13.3	33.0	NA	NA	NA	NA	44.2	NC
20-24	23.3	43.6	73.8	88.5	NA	NA	7.2	15.5
25-29	27.2	49.1	79.7	92.2	97.0	98.0	1.4	15.1
30-34	29.9	56.1	86.4	95.9	98.1	99.1	0.9	14.5
35-39	37.8	61.4	88.1	95.3	98.5	99.3	0.2	14.2
40-44	41.3	65.3	88.8	95.9	98.9	99.3	0.3	13.7
45-49	44.7	70.7	90.9	96.1	97.9	98.2	1.2	13.4
20-49	31.4	54.6	82.7	93.1	96.2	97.2	2.5	14.6
25-49	34.2	58.4	85.7	94.7	97.9	98.7	0.9	14.3
<b>TOTAL</b>								
15-19	11.7	29.0	NA	NA	NA	NA	49.0	NC
20-24	20.4	39.4	69.1	84.8	NA	NA	9.9	15.8
25-29	24.5	45.1	75.9	88.9	94.5	96.9	2.2	15.4
30-34	27.2	51.4	81.7	92.3	95.6	98.0	0.9	14.9
35-39	33.5	54.9	83.1	92.7	96.4	98.5	0.6	14.6
40-44	37.5	60.6	85.8	93.5	97.6	98.4	0.5	14.1
45-49	41.8	66.7	89.5	95.5	97.8	98.2	0.8	13.7
20-49	28.4	50.1	78.7	90.2	94.0	95.9	3.4	15.0
25-49	31.1	53.7	82.0	92.0	96.0	97.9	1.1	14.7
<b>BACKWARD DISTRICTS</b>								
15-19	19.8	41.4	NA	NA	NA	NA	40.2	NC
20-24	37.8	58.8	83.3	91.9	NA	NA	5.7	14.0
25-29	38.6	57.2	86.3	95.8	98.0	98.7	0.6	14.1
30-34	39.9	68.8	90.0	95.2	98.9	99.7	0.3	13.6
35-39	51.5	71.0	96.5	98.9	99.6	100.0	--	12.9
40-44	49.3	67.1	92.3	96.9	98.9	99.3	--	13.0
45-49	55.3	78.9	95.9	97.7	100.0	100.0	--	12.7
20-49	43.1	64.7	89.1	95.3	97.6	98.1	1.7	13.6
25-49	45.0	66.8	91.2	96.6	98.9	99.4	0.3	13.4

NA: Not applicable

NC: Not calculated because less than 50 percent of women in the age group 15-19 have married by age 15.

-- Less than 0.05 percent

<sup>1</sup>The current age groups include both never-married and ever-married women.

Table 4.4 presents median ages at first marriage for women by age group and selected background characteristics. As already noted, the median age at first marriage is considerably higher in urban areas than in rural areas and backward districts. Within each age group, the median age at first marriage is approximately five years higher among women who have completed at least high school than among illiterate women. Hindus marry one year earlier than Muslims and more than three years earlier than women of other religions. The lowest median age at marriage is exhibited by scheduled castes (14 years), but even in this group, the median age at marriage is beginning to rise.

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. In Bihar, 69 percent of women age 20-24 marry below the legal minimum age at marriage (see Table 4.3). This could be partly due to the fact that few women are aware of what the legal minimum age at marriage is. Overall, only 19 percent of respondents could correctly identify age 18 as the legal minimum age at marriage for females and only 13 percent could correctly identify age 21 as the legal minimum age at marriage for males (Table 4.5). The provisions of the law are better known in urban areas, where 51 percent of women can correctly identify the legal minimum age at marriage for females. Accurate knowledge of the legal minimum age requirements is also closely tied to literacy and educational attainment. More than four-fifths (82 percent) of women with a high school education and above know the legal minimum age at marriage for females, compared with two-thirds of women (67 percent) who complete middle school, and only

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, Bihar, 1993							
Background characteristic	Current age						
	20-24	25-29	30-34	35-39	40-49	20-49	25-49
<b>Residence</b>							
Urban	18.4	17.5	17.5	16.6	15.6	16.9	16.6
Rural	15.5	15.1	14.5	14.2	13.5	14.6	14.3
Backward districts	14.0	14.1	13.6	12.9	12.8	13.6	13.4
<b>Education</b>							
Illiterate	15.0	14.7	14.2	14.0	13.4	14.3	14.0
Lit., < middle complete	16.8	16.0	16.2	15.9	15.2	16.0	15.8
Middle school complete	18.0	(18.0)	(16.2)	*	(16.5)	16.8	16.6
High school and above	19.5	19.3	19.4	18.8	17.6	19.1	18.9
<b>Religion</b>							
Hindu	15.7	15.2	14.7	14.5	13.7	14.8	14.5
Muslim	16.0	16.0	15.8	14.8	14.3	15.5	15.3
Other	(18.1)	*	*	*	(16.6)	18.2	18.2
<b>Caste/tribe</b>							
Scheduled caste	14.9	14.5	14.1	14.2	12.5	14.1	13.8
Scheduled tribe	15.9	16.3	(15.7)	(15.1)	14.6	15.7	15.6
Other	16.0	15.4	15.0	14.6	14.0	15.0	14.7
Total	15.8	15.4	14.9	14.6	13.9	15.0	14.7

( ) Based on 25-49 unweighted cases  
 \* Median not shown; based on fewer than 25 unweighted cases

**Table 4.5 Knowledge of minimum legal age at marriage**

Percentage of ever-married women age 13-49 who correctly know the minimum legal age at marriage for males and females, by selected background characteristics, Bihar, 1993

Background characteristic	Percentage who correctly know legal minimum age at marriage:		Number of women
	For males	For females	
<b>Age</b>			
13-19	8.4	12.9	785
20-29	14.5	20.5	2360
30-39	13.1	20.1	1657
40-49	11.9	18.2	1148
<b>Residence</b>			
Urban	39.2	50.8	867
Rural	8.3	13.5	5082
Backward districts	9.7	14.9	887
<b>Education</b>			
Illiterate	3.6	6.6	4656
Lit., < middle complete	29.1	47.9	628
Middle school complete	48.2	66.9	185
High school and above	67.2	82.0	480
<b>Religion</b>			
Hindu	14.1	20.5	4912
Muslim	5.8	10.1	931
Other	14.2	23.8	106
<b>Caste/tribe</b>			
Scheduled caste	5.1	7.0	593
Scheduled tribe	5.6	9.5	484
Other	14.4	21.3	4872
<b>Total</b>	<b>12.8</b>	<b>18.9</b>	<b>5949</b>

7 percent of illiterate women. A much lower percentage of Muslims and women of scheduled castes and tribes can correctly identify the legal age at marriage than others. The legal minimum age at marriage for males is less well known than the legal minimum age at marriage for females by every group of women shown in Table 4.5.

### 4.3 Age at First Cohabitation

Table 4.6 shows median ages at first cohabitation with the husband. This table is the same as Table 4.3, except that the age at first cohabitation with the husband is examined instead of the age at first marriage. The two ages may differ because formal marriage is not always immediately followed by cohabitation with the husband, which generally does not occur until after the *gauna* ceremony. The median age at first marriage is one and a half years earlier, on the average, than the median age at first cohabitation with the husband. As the median age at marriage has risen and early marriages have become less popular, the difference between the age at marriage and the age at first cohabitation has decreased. In urban areas, the difference is smaller than in rural areas because marriages in urban areas generally take place at higher ages and the *gauna* ceremony is less common.

**Table 4.6 Age at first cohabitation with husband**

Percentage of women who started living with husband by specific exact ages, and median age at first cohabitation with husband, by current age and residence, Bihar, 1993

Current age <sup>1</sup>	Percentage who started living with husband before age:						Percent never cohabited	Median age at first cohabitation with husband
	13	15	18	20	22	25		
<b>URBAN</b>								
15-19	0.6	5.4	NA	NA	NA	NA	73.9	NC
20-24	1.8	10.4	39.0	63.7	NA	NA	23.8	18.8
25-29	3.2	14.7	49.0	67.1	78.1	89.1	8.0	18.1
30-34	2.0	14.1	46.0	69.3	79.6	91.1	1.6	18.2
35-39	4.2	17.1	53.6	79.6	86.6	95.5	1.7	17.7
40-44	7.7	28.1	64.3	82.2	92.4	96.3	0.6	16.6
45-49	7.8	25.2	68.2	85.9	94.4	96.0	0.8	16.6
20-49	3.8	16.7	50.7	72.4	81.7	88.8	8.2	17.9
25-49	4.5	18.7	54.5	75.2	84.8	93.0	3.1	17.5
<b>RURAL</b>								
15-19	3.1	17.7	NA	NA	NA	NA	44.2	NC
20-24	5.6	22.4	65.0	84.1	NA	NA	7.2	16.8
25-29	7.8	27.4	69.2	86.6	95.5	97.5	1.4	16.4
30-34	7.0	28.8	74.3	92.2	96.9	98.5	0.9	16.2
35-39	9.1	28.7	72.8	92.0	97.9	99.2	0.2	16.2
40-44	9.1	34.9	78.5	91.6	98.2	98.8	0.3	15.8
45-49	12.8	42.8	81.0	91.6	97.2	97.9	1.2	15.5
20-49	7.9	29.0	71.8	88.7	95.2	96.7	2.5	16.3
25-49	8.7	31.3	74.1	90.3	96.9	98.3	0.9	16.1
<b>TOTAL</b>								
15-19	2.7	15.7	NA	NA	NA	NA	49.0	NC
20-24	5.0	20.5	60.9	80.8	NA	NA	9.9	17.1
25-29	7.1	25.5	66.3	83.8	93.0	96.5	2.2	16.6
30-34	6.3	26.6	70.1	88.9	94.4	97.5	0.9	16.4
35-39	8.2	26.5	69.1	89.5	95.6	98.4	0.6	16.4
40-44	8.9	33.6	75.8	89.7	97.0	98.2	0.5	15.9
45-49	12.0	40.1	79.2	91.0	97.0	97.9	0.8	15.7
20-49	7.3	27.0	68.4	86.1	93.1	95.5	3.4	16.5
25-49	8.1	29.2	71.0	88.0	95.0	97.5	1.1	16.3
<b>BACKWARD DISTRICTS</b>								
15-19	1.6	18.6	NA	NA	NA	NA	40.2	NC
20-24	5.7	26.7	68.7	85.5	NA	NA	5.7	16.5
25-29	6.9	25.9	69.9	86.0	95.5	98.3	0.6	16.5
30-34	6.7	29.3	75.8	89.7	97.4	98.9	0.3	16.3
35-39	6.9	24.1	72.3	92.0	98.5	99.6	--	16.5
40-44	7.7	27.4	70.3	87.4	95.5	97.9	--	16.3
45-49	11.7	35.2	82.3	93.4	97.4	98.3	--	15.7
20-49	7.1	27.6	72.2	88.2	95.4	97.1	1.7	16.3
25-49	7.6	27.9	73.5	89.2	96.7	98.6	0.3	16.3

NA: Not applicable

NC: Not calculated because less than 50 percent of women in the age group 15-19 have started living with husband by age 15.

-- Less than 0.05 percent

<sup>1</sup>The current age groups include both never-married and ever-married women.

Table 4.6A shows the median age at first cohabitation with the husband by current age and selected background characteristics. This table is the same as Table 4.4, except that age at first cohabitation with the husband is examined in place of age at first marriage. The pattern of relative differences in Table 4.6A is more or less similar to the pattern in Table 4.4, but the differences are less pronounced.

A more detailed comparison of the age at first marriage and the age at first cohabitation is presented in Table 4.6B, which examines the distribution of women married at each age by the age at which they started living with their husbands. This table reveals that the majority of women who married at age 16 or above (and nearly a majority who married at age 15) started living with their husbands at the same age they were married. At younger marriage ages, however, there is a substantial gap between marriage and *gauna*. The table also highlights that the time gap between marriage and *gauna* decreases as the age at marriage increases. For example, in rural areas of Bihar, among women marrying at age 12, only 17 percent began cohabiting with their husbands at age 12, and the modal age at first cohabitation is 15. In contrast, among rural women marrying at age 19, 70 percent began cohabiting with their husbands at age 19. The gap between age at first marriage and age at first cohabitation is smaller in urban areas than in rural areas, and backward districts have wider gaps than the state as a whole.

Table 4.6A Median age at first cohabitation with husband							
Median age at first cohabitation with husband among women age 20-49 years, by current age and selected background characteristics, Bihar, 1993							
Background characteristic	Current age						
	20-24	25-29	30-34	35-39	40-49	20-49	25-49
<b>Residence</b>							
Urban	18.8	18.1	18.2	17.7	16.6	17.9	17.5
Rural	16.8	16.4	16.2	16.2	15.7	16.3	16.1
Backward districts	16.5	16.5	16.3	16.5	16.0	16.3	16.3
<b>Education</b>							
Illiterate	16.4	16.1	16.0	16.1	15.5	16.0	15.9
Lit., < middle complete	17.9	17.0	17.2	17.4	16.5	17.2	16.9
Middle school complete	18.3	(18.1)	(16.9)	*	(17.2)	17.7	17.1
High school and above	19.9	20.0	20.0	19.0	18.6	19.7	19.6
<b>Religion</b>							
Hindu	17.0	16.5	16.4	16.4	15.8	16.4	16.3
Muslim	17.1	16.7	16.2	16.1	15.8	16.4	16.2
Other	(18.1)	*	*	*	(16.6)	18.4	18.5
<b>Caste/tribe</b>							
Scheduled caste	16.1	16.2	16.0	15.8	15.5	15.9	15.8
Scheduled tribe	16.8	16.7	(16.9)	(16.1)	15.0	16.4	16.3
Other	17.2	16.6	16.4	16.5	15.9	16.5	16.3
Total	17.1	16.6	16.4	16.4	15.8	16.5	16.3

( ) Based on 25-49 unweighted cases  
 \* Median not shown; based on fewer than 25 unweighted cases

**Table 4.6B Age at first marriage and age at first cohabitation with husband**

Percent distribution of ever-married women by age at first marriage and age at first cohabitation with husband, according to residence, Bihar, 1993

Age at marriage	Age at first cohabitation with husband										Total per-cent	Number
	<12	12	13	14	15	16	17	18	19	20+		
<b>URBAN</b>												
< 10	(25.2)	(15.6)	(15.4)	(21.3)	(12.6)	(5.7)	(--)	(1.8)	(--)	(2.5)	100.0	26
10	(6.1)	(18.2)	(13.5)	(9.3)	(32.9)	(8.0)	(5.4)	(2.7)	(--)	(3.9)	100.0	28
11	(23.9)	(7.9)	(27.2)	(16.6)	(10.0)	(4.8)	(--)	(9.7)	(--)	(--)	100.0	15
12	--	24.7	22.5	12.9	18.1	11.0	3.5	1.4	3.0	2.9	100.0	52
13	--	--	47.3	28.7	9.3	11.2	1.4	2.0	--	--	100.0	55
14	--	--	--	53.3	16.0	15.4	13.5	--	1.9	--	100.0	81
15	--	--	--	--	62.6	15.9	11.3	9.6	--	0.7	100.0	113
16	--	--	--	--	--	66.8	14.9	8.3	7.7	2.3	100.0	127
17	--	--	--	--	--	--	68.1	18.3	5.7	8.0	100.0	66
18	--	--	--	--	--	--	--	82.2	12.8	5.0	100.0	105
19	--	--	--	--	--	--	--	--	90.6	9.4	100.0	51
20+	--	--	--	--	--	--	--	--	--	100.0	100.0	147
<b>Total</b>	<b>1.4</b>	<b>2.7</b>	<b>5.7</b>	<b>8.8</b>	<b>13.0</b>	<b>15.2</b>	<b>10.6</b>	<b>14.4</b>	<b>8.8</b>	<b>19.5</b>	<b>100.0</b>	<b>867</b>
<b>RURAL</b>												
< 10	22.5	11.3	20.7	18.4	11.9	5.6	2.9	1.6	0.5	4.6	100.0	424
10	12.6	13.4	23.0	9.9	23.6	4.0	6.5	3.6	1.2	2.4	100.0	392
11	19.7	11.5	14.3	22.7	10.9	11.7	2.3	4.5	--	2.4	100.0	166
12	--	16.8	19.2	16.8	22.9	8.2	11.5	2.8	1.1	0.7	100.0	608
13	--	--	29.3	22.4	19.7	15.9	4.5	6.7	1.0	0.4	100.0	618
14	--	--	--	37.2	24.7	18.6	10.7	3.2	4.0	1.6	100.0	673
15	--	--	--	--	46.6	22.9	13.3	11.4	1.4	4.4	100.0	676
16	--	--	--	--	--	59.6	18.7	11.8	8.0	1.9	100.0	598
17	--	--	--	--	--	--	62.6	21.8	8.1	7.5	100.0	234
18	--	--	--	--	--	--	--	69.2	16.4	14.5	100.0	365
19	--	--	--	--	--	--	--	--	70.3	29.7	100.0	135
20+	--	--	--	--	--	--	--	--	--	100.0	100.0	193
<b>Total</b>	<b>3.5</b>	<b>4.4</b>	<b>9.8</b>	<b>12.7</b>	<b>17.8</b>	<b>16.6</b>	<b>11.0</b>	<b>11.0</b>	<b>5.5</b>	<b>7.8</b>	<b>100.0</b>	<b>5082</b>
<b>TOTAL</b>												
< 10	22.6	11.6	20.4	18.5	11.9	5.6	2.7	1.6	0.5	4.4	100.0	450
10	12.1	13.7	22.3	9.8	24.2	4.3	6.4	3.5	1.2	2.5	100.0	420
11	20.1	11.2	15.4	22.2	10.8	11.1	2.1	4.9	--	2.2	100.0	181
12	--	17.4	19.5	16.5	22.5	8.5	10.8	2.7	1.3	0.9	100.0	660
13	--	--	30.8	23.0	18.9	15.6	4.2	6.3	0.9	0.4	100.0	673
14	--	--	--	38.9	23.8	18.2	11.0	2.9	3.8	1.5	100.0	753
15	--	--	--	--	48.9	21.9	13.0	11.2	1.2	3.9	100.0	789
16	--	--	--	--	--	60.9	13.0	11.2	8.0	2.0	100.0	725
17	--	--	--	--	--	--	63.8	21.0	7.6	7.6	100.0	300
18	--	--	--	--	--	--	--	72.1	15.6	12.4	100.0	470
19	--	--	--	--	--	--	--	--	75.9	24.1	100.0	186
20+	--	--	--	--	--	--	--	--	--	100.0	100.0	340
<b>Total</b>	<b>3.2</b>	<b>4.1</b>	<b>9.2</b>	<b>12.1</b>	<b>17.1</b>	<b>16.4</b>	<b>10.9</b>	<b>11.5</b>	<b>6.0</b>	<b>9.5</b>	<b>100.0</b>	<b>5949</b>

**Table 4.6B Age at first marriage and first cohabitation with husband (Contd.)**

Percent distribution of ever-married women by age at first marriage and age at first cohabitation with husband, according to residence, Bihar, 1993

Age at marriage	Age first cohabitation with husband										Total per-cent	Number
	<12	12	13	14	15	16	17	18	19	20+		
<b>BACKWARD DISTRICTS</b>												
< 10	9.7	15.0	19.9	23.5	9.9	8.3	2.1	5.1	0.8	5.7	100.0	86
10	6.0	10.6	19.1	13.8	30.7	8.9	4.0	3.1	0.3	3.4	100.0	108
11	8.6	13.1	16.6	20.6	11.5	16.0	5.0	3.1	--	5.4	100.0	46
12	--	6.9	15.9	15.2	20.6	14.0	16.1	5.8	3.3	2.2	100.0	136
13	--	--	17.6	24.1	22.4	20.2	6.8	7.6	0.3	1.0	100.0	119
14	--	--	--	18.2	27.3	21.6	16.6	5.1	9.2	2.0	100.0	98
15	--	--	--	--	29.6	25.3	17.1	13.9	3.1	10.9	100.0	107
16	--	--	--	--	--	36.5	22.3	13.1	17.2	11.0	100.0	82
17	--	--	--	--	--	--	61.5	14.9	13.9	9.7	100.0	34
18	--	--	--	--	--	--	--	54.0	22.2	23.8	100.0	41
20+	--	--	--	--	--	--	--	--	--	100.0	100.0	21
Total	2.1	4.5	9.9	12.6	18.0	15.4	12.6	9.5	5.8	8.5	100.0	887

Note: The total for backward districts includes 9 women with age at marriage at 19, who are not shown separately.

( ) Based on 25-49 unweighted cases

-- Less than 0.05 percent

#### 4.4 Marriage Between Relatives

Table 4.7 provides information on marriage between relatives. Marriage between relatives is a form of inbreeding that 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 is significantly higher among children of marriages between blood relatives.

Table 4.7 indicates that 4 percent of ever-married women married a first cousin (on either their father's side or their mother's side). Less than 2 percent married a second cousin, uncle, or other blood relative, and 1 percent married a brother-in-law or other non-blood relative. Thus, consanguineous marriages are not common in Bihar. They occur mainly between first cousins, as is the pattern elsewhere in India. These findings on consanguineous marriages in Bihar are consistent with previous findings of considerably lower levels of consanguinity in north India than in south India (Sanghvi, 1966; Bittles et al., 1993). The percentages marrying a close relative do not vary much by age, indicating that the propensity to marry a relative has not changed much over time. However, the small percentage of women who marry at age 13-14 have a higher rate of marriage to a first cousin than others. Rural women are more likely to have married a close relative than urban women, similar to the general pattern observed elsewhere (Rao et al., 1972; Khat and Khoury, 1991; Rao and Inbaraj, 1977). Women in backward districts resemble women in urban areas of the state regarding marriage to close relatives. Illiterate and less educated women are more likely to have married a close relative than those who have completed high school. Muslim women are the most likely to have entered into consanguineous marriages (24 percent married first cousins). Consanguineous marriages are less common in scheduled castes and scheduled tribes than in other groups.

**Table 4.7 Marriage between relatives**

Percent distribution of ever-married women by relationship to current (last) husband, according to selected background characteristics, Bihar, 1993

Background characteristic	First cousin		Second cousin	Uncle	Other blood relation	Brother-in-law	Other non-blood relation	Not related	Missing	Total per-cent	Number
	Father's side	Mother's side									
<b>Age</b>											
13-14	(6.3)	(5.1)	(--)	(1.1)	(--)	(--)	(--)	(87.4)	(--)	100.0	29
15-19	1.1	2.3	0.2	--	1.2	0.6	1.1	93.4	--	100.0	755
20-24	2.5	3.1	--	0.7	1.3	0.5	0.8	90.9	0.2	100.0	1226
25-29	2.5	1.5	0.7	0.4	1.2	0.8	0.5	92.3	0.1	100.0	1134
30-34	2.1	1.8	0.2	0.1	1.3	0.6	0.4	93.5	--	100.0	945
35-39	2.7	2.5	0.3	0.7	0.9	0.1	--	92.7	--	100.0	712
40-44	1.8	2.2	0.3	--	1.7	--	0.3	93.6	0.3	100.0	579
45-49	2.2	1.9	0.3	--	0.4	0.3	0.1	94.9	--	100.0	568
<b>Residence</b>											
Urban	1.8	1.9	0.1	0.2	1.0	0.6	0.4	93.9	0.1	100.0	867
Rural	2.3	2.3	0.3	0.4	1.2	0.5	0.5	92.5	0.1	100.0	5082
Backward districts	1.8	1.9	0.1	0.2	0.6	0.1	0.4	94.9	0.1	100.0	887
<b>Education</b>											
Illiterate	2.2	2.4	0.3	0.4	1.2	0.6	0.4	92.5	0.1	100.0	4656
Literate, < middle complete	3.3	2.7	--	0.4	1.0	0.2	0.6	91.6	0.2	100.0	528
Middle school complete	2.8	0.8	0.8	--	2.4	--	0.8	91.9	0.4	100.0	185
High school and above	1.0	0.8	--	--	0.8	0.2	0.6	96.6	--	100.0	480
<b>Religion</b>											
Hindu	0.4	0.5	0.1	0.1	0.6	0.3	0.4	97.4	--	100.0	4912
Muslim	12.1	11.9	1.0	1.5	4.1	1.3	0.7	67.1	0.3	100.0	931
Other	0.3	--	--	0.3	--	--	0.5	98.8	--	100.0	106
<b>Caste/tribe</b>											
Scheduled caste	0.9	0.6	0.1	0.3	0.3	0.2	0.3	97.3	0.1	100.0	593
Scheduled tribe	0.6	0.3	--	--	--	--	0.3	98.8	--	100.0	483
Other	2.5	2.6	0.3	0.4	1.4	0.6	0.5	91.6	0.1	100.0	4872
<b>Total</b>	<b>2.2</b>	<b>2.2</b>	<b>0.3</b>	<b>0.3</b>	<b>1.2</b>	<b>0.5</b>	<b>0.5</b>	<b>92.7</b>	<b>0.1</b>	<b>100.0</b>	<b>5949</b>

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

## 4.5 Dowry

In Bihar, as in much of India, the dowry system in the form of money or property brought by a bride to her husband at marriage prevails and has become rigid and excessive in recent times. The NFHS obtained information on some aspects of the dowry system in Bihar such as expenses incurred in the marriage of daughters, cash, ornaments and commodities given in dowry, and attitudes of women toward the dowry system. A discussion of the custom and practice of the dowry system in India is presented before the NFHS results are described.

The custom of dowry has existed in India since ancient times. According to the Hindu *Dharmashastras*, among the eight forms of marriages, the most approved form, the *Brahma Vivah*, is that in which a maiden or virgin girl is decorated with ornaments and is given by her father to a suitable partner. The most emphatically denounced form of marriage is that in which

money is paid to the father or kinsman of the bride by the bridegroom, in other words where the bride is purchased (Prabhu, 1963; Kapadia, 1958). The custom of giving a dowry may also be rooted in the desire of parents to show affection for their daughters who are married at a very early age (Hooja, 1969).

The system of "arranged marriages" in which the parents or guardians of the bride select the bridegroom, still exists in most of India, including Bihar, although it is slowly undergoing some changes. The custom of giving a dowry is most common in arranged marriages. The desire of parents to select a partner for their daughter who is of the same or higher socioeconomic status (hypergamy or "marrying up") is important, as it helps to keep or add to their prestige (Kapadia, 1958). In order to have a son-in-law from a higher socioeconomic level the parents are prepared to pay an exorbitant amount, often beyond their means, as dowry.

The amount of dowry is generally regulated by the socioeconomic status and prestige of the groom's father and the educational attainment and earning capacity of the bridegroom. Well-qualified grooms can command a higher dowry than others. There is an element of competition for suitable bridegrooms which has led to increases in the demands of prospective bridegrooms and their parents. It is argued that the family of the bridegroom demands a dowry because they have to pay dowry for their daughters, or that they have to recuperate the cost of educating their sons.

As part of the dowry, it is expected that the full expenditure of the marriage ceremony be borne by the bride's family. There is a growing tendency to spend lavishly on various aspects of the marriage ceremony to exhibit one's affluence. There is also a tendency among grooms to demand cash, ornaments for the bride, and household commodities such as a car, motorcycle, television or VCR. Some highly qualified grooms even demand flats or other immovable property.

The father of a girl who cannot afford to satisfy the exorbitant demands of the bridegroom has either to borrow money and remain in debt over a long period or to marry his daughter to a boy of lower qualifications. The dowry system also perpetuates early marriages in that parents wish to have their daughter marry young when she is more marketable, so that less dowry is demanded. The dowry system disregards the principle of equality between men and women, and may humiliate the girls and their parents.

Several social reformers have raised their voices against the dowry system in this century and have tried hard to check it (Ghurye, 1952). Realising the evils engendered by the dowry system, The Dowry Prohibition Act 1961 was passed in Parliament and came in force in July, 1961. According to this Act, any person giving or taking dowry is punishable with imprisonment or a fine or both (Government of India, 1961). Efforts to control the dowry system exist (Anti-Dowry Movement, 1992). Even prior to the Dowry Prohibition Act of 1961, the Bihar Dowry Restraint Act was passed in 1950, then repealed with the passing of the Dowry Prohibition Act 1961 (Government of India, 1961). Thus, the state of Bihar has made efforts to check the dowry system. However, in Bihar the dowry system is still very much in evidence and it is the middle class which is most adversely affected by the dowry system (Prasad, 1994).

Ever-married women age 13-49 in Bihar were asked about marriage and dowry expenses generally incurred for the marriage of daughters. Table 4.8 provides information on who bears the expenses of marriage. The bride's family generally bears the cost of the marriage according to 81 percent of women. Fifteen percent of women said the cost is borne by both the bride's and groom's families and only 4 percent said it is borne by the groom's family alone.

The differentials by background characteristics regarding marriage expenditure are not significant except in the case of scheduled tribes and women of religions other than Hindu and Muslim. Among scheduled tribes, a little more than two-fifths of women said the cost of marriage is shared by both families and a little less than one-fifth said that the cost is borne by the groom's family. Among non-Hindu and non-Muslim women, 51 percent said that the expenses of marriage are shared by the bride's and groom's families and only one-third said that the expenses are incurred by the bride's family alone.

Women were asked how much money is generally spent on a daughter's wedding in their family, excluding dowry. The responses are presented in Table 4.9. Thirteen percent do not know how much is spent. Among women who know the amount generally spent on the marriage of daughters, 34 percent spend less than Rs. 10,000, 38 percent spend Rs. 10,000 to Rs. 24,999, and 28 percent spend Rs. 25,000 or more per marriage, excluding the money spent on the dowry.

<b>Table 4.8 Bearer of marriage expenses</b>						
Percent distribution of ever-married women according to the bearer of the expense of children's marriage by background characteristics, Bihar, 1993						
Background characteristic	Bearer of expense				Total percent	Total Number
	Bride's family	Bridegroom's family	Both families	Don't know		
<b>Residence</b>						
Urban	84.4	2.7	12.6	0.2	100.0	867
Rural	80.2	4.7	14.9	0.2	100.0	5082
Backward districts	83.9	2.1	13.6	0.4	100.0	887
<b>Education</b>						
Illiterate	79.5	4.7	15.6	0.2	100.0	4656
Lit., < mid. complete	86.5	3.9	9.6	0.1	100.0	628
Middle school complete	88.9	3.6	7.5	--	100.0	185
High school and above	83.3	2.9	13.9	--	100.0	480
<b>Religion</b>						
Hindu	81.4	4.3	14.1	0.2	100.0	4912
Muslim	83.1	4.0	12.7	0.3	100.0	931
Other	33.4	15.8	50.9	--	100.0	106
<b>Caste/tribe</b>						
Scheduled caste	83.6	3.1	13.0	0.3	100.0	593
Scheduled tribe	38.2	18.1	43.4	0.3	100.0	484
Other	84.7	3.3	11.9	0.2	100.0	4872
<b>Total</b>	<b>80.8</b>	<b>4.4</b>	<b>14.5</b>	<b>0.2</b>	<b>100.0</b>	<b>5949</b>
-- Less than 0.05 percent						

**Table 4.9 Money spent for daughter's marriage**

Percent distribution of ever-married women by the amount generally spent for a daughter's marriage (not including dowry) by background characteristics, Bihar, 1993

Background characteristic	Money spent on marriage (in rupees)							Don't know	Total Percent
	None	<5000	5000 <10000	10000 <14999	15000 <24999	25000 <49999	50000+		
<b>Residence</b>									
Urban	0.2	6.2	9.7	14.1	13.6	15.5	31.7	9.1	100.0
Rural	0.2	11.3	20.1	20.3	13.9	10.5	10.0	13.8	100.0
Backward districts	--	13.2	23.1	20.2	12.6	10.4	9.8	10.7	100.0
<b>Education</b>									
Illiterate	0.1	12.5	21.7	21.3	13.3	9.3	7.1	14.6	100.0
Lit. < mid. complete	0.4	4.7	9.0	13.8	18.4	18.5	28.3	6.9	100.0
Middle school complete	0.8	2.4	10.0	12.9	17.0	19.0	33.8	4.1	100.0
High school and above	0.2	2.2	3.9	10.1	11.5	17.8	44.1	10.1	100.0
<b>Religion</b>									
Hindu	0.2	11.5	18.7	18.3	12.9	11.3	14.1	12.9	100.0
Muslim	--	5.4	17.1	25.0	18.7	11.3	8.5	14.1	100.0
Other	2.1	12.0	24.7	17.8	12.1	7.9	9.0	14.4	100.0
<b>Caste/tribe</b>									
Scheduled caste	--	22.7	23.4	18.4	8.9	6.1	5.7	14.8	100.0
Scheduled tribe	0.8	18.9	27.3	20.5	7.6	3.5	3.1	18.3	100.0
Other	0.1	8.3	17.1	19.4	15.0	12.6	15.0	12.4	100.0
<b>Total</b>	<b>0.2</b>	<b>10.6</b>	<b>18.6</b>	<b>19.4</b>	<b>13.8</b>	<b>11.2</b>	<b>13.1</b>	<b>13.1</b>	<b>100.0</b>

-- Less than 0.05 percent

Table 4.9 also presents the distribution of ever-married women by the amount spent on the marriage of daughters by background characteristics of the respondents. Residents of urban areas and families of more educated women spend higher amounts on the marriage of daughters than others, and families of scheduled caste and scheduled tribe women spend less on the marriage of daughters than others.

Table 4.10 presents information on the cash paid as a dowry by background characteristics. A little more than one-tenth of ever-married women (11 percent) said that no cash is generally given as a dowry in the daughter's marriage and 12 percent stated that they do not know. Among those who said that cash was given as a dowry, 32 percent gave less than Rs. 10,000, 37 percent gave Rs. 10,000 to 24,999 and 31 percent gave Rs. 25,000 or more.

Urban residents (13 percent) and women with at least a high school education (14 percent) are more likely to state that no dowry is given than rural and less educated women. Among women of other religions and scheduled tribe women, two-thirds reported that no dowry is given. Urban residents (45 percent) and those with at least a high school education (58 percent) are also more likely to report that more than Rs. 25,000 in cash is given as dowry in a daughter's marriage.

In addition to cash, it is also customary to present various commodities to a daughter as part of the dowry. Table 4.11 shows the percentage of ever-married women by the items

**Table 4.10 Cash paid as dowry**

Percent distribution of ever-married women by the amount of cash generally paid as daughter's dowry by background characteristics, Bihar, 1993

Background characteristic	No dowry	Cash paid as dowry (in rupees)						Don't know	Total Percent
		<5000	5000 <10000	10000 <14999	15000 <24999	25000 <49999	50000+		
<b>Residence</b>									
Urban	13.4	4.5	8.1	9.1	11.8	13.2	32.2	7.7	100.0
Rural	11.0	10.2	16.2	16.8	13.1	9.0	10.6	13.0	100.0
Backward districts	4.1	9.5	18.5	18.4	15.0	12.4	12.8	9.4	100.0
<b>Education</b>									
Illiterate	11.5	11.3	18.1	17.1	13.3	8.1	7.2	13.5	100.0
Lit., < middle complete	8.8	2.9	5.9	13.0	13.4	18.4	30.0	7.6	100.0
Middle school complete	10.3	1.1	3.5	15.7	14.2	12.2	38.5	4.4	100.0
High school and above	14.4	3.0	1.7	4.6	8.3	12.3	46.1	9.5	100.0
<b>Religion</b>									
Hindu	9.5	10.0	14.8	15.2	12.9	10.0	15.6	11.9	100.0
Muslim	15.0	6.9	17.3	19.2	14.2	8.3	4.6	14.5	100.0
Other	65.3	2.6	5.2	5.4	3.8	2.9	6.4	8.2	100.0
<b>Caste/tribe</b>									
Scheduled caste	4.5	17.9	23.4	16.9	11.8	6.5	3.4	15.6	100.0
Scheduled tribe	62.7	8.7	7.5	3.5	3.3	1.7	3.3	9.4	100.0
Other	7.1	8.4	14.8	16.7	14.0	10.8	16.0	12.1	100.0
<b>Total</b>	<b>11.4</b>	<b>9.4</b>	<b>15.0</b>	<b>15.6</b>	<b>12.9</b>	<b>9.6</b>	<b>13.7</b>	<b>12.2</b>	<b>100.0</b>

generally given as dowry to the daughter at the time of marriage. The most common items given are radios or transistors (66 percent), cycles (65 percent) and utensils (64 percent). Twenty-nine percent said that generally in their families furniture such as cots, chairs, sofa sets, dining tables, and cupboards are given to daughters at marriage. Twelve percent said that items such as televisions, VCRs or VCPs are given and 11 percent stated that cars, scooters or motorbikes are given. Less than 50 grams of gold are given as dowry according to 37 percent of women and only 4 percent reported that 50 grams or more of gold are given as dowry. The figures for silver are similar to those for gold.

The families in urban areas are more likely to give gold, silver, cars, scooters or motorbikes, televisions, VCRs or VCPs, and furniture; and those in rural areas are more likely to give cycles, radios or transistors and utensils. The families of literate women are more likely than others to give expensive items such as gold and silver, cars, scooters or motorbikes, televisions, and VCRs or VCPs. Compared with Hindus, the Muslims are more likely to give less expensive items. Among scheduled caste households, cycles, radios and utensils are the most common items given. Thirty-two percent of women belonging to scheduled tribes report that no items are given as a dowry.

Table 4.12 shows the percentage of women who approve and disapprove of the dowry system. Overall, 63 percent of ever-married women disapprove of the dowry system. However, a significant minority (37 percent) approve of the dowry system. The differentials by background characteristics indicate that illiterate women (40 per cent), Hindus (37 per cent) and

**Table 4.11 Items given as dowry**

Percent distribution of ever-married women according to items given at the time of a daughter's marriage by background characteristics, Bihar, 1993

Background characteristic	Items given as dowry												
	Gold		Silver		Land, house or flat	Car, scooter or bike	TV, VCR or VCP	Furniture	Utensils	Radio or transistor	Cycle	Other	None
	<50g	50g+	<50g	50g+									
<b>Residence</b>													
Urban	52.2	3.5	51.4	3.5	2.1	22.4	27.6	35.1	57.7	49.8	41.7	22.3	7.4
Rural	34.7	4.3	35.6	4.5	0.4	8.8	9.1	27.5	65.6	68.9	68.4	45.9	4.0
Backward districts	43.5	4.0	45.7	4.9	1.1	5.7	8.4	22.6	72.6	69.1	69.6	41.2	1.0
<b>Education</b>													
Illiterate	32.7	3.9	34.0	4.2	0.4	5.7	5.9	25.6	65.1	70.4	70.9	45.8	4.4
Lit., < middle complete	55.1	4.7	55.1	4.3	1.1	23.5	28.3	39.8	68.4	56.6	48.5	36.8	1.8
Middle complete	55.1	5.1	51.2	3.7	0.2	27.5	32.3	37.6	61.7	55.7	46.5	35.0	2.6
High school and above	51.8	6.0	48.5	5.9	3.2	36.6	40.0	39.8	54.1	41.8	30.2	20.3	10.3
<b>Religion</b>													
Hindu	36.9	4.1	37.6	4.1	0.7	11.6	12.7	29.0	65.8	65.7	63.5	41.6	4.2
Muslim	41.4	5.1	41.0	5.6	0.7	7.1	7.7	28.3	60.6	72.6	73.5	50.6	2.0
Other	20.8	3.0	25.5	3.0	1.0	5.6	4.5	11.4	33.9	31.3	32.8	11.0	42.7
<b>Caste/tribe</b>													
Scheduled caste	20.1	2.7	21.7	3.6	0.3	7.2	6.5	24.4	67.9	72.4	73.7	48.4	1.3
Scheduled tribe	9.5	0.9	12.7	1.2	--	3.0	1.4	13.6	49.8	48.7	50.6	20.7	32.0
Other	42.1	4.7	42.4	4.7	0.8	12.0	13.5	30.6	65.5	67.1	64.8	43.9	2.2
<b>Total</b>	<b>37.3</b>	<b>4.2</b>	<b>37.9</b>	<b>4.4</b>	<b>0.7</b>	<b>10.8</b>	<b>11.8</b>	<b>28.6</b>	<b>64.4</b>	<b>66.2</b>	<b>64.5</b>	<b>42.5</b>	<b>4.5</b>

Note: Total percent will not add to 100.0 due to multiple response.  
 -- Less than 0.05 percent

scheduled caste women (41 percent) are more likely to approve of the dowry system than others, and that urban women (77 percent) and those who have at least a high school education (83 percent) are more likely to disapprove of the dowry system than others. The reasons underlying the approval or disapproval of the dowry system need to be examined through further analysis of the open-ended responses, but such analysis is not attempted here.

**Table 4.12 Approval of dowry**

Percent distribution of ever-married women according to approval and disapproval of dowry system by background characteristics, Bihar, 1993

Background characteristic	Approve dowry	Disapprove dowry	DK/missing	Total percent
<b>Residence</b>				
Urban	22.8	77.1	0.1	100.0
Rural	39.0	60.9	0.1	100.0
Backward districts	38.8	61.2	--	100.0
<b>Education</b>				
Illiterate	39.8	60.1	0.1	100.0
Lit., < middle complete	30.4	69.5	0.1	100.0
Middle school complete	30.7	69.3	--	100.0
High school and above	16.6	83.4	--	100.0
<b>Religion</b>				
Hindu	37.4	62.5	0.1	100.0
Muslim	33.6	66.1	0.3	100.0
Other	30.2	69.8	--	100.0
<b>Caste/tribe</b>				
Scheduled caste	40.9	59.1	--	100.0
Scheduled tribe	31.7	68.3	--	100.0
Other	36.6	63.2	0.1	100.0
<b>Total</b>	<b>36.7</b>	<b>63.2</b>	<b>0.1</b>	<b>100.0</b>

DK: Don't know

-- Less than 0.05 percent

## CHAPTER 5

### FERTILITY

A major objective of the NFHS is to estimate fertility levels, differentials and trends. The fertility estimates in this chapter are based on the complete birth histories of ever-married women age 15-49. Several procedures were established to facilitate the complete and accurate reporting of births. First, women were asked separately about the number of daughters and sons who were still living at home, those living elsewhere and those who had died. Then, more complete details about each birth were collected, including the year and month of birth, sex and survival status. The birth history information was used to calculate measures of current fertility and fertility trends over time, as well as cumulative measures of the number of children ever born. Estimates of birth intervals and the mother's age at the initiation of childbearing were calculated from data on the timing of births. Interviewers received extensive training in methods of probing to help respondents recall the details of all births. In addition, interviewers were instructed to check any documents (such as immunization cards) that may provide information on the date of birth. Finally, for any interval of four or more years between births, interviewers were required to record the reason for the long interval to help in identifying any live births that might have been omitted during the time period.

Despite all the measures to improve data quality, the NFHS is subject, to some degree, to the same kinds of errors that are inherent in all retrospective sample surveys -- namely, the omission of some births (especially births of children who died at a very young age) and the difficulty of determining the date of birth accurately. These problems may be particularly common in states such as Bihar where the level of female literacy is very low.

#### 5.1 Current Fertility Levels, Differentials and Trends

Various summary measures of fertility have been calculated from the NFHS to provide a complete picture of recent fertility in Bihar. These measures include the crude birth rate (CBR), the general fertility rate (GFR), age-specific fertility rates (ASFRs) and the total fertility rate (TFR). Fertility estimates from the NFHS and the Sample Registration System (SRS) are shown by place of residence in Table 5.1 and discussed in the following sections. Except for the crude birth rate based on the household birth record, all of the NFHS fertility statistics are derived from the birth history information and refer to the three years prior to the survey. The NFHS fieldwork in Bihar was conducted from March to June 1993, so the three years prior to the survey correspond roughly to the years 1990-92. A three-year period is chosen for the NFHS rates as a compromise of three objectives: to obtain the most current information, to reduce the effects of sampling variation, and to minimize problems with the displacement of births from recent years to earlier years.

#### Crude Birth Rate

Table 5.1 shows two different sets of NFHS crude birth rates. The first set is based on births that occurred to usual residents of the household during the two years preceding the survey as obtained in the Household Questionnaire. The CBR 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

**Table 5.1 Current fertility**

Age-specific and cumulative fertility rates and crude birth rates from the NFHS and the SRS, by residence, Bihar, 1990-92

Age	NFHS (1990-92) <sup>1</sup>				SRS (1991)		
	Urban	Rural	Total	Backward districts	Urban	Rural	Total
15-19	0.089	0.127	0.121	0.146	0.046	0.082	0.079
20-24	0.224	0.244	0.241	0.250	0.205	0.234	0.231
25-29	0.182	0.191	0.190	0.177	0.191	0.205	0.204
30-34	0.090	0.150	0.141	0.141	0.122	0.170	0.165
35-39	0.053	0.083	0.078	0.078	0.033	0.119	0.116
40-44	0.012	0.029	0.026	(0.016)	0.029	0.063	0.060
45-49	(0.000)	0.005	(0.004)	(0.002)	0.017	0.028	0.027
TFR 15-44	3.25	4.12	3.98	4.04	3.41	4.37	4.28
TFR 15-49	3.25	4.15	4.00	4.05	3.49	4.51	4.41
GFR	113	144	139	146	108	137	134
NFHS CBR based on							
Household birth record	25.5	33.5	32.3	33.4	NA	NA	NA
Woman's birth history	27.5	32.9	32.1	32.9	NA	NA	NA
SRS CBR	NA	NA	NA	NA	25.5	31.3	30.7

Note: Rates from NFHS 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 15-49 divided by woman-years lived between age 15 and 49), expressed per 1,000 women.

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

NA: Not applicable

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

<sup>1</sup>Three years preceding the survey

Source of SRS data: Office of the Registrar General (1993a).

of the survey. The denominator of this measure is adjusted by projecting the population backwards to the mid-point of the time period on the basis of the intercensal population growth rate in the state (which is used for both the total and backward districts estimates), and separately for urban and rural areas. The second set of estimates is derived from the birth history information collected in the Woman's Questionnaire and covers a period of three years prior to the interview. It is calculated as a sum of products, where each product is an age-specific fertility rate multiplied by the proportion of women in the specific age group out of the total *de facto* population, both male and female.

Although the NFHS estimates are based on information from two different parts of the interview (often with different respondents) the two estimates agree quite closely with one another. The three-year CBR is almost identical to the two-year rate for the state as a whole. The two estimates of the CBR are very similar for rural areas and backward districts and both are slightly higher than the CBR for the state as a whole. In urban areas the estimate of the CBR from the woman's birth history is higher (27.5) than that estimated from the household birth record (25.5). The SRS crude birth rate for Bihar for 1991 (30.7) is lower than the NFHS crude birth rate for 1990-92 (32.1). The NFHS estimate of the crude birth rate in urban areas based on the household birth record is identical to the SRS urban rate. Both NFHS estimates of the rural CBR obtained from the household birth record (33.5) and the woman's birth history

(32.9) are higher than the CBR from the SRS in rural areas (31.3). However, the NFHS and SRS estimates of the CBR both indicate that the birth rate in rural areas is higher than in urban areas.

### **General Fertility Rate**

The general fertility rate (GFR) in the NFHS is calculated by dividing the total number of births to women age 13-49 that occurred during the time period by the number of woman-years lived between the ages of 15 and 49 during the period, and multiplying the result by 1,000. The NFHS estimate of the GFR for 1990-92 is 139 births per 1,000 women for the state as a whole, slightly higher than the GFR from the SRS for 1991 (134). The GFR from both the NFHS and the SRS is higher in rural areas (145 and 137, respectively) than in urban areas (113 and 108, respectively).

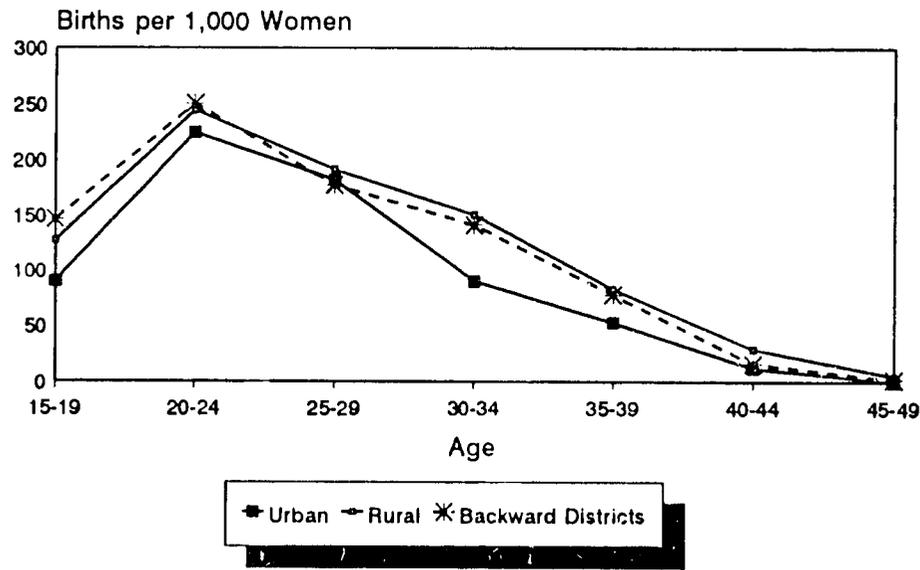
### **Age-Specific and Total Fertility Rates**

Both the GFR and the CBR are crude summary measures of fertility. A better picture of fertility can be obtained by examining the age-specific fertility rates (ASFRs) and the total fertility rate (TFR). To compute the numerator for the NFHS age-specific rates, live births are classified by (1) segment of time preceding the survey (that is, 1-36 months), based on the date of interview and date of birth and (2) age of the mother (in conventional five-year groupings) at the time of birth, based on the date of interview and dates of birth of both mother and child. The denominators of the age-specific rates are numbers of woman-years lived in the specified five-year age intervals during the time segment. The TFR is a summary measure that indicates the number of children a woman would bear during her reproductive years if she were to experience the age-specific fertility rates prevailing at the time of the survey. Mathematically, the TFR is five times the sum of the age-specific fertility rates for five-year age groups.

The NFHS total fertility (TFR) for women in the age group 15-49 for the state as a whole for 1990-92 is 4.0 children per woman. The urban TFR (3.3 children per woman) is lower than the rural TFR (4.2 children per woman) by almost one child. Under the present schedule of fertility, a woman in the rural areas of Bihar would have, on the average, 0.9 more children in her childbearing years (i.e., 28 percent more children) than a woman in the urban areas. The TFR for backward districts is only slightly higher than the TFR for the whole state.

The age-specific fertility rates follow the expected pattern. The age pattern of fertility reveals a peak in the 20-24 age group. This pattern is the same for all the three areas under study (see Figure 5.1). Fertility rates decline steadily after age 25, reaching very low levels for women in their forties. The age-specific fertility rates are consistently higher in rural areas than in urban areas. Fertility is more concentrated in the 20-29 age group in urban areas (62 percent) than in rural areas (52 percent) because of the later initiation of childbearing in urban areas as well as a more rapid decline in fertility rates after age 30. The contribution towards fertility of women age 35 years and above is only 10 percent in urban areas and 14 percent in rural areas. The contribution of women in the age group 40-49 years to total fertility is even smaller, only 2 and 4 percent in urban and rural areas, respectively. The situation in backward districts is virtually the same as in the state as a whole.

**Figure 5.1  
Age-Specific Fertility Rates  
by Residence**



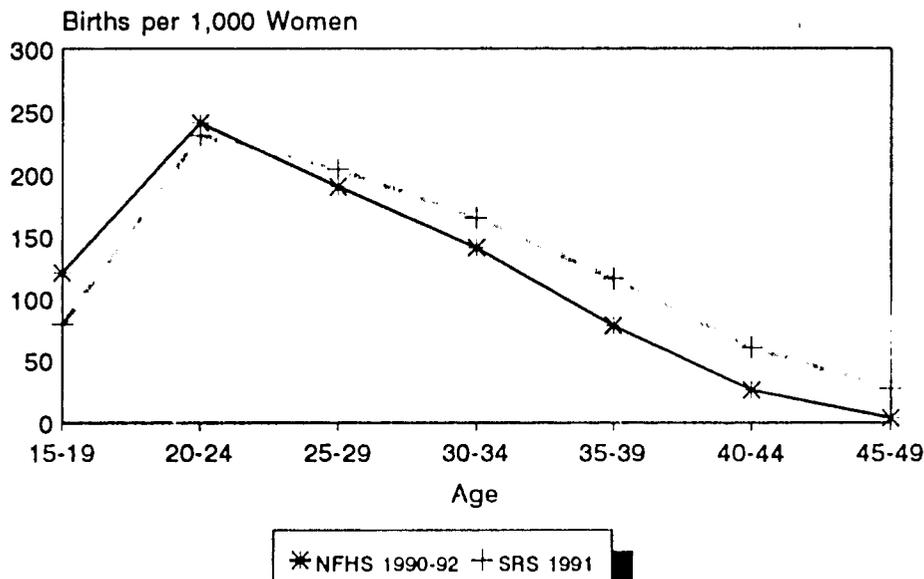
Note: Rates are for the three years before the survey (1990-92)

NFHS, Bihar, 1993

The NFHS estimates may be compared with estimates from the Sample Registration System maintained by the Office of the Registrar General, India. The most recent report with estimates for Bihar is for 1991 (Office of the Registrar General, 1993a). The TFRs from the NFHS in Table 5.1 are 9, 7 and 8 percent lower than the SRS estimates for total, urban and rural areas, respectively.

It is instructive to extend this comparison of the NFHS and SRS results from total fertility rates to the corresponding age-specific fertility rates, shown in Table 5.1 and Figure 5.2. The NFHS apparently enumerates relatively more births to younger women than the SRS and relatively fewer births to older women. The large difference for the 15-19 age group may be due to the fact that the SRS rates are *de jure* while the NFHS rates are *de facto*. In calculating fertility estimates, the SRS excludes births to visitors occurring within the sample unit, but includes births to usual residents outside the sample unit. Since young women typically return to their parental household to have their first baby, it is not surprising that the NFHS fertility estimate for the 15-19 age group is considerably higher than the SRS estimate. The differences in the older age groups are more difficult to explain. It is reasonable to find very low fertility rates for women in the highest age groups in Bihar, since many women in those age groups are sterilized or menopausal. Moreover, terminal abstinence from sexual intercourse is commonly practised by couples once their daughter attains menarche or once any of their children gets married or has a child. These factors, however, are not likely to explain the full difference between the NFHS and SRS fertility rates at the older ages. A complete explanation of the differences in fertility at elder ages in the two data sets must await further analysis.

**Figure 5.2**  
**Age-Specific Fertility Rates**  
**NFHS and SRS**



NFHS, Bihar, 1993

### Fertility Differentials and Trends

Table 5.2 and Figure 5.3 show current and cohort fertility by selected background characteristics. Current fertility is measured by the total fertility rate for the three years prior to the survey. Cohort fertility is measured by the mean number of children ever born to women age 40-49 at the time of the survey. Both measures are calculated from the birth history information in the Woman's Questionnaire.

If there had been no change in fertility during the decades prior to the survey, the current and cohort indicators would be nearly identical, differences being due solely 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. The gap between the TFR of 4.0 and the mean number of children ever born of 5.2 suggests that a fertility decline has taken place in Bihar. Fertility has been declining slightly more rapidly in urban areas than in rural areas and backward districts if measured by the ratio of TFR to children ever born.

Education differentials are large, with higher current fertility (4.3 children per woman) and cohort fertility (5.4 children ever born per woman) for illiterate women than for women with at least a high school education (2.6 children per woman and 3.4 children ever born per woman, respectively).

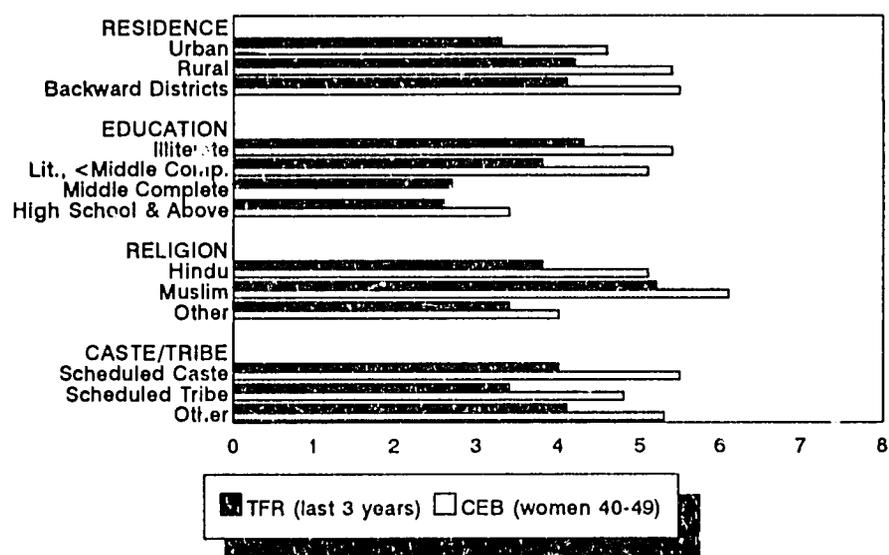
<b>Table 5.2 Fertility by background characteristics</b>		
Total fertility rate for the three years preceding the survey, and mean number of children ever born to women age 40-49 years, by selected background characteristics, Bihar, 1993		
Background characteristic	Total fertility rate <sup>1</sup>	Mean number of children ever born to women age 40-49 years
<b>Residence</b>		
Urban	3.25	4.59
Rural	4.15	5.36
Backward districts	4.05	5.45
<b>Education</b>		
Illiterate	4.28	5.39
Lit., < middle complete	3.77	5.06
Middle school complete	2.65	*
High school and above	2.58	3.38
<b>Religion</b>		
Hindu	3.78	5.11
Muslim	5.19	6.08
Other	3.39	(3.98)
<b>Caste/tribe</b>		
Scheduled caste	3.95	5.46
Scheduled tribe	3.42	4.80
Other	4.06	5.26
Total	4.00	5.23
( ) Based on 25-49 unweighted cases * Mean not shown; based on fewer than 25 unweighted cases <sup>1</sup> Rate for women age 15-49 years		

Differences by religion are more pronounced. In terms of both current and cohort fertility, Muslims have the highest rate, followed by Hindus and members of other religions. Muslim fertility is higher than Hindu fertility by about 37 percent (equivalent to almost one and a half children, on the average). The total fertility rate for scheduled castes and tribes is lower than that for others.

The most direct way of observing fertility trends is to examine changes in age-specific rates over time. Table 5.3 shows age-specific fertility rates for the 20-year period preceding the survey, calculated from the birth history information. Because birth histories are obtained only for women under age 50 at the time of the survey, no rate is available for women age 45 and over for the period 5-9 years prior to the survey, nor for women age 40 and over 10-14 years prior to the survey, nor for women age 35 and over 15-19 years prior to the survey. In almost every age group, fertility fell from the period 10-14 years before the survey to the period 0-4 years before the survey. There is a general tendency for the fertility decline to accelerate during the most recent period in urban and rural areas, and in backward districts.

Further evidence of a decline in fertility over time is shown in Table 5.4, which gives fertility rates over the last 20 years by the number of years since women started living with their

Figure 5.3  
Total Fertility Rate (TFR) and Mean  
Number of Children Ever Born (CEB)



Note: Mean CEB for Middle Complete is not shown;  
based on fewer than 25 cases

NFHS, Bihar, 1993

husbands<sup>1</sup>. This measure controls, to some extent, for changing age at marriage and may help to elucidate the trends in Table 5.3. In most marital duration groups, fertility has fallen steadily over time. The rapidity of the fertility decline increases with marital duration, being most pronounced for women married 20 or more years. Consistent with the trend in age-specific fertility rates shown in Table 5.3, the fertility decline has accelerated in the most recent period. The general absence of any marked fertility decline in the group married for 0-4 years is typical of populations in which contraception is initiated only after the first birth or later (as is the case in Bihar; see Chapter 6). The rise in fertility in this duration group, from 0.258 at 15-19 years before the survey to 0.318 at 5-9 years previously, probably reflects women's rising age at first marriage and a consequent increase in their fecundability at the time they marry. However, there is some indication of recent fertility decline in this duration group by comparison of rates for 0-4 and 5-9 years preceding the survey.

<sup>1</sup> Information was collected only on a woman's age at effective marriage, not her year and month of effective marriage (which would be difficult to determine accurately in most cases). Therefore, the duration since first effective marriage is calculated as the woman's current age during 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 while all the other duration categories cover 5 years.

**Table 5.3 Fertility trends**

Age-specific fertility rates for five-year periods preceding the survey by residence, Bihar, 1993

Maternal age at birth	Years preceding survey			
	0-4	5-9	10-14	15-19
<b>URBAN</b>				
15-19	0.099	0.145	0.138	0.134
20-24	0.234	0.285	0.303	0.288
25-29	0.186	0.214	0.259	0.255
30-34	0.096	0.135	0.170	[0.185]
35-39	0.049	0.052	[0.086]	U
40-44	0.015	[0.020]	U	U
45-49	[0.000]	U	U	U
<b>RURAL</b>				
15-19	0.140	0.192	0.189	0.170
20-24	0.261	0.347	0.327	0.294
25-29	0.198	0.285	0.287	0.242
30-34	0.149	0.184	0.188	[0.186]
35-39	0.078	0.104	[0.124]	U
40-44	0.026	[0.049]	U	U
45-49	[0.004]	U	U	U
<b>TOTAL</b>				
15-19	0.133	0.185	0.182	0.164
20-24	0.258	0.338	0.323	0.292
25-29	0.196	0.273	0.281	0.245
30-34	0.141	0.175	0.185	[0.186]
35-39	0.072	0.095	[0.118]	U
40-44	0.024	[0.044]	U	U
45-49	[0.003]	U	U	U
<b>BACKWARD DISTRICTS</b>				
15-19	0.159	0.208	0.210	0.180
20-24	0.263	0.344	0.318	0.320
25-29	0.187	0.295	0.293	0.260
30-34	0.134	0.183	0.186	[0.197]
35-39	0.074	0.101	[0.147]	U
40-44	0.019	[0.057]	U	U
45-49	[0.002]	U	U	U

Note: Age-specific fertility rates are per woman.

U: Not available

[ ]: Truncated, censored

Marital fertility is generally lower in urban areas than in rural areas at all durations for all time periods. Once again, the only exception is the 0-4 duration category, in which urban women have considerably higher fertility than rural women. This pattern is not uncommon in populations in which the age at marriage is higher in urban areas than in rural areas, as is the case in Bihar (see Chapter 4). Women who marry at later ages often have their first birth sooner after marriage and concentrate their births relatively earlier in their marriages.

**Table 5.4 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, Bihar, 1993

Duration of effective marriage	Years preceding survey			
	0-4	5-9	10-14	15-19
<b>URBAN</b>				
0 - 4	0.302	0.334	0.329	0.299
5 - 9	0.235	0.283	0.310	0.292
10-14	0.135	0.188	0.237	0.243
15-19	0.077	0.114	0.151	(0.201)
20-24	0.036	0.047	(0.068)	*
25-29	0.008	(0.009)	*	*
<b>RURAL</b>				
0 - 4	0.255	0.316	0.287	0.250
5 - 9	0.265	0.339	0.324	0.285
10-14	0.183	0.270	0.256	0.238
15-19	0.135	0.165	0.178	0.188
20-24	0.060	0.101	0.127	*
25-29	0.027	0.045	*	*
<b>TOTAL</b>				
0 - 4	0.261	0.318	0.292	0.258
5 - 9	0.260	0.331	0.322	0.286
10-14	0.177	0.258	0.253	0.239
15-19	0.127	0.157	0.174	0.190
20-24	0.056	0.092	0.120	*
25-29	0.024	0.041	*	*
<b>BACKWARD DISTRICTS</b>				
0 - 4	0.268 <sup>()</sup>	0.323	0.301	0.277
5 - 9	0.253	0.350	0.328	0.325
10-14	0.174	0.251	0.278	0.237
15-19	0.123	0.172	0.170	(0.187)
20-24	0.059	0.092	(0.127)	*
25-29	0.014	(0.063)	*	*

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

## 5.2 Outcome of Pregnancies

Table 5.5 shows the outcome of all pregnancies ever-married women have had in their lifetime by age of mother and place of residence at the time of the survey. Information on stillbirths and spontaneous and induced abortions was obtained in the reproduction section of the Woman's Questionnaire.

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 number of total pregnancies and the percentage of all pregnancies that end

**Table 5.5 Outcome of pregnancy**

Percent distribution of all pregnancies of ever-married women by their outcome, according to age of the woman and residence, Bihar, 1993

Current age	Outcome of pregnancy				Total percent	Number of pregnancies
	Spontaneous abortion	Induced abortion	Still-birth	Live birth		
<b>URBAN</b>						
15-19	6.8	5.1	4.1	84.0	100.0	44
20-24	4.1	0.4	1.2	94.2	100.0	273
25-29	5.6	1.2	2.2	91.0	100.0	496
30-34	3.6	0.4	1.5	94.5	100.0	529
35-39	4.6	1.1	2.2	92.1	100.0	592
40-44	5.5	1.5	1.3	91.7	100.0	509
45-49	4.8	--	1.6	93.6	100.0	476
Total	4.7	0.9	1.7	92.6	100.0	2919
<b>RURAL</b>						
15-19	6.8	0.8	2.8	89.6	100.0	375
20-24	4.7	--	2.3	92.9	100.0	1866
25-29	4.5	0.4	2.5	92.6	100.0	3227
30-34	3.2	0.3	2.5	94.0	100.0	3773
35-39	3.6	0.1	2.5	93.8	100.0	3023
40-44	2.9	0.5	2.1	94.6	100.0	2659
45-49	3.6	--	2.9	93.5	100.0	2797
Total	3.8	0.3	2.5	93.5	100.0	17719
<b>TOTAL</b>						
15-19	6.8	1.3	3.0	89.0	100.0	419
20-24	4.7	0.1	2.2	93.1	100.0	2139
25-29	4.7	0.5	2.4	92.3	100.0	3723
30-34	3.2	0.3	2.4	94.1	100.0	4302
35-39	3.8	0.3	2.4	93.5	100.0	3615
40-44	3.3	0.6	1.9	94.1	100.0	3168
45-49	3.8	--	2.7	93.5	100.0	3273
Total	3.9	0.3	2.4	93.4	100.0	20637
<b>BACKWARD DISTRICTS</b>						
15-19	1.6	--	4.3	94.2	100.0	79
20-24	4.3	0.3	2.8	92.7	100.0	357
25-29	2.5	--	2.2	95.3	100.0	534
30-34	3.3	0.3	2.6	93.9	100.0	620
35-39	3.2	--	2.6	94.2	100.0	498
40-44	1.3	0.2	2.8	95.7	100.0	449
45-49	2.3	--	1.9	95.8	100.0	441
Total	2.7	0.1	2.5	94.6	100.0	2978

Note: There were no reported pregnancies to women age 13-14.  
 -- Less than 0.05 percent

in spontaneous abortions are almost certainly underestimated, therefore, 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.

Of the 20,637 pregnancies reported by sample women, 93 percent resulted in live births, 2 percent in stillbirths, less than 1 percent in induced abortions, and 4 percent in spontaneous abortions. The pattern is somewhat similar for rural areas, which account for more than 86 percent of all pregnancies. Women in urban areas report a slightly higher proportion of pregnancies ending in spontaneous or induced abortions, 6 percent compared with 4 percent in rural areas, and a lower proportion of stillbirths and live births.

Women age 15-19 have a higher pregnancy wastage (11 percent) than others. Spontaneous abortion alone is the outcome of 7 percent of pregnancies to women age 15-19 and does not vary by urban-rural residence, although it is much lower in backward districts (2 percent). Induced abortion is much higher for urban women age 15-19 than for those in rural areas and backward districts.

In view of the problems of underreporting of early spontaneous abortions, it is useful to consider induced abortions and stillbirths in relation to live births rather than to total pregnancies. By this measure, there were 2.6 stillbirths and 0.3 induced abortions for every 100 live births in the state as a whole.

### **5.3 Children Ever Born and Living**

The distribution of women by number of children ever born is shown in Table 5.6 for all women and currently married women. The table also shows the mean number of children ever born and surviving. Women in the childbearing years in Bihar have had an average of 2.8 children and currently married women have had an average of 3.3 children. The mean number of children ever born increases steadily with age for all women as well as currently married women, reaching a high of over five children per woman for the 45-49 age group. The evidence of early childbearing in Bihar is revealed by the fact that about 21 percent of all women in the 15-19 age group have had at least one child. It is not uncommon in sample surveys to find mean numbers 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 the level of fertility.

The distribution of women age 45-49 by number of children ever born is of particular interest since these women have nearly completed their childbearing. Therefore, the distribution of children ever born approximates the completed parity distribution for this cohort of women. Completed parity distributions are generally unimodal, with the modal number of children born near the mean number of children ever born. The mean number of children ever born for currently married women age 15-49 is 3.25 and the average completed family size for women age 45-49 is 5.50 children. In a Baseline Survey on Fertility, Mortality and Related Factors in

**Table 5.6 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, Bihar, 1993

Age	Children ever born											Total percent	Number of women	Mean CEB	Mean children living
	0	1	2	3	4	5	6	7	8	9	10+				
<b>ALL WOMEN</b>															
15-19	79.3	17.0	3.1	0.4	0.2	--	--	--	--	--	--	100.0	1482	0.25	0.21
20-24	27.5	26.5	26.5	12.3	6.0	0.8	0.3	0.1	--	--	--	100.0	1361	1.46	1.30
25-29	7.6	9.0	20.5	27.4	19.5	11.1	3.6	1.1	0.2	--	--	100.0	1159	2.97	2.56
30-34	3.3	4.8	8.4	16.2	21.3	21.1	14.8	6.9	2.6	0.4	0.3	100.0	953	4.24	3.58
35-39	3.8	2.5	8.4	13.5	18.8	18.6	13.4	9.1	8.3	2.2	1.3	100.0	716	4.72	3.87
40-44	3.8	3.4	7.3	10.6	14.4	16.8	15.7	11.9	7.7	4.8	3.7	100.0	582	5.12	4.21
45-49	3.6	3.3	5.1	9.0	16.4	16.8	14.8	11.1	8.1	8.4	3.6	100.0	573	5.34	4.39
<b>Total</b>	<b>25.5</b>	<b>12.0</b>	<b>12.5</b>	<b>12.5</b>	<b>12.1</b>	<b>9.8</b>	<b>6.7</b>	<b>4.1</b>	<b>2.6</b>	<b>1.4</b>	<b>0.8</b>	<b>100.0</b>	<b>6826</b>	<b>2.82</b>	<b>2.37</b>
<b>CURRENTLY MARRIED WOMEN</b>															
15-19	59.3	33.4	6.1	0.8	0.4	--	--	--	--	--	--	100.0	745	0.50	0.42
20-24	19.4	29.4	29.5	13.8	6.7	0.9	0.3	0.1	--	--	--	100.0	1206	1.63	1.45
25-29	5.7	8.9	21.1	27.9	19.9	11.5	3.7	1.1	0.2	--	--	100.0	1104	3.04	2.62
30-34	2.3	4.0	8.5	16.0	21.7	21.9	15.1	7.1	2.7	0.4	0.3	100.0	916	4.33	3.66
35-39	2.4	1.8	7.9	14.0	19.0	19.5	13.6	9.6	8.6	2.1	1.4	100.0	667	4.85	3.99
40-44	2.8	2.4	6.3	10.2	14.5	16.9	16.8	12.4	8.5	5.3	3.9	100.0	527	5.32	4.40
45-49	1.9	2.7	5.0	8.6	17.0	17.2	15.1	11.8	8.6	8.9	3.3	100.0	493	5.50	4.54
<b>Total</b>	<b>14.1</b>	<b>13.7</b>	<b>14.5</b>	<b>14.4</b>	<b>14.0</b>	<b>11.3</b>	<b>7.7</b>	<b>4.7</b>	<b>3.0</b>	<b>1.6</b>	<b>0.9</b>	<b>100.0</b>	<b>5657</b>	<b>3.25</b>	<b>2.75</b>

Note: All women includes never-married women  
 ( ) Based on 25-49 unweighted cases  
 -- Less than 0.05 percent

Bihar, covering a large sample of 10,721 households during 1980-81, the mean number of children ever born to currently married women age 15-49 was 3.50, with 5.75 children ever born to women age 45-49 (Srinivasan et al., 1982).

The figures on childlessness shown in Table 5.6 are relatively low, particularly for currently married women. The low level of childlessness is probably an indication of the relative absence of primary sterility in the population of Bihar.

Differentials in the number of children ever born and children still living by background characteristics, shown in Table 5.7, provide additional information on fertility patterns in Bihar. To avoid the confounding influence of different age distributions of women in different groups, the mean values in the table are age standardized, according to the age distribution of all currently married women. The average number of males ever born is slightly higher than the average number of females ever born, a biological pattern that is observed everywhere in the world. For male and female children together, the differentials by background characteristics follow the same pattern observed earlier. Fertility is higher in rural areas, among illiterate women and those with low educational attainment, among Muslim women, and among those not belonging to scheduled castes and scheduled tribes.

The differentials in the mean number of children still living are smaller than the differentials in the mean number of children ever born. This convergence is due to the fact that

**Table 5.7 Mean number of children ever born and living by background characteristics**

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

Background characteristic	Children ever born			Children living		
	Male	Female	Total	Male	Female	Total
<b>Age</b>						
15-19	0.3	0.2	0.5	0.2	0.2	0.4
20-24	0.8	0.8	1.6	0.8	0.7	1.5
25-29	1.5	1.5	3.0	1.3	1.3	2.6
30-34	2.2	2.1	4.3	1.9	1.8	3.7
35-39	2.5	2.4	4.8	2.1	1.9	4.0
40-44	2.7	2.6	5.3	2.3	2.1	4.4
45-49	2.8	2.7	5.5	2.4	2.2	4.5
<b>Residence</b>						
Urban	1.6	1.5	3.1	1.4	1.3	2.8
Rural	1.7	1.6	3.3	1.4	1.3	2.7
Backward districts	1.6	1.5	3.2	1.4	1.3	2.6
<b>Education</b>						
Illiterate	1.7	1.7	3.4	1.5	1.4	2.8
Literate, < middle complete	1.6	1.5	3.0	1.4	1.3	2.7
Middle school complete	1.3	1.1	2.4	1.2	1.1	2.2
High school and above	1.1	1.0	2.1	1.0	1.0	2.0
<b>Religion</b>						
Hindu	1.6	1.5	3.1	1.4	1.3	2.6
Muslim	1.9	1.9	3.8	1.6	1.6	3.2
Other	1.5	1.4	2.9	1.4	1.3	2.7
<b>Caste/tribe</b>						
Scheduled caste	1.6	1.5	3.1	1.3	1.2	2.5
Scheduled tribe	1.6	1.5	3.1	1.3	1.3	2.6
Other	1.7	1.6	3.3	1.4	1.3	2.8
<b>Total</b>	<b>1.7</b>	<b>1.6</b>	<b>3.2</b>	<b>1.4</b>	<b>1.3</b>	<b>2.7</b>

Note: The means by residence, education, religion and caste/tribe are standardized on the age distribution of all currently married women. There were no reported births for women age 13-14. Means for the total are based on women age 13-49.

the groups that exhibit high fertility are the same groups in which infant and child mortality are relatively high. For example, illiterate women have 1.3 more children ever born, but only 0.8 more children living, than women who have completed high school. The survival of children is particularly poor among rural and illiterate women, women belonging to backward districts and those belonging to scheduled castes. The average woman in each of these groups has experienced the loss of 0.6 of the children she had borne by the time of the survey.

#### 5.4 Birth Order

Births during the three years' before the survey by birth order are shown in Table 5.8. Overall, 24 percent of all births were first births and 20 percent were second births. Twenty-six percent of all births were of order five and above and 16 percent were of order six and above. Predictably, the birth order distribution is more skewed toward lower order births in urban

**Table 5.8 Birth order by age of woman**

Percent distribution of births during the three years preceding the survey by order of birth and age of the woman at birth, according to residence, Bihar, 1993

Maternal age at birth	Order of birth						Total percent	Number of births
	1	2	3	4	5	6+		
<b>URBAN</b>								
15-19	69.1	20.3	9.6	1.0	--	--	100.0	66
20-24	29.4	32.3	24.3	7.7	3.8	2.5	100.0	135
25-29	13.2	22.0	16.9	26.8	11.5	9.5	100.0	94
30-34	4.1	7.1	5.0	24.8	19.6	39.3	100.0	36
35-49	(3.2)	(3.2)	(--)	(12.7)	(6.4)	(74.5)	100.0	23
<b>Total</b>	<b>28.6</b>	<b>22.7</b>	<b>15.9</b>	<b>13.5</b>	<b>6.9</b>	<b>12.3</b>	<b>100.0</b>	<b>357</b>
<b>RURAL</b>								
15-19	67.4	26.7	4.7	1.1	--	--	100.0	479
20-24	22.0	32.6	25.2	14.8	4.5	0.9	100.0	788
25-29	3.0	12.2	24.1	27.4	19.5	13.9	100.0	532
30-34	0.9	1.7	7.4	15.4	21.5	53.1	100.0	336
35-49	--	2.5	3.3	8.9	15.5	69.9	100.0	181
<b>Total</b>	<b>22.7</b>	<b>19.7</b>	<b>16.3</b>	<b>14.4</b>	<b>10.3</b>	<b>16.6</b>	<b>100.0</b>	<b>2329</b>
<b>TOTAL</b>								
15-19	67.6	25.9	5.3	1.1	--	--	100.0	545
20-24	23.1	32.5	25.1	13.8	4.4	1.1	100.0	923
25-29	4.5	13.6	23.0	27.3	18.3	13.2	100.0	626
30-34	1.2	2.2	7.2	16.3	21.3	51.7	100.0	372
35-49	0.4	2.6	2.9	9.3	14.4	70.4	100.0	205
<b>Total</b>	<b>23.5</b>	<b>20.1</b>	<b>16.3</b>	<b>14.3</b>	<b>9.8</b>	<b>16.0</b>	<b>100.0</b>	<b>2686</b>
<b>BACKWARD DISTRICTS</b>								
15-19	63.7	26.4	8.4	1.5	--	--	100.0	104
20-24	18.8	34.1	25.6	13.8	5.6	2.1	100.0	136
25-29	6.4	13.2	21.6	27.1	16.5	15.4	100.0	88
30-34	--	3.3	5.1	16.6	23.7	51.4	100.0	48
35-49	--	--	--	9.8	15.3	74.9	100.0	25
<b>Total</b>	<b>24.9</b>	<b>21.5</b>	<b>16.0</b>	<b>13.5</b>	<b>9.2</b>	<b>14.9</b>	<b>100.0</b>	<b>405</b>

Note: Total includes 15 births to women age 13-14, which are not shown separately.  
 ( ) Based on 25-49 unweighted cases  
 -- Less than 0.05 percent

areas, but even in urban areas 19 percent of all births were of order five and above. The distribution for backward districts is similar to the state as a whole.

### 5.5 Birth Intervals

There is considerable evidence from research studies 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 (Govindasamy et al., 1993; Hobcraft et al., 1983). Table 5.9 presents the percent distribution of second and higher order births in the five years prior to the survey by the interval since the previous birth. Overall, approximately one in every ten births occurred within 18

**Table 5.9 Birth intervals**

Percent distribution of births during the five years preceding the survey by interval since previous birth, according to demographic and background characteristics, Bihar, 1993

Characteristic	Months since previous birth						Total percent	Median months since previous birth	Number of births
	<12	12-17	18-23	24-35	36-47	48+			
<b>Age of the mother</b>									
15-19	5.8	21.0	30.1	34.8	5.9	2.3	100.0	23.3	65
20-29	2.0	10.4	15.3	33.5	23.8	15.0	100.0	31.7	2058
30-39	1.0	6.2	11.0	28.8	23.6	29.5	100.0	37.2	1158
40-49	--	2.2	3.0	27.0	25.1	42.8	100.0	43.4	150
<b>Order of prior birth</b>									
1	1.2	10.3	16.0	30.5	22.9	19.2	100.0	32.9	936
2-3	2.5	8.7	12.5	32.7	24.0	19.6	100.0	33.5	1357
4-5	1.1	7.9	13.4	29.4	23.5	24.7	100.0	35.0	766
6+	1.1	7.5	11.8	35.6	22.4	21.6	100.0	34.5	371
<b>Sex of prior birth</b>									
Male	2.2	8.1	14.2	31.6	22.5	21.3	100.0	34.1	1693
Female	1.1	9.5	13.0	31.7	24.3	20.4	100.0	33.7	1737
<b>Survival of prior birth</b>									
Still living	1.1	7.1	12.9	32.0	25.1	21.9	100.0	34.8	2956
Deceased	5.2	19.4	18.0	30.0	13.3	14.1	100.0	26.1	475
<b>Residence</b>									
Urban	1.7	11.8	16.5	35.8	17.8	16.4	100.0	29.5	426
Rural	1.7	8.4	13.2	31.1	24.2	21.5	100.0	34.4	3004
Backward districts	1.3	9.6	12.5	31.3	23.8	21.5	100.0	34.2	498
<b>Education of the mother</b>									
Illiterate	1.6	8.5	12.7	30.9	24.5	21.8	100.0	34.5	2843
Cit., < middle complete	2.2	9.7	14.9	35.9	19.1	18.1	100.0	30.8	309
Middle school complete	1.0	7.1	20.0	41.7	11.1	19.1	100.0	29.1	75
High school and above	1.5	12.5	20.7	32.8	19.8	12.7	100.0	29.3	204
<b>Religion</b>									
Hindu	1.6	9.2	12.9	32.1	22.9	21.3	100.0	33.8	2675
Muslim	1.7	6.9	16.0	30.0	26.2	19.2	100.0	34.2	702
Other	2.8	13.7	14.9	33.8	12.7	22.2	100.0	27.6	54
<b>Caste/tribe</b>									
Scheduled caste	0.8	8.1	13.2	30.5	23.6	23.7	100.0	34.9	347
Scheduled tribe	1.4	9.4	11.4	34.5	20.9	22.3	100.0	34.0	264
Other	1.8	8.8	13.8	31.6	23.6	20.3	100.0	33.8	2820
<b>Total</b>	<b>1.7</b>	<b>8.8</b>	<b>13.6</b>	<b>31.7</b>	<b>23.4</b>	<b>20.8</b>	<b>100.0</b>	<b>33.9</b>	<b>3431</b>

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. There were no reported second or higher order births to women age 13-14.

-- Less than 0.05 percent

months of the previous birth and about 24 percent of all births occurred within 24 months. The relatively high proportion of births with intervals less than 12 months for women age 15-19 at the time of the survey is striking. This is probably a selection effect. Only women who have had two or more births are included in this table, and 15-19 year old women with more than one birth have considerably higher fecundability than women at large. The median intervals shown in the next to last column of the table indicate that the overall median interval between births is just under 34 months, or about 2.8 years. There is a very clear gradient by age, ranging from 23 months for women age 15-19 to 43 months for women age 40 and over. Curiously, in view of the correlation between age of women and birth order, there is little variation in median intervals according to the birth order of the previous birth. This is because women with large numbers of births are more fecund, and therefore have shorter median intervals than other women.

The median interval following a male birth is longer than the median interval following a female birth although the difference is very small. This is consistent with longer breastfeeding of male than female children (see Table 10.4). There is a much larger difference in the median interval when the survival status of the previous birth is considered, with the median interval in months at 34.8 and 26.1 for births with the previous child surviving and dead, respectively. The median birth interval is longer for births in rural areas than for births in urban areas, whereas there is no difference between the median birth intervals of rural areas and backward districts. Interestingly, however, there is no difference in birth intervals of less than 12 months with the increase in the woman's education. The median interval is somewhat shorter for births to women who have at least a middle school education; more highly educated women tend to marry later (Chapter 4) and typically have births closer together. Muslims have almost the same median intervals as Hindus, whereas the median birth interval for other religious groups is much shorter. Scheduled castes have longer birth intervals than other groups.

## 5.6 Age at First and Last Birth

The onset of childbearing is an important demographic indicator. Postponement of first births, reflecting a rise in the age at marriage, can make an important contribution to overall fertility decline. Table 5.10 shows the distribution of women by age at first birth. The medians shown in Table 5.10 require special comment. The median age at first birth for any group of women is the age by which half of them have had their first birth. For women in younger age groups, however, the number who will eventually become mothers is not known since some first births to the cohort will occur only in the future. The medians shown in Table 5.10 are, therefore, calculated as the ages by which one half of *all* women in the cohort have had a first birth, rather than the age by which half of all mothers in the cohort have had a first birth. This statistic may be computed without knowing how many women in the cohort will eventually have a first birth.

The medians are of course undefined for cohorts in which fewer than half of the women have had a first birth. This is one reason that no medians are given for the younger age groups in Table 5.10, but there is another reason as well, indicated by the presence of a value for the 20-24 age group in rural areas but not for urban areas. If the median calculated for an age group lies above the lower age limit of that age group, the median is not valid because some younger women in the age group will not have reached the median age by the time of the

**Table 5.10 Age at first birth**

Percent distribution of women by age at first birth, according to current age and residence, Bihar, 1997

Current age <sup>1</sup>	No birth <sup>2</sup>	Age at first birth						Total percent	Median age at first birth
		<15	15-17	18-19	20-21	22-24	25+		
<b>URBAN</b>									
15-19	87.8	1.3	7.0	3.9	NA	NA	NA	100.0	NC
20-24	38.0	3.0	17.5	22.4	14.7	4.3	NA	100.0	NC
25-29	13.4	3.4	21.4	24.1	17.8	12.6	7.3	100.0	20.1
30-34	5.6	4.0	20.8	27.0	18.7	15.6	8.3	100.0	19.9
35-39	4.0	4.0	17.8	28.8	21.4	17.9	6.2	100.0	20.0
40-44	5.1	2.8	26.0	26.9	15.6	15.5	8.1	100.0	19.7
45-49	4.0	6.2	24.5	26.5	13.8	15.7	9.3	100.0	19.4
<b>RURAL</b>									
15-19	77.7	2.7	13.8	5.7	NA	NA	NA	100.0	NC
20-24	25.5	3.6	32.9	20.9	13.5	3.6	NA	100.0	19.2
25-29	6.8	4.6	33.7	24.8	16.6	11.8	1.7	100.0	19.0
30-34	3.1	5.1	30.6	28.7	20.7	9.1	2.6	100.0	18.9
35-39	3.6	3.7	31.8	28.4	16.6	10.3	5.6	100.0	19.0
40-44	3.3	4.1	36.2	23.4	17.2	10.9	4.9	100.0	18.7
45-49	3.9	8.6	34.0	21.8	17.1	11.1	3.4	100.0	18.7
<b>TOTAL</b>									
15-19	79.3	2.5	12.7	5.4	NA	NA	NA	100.0	NC
20-24	27.5	3.5	30.4	21.1	13.7	3.7	NA	100.0	19.5
25-29	7.6	4.4	31.8	24.7	16.8	12.0	2.6	100.0	19.1
30-34	3.3	5.0	29.1	28.5	20.5	10.1	3.5	100.0	19.1
35-39	3.8	3.8	29.1	28.4	17.4	11.7	5.7	100.0	19.2
40-44	3.8	3.9	34.3	24.0	16.9	11.7	5.4	100.0	18.9
45-49	3.6	8.3	32.6	22.6	16.6	11.9	4.4	100.0	18.8
<b>BACKWARD DISTRICTS</b>									
15-19	74.4	3.6	17.7	4.4	NA	NA	NA	100.0	NC
20-24	21.5	4.5	36.2	22.7	11.6	3.5	NA	100.0	18.8
25-29	5.6	5.5	33.1	25.6	16.3	10.7	3.1	100.0	18.9
30-34	2.7	7.5	31.6	29.6	15.8	9.4	3.4	100.0	18.7
35-39	1.7	6.4	28.2	24.6	21.9	11.1	5.9	100.0	19.1
40-44	3.2	7.4	30.9	20.9	19.6	13.3	4.7	100.0	19.0
45-49	1.4	8.9	34.4	26.7	14.6	9.5	4.5	100.0	18.5

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.

<sup>1</sup>The current age groups include both never-married and ever-married women

<sup>2</sup>Never-married women are included in this category

survey. Thus for rural areas, the median for the 20-24 age group is 19.2 years, less than the lower limit of the age group. For urban areas, however although more than half of all women age 20-24 have had a first birth, less than half have had a birth by age 20. This is why no median for this age group is shown for urban areas.

Very early childbearing (below age 15) is not common in any of the age groups and the incidence has dropped fairly steadily over time from 8 percent for women age 45-49 to 3 percent for those age 15-19. The median age at first birth is under 20 for all age cohorts (for which

the median is calculated) and has increased somewhat over time from 18.8 for women age 45-49 to 19.5 for women age 20-24.

Table 5.11 shows the median age at first birth by selected background characteristics. The urban-rural differences have already been discussed in connection with Table 5.10. The median age at first birth increases from almost 19 years for illiterate women to 22 years for women who completed high school, for the age group 25-49. There is essentially no difference in age at first birth between Hindus and Muslims, but the median age at first birth is somewhat higher for members of other religious groups. Scheduled castes and scheduled tribes tend to begin childbearing slightly earlier than nonscheduled caste/tribe groups, but the differences are not large. The age at last birth is another important determinant of overall fertility levels. Table 5.12 shows the distribution of women by age at last birth for women age 40-44 and 45-49. Although a few of these women may have another birth later on, the very low fertility rates for women in their forties seen earlier suggest that childbearing is virtually complete for this cohort. Thirty-four percent of women age 40-49 had completed their childbearing by age 30 and a majority had their last birth before age 35. Ten percent had their last birth at age 40 or higher.

Table 5.11 Age at first birth by background characteristics									
Median age at first birth among women age 20-49 years, by current age and selected background characteristics, Bihar, 1993									
Background characteristic	Current age							20-49	25-49
	20-24	25-29	30-34	35-39	40-44	45-49			
<b>Residence</b>									
Urban	NC	20.1	19.9	20.0	19.7	19.4	NC	19.9	
Rural	19.2	19.0	18.9	19.0	18.7	18.7	18.9	18.9	
Backward districts	18.8	18.9	18.7	19.1	19.0	18.5	18.8	18.8	
<b>Education</b>									
Illiterate	18.8	18.7	18.9	19.0	18.7	18.6	18.8	18.8	
Lit., < middle complete	NC	19.1	19.1	19.3	18.7	19.4	19.3	19.1	
Middle school complete	20.0	(19.4)	(19.0)	*	*	*	19.4	19.1	
High school and above	NC	22.4	22.3	21.6	(20.4)	*	NC	22.1	
<b>Religion</b>									
Hindu	19.5	19.0	19.1	19.1	18.9	18.7	19.1	19.0	
Muslim	19.1	19.4	18.8	19.3	18.5	19.1	19.1	19.1	
Other	(19.8)	*	*	*	*	*	NC	20.6	
<b>Caste/tribe</b>									
Scheduled caste	18.9	18.7	18.7	18.6	(18.3)	19.0	18.7	18.7	
Scheduled tribe	19.3	19.0	(20.2)	(18.6)	(19.1)	(17.3)	18.9	18.9	
Other	19.5	19.2	19.1	19.3	18.9	18.9	19.2	19.1	
Total	19.5	19.1	19.1	19.2	18.9	18.8	19.1	19.0	

NC: Not calculated because less than 50 percent of the women had their first child by age 20.  
 ( ) Based on 25-49 unweighted cases  
 \* Median not shown; based on fewer than 25 unweighted cases.

**Table 5.12 Age at last birth**

Percent distribution of ever-married women age 40-49 by age at last birth, according to current age, Bihar, 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		
40-44	3.3	2.1	9.1	23.8	30.5	24.0	7.3	NA	100.0	579
45-49	2.8	2.0	9.9	21.6	25.4	25.3	12.1	0.9	100.0	568
40-49	3.1	2.0	9.5	22.7	28.0	24.6	9.7	0.4	100.0	1147

NA: Not applicable

## 5.7 Childbearing at Young Ages

Fertility among teenagers (those under age 20) is drawing increasing attention from policymakers. Table 5.13 shows the percentages of ever-married women age 13-19 who are either mothers or are pregnant with their first child. The sum of these two percentages represents the proportion of young ever-married women who have begun childbearing. Overall, about 48 percent of ever-married teenage women have begun childbearing. Given that 51 percent of women age 15-19 are ever married (Table 4.1), childbearing among teenage women is still quite common. Fifty-five percent of women age 17-19 have begun childbearing. Only 16 percent of women age 13-16 are mothers compared to 46 percent of those age 17-19. Forty-nine percent of illiterate women age 13-19, who make up the majority of women in that age group, have begun childbearing, and among those who are literate the percentage is not much lower (47 percent).

**Table 5.13 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, by age and literacy, Bihar, 1993

Background characteristic	Percentage who are:		Percent who have begun childbearing	Number of women
	Mothers	Pregnant with first child		
<b>Age</b>				
13-16	16.3	9.1	25.5	187
17-19	46.2	9.1	55.3	597
<b>Literacy</b>				
Illiterate	38.9	9.9	48.8	628
Literate	39.7	5.9	45.6	157
Total	39.1	9.1	48.2	785

## 5.8 Postpartum Amenorrhoea, Abstinence and Nonsusceptibility

Postpartum protection for conception can be prolonged by breastfeeding, which can lengthen the duration of amenorrhoea (the period prior to menses following a birth). Protection can also be prolonged by delaying the resumption of sexual relations after a birth. Table 5.14 presents information on postpartum amenorrhoea, abstinence, and consequent nonsusceptibility following births in the three years prior to the NFHS. A woman is defined as nonsusceptible if she is amenorrhoeic or abstaining or both. The first column of Table 5.14 shows proportions amenorrhoeic by months since birth. Eighty-nine percent of all women who had a birth in the two months prior to the survey were still amenorrhoeic and 77 percent of women whose last birth occurred 2-3 months prior to the survey were still amenorrhoeic. The proportion amenorrhoeic gradually decreases as the number of months since birth increases. About 55 percent of all women with births that occurred 10-11 months before the survey were still amenorrhoeic, although amenorrhoea drops off rapidly thereafter. Except for the first group (women who gave birth in the two months before the survey), the proportions of mothers abstaining from sexual intercourse are much lower than the proportions amenorrhoeic. By 4-5 months since the birth, less than one-third of women were still abstaining. Sixty-three percent of women become susceptible to pregnancy within 12-13 months of giving birth. The median

**Table 5.14 Postpartum amenorrhoea, abstinence and nonsusceptibility**

Percentage of births during the three years preceding the survey whose mothers are postpartum amenorrhoeic, postpartum abstaining and postpartum nonsusceptible, by number of months since birth, and median and mean durations, Bihar, 1993

Months since birth	Percent of births whose mothers are:			Number of births
	Postpartum amenorrhoeic	Postpartum abstaining	Postpartum nonsusceptible	
< 2	89.1	91.2	98.5	98
2 - 3	76.6	57.8	87.1	188
4 - 5	69.0	29.9	74.4	178
6 - 7	65.8	19.7	70.6	225
8 - 9	58.7	17.0	62.7	140
10-11	54.8	13.2	59.6	98
12-13	29.7	10.3	36.7	185
14-15	31.6	6.7	34.9	168
16-17	21.3	10.4	26.9	174
18-19	15.3	4.6	18.6	165
20-21	12.6	3.8	16.1	142
22-23	9.4	3.7	13.1	103
24-25	7.3	0.2	7.4	177
26-27	3.8	2.8	6.6	147
28-29	1.6	1.6	3.1	131
30-31	4.0	0.9	4.9	98
32-33	3.5	1.2	4.2	117
34-35	0.7	4.1	4.8	103
<b>Median</b>	9.9	2.9	10.6	NA
<b>Mean</b>	11.4	5.9	12.9	NA
<b>Prevalence/incidence mean</b>	11.7	5.5	13.2	NA

Note: Medians and means are based on current status. Nonsusceptible is defined as amenorrhoeic or abstaining or both.

NA: Not applicable

and mean values for each measure are shown at the bottom of Table 5.14. Estimates of means and medians are based on a smoothed distribution of the current status proportions in each months-since-birth group. The prevalence-incidence mean is obtained by dividing the number of births per month over a 36-month period. On the basis of this measure, women remain nonsusceptible to conception for just about 13 months after a birth, on the average, primarily due to the effects of postpartum amenorrhoea.

Table 5.15 shows median durations of postpartum amenorrhoea, postpartum abstinence, and postpartum nonsusceptibility by selected background characteristics. The median duration of amenorrhoea and of abstinence, and thus of nonsusceptibility, is almost the same for women age 30 and over as for women under age 30. The median durations of amenorrhoea and abstinence are, however, longer for women in rural areas and backward districts than for women in urban areas, possibly due to the longer period of breastfeeding in rural areas and backward districts. Periods of amenorrhoea and nonsusceptibility are also relatively longer for illiterate women than literate women and the duration of postpartum nonsusceptibility is particularly shorter for women who have completed middle school and above. Women belonging to scheduled tribes have the longest period of amenorrhoea and nonsusceptibility compared with women from scheduled castes and other groups, again as a possible consequence of the

<b>Table 5.15 Median duration of postpartum nonsusceptibility by background characteristics</b>				
Median number of months of postpartum amenorrhoea, postpartum abstinence and postpartum nonsusceptibility, by selected background characteristics of mothers for births during the three years preceding the survey, Bihar, 1993				
Background characteristic	Postpartum amenorrhoea	Postpartum abstinence	Postpartum nonsusceptibility	Number of births
<b>Age</b>				
13-29	9.7	2.7	10.6	1929
30-49	10.3	3.9	10.8	707
<b>Residence</b>				
Urban	8.4	2.6	9.0	345
Rural	10.2	3.0	11.1	2291
Backward districts	9.9	3.1	11.1	395
<b>Education</b>				
Illiterate	10.6	3.1	11.6	2070
Lit., < middle complete	8.7	2.2	9.0	274
Middle school complete	2.2	2.1	2.3	77
High school and above	3.2	3.1	5.4	215
<b>Religion</b>				
Hindu	9.7	3.0	10.4	2068
Muslim	10.6	2.5	11.1	526
Other	14.6	8.7	16.5	42
<b>Caste/tribe</b>				
Scheduled caste	10.1	3.6	10.3	256
Scheduled tribe	12.5	2.5	14.8	206
Other	9.8	2.9	10.5	2174
<b>Total</b>	<b>9.9</b>	<b>2.9</b>	<b>10.6</b>	<b>2636</b>

Note: Medians are based on current status.

breastfeeding patterns among tribal groups. There is little difference between backward districts and the population at large.

## 5.9 Menopause

Another factor impinging on fertility is the onset of menopause. Later in life (typically beginning around age 30), the risk of pregnancy begins to decline with age. In the NFHS, menopause is defined as the lack of menstrual period for at least the six months preceding the survey for women who are neither pregnant nor postpartum amenorrhoeic. Women who report that they are menopausal are also included in this group. In Bihar, menopause is relatively rare for women in their thirties, but its incidence increases rapidly after age 40 (Table 5.16). By age 44-45, about 48 percent of women are in menopause. This figure increases to 53 percent for women age 46-47 and 73 percent for women age 48-49. The onset of menopause appears to be slightly later in urban than rural areas, but this result is based on a fairly small number of women in some age groups.

Age	Urban		Rural		Total		Backward districts	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number
30-34	0.3	123	1.8	551	1.5	674	1.3	97
35-39	6.7	116	8.0	452	7.8	568	4.7	74
40-41	23.3	36	17.8	173	18.8	210	25.4	30
42-43	22.2	39	27.4	149	26.3	187	23.1	28
44-45	50.2	36	47.8	162	48.2	197	52.6	26
46-47	(67.7)	26	50.4	160	52.9	186	57.5	28
48-49	70.4	35	72.9	172	72.5	207	74.3	23
Total	20.9	411	22.1	1819	21.9	2230	21.4	306

Note: Percentage menopausal is defined as the percent of nonpregnant, nonamenorrhoeic currently married women whose last menstrual period occurred six or more months prior to the survey or who report that they are menopausal.  
( ) Based on 25-49 unweighted cases.

## CHAPTER 6

### FAMILY PLANNING

Information about knowledge of family planning and the use of contraceptive methods is of practical use to policymakers and programme administrators for formulating policies and strategies. This chapter begins with an appraisal of the knowledge of contraceptive methods and knowledge of 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 nonuse, reasons for discontinuation, and intention to use family planning in the future. The chapter also contains information on exposure to media coverage on family planning and interspousal discussions on family planning, and concludes with an analysis of attitudes toward 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 was first asked to name 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 the method. Thus the woman's knowledge of contraception was measured at three levels: a) methods the woman thinks of on her own (she can name them spontaneously without probing), b) methods she knows when asked specifically about them (she recognizes the method after probing), and c) methods which she has not heard of. Six modern methods (pills, IUDs, injections, condoms, female sterilization and male sterilization) were included, as well as two traditional methods (periodic abstinence, or the rhythm method, and withdrawal). Any other methods mentioned by the respondent, such as herbs and 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 method. Table 6.1 presents the extent of knowledge of ever-married women and currently married women as obtained by spontaneous responses (without any probe) and probed responses.

The knowledge of family planning is nearly universal in Bihar, with 97 and 94 percent of ever-married women in urban and rural areas, respectively, reporting knowledge of at least one modern method of family planning (Figure 6.1). Seventy-eight percent of ever-married women had spontaneous knowledge about any contraceptive method or any modern method in urban areas compared to 54 percent in rural areas. Ever-married and currently married women do not differ much with regard to the knowledge of family planning methods, in all areas under study. Knowledge of contraceptive methods and sources in backward districts is similar to that in rural areas.

Knowledge about sterilization is widespread in Bihar. This is true for male as well as female sterilization. In comparison, the three officially sponsored spacing methods, namely, the IUD, pill and condom, are much less familiar to respondents. The most well known among the

**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 and residence, Bihar, 1993

Method	Ever-married women				Currently married women			
	Knowing method			Knowing source <sup>1</sup>	Knowing method			Knowing source <sup>1</sup>
	Without probe	With probe	Total		Without probe	With probe	Total	
<b>URBAN</b>								
Any method	77.5	19.4	97.0	94.1	78.4	19.0	97.4	94.6
Any modern method	77.5	19.5	97.0	94.1	78.4	19.1	97.4	94.6
Pill	48.1	31.6	79.7	72.9	48.9	31.7	80.7	73.8
Copper T/IUD	39.0	36.5	75.5	68.3	39.5	36.8	76.3	69.1
Injection	5.3	5.8	11.1	7.9	5.5	6.0	11.5	8.3
Condom	43.8	36.2	80.0	71.3	44.5	36.6	81.1	72.5
Female sterilization	72.3	24.4	96.8	93.0	73.0	24.2	97.2	93.5
Male sterilization	54.7	38.6	93.2	88.1	55.5	38.3	93.8	88.8
Any traditional method	18.9	28.3	47.2	NA	19.3	28.2	47.5	NA
Rhythm/periodic abstinence	15.5	25.0	40.5	28.0	15.9	24.7	40.6	28.2
Withdrawal	8.6	11.8	20.4	NA	9.0	12.1	21.2	NA
Other methods	3.0	NA	3.0	NA	3.1	NA	3.1	NA
Number of women	867	867	867	867	828	828	828	828
<b>RURAL</b>								
Any method	54.3	39.8	94.1	87.0	55.3	39.2	94.5	87.5
Any modern method	53.8	40.3	94.1	86.9	54.8	39.7	94.5	87.4
Pill	13.9	38.3	52.2	39.7	14.5	38.8	53.3	40.8
Copper T/IUD	8.2	29.6	37.7	29.7	8.5	30.1	38.6	30.4
Injection	0.3	2.4	2.8	1.5	0.4	2.5	2.9	1.5
Condom	14.0	35.1	49.1	35.9	14.5	35.7	50.1	36.7
Female sterilization	50.0	43.7	93.7	85.7	51.0	43.0	94.1	86.1
Male sterilization	33.9	52.8	86.7	78.7	34.6	52.5	87.0	79.3
Any traditional method	5.5	20.5	26.0	NA	5.6	20.7	26.4	NA
Rhythm/periodic abstinence	3.5	19.8	23.3	14.3	3.6	20.0	23.6	14.5
Withdrawal	1.0	6.2	7.2	NA	1.1	6.3	7.4	NA
Other methods	1.6	NA	1.6	NA	1.6	NA	1.6	NA
Number of women	5082	5082	5082	5082	4858	4858	4858	4858
<b>TOTAL</b>								
Any method	57.7	36.8	94.6	88.0	58.7	36.2	94.9	88.5
Any modern method	57.2	37.3	94.5	88.0	58.2	36.7	94.9	88.5
Pill	18.9	37.3	56.2	44.5	19.5	37.8	57.3	45.6
Copper T/IUD	12.7	30.6	43.2	35.3	13.0	31.1	44.1	36.1
Injection	1.1	2.9	4.0	2.4	1.1	3.1	4.2	2.5
Condom	18.4	35.3	53.6	41.0	18.8	35.8	54.6	41.9
Female sterilization	53.3	40.9	94.2	86.7	54.2	40.3	94.5	87.2
Male sterilization	36.9	50.7	87.7	80.1	37.6	50.4	88.0	80.6
Any traditional method	7.4	21.6	29.1	NA	7.6	21.8	29.4	NA
Rhythm/periodic abstinence	5.2	20.6	25.8	16.3	5.4	20.7	26.0	16.5
Withdrawal	2.2	7.0	9.1	NA	2.3	7.2	9.4	NA
Other methods	1.8	NA	1.8	NA	1.8	NA	1.8	NA
Number of women	5949	5949	5949	5949	5687	5687	5687	5687

**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 and residence, Bihar, 1993

Method	Ever-married women				Currently married women			
	Knowing method			Knowing source <sup>1</sup>	Knowing method			Knowing source <sup>1</sup>
	Without probe	With probe	Total		Without probe	With probe	Total	
<b>BACKWARD DISTRICTS</b>								
<b>Any method</b>	58.6	33.5	92.2	87.2	59.5	33.4	92.9	88.1
<b>Any modern method</b>	58.3	33.8	92.0	87.2	59.1	33.6	92.7	88.0
Pill	18.5	29.4	47.9	37.0	19.0	30.1	49.0	37.9
Copper T/IUD	11.5	24.4	35.9	28.5	11.8	25.1	36.9	29.3
Injection	1.1	2.1	3.1	1.9	1.1	2.1	3.2	1.9
Condom	17.7	27.8	45.5	37.3	18.2	28.3	46.5	38.3
Female sterilization	53.1	38.5	91.5	85.7	53.8	38.4	92.3	86.6
Male sterilization	39.2	46.7	85.9	79.4	39.6	47.1	86.7	80.3
<b>Any traditional method</b>	6.4	12.4	18.8	NA	6.6	12.7	19.3	NA
Rhythm/periodic abstinence	4.0	10.0	14.1	7.0	4.2	10.3	14.5	7.3
Withdrawal	1.8	8.7	10.5	NA	1.8	8.9	10.8	NA
Other methods	1.4	NA	1.4	NA	1.4	NA	1.4	NA
<b>Number of women</b>	<b>887</b>	<b>887</b>	<b>887</b>	<b>887</b>	<b>851</b>	<b>851</b>	<b>851</b>	<b>851</b>

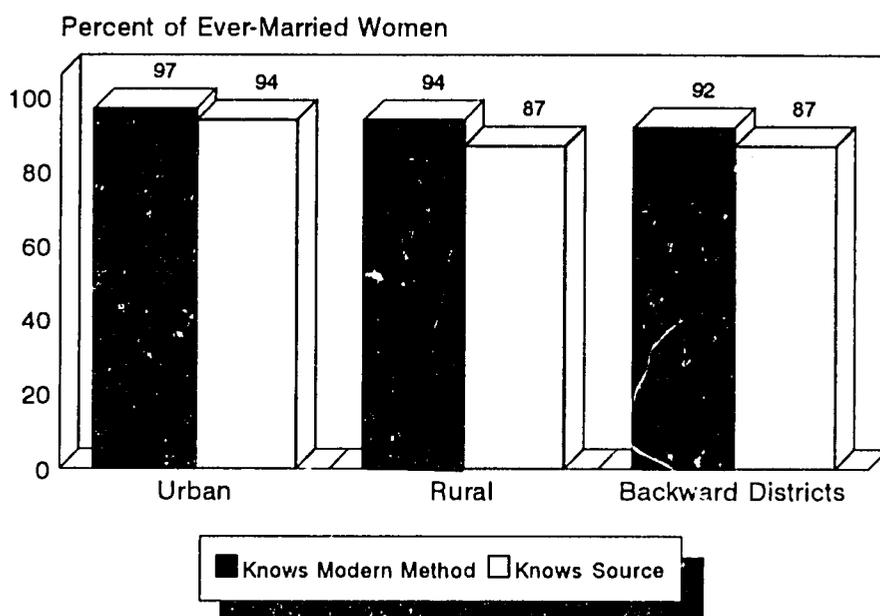
NA: Not applicable  
<sup>1</sup>For modern methods, the source refers to a place that a person could go to get the method. For rhythm/periodic abstinence, the source refers to a source of advice on how to use periodic abstinence.

spacing methods are condoms and pills, with 54 and 56 percent of ever-married women reporting knowledge of these methods. Only 19 percent of women spontaneously know about the pill and 18 percent about the condom. Knowledge of the IUD was reported by 43 percent of ever-married women and injections were reported by 4 percent. Traditional methods of contraception are generally less well known than modern methods in Bihar; 29 percent of women report knowledge of these methods, and periodic abstinence is better known (26 percent) than the withdrawal method (9 percent). The table reveals that probing was often needed to elicit complete knowledge about contraceptive methods, particularly traditional methods.

Urban-rural differentials in the level of knowledge are mainly confined to spacing methods. As one would expect, a larger proportion of urban women have knowledge of modern spacing methods, but sterilization is known almost as well in rural areas as in urban areas. A little more than one-quarter of women in rural areas reported knowledge of any traditional method, compared with about 47 percent of women in urban areas.

Table 6.1 also provides information about the extent of knowledge about sources of contraceptive methods. The question about the source of a method was asked only of those women who knew about the method. Knowledge about the sources of contraceptives is high, with 88 percent of ever-married women knowing where to obtain at least one modern method of family planning. Women are most knowledgeable about the source of sterilization. Spacing methods are not only less well known, but knowledge about their source is also more limited.

**Figure 6.1**  
**Knowledge of Modern Contraceptive**  
**Methods and Sources by Residence**



NFHS, Bihar, 1993

For example, only 35 percent of ever-married women know a source for obtaining IUDs, 41 percent for obtaining condoms and 45 percent for obtaining pills. Urban women rank higher than rural women in the knowledge of sources of all methods, but particularly spacing methods.

Table 6.2 shows differentials in the level of knowledge of modern contraceptive methods and sources of methods among currently married women. The differentials are shown according to background characteristics such as age and education of the woman, religion and caste/tribe. Regarding the level of knowledge of methods, the differentials are only marginal. In terms of respondent's age, the level of knowledge exceeds 94 percent for women in every age group except age 13-19. The level of knowledge of at least one modern method of contraception increases with the level of education, although the differences are not large. Even among illiterate women, 94 percent knew at least one modern method. Knowledge about the source of a modern method, however, shows more variation, increasing by age and education. Contraceptive sources are relatively less well known among women of other religions than Hindu or Muslim women, and among women from scheduled tribes than scheduled castes or others.

## 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

**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, Bihar, 1993

Background characteristic	Knows any method	Knows any modern method <sup>1</sup>	Knows source for any modern method	Number of women
<b>Age</b>				
13-14	(74.1)	(74.1)	(58.3)	29
15-19	90.2	90.2	81.8	745
20-24	94.6	94.6	86.8	1206
25-29	96.2	96.1	89.4	1104
30-34	96.6	96.6	91.3	916
35-39	96.8	96.7	92.3	667
40-44	96.1	96.1	91.0	527
45-49	94.0	94.0	89.2	493
<b>Residence</b>				
Urban	97.4	97.4	94.6	828
Rural	94.5	94.5	87.4	4858
Backward districts	92.9	92.7	88.0	851
<b>Education</b>				
Illiterate	93.8	93.8	86.1	4420
Lit., < middle complete	97.6	97.6	94.3	611
Middle school complete	99.8	99.8	97.2	154
High school and above	99.8	99.8	99.5	472
<b>Religion</b>				
Hindu	95.2	95.2	89.3	4703
Muslim	94.9	94.9	85.2	887
Other	78.6	78.6	76.7	97
<b>Caste/tribe</b>				
Scheduled caste	96.2	96.2	87.6	573
Scheduled tribe	83.2	83.2	75.7	450
Other	95.9	95.9	89.8	4664
<b>Total</b>	<b>94.9</b>	<b>94.9</b>	<b>88.5</b>	<b>5687</b>

( ) Based on 25-49 unweighted cases

<sup>1</sup>Includes pill, copper I/IUD, injections, condoms, female sterilization, and male sterilization.

by asking 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 and residence separately for ever-married and currently married women.

Although 95 percent of the women have knowledge of at least one method of family planning, the practice of contraception is low in Bihar, with only 25 percent of ever-married women and 26 percent of currently married women having ever used a method. Modern methods have been used by 23 to 24 percent of women and traditional methods by 4 percent. By far, the most commonly accepted method is female sterilization, having been used by 17 percent of currently married women. Condoms and pills have each been used by 3 percent of currently married women. As expected, ever use of modern methods is higher in urban areas (45 percent) than in rural areas (20 percent) among currently married women (see Figure 6.2). Every method including traditional methods has been used by a smaller proportion of 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, according to residence, Bihar, 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
<b>URBAN</b>													
<b>Ever-married women</b>													
15-19	10.2	8.0	4.0	1.1	1.1	3.6	--	--	5.1	4.0	1.8	--	68
20-24	24.9	21.0	8.3	4.3	0.5	7.8	4.4	0.5	5.8	5.1	1.2	0.5	162
25-29	44.2	41.7	5.6	4.5	0.9	14.6	22.5	1.4	8.7	5.2	3.9	0.9	165
30-34	65.9	59.8	8.0	7.1	0.5	11.2	38.4	2.4	13.0	9.5	5.9	0.5	141
35-39	67.1	64.3	9.2	2.5	--	10.3	46.2	3.9	11.7	8.2	3.4	1.7	131
40-44	56.5	52.2	5.0	0.3	--	4.3	36.3	10.6	8.3	4.7	4.7	1.4	105
45-49	47.4	44.9	1.6	0.8	--	8.4	32.5	5.7	5.7	4.0	3.2	--	92
Total	46.6	43.0	6.4	3.4	0.4	9.3	26.2	3.2	8.6	6.0	3.5	0.8	867
<b>Currently married women</b>													
15-19	10.4	8.2	4.1	1.1	1.1	3.7	--	--	5.2	4.1	1.8	--	66
20-24	25.3	21.3	8.4	4.3	0.5	7.9	4.4	0.5	5.9	5.1	1.2	0.5	160
25-29	45.1	42.5	5.7	4.6	0.9	14.9	22.9	1.4	8.8	5.3	4.0	0.9	162
30-34	67.5	61.2	8.2	7.3	0.5	11.4	39.3	2.4	13.3	9.7	6.0	0.5	138
35-39	70.3	67.4	9.6	2.7	--	10.8	48.5	4.0	12.2	8.6	3.6	1.8	125
40-44	62.5	58.5	5.6	0.4	--	4.8	40.7	11.9	8.5	4.5	5.3	1.6	94
45-49	51.0	48.2	0.9	0.9	--	8.6	36.8	5.5	6.4	4.6	3.7	--	82
Total	48.4	44.8	6.6	3.6	0.5	9.6	27.4	3.3	8.9	6.2	3.7	0.8	828
<b>RURAL</b>													
<b>Ever-married women</b>													
13-14	--	--	--	--	--	--	--	--	--	--	--	--	27
15-19	3.4	1.8	0.6	0.1	0.1	0.9	0.3	--	1.8	1.5	0.8	--	687
20-24	10.3	7.3	2.0	0.7	--	2.8	2.8	0.1	4.1	3.4	1.2	0.2	1064
25-29	23.7	20.7	2.9	0.9	--	3.4	14.5	0.2	4.3	3.4	1.1	--	969
30-34	33.6	30.6	2.0	1.0	0.2	2.1	26.4	0.8	3.8	2.4	0.6	0.8	805
35-39	33.3	31.8	2.5	0.2	--	1.7	27.6	1.1	3.4	3.0	0.6	--	581
40-44	31.4	30.1	1.5	0.5	--	1.6	25.8	2.8	1.7	1.4	0.6	--	474
45-49	25.5	24.4	1.4	0.5	--	0.3	18.7	4.5	2.4	1.4	0.7	0.4	476
Total	21.6	19.3	1.9	0.6	--	2.1	14.9	1.0	3.3	2.5	0.9	0.2	5082
<b>Currently married women</b>													
13-14	--	--	--	--	--	--	--	--	--	--	--	--	27
15-19	3.5	1.8	0.6	0.1	0.1	0.9	0.3	--	1.8	1.5	0.8	--	679
20-24	10.4	7.4	2.1	0.7	--	2.9	2.9	0.1	4.2	3.4	1.2	0.2	1046
25-29	24.4	21.3	3.0	0.9	--	3.5	14.9	0.2	4.4	3.5	1.1	--	942
30-34	34.7	31.6	2.0	1.0	0.2	2.2	27.3	0.9	3.9	2.4	0.6	0.8	778
35-39	35.1	33.8	2.6	0.2	--	1.5	29.6	1.2	3.1	2.7	0.7	--	552
40-44	33.9	32.5	1.6	0.5	--	1.7	28.2	2.6	1.9	1.5	0.7	--	434
45-49	29.0	28.2	1.6	0.6	--	0.4	21.7	5.1	2.4	1.6	0.8	0.1	411
Total	22.4	20.1	2.0	0.6	--	2.1	15.6	1.0	3.3	2.6	0.9	0.2	4858

**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, according to residence, Bihar, 1993

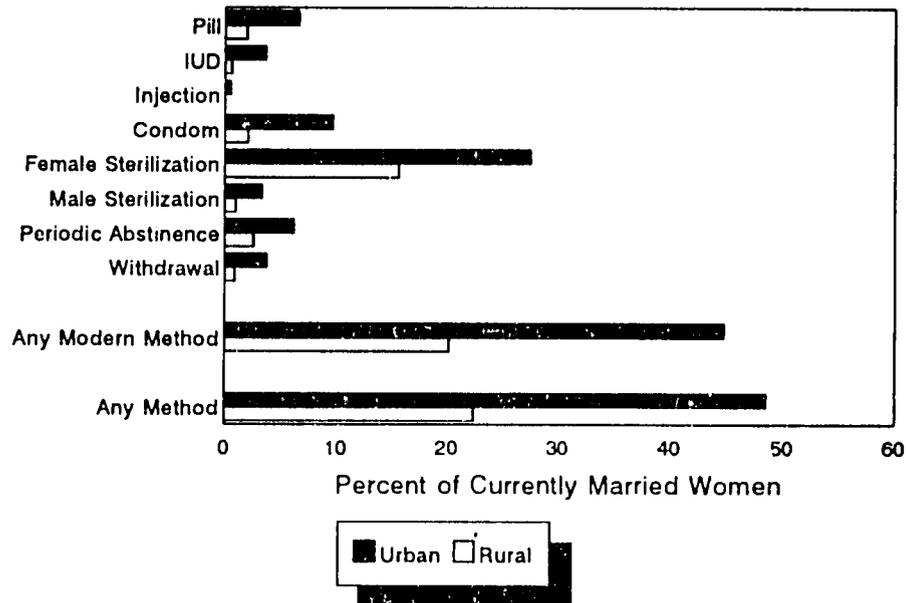
Age	Any method	Any modern method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods	Number of women
<b>TOTAL</b>													
<b>Ever-married women</b>													
13-14	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	29
15-19	4.0	2.4	0.9	0.2	0.2	1.1	0.3	--	2.1	1.7	0.9	--	755
20-24	12.2	9.1	2.9	1.2	0.1	3.5	3.0	0.2	4.3	3.6	1.2	0.2	1226
25-29	26.7	23.7	3.3	1.4	0.2	5.0	15.6	0.4	4.9	3.7	1.5	0.1	1134
30-34	38.4	35.0	2.9	1.9	0.2	3.5	28.2	1.1	5.1	3.4	1.4	0.8	945
35-39	39.5	37.7	3.7	0.6	--	3.3	31.0	1.6	4.9	4.0	1.2	0.3	712
40-44	35.9	34.1	2.1	0.4	--	2.1	27.7	4.2	2.9	2.0	1.4	0.3	579
45-49	29.1	27.8	1.4	0.6	--	1.6	21.0	4.7	2.9	1.8	1.1	0.4	568
Total	25.2	22.7	2.6	1.0	0.1	3.1	16.5	1.3	4.1	3.1	1.2	0.3	5949
<b>Currently married women</b>													
13-14	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	29
15-19	4.1	2.4	0.9	0.2	0.2	1.1	0.3	--	2.1	1.7	0.9	--	745
20-24	12.4	9.2	2.9	1.2	0.1	3.5	3.1	0.2	4.4	3.7	1.2	0.2	1206
25-29	27.4	24.4	3.4	1.5	0.2	5.1	16.1	0.4	5.0	3.8	1.6	0.1	1104
30-34	39.6	36.1	3.0	2.0	0.2	3.6	29.1	1.1	5.3	3.5	1.4	0.8	916
35-39	41.7	40.0	3.9	0.6	--	3.3	33.1	1.7	4.8	3.8	1.2	0.3	667
40-44	39.0	37.1	2.3	0.5	--	2.3	30.4	4.2	3.0	2.0	1.5	0.3	527
45-49	32.7	31.5	1.5	0.7	--	1.7	24.2	5.2	3.0	2.1	1.2	0.1	493
Total	26.2	23.7	2.7	1.1	0.1	3.2	17.3	1.3	4.1	3.1	1.3	0.3	5687
<b>BACKWARD DISTRICTS</b>													
<b>Ever-married women</b>													
15-19	4.4	3.9	0.9	0.4	0.4	2.6	0.4	--	1.4	1.2	0.8	--	145
20-24	9.1	6.5	2.3	0.5	--	2.7	2.5	--	3.4	1.5	2.1	0.3	188
25-29	26.5	24.0	3.7	0.8	0.2	3.9	17.3	0.3	5.9	3.4	3.6	--	162
30-34	33.7	32.1	4.5	1.7	--	3.2	25.0	2.4	2.6	1.7	0.8	0.3	137
35-39	34.7	33.4	1.6	1.3	--	0.8	29.5	2.0	2.3	1.5	0.8	--	93
40-44	36.4	36.4	1.3	1.3	--	--	29.5	4.8	1.2	1.2	0.6	--	82
45-49	26.9	26.2	0.7	1.4	--	0.4	19.7	4.6	2.9	0.7	2.2	0.7	74
Total	22.0	20.4	2.4	0.9	0.1	2.3	15.1	1.5	3.0	1.7	1.7	0.2	887
<b>Currently married women</b>													
15-19	4.5	4.0	1.0	0.4	0.4	2.7	0.4	--	1.5	1.2	0.8	--	142
20-24	9.2	6.5	2.4	0.5	--	2.7	2.6	--	3.4	1.5	2.2	0.3	186
25-29	27.0	24.5	3.8	0.8	0.2	4.0	17.7	0.3	6.0	3.5	3.7	--	159
30-34	35.0	33.3	4.7	1.7	--	3.1	26.2	2.5	2.7	1.8	0.9	0.3	131
35-39	36.3	34.9	1.7	1.4	--	0.8	30.9	2.1	2.4	1.6	0.8	--	89
40-44	39.5	39.5	1.4	1.4	--	--	32.4	4.8	1.3	1.3	0.6	--	75
45-49	30.7	29.8	0.8	1.7	--	0.5	23.1	4.5	3.4	0.8	2.5	0.8	63
Total	22.7	21.1	2.5	1.0	0.1	2.4	15.7	1.4	3.1	1.8	1.8	0.2	851

Note: Urban total includes 3 women age 13-14 and backward districts total includes 6 women age 13-14, who are not shown separately.

(-) Based on 25-49 unweighted cases

-- Less than 0.05 percent

Figure 6.2  
Ever Use of Contraception by  
Residence



NFHS, Bihar, 1993

in rural areas than in urban areas. The contraceptive use pattern in backward districts resembles that of rural areas in the state.

In terms of differences by age, more than one-third of ever-married women and currently married women age 30-34 and 40-44 have ever used a modern method. Ever use of contraceptives is highest in the age group 35-39. Only 2 percent of those age 15-19 have ever used a modern method. Among modern methods, the condom is the most used method until age 25, after which female sterilization is the most popular method.

The age pattern of ever use of family planning in urban and rural areas is similar to the state pattern in which ever use of contraception peaks in the 35-39 age group. In both urban and rural areas, the condom is the most popular method until age 25 and female sterilization is the most popular at or above age 25. In the backward districts the highest contraceptive use rate is in the age group 40-44.

### Current Use of Family Planning Methods

Current use of contraception in Bihar is low, with only 23 percent of currently married women practising family planning; 22 percent using modern methods and another 2 percent

using traditional methods (Table 6.4)<sup>1</sup>. Most of the currently married women who have ever used contraception are currently using a method. In a large-scale Baseline Survey on Fertility, Mortality and Related Factors in Bihar covering 10,721 households during 1980-81, only 9 percent of currently married women age 15-49 were using a contraceptive method, with 22 percent in urban and 7 percent in rural areas. Eighty-five percent of all current users had adopted female or male sterilization (Srinivasan et al., 1982). Another set of statistics on current use is available from the Third All India Survey on Family Planning Practices in India, conducted in 1988-89 (Operations Research Group, 1990). That survey (which covered currently married women age 15-44 only) found that 30 percent of Bihar women were using some method of contraception, with 25 percent using modern methods (female or male sterilization accounting for 21 of the 25 percent) and 5 percent using traditional methods. When the NFHS sample is restricted to match the All India Survey's sample, the current use rate is 23 percent, with 21 percent using modern methods (female or male sterilization accounting for almost 19 of the 21 percent). Whether these differences reflect an actual decline in contraceptive use between 1988-89 and 1993 or instead result from sampling or other sources of error is unknown.

Table 6.4 shows that female sterilization is the most popular contraceptive method in Bihar, as in most other Indian states. Female sterilization is being used by 17 percent of currently married women, accounting for 75 percent of contraceptive prevalence. The preponderance of terminal methods is commensurate with the emphasis on sterilization in the Indian family planning programme. Male sterilization, pills, condoms and periodic abstinence

**Table 6.4 Current use of contraception**

Percent distribution of currently married women by contraceptive method currently used, according to age and residence, Bihar, 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
<b>URBAN</b>															
15-19	3.7	2.5	1.1	--	--	1.4	--	--	1.1	1.1	--	--	96.3	100.0	66
20-24	16.4	13.6	3.1	1.4	0.5	3.7	4.4	0.5	2.8	1.9	--	0.9	83.6	100.0	160
25-29	38.3	35.8	2.3	1.8	--	7.4	22.9	1.4	2.5	0.7	1.4	0.5	61.7	100.0	162
30-34	62.2	55.2	2.4	4.0	0.5	6.5	39.3	2.4	7.0	2.6	3.8	0.5	37.8	100.0	138
35-39	67.7	64.7	4.8	1.5	--	6.0	48.5	4.0	3.0	2.4	--	0.6	32.3	100.0	125
40-44	58.5	55.3	--	0.4	--	2.4	40.7	11.9	3.2	0.8	1.6	0.8	41.5	100.0	94
45-49	44.2	42.3	--	--	--	--	36.8	5.5	1.8	1.8	--	--	55.8	100.0	82
15-44	42.4	39.0	2.5	1.7	0.2	5.0	26.5	3.0	3.4	1.6	1.2	0.6	57.6	100.0	744
15-49	42.6	39.3	2.3	1.6	0.2	4.5	27.5	3.3	3.3	1.7	1.1	0.5	57.4	100.0	826
13-49	42.5	39.2	2.3	1.6	0.2	4.5	27.4	3.3	3.3	1.7	1.1	0.5	57.5	100.0	828

<sup>1</sup> In the NFHS, no specific reference period was defined for current use. The woman was asked whether she or her husband was currently using a method.

**Table 6.4 Current use of contraception**

Percent distribution of currently married women by contraceptive method currently used, according to age and residence, Bihar, 1993

Age	Any method	Any modern method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods	Not using any method	Total per cent	Number of women
<b>RURAL</b>															
13-14	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(100.0)	100.0	27
15-19	2.6	1.2	0.5	0.1	0.1	0.3	0.3	--	1.3	0.7	0.7	--	97.4	100.0	679
20-24	6.5	5.3	1.1	0.6	--	0.7	2.9	0.1	1.2	1.0	0.2	--	93.5	100.0	1046
25-29	21.0	19.0	1.5	0.7	--	1.7	14.9	0.2	1.9	1.4	0.5	--	79.0	100.0	942
30-34	31.2	30.0	0.5	0.4	--	1.0	27.3	0.9	1.2	0.8	0.2	0.2	68.8	100.0	778
35-39	33.6	32.3	1.2	0.1	--	0.3	29.6	1.2	1.3	0.7	0.7	--	66.4	100.0	542
40-44	32.2	31.5	0.3	--	--	0.3	28.2	2.6	0.7	0.3	0.3	--	67.8	100.0	434
45-49	27.4	27.3	0.4	0.1	--	--	21.7	5.1	0.1	--	--	0.1	72.6	100.0	411
15-44	19.2	17.8	0.9	0.4	--	0.8	15.1	0.6	1.3	0.9	0.4	--	80.8	100.0	4420
15-49	19.9	18.6	0.9	0.4	--	0.7	15.6	1.0	1.2	0.8	0.4	--	80.1	100.0	4831
13-49	19.8	18.5	0.9	0.4	--	0.7	15.6	1.0	1.2	0.8	0.4	--	80.2	100.0	4858
<b>TOTAL</b>															
13-14	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(100.0)	100.0	29
15-19	2.7	1.4	0.6	0.1	0.1	0.4	0.3	--	1.3	0.7	0.6	--	97.3	100.0	745
20-24	7.8	6.4	1.3	0.7	0.1	1.1	3.1	0.2	1.4	1.1	0.2	0.1	92.2	100.0	1206
25-29	23.5	21.5	1.7	0.9	--	2.5	16.1	0.4	2.0	1.3	0.7	0.1	76.5	100.0	1104
30-34	35.8	33.8	0.8	0.9	0.1	1.8	29.1	1.1	2.0	1.1	0.7	0.2	64.2	100.0	916
35-39	40.0	38.4	1.9	0.3	--	1.3	33.1	1.7	1.7	1.0	0.6	0.1	60.0	100.0	667
40-44	36.9	35.7	0.3	0.1	--	0.7	30.4	4.2	1.1	0.4	0.6	0.1	63.1	100.0	527
45-49	30.2	29.8	0.3	0.1	--	--	24.2	5.2	0.4	0.3	--	0.1	69.8	100.0	493
15-44	22.5	20.9	1.2	0.6	--	1.4	16.7	1.0	1.6	1.0	0.5	0.1	77.5	100.0	5165
15-49	23.2	21.7	1.1	0.5	--	1.3	17.4	1.3	1.5	0.9	0.5	0.1	76.8	100.0	5657
13-49	23.1	21.6	1.1	0.5	--	1.3	17.3	1.3	1.5	0.9	0.5	0.1	76.9	100.0	5687
<b>BACKWARD DISTRICTS</b>															
15-19	3.4	3.4	0.2	0.4	0.4	2.0	0.4	--	--	--	--	--	96.6	100.0	142
20-24	6.4	5.3	1.3	--	--	1.4	2.6	--	1.0	0.5	0.6	--	93.6	100.0	186
25-29	21.8	20.6	1.6	0.3	--	0.7	17.7	0.3	1.2	0.9	0.3	--	78.2	100.0	159
30-34	30.5	30.0	1.1	0.3	--	--	26.2	2.5	0.5	0.5	--	--	69.5	100.0	131
35-39	35.6	34.2	0.4	0.8	--	--	30.9	2.1	1.4	0.6	0.8	--	64.4	100.0	89
40-44	37.6	37.6	--	0.4	--	--	32.4	4.8	--	--	--	--	62.4	100.0	75
45-49	29.3	28.5	--	0.8	--	--	23.1	4.5	0.8	--	--	0.8	70.7	100.0	63
15-44	19.3	18.6	0.9	0.3	0.1	0.8	15.3	1.2	0.7	0.4	0.3	--	80.7	100.0	781
15-49	20.1	19.3	0.8	0.3	0.1	0.8	15.9	1.4	0.7	0.4	0.3	0.1	79.9	100.0	845
13-49	19.9	19.2	0.8	0.3	0.1	0.8	15.7	1.4	0.7	0.4	0.3	0.1	80.1	100.0	851

Note: Urban total includes 3 women age 13-14 and backward districts total includes 6 women age 13-14, who are not shown separately.  
 ( ) Based on 25-49 unweighted cases  
 -- Less than 0.05 percent

are each used by 1 percent of currently married women. No other method of family planning is being used by more than a half of a percent of currently married women at the time of the survey.

The current use of contraception in urban areas (43 percent) is more than double that in rural areas (20 percent). The current use of every single method of family planning, including terminal methods, is higher in urban areas than in rural areas. However, the contribution of male and female sterilization to total contraceptive use among women age 15-49 is larger in rural areas (83 percent) than in urban areas (72 percent).

The level of contraceptive use varies with the age of women, increasing from less than 3 percent for currently married women age 15-19 to a high of 40 percent for women age 35-39, and decreasing thereafter. In the two highest fertility age groups (20-24 and 25-29), the contraceptive prevalence rates are only 8 and 24 percent, respectively. Among modern methods, female sterilization is by far the most used method at or above age 25 and its use peaks in the age group 35-39 (33 percent). The use rate of most of the modern methods, especially female sterilization, shows an expected curvilinear relationship with age. The current use of contraception in backward districts is very similar to that in rural areas of the state.

### **Socioeconomic Differentials in Current Use of Family Planning**

Table 6.5 shows differentials in current contraceptive use. The greatest differentials in current use are by education and religion of women. A strong positive relationship exists between education and the level of current use. Differentials in current use by education are most evident between illiterate women (18 percent) and women who have completed high school (46 percent). This same association exists in the use of modern methods, with greatest use among women who have completed high school (Figure 6.3). Although sterilization is the most popular method among all women, it is more popular among literate women who have not completed high school than among those who have. The opposite is true of modern spacing methods which are used at a higher rate among women who have completed high school than among those who have not.

Religious differentials in the prevalence of contraception are also quite substantial. The prevalence rate for modern method use is lowest among Muslims at only 6 percent. The prevalence rate for modern method use for Hindus and other religions (25 percent) is four times as high as the rate for Muslims; moreover, the religious differentials persist after controlling for the education of the woman (data not shown). The practice of family planning is low among both women from scheduled castes and scheduled tribes compared to other women. Only 15 percent of scheduled caste women and 16 percent of scheduled tribe women use any method of family planning, and sterilization accounts for 85 percent of their contraceptive use. The use of modern spacing methods is almost nonexistent among both scheduled caste and scheduled tribe women, although the condom is used by 1 percent of women from the scheduled tribes.

Table 6.5 also shows the differentials in current use by the number and sex of living children. A positive association exists between the number of living children a woman has and current use of contraception. Contraceptive use increases steadily from only 2 percent for women who have no living children to 33 percent for women with 4 or more living children.

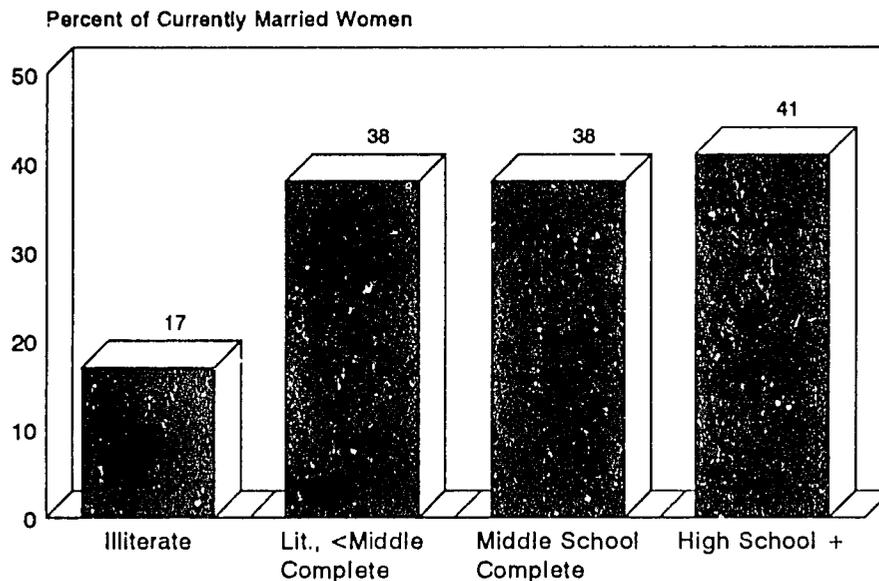
**Table 6.5 Current use by background characteristics**

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

Background characteristic	Any method	Any modern method	Pill	IUD	Injection	Condom	Female sterilization	Male sterilization	Any trad. method	Periodic abstinence	Withdrawal	Other methods	Not using any method	Total percent	Number of women
<b>Residence</b>															
Urban	42.5	39.2	2.3	1.6	0.2	4.5	27.4	3.3	3.3	1.7	1.1	0.5	57.5	100.0	826
Rural	19.8	18.5	0.9	0.4	--	0.7	15.6	1.0	1.2	0.8	0.4	--	80.2	100.0	4858
Backward districts	19.9	19.2	0.8	0.3	0.1	0.8	15.7	1.4	0.7	0.4	0.3	0.1	80.1	100.0	851
<b>Education</b>															
Illiterate	17.6	16.6	0.6	0.1	--	0.4	14.6	0.9	1.1	0.7	0.3	--	82.4	100.0	4420
Literate, < middle	39.2	37.6	1.6	1.1	0.2	2.2	29.5	3.0	1.6	1.2	0.3	0.1	60.8	100.0	611
Middle complete	42.4	37.9	2.9	0.5	--	2.5	29.3	2.7	4.5	2.5	2.0	--	57.6	100.0	184
High school and above	45.7	41.0	4.6	3.5	0.2	8.1	21.8	2.8	4.7	1.9	1.9	1.0	54.3	100.0	472
<b>Religion</b>															
Hindu	26.0	24.5	1.1	0.6	--	1.3	19.9	1.5	1.5	0.8	0.5	0.1	74.0	100.0	4703
Muslim	7.5	5.6	0.6	0.2	--	1.0	3.7	0.1	1.9	1.4	0.5	--	92.5	100.0	887
Other	25.7	24.2	2.6	0.8	--	4.7	13.1	3.0	1.5	0.8	--	0.8	74.3	100.0	97
<b>Caste/tribe</b>															
Scheduled caste	14.7	13.5	0.3	0.6	--	0.1	11.9	0.6	1.2	0.9	0.3	--	85.3	100.0	573
Scheduled tribe	16.4	15.4	0.3	--	--	1.0	13.2	0.8	1.0	0.7	--	0.3	83.6	100.0	450
Other	24.7	23.1	1.2	0.6	--	1.5	18.3	1.5	1.6	0.9	0.6	0.1	75.3	100.0	4664
<b>Number and sex of living children</b>															
None	1.7	1.3	0.3	--	--	0.5	0.3	0.2	0.5	0.1	0.4	--	98.3	100.0	915
1 child	7.9	5.8	1.3	1.0	0.1	1.8	1.3	0.2	2.1	1.3	0.7	0.1	92.1	100.0	862
1 son	7.8	5.8	0.6	1.1	0.2	2.2	1.7	--	2.0	1.2	0.6	0.2	92.2	100.0	469
No sons	8.0	5.7	2.1	0.9	--	1.4	0.9	0.5	2.2	1.5	0.8	--	92.0	100.0	394
2 children	24.7	21.0	2.2	1.0	0.1	2.8	14.0	1.0	3.7	2.2	1.2	0.4	75.3	100.0	994
2 sons	34.5	31.8	2.9	2.0	--	3.3	22.6	1.1	2.6	0.6	1.8	0.2	65.5	100.0	296
1 son	23.1	18.6	1.2	0.6	0.1	2.4	13.2	1.0	4.5	3.3	0.9	0.3	76.9	100.0	489
No sons	14.7	11.4	3.4	0.4	--	3.2	3.5	0.9	3.4	1.8	0.9	0.7	85.3	100.0	209
3 children	34.3	33.2	0.6	0.3	--	1.3	28.3	2.6	1.2	0.8	0.2	0.2	65.7	100.0	999
3 sons	38.0	37.7	1.1	--	--	--	35.3	1.3	0.3	--	0.3	--	62.0	100.0	140
2 sons	46.9	45.7	0.9	--	--	1.6	39.2	3.9	1.2	1.2	--	--	53.1	100.0	437
1 son	24.7	23.1	0.2	1.0	--	1.5	18.3	2.1	1.6	0.7	0.5	0.5	75.3	100.0	327
No sons	4.0	3.2	--	--	--	1.6	1.6	--	0.8	0.8	--	--	96.0	100.0	94
4+ children	33.4	32.6	1.0	0.4	--	0.6	28.5	1.9	0.8	0.5	0.3	--	66.6	100.0	1917
2+ sons	36.3	35.5	0.9	0.4	--	0.5	31.4	2.3	0.8	0.5	0.2	--	63.7	100.0	1537
1 son	23.9	22.8	1.7	0.8	0.2	0.7	18.9	0.5	1.1	0.6	0.5	--	76.1	100.0	326
No sons	8.9	7.5	--	--	--	1.4	6.2	--	1.4	--	1.4	--	91.1	100.0	54
<b>Total</b>	<b>23.1</b>	<b>21.6</b>	<b>1.1</b>	<b>0.5</b>	<b>--</b>	<b>1.3</b>	<b>17.3</b>	<b>1.3</b>	<b>1.5</b>	<b>0.9</b>	<b>0.5</b>	<b>0.1</b>	<b>76.9</b>	<b>100.0</b>	<b>5687</b>

-- Less than 0.05 percent

**Figure 6.3**  
**Current Use of Modern Contraceptive**  
**Methods by Education**



NFHS, Bihar, 1993

The same trend is evident in the use of sterilization. The data on the prevalence rate by the sex composition of living children indicate the existence of son preference, particularly at higher parity (two or more living children) where the current use of family planning is lowest for women with no sons and highest for women with two or more sons. As expected, sterilization is a particularly unpopular method for women who have no sons.

### **Number of Children at First Use of Contraception**

In order to examine the timing of initial family planning use, the NFHS included a question on how many living children women have when they first use a method. The distribution of ever-married women according to the number of living children they have when they use contraception for the first time is shown in Table 6.6. Overall, only 6 percent of contraceptors (2 percent of all ever-married women) initiate the use of contraception before having any children and another 11 percent start after the first child. Only 33 percent of those who had ever used family planning initiate use when they have fewer than three living children. The largest proportion (44 percent) of the women who have ever used contraception start using a method only after having four or more children. As noted earlier, the mainstay of the family planning programme is sterilization and women tend to accept that method only after having a completed family size which is large and preferably consists of two or more sons. The pattern of first acceptance at relatively high parities indicates that family planning has a smaller demographic impact than it would if contraceptive use were initiated earlier. Table 6.6, however, does show a gradual shift towards initiating use at lower parities. There is a tendency

**Table 6.6 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 and residence, Bihar, 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+			
<b>URBAN</b>									
15-19	89.8	4.4	3.6	--	--	--	2.2	100.0	68
20-24	75.1	6.9	9.1	5.3	2.7	0.5	0.5	100.0	162
25-29	55.8	5.4	12.2	7.1	8.9	10.7	--	100.0	165
30-34	33.0	2.7	11.8	14.0	15.9	22.6	--	100.0	141
35-39	31.2	2.9	6.8	13.4	16.4	29.4	--	100.0	131
40-44	42.8	--	2.8	3.2	16.8	34.4	--	100.0	105
45-49	51.8	0.8	3.2	6.8	8.0	29.3	--	100.0	92
Total	52.8	3.6	7.9	7.7	10.1	17.5	0.3	100.0	867
<b>RURAL</b>									
13-14	(100.0)	(--)	(--)	(--)	(--)	(--)	(--)	100.0	27
15-19	96.6	1.6	1.5	0.3	--	--	0.1	100.0	687
20-24	89.7	2.1	3.6	2.4	1.5	0.5	0.1	100.0	1064
25-29	76.3	0.8	2.8	6.8	7.1	5.9	0.3	100.0	969
30-34	66.0	0.8	0.9	5.5	11.7	14.9	0.2	100.0	805
35-39	65.7	0.8	1.1	3.2	8.1	20.7	0.3	100.0	581
40-44	68.5	0.4	1.0	2.4	4.6	23.2	--	100.0	474
45-49	74.1	0.6	1.0	1.5	3.2	19.6	--	100.0	476
Total	78.2	1.1	1.9	3.4	5.2	10.0	0.2	100.0	5082
<b>TOTAL</b>									
13-14	(100.0)	(--)	(--)	(--)	(--)	(--)	(--)	100.0	29
15-19	96.0	1.8	1.7	0.3	--	--	0.3	100.0	755
20-24	87.8	2.7	4.3	2.8	1.6	0.5	0.2	100.0	1226
25-29	73.3	1.5	4.1	6.8	7.4	6.6	0.3	100.0	1134
30-34	61.1	1.1	2.5	6.8	12.3	16.0	0.2	100.0	945
35-39	59.3	1.2	2.2	5.1	9.6	22.3	0.2	100.0	712
40-44	63.8	0.3	1.3	2.5	6.8	25.2	--	100.0	579
45-49	70.5	0.7	1.3	2.3	4.0	21.2	--	100.0	568
Total	74.5	1.5	2.8	4.1	5.9	11.1	0.2	100.0	5949
<b>BACKWARD DISTRICTS</b>									
15-19	95.6	2.3	1.4	0.4	--	--	0.4	100.0	145
20-24	90.9	1.3	3.9	1.8	1.5	0.6	--	100.0	188
25-29	73.5	--	2.9	6.4	8.9	7.2	1.0	100.0	162
30-34	66.0	0.5	1.5	4.0	9.5	18.1	0.3	100.0	137
35-39	65.3	0.4	0.6	0.9	8.4	24.5	--	100.0	93
40-44	62.7	0.4	--	1.3	7.9	27.8	--	100.0	82
45-49	72.6	--	--	1.6	5.4	20.3	--	100.0	74
Total	77.9	0.8	1.9	2.6	5.5	11.1	0.3	100.0	887

Note: Urban total includes 3 women age 13-14 and backward districts total includes 6 women age 13-14, who are not shown separately.

( ) Based on 25-49 unweighted cases

-- Less than 0.05 percent

for younger women to initiate family planning use at lower parities. For example, only 4 percent of ever users in the age group 40-44 accept a method for the first time in the early stage of reproductive life (when they have fewer than two children), whereas 58 percent of ever users age 20-24 accept a method for the first time when they have fewer than two children. In comparison to rural women, urban women start using contraception at earlier parities. The pattern of use by number of living children in backward districts is similar to rural areas.

### Problems in the Current Use of Family Planning

Table 6.7 deals with the problems faced by women while using the pill, IUD and sterilization. Most of the women using the first two methods did not report any problems. Among the specific problems listed in the case of pill users, headache, white discharge, dizziness and body ache are most common. In the case of the IUD, excessive bleeding (9 percent) and backache (5 percent) are reported as problems. The proportion of women complaining of a problem is relatively higher in the case of female sterilization, the most commonly used method.

<u>Table 6.7 Problems with current method</u>		
Percentage of current users of pills, copper T/IUD and female/male sterilization who have had problems in using the method, Bihar, 1993		
Problem	Method	
	<b>Pill</b>	
No problems	82.3	
Weight gain	2.1	
Dizziness	2.5	
Body ache	2.5	
White discharge	2.5	
Nausca/vomiting	2.4	
Headache	3.3	
Number of pill users	61	
	<b>Copper T/IUD</b>	
No problems	(91.4)	
Backache	(5.0)	
Excessive bleeding	(8.6)	
Number of IUD users	30	
	<b>Female sterilization</b>	<b>Male sterilization</b>
No problems	77.3	81.8
Fever	1.8	2.0
Pain/backache	13.0	6.8
Sepsis	2.5	3.0
Weakness/inability to work	8.5	7.4
Failure/woman got pregnant	0.7	1.0
Loss of sexual power	0.1	--
Other	0.6	--
Number sterilized	983	76
Note: All problems were recorded if there was more than one problem. Births with missing information on problems are not included. ( ) Based on 25-49 unweighted cases -- Less than 0.05 percent		

The major causes of discomfort in this case are pain/backache (13 percent) and weakness/inability to work (9 percent). The same problems were most commonly mentioned in the case of male sterilization.

### **Age at Sterilization**

Table 6.8 shows the age and time at which couples obtained a sterilization. Of the 1,059 sterilization operations reported, 45 percent were conducted fewer than 6 years before the survey, another 29 percent were conducted 6-9 years before the survey and the remaining 26 percent were conducted 10 or more years before the survey. The majority of the couples have undergone sterilization before age 30. There are very few cases of sterilization being performed when the woman was in her forties. The median age of the woman at the time of her or her husband's sterilization is 28 years. As mentioned earlier, the use of male sterilization is negligible in the state and Table 6.8 reveals that most male sterilizations (68 percent) were performed more than 10 years ago. It is difficult to assess trends in the age at sterilization since the NFHS only interviewed ever-married women age 13-49. Thus, there were no respondents who were age 40-49 during the period 10 or more years before the survey, since these women would have been age 50-59 at the time of the survey.

### **6.3 Source of Supply of Contraception**

Family planning methods and services in Bihar 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 services are also provided by a number of private hospitals and clinics as well as nongovernmental organizations. Sterilization operations and IUD insertions are carried out mostly in government hospitals and Primary Health Centres. Sterilization camps, organized from time to time, also provide sterilization services. Modern spacing methods such as the IUD, pill and condom are available through both the government and private sectors.

In order to assess the relative importance of various sources of contraceptive methods, the NFHS included a question about where current users of contraception obtained their methods. Overall, the public sector, consisting of government/municipal hospitals, Primary Health Centres and other governmental health infrastructure, supplied slightly more than three-fourths of the current users of all modern methods, while the private medical sector, including private hospitals or clinics, private doctors and pharmacies/drugstores supplied 15 percent of current users (Table 6.9 and Figure 6.4). Nine percent of users obtained their methods from other sources, such as shops, friends and relatives.

The mix of public and private sector sources varies according to the method used. For sterilization, both male and female, the government is by far the major source of supply; more than 83 percent of male and female sterilization operations were done at a government source. A majority of IUD insertions are however done by the private medical sector (67 percent). Pills and condoms are provided primarily by the nonmedical private sector. Only 14 percent of the pill users obtained their pills from a government source and only 10 percent of condom users relied on the public sector for their supply.

**Table 6.8 Timing of sterilization**

Percent distribution of currently married sterilized women and wives of sterilized men by age at the time of sterilization, according to the number of years since the operation, Bihar, 1993

Years since operation	Woman's age at the time of operation						Total percent	Number	Median age <sup>1</sup>
	<25	25-29	30-34	35-39	40-44	45-49			
<b>STERILIZED WOMEN</b>									
< 2	21.2	39.4	26.0	6.3	4.3	2.8	100.0	162	28.1
2-3	21.6	48.4	16.8	10.6	2.7	--	100.0	112	27.4
4-5	31.2	34.3	24.4	4.5	5.2	0.4	100.0	194	27.3
6-7	21.4	36.1	25.7	13.5	3.3	U	100.0	157	28.3
8-9	14.2	38.0	27.0	16.9	3.9	U	100.0	136	29.3
10+	18.1	45.8	27.1	9.0	U	U	100.0	223	NC
Total	21.6	40.2	25.0	9.7	3.1	0.5	100.0	983	28.1
<b>WIVES OF STERILIZED MEN</b>									
< 10	(23.7)	(34.4)	(31.3)	(9.2)	(1.4)	U	100.0	24	27.8
10+	28.8	40.0	20.0	11.3	U	U	100.0	52	NC
Total	27.1	38.2	23.6	10.6	0.5	U	100.0	76	28.1
<b>STERILIZED COUPLES</b>									
< 2	21.6	39.1	25.5	6.6	4.4	2.7	100.0	166	28.1
2-3	20.7	48.6	16.8	11.4	2.6	--	100.0	117	27.5
4-5	31.1	34.5	24.4	4.4	5.1	0.4	100.0	198	27.2
6-7	22.0	35.5	26.3	13.0	3.2	U	100.0	163	28.3
8-9	14.3	37.7	28.0	16.3	3.7	U	100.0	141	29.3
10+	20.1	44.7	25.7	9.5	U	U	100.0	274	NC
Total	22.0	40.0	24.9	9.7	2.9	0.5	100.0	1059	28.1

NC: Not calculated due to censoring

U: Not available

( ) Based on 25-49 unweighted cases

-- Less than 0.05 percent

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

With regard to specific sources of contraception, government/municipal hospitals and Primary Health Centres (the main institutions that provide contraceptive services) are the most important sources, particularly for sterilization; more than 70 percent of sterilization acceptors use these sources. Private shops are the major sources for pills and condoms (68 percent of pill users and 53 percent of condom users). Thirteen percent of female and 5 percent of male sterilizations were done in sterilization camps.

Differentials in the source of methods are found between urban and rural areas of the state. In rural areas, the public sector is the source of supply for the overwhelming majority of users (84 percent), and in urban areas, the public sector is the source of supply for 55 percent of users. Private medical sources provide contraception for a sizeable percentage of users, 31 percent in urban areas and 10 percent in rural areas. The predominance of the public sector is particularly evident in the case of female and male sterilizations in rural areas (91 and 92 percent, respectively). In urban areas, the private medical sector is the source of supply for 29 percent of female sterilizations in contrast to 8 percent in rural areas. Nonmedical sources are

the prime suppliers of condoms in both urban (68 percent) and rural areas (63 percent). Nonmedical sources supply the majority of pill users both in urban (55 percent) and rural (74 percent) areas. In rural areas, Primary Health Centres provide services to 41 percent of acceptors of female sterilization, 40 percent of acceptors of male sterilization and 17 percent of pill users. Sub-centres, which provide pills and condoms, are used by a negligible percent of rural women for their contraceptive needs.

**Table 6.9 Source of supply of modern contraceptive methods**

Percent distribution of current users of modern contraceptive methods by most recent source of supply, according to specific method and residence, Bihar, 1993

Source of supply	Pill	Copper T/ IUD	Con- dom	Female steril- ization	Male steril- ization	All modern methods
<b>URBAN</b>						
<b>Public sector</b>	(8.0)	*	4.0	67.7	(66.0)	55.0
Government/municipal hospital	(4.0)	*	2.0	44.3	(44.9)	36.3
Primary Health Centre	(4.0)	*	2.0	15.4	(15.5)	12.6
Sub-centre	(--)	*	--	--	(--)	--
Family planning clinic	(--)	*	--	2.4	(--)	1.7
Camp	(--)	*	--	5.6	(5.5)	4.4
<b>Private medical sector</b>	(37.0)	*	27.9	29.3	(28.5)	31.2
Private hospital or clinic	(8.0)	*	--	20.2	(12.3)	16.5
Pharmacy/drugstore	(24.0)	*	23.9	--	(--)	4.1
Private doctor	(5.0)	*	4.0	9.1	(16.2)	10.5
<b>Other source</b>	(55.0)	*	68.2	3.0	(5.5)	13.8
Shop	(55.0)	*	64.2	--	(--)	10.6
Husband	(--)	*	4.0	--	(--)	0.5
Friend/relative	(--)	*	--	--	(--)	--
Other	(--)	*	--	3.0	(5.5)	2.8
<b>Total percent</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Number</b>	<b>19</b>	<b>13</b>	<b>38</b>	<b>227</b>	<b>27</b>	<b>325</b>
<b>RURAL</b>						
<b>Public sector</b>	(17.1)	*	(15.6)	91.2	(92.0)	83.7
Government/municipal hospital	(--)	*	(4.2)	32.4	(41.2)	30.2
Primary Health Centre	(17.1)	*	(5.7)	41.2	(40.3)	37.8
Sub-centre	(--)	*	(5.7)	--	(--)	0.3
Family planning clinic	(--)	*	(--)	2.0	(5.3)	2.0
Camp	(--)	*	(--)	15.6	(5.3)	13.4
<b>Private medical sector</b>	(8.8)	*	(21.0)	7.8	(8.0)	9.5
Private hospital or clinic	(3.5)	*	(4.2)	3.1	(7.3)	3.7
Pharmacy/drugstore	(5.2)	*	(16.8)	--	(--)	0.9
Private doctor	(--)	*	(--)	4.7	(0.7)	4.9
<b>Other source</b>	(74.1)	*	(63.4)	0.9	(--)	6.8
Shop	(74.1)	*	(40.6)	--	(--)	5.1
Husband	(--)	*	(18.5)	--	(--)	0.7
Friend/relative	(--)	*	(4.2)	--	(--)	0.2
Other	(--)	*	(--)	0.9	(--)	0.8
<b>Total percent</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Number</b>	<b>43</b>	<b>17</b>	<b>36</b>	<b>756</b>	<b>49</b>	<b>901</b>

**Table 6.9 Source of supply of modern contraceptive methods (Contd.)**

Percent distribution of current users of modern contraceptive methods by most recent source of supply, according to specific method and residence, Bihar, 1993

Source of supply	Pill	Copper T/ IUD	Con- dom	Female steril- ization	Male steril- ization	All modern methods
<b>TOTAL</b>						
<b>Public sector</b>	14.3	(30.6)	9.7	85.8	82.8	76.1
Government/municipal hospital	1.2	(25.9)	3.1	35.2	42.5	31.8
Primary Health Centre	13.1	(1.1)	3.8	35.2	31.5	31.1
Sub-centre	--	(3.6)	2.8	--	--	0.3
Family planning clinic	--	(--)	--	2.1	3.4	1.9
Camp	--	(--)	--	13.3	5.4	11.0
<b>Private medical sector</b>	17.4	(66.9)	24.5	12.8	15.3	15.2
Private hospital or clinic	4.9	(17.5)	2.1	7.0	9.0	7.1
Pharmacy/drugstore	10.9	(--)	20.4	--	--	1.8
Private doctor	1.5	(49.4)	2.0	5.7	6.2	6.4
<b>Other source</b>	68.3	(2.5)	65.8	1.4	2.0	8.7
Shop	68.3	(--)	52.7	--	--	6.6
Husband	--	(--)	11.1	--	--	0.7
Friend/relative	--	(--)	2.1	--	--	0.1
Other	--	(2.5)	--	1.4	2.0	1.3
<b>Total percent</b>	100.0	100.0	100.0	100.0	100.0	100.0
<b>Number</b>	61	30	73	983	76	1226
<b>BACKWARD DISTRICTS</b>						
<b>Public sector</b>	*	*	*	87.6	(84.5)	81.4
Government/municipal hospital	*	*	*	29.1	(49.7)	28.2
Primary Health Centre	*	*	*	33.3	(17.1)	30.2
Sub-centre	*	*	*	--	(--)	1.0
Family planning clinic	*	*	*	1.8	(8.9)	2.1
Camp	*	*	*	23.5	(8.9)	19.9
<b>Private medical sector</b>	*	*	*	9.9	(15.5)	10.6
Private hospital or clinic	*	*	*	5.3	(7.1)	4.9
Pharmacy/drugstore	*	*	*	--	(--)	0.4
Private doctor	*	*	*	4.6	(8.4)	5.3
<b>Other source</b>	*	*	*	2.5	(--)	8.0
Shop	*	*	*	--	(--)	4.6
Husband	*	*	*	--	(--)	1.3
Friend/relative	*	*	*	--	(--)	--
Other	*	*	*	2.5	(--)	2.0
<b>Total percent</b>	100.0	100.0	100.0	100.0	100.0	100.0
<b>Number</b>	7	3	7	134	12	163

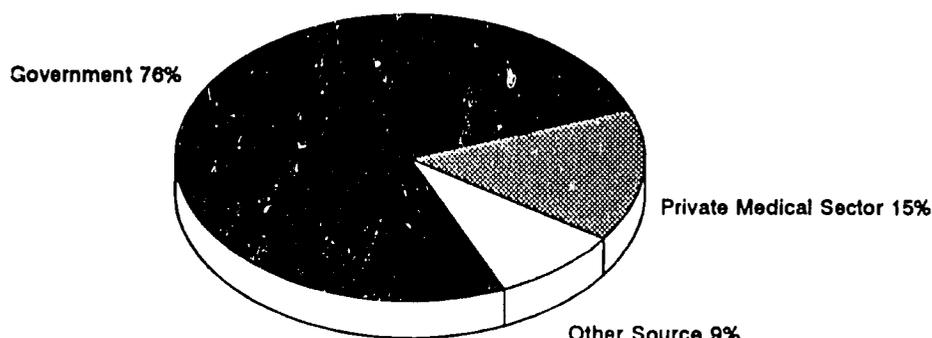
Note: Total current users of all modern methods includes 2 users of injections, who are not shown separately.

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

-- Less than 0.05 percent

**Figure 6.4**  
**Sources of Family Planning Among Current Users of Modern Contraceptive Methods**



NFHS, Bihar, 1993

Despite the existence of a large network of government family planning outlets, the programme has achieved very limited success in Bihar. To facilitate the acceptance of contraceptive methods, both public and private sources need to be expanded and made more accessible to potential users of contraception.

#### **6.4 Reasons for Discontinuation**

All currently married women who had ever used contraception but who were not using any method at the time of the survey and were not pregnant, were asked why they had discontinued their use of contraception. Their responses to this question are presented in Table 6.10. Among the reasons other than wanting to have a child, health and other method-related problems were cited most often. It should be noted that 7 percent of the women had discontinued use either because they did not like the method or felt it to be inconvenient to use or difficult to get. With a little motivation and improvement in services, these women may be successfully brought under the programme. The same is also true for another large proportion of women (20 percent) who had to discontinue use since they became pregnant while using a method.

#### **6.5 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

**Table 6.10 Reasons for discontinuation**

Percent distribution of nonpregnant, currently married ever users who are not currently using a contraceptive method by main reason for stopping use and residence, Bihar, 1993

Reason for stopping use	Urban	Rural	Total	Backward districts
Method failed/got pregnant	11.8	22.9	19.9	(21.7)
Lack of sexual satisfaction	--	0.6	0.4	(3.5)
Created menstrual problem	2.2	5.5	4.6	(3.5)
Created health problem	17.0	6.0	9.0	(20.4)
Inconvenient to use	2.2	4.0	3.5	(4.6)
Hard to get method	--	1.6	1.2	(--)
Did not like the method	5.7	1.7	2.8	(13.4)
Wanted to have a child	33.1	39.9	38.1	(25.0)
Lack of privacy for use	2.2	1.6	1.8	(--)
Other	21.6	12.8	15.2	(8.0)
Don't know/missing	4.3	3.3	3.6	(--)
Total percent	100.0	100.0	100.0	100.0
Number	35	92	127	15

( ) Based on 25-49 unweighted cases

-- Less than 0.05 percent

regarding the use of family planning and their method preference if they intended to use contraception. If they did not intend to use family planning at any time in the future, they were asked why they did not intend to use it. This type of information can assist family planning programme administrators in identifying potential groups of users and in providing the types of contraception that are likely to be in demand. Information on the reasons for nonuse is crucial for designing successful information programmes and understanding the obstacles to further advances in contraceptive prevalence.

Overall, two-thirds of all currently married nonusers reported that they did not intend to use contraception in the future (Table 6.11), more than one in five women said that they would use it in the future and the remaining 11 percent of women were not sure about their intentions. The lack of intentions to use family planning suggests that it will be difficult for the family planning programme to be successful without a strong Information, Education and Communication (IEC) component to motivate couples to use contraception. While only 42 percent of the intended users said they would use contraception within the next 12 months, a little more than half said they would use it at a later stage, and 4 percent were not sure when they would start using contraception. Among women who have never used contraceptive methods before, the majority (67 percent) reported that they did not intend to use them in the future, and 11 percent were not sure of their intentions. In contrast, 63 percent of those who have used contraception in the past (but are not currently using) intended to use contraception again in the future, and 5 percent were not sure of their intentions.

The proportion of women who intend to use family planning in the future increases gradually with an increase in the number of living children. For instance, while 12 percent of women with no living children express an intention to use contraceptives in the future, this percentage reaches 25 for those with four or more living children. There is little variation in intended future use by residence.

**Table 6.11 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, residence and whether ever used contraception, Bihar, 1993

Past use/ intention to use in future	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
<b>URBAN</b>						
<b>Never used contraception</b>						
Intends to use in next 12 months	0.4	10.9	5.3	14.0	18.9	10.8
Intends to use later	14.4	18.6	17.7	14.4	6.7	13.8
Intends to use, unsure when	--	--	3.5	--	2.3	1.3
Unsure as to intention	15.0	5.8	5.7	4.5	6.9	7.4
Does not intend to use	67.4	55.3	49.6	54.4	54.2	55.8
Missing	--	0.7	--	--	0.6	0.3
<b>Previously used contraception</b>						
Intends to use in next 12 months	0.9	1.9	7.8	3.5	2.9	3.3
Intends to use later	1.9	5.4	6.1	4.8	0.6	3.5
Intends to use, unsure when	--	0.7	0.9	1.0	--	0.5
Unsure as to intention	--	--	--	--	0.6	0.2
Does not intend to use	--	0.7	3.5	3.5	5.7	2.9
Missing	--	--	--	--	0.6	0.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
<b>All currently married nonusers</b>						
Intends to use in next 12 months	1.3	12.8	13.1	17.5	21.8	14.1
Intends to use later	16.3	24.0	23.8	19.2	7.3	17.3
Intends to use, unsure when	--	0.7	4.3	1.0	2.3	1.7
Unsure as to intention	15.0	5.8	5.7	4.5	7.5	7.6
Does not intend to use	67.4	56.0	53.0	57.9	59.9	58.7
Missing	--	0.7	--	--	1.2	0.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	80	104	86	77	130	477
<b>RURAL</b>						
<b>Never used contraception</b>						
Intends to use in next 12 months	1.1	2.9	6.2	10.8	15.7	8.4
Intends to use later	9.1	17.0	15.6	11.4	6.2	11.1
Intends to use, unsure when	0.2	0.4	1.0	0.5	0.6	0.6
Unsure as to intention	17.9	11.3	8.7	9.3	8.0	10.6
Does not intend to use	70.9	66.6	64.1	61.5	65.1	65.6
Missing	--	0.4	0.2	0.3	0.5	0.3
<b>Previously used contraception</b>						
Intends to use in next 12 months	--	0.3	0.4	2.1	1.5	0.9
Intends to use later	0.7	0.6	1.2	2.0	--	0.8
Intends to use, unsure when	--	--	0.5	0.5	0.2	0.2
Unsure as to intention	--	0.1	0.4	0.3	0.2	0.2
Does not intend to use	0.1	0.3	1.7	1.4	1.7	1.1
Missing	--	--	--	--	0.2	--
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
<b>All currently married nonusers</b>						
Intends to use in next 12 months	1.1	3.2	6.5	12.9	17.2	9.4
Intends to use later	9.8	17.7	16.8	13.4	6.2	11.9
Intends to use, unsure when	0.2	0.4	1.5	1.0	0.9	0.8
Unsure as to intention	17.9	11.4	9.1	9.5	8.3	10.8
Does not intend to use	71.0	66.9	65.9	62.9	66.8	66.8
Missing	--	0.4	0.2	0.3	0.6	0.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	665	707	694	598	1234	3898

**Table 6.11 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, residence and whether ever used contraception, Bihar, 1993

Past use/ intention to use in future	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
<b>TOTAL</b>						
<b>Never used contraception</b>						
Intends to use in next 12 months	1.1	3.9	6.1	11.2	16.0	8.7
Intends to use later	9.6	17.3	15.8	11.8	6.2	11.4
Intends to use, unsure when	0.2	0.4	1.3	0.5	0.8	0.7
Unsure as to intention	17.6	10.6	8.3	8.7	7.9	10.3
Does not intend to use	70.5	65.2	62.5	60.6	64.0	64.6
Missing	--	0.5	0.2	0.2	0.5	0.3
<b>Previously used contraception</b>						
Intends to use in next 12 months	0.1	0.5	1.2	2.2	1.7	1.2
Intends to use later	0.9	1.2	1.8	2.3	0.1	1.1
Intends to use, unsure when	--	0.1	0.6	0.6	0.2	0.3
Unsure as to intention	--	0.1	0.4	0.2	0.3	0.2
Does not intend to use	--	0.4	1.9	1.7	2.1	1.3
Missing	--	--	--	--	0.2	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
<b>All currently married nonusers</b>						
Intends to use in next 12 months	1.2	4.4	7.3	13.4	17.6	9.9
Intends to use later	10.5	18.5	17.6	14.1	6.3	12.5
Intends to use, unsure when	0.2	0.5	1.8	1.0	1.0	0.9
Unsure as to intention	17.6	10.7	8.7	9.0	8.2	10.5
Does not intend to use	70.6	65.5	64.5	62.3	66.2	65.9
Missing	--	0.5	0.2	0.2	0.7	0.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	745	810	781	675	1363	4374
<b>BACKWARD DISTRICTS</b>						
<b>Never used contraception</b>						
Intends to use in next 12 months	1.6	7.0	10.2	17.4	16.4	10.9
Intends to use later	8.7	18.5	12.1	11.2	4.0	10.2
Intends to use, unsure when	--	--	0.7	1.5	0.2	0.4
Unsure as to intention	16.1	6.1	11.2	8.8	9.3	10.2
Does not intend to use	73.0	65.5	62.6	56.0	63.9	64.4
Missing	--	--	--	--	0.8	0.2
<b>Previously used contraception</b>						
Intends to use in next 12 months	--	0.6	0.9	2.2	3.2	1.5
Intends to use later	0.3	0.2	0.7	1.4	--	0.4
Intends to use, unsure when	--	--	0.4	--	--	0.1
Unsure as to intention	--	0.4	--	--	--	0.1
Does not intend to use	0.3	1.6	1.1	1.5	2.0	1.4
Missing	--	--	--	--	0.2	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
<b>All currently married nonusers</b>						
Intends to use in next 12 months	1.6	7.7	11.1	19.5	19.6	12.4
Intends to use later	9.0	18.7	12.8	12.6	4.0	10.7
Intends to use, unsure when	--	--	1.2	1.5	0.2	0.5
Unsure as to intention	16.1	6.5	11.2	8.8	9.3	10.3
Does not intend to use	73.3	67.1	63.8	57.5	66.0	65.8
Missing	--	--	--	--	1.0	0.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Number	124	133	123	104	197	681

-- Less than 0.05 percent

<sup>1</sup>Includes current pregnancy, if any.

## 6.6 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 for the main reason for their future intentions. Reasons for not intending to use any method are indicated in Table 6.12. The largest proportion of women (50 percent) said they do not intend to use contraception because they want more children. This reason is given by 78 percent of women less than 30 years of age. Among women age 30 and over, 16 percent give the same reason.

Another 11 percent of married women reported that contraception is either against their religion or that they or their husbands are against the use of family planning. A higher proportion of older women (16 percent) give these as reasons for not intending to use family planning. A significant proportion of older women (32 percent) also reported their actual or perceived sterility as the main reason for not intending to use contraception in the future. Five percent of all women as well as younger women do not intend to use family planning methods due to lack of knowledge. Therefore, there is still substantial scope for the family planning programme to increase contraceptive use through providing contraceptive information, particularly in rural areas. The most important reasons for nonuse of family planning were the same in all three study domains.

**Table 6.12 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 and residence, Bihar, 1993

Reason	Urban			Rural			Total			Backward districts		
	Age < 30	Age 30+	Total	Age < 30	Age 30+	Total	Age < 30	Age 30+	Total	Age < 30	Age 30+	Total
Wants children	64.5	9.9	38.8	62.9	9.4	39.6	63.0	9.5	39.5	63.2	10.6	43.3
Wants a son	15.9	2.5	9.6	13.0	5.6	9.8	13.2	5.3	9.7	12.8	6.4	10.4
Wants a daughter	0.5	--	0.3	1.8	0.7	1.4	1.7	0.7	1.2	1.5	0.5	1.1
Worry about side effects	1.5	0.4	1.0	0.7	1.9	1.2	0.8	1.7	1.2	0.5	2.0	1.1
Can't work after sterilization	1.7	1.9	1.8	1.3	4.1	2.5	1.3	3.9	2.5	1.6	5.5	3.1
Lack of knowledge	3.7	3.4	3.5	4.5	6.3	5.3	4.5	6.0	5.1	5.3	7.4	6.1
Afraid of sterilization	1.5	1.9	1.7	1.8	3.6	2.6	1.7	3.5	2.5	2.7	5.8	3.9
Hard to get methods	--	--	--	0.2	0.6	0.4	0.2	0.5	0.4	0.2	0.3	0.2
Cost too much	0.5	1.1	0.8	0.8	0.9	0.8	0.8	0.9	0.8	0.4	0.8	0.6
Against religion	2.1	3.0	2.5	5.4	9.4	7.1	5.1	8.7	6.7	3.7	7.3	5.0
Opposed to family planning	1.3	3.2	2.2	1.0	3.2	1.9	1.0	3.2	1.9	1.5	3.5	2.3
Husband opposed	1.2	5.6	3.3	1.9	3.6	2.7	1.9	3.8	2.7	1.6	2.7	2.0
Other people opposed	--	0.6	0.3	0.4	0.1	0.3	0.3	0.2	0.3	0.4	--	0.2
Difficult to get pregnant	0.5	9.6	4.8	0.6	6.7	3.2	0.6	7.0	3.4	0.8	2.1	1.3
Menopausal/had hysterectomy	--	34.1	16.1	--	24.3	10.6	--	25.3	11.1	0.2	21.8	8.4
Health does not permit	0.5	10.2	5.1	1.9	9.8	5.4	1.8	9.8	5.3	1.0	9.7	4.3
Inconvenient	--	1.1	0.5	--	0.5	0.2	--	0.5	0.3	0.1	0.5	0.3
Doesn't like existing methods	3.2	7.3	5.1	1.1	5.5	3.0	1.3	5.7	3.2	1.6	9.3	4.5
Other	1.2	4.2	2.6	0.7	3.7	2.0	0.8	3.8	2.1	0.8	3.6	1.9
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
Number	148	132	280	1470	1132	2603	1618	1264	2883	279	170	448

-- Less than 0.05 percent

## 6.7 Preferred Future Method of Family Planning

Women who said they intend to use a method in the future were asked to specify the method of family planning that they would like to use. It can be seen from Table 6.13 that 61 percent of the women who intend to use contraception in the future prefer terminal methods and

<u>Table 6.13 Preferred method</u>				
Percent distribution of currently married women who are not using a contraceptive method but who intend to use in the future by preferred method, according to whether they intend to use in the next 12 months or later, by residence, Bihar, 1993				
Preferred method	Timing of intended use			All women
	Next 12 months	Later	Unsure when	
<b>URBAN</b>				
Pill	26.8	10.9	*	17.0
Copper T/IUD	10.5	3.6	*	6.3
Injection	1.1	0.9	*	0.9
Condom	6.2	6.7	*	6.1
Female sterilization	49.6	72.1	*	62.2
Male sterilization	--	1.3	*	0.7
Periodic abstinence	1.1	--	*	0.5
Withdrawal	1.4	0.9	*	1.1
Other	2.2	0.9	*	1.4
Unsure	1.1	2.7	*	3.8
Total percent	100.0	100.0	100.0	100.0
Number	67	83	8	159
<b>RURAL</b>				
Pill	39.4	18.7	(18.8)	27.3
Copper T/IUD	5.2	1.1	(4.7)	2.9
Injection	0.3	0.3	(--)	0.3
Condom	4.7	0.9	(4.7)	2.6
Female sterilization	43.9	73.3	(50.1)	60.1
Male sterilization	0.4	1.5	(--)	1.0
Periodic abstinence	1.8	0.1	(--)	0.8
Withdrawal	1.2	--	(--)	0.5
Other	1.4	0.7	(--)	0.9
Unsure	1.7	3.5	(21.6)	3.5
Total percent	100.0	100.0	100.0	100.0
Number	365	463	32	867
<b>TOTAL</b>				
Pill	37.4	17.5	(15.0)	25.7
Copper T/IUD	6.0	1.4	(3.7)	3.4
Injection	0.4	0.4	(--)	0.4
Condom	4.9	1.8	(3.7)	3.2
Female sterilization	44.8	73.1	(54.8)	60.5
Male sterilization	0.3	1.5	(--)	0.9
Periodic abstinence	1.7	0.1	(--)	0.8
Withdrawal	1.2	0.1	(--)	0.6
Other	1.5	0.7	(--)	1.0
Unsure	1.6	3.4	(22.8)	3.6
Total percent	100.0	100.0	100.0	100.0
Number	432	546	40	1026

**Table 6.13 Preferred method (Contd.)**

Percent distribution of currently married women who are not using a contraceptive method but who intend to use in the future by preferred method, according to whether they intend to use in the next 12 months or later, by residence, Bihar, 1993

Preferred method	Timing of intended use			All women
	Next 12 months	Later	Unsure when	
<b>BACKWARD DISTRICTS</b>				
Pill	49.4	12.1	*	31.4
Copper T/IUD	3.1	0.5	*	1.8
Injection	1.3	--	*	0.7
Condom	4.5	2.2	*	3.4
Female sterilization	37.4	79.7	*	57.5
Male sterilization	--	3.6	*	1.6
Periodic abstinence	0.8	0.5	*	0.7
Withdrawal	2.8	--	*	1.5
Other	0.6	--	*	0.3
Unsure	--	1.5	*	1.2
Total percent	100.0	100.0	100.0	100.0
Number	85	73	3	162

Note: All women column includes 7 women with missing information on timing of intended use, who are not shown separately.  
 (.) Based on 25-49 unweighted cases  
 \* Percentage not shown; based on fewer than 25 unweighted cases  
 -- Less than 0.05 percent

one-third prefer modern spacing methods. Female sterilization is the most preferred method (61 percent), followed by the pill (26 percent), condoms and IUDs (3 percent each).

The choice of preferred methods is slightly different for those who intend to use them within 12 months and for those who intend to use them later, with female sterilization being the most preferred method among women in the latter group and the pill in the former group. The pattern of preferred future methods is generally similar by residence, although pills are more popular in rural areas and backward districts than in urban areas, and IUDs and condoms are more popular in urban areas than in rural areas and backward districts.

The contraceptive method mix that intended future users say they would prefer is different from the methods selected by current users. Modern spacing methods are being used by only 13 percent of current users (Table 6.4), but 33 percent of intended future users say they would like to use modern spacing methods. These results suggest that the potential demand for modern spacing methods may rise and that the family welfare programme should pay increasing attention to effective spacing methods as part of a balanced programme to satisfy the contraceptive needs of women in Bihar.

## 6.8 Exposure to Family Planning Messages on Radio and Television

For many years, the family welfare programme has been utilizing the electronic mass media to promote family planning. In order to explore the spread of family planning messages through various mass media, respondents were asked whether they had heard such messages on

radio and/or television in the past month. Table 6.14 shows the variation in the percentage of women exposed to family planning messages according to various background characteristics. The effort to disseminate family planning information through the electronic mass media has succeeded in reaching only a little more than a quarter of ever-married women in Bihar. This is not surprising since only 11 percent of households in Bihar own televisions and only 27 percent own radios (Table 3.9). About one in ten women had heard a message on both radio and television in the month preceding the survey. One in 7 women had heard a family planning message only on radio and one in 36 women had heard a family planning message only on television. This indicates that electronic media have played only a limited role in reaching potential users of family planning.

Urban-rural differentials in media coverage are substantial. The percentage of women exposed to family planning messages on radio or television is 66 and 20 in urban and rural areas, respectively. Television is relatively more prominent in disseminating family planning

**Table 6.14 Exposure to family planning messages on radio and television**

Percent distribution of ever-married women by whether they have heard a radio or television message about family planning in the month prior to the interview, according to selected background characteristics, Bihar, 1993

Background characteristic	Heard family planning message on radio or television					Total percent	Number
	Neither	Radio only	Television only	Both	Missing		
<b>Age</b>							
13-19	73.6	18.8	2.1	5.5	--	100.0	785
20-29	71.8	15.0	2.5	10.5	0.1	100.0	2360
30-39	74.4	11.2	2.8	11.5	--	100.0	1657
40-49	74.8	10.8	4.1	10.2	0.1	100.0	1147
<b>Residence</b>							
Urban	34.4	11.6	12.5	41.5	--	100.0	867
Rural	80.0	14.0	1.2	4.7	0.1	100.0	5082
Backward districts	75.9	17.1	0.7	6.3	--	100.0	887
<b>Education</b>							
Illiterate	84.2	11.8	1.2	2.8	0.1	100.0	4656
Lit., < middle complete	47.2	23.8	8.1	21.0	--	100.0	628
Middle school complete	32.8	22.7	9.1	35.3	--	100.0	185
High school and above	18.0	15.1	9.6	57.3	--	100.0	480
<b>Religion</b>							
Hindu	72.4	13.5	3.1	10.9	0.1	100.0	4912
Muslim	78.7	15.1	0.9	5.1	0.2	100.0	931
Other	71.1	6.6	5.7	16.6	--	100.0	106
<b>Caste/tribe</b>							
Scheduled caste	83.4	10.1	1.4	4.8	0.3	100.0	593
Scheduled tribe	86.6	5.5	2.5	5.5	--	100.0	483
Other	70.8	14.9	3.1	11.2	0.1	100.0	4872
<b>Use of contraception</b>							
Ever use	55.2	15.9	6.1	22.7	--	100.0	1517
Never use	79.6	12.8	1.7	5.8	0.1	100.0	4432
<b>Total</b>	<b>73.4</b>	<b>13.6</b>	<b>2.8</b>	<b>10.1</b>	<b>0.1</b>	<b>100.0</b>	<b>5949</b>

-- Less than 0.05 percent

messages in urban areas and radio is more prominent in rural areas. The exposure in backward districts is similar to that in rural areas.

Women's exposure to family planning messages on radio and television is positively related with educational attainment. Only 16 percent of illiterate respondents reported that they had heard a family planning message on the radio or television, whereas 82 percent of women with a high school education had heard a message. The proportion hearing a message on television or on both radio and television increases sharply with increasing education.

Twenty-eight percent of Hindus and 21 percent of Muslims were exposed to family planning messages either through radio or television. The percentage who had heard a family planning message on radio or television is lower among scheduled caste and scheduled tribe women than among others.

### **6.9 Acceptability of Family Planning Messages on Radio and Television**

Whether or not women had heard a family planning message on the radio or television, they were asked if they considered it acceptable for family planning information to be provided on radio or television. More than one-third of the women said it is acceptable to have family planning messages on radio and television, while only 11 percent said it is not acceptable and the rest (51 percent) were not sure (Table 6.15). Younger women (under age 20) and older women (over age 39), rural residents, illiterate women, Muslim women and women belonging to other religions, scheduled castes and scheduled tribes are less likely than other women to think it is acceptable to broadcast family planning messages on radio or television. Attitudes toward the acceptability of family planning messages on the electronic media are most favourable among urban women and women with at least a middle school education. While the responses suggest a considerable amount of ambivalence about media messages, few women state categorically that such messages are unacceptable to them.

### **6.10 Discussion of Family Planning Among Couples**

Among nonsterilized couples, all currently married women who know a contraceptive method were asked how often they had talked with their husbands about family planning in the past year. The extent of such communication was low in the state. Overall, six out of ten women said they had not discussed this topic with their husbands at all in the previous year (Table 6.16). Almost one-third of the women discussed family planning once or twice and 8 percent discussed it more often. About half of the women age 25-29 reported that they had discussed family planning with their husbands. Women in the early and late reproductive years were least likely to have communicated with their husbands on family planning.

Substantial differences are also observed according to the place of residence, respondent's level of education, her husband's education, and the ever use of family planning. Women in urban areas were more likely to have discussed family planning with their husbands than those in rural areas (54 percent compared with 38 percent). As expected, the extent of husband-wife communication about family planning is positively related to the educational attainment of women, as well as the education of their husbands. For example, 62 percent of women who completed high school had discussed family planning with their husbands compared to only 35

**Table 6.15 Acceptability of media messages on family planning**

Percent distribution of ever-married women by their attitudes toward having messages about family planning on the radio or television, by selected background characteristics, Bihar, 1993

Background characteristic	Acceptability of media messages				Total percent	Number of women
	Acceptable	Not acceptable	Unsure	Missing		
<b>Age</b>						
13-14	(35.5)	(7.5)	(57.1)	(--)	100.0	29
15-19	35.4	10.5	53.9	0.2	100.0	755
20-24	40.3	9.9	49.7	0.1	100.0	1226
25-29	39.4	10.1	50.6	--	100.0	1134
30-34	36.7	12.5	50.8	--	100.0	945
35-39	37.1	13.4	49.5	--	100.0	712
40-44	35.7	12.9	51.4	--	100.0	579
45-49	34.0	12.6	53.1	0.3	100.0	568
<b>Residence</b>						
Urban	67.1	9.2	23.7	--	100.0	867
Rural	32.4	11.8	55.7	0.1	100.0	5082
Backward districts	40.8	12.3	46.9	--	100.0	887
<b>Education</b>						
Illiterate	29.3	12.4	58.2	0.1	100.0	4656
Lit., < middle complete	59.3	6.2	34.6	--	100.0	628
Middle school complete	67.3	6.6	26.2	--	100.0	185
High school and above	76.7	10.3	13.0	--	100.0	480
<b>Religion</b>						
Hindu	38.7	9.5	51.6	0.1	100.0	4912
Muslim	31.9	21.4	46.5	0.2	100.0	931
Other	27.0	8.4	64.6	--	100.0	106
<b>Caste/tribe</b>						
Scheduled caste	30.8	8.9	60.0	0.3	100.0	593
Scheduled tribe	21.1	8.6	70.4	--	100.0	483
Other	39.9	12.0	48.1	0.1	100.0	4872
<b>Total</b>	<b>37.5</b>	<b>11.4</b>	<b>51.1</b>	<b>0.1</b>	<b>100.0</b>	<b>5949</b>

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

percent of illiterate women. Similarly, interspousal communication was more common among women whose husbands had studied beyond high school (62 percent) than among those whose husbands were illiterate (31 percent).

A large majority (68 percent) of the women who had ever used a family planning method had discussed the topic with their husbands, 47 percent having discussed it once or twice and 21 percent having discussed it more often. Among those who had never used family planning, however, only 37 percent had discussed family planning with their husbands in the past year.

**Table 6.16 Discussion of family planning with husband**

Percent distribution of nonsterilized currently married women knowing a contraceptive method by the number of times they discussed family planning with their husbands in the past year, according to selected background characteristics, Bihar, 1993

Background characteristic	Number of times family planning discussed				Total percent	Number of women
	Never	Once or twice	More often	Missing		
<b>Age</b>						
15-19	67.8	23.8	8.3	0.1	100.0	670
20-24	57.0	35.8	7.0	0.2	100.0	1101
25-29	51.0	39.8	8.9	0.3	100.0	880
30-34	56.9	33.0	9.7	0.5	100.0	609
35-39	61.7	29.3	8.5	0.5	100.0	413
40-44	70.4	24.7	4.8	0.1	100.0	324
45-49	72.3	22.1	5.3	0.2	100.0	319
<b>Residence</b>						
Urban	45.6	38.8	14.8	0.8	100.0	553
Rural	62.3	30.8	6.8	0.2	100.0	3785
Backward districts	67.1	24.4	8.2	0.3	100.0	644
<b>Respondent's education</b>						
Illiterate	64.6	29.2	6.0	0.2	100.0	3461
Lit., < middle complete	47.3	42.1	10.6	--	100.0	398
Middle school complete	41.5	45.1	12.2	1.2	100.0	125
High school and above	37.6	40.9	20.6	0.8	100.0	355
<b>Religion</b>						
Hindu	58.1	32.9	8.7	0.3	100.0	3470
Muslim	69.1	27.0	3.9	--	100.0	808
Other	57.9	33.4	6.2	2.5	100.0	61
<b>Caste/tribe</b>						
Scheduled caste	66.9	25.4	7.4	0.3	100.0	479
Scheduled tribe	65.5	26.8	6.8	1.0	100.0	311
Other	58.7	33.1	7.9	0.2	100.0	3548
<b>Use of contraception</b>						
Ever used	31.7	46.9	20.5	0.9	100.0	433
Never used	63.3	30.1	6.4	0.2	100.0	3905
<b>Husband's education</b>						
Illiterate	68.7	25.6	5.4	0.2	100.0	2011
Lit., < primary complete	66.4	28.0	5.0	0.7	100.0	231
Primary school complete	60.6	31.7	7.7	--	100.0	491
Middle school complete	53.2	39.5	7.3	--	100.0	408
High school complete	51.5	39.4	8.9	0.2	100.0	768
Above high school	38.4	42.2	18.9	0.5	100.0	422
Total	60.1	31.8	7.8	0.3	100.0	4338

Note: Table excludes women who are sterilized or whose husbands are sterilized. Total includes 22 women age 13-14 and 7 women with missing information on husband's education, who are not shown separately.

-- Less than 0.05 percent

## 6.11 Attitudes of Couples Toward Family Planning

Information on attitudes toward family planning was obtained by asking women whether they and their husbands approve or disapprove of couples using a method to delay or avoid pregnancy. Table 6.17 shows the degree of consensus between women's attitudes and those of their husbands. Of course, women may not accurately report their husbands' actual attitudes toward contraception. However, a wife's perception of her husband's attitude is important since it may affect her own decisions.

Table 6.17 shows that 69 percent of currently married, nonsterilized women who knew of a contraceptive method approve of family planning use and 30 percent disapprove. Women perceived their husbands to be about equally favourable toward family planning as they are themselves. Thirty-two percent of women said they did not know their husband's attitude, and 20 percent thought their husbands disapprove of family planning. There is a substantial amount of consensus between individual husbands and wives regarding the approval of family planning. Forty-six percent of female respondents reported that both they and their husbands approve of family planning and 16 percent said they both disapprove. The latter couples constitute a challenge for the family welfare programme since they are unlikely to accept family planning unless their attitudes change dramatically.

The percentage of women who approve of family planning increases from age 15-19 to age 20-24, then decreases slowly with the increasing age of the woman. Urban women are more likely to approve of family planning than women in rural areas and backward districts (82 percent compared with 67 percent for rural areas and 65 percent for backward districts). The approval of family planning by both husband and wife is 67, 43 and 38 percent in urban and rural areas and backward districts respectively. Rural women and those in backward districts are less likely to know their husband's attitude than urban women, a fact which is consistent with the lower level of interspousal communication about family planning in rural areas and backward districts.

Education of women as well as their husbands is an important determinant of the approval of family planning by both husband and wife. Overall, 65 percent of illiterate women approve of family planning compared to 88 percent of women who had completed high school. Approval by both husband and wife is the lowest (40 percent) among illiterate women. A similar relationship is observed with the level of husband's education. As education of the husband increases, the proportion of women who reported that both they and their husbands approve of family planning increases from 36 percent in the case of illiterate husbands to 73 percent for husbands with education above the high school level.

The approval of family planning is lower among Muslim couples than among Hindus and couples of other religions. Approval is also lower among those belonging to scheduled tribes than among scheduled castes and other caste groups. Eighty-five percent of women who had ever used family planning reported that both they and their husbands approve of family planning. Among the never users, however, 33 percent of women reported they do not approve of family planning. Among never users who approve of family planning, only 7 percent said their husbands do not approve of family planning.

**Table 6.17 Attitudes of couples toward family planning**

For nonsterilized currently married women who know of a contraceptive method, the percentage who approve of family planning by their perception of their husband's attitude, according to selected background characteristics, Bihar, 1993

Background characteristic	Respondent approves			Respondent disapproves			Respondent unsure	Total percent	Number of women
	Husband approves	Husband disapproves	Husband's attitude unknown <sup>1</sup>	Husband approves	Husband disapproves	Husband's attitude unknown <sup>1</sup>			
<b>Respondent's age</b>									
15-19	45.1	2.5	25.1	0.5	11.3	14.8	0.6	100.0	670
20-24	51.9	5.5	19.1	0.9	12.0	10.2	0.5	100.0	1101
25-29	53.2	3.7	15.0	1.1	16.2	10.4	0.4	100.0	880
30-34	42.7	5.7	14.4	0.8	20.1	14.6	1.7	100.0	609
35-39	41.1	5.9	15.2	0.1	21.5	15.1	1.1	100.0	413
40-44	35.0	3.7	21.6	0.3	21.0	18.4	0.1	100.0	324
45-49	32.8	3.3	21.2	1.4	19.5	20.6	1.2	100.0	319
<b>Residence</b>									
Urban	66.7	3.6	11.7	1.2	11.7	4.2	0.9	100.0	553
Rural	42.9	4.5	19.7	0.7	16.6	14.8	0.8	100.0	3785
Backward districts	38.2	5.6	21.5	1.3	16.8	15.6	1.0	100.0	644
<b>Respondent's education</b>									
Illiterate	40.2	4.5	20.5	0.6	17.5	15.9	0.8	100.0	3461
Lit., < middle complete	60.6	6.2	13.5	2.0	12.4	4.9	0.5	100.0	398
Middle school complete	72.7	2.7	9.2	0.3	9.1	4.8	1.2	100.0	125
High school and above	76.4	2.1	9.6	0.9	7.7	2.5	0.7	100.0	355
<b>Religion</b>									
Hindu	49.6	4.3	19.0	0.7	12.7	13.0	0.7	100.0	3470
Muslim	29.1	5.2	17.8	1.1	29.9	15.8	1.0	100.0	808
Other	59.1	3.7	11.5	--	13.9	9.3	2.5	100.0	61
<b>Caste/tribe</b>									
Scheduled caste	44.7	4.0	21.8	0.5	10.4	17.9	0.6	100.0	479
Scheduled tribe	40.9	1.7	16.7	0.6	18.9	19.6	1.5	100.0	311
Other	46.6	4.7	18.4	0.8	16.5	12.3	0.7	100.0	3548
<b>Use of contraception</b>									
Ever used	85.0	4.4	6.2	0.5	2.3	0.9	0.8	100.0	433
Never used	41.6	4.4	20.0	0.8	17.5	14.9	0.8	100.0	3905
<b>Family planning discussed with husband in last year</b>									
Never	26.4	3.2	28.9	0.6	19.0	21.3	0.7	100.0	2609
Once or twice	76.0	7.4	2.5	0.9	12.0	0.9	0.2	100.0	1380
More often	76.0	2.2	5.9	0.9	8.8	5.2	0.9	100.0	338
<b>Husband's education</b>									
Illiterate	35.9	4.6	21.0	0.7	19.5	17.4	0.8	100.0	2011
Lit., < primary complete	37.3	3.9	19.5	1.2	21.2	14.8	2.1	100.0	231
Primary school complete	44.4	6.1	21.5	0.7	13.6	13.3	0.4	100.0	491
Middle school complete	53.1	4.8	19.5	0.1	11.2	10.8	0.5	100.0	408
High school complete	57.0	4.0	13.8	1.3	13.5	9.8	0.6	100.0	768
Above high school	73.4	2.3	11.5	0.6	8.0	3.6	0.5	100.0	422
<b>Total</b>	<b>46.0</b>	<b>4.4</b>	<b>18.7</b>	<b>0.8</b>	<b>16.0</b>	<b>13.5</b>	<b>0.8</b>	<b>100.0</b>	<b>4338</b>

Note: Table excludes women who are sterilized or whose husbands are sterilized. Total includes 7 women with missing information on husband's education, 12 women with missing information on number of times family planning was discussed with husband, and 22 women age 13-14, who are not shown separately.

-- Less than 0.05 percent

<sup>1</sup> Respondent does not know her husband's attitude

Table 6.17 also reveals that as expected, the approval of family planning by both the husband and wife is positively related to the number of times family planning was discussed between the husband and the wife in the past year. The percentage of women who reported that both they and their husbands approve family planning is 26 for those who had never discussed family planning and 76 for those who had discussed the topic once or twice or more frequently with their husbands. The percentage of women who were not aware of their husband's attitude is greatest (50 percent) among those who did not discuss family planning with their husbands in the last one year.

## 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 of these questions are analyzed in this chapter.

Interpretation of data on fertility preferences has always been the 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 yet 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, only 42 percent of women say they want another child at some time in the future and 57 percent of these women say they would like to wait at least two years before having their next birth. Only 17 percent of women say they would like another child soon (that is, within two years). Another 6 percent of women express the attitude that this matter is "up to God". Nearly one-quarter of women say they do not want any more children and 19 percent of women (or their husbands) are sterilized, so that they cannot have any more children. These two groups together constitute 43 percent of all currently married women in Bihar. In this chapter, it is assumed that women who are sterilized (or whose husbands are sterilized) do not want any more children. Of course, some women may regret that the sterilization took place and they would in fact like to have another child. This issue can be explored by examining responses to the questions on sterilization by couples who regret that they are sterilized. Only 0.7 percent or 42 women who are sterilized or whose husbands are sterilized regret that the sterilization was performed (data not shown). However, that does not automatically mean that women who regret sterilization would like to have more children, since they may regret the sterilization for some other reason (such as medical complications or side effects of the operation). Women who regret that the sterilization took place were further asked the reason

**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 and residence, Bihar, 1993

Desire for children	Number of living children <sup>1</sup>							Total
	0	1	2	3	4	5	6+	
<b>URBAN</b>								
<b>Desire for additional child</b>								
Have another soon <sup>2</sup>	63.7	17.6	7.9	5.6	1.6	1.0	1.1	12.5
Have another later <sup>3</sup>	22.8	55.7	18.2	13.5	7.2	2.0	0.7	19.0
Have another, undecided when	3.4	3.0	1.1	0.2	--	--	--	1.1
Undecided	1.8	2.2	1.4	0.5	1.6	2.0	1.1	1.4
Up to God	3.1	4.5	4.0	2.3	2.1	4.4	2.0	3.2
Want no more	--	8.5	36.3	27.1	28.4	26.8	44.9	24.9
Sterilized	--	3.4	23.6	45.3	53.4	52.2	34.0	30.7
Declared infecund	5.3	5.0	6.7	5.3	4.0	11.6	16.3	6.8
Missing	--	--	0.7	0.2	1.6	--	--	0.5
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	85	133	164	160	140	76	71	828
<b>Preferred sex of additional child</b>								
Boy	31.2	33.8	48.4	(74.7)	*	*	*	42.4
Girl	1.0	12.8	8.4	(8.3)	*	*	*	7.6
Doesn't matter	38.3	24.3	18.2	(6.3)	*	*	*	23.9
Up to God	29.6	29.1	25.0	(10.7)	*	*	*	26.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	77	102	45	31	12	2	1	270
<b>RURAL</b>								
<b>Desire for additional child</b>								
Have another soon <sup>2</sup>	66.2	23.3	14.9	7.9	2.8	1.1	0.6	17.4
Have another later <sup>3</sup>	19.9	61.8	39.3	19.1	9.5	4.9	2.8	24.8
Have another, undecided when	2.2	2.6	1.1	0.6	0.7	0.3	--	1.1
Undecided	2.9	1.1	2.9	1.5	1.2	2.3	1.4	1.9
Up to God	4.4	4.4	7.3	7.8	8.2	6.8	8.7	6.8
Want no more	0.5	2.4	17.6	28.4	39.2	43.7	49.4	23.9
Sterilized	0.7	1.2	12.7	27.4	27.0	29.3	21.1	16.6
Declared infecund	2.8	3.0	4.2	7.3	10.9	11.6	15.4	7.3
Missing	0.5	0.2	--	--	0.3	--	0.4	0.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	675	745	863	858	731	487	499	4858
<b>Preferred sex of additional child</b>								
Boy	33.9	44.1	59.1	60.7	74.0	(73.2)	*	48.1
Girl	--	5.7	11.0	11.7	6.2	(4.9)	*	5.9
Doesn't matter	30.2	18.1	10.4	11.4	4.6	(4.9)	*	18.4
Up to God	35.9	32.1	19.4	16.2	15.1	(17.0)	*	27.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	596	652	476	236	96	31	17	2103

**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 and residence, Bihar, 1993

Desire for children	Number of living children <sup>1</sup>							Total
	0	1	2	3	4	5	6+	
<b>TOTAL</b>								
<b>Desire for additional child</b>								
Have another soon <sup>2</sup>	65.9	22.4	13.8	7.5	2.6	1.1	0.7	16.7
Have another later <sup>3</sup>	20.2	60.9	35.9	18.2	9.2	4.5	2.5	24.0
Have another, undecided when	2.3	2.6	1.1	0.5	0.6	0.3	--	1.1
Undecided	2.7	1.2	2.7	1.4	1.3	2.3	1.4	1.8
Up to God	4.3	4.5	6.8	6.9	7.3	6.4	7.9	6.3
Want no more	0.4	3.3	20.6	28.2	37.5	41.4	48.9	24.1
Sterilized	0.6	1.5	14.5	30.3	31.3	32.4	22.7	18.6
Declared infecund	3.1	3.3	4.6	7.0	9.8	11.6	15.5	7.2
Missing	0.5	0.2	0.2	--	0.5	--	0.4	0.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	761	878	1026	1018	871	563	570	5687
<b>Preferred sex of additional child</b>								
Boy	33.6	42.7	58.2	62.3	74.6	(72.6)	*	47.5
Girl	0.1	6.7	10.8	11.3	5.5	(5.6)	*	6.1
Doesn't matter	31.1	18.9	11.1	10.8	4.1	(4.6)	*	19.0
Up to God	35.2	31.7	19.9	15.5	15.8	(17.2)	*	27.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	673	754	520	267	108	33	18	2373
<b>BACKWARD DISTRICTS</b>								
<b>Desire for additional child</b>								
Have another soon <sup>2</sup>	61.3	22.9	15.1	6.3	3.6	0.9	--	17.2
Have another later <sup>3</sup>	22.7	61.7	43.5	21.3	9.6	6.5	1.1	26.9
Have another, undecided when	2.5	2.0	1.4	0.5	0.7	--	--	1.1
Undecided	4.5	0.9	0.8	2.8	--	3.6	1.4	1.9
Up to God	5.5	7.0	10.3	4.9	6.7	5.7	8.4	6.9
Want no more	1.3	2.6	14.2	30.0	37.2	48.6	57.7	23.9
Sterilized	--	1.0	10.6	28.1	37.1	26.5	22.3	17.2
Declared infecund	1.8	1.9	3.5	6.0	4.4	8.2	8.2	4.4
Missing	0.4	--	0.6	0.2	0.7	--	0.9	0.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	127	139	146	143	132	81	78	851
<b>Preferred sex of additional child</b>								
Boy	33.5	51.4	60.0	63.1	(77.7)	*	*	51.0
Girl	--	4.8	8.3	16.2	(7.8)	*	*	5.6
Doesn't matter	33.0	20.1	18.7	8.0	(7.8)	*	*	21.3
Up to God	33.6	23.6	13.1	12.7	(6.7)	*	*	22.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	110	121	88	42	18	6	1	385

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

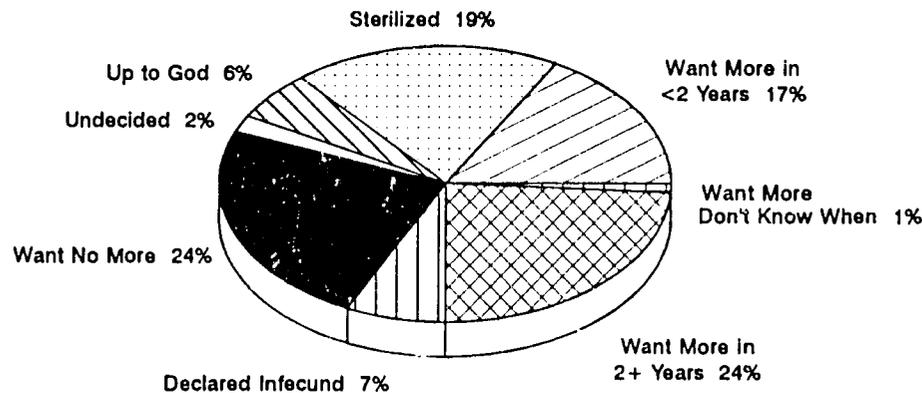
-- Less than 0.05 percent

<sup>1</sup>Includes current pregnancy, if any

<sup>2</sup>Wants next birth within 2 years

<sup>3</sup>Wants to delay next birth for 2 or more years

**Figure 7.1**  
**Fertility Preferences Among**  
**Currently Married Women Age 13-49**



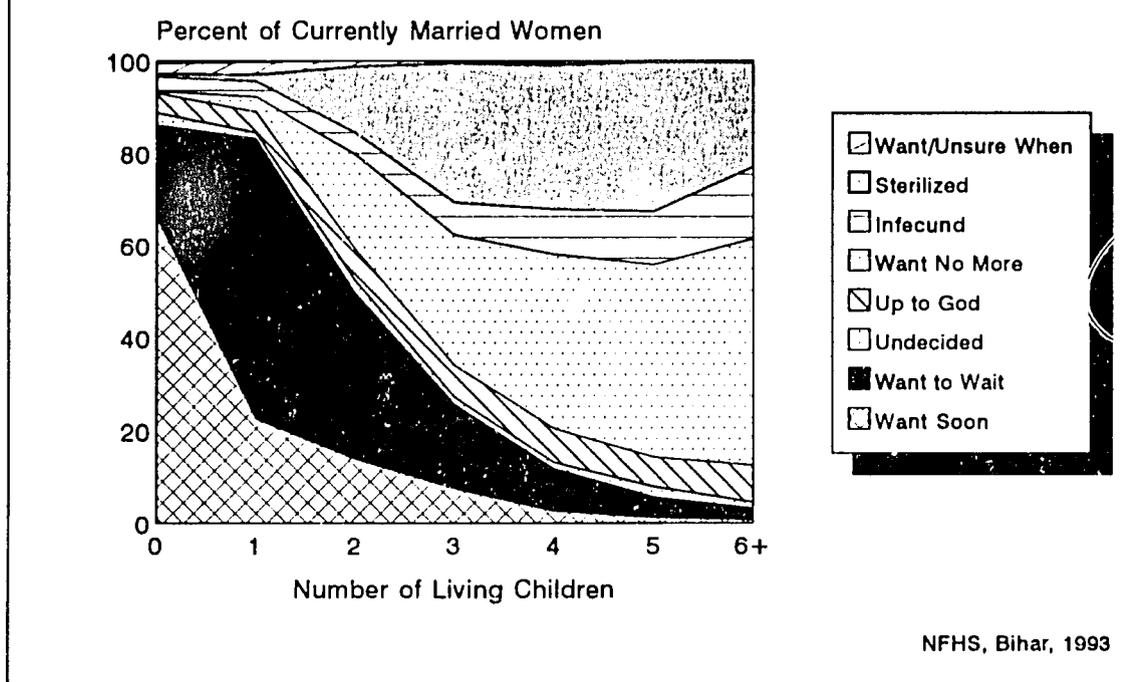
NFHS, Bihar, 1993

for their regret. Overall, only 27 of these women say they regret the sterilization because they, or their husbands, want to have another child. Therefore, the assumption that women who are sterilized (or whose husbands are sterilized) do not want any more children will only slightly underestimate preferences to have another child and overestimate desires to stop childbearing.

Overall, 68 percent of women want to either space their next birth (that is, they want to delay their next birth for two or more years or they want another child but are undecided when) or stop having children altogether (that is, they want no more children or they are sterilized). This percentage varies little between rural areas (66 percent) and backward districts (69 percent), but is higher in urban areas (76 percent). Among women who want another child, there is a strong preference for having a son as the next child. Forty-eight percent say they want a son, only 6 percent express a desire for a daughter, and the rest say that the sex of the child does not matter (19 percent) or that it is up to God (27 percent). The desire for a son is particularly strong in rural areas, backward districts and among high parity women. Women who do not have any children are extremely unlikely to want a daughter for their first child, but 34 percent say they want a son.

As expected, the desire for more children declines rapidly as the number of children increases (Table 7.1 and Figure 7.2). Eighty-eight percent of women with no children say they want a child, whereas much less than 1 percent (0.4 percent) of them say they do not want any children. The proportion who want another child drops to 51 percent for women who have two living children and 26 percent for those with three living children. The desire to have a child

**Figure 7.2**  
**Fertility Preferences by Number of**  
**Living Children**



NFHS, Bihar, 1993

within two years drops even more rapidly, from 66 percent for women with no living children to 14 percent or less for women with two or more living children. Interestingly, the desire for spacing children is very strong for women who have fewer than three children. Twenty percent of women with no children say that they would like to wait at least two years before having their first child. Similarly, 61 percent of women with one child and 36 percent of women with two children would like to wait at least two years before having their next child. Since 47 percent of all women have fewer than three living children, the strong expressed desire for spacing children among these women cannot be ignored. The strong focus of the family planning programme on permanent methods of contraception is evidently not satisfying the needs of a large segment of women in Bihar who wish to space. The encouragement of spacing methods for women who want more children would be likely to lower overall fertility and population growth, as well as to provide health benefits to both mothers and their children.

The age pattern of fertility preferences shown in Table 7.2 is similar to the pattern by number of children discussed above. Almost half of currently married women age 15-24 want to space their next birth and by age 30-34 two-thirds of women want to stop childbearing altogether.

Table 7.3 provides information about subgroup variations in the potential demand for family planning. As before, women who are sterilized (or whose husbands are sterilized) are added to those who say they want no more children to derive this measure. Age and residence differences have already been discussed above. At higher parities, education is strongly related

**Table 7.2 Fertility preferences by age**

Percent distribution of currently married women by desire for children and preferred sex of additional child, according to age and residence, Bihar, 1993

Desire for children	Current age								Total	
	13-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
<b>URBAN</b>										
<b>Desire for additional child</b>										
Have another soon <sup>1</sup>	*	31.6	24.3	13.4	10.0	3.6	1.9	1.5	12.5	
Have another later <sup>2</sup>	*	50.7	43.0	24.6	8.4	1.0	--	0.9	19.0	
Have another, undecided when	*	2.8	2.7	1.4	--	0.6	--	--	1.1	
Undecided	*	2.1	0.9	1.8	0.5	2.1	2.4	0.6	1.4	
Up to God	*	6.5	3.4	3.9	2.8	2.4	2.7	0.9	3.2	
Want no more	*	6.3	19.8	29.6	33.6	30.4	20.6	22.9	24.9	
Sterilized	*	--	4.9	24.3	41.7	52.5	52.6	42.3	30.7	
Declared infecund	*	--	0.8	0.5	2.4	6.8	19.8	29.6	6.8	
Missing	*	--	0.3	0.5	0.5	0.6	--	1.3	0.5	
Total percent		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Number		3	66	160	162	138	125	94	82	828
<b>Preferred sex of additional child</b>										
Boy	*	37.7	40.1	48.2	(51.1)	*	*	*	42.4	
Girl	*	1.9	10.7	8.0	(2.9)	*	*	*	7.6	
Doesn't matter	*	21.8	26.6	21.8	(17.6)	*	*	*	23.9	
Up to God	*	38.6	22.7	21.9	(28.3)	*	*	*	26.1	
Total percent		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Number wanting more		2	56	112	64	25	6	2	2	270
<b>RURAL</b>										
<b>Desire for additional child</b>										
Have another soon <sup>1</sup>	(24.2)	40.9	24.8	18.3	10.0	5.7	3.7	0.9	17.4	
Have another later <sup>2</sup>	(43.7)	47.8	47.3	26.8	10.2	6.4	1.9	--	24.8	
Have another, undecided when	(--)	2.5	1.7	1.1	0.8	0.3	0.3	--	1.1	
Undecided	(16.9)	2.4	1.8	1.5	2.8	1.4	1.1	1.3	1.9	
Up to God	(13.3)	4.0	7.6	8.4	9.4	6.8	5.1	1.9	6.8	
Want no more	(--)	1.3	13.3	27.2	36.8	38.1	35.4	27.3	23.9	
Sterilized	(--)	0.3	3.0	15.1	28.1	30.8	30.8	26.8	16.6	
Declared infecund	(2.0)	0.3	0.4	1.4	1.6	10.3	21.6	41.8	7.3	
Missing	(--)	0.5	--	0.2	0.3	0.3	0.1	0.1	0.2	
Total percent		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Number		27	679	1046	942	778	542	434	411	4858
<b>Preferred sex of additional child</b>										
Boy	*	40.2	46.7	54.8	62.9	58.5	*	*	48.1	
Girl	*	2.8	6.6	8.3	9.1	8.6	*	*	5.9	
Doesn't matter	*	28.7	15.3	13.0	9.9	11.2	*	*	18.4	
Up to God	*	28.3	31.5	23.9	18.1	21.7	*	*	27.6	
Total percent		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Number wanting more		18	619	773	435	162	67	25	4	2103

**Table 7.2 Fertility preferences by age (Contd.)**

Percent distribution of currently married women by desire for children and preferred sex of additional child, according to age and residence, Bihar, 1993

Desire for children	Current age								Total
	13-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
<b>TOTAL</b>									
<b>Desire for additional child</b>									
Have another soon <sup>1</sup>	(24.6)	40.1	24.8	17.6	10.0	5.3	3.4	1.0	16.7
Have another later <sup>2</sup>	(45.0)	48.0	46.7	26.5	9.9	5.4	1.5	0.2	24.0
Have another, undecided when	(--)	2.6	1.9	1.1	0.7	0.3	0.3	--	1.1
Undecided	(15.4)	2.4	1.7	1.5	2.4	1.5	1.4	1.2	1.8
Up to God	(13.2)	4.2	7.0	7.8	8.4	6.0	4.7	1.7	6.3
Want no more	(--)	1.7	14.1	27.5	36.3	36.6	32.8	26.6	24.1
Sterilized	(--)	0.3	3.3	16.4	30.2	34.8	34.7	29.4	18.6
Declared infecund	(1.8)	0.3	0.4	1.3	1.7	9.6	21.3	39.8	7.2
Missing	(--)	0.5	--	0.2	0.3	0.3	0.1	0.3	0.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	29	745	1206	1104	916	667	527	493	5687
<b>Preferred sex of additional child</b>									
Boy	*								
Girl	*	40.0	45.8	54.0	61.3	56.4	*	*	47.5
Doesn't matter	*	2.8	7.1	8.3	8.3	9.9	*	*	6.1
Up to God	*	28.1	16.7	14.1	10.9	12.9	*	*	19.0
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	20	676	884	499	187	74	27	6	2373
<b>BACKWARD DISTRICTS</b>									
<b>Desire for additional child</b>									
Have another soon <sup>1</sup>	*	35.2	24.5	15.6	11.7	6.0	3.5	1.6	17.2
Have another later <sup>2</sup>	*	51.9	45.2	29.0	12.8	5.5	0.7	--	26.9
Have another, undecided when	*	1.7	3.2	0.6	0.3	--	--	--	1.1
Undecided	*	3.5	1.4	1.1	2.6	0.4	2.6	1.9	1.9
Up to God	*	4.6	8.5	9.7	6.0	6.9	5.9	2.8	6.9
Want no more	*	2.1	13.5	25.0	35.5	42.8	36.6	37.7	23.9
Sterilized	*	0.4	2.6	18.0	28.7	33.0	37.2	27.6	17.2
Declared infecund	*	0.2	0.8	0.8	1.7	5.4	13.0	27.4	4.4
Missing	*	0.4	0.3	0.2	0.7	--	0.5	1.1	0.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	6	142	186	159	131	89	75	63	851
<b>Preferred sex of additional child</b>									
Boy	*								
Girl	*	44.9	50.0	55.9	67.4	(59.0)	*	*	51.0
Doesn't matter	*	2.2	6.2	9.1	8.2	(12.1)	*	*	5.6
Up to God	*	31.6	18.6	15.3	12.0	(4.6)	*	*	21.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number wanting more	5	126	135	72	32	10	3	1	385

( ) Based on 25-49 unweighted cases  
 \* Percentage not shown; based on fewer than 25 unweighted cases  
 -- Less than 0.05 percent  
<sup>1</sup>Wants next birth within 2 years  
<sup>2</sup>Wants to delay next birth for 2 or more years

**Table 7.3 Desire to have no more children by background characteristics**

Percentage of currently married women who want no more children by number of living children and selected background characteristics, Bihar, 19 3

Background characteristic	Number of living children <sup>1</sup>							Total
	0	1	2	3	4	5	6+	
<b>Age</b>	--	1.6	14.7	*	*	*	*	1.9
13-19	1.3	2.8	25.3	49.0	65.1	76.3	(79.0)	30.1
20-29	(3.5)	27.7	60.7	72.5	73.6	75.3	77.0	68.6
30-39	(8.7)	(14.9)	60.3	59.6	65.1	70.7	66.0	61.9
40-49								
<b>Residence</b>	--	11.9	60.0	72.4	81.9	79.0	78.9	55.5
Urban	1.1	3.6	30.3	55.8	66.2	73.0	70.6	40.5
Rural	1.3	3.6	24.8	58.1	74.3	75.1	80.0	41.1
Backward districts								
<b>Education</b>	1.0	3.5	26.8	51.0	66.2	72.2	70.5	40.4
Illiterate	--	5.0	49.7	78.3	85.4	(83.8)	75.2	53.4
Lit., < middle complete	(--)	(6.8)	(53.1)	(85.8)	(66.1)	*	*	48.4
Middle school complete	2.3	12.4	58.9	84.3	73.6	*	*	47.8
High school and above								
<b>Religion</b>	1.2	5.6	37.0	62.1	72.2	76.0	76.4	44.4
Hindu	--	1.2	21.1	40.0	50.4	61.8	60.4	34.4
Muslim	*	*	*	*	*	*	*	36.7
Other								
<b>Caste/tribe</b>	--	3.3	30.8	47.6	63.1	63.0	80.8	35.7
Scheduled caste	(--)	6.7	36.7	43.5	62.3	(73.5)	*	39.5
Scheduled tribe	1.3	4.8	35.4	60.9	70.1	75.3	69.8	43.8
Other								
<b>Number of living sons<sup>2</sup></b>	1.0	4.9	17.7	16.7	(35.9)	*	*	6.0
None	NA	6.7	36.3	51.2	50.5	55.7	(64.2)	35.0
1	NA	NA	51.3	74.0	75.2	77.3	75.2	70.1
2	NA	NA	NA	65.0	81.7	81.7	71.4	75.8
3+	NA	NA	NA					
<b>Number of living daughters<sup>2</sup></b>	1.0	6.7	51.3	65.0	71.1	*	*	19.0
None	NA	4.9	36.3	74.0	84.4	83.4	(75.6)	49.6
1	NA	NA	17.7	51.2	75.2	80.9	71.2	58.9
2	NA	NA	NA	16.7	48.4	68.0	71.6	60.8
3+	NA	NA	NA					
<b>Total</b>	1.0	4.9	35.1	58.4	68.7	73.8	71.6	42.7

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

NA: Not applicable

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

-- Less than 0.05 percent

<sup>1</sup> Includes current pregnancy, if any

<sup>2</sup> Excludes pregnant women

to the desire to have no more children. The differentials are particularly large for women who have exactly two children, suggesting that the two-child family is much more acceptable to educated women. Hindus are more likely to want to stop childbearing than Muslims and women of other religions. Religious differences shown in the total column understate the differences for women with specified numbers of children because Muslims already have more children than Hindus. For example, among women who currently have four living children, 50 percent of Muslim women say that want to stop childbearing, compared to 72 percent of Hindu women. Differentials by the number of sons and daughters provide further evidence of son preference in Bihar.

## 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. The total demand for family planning is the sum of the met need and the unmet 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 limiting births. The table also contains detailed definitions of these concepts.

Overall, 25 percent of women in Bihar have an unmet need for family planning, according to these definitions. The unmet need is slightly greater for spacing births (14 percent) than for limiting births (11 percent). Together with the 23 percent of currently married women who are using contraception, a total of 48 percent of currently married women have a demand for family planning. 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 23 percent to 48 percent of married women. This means that only 48 percent of the demand for family planning is being met by current programmes, as seen in the last column of Table 7.4. If the level of *unmet need* indicated in the table is assumed to reflect the needs of all currently married women age 13-49 in Bihar, then about 4.4 million women in Bihar have an unmet need for family planning.

The unmet need for limiting childbearing increases steadily until age 30-39 and decreases thereafter. The unmet need for spacing, on the other hand, is particularly strong for women under age 30. 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. Only 9 percent of the total demand for family planning services is being met for married women age 15-19 and this figure increases only gradually to 18 percent for women age 20-24 and 45 percent for women age 25-29.

The unmet need for family planning is slightly higher in rural areas and backward districts than in urban areas, but the total demand for family planning is much less likely to be satisfied in rural areas and backward districts than in urban areas. In urban areas, 68 percent of the total demand is satisfied, compared with 43 percent in rural areas and backward districts. Interestingly, the unmet need for family planning varies little (21 to 26 percent) across all education groups, but the total demand of illiterate women is much less likely to be satisfied by

**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, Bihar, 1993

Background characteristic	Unmet need for FP <sup>1</sup>			Met need-currently using <sup>2</sup>			Total demand for FP			Percent of need satisfied
	To space	To limit	Total	To space	To limit	Total	To space	To limit	Total	
<b>Age</b>										
13-14	(42.5)	(1.8)	(44.4)	(--)	(--)	(--)	(42.5)	(1.8)	(44.4)	(--)
15-19	26.1	0.5	26.6	1.9	0.8	2.7	28.0	1.3	29.3	9.1
20-24	29.8	5.4	35.2	3.6	4.2	7.8	33.4	9.7	43.1	18.2
25-29	15.5	13.2	28.7	3.5	20.1	23.5	18.9	33.3	52.2	45.1
30-34	6.1	19.6	25.7	1.3	34.5	35.8	7.4	54.1	61.5	58.3
35-39	2.6	19.0	21.6	0.4	39.6	40.0	3.1	58.6	61.7	64.9
40-44	1.8	11.6	13.4	--	36.9	36.9	1.8	48.4	50.2	73.4
45-49	0.2	4.4	4.5	--	30.2	30.2	0.2	34.5	34.7	87.0
<b>Residence</b>										
Urban	12.1	8.3	20.4	4.5	38.0	42.5	16.6	46.3	62.9	67.5
Rural	14.8	11.0	25.9	1.5	18.3	19.8	16.3	29.3	45.6	43.3
Backward districts	14.9	11.4	26.3	1.5	18.4	19.9	16.4	29.8	46.3	43.1
<b>Education</b>										
Illiterate	14.1	11.6	25.7	1.0	16.6	17.6	15.0	28.3	43.3	40.7
Lit., <middle complete	15.1	9.0	24.1	2.6	36.5	39.2	17.7	45.6	63.3	61.9
Middle complete	16.6	4.1	20.7	5.3	37.1	42.4	21.9	41.2	63.1	67.1
High school and above	16.3	5.7	21.9	8.8	37.0	45.7	25.0	42.6	67.7	67.6
<b>Religion</b>										
Hindu	14.6	9.7	24.2	1.8	24.2	26.0	16.4	33.9	50.2	51.7
Muslim	14.1	16.0	30.1	2.4	5.1	7.5	16.5	21.1	37.6	19.9
Other	11.5	7.2	18.7	5.0	20.7	25.7	16.5	27.9	44.4	57.9
<b>Caste/tribe</b>										
Scheduled caste	16.3	12.8	29.2	0.4	14.3	14.7	16.8	27.1	43.9	33.6
Scheduled tribe	13.1	9.4	22.5	1.3	15.0	16.4	14.4	24.4	38.8	42.1
Other	14.3	10.5	24.8	2.2	22.6	24.7	16.5	33.0	49.6	49.9
<b>Number of living children</b>										
None	15.1	0.3	15.3	1.2	0.6	1.7	16.2	0.8	17.1	10.1
1	30.2	0.7	30.9	5.2	2.7	7.9	35.5	3.3	38.8	20.4
2	21.0	7.5	28.5	4.2	20.5	24.7	25.2	28.0	53.2	46.5
3	12.8	11.8	24.6	0.5	33.8	34.3	13.3	45.6	58.9	58.2
4	7.3	16.6	23.9	0.7	35.8	36.4	8.0	52.4	60.3	60.4
5	2.5	21.8	24.2	0.3	34.8	35.2	2.8	56.6	59.4	59.2
6+	2.4	27.0	29.4	--	26.9	26.9	2.4	53.9	56.3	47.7
<b>Total</b>	<b>14.4</b>	<b>10.6</b>	<b>25.1</b>	<b>1.9</b>	<b>21.1</b>	<b>23.1</b>	<b>16.4</b>	<b>31.8</b>	<b>48.1</b>	<b>47.9</b>

( ) Based on 25-49 unweighted cases

-- Less than 0.05 percent

<sup>1</sup>Unmet 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.

<sup>2</sup>Using 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.

current family planning programmes than that of all other education groups. A similar picture emerges when examining unmet need by religion or caste/tribe. Unmet need varies little across the various groups but the percentage of total demand which is satisfied differs sharply from one group to another. The total demand of Muslims is least likely to be satisfied and members of scheduled castes or scheduled tribes are less likely to be satisfied than others. The final panel in Table 7.4 indicates that current family planning services are particularly inadequate for satisfying the childspacing needs of women with less than three children.

### 7.3 Ideal Number of Children

The analysis above has focused 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 answering these hypothetical questions and the questions often had to be repeated to ensure that they were understood by the respondent. Nevertheless, 88 percent of respondents were able to give a numerical response when asked for their ideal number of children.

Table 7.5 shows that the ideal number of children falls within the range of 2-4 children for a large majority of women. Almost no women expressed a desire for fewer than two children and only 11 percent thought that more than four children would be ideal. For those

Ideal number of children	Number of living children <sup>1</sup>							Total
	0	1	2	3	4	5	6+	
<b>URBAN</b>								
None	--	--	--	--	--	--	--	--
1	3.6	8.4	1.3	0.4	0.5	--	--	2.1
2	44.6	44.2	61.2	21.1	23.6	10.7	4.1	33.1
3	32.3	27.4	25.5	51.6	32.2	29.5	18.7	32.5
4	9.2	12.9	4.9	17.9	30.6	27.4	37.1	18.3
5	1.5	1.1	1.2	2.2	3.8	13.1	8.0	3.5
6+	0.4	0.9	0.4	3.1	1.7	5.6	15.5	3.0
Non-numeric responses	8.3	5.0	5.4	3.6	7.6	13.6	16.7	7.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	92	139	169	169	143	80	74	867
Mean ideal number <sup>2</sup>								
Ever-married women	2.6	2.5	2.4	3.1	3.2	3.7	4.3	3.0
Currently married women	2.6	2.6	2.4	3.1	3.2	3.7	4.3	3.0

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 and residence, Bihar, 1993

Ideal number of children	Number of living children <sup>1</sup>							Total
	0	1	2	3	4	5	6+	
<b>RURAL</b>								
None	--	--	--	--	--	--	--	--
1	1.3	0.9	0.3	0.5	--	0.4	--	0.5
2	22.3	24.2	24.5	9.4	5.6	5.7	2.5	14.6
3	36.6	40.5	40.2	48.1	24.8	18.7	13.8	34.0
4	20.1	18.1	20.1	24.7	44.9	30.3	28.9	26.2
5	2.0	3.8	3.7	4.2	9.5	20.9	11.0	6.9
6+	2.0	0.9	1.7	2.0	4.4	6.3	22.6	4.7
Non-numeric responses	15.7	11.7	9.5	11.1	10.8	17.7	21.2	13.2
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	712	789	903	901	754	502	521	5082
Mean ideal number <sup>2</sup>								
Ever-married women	3.1	3.0	3.1	3.3	3.8	4.1	4.7	3.5
Currently married women	3.1	3.0	3.1	3.3	3.8	4.1	4.7	3.5
<b>TOTAL</b>								
None	--	--	--	--	--	--	--	--
1	1.6	2.0	0.4	0.5	0.1	0.3	--	0.7
2	24.8	27.2	30.3	11.3	8.5	6.4	2.7	17.3
3	36.1	38.6	37.9	48.6	26.0	20.2	14.4	33.8
4	18.9	17.3	17.7	23.6	42.6	29.9	29.9	25.0
5	2.0	3.4	3.3	3.9	8.6	19.8	10.6	6.4
6+	1.8	0.9	1.5	2.2	4.0	6.2	21.7	4.4
Non-numeric responses	14.9	10.7	8.8	9.9	10.3	17.1	20.6	12.4
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	804	928	1072	1070	897	582	595	5949
Mean ideal number <sup>2</sup>								
Ever-married women	3.0	3.0	3.0	3.3	3.7	4.0	4.7	3.4
Currently married women	3.0	3.0	3.0	3.3	3.7	4.0	4.7	3.4
<b>BACKWARD DISTRICTS</b>								
None	--	--	--	--	--	--	--	--
1	0.5	1.2	1.0	--	--	0.4	--	0.5
2	22.8	24.0	19.6	9.9	6.4	4.7	3.3	14.2
3	38.9	40.5	44.2	44.3	22.2	20.6	14.6	34.5
4	18.2	18.2	20.8	28.0	46.9	31.2	30.3	27.0
5	3.4	4.9	4.4	6.3	7.7	20.3	8.3	7.1
6+	2.8	2.6	4.3	3.9	7.4	10.0	27.7	6.9
Non-numeric responses	13.4	8.7	5.7	7.6	9.4	12.8	15.7	9.8
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	133	145	154	155	135	85	80	887
Mean ideal number <sup>2</sup>								
Ever-married women	3.1	3.1	3.2	3.5	3.9	4.2	4.7	3.6
Currently married women	3.1	3.1	3.2	3.4	3.9	4.2	4.7	3.5

-- Less than 0.05 percent

<sup>1</sup>Includes current pregnancy, if any

<sup>2</sup>Means are calculated excluding the women giving non-numeric responses.

who gave numeric responses, the average number of children considered ideal is 3.4. This is a clear indication that for women in Bihar the two-child norm is not acceptable. The mean ideal number of children ranges from 3.0 for women with less than three children to 4.7 for those who already have six or more children.

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, 57 percent state that their ideal family would consist of fewer than five children. Similarly, 35 percent of women with four children think that two or three children would be ideal. Thus, family size norms are quite moderate and it is evident that a large proportion of women already have more children than they would consider ideal. This may be taken as another indicator of surplus or unwanted fertility.

Table 7.6 shows the mean ideal number of children for ever-married women by age and selected background characteristics. The mean increases steadily from 3.2 children for women under age 20 to 3.8 children for women age 45-49. The stated ideal family size is half a child higher, on the average, in rural areas and backward districts than in urban areas. Similarly, it is more than half a child higher for Muslims than for Hindus and women of other religions. No difference is observed in the mean ideal number of children for scheduled tribes and scheduled castes. The most pronounced differentials are by educational attainment, particularly the wife's education. The average ideal family size is about one child higher for illiterate women than for women who have completed middle school or above. 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 a strong preference for sons over daughters can be seen in this table. Overall, the ideal family consists of 2.0 sons and 1.2 daughters, with a very small percentage of women stating that the sex of the child does not matter. Son preference is stronger in rural areas and backward districts but it is still substantial in urban areas. There is a slight 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 persists.

#### **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 the time. Nevertheless, these questions form a potentially powerful indicator of the degree to which couples successfully control childbearing.

Table 7.8 shows that almost one-quarter of all births (including current pregnancies) in the four years before the survey were not wanted at the time the woman became pregnant. Nine

**Table 7.6 Ideal number of children by background characteristics**

Mean ideal number of children for ever-married women by age and selected background characteristics, Bihar, 1993

Background characteristic	Current age								Total	
	13-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
<b>Residence</b>										
Urban	*	3.0	2.8	2.9	3.0	3.0	3.1	3.3	3.0	
Rural	*	3.2	3.2	3.4	3.6	3.7	4.0	3.9	3.5	
Backward districts	*	3.2	3.3	3.4	3.7	3.9	3.9	4.3	3.6	
<b>Education</b>										
Illiterate	*	3.3	3.3	3.5	3.8	3.7	4.0	3.9	3.6	
Lit., < middle complete	*	3.1	2.8	3.0	3.1	3.2	3.4	3.6	3.1	
Middle school complete	*	(2.7)	(2.7)	(2.6)	(2.5)	*	*	*	2.7	
High school and above	*	(2.6)	2.4	2.5	2.4	2.3	2.8	*	2.5	
<b>Religion</b>										
Hindu	*	3.1	3.0	3.2	3.4	3.4	3.6	3.8	3.3	
Muslim	*	3.8	3.5	3.8	4.5	4.2	5.0	4.2	4.0	
Other	*	*	*	*	*	*	*	*	3.4	
<b>Caste/tribe</b>										
Scheduled caste	*	3.3	3.1	3.5	3.7	3.3	(4.2)	(4.2)	3.5	
Scheduled tribe	*	(3.0)	3.1	3.6	(3.7)	(3.3)	(4.0)	(4.3)	3.5	
Other	*	3.2	3.1	3.3	3.5	3.6	3.8	3.7	3.4	
<b>Work status</b>										
Not working	*	3.1	3.0	3.3	3.5	3.4	3.9	3.8	3.3	
Working in family farm/business	*	(3.5)	3.3	3.3	3.5	3.7	3.6	(4.0)	3.5	
Employed by someone else	*	3.5	3.4	3.6	3.7	3.7	3.8	4.0	3.7	
Self employed	*	*	*	*	*	*	*	*	3.5	
<b>Husband's education</b>										
Illiterate	*	3.4	3.4	3.7	3.9	3.8	4.3	4.0	3.7	
Lit., < primary complete	*	(3.2)	3.1	(3.6)	(4.0)	(3.9)	(4.1)	(4.2)	3.7	
Primary school complete	*	3.3	3.1	3.4	3.6	3.5	3.7	3.9	3.5	
Middle school complete	*	3.0	3.1	3.1	3.5	3.4	(3.6)	(4.0)	3.3	
High school complete	*	2.9	2.8	3.0	3.0	3.4	3.3	3.4	3.1	
Above high school	*	2.8	2.6	2.6	2.6	2.5	3.2	3.3	2.7	
<b>Total</b>		(3.2)	3.2	3.1	3.3	3.5	3.5	3.8	3.8	3.4

Note: Total means are based on all women including 9 women with missing information on husband's education, the means for whom are not shown separately.

( ) Based on 25-49 unweighted cases

\* Mean not shown; based on fewer than 25 unweighted cases

percent of the births were unwanted and 14 percent were mistimed. A higher proportion of births were mistimed in case of women from urban areas (18 percent), women with high school and above education (21 percent), those belonging to other religions (20 percent) and women age 20-24 at the time of birth (17 percent) compared to women from other categories. 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 (22 percent). The percentage of pregnancies that were planned decreases steadily with increasing age to a level of 43 percent for women age 40-44. More than one-third of all births to women age 35-39 and

**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, according to residence, Bihar, 1993

Sex composition of living children	Urban			Rural			Total			Backward districts		
	Sons	Daugh- ters	Gender doesn't matter	Sons	Daugh- ters	Gender doesn't matter	Sons	Daugh- ters	Gender doesn't matter	Sons	Daugh- ters	Gender doesn't matter
<b>None</b>	1.3	0.9	0.3	1.8	1.1	0.2	1.7	1.1	0.2	1.9	1.2	0.1
<b>1 child</b>	1.4	0.9	0.3	1.8	1.1	0.1	1.7	1.1	0.2	1.9	1.1	0.1
1 son	1.4	0.9	0.3	1.8	1.1	0.1	1.7	1.0	0.2	1.9	1.2	0.1
No sons	1.4	1.0	0.3	1.8	1.1	0.1	1.7	1.1	0.1	1.9	1.1	0.1
<b>2 children</b>	1.2	0.9	0.4	1.8	1.1	0.1	1.7	1.1	0.2	2.0	1.2	0.1
2 sons	1.3	0.7	0.3	1.8	0.9	0.2	1.7	0.9	0.2	2.0	1.0	--
1 son	1.2	0.9	0.3	1.9	1.1	0.1	1.8	1.1	0.1	2.0	1.2	0.1
No sons	(1.1)	(0.9)	(0.6)	1.8	1.3	0.2	1.7	1.2	0.3	1.8	1.4	0.1
<b>3 children</b>	1.8	1.1	0.2	2.1	1.2	0.1	2.0	1.2	0.1	2.2	1.3	0.1
3 sons	(2.0)	(0.8)	(--)	2.4	1.0	0.1	2.3	0.9	0.1	2.3	0.9	0.1
2 sons	1.8	1.1	0.2	2.0	1.1	0.1	2.0	1.1	0.1	2.1	1.2	0.1
1 son	1.8	1.2	0.3	2.0	1.4	0.1	1.9	1.3	0.1	2.2	1.6	--
No sons	*	*	*	2.1	1.5	0.2	2.0	1.4	0.2	(2.2)	(1.4)	(0.2)
<b>4+ children</b>	2.1	1.4	0.2	2.4	1.5	0.2	2.4	1.5	0.2	2.5	1.6	0.1
2 or more sons	2.1	1.4	0.2	2.5	1.5	0.2	2.4	1.5	0.2	2.6	1.6	0.1
1 son	1.7	1.3	0.2	2.3	1.6	0.1	2.3	1.5	0.1	2.3	1.7	--
No sons	*	*	*	(2.2)	(1.7)	(0.1)	2.1	1.6	0.1	*	*	*
<b>Total</b>	1.6	1.1	0.3	2.1	1.3	0.2	2.0	1.2	0.2	2.2	1.3	0.1

Note: Table excludes women who gave non-numeric responses to the questions on the ideal number of sons and daughters.

( ) Based on 25-49 unweighted cases

\* Mean not shown; based on fewer than 25 unweighted cases

-- Less than 0.05 children

more than half of all births to women age 40-44 were reported to be unplanned (mistimed or 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 is calculated in the same way as the total fertility rate, except that unwanted births are excluded from the numerator. A birth was 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.

The wanted TFR of 3.2 is lower by almost one child ( 0.8 child or 20 percent) than the TFR of 4.0 as shown in Table 7.9. Large differences between these two measures are evident for all population subgroups.

**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, Bihar, 1993

Background characteristic	Planning status of pregnancy				Total percent	Number of births
	Wanted then	Wanted later	Wanted no more	Missing		
<b>Residence</b>						
Urban	71.6	18.2	10.0	0.1	100.0	531
Rural	77.0	13.6	9.2	0.2	100.0	3636
Backward districts	76.4	11.2	12.2	0.2	100.0	631
<b>Education</b>						
Illiterate	77.1	12.9	9.9	0.1	100.0	3333
Lit., < middle complete	71.9	19.1	8.7	0.2	100.0	402
Middle school complete	76.8	18.6	4.6	--	100.0	117
High school and above	73.6	20.8	4.9	0.7	100.0	315
<b>Religion</b>						
Hindu	76.1	14.6	9.1	0.2	100.0	3278
Muslim	77.3	12.2	10.3	0.2	100.0	820
Other	73.5	19.5	7.0	--	100.0	69
<b>Caste/tribe</b>						
Scheduled caste	74.8	14.7	9.8	0.7	100.0	420
Scheduled tribe	83.4	11.3	5.4	--	100.0	322
Other	75.8	14.4	9.6	0.1	100.0	3425
<b>Birth order<sup>1</sup></b>						
1	92.2	7.3	0.2	0.3	100.0	981
2	81.8	17.3	0.5	0.4	100.0	878
3	76.1	19.2	4.7	0.1	100.0	694
4+	63.8	14.6	21.5	--	100.0	1613
<b>Mother's age at birth<sup>2</sup></b>						
< 15	(80.7)	(19.3)	(--)	(--)	100.0	24
15-19	87.6	11.2	0.6	0.5	100.0	834
20-24	79.5	16.9	3.4	0.2	100.0	1493
25-29	75.0	14.7	10.3	--	100.0	997
30-34	62.3	12.9	24.7	0.1	100.0	539
35-39	61.1	8.0	30.9	--	100.0	210
40-44	42.7	13.9	42.8	0.5	100.0	65
<b>Total</b>	<b>76.3</b>	<b>14.2</b>	<b>9.3</b>	<b>0.2</b>	<b>100.0</b>	<b>4167</b>

Note: Total includes 5 births to women age 45-49 at the time of birth, which are not shown separately.

( ) Based on 25-49 unweighted cases

-- Less than 0.05 percent

<sup>1</sup>Includes current pregnancy, if any.

<sup>2</sup>For current pregnancy, estimated maternal age at birth.

**Table 7.9 Wanted fertility rates**

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by selected background characteristics, Bihar, 1993

Background characteristic	Total wanted fertility rate	Total fertility rate
<b>Residence</b>		
Urban	2.49	3.25
Rural	3.31	4.15
Backward districts	3.24	4.05
<b>Education</b>		
Illiterate	3.43	4.28
Literate, < middle complete	2.85	3.77
Middle school complete	1.95	2.65
High school and above	2.12	2.58
<b>Religion</b>		
Hindu	2.96	3.78
Muslim	4.29	5.19
Other	3.20	3.39
<b>Caste/tribe</b>		
Scheduled caste	3.09	3.95
Scheduled tribe	2.90	3.42
Other	3.21	4.06
Total	3.18	4.00

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 5.2

## CHAPTER 8

### MORBIDITY AND MORTALITY

This chapter presents data on the prevalence of certain diseases as well as mortality rates, especially for infants and young children. 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 on morbidity from both the Woman's and Household Questionnaires. The Household Questionnaire has questions on individuals in the household suffering from blindness, tuberculosis, leprosy, physical impairment of the limbs and malaria, as well as a question on deaths occurring in the household during the past two years. The Household Questionnaire also includes a question on deaths occurring in the household during the past two years 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 diseases for children under four years of age. The prevalence and treatment of childhood diseases are discussed in Chapter 9.

#### 8.1 Morbidity

Because demographic sample surveys generally do not include questions on the prevalence of diseases, 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 enumerator in asking the question.

Table 8.1 shows the prevalence of the five health conditions among the household population living in each place of residence by age and by sex. Partial or complete blindness, with the highest incidence, affects 28 per 1,000 population. Malaria follows next, afflicting 14 per 1,000 population during the three months prior to the survey. Physical impairment of the limbs affects 7 per 1,000, 6 per 1,000 have tuberculosis and 1 per 1,000 have leprosy.

**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, Bihar, 1993

Demographic characteristic	Number of persons per 1,000 suffering from:						Number of usual residents
	Blindness		Tuber- culosis	Leprosy	Physical impairment of limbs	Malaria during the last three months	
	Partial	Complete					
<b>URBAN</b>							
<b>Age</b>							
0 -14	2.3	13.1	2.8	0.4	6.6	9.6	1718
15-59	19.4	2.2	5.3	1.7	5.6	6.5	2565
60+	150.8	15.7	9.5	2.6	21.1	2.6	279
<b>Sex</b>							
Male	16.3	9.0	4.2	1.6	7.5	5.6	2410
Female	26.3	5.0	5.1	0.9	6.3	9.4	2152
<b>Total</b>	<b>21.0</b>	<b>7.1</b>	<b>4.7</b>	<b>1.3</b>	<b>6.9</b>	<b>7.4</b>	<b>4562</b>
<b>RURAL</b>							
<b>Age</b>							
0 -14	3.1	6.2	1.7	0.4	7.2	12.0	10636
15-59	20.2	1.5	8.8	1.5	5.9	17.5	12576
60+	159.0	13.3	14.5	3.7	15.6	23.0	1822
<b>Sex</b>							
Male	21.5	4.0	7.1	1.8	8.5	16.4	12721
Female	24.6	4.7	5.2	0.6	5.7	14.6	12312
<b>Total</b>	<b>23.0</b>	<b>4.4</b>	<b>6.2</b>	<b>1.2</b>	<b>7.2</b>	<b>15.5</b>	<b>25033</b>
<b>TOTAL</b>							
<b>Age</b>							
0 -14	3.0	7.2	1.8	0.4	7.1	11.6	12354
15-59	20.0	1.6	8.2	1.6	5.8	15.6	15140
60+	157.9	13.7	13.8	3.6	16.3	20.3	2102
<b>Sex</b>							
Male	20.6	4.8	6.6	1.8	8.4	14.7	15131
Female	24.9	4.8	5.2	0.7	5.8	13.8	14464
<b>Total</b>	<b>22.7</b>	<b>4.8</b>	<b>5.9</b>	<b>1.2</b>	<b>7.1</b>	<b>14.3</b>	<b>29596</b>
<b>BACKWARD DISTRICTS</b>							
<b>Age</b>							
0 -14	4.1	4.5	1.7	0.8	8.6	12.2	1868
15-59	21.9	2.7	14.3	2.9	8.6	18.8	2250
60+	181.4	14.6	13.3	7.0	15.8	27.1	325
<b>Sex</b>							
Male	20.9	5.7	10.6	2.9	10.5	17.4	2277
Female	31.6	2.9	7.2	1.7	7.7	15.8	2166
<b>Total</b>	<b>26.1</b>	<b>4.3</b>	<b>8.9</b>	<b>2.3</b>	<b>9.1</b>	<b>16.6</b>	<b>4443</b>

## **Partial and Complete Blindness**

The overall prevalence of partial blindness is 23 per 1,000 population (Table 8.1), with slight variation by place of residence. Partial blindness increases sharply with age from 3 per 1,000 persons age 0-14 to 20 per 1,000 persons age 15-59 and 158 per 1,000 persons age 60 and over. The high prevalence among older persons, by far the largest differential displayed for any of these morbidity data, is particularly striking. Overall, females are substantially more prone to partial blindness than males despite the fact that there are proportionally more males than females in the older age groups where the prevalence of partial blindness is the highest. Overall, the prevalence for females is 25 per 1,000 compared with 21 per 1,000 for males.

The overall level of complete blindness is 5 per 1,000. The NFHS estimate of total blindness is considerably higher than the 1981 Census estimate of 0.1 percent (Office of the Registrar General and Census Commissioner, 1983), which is probably indicative of relatively high underenumeration in the census rather than a substantial increase in blindness in Bihar between 1981 and 1993.

The prevalence of complete blindness is reported to be higher among urban residents (7 per 1,000) than rural residents (4 per 1,000). Females are slightly more prone to complete blindness than males in rural areas and less prone than males in urban areas. Complete blindness is more than eight times as prevalent among persons over age 60 as among persons age 15-59. Complete blindness is higher among persons age 0-14 than among persons age 15-59, and the difference is significant. The overall prevalence of partial blindness in backward districts is the highest among all areas (26 per 1,000), but the age-sex differentials are similar to those of the state as a whole.

## **Malaria**

The overall level of malaria in the three months prior to the survey was 14 per 1,000. The prevalence is substantially lower in urban areas (7 per 1,000) than in rural areas (16 per 1,000). In urban areas the prevalence of malaria is higher for females (9 per 1,000) than for males (6 per 1,000) whereas slightly the opposite is true in rural areas (16 per 1,000 for males compared with 15 per 1,000 for females). The overall level of malaria in backward districts is 17 per 1,000.

There are more substantial but still rather small differences in prevalence among age groups. The prevalence of malaria is highest for those age 60 and over (20 per 1,000) and lowest for those age 0-14 (12 per 1,000). Since the prevalence of malaria is known to vary considerably by season, the NFHS estimates should not be taken to represent the typical level throughout the year. The fieldwork was conducted during the dry season when malaria rates are expected to be relatively low.

## **Tuberculosis**

The overall prevalence of tuberculosis is 6 per 1,000, with some variation by place of residence and sex. Age differences are marked, with values of 2 per 1,000 for persons age 0-14, 8 per 1,000 for those age 15-59, and 14 per 1,000 for those age 60 and over. In backward

districts the overall prevalence of tuberculosis is higher at 9 per 1,000 than in the country as a whole.

### **Leprosy**

The reported prevalence of leprosy is only 1 per 1,000. The prevalence is more than twice as high among males as among females and is higher among persons age 60 and over than among others.

### **Physical Impairment of the Limbs**

The overall prevalence of persons with physically impaired limbs is 7 per 1,000. Female prevalence is 6 per 1,000 in all residence groups. Males have slightly higher prevalence, 8 per 1,000. There is little difference in prevalence by age under age 60, but those age 60 and over are more than twice as likely to have physically impaired limbs as others.

## **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 Bihar from the NFHS and the SRS are shown in Table 8.2. The crude death rate from the NFHS is based on deaths occurring to usual residents of the household during the two years preceding the survey as obtained in the Household Questionnaire, whereas the SRS estimates are based on deaths during a one-year period. The NFHS 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.

Questions on the number of deaths occurring to usual residents in each household during a particular time period have been included in demographic surveys in many countries and have generally resulted in a substantial understatement of deaths. We, therefore, begin by considering the evidence on the completeness of reporting of deaths. The Sample Registration System (SRS), maintained by the Office of the Registrar General, provides the most useful comparison. The most recent report on mortality estimates by age for Bihar is for 1991 (Office of the Registrar General, 1993a). The rates for ages 0-4, 5-14, and 50+ are taken directly from the published data whereas the rate for age 15-49 is estimated from the published data.

Table 8.2 shows an average annual crude death rate for the usual resident population of Bihar of 11.5 per 1,000 for the two years before the NFHS survey (roughly 1991-92). The SRS crude death rate for the state is 9.8 per 1,000 for 1991 and 10.9 per 1,000 for 1992 (Office of the Registrar General, 1993a, 1994a). The NFHS estimate of CDR is relatively higher than the SRS estimates. The NFHS estimate of the crude death rate may be subtracted from the earlier estimate of the crude birth rate (see Table 5.1) to calculate the rate of natural increase of the population of Bihar. The rate of natural increase is estimated to be 20.8 per 1,000 population per year for the two-year period before the survey. This translates into an annual growth rate

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

Crude death rates (CDR) and age-sex specific death rates, Bihar, 1991-92

Age	NFHS (1991-92)						SRS (1991)		
	Death rate			Number of usual residents			Death rate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 4	28.2	27.7	28.0	2021	1983	4003	20.9	24.8	22.8
5 -14	3.5	3.0	3.3	4317	4033	8350	2.5	3.2	2.9
15-49	4.0	4.1	4.0	6821	6777	13598	3.5	4.3	3.9
50+	35.5	43.0	38.9	1973	1672	3644	33.5	29.8	31.7
CDR	11.3	11.7	11.5	15131	14464	29596	9.4	10.3	9.8

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

The SRS rates are also *de jure*, based on deaths during 1990.

Source of SRS data: Office of the Registrar General (1993a).

of 2.08 percent, which matches well with SRS estimate of 2.05 for 1990 (Office of the Registrar General, 1993b).

The age-specific death rates for broad age groups shown in Table 8.2 can be compared directly with the SRS rates. Although the SRS does not report the death rates for all of the specific age groups shown in Table 8.2, these rates are estimated based on the SRS age distribution. The age pattern of mortality as revealed by the NFHS and SRS data indicates an expected typical U-shaped pattern with very high death rates at very young and very old ages and the lowest rate at age 5-14. The NFHS and SRS age-specific death rates are very close at ages 5-14 and 15-49, but the NFHS rates are higher at ages 0-4 and 50+. This perhaps indicates underreporting of deaths in the SRS and better reporting in the survey.

In most countries, male death rates are higher than female death rates at almost all ages. South Asia has generally been an exception in this respect, with higher death rates for females over much of the age span (Ghosh, 1987; Preston, 1990). The overall death rate is higher for females than males in both the NFHS and SRS (the ratio of female to male death rate is 1.04 in the NFHS and 1.10 in the SRS 1991), an expected phenomenon for Bihar. However, age-sex patterns of mortality for the NFHS and SRS 1991 show some important inconsistencies. For age 0-4, the female death rate, as expected, is higher than the male death rate in the SRS (the ratio is 1.19), but lower than the male death rate in the NFHS (the ratio is 0.98). The lower female death rate relative to the male death rate at ages 0-4 and 5-14 found in the NFHS is unusual given the opposite findings of the SRS in many states of India.

The SRS data on age-sex death rates over a long period of time also show female death rates higher than male death rates in the reproductive age groups in several states. The NFHS and the 1991 SRS reveal the expected pattern of higher female than male death rates in the reproductive age group of 15-49 (ratios for the NFHS and the 1991 SRS are 1.03 and 1.23, respectively).

In the oldest age group of 50 years and over, the ratio of female to male death rates is 1.21 from the NFHS and 0.89 from the SRS. The higher ratio from the NFHS is unexpected.

It should be mentioned again that the information on deaths in the household was obtained from either the head of the household or some responsible member and the possibility of underreporting of deaths of females cannot be ruled out. Also, females who died in the reproductive years may have been reported as deaths of females age 50 and over.

### 8.3 Infant and Child Mortality

#### Definitions of Infant and Child Mortality

In the NFHS, ever-married women age 13-49 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 for 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:<sup>1</sup>

- 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 ( ${}_4q_1$ )** : 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). Both problems are likely to be more pronounced for children born long before the survey than for

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<sup>1</sup> 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 segments are produced by multiplying the relevant age interval survival probabilities together and subtracting the product from one:

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

children born recently. Failure to report deaths will result in mortality figures that are too low. If underreporting is more severe for children born longer ago, the estimates will tend to understate any decline in mortality that has occurred.

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. Changes in these ratios over time can be examined to test the hypothesis that underreporting of early infant deaths is more common for births that occurred longer before the survey. Results from Table B.5 in Appendix B suggest that early infant deaths have *not* been severely underreported in the Bihar 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 are quite high for 0-4 years (74) and 5-9 years (70) prior to the survey and there is slight increment over time from 66 (in the 10-14 years preceding the survey) to 74, indicating that some early infant deaths may not have been reported by older women. The ratios of infant deaths that occurred during the neonatal period (see Appendix Table B.6) are also quite high and show a slight increase over time from 56 to 64.

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.

In the Bihar NFHS, there was some misreporting of age at death due to preference for reporting age at death at 6, 8, 10, 15 and 20 days (see Appendix Table B.5). Examination of the distribution of deaths under age two years during the 15 years prior to the survey by month of death (Appendix Table B.6) indicates that the calculated infant mortality rates for the population of Bihar as a whole are not likely to be understated by more than 1 to 2 percent on this account. There was surprisingly little "heaping" on particular *months* of death, and due to strong emphasis during training<sup>2</sup>, an almost negligible number of deaths were reported to have occurred at age one year, making any adjustment in the infant and child mortality rates unnecessary.

This brief check on internal consistency of the Bihar NFHS childhood mortality data suggests that there is no serious underreporting of deaths during the time periods for which the

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<sup>2</sup> Interviewers in the NFHS were instructed to probe for the exact number of months lived by the child if the age at death was reported as "1 year".

mortality rates are estimated and that although there is some evidence of heaping in age at death at certain ages, the bias in infant and child mortality rates arising from this heaping is negligible.

It is seldom possible to establish, with confidence, mortality levels for a period more than 15 years before a survey. Even within the recent 15-year period considered here, apparent trends in mortality rates should be interpreted with caution, for several reasons. First, there may exist differences in the completeness of death reporting related to the length of time before the survey. Second, the accuracy of reports of age at death and of date of birth may deteriorate systematically with time. Third, sampling variability for mortality rates is relatively high (see Appendix A). The fourth reason relates to truncation of mortality rates further back in time, because women age 50 and over who were bearing children during these periods were not included in the survey. This truncation particularly affects mortality trends. For example, for the period 10-14 years before the survey, the rates do not include any births for women age 40-49 since these women were over age 50 at the time of the survey and not eligible to be interviewed. Since these excluded births to older women were likely to be at a somewhat greater risk of dying than births to younger women, the mortality levels for the period may be slightly underestimated. However, the estimates for later periods are less affected by the truncation bias since fewer older women are excluded. The extent of this bias depends on the proportion of births omitted, however, and Table 8.6 shows that among children born in the five years prior to the survey, only 7 percent were born to women over age 34 years. Given this small proportion of births excluded, selection bias for infant and child mortality statistics as far as 15 years back from the survey should be minor.

### **Levels and Trends in Infant and Child Mortality**

Table 8.3 and Figure 8.1 show various measures of infant and child mortality for the three quinquennial periods preceding the survey by residence group. Infant mortality rates have declined to some extent in Bihar during the 15 years prior to the NFHS in 1993. The infant mortality rate for the total population declined from 108 per 1,000 live births during 1978-82 (10-14 years prior to the survey) to 89 per 1,000 live births during 1988-92 (0-4 years prior to the survey), an average rate of decline of nearly two infant deaths per 1,000 live births per year. The percentage decline in neonatal and infant mortality was slower than the decline in other measures of mortality. The rate of decline was higher in rural areas than in urban areas for all of the mortality measures except neonatal mortality. Despite the overall decline in infant mortality (18 percent over a 10-year period), 1 in every 11 children born in the five years before the NFHS died within the first year of life and 1 in every 8 children died before reaching age five. Therefore, child survival programmes still need to be intensified to produce further reductions in the level of infant and child mortality.

The estimated NFHS infant mortality rate of 89 in 1988-92 is quite close to the SRS value of 91 infant deaths per 1000 live births for the year 1989, but not for later years (Office of the Registrar General, 1993b).

### **Socioeconomic Differentials in Infant and Child Mortality**

Table 8.4 and Figure 8.2 show infant and child mortality statistics for the 10-year period preceding the survey, by selected background characteristics. Infant mortality rates are much

<b>Table 8.3 Infant and child mortality</b>					
Neonatal, postneonatal, infant, child and under-five mortality for five-year periods preceding the survey, by residence, Bihar, 1993					
Years prior to survey	Neonatal mortality (NN)	Postneonatal mortality <sup>1</sup> (PNN)	Infant mortality ( <sub>1</sub> q <sub>0</sub> )	Child mortality ( <sub>4</sub> q <sub>1</sub> )	Under-five mortality ( <sub>5</sub> q <sub>0</sub> )
<b>URBAN</b>					
0-4 years	34.9	24.5	59.3	35.7	92.9
5-9 years	30.8	34.0	64.7	20.5	84.0
10-14 years	38.5	33.3	71.9	37.9	107.0
<b>RURAL</b>					
0-4 years	57.8	36.0	93.8	43.0	132.7
5-9 years	63.4	46.4	109.8	49.7	154.0
10-14 years	62.7	52.0	114.7	60.9	168.6
<b>TOTAL</b>					
0-4 years	54.8	34.4	89.2	42.0	127.5
5-9 years	59.3	44.8	104.1	45.7	145.0
10-14 years	59.1	49.2	108.3	57.0	159.1
<b>BACKWARD DISTRICTS</b>					
0-4 years	56.2	38.5	94.8	49.0	139.1
5-9 years	54.4	48.0	102.4	54.0	150.9
10-14 years	49.0	62.0	111.0	67.4	170.9

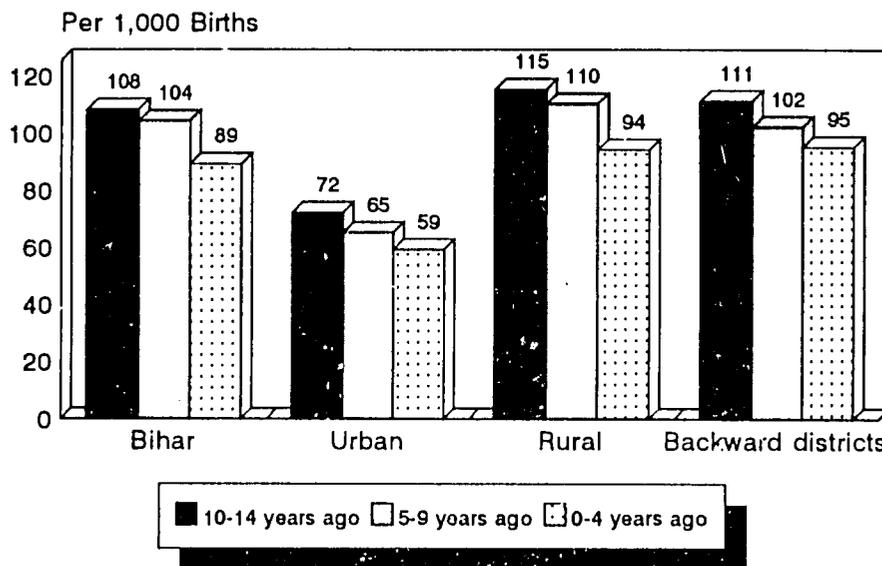
<sup>1</sup>Computed as the difference between the infant and neonatal mortality rates

higher in rural areas (102 per 1,000 live births) than in urban areas (62 per 1,000 live births). Children in rural areas of Bihar experience 62 percent higher risk of dying before their fifth birthday than urban children. The infant mortality rate in backward districts is similar to the rate for the state as a whole. Infant mortality declines sharply with increasing education of women, as expected, ranging from a high of 103 per 1,000 for children of illiterate women to a low of 54 per 1,000 for children of women with at least a high school education. Similar variation is displayed by the other mortality indicators shown in the table. Mortality differentials by religion presumably reflect influences other than religion proper. For example, Muslims have higher infant and under-five mortality rates than Hindus, perhaps partly because of lower educational status. Children of scheduled castes have the highest mortality rates of any group shown in Table 8.4; for example, the infant mortality rate and under-five mortality rates are 24 to 25 percent higher than the rates for the state as a whole. There is need for special programmes in maternal and child health to focus on scheduled castes.

As expected, the presence of medical maternity care for mothers (antenatal or delivery care by a trained health professional) is associated with substantially lower mortality risks. Infant mortality rates fall from 88 per 1,000 for births with no care to 79 per 1,000 for births with either antenatal or delivery care, and to 45 per 1,000 for births with both antenatal and delivery care.

Although the impact of antenatal and delivery care on survival during the first month of life (neonatal mortality) is less than the effect on mortality risks at later ages, it is nonetheless

**Figure 8.1**  
**Infant Mortality Rates for Five-Year**  
**Periods by Residence**



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

NFHS, Bihar, 1993

very large. Children of mothers who received no such care have a higher neonatal mortality rate than children of mothers who received both antenatal and delivery care, 51 compared with 33 deaths per 1,000 live births. This differential is all the more impressive because women who have pregnancy-related complications (whose babies have a relatively high risk of non-survival) are usually more likely to seek antenatal and delivery care.

### Demographic Differentials in Infant and Child Mortality

This section examines differentials in early child mortality by various demographic characteristics of both the child and the mother. Table 8.5 and Figure 8.3 present mortality rates for the 10 years preceding the survey by sex of the child, age of the mother at the time of the child's birth, birth order, length of the previous birth interval and size of the child at birth.

The pattern of sex differentials by age in Table 8.5 provides evidence of differential treatment of male and female children leading to higher postneonatal, child and under-five mortality risks for females. Neonatal mortality, which reflects a substantial component of congenital conditions, is slightly higher for males than for females. The ratio of female to male postneonatal mortality is 1.14, similar to the ratio of 1.06 for under-five mortality. By far the largest differential, however, is in the child death rate, reflecting mortality risks between ages one and five. The female to male ratio here is 1.55. The sharp disadvantage of female children age one to five may reflect neglect of girls after breastfeeding has ceased.

**Table 8.4 Infant and child mortality by background characteristics**

Neonatal, postneonatal, infant, child and under-five mortality by selected background characteristics for the 10-year period preceding the survey, Bihar, 1993

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality <sup>1</sup> (PNN)	Infant mortality ( <sub>1</sub> q <sub>0</sub> )	Child mortality ( <sub>4</sub> q <sub>1</sub> )	Under-five mortality ( <sub>5</sub> q <sub>0</sub> )
<b>Residence</b>					
Urban	32.8	29.3	62.1	28.3	88.6
Rural	60.7	41.4	102.1	46.3	143.7
Backward districts	55.3	43.5	98.7	51.3	145.0
<b>Mother's education</b>					
Illiterate	59.1	44.0	103.1	49.5	147.5
Literate, < middle complete	55.4	24.7	80.1	28.6	106.4
High school and above	37.5	16.6	54.1	5.7	59.5
<b>Religion</b>					
Hindu	56.3	38.8	95.1	44.0	134.9
Muslim	60.8	43.6	104.4	44.8	144.5
<b>Caste/tribe</b>					
Scheduled caste	72.0	48.3	120.4	57.6	171.0
Scheduled tribe	59.2	38.1	97.2	42.5	135.6
Other	55.1	38.9	94.0	42.3	132.3
<b>Medical maternity care<sup>2</sup></b>					
No antenatal or delivery care	50.7	36.9	87.6	36.7	121.1
Either antenatal or delivery care	55.4	23.8	79.2	(7.9)	86.5
Both antenatal and delivery care	(32.8)	(11.9)	(44.7)	(28.1)	(71.6)
<b>Total</b>	<b>57.1</b>	<b>39.8</b>	<b>97.0</b>	<b>43.8</b>	<b>136.5</b>

Note: Total includes the mortality experience of middle school educated mothers and other religious groups, which are based on fewer than 250 unweighted children surviving to the beginning of the age interval, and are not shown separately.

( ) Based on 250-499 unweighted children surviving to the beginning of the age interval

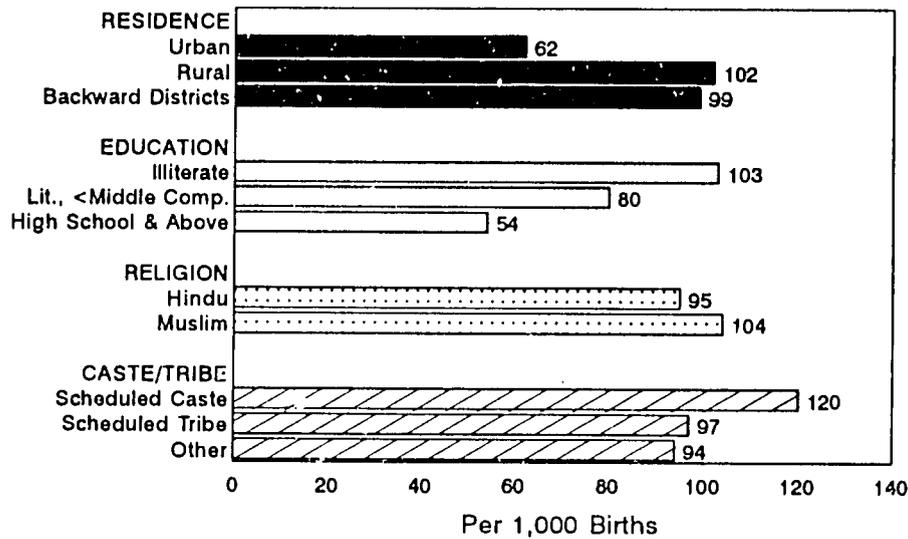
<sup>1</sup>Computed as the difference between the infant and neonatal mortality rates

<sup>2</sup>Rates for the four-year period before the survey. Medical care is that given by a doctor, nurse, trained midwife, or other health professional in a hospital, clinic, or health centre or care received at home from a health worker.

The mortality estimates exhibit the expected U-shaped pattern with respect to the mother's age at the time of the birth, with children of both younger and older mothers more at risk. Infant mortality is highest for children of mothers under age 20 (122 per 1,000) and age 30-39 (95 per 1,000). The higher risk for births to women under age 20 is the more salient statistic, however, since births to women under age 20 are relatively common and births to women above age 30 are few. The lowest infant mortality rate, of 88 per 1,000, is for women in the prime childbearing years (20-29 years old).

Similar patterns are observed for the remaining infant and child mortality statistics. The high mortality for the offspring of young mothers (under age 20) is particularly evident for neonatal mortality. Infants born to young mothers are more likely to be of low birth weight, which is probably an important factor contributing to their higher neonatal mortality rate.

**Figure 8.2**  
**Infant Mortality Rates by Selected**  
**Background Characteristics**



Note: Based on births in the 10 years preceding the survey. Rate for Middle Complete is not shown; based on fewer than 250 unweighted births

NFHS, Bihar, 1993

Differentials by birth order again show the expected U-shaped pattern for neonatal and infant mortality. Children of birth order 7 or higher have particularly high mortality rates. There is, of course, a close correlation between age of mother and birth order, with higher order births occurring at older ages. The increase in child mortality with birth order may reflect the more intense competition for nutritious food faced by children of higher birth order once they are weaned.

Childspacing patterns have a powerful effect on the survival chances of children in Bihar. Infant mortality risks increase sharply as the length of the preceding birth interval decreases. Infant mortality is well over three times as high for children with a preceding interval of less than 24 months as for children with a preceding interval of 48 months or more (138 compared to 43 per 1,000). The effect of a preceding interval of less than 24 months compared to 24-47 months is only slightly greater than the impact of a preceding interval of 24-47 months compared to 48 months and over. While there may be a substantial impact of the preceding birth interval as such on mortality risks, a substantial portion of this effect is likely to be due to the association of shorter preceding intervals with other risk factors. Shorter intervals are likely to occur in larger families, for example, and larger families are more likely to reside in rural areas.

Another important determinant of the survival chances of children is the baby's weight at the time of birth. Many studies have found that low birth weight babies (under 2500 grams) have a substantially increased risk of mortality. Since most babies in Bihar are not weighed at the time of birth, mothers were asked to report the size of their babies at birth, for children born

<b>Table 8.5 Infant and child mortality by demographic characteristics</b>					
Neonatal, postneonatal, infant, child and under-five mortality by selected demographic characteristics for the 10-year period preceding the survey, Bihar, 1993					
Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality <sup>1</sup> (PNM)	Infant mortality (Iq <sub>0</sub> )	Child mortality (Cq <sub>1</sub> )	Under-five mortality (Uq <sub>0</sub> )
<b>Sex of child</b>					
Male	64.0	37.3	101.3	34.5	132.4
Female	50.0	42.4	92.4	53.5	141.0
<b>Mother's age at birth</b>					
< 20	81.4	40.6	122.0	44.7	161.2
20-29	49.0	38.8	87.7	44.4	128.3
30-39	54.4	40.6	95.0	36.7	128.3
<b>Birth order</b>					
1	68.4	40.7	109.1	28.8	134.7
2-3	56.4	34.8	91.2	47.3	134.1
4-6	46.3	42.6	88.9	48.4	133.0
7+	71.7	50.9	122.6	52.5	168.7
<b>Previous birth interval</b>					
< 24 months	82.5	55.4	137.9	67.6	196.2
24-47 months	46.7	36.8	83.5	43.8	123.7
48+ months	24.4	18.2	42.5	24.4	65.8
<b>Birth size<sup>2</sup></b>					
Large	41.2	19.6	60.8	20.0	79.5
Average	30.6	23.4	54.1	34.7	86.9
Small	124.4	64.0	188.4	16.7	202.0

Note: The mortality experience of mother's age at birth 40-49 and birth size "don't know", are not shown separately because they are based on fewer than 250 unweighted children surviving to the beginning of the age interval period.

<sup>1</sup>Computed as the difference between the infant and neonatal mortality rates

<sup>2</sup>Birth size as reported by the mother; rates for the four-year period before the survey

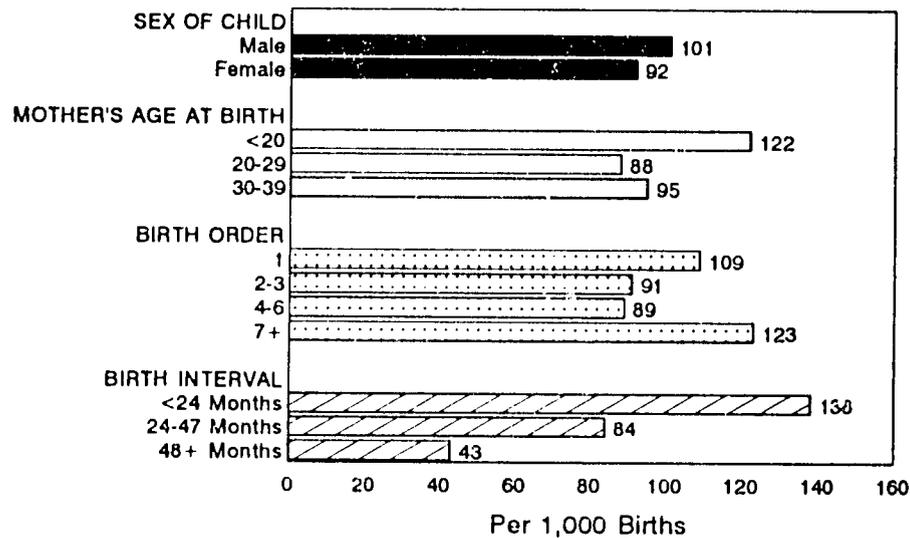
during the four years preceding the interview. Women were asked whether these births were "large, average, or small". The last panel of Table 8.5 shows infant and child mortality statistics for births classified in this way. Children who are perceived by their mothers to be smaller than average at birth experience higher mortality rates than children perceived to be average or larger, particularly in their first month of life and in infancy. As expected, the differences were greatest for neonatal mortality and smallest for child mortality.

#### 8.4 High-Risk Fertility Behaviour

Certain patterns of childbearing are associated with elevated levels of infant and child mortality. Table 8.5 shows sharply higher mortality risks for children of very young mothers and for births occurring within 24 months of a previous birth. Since couples may control each of these risk factors by the use of family planning, it may be possible for couples to reduce the risks of mortality to their children.

Table 8.6 shows, for births during the five years preceding the interview, percentages with mothers in various "elevated risk" categories. The purpose of this table is to identify areas in which changes in women's behaviour might effect a reduction in mortality risks for their

**Figure 8.3**  
**Infant Mortality Rates by Selected**  
**Demographic Characteristics**



Note: Based on births in the 10 years preceding the survey

NFHS, Bihar, 1993

children. Mortality risks are represented here by the proportion of children born during the five years prior to the survey who had died by the time of the survey. The "risk ratio" is the ratio of this proportion of deceased children in the given "elevated risk" category to the proportion for children not in any "elevated risk" category.

The figures in Table 8.6 may be considered either from the point of view of a prospective mother or from the point of view of the health and family planning policymaker. For the prospective mother, the critical issue is how much greater the risks are in the various "elevated risk" categories. For example, it is very important to avoid childbearing below age 18, because the mortality risk for children to mothers below this age is 1.91 times as high as the risk for children not in any "elevated risk" category.

From the point of view of policymakers in health and family welfare, the magnitudes of the risk ratios should be considered in conjunction with the percentage of women in each "elevated risk" category. For example, in Table 8.6 the risk ratio for births to mothers under age 18 (1.91) is higher than the ratio of 1.16 for births of order higher than 3, but a larger percentage of births are found in the latter category. Discouraging childbearing after 3 children is, therefore, likely to have a greater impact on overall mortality levels than discouraging births to mothers below age 18.

The last column of Table 8.6 shows the proportion of currently married women who would fall in each of the risk categories if they were to become pregnant at the present time. More than half of these women are in categories with risk ratios substantially greater than one, implying that a pregnancy at the present time would subject their child to a relatively high risk of dying.

While mortality risks to children can undoubtedly be reduced by changing women's childbearing behaviour, the risk ratios shown in Table 8.6 almost certainly overstate the magnitude of the potential effect. This is because a mother's demographic characteristics are not the only causal factors influencing the risks of mortality experienced by her children. Women who have many children at short birth intervals almost certainly tend, for example, to live in rural areas, which will raise mortality risks to their children independently of their childbearing behaviour. The analysis of the causative role of these various factors required to adjust the risk ratios shown in Table 8.6 is beyond the scope of this report.

<b>Table 8.6 High-risk fertility behaviour</b>			
Percentage of children born in the last five years at elevated risk of mortality and percentage of currently married women at risk of conceiving a child with an elevated risk of mortality, according to category of increased risk and residence, Bihar, 1993			
High-risk category	Births in last 5 years		Percentage of currently married women <sup>a</sup>
	Percent of births	Risk ratio	
<b>URBAN</b>			
<b>Not in any high-risk category</b>	48.4	1.00	52.1 <sup>b</sup>
<b>Single high-risk category</b>			
Age<18: Age under 18 years at birth	6.4	(0.95)	2.0
Age>34: Age over 34 years at birth	0.4	*	6.0
BI<24 : Birth interval under 24 months	11.4	1.85	8.1
BO>3 : Birth order higher than 3	18.3	0.97	9.2
Subtotal	36.4	1.23	25.3
<b>Multiple high-risk category</b>			
Age<18 & BI<24 <sup>c</sup>	0.7	*	0.2
Age>34 & BI<24	--	*	--
Age>34 & BO>3	5.0	(1.12)	14.6
Age>34 & BI<24 & BO>3	0.7	*	1.7
BI<24 & BO>3	8.8	(2.86)	6.1
Subtotal	15.2	2.08	22.5
<b>In any high-risk category</b>	51.6	1.48	47.9
Total percent	100.0	NA	100.0
Number	589	NA	828

**Table 8.6 High-risk fertility behaviour (Contd.)**

Percentage of children born in the last five years at elevated risk of mortality and percentage of currently married women at risk of conceiving a child with an elevated risk of mortality, according to category of increased risk and residence, Bihar, 1993

High-risk category	Births in last 5 years		Percentage of currently married women <sup>a</sup>
	Percent of births	Risk ratio	
<b>RURAL</b>			
<b>Not in any high-risk category</b>	40.7	1.00	41.9 <sup>b</sup>
<b>Single high-risk category</b>			
Age<18: Age under 18 years at birth	8.9	1.96	3.5
Age>34: Age over 34 years at birth	0.4	*	2.5
BI<24 : Birth interval under 24 months	8.6	2.03	7.8
BO>3 : Birth order higher than 3	26.2	1.16	14.0
Subtotal	44.1	1.48	27.9
<b>Multiple high-risk category</b>			
Age<18 & BI<24 <sup>c</sup>	1.1	*	0.7
Age>34 & BI<24	--	*	0.1
Age>34 & BO>3	5.7	1.61	17.8
Age>34 & BI<24 & BO>3	0.6	1.49	2.2
BI<24 & BO>3	7.7	2.23	9.5
Subtotal	15.2	2.04	30.2
<b>In any high-risk category</b>	59.3	1.62	58.1
Total percent	100.0	NA	100.0
Number	3854	NA	4858
<b>TOTAL</b>			
<b>Not in any high-risk category</b>	41.7	1.00	43.4 <sup>o</sup>
<b>Single high risk category</b>			
Age<18: Age under 18 years at birth	8.6	1.91	3.3
Age>34: Age over 34 years at birth	0.4	*	3.0
BI<24 : Birth interval under 24 months	9.0	2.00	7.9
BO>3 : Birth order higher than 3	25.2	1.16	13.3
Subtotal	43.1	1.47	27.5
<b>Multiple high-risk category</b>			
Age<18 & BI<24 <sup>c</sup>	1.1	(2.72)	0.6
Age>34 & BI<24	--	*	0.1
Age>34 & BO>3	5.6	1.58	17.3
Age>34 & BI<24 & BO>3	0.6	*	2.1
BI<24 & BO>3	7.9	2.31	9.0
Subtotal	15.2	2.05	29.1
<b>In any high-risk category</b>	58.3	1.62	56.6
Total percent	100.0	NA	100.0
Number	4443	NA	5687

**Table 8.6 High-risk fertility behaviour (Contd.)**

Percentage of children born in the last five years at elevated risk of mortality and percentage of currently married women at risk of conceiving a child with an elevated risk of mortality, according to category of increased risk and residence, Bihar, 1993

High-risk category	Births in last 5 years		Percentage of currently married women <sup>a</sup>
	Percent of births	Risk ratio	
<b>BACKWARD DISTRICTS</b>			
<b>Not in any high-risk category</b>	40.9	1.00	42.8 <sup>b</sup>
<b>Single high-risk category</b>			
Age<18: Age under 18 years at birth	12.1	1.20	4.5
Age>34: Age over 34 years at birth	0.2	*	2.1
BI<24 : Birth interval under 24 months	7.8	1.39	8.9
BO>3 : Birth order higher than 3	24.0	0.77	13.8
Subtotal	44.1	0.99	29.2
<b>Multiple high-risk category</b>			
Age<18 & BI<24 <sup>c</sup>	1.6	*	0.9
Age>34 & BI<24	0.1	*	0.0
Age>34 & BO>3	5.3	(1.34)	16.3
Age>34 & BI<24 & BO>3	0.4	*	1.8
BI<24 & BO>3	7.7	2.20	9.0
Subtotal	15.0	2.07	28.0
<b>In any high-risk category</b>	59.1	1.27	57.2
Total percent	100.0	NA	100.0
Number	667	NA	851

Note: Risk ratio is the ratio of the proportion dead of births in a specific high-risk category to the proportion dead of births in the "not in any high-risk" category.

NA: Not applicable

( ) Denominator of the upper proportion in the risk ratio is between 50-99 unweighted births

\* Risk ratio not shown; denominator of the upper proportion in the risk ratio is less than 50 unweighted births

-- Less than 0.05 percent

<sup>a</sup>Women are placed into the categories according to the status they would have at the birth of a child if they were to conceive at the current time: current age less than 17 years and 3 months or older than 34 years and 2 months, last birth occurred less than 15 months ago, or last birth was order 3 or higher.

<sup>b</sup>Includes sterilized women and women whose husbands are sterilized.

<sup>c</sup>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 in a country which has experienced high infant and child mortality and maternal mortality is well understood and attains high priority. 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 aspects 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).

Maternal and child health services in rural areas of India are mainly delivered by government-run Primary Health Centres and sub-centres. Services for pregnant women and children can be obtained from private and public maternity homes or hospitals, as well as private practitioners. In urban areas, maternal and child health services are available mainly through government or municipal hospitals, urban health posts, hospitals and nursing homes operated by nongovernmental voluntary organizations, and various private nursing homes or maternity homes.

The Village Health Guide is a link between the community and MCH services in rural areas. The Female Health Worker, who is an Auxiliary Nurse Midwife (ANM), renders maternal and child health and family welfare services (Ministry of Health and Family Welfare, 1978). The Female Health Worker is supposed to assist the Medical Officer and Female Health Assistant in providing maternal and child health services. She is responsible for registering pregnant women and assessing their health throughout pregnancy in their homes or in the antenatal clinic. Another responsibility of the Female Health Worker is to refer pregnant women who have signs and symptoms of abnormal pregnancy or labour or gynaecological problems which are beyond her level of competence, to the Primary Health Centre. The basic maternal and child services offered at Primary Health Centres are antenatal and postnatal care of mothers as well as infants and children.

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 is related to pregnancy and childbirth; infant and child feeding practices, including breastfeeding;

immunizations; 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.

The present chapter analyzes the data collected on antenatal and delivery care, immunization 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 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 up to three live births and all of these births 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. In all, the information is available for 3,562 live births in the last four years. If the respondent received antenatal care outside the home from more than one type of provider, only the most qualified provider was counted in the table. The finding that 63 percent of births were to mothers who did not receive any antenatal care in Bihar does not come as a surprise, since previous studies conducted in Bihar found a low utilization of antenatal care services in the state (Kanitkar and Sinha, 1989).

**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, Bihar, 1993

Background characteristic	Antenatal care provider (outside home) <sup>1</sup>				No ANC	Missing	Total percent	Number of births <sup>3</sup>
	Only ANC at home from health worker	Doctor	Other health professional	Traditional birth attendant, other <sup>2</sup>				
<b>Mother's age at birth</b>								
< 20	12.1	23.0	5.1	0.6	58.1	1.1	100.0	760
20-34	9.5	22.0	5.1	0.4	62.3	0.6	100.0	2556
35+	6.1	11.3	3.4	1.2	77.7	0.3	100.0	245
<b>Birth order</b>								
1	9.8	31.3	6.6	0.4	51.0	0.9	100.0	842
2-3	10.6	24.2	5.9	0.4	58.2	0.7	100.0	1316
4-5	10.8	15.0	3.4	0.9	69.1	0.3	100.0	860
6+	6.5	9.8	3.0	0.2	80.4	0.2	100.0	544
<b>Residence</b>								
Urban	5.2	52.7	4.6	1.0	34.3	2.2	100.0	470
Rural	10.5	16.7	5.1	0.4	66.8	0.5	100.0	3092
Backward districts	12.3	17.6	4.1	0.4	65.3	0.3	100.0	540
<b>Education</b>								
Illiterate	9.9	13.0	4.5	0.3	71.8	0.4	100.0	2822
Literate, < middle complete	11.0	40.0	8.0	1.0	38.3	1.5	100.0	359
Middle school complete	12.4	59.7	7.6	--	19.6	0.8	100.0	98
High school and above	6.7	69.4	5.0	0.8	15.2	2.9	100.0	283
<b>Religion</b>								
Hindu	9.8	23.0	4.1	0.4	61.8	0.9	100.0	2792
Muslim	9.2	15.2	8.4	0.6	66.5	0.2	100.0	703
Other	19.2	25.7	5.9	1.1	48.2	--	100.0	68
<b>Caste/tribe</b>								
Scheduled caste	13.4	16.6	4.1	0.5	63.6	1.7	100.0	357
Scheduled tribe	6.4	13.4	1.1	0.3	78.8	--	100.0	272
Other	9.7	22.8	5.5	0.5	60.8	0.7	100.0	2934
<b>Total<sup>3</sup></b>	<b>9.8</b>	<b>21.5</b>	<b>5.0</b>	<b>0.5</b>	<b>62.5</b>	<b>0.7</b>	<b>100.0</b>	<b>3562</b>

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

-- Less than 0.05 percent

<sup>1</sup>Includes births to 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 in this tabulation.

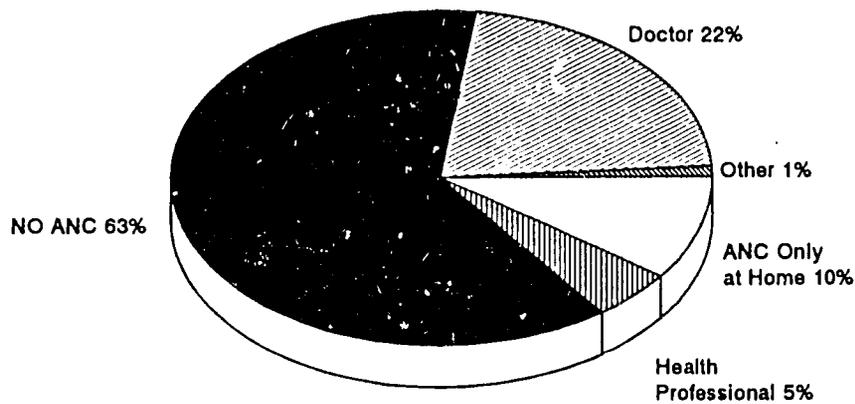
<sup>2</sup>Includes hakim and "Don't know"

<sup>3</sup>Births in the period 1-47 months prior to the survey

The coverage of antenatal care is highest (42 percent) among births to mothers age less than 20 and lowest (22 percent) among births to mothers in the age group 35 and over<sup>1</sup>. The mothers of first order births are more likely to receive antenatal care than those of higher order births. Mothers receiving antenatal care from doctors are likely to be younger and of lower parity. Antenatal care in urban areas (66 percent) is twice as high as in rural areas (33 percent).

<sup>1</sup> Percentages exclude cases with missing information on antenatal care.

**Figure 9.1**  
Sources of Antenatal Care (ANC)  
During Pregnancy



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

NFHS, Bihar, 1993

The coverage of antenatal care in backward districts (35 percent) is slightly higher than in rural areas of Bihar. The proportion of births whose mothers received antenatal care increases steadily with an increase in the educational level of the mother, from 28 percent for illiterate mothers to 80 percent for mothers who had completed middle school and 85 percent for mothers who had completed high school and beyond. As expected, the proportion of births to mothers who receive antenatal care from a doctor increases with each level of education of the mother. Births to Hindu mothers are more likely to be covered by antenatal care than those to Muslim mothers, but births to mothers of other religions are most likely to be covered. Births to mothers from scheduled tribes are less likely to receive antenatal care than those to scheduled castes and others.

### Reasons for Not Seeking Antenatal Care Services

Mothers who had not sought antenatal care outside the home were asked about the main reason for not going for an antenatal check-up. Table 9.1A shows that among births to women who did not receive antenatal care, 58 percent were to mothers who stated it was not necessary to go for an antenatal check-up. This shows that a large proportion of births are to women who do not realize the importance of antenatal care for safe motherhood. In addition, 17 percent of births were to mothers who did not have knowledge of antenatal care services, almost 10 percent of births were to those who stated that financial cost was the main reason for not seeking antenatal care and 7 percent of births were to mothers who stated that it was not customary to get antenatal care. The findings are not surprising because previous studies also point to lack

Reason for not seeking antenatal care	Urban	Rural	Total	Backward districts
Lack of knowledge of services	7.6	18.1	17.3	15.0
Not necessary	65.1	57.8	58.4	57.2
Not customary	6.1	7.5	7.4	3.9
Financial cost	12.5	9.6	9.8	14.5
Inconvenient	0.5	1.7	1.6	2.5
Poor quality service	2.4	0.9	1.0	1.1
No time to go	2.3	0.5	0.7	1.6
Not permitted to go	2.1	3.0	2.9	3.1
Other	0.5	0.6	0.5	0.9
Don't know/missing	0.9	0.3	0.4	0.3
Total percent	100.0	100.0	100.0	100.0
Number	161	2065	2226	353

of knowledge and conviction regarding the utilization of antenatal care services and thereby emphasize the need to strengthen Information, Education and Communication (IEC) with respect to antenatal care and safe motherhood.

Lack of knowledge is cited less often in urban areas (8 percent) than in rural areas (18 percent) and backward districts (15 percent). The opinion that antenatal care is not necessary is cited more often in urban areas (65 percent) than in rural areas (58 percent) and backward districts (57 percent). In urban areas, maternity homes, hospitals and clinics are more widespread so there is a greater likelihood of urban women knowing about antenatal care services. However, it is surprising that urban women are also more likely to think that an antenatal check-up is not necessary. The pattern of reasons in backward districts is similar to the pattern for rural areas of Bihar, except that a large percentage cite financial cost as a reason in backward districts.

### 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 (MacDonald and Pritchard, 1980). However, it is often difficult for working women from lower socioeconomic groups to attend an antenatal clinic that often because 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. The median frequency of antenatal care visits is three for any type of visit (2.7 for home visits and 3.1 for visits outside the home). It is clear

**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, according to residence, Bihar, 1993

ANC visits/ months pregnant	Home visits	Outside visits	Any type
<b>URBAN</b>			
<b>Number of ANC visits</b>			
None	92.7	39.5	34.3
1 visit	3.5	5.4	7.5
2-3 visits	2.7	30.5	31.9
4 or more visits	0.5	24.6	25.7
Don't know/missing	0.5	--	0.5
Total percent	100.0	100.0	100.0
Median number of visits (for those with ANC)	2.0	3.7	3.6
<b>Months pregnant at the time of the first ANC visit</b>			
No antenatal care	92.7	39.5	34.3
First trimester	1.8	31.0	32.3
Second trimester	2.4	24.0	25.9
Third trimester	2.8	5.5	7.3
Don't know/missing	0.3	--	0.2
Total percent	100.0	100.0	100.0
Median months pregnant at first visit (for those with ANC)	6.3	3.9	4.0
Number of live births <sup>1</sup>	470	470	470
<b>RURAL</b>			
<b>Number of ANC visits</b>			
None	88.4	77.3	66.8
1 visit	3.3	4.6	7.5
2-3 visits	6.8	14.3	20.0
4 or more visits	1.3	3.8	5.5
Don't know/missing	0.2	0.1	0.3
Total percent	100.0	100.0	100.0
Median number of visits (for those with ANC)	2.8	2.9	2.9
<b>Months pregnant at the time of the first ANC visit</b>			
No antenatal care	88.4	77.3	66.8
First trimester	3.0	8.1	10.8
Second trimester	5.9	11.2	16.6
Third trimester	2.5	3.3	5.6
Don't know/missing	0.2	--	0.2
Total percent	100.0	100.0	100.0
Median months pregnant at first visit (for those with ANC)	5.6	5.1	5.3
Number of live births <sup>1</sup>	3092	3092	3092

**Table 9.2 Number of antenatal care visits and stage of pregnancy (Contd.)**

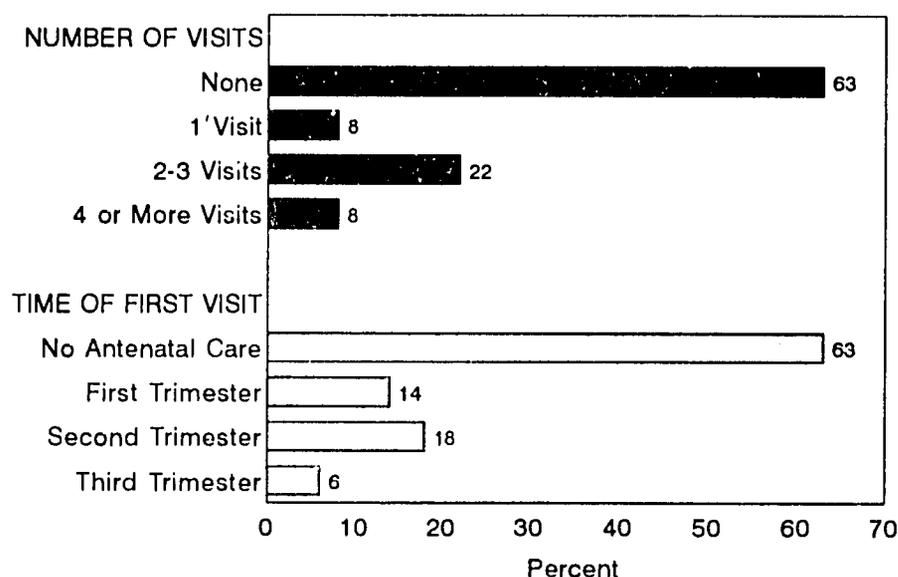
Percent distribution of live births during the four years preceding the survey by number of antenatal care (ANC) visits, and by the stage of pregnancy at the time of the first visit, according to residence, Bihar, 1993

ANC visits/ months pregnant	Home visits	Outside visits	Any type
<b>TOTAL</b>			
<b>Number of ANC visits</b>			
None	88.9	72.3	62.5
1 visit	3.4	4.7	7.5
2-3 visits	6.2	16.4	21.6
4 or more visits	1.2	6.5	8.1
Don't know/missing	0.3	0.1	0.3
Total percent	100.0	100.0	100.0
Median number of visits (for those with ANC)	2.7	3.1	3.1
<b>Months pregnant at the time of the first ANC visit</b>			
No antenatal care	88.9	72.3	62.5
First trimester	2.8	11.2	13.6
Second trimester	5.5	12.9	17.8
Third trimester	2.5	3.6	5.8
Don't know/missing	0.2	--	0.2
Total percent	100.0	100.0	100.0
Median months pregnant at first visit (for those with ANC)	5.7	4.7	5.0
Number of live births <sup>1</sup>	3562	3562	3562
<b>BACKWARD DISTRICTS</b>			
<b>Number of ANC visits</b>			
None	87.0	77.6	65.3
1 visit	6.6	4.5	10.8
2-3 visits	5.2	14.0	18.5
4 or more visits	1.0	3.8	5.1
Don't know/missing	0.2	0.1	0.2
Total percent	100.0	100.0	100.0
Median number of visits (for those with ANC)	2.0	2.8	2.6
<b>Months pregnant at the time of the first ANC visit</b>			
No antenatal care	87.0	77.6	65.3
First trimester	2.5	9.0	11.3
Second trimester	4.3	9.9	13.7
Third trimester	6.2	3.6	9.6
Don't know/missing	0.1	--	0.1
Total percent	100.0	100.0	100.0
Median months pregnant at first visit (for those with ANC)	6.9	4.7	5.4
Number of live births <sup>1</sup>	540	540	540

-- Less than 0.05 percent

<sup>1</sup>Births in the period 1-47 months prior to the survey

**Figure 9.2**  
**Number and Timing of Antenatal Visits**



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

NFHS, Bihar, 1993

that women in Bihar are far behind in following the standards set for antenatal visits. The median number of any type of visits is larger in urban areas (3.6) than in rural areas (2.9). However, in rural areas a higher percentage of home visits and a lower percentage of outside visits for antenatal care were made than in urban areas. The comparative nearness of antenatal care services and the ease in getting transport in urban areas could be important factors for the larger number of outside visits in urban areas.

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 substantial reduction in perinatal mortality (Ramachandran, 1992). In Bihar, the median gestational age for the first antenatal care visit of any type (home or outside) is 5.0 months, with a median gestational age of 4.0 months in urban areas and 5.3 months in rural areas. The median age of gestation in urban areas is higher for home visits (6.3 months) than outside visits (3.9 months). In rural areas, such differentials do not exist. Among women who had received antenatal care, 47 percent of births were to women who had received antenatal care for the first time in the second trimester (39 percent of urban births and 50 percent of rural births). The patterns with respect to antenatal care visits and the stage of pregnancy for the first antenatal care visit are similar in backward districts and Bihar as a whole.

Pregnant women in Bihar receive antenatal care quite late in their pregnancy and consequently the number of visits is also fewer than desired. The lack of antenatal care puts women and their children at higher risk of mortality.

## **Tetanus Toxoid Vaccination**

Neonatal tetanus is caused by infection of the newborn (usually at the umbilical stump) with 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 this disease is most common, such as rural areas of Bihar, expert medical help is also not available leading to a fatality rate of nearly 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 immunization programme for expectant mothers through tetanus toxoid 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 step up 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 injection when she is 16 weeks pregnant and the second when she is 20 weeks pregnant). One booster is recommended if two doses are received less than three years ago (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, according to selected background characteristics, is shown in Table 9.3. Sixty-three percent of births were to mothers who did not receive a single dose of tetanus toxoid vaccine, 6 percent were to those who received one dose and only 31 percent were to those who received two or more doses. The coverage of immunization for tetanus is significantly higher in urban areas with 59 percent receiving two or more doses than in rural areas with 26 percent receiving two or more doses. The backward districts have the lowest coverage (24 percent).

For births in the last four years, tetanus toxoid coverage is lower for older mothers, mothers pregnant with higher order birth, and mothers belonging to scheduled tribes. A marked and consistent positive relationship is observed between the educational attainment of the mother and the coverage rate for tetanus toxoid vaccination. The proportion of births whose mothers had received two or more doses of tetanus toxoid vaccine increases steadily from 21 percent for illiterate mothers to 31 percent for mothers with at least a high school education. The coverage rate for immunization against tetanus is slightly higher for births to Hindus (31 percent) than for births to Muslims (27 percent), but lower than births to women of other religions (41 percent).

**Table 9.3 Tetanus toxoid vaccinations**

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, Bihar, 1993

Background characteristic	Number of tetanus toxoid injections			Total percent	Percent given iron/folic tablets	Number of births <sup>1</sup>
	None	One dose	Two doses or more			
<b>Mother's age at birth</b>						
< 20	59.3	7.8	32.9	100.0	23.0	760
20-34	62.6	6.2	31.2	100.0	21.9	2556
35+	78.8	2.2	19.0	100.0	11.5	245
<b>Birth order</b>						
1	51.9	6.0	42.1	100.0	30.5	842
2	58.6	7.2	34.2	100.0	24.8	734
3	60.2	6.8	33.0	100.0	23.6	582
4	66.3	6.8	27.0	100.0	18.1	497
5	69.5	6.8	23.7	100.0	14.1	364
6+	81.9	4.1	14.0	100.0	8.3	544
<b>Residence</b>						
Urban	34.4	6.9	58.7	100.0	47.3	470
Rural	67.4	6.2	26.4	100.0	17.5	3092
Backward districts	66.5	9.8	23.8	100.0	15.9	540
<b>Education</b>						
Illiterate	72.3	6.5	21.2	100.0	12.4	2822
Lit., < middle complete	40.7	6.8	52.5	100.0	43.9	359
Middle school complete	19.2	2.3	78.5	100.0	58.5	98
High school and above	14.1	4.7	81.2	100.0	70.2	283
<b>Religion</b>						
Hindu	62.5	6.1	31.4	100.0	22.3	2792
Muslim	66.3	6.7	27.0	100.0	17.7	703
Other	51.4	7.8	40.8	100.0	24.1	68
<b>Caste/tribe</b>						
Scheduled caste	65.1	7.3	27.6	100.0	14.8	357
Scheduled tribe	81.8	2.5	15.7	100.0	12.3	272
Other	61.0	6.5	32.5	100.0	23.1	2934
<b>Total<sup>1</sup></b>	<b>63.0</b>	<b>6.3</b>	<b>30.7</b>	<b>100.0</b>	<b>21.4</b>	<b>3562</b>

<sup>1</sup>Births in the period 1-47 months prior to the survey

## Iron and Folic Acid Tablets

Proper maternal nutritional care is important for the healthy intrauterine growth of a baby and may affect the birth weight of a baby. Various studies in different parts of India have indicated that the percentage of low birth weight babies (weighing less than 2,500 grams) ranges from 15 in Thiruvananthapuram to 46 in Vadodara (Nutrition Foundation of India, 1993). Overall, around one-third of babies in India are of low birth weight, suggesting a nutritional deficiency among many expectant mothers. However, it has also been shown that improvement in nutritional status coupled with improved health care in pregnancy have substantially improved birth weights (Ramachandran, 1992). The provision of iron and folic acid tablets as a prophylaxis against nutritional anaemia among pregnant women 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 women should take 100 tablets of iron and folic acid 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. Only 21 percent of births were to mothers who had received iron and folic acid tablets. As expected, the receipt of iron and folic acid tablets is substantially higher in urban areas (47 percent) than in rural areas (18 percent) and backward districts (16 percent). The pattern of distribution of iron and folic acid tablets is almost the same as the pattern 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. It is customary to designate a birth taking place in a public or private health facility as "institutional" and a birth occurring at home as "domiciliary".

Table 9.4 presents the percent distribution of live births occurring during the four years preceding the survey according to place of delivery and selected background characteristics. Of 3,562 live births, only 12 percent occurred in medical institutions, with half (6 percent) in public institutions and the other half in private medical institutions (Figure 9.3). The percentage of births that took place in medical institutions is about five times as high in urban areas (41 percent) as in rural areas (8 percent). Nine percent of births occurring in backward districts took place in medical institutions.

Births to women age 20-34, to women having their first birth, and to women with higher educational attainment are more likely to occur in medical institutions. Births to Muslim women and women from scheduled tribes are less likely to take place in medical institutions than births to other women.

In Bihar, delivery in medical institutions (12 percent) is less common than antenatal care (38 percent). Only 27 percent of births to women who had received antenatal care took place in a health facility. The percentage of institutional deliveries was higher among those who had 4 or more antenatal visits (56 percent) than among those who had 1-3 antenatal visits (19 percent). This could be due to the availability of services for both antenatal care and delivery and/or 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.

Table 9.5 presents information on assistance during delivery according to selected background characteristics. In all, 19 percent of the 3,562 births were attended by a doctor (13 percent) or a nurse/midwife (6 percent). Three-fifths of all births were attended by traditional birth attendants and 22 percent were attended only by relatives, friends or neighbours.

**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, Bihar, 1993

Background characteristic	Place of delivery						Total percent	Number of live births <sup>1</sup>
	Health facility/institution		Home			Don't know/missing		
	Public	Private	Own home	Parents' home	Other			
<b>Mother's age at birth</b>								
< 20	5.3	4.6	69.1	19.6	0.7	0.7	100.0	760
20-34	6.3	7.2	76.4	9.6	0.4	0.2	100.0	2556
35+	2.6	2.1	93.6	1.2	0.4	--	100.0	245
<b>Birth order</b>								
1	8.9	10.3	61.1	18.7	0.6	0.4	100.0	842
2-3	7.0	7.1	72.9	12.2	0.5	0.3	100.0	1316
4-5	3.3	3.2	85.6	7.3	0.5	0.1	100.0	860
6+	2.3	3.1	91.6	2.8	0.1	0.1	100.0	544
<b>Residence</b>								
Urban	18.1	23.3	49.6	8.0	0.5	0.4	100.0	470
Rural	4.0	3.7	80.0	11.6	0.5	0.2	100.0	3092
Backward districts	5.8	2.7	75.5	15.3	0.4	0.3	100.0	540
<b>Education</b>								
Illiterate	2.6	2.1	84.0	10.7	0.4	0.2	100.0	2822
Lit., < middle complete	15.6	12.2	58.2	13.3	0.4	0.3	100.0	359
Middle school complete	18.0	19.3	49.3	11.8	1.5	--	100.0	98
High school and above	21.3	36.2	28.0	12.9	0.8	0.8	100.0	283
<b>Religion</b>								
Hindu	6.6	7.1	74.1	11.4	0.5	0.3	100.0	2792
Muslim	2.7	3.1	83.5	10.2	0.3	0.2	100.0	703
Other	7.7	7.7	76.9	7.7	--	--	100.0	68
<b>Caste/tribe</b>								
Scheduled caste	4.1	3.3	77.1	14.4	0.1	1.0	100.0	357
Scheduled tribe	2.5	1.4	83.2	12.9	--	--	100.0	272
Other	6.4	7.1	75.2	10.6	0.5	0.2	100.0	2934
<b>Antenatal care visits</b>								
None	1.8	1.4	84.9	11.2	0.3	0.4	100.0	2227
1-3 visits	9.8	9.5	68.0	11.9	0.7	0.1	100.0	1035
4+ visits	22.7	32.9	36.5	7.2	0.8	--	100.0	290
<b>Total<sup>1</sup></b>	<b>5.8</b>	<b>6.3</b>	<b>76.0</b>	<b>11.1</b>	<b>0.5</b>	<b>0.2</b>	<b>100.0</b>	<b>3562</b>

-- Less than 0.05 percent

<sup>1</sup>Births in the period 1-47 months prior to the survey. Total includes 19 births for whom the information about antenatal care visits is missing, which are not shown separately.

As expected, a higher proportion of deliveries were attended by doctors in urban areas (40 percent) than in rural areas and backward districts (9 percent each). Among the deliveries which took place in private health institutions, 87 percent are attended by doctors and 12 percent by nurse/midwives, whereas among deliveries in public health institutions, 75 percent are attended by doctors and 21 percent by nurse/midwives. Among deliveries taking place in the respondent's home, two-thirds (66 percent) are attended by traditional birth attendants (TBA), one-fourth (26 percent) by relatives or others, and only 3 percent by doctors. Assistance at delivery by medical professionals and nurses is also uncommon for births to women in their parents' home, where 86 percent of deliveries are attended by TBA's or other nonmedical

**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, Bihar, 1993

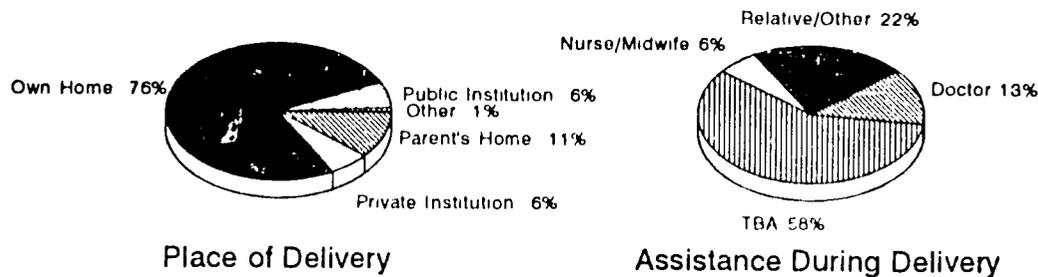
Background characteristic	Attendant assisting during delivery <sup>1</sup>						Total percent	Number of live births <sup>2</sup>
	Doctor	Nurse/ midwife	Traditional birth attendant	Relative/ other	None	Don't know/ missing		
<b>Mother's age at birth</b>								
< 20	12.9	6.7	60.8	19.0	--	0.6	100.0	760
20-34	13.6	6.1	57.3	22.7	0.1	0.2	100.0	2556
35+	3.0	5.9	62.1	28.3	--	0.6	100.0	245
<b>Birth order</b>								
1	21.3	8.7	51.1	18.6	--	0.4	100.0	842
2-3	13.9	6.9	56.6	22.2	--	0.3	100.0	1316
4-5	7.1	4.9	63.2	24.7	0.1	--	100.0	860
6+	5.5	2.7	66.2	24.9	0.3	0.5	100.0	544
<b>Residence</b>								
Urban	40.1	11.9	40.3	7.5	--	0.2	100.0	470
Rural	8.6	5.4	61.1	24.6	0.1	0.3	100.0	3092
Backward districts	9.3	10.7	59.9	19.7	0.1	0.3	100.0	540
<b>Mother's education</b>								
Illiterate	5.4	4.9	63.7	25.6	0.1	0.3	100.0	2822
Lit., < middle complete	27.0	11.0	53.0	9.0	--	0.1	100.0	359
Middle school complete	38.9	12.1	36.9	12.2	--	--	100.0	98
High school and above	58.2	11.3	19.6	10.2	--	0.8	100.0	283
<b>Religion</b>								
Hindu	14.5	6.5	58.3	20.3	--	0.3	100.0	2792
Muslim	5.6	5.1	58.0	30.9	0.2	0.2	100.0	703
Other	14.3	5.7	64.6	15.4	--	--	100.0	68
<b>Caste/tribe</b>								
Scheduled caste	11.5	7.3	58.5	21.7	--	1.0	100.0	357
Scheduled tribe	5.4	0.8	79.6	14.2	--	--	100.0	272
Other	13.6	6.6	56.4	23.2	0.1	0.2	100.0	2934
<b>Antenatal care</b>								
None	3.7	2.2	68.3	25.2	0.1	0.4	100.0	2227
1-3 visits	19.7	12.6	47.3	20.4	--	--	100.0	1035
4+ visits	57.2	14.1	23.2	5.5	--	--	100.0	290
<b>Place of delivery</b>								
Public health facility	75.4	20.8	3.1	0.7	--	--	100.0	208
Private health facility	87.0	11.9	0.5	0.7	--	--	100.0	225
Own home	2.9	4.3	66.4	26.3	0.1	0.1	100.0	2708
Parents' home	4.6	9.0	67.0	19.4	--	--	100.0	396
<b>Total<sup>2</sup></b>	<b>12.7</b>	<b>6.2</b>	<b>58.4</b>	<b>22.3</b>	<b>0.1</b>	<b>0.3</b>	<b>100.0</b>	<b>3562</b>

-- Less than 0.05 percent

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

<sup>2</sup>Births in the period 1-47 months prior to the survey. Total includes 19 births with missing information on antenatal care visits, 16 births with 'other' place of delivery and 9 births with missing information on place of delivery, which are not shown separately.

**Figure 9.3**  
**Place of Delivery and**  
**Assistance During Delivery**



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

NFHS, Bihar, 1993

persons. Births to women who had four or more antenatal visits are more likely to be assisted by a doctor at the time of delivery than births to women with fewer visits or no antenatal care.

Thus, in Bihar a very large majority of live births (87 percent) are delivered at home, and among home deliveries, the majority (66 percent) are attended by TBA's, one-fourth (26 percent) by untrained persons, and the remaining 8 percent by doctors or nurses.

The pattern of the assistance at deliveries by medical personnel (doctors or nurse/midwives) by background characteristics is similar to that observed for deliveries in institutions/health facilities; there is higher assistance by medical persons for births to more educated mothers, to women delivering their first-born, and to women in the age group 20-34 (slightly exceeding that for women age less than 20). Births to Hindus, women of other religions, scheduled castes and other mothers were also more likely to be assisted by medical professionals.

### Delivery Characteristics

The percent 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 are presented in Table 9.6. As reported by mother's, 89 percent of the deliveries had no complications, 8 percent were characterized by a long period of labour, 1 percent were accompanied by excessive bleeding and delivery of the placenta was delayed for less than

**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, according to residence, Bihar, 1993

Delivery characteristic	Urban	Rural	Total	Backward districts
<b>Complications at delivery<sup>1</sup></b>				
No complications	85.3	89.1	88.6	85.5
Caesarian section	3.5	0.6	1.0	0.4
Use of forceps	1.2	0.1	0.3	0.4
Excessive bleeding	1.6	1.2	1.3	1.6
Long period of labour	7.7	8.1	8.0	11.2
Delayed delivery of placenta	0.9	0.6	0.6	1.1
Other	0.2	--	--	--
<b>Premature birth</b>				
Yes	2.8	2.3	2.4	1.1
No	97.0	97.2	97.2	98.0
Don't know/missing	0.2	0.5	0.4	1.0
Total percent	100.0	100.0	100.0	100.0
<b>Birth weight</b>				
Less than 2.5 kg	5.7	0.4	1.1	0.6
2.5 kg or more	18.2	1.7	3.9	1.8
Don't know/missing	7.1	2.0	2.7	0.9
Not weighed	69.0	96.0	92.4	96.7
Total percent	100.0	100.0	100.0	100.0
<b>Size at birth</b>				
Large	12.9	10.0	10.4	13.9
Average	70.7	70.2	70.3	64.7
Small	16.0	19.4	19.0	21.1
Don't know/missing	0.4	0.4	0.4	0.3
Total percent	100.0	100.0	100.0	100.0
Number of births <sup>2</sup>	470	3092	3562	540
-- Less than 0.05 percent				
<sup>1</sup> All complications were recorded if there was more than one complication.				
Births with missing information on complications are not included.				
<sup>2</sup> Births in the period 1-47 months prior to the survey.				

1 percent of births. Only 1 percent of births were by Caesarian section (C-section). C-section deliveries were nearly six times as prevalent in urban areas (where institutional deliveries are more common) as in rural areas. The reported complications of delivery in the backward districts were slightly higher than those in Bihar as a whole, due to a higher percentage of long periods of labour.

A very small percentage of live births (2 to 3 percent) were reported as premature, and in backward districts the percentage was even smaller (1 percent). A large majority of babies were not weighed at birth (69 percent in urban areas and 96 percent in rural areas), which is to be expected since the majority of the deliveries took place at home. Moreover, for 7 percent of births in urban areas and 2 percent of births in rural areas the baby was weighed but information on birth weight was not available. Thus, the resulting sample of birth weights is

small and subject to substantial selection bias. A little less than one-quarter of babies (22 percent) whose weight at birth was known have low birth weight (less than 2.5 kg). Since 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. It has been the general experience that the mother can give useful information about the size of the newborn baby. Almost one in five births were reported to be small in size and many of these were undoubtedly of low birth weight. Very small differences are observed by residence.

Table 9.7 shows the relationship between delivery characteristics and such characteristics as antenatal care, birth intervals and mother's age at birth. Complications are most common for

**Table 9.7 Delivery characteristics by background 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 according to antenatal care, birth interval, and mother's age, Bihar, 1993

Delivery characteristics	Antenatal care			Previous birth interval			Age of mother at birth			
	None	1-3 visits	4+ visits	Under 2 years	2-3 years	4+ years	First birth	<20	20-34	35+
<b>Complications at delivery<sup>1</sup></b>										
No complications	90.9	86.4	78.4	90.0	91.0	89.8	82.3	86.9	88.7	93.0
Caesarian section	0.1	1.6	5.9	0.8	0.7	0.4	2.3	1.2	1.0	0.9
Use of forceps	0.1	0.5	0.7	0.3	0.2	0.1	0.6	0.6	0.2	--
Excessive bleeding	1.0	1.8	2.0	2.4	0.7	0.7	2.0	1.9	1.1	1.4
Long period of labour	7.1	8.8	12.7	6.6	6.7	8.4	11.2	7.7	8.5	4.6
Delayed delivery of placenta	0.5	0.9	0.2	0.2	0.5	0.5	1.1	0.9	0.6	0.1
Other	--	--	0.3	--	--	--	0.1	--	--	--
<b>Premature birth</b>										
Yes	2.4	1.9	4.3	3.0	1.9	1.7	3.4	2.7	2.2	3.8
No	96.9	98.1	95.7	96.6	97.8	97.9	95.9	96.3	97.5	96.2
Don't know/missing	0.6	0.1	--	0.4	0.3	0.4	0.7	1.0	0.3	--
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Birth weight</b>										
Less than 2.5 kg	0.2	1.9	4.5	1.0	0.7	0.5	2.3	0.7	1.3	--
2.5 kg or more	0.2	5.8	24.8	4.7	2.6	3.2	5.9	2.5	4.4	1.8
Don't know/missing	1.2	2.7	14.0	3.0	2.1	1.0	4.6	2.5	2.8	1.5
Not weighed	98.4	89.6	56.6	91.2	94.6	95.3	87.2	94.2	91.4	96.6
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Size at birth</b>										
Large	8.9	12.5	13.6	9.5	9.7	10.0	12.3	11.5	10.1	9.6
Average	71.0	68.6	69.9	72.9	71.1	69.1	67.8	67.2	71.1	71.2
Small	19.6	18.5	16.0	17.2	18.8	20.6	19.2	20.0	18.6	19.3
Don't know/missing	0.4	0.4	0.5	0.4	0.3	0.3	0.7	1.2	0.2	--
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of births <sup>2</sup>	2227	1035	290	586	1525	608	844	760	2556	245

Note: Nineteen births with missing information on antenatal care visits, are not shown separately.

-- Less than 0.05 percent

<sup>1</sup>All complications were recorded if there was more than one complication. Births with missing information on complications are not included.

<sup>2</sup>Births in the period 1-47 months prior to the survey.

births to mothers who had four or more antenatal visits. This suggests that there is a tendency among pregnant women having some complications to obtain antenatal care more often. The percentage of C-section is higher among women who had four or more antenatal care visits (6 percent) than those with 1-3 antenatal care visits (2 percent). The percentage of premature births is also higher for those births to mothers who made four or more antenatal visits. The proportion of newborns who were weighed is 1 percent for those whose mothers did not receive antenatal care, 10 percent for those whose mothers who had 1-3 antenatal check-ups and 43 percent for those whose mother had 4 or more antenatal visits. As indicated in Table 9.4, 56 percent of births to mothers who had four or more antenatal visits are delivered in institutions, where the possibility of weighing children is very high. There is no relationship between the previous birth interval and complications at delivery but births to first time mothers had a slightly higher complication rate, especially with respect to the period of labour. C-sections are carried out for nearly 2 percent of births to mothers giving birth for the first time compared with less than 1 percent for other births. First births are also slightly more likely to be premature births (3 percent) compared with less than 2 percent for births with an interval of more than 2 years. First births are slightly more likely to be weighed at birth than other births.

## **9.2 Child Care Indicators**

### **Immunization of Children**

The immunization of children against six serious but preventable diseases (namely, tuberculosis, diphtheria, pertussis, tetanus, polio, and measles) has been an important aspect of the child health care system in India. As part of the National Health Policy, the National Immunization Programme is being implemented in India on a priority basis (Gupta and Murli, 1989). The Expanded Programme on Immunization (EPI) was started by the Government of India in 1978 with the objective of reducing 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 the programme 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 was vaccination against measles in 1985-86 (Ministry of Health and Family Welfare, 1991).

In order to provide an impetus to the immunization scheme, the Government of India started a special programme called the Universal Immunization Programme (UIP) in 1985-86. The UIP was designated as one of the seven Technology Missions with the following objectives (Ministry of Health and Family Welfare, 1991):

- i) to cover at least 85 percent of all infants by 1990 against six vaccine preventable diseases, and
- ii) to achieve self-sufficiency in vaccine production and manufacture of cold chain equipment.

The standard immunization schedule developed for the immunization programme for children contains the 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.

During the training of the interviewers in Bihar, a lecture by a medical doctor covering immunization and child health was arranged. During the fieldwork, each mother was asked whether she had a vaccination card for each child born since 1 January 1989. If a card was available, the interviewer was required to 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, the mother was then 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.

In Tables 9.8, 9.9 and 9.10, an analysis of the information obtained on vaccinations of infants and children is presented. Table 9.8 presents the percentage of children age 12-23 months receiving each vaccine at any time before the interview and before 12 months of age according to the source of information (i.e., vaccination card or mother's report). This age group was chosen for analysis because children should be fully immunized by the time they complete their first year of life. Of the 875 children in the age group 12-23 months, vaccination cards were available for only 17 percent of children in Bihar (24 percent in urban areas and 16 percent in rural areas). For backward districts, vaccination cards were available for 12 percent of children.

Based on the information either recorded on a card or reported by the mother, only 11 percent of children age 12-23 months are fully vaccinated<sup>2</sup> and 54 percent have not received any vaccinations. Thus, the findings on immunization indicate that Bihar is far behind in meeting the goal of universal immunization of children and more concerted efforts are needed.

Analysis of vaccine specific data shows that one-third of the children (34 percent) have received the BCG vaccine, 43 percent have received the first dose of DPT and 45 percent the first dose of polio. Almost one-third of children have received three doses of DPT and likewise for three doses of polio vaccine. Only 15 percent have been vaccinated against measles. The DPT and polio coverage rates are about the same since both vaccines are normally administered simultaneously. The continuation rate from the first dose to the third dose of DPT and polio vaccine indicates a considerable dropout (32 percent in the case of DPT and 30 percent in the case of polio). As expected, levels of coverage are much higher for children with a vaccination card than for those without a card.

The analysis of the vaccine-specific data also indicates a much higher coverage for each type of vaccine in urban areas than in rural areas. Dropout rates for DPT and polio are also

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<sup>2</sup> They have received BCG, measles and three doses of DPT and polio (excluding polio 0). Polio 0 has been introduced only recently and because it is a vaccination given at the time of birth, mothers may not remember whether the first dose of the polio vaccine was given just after birth or later. Therefore, the coverage of polio 0 reported in the NFHS may be subject to response errors.

**Table 9.8 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, Bihar, 1993

Source of information	Percentage vaccinated among children age 12-23 months											Number of children
	BCG	Polio 0	DPT			Polio			Measles	All <sup>1</sup>	None	
			1	2	3	1	2	3				
<b>URBAN</b>												
<b>Vaccinated at any time before interview</b>												
Vaccination card	(81.5)	(1.7)	(94.5)	(94.5)	(87.7)	(100.0)	(97.2)	(90.5)	(51.2)	(47.2)	--	27
Mother's report	42.5	7.9	45.3	39.0	32.8	47.9	45.4	36.0	20.5	13.6	49.6	87
Either source	51.7	6.5	56.9	52.1	45.7	60.2	57.6	48.9	27.7	21.5	37.9	114
<b>Vaccinated by 12 months of age<sup>2</sup></b>	47.1	6.5	54.5	48.3	36.0	57.7	53.4	38.4	20.5	11.1	40.4	114
<b>RURAL</b>												
<b>Vaccinated at any time before interview</b>												
Vaccination card	71.3	1.7	98.1	85.6	69.3	100.0	88.7	71.9	39.5	29.0	--	119
Mother's report	23.8	2.4	30.0	25.2	18.7	32.0	28.7	21.1	7.7	5.4	66.2	641
Either source	31.3	2.3	40.6	34.7	26.6	42.7	38.1	29.0	12.7	9.1	55.8	760
<b>Vaccinated by 12 months of age<sup>2</sup></b>	25.6	2.3	33.4	26.3	20.0	35.1	29.0	22.1	8.5	5.5	63.0	760
<b>TOTAL</b>												
<b>Vaccinated at any time before interview</b>												
Vaccination card	73.2	1.7	97.5	87.2	72.7	100.0	90.3	75.3	41.7	32.4	--	146
Mother's report	26.1	3.0	31.8	26.9	20.4	33.9	30.7	22.9	9.2	6.4	64.2	729
Either source	33.9	2.8	42.8	37.0	29.1	45.0	40.6	31.6	14.6	10.7	53.5	875
<b>Vaccinated by 12 months of age<sup>2</sup></b>	28.5	2.8	36.2	29.2	22.1	38.1	32.2	24.2	10.0	6.2	60.0	875
<b>BACKWARD DISTRICTS</b>												
<b>Vaccinated at any time before interview</b>												
Vaccination card	(57.5)	(6.3)	(95.6)	(86.6)	(76.7)	(100.0)	(91.1)	(76.7)	(28.3)	(14.0)	--	16
Mother's report	18.8	2.2	23.6	19.4	13.2	24.5	21.8	16.8	6.5	1.6	72.1	117
Either source	25.5	2.7	32.3	27.5	20.8	33.6	30.1	24.0	9.1	3.1	63.5	132
<b>Vaccinated by 12 months of age<sup>2</sup></b>	17.2	2.7	25.5	22.4	16.4	26.6	24.6	19.9	6.0	1.9	70.6	132

( ) Based on 25-49 unweighted cases

-- Less than 0.05 percent

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

<sup>2</sup>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 a written record of vaccination.

lower in urban areas than in rural areas. However, even in urban areas most children (79 percent) are not fully immunized. The coverage of vaccinations in the backward districts is lower than in Bihar as a whole (3 percent are fully immunized and 64 percent have no immunizations).

The vaccination coverage rates observed in the NFHS in Bihar are lower than those estimated by the Institute for Research in Medical Statistics (IRMS) in 1991 (Institute for Research in Medical Statistics, 1991). The coverage rates are almost identical for BCG (32 percent in the IRMS and 34 percent in the NFHS). But the IRMS estimates are 13 to 17 percentage points higher for three doses of DPT, for three doses of polio, and for measles. The reasons for the different estimates need further exploration. Sampling errors cannot fully explain the differences because the standard errors for both surveys are low. Other factors that need to be considered are differences in the time periods, sample designs and field procedures of the two surveys.

According to the immunization schedule, all primary vaccinations, including measles, should be completed by the time a child is 12 months old. The data presented in Table 9.8 indicate that most vaccinations are given within the first year of life. For example, among the 11 percent of children who were fully vaccinated by the time of the survey 6 percent had been fully vaccinated by age 12 months.

Table 9.9 and Figure 9.4 present vaccination coverage rates among children age 12-23 months by selected background characteristics. The percentage for whom immunization cards could be seen is higher for male children (19 percent) than female children (14 percent). Similarly, for every type of vaccination except polio given at birth, coverage is higher among male children. For example, 13 percent of male children are fully vaccinated compared with 9 percent of female children. The difference in coverage rates for male and female children ranges from 5 percentage points for measles to 12 percentage points for polio 1. This pattern clearly indicates that female children are discriminated against in the utilization of immunization services.

First-order children have the highest vaccination coverage levels and are also more likely to possess vaccination cards. The percentage of children fully vaccinated decreases steadily with increasing birth order. A large majority of first-order births occur to younger women who have been observed to have a higher degree of utilization of health care services, such as antenatal and natal services. As in the case of the utilization of maternal health care services, there is a consistent positive relationship between the educational level of the mother and utilization of immunization services. The percentage of children who are fully immunized increases from 5 percent for children whose mothers are illiterate to 40 percent for children whose mothers have completed at least a high school education. Scheduled castes and scheduled tribes are much less likely to have been vaccinated against childhood diseases than other children. The children from rural areas and backward districts have very low full immunization coverage, 9 percent and 3 percent, respectively, compared with 22 percent in urban areas.

Table 9.10 shows the percentage of children age one to three years with vaccination cards shown to the interviewer and the percentage receiving various vaccinations in the first year of life, according to the current age of the child and residence. In all cases except polio given at

**Table 9.9 Vaccinations by background characteristics**

Among children age 12-23 months, the percentage who had received each vaccine by the time of the survey (according to the vaccination card or the mother) and the percentage with a vaccination card which was shown to the interviewer, by selected background characteristics, Bihar, 1993

Background characteristic	Percentage vaccinated											Percentage showing vaccination card	Number of children
	BCG	Polio 0	DPT			Polio			Measles	All <sup>1</sup>	None		
			1	2	3	1	2	3					
<b>Sex</b>													
Male	38.1	2.6	47.2	40.9	31.5	50.6	45.9	34.9	16.9	12.5	47.7	19.3	451
Female	29.5	3.0	38.0	32.8	26.6	38.9	35.0	28.1	12.2	8.8	59.6	14.0	423
<b>Birth order</b>													
1	38.6	4.6	48.7	42.3	32.5	51.9	46.9	38.0	21.0	14.3	47.1	18.5	223
2-3	38.6	2.5	44.5	40.3	32.2	48.6	44.7	31.7	15.6	12.2	50.0	19.6	322
4-5	31.2	2.3	41.1	32.1	24.8	41.1	35.4	29.2	10.3	7.6	56.9	14.9	231
6+	14.6	1.1	27.6	25.2	21.8	26.4	25.5	22.7	7.2	4.9	71.3	7.4	98
<b>Residence</b>													
Urban	51.7	6.5	56.9	52.1	45.7	60.2	57.6	48.9	27.7	21.5	37.9	23.6	114
Rural	31.3	2.3	40.6	34.7	26.6	42.7	38.1	29.0	12.7	9.1	55.8	15.7	760
Backward districts	23.5	2.7	32.3	27.5	20.8	33.6	30.1	24.0	9.1	3.1	63.5	12.0	132
<b>Mother's education</b>													
Illiterate	25.4	2.1	34.9	28.8	21.0	37.2	32.6	23.9	9.0	5.4	61.7	13.5	684
Literate, < middle complete	56.7	5.8	64.2	60.0	53.4	64.6	62.1	54.6	26.3	21.1	32.6	26.0	91
Middle school complete	(63.4)	(5.0)	(81.3)	(72.6)	(65.0)	(78.7)	(77.2)	(60.9)	(37.4)	(33.7)	(15.1)	(23.5)	30
High school and above	75.9	4.7	75.7	72.2	62.3	81.1	76.0	64.5	45.5	39.6	16.7	33.2	69
<b>Religion</b>													
Hindu	34.1	2.7	43.9	37.4	29.6	46.1	41.4	31.7	14.4	10.2	52.1	17.7	713
Muslim	29.7	3.5	34.3	31.5	24.2	36.4	33.4	28.0	14.6	11.8	63.1	12.2	144
<b>Caste/tribe</b>													
Scheduled caste	21.5	2.9	38.0	31.2	22.9	39.4	31.7	19.8	10.3	5.3	59.9	15.4	105
Scheduled tribe	(26.9)	(2.2)	(36.5)	(36.5)	(22.6)	(43.0)	(40.8)	(24.7)	(3.2)	(3.2)	(57.0)	(5.4)	70
Other	36.5	2.9	44.1	37.9	30.7	46.0	42.0	34.1	16.4	12.3	52.2	18.1	699
<b>Total</b>	<b>33.9</b>	<b>2.8</b>	<b>42.8</b>	<b>37.0</b>	<b>29.1</b>	<b>45.0</b>	<b>40.6</b>	<b>31.6</b>	<b>14.6</b>	<b>10.7</b>	<b>53.5</b>	<b>16.7</b>	<b>875</b>

Note: Total includes 17 children belonging to other religions, who are not shown separately.

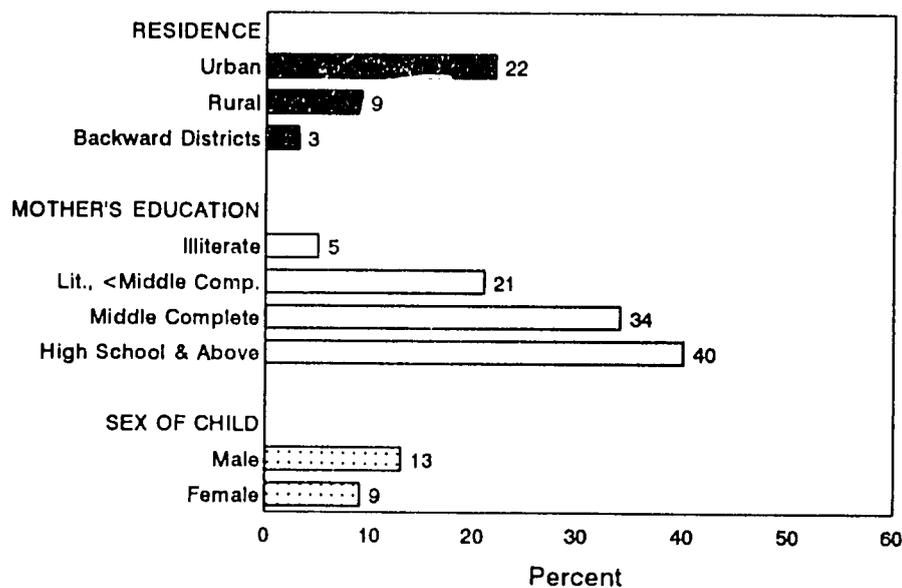
( ) Based on 25-49 unweighted cases

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

birth, the percentage of children whose immunization status was determined by seeing a vaccination card declines with the age of the child. This may be a reflection of the increased use of vaccination cards in recent years, as well as the increased overall coverage of vaccinations. In addition, in many cases the vaccination cards of older children are discarded once they have completed their vaccinations or the cards are lost.

The highest coverage for all vaccinations is 6 percent for children age 12-23 months, then falls to 4 percent for those age 24-35 months, and increases to 5 percent for those age 36-47 months. The percentage of children age one to three years who have received no vaccinations increases steadily with current age from 60 percent for children age 12-23 months to 77 percent

**Figure 9.4**  
**Percentage of Children 12-23 Months**  
**Who Have Received All Vaccinations**



NFHS, Bihar, 1993

for those age 36-47 months. Rural areas and backward districts have a lower percentage of children vaccinated in the first year of life than urban areas.

### Child Morbidity and Treatment Patterns

Because the two major causes of death among infants and children 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. Acute respiratory tract infection, primarily pneumonia, is a common cause of illness and death in infancy and childhood. Early diagnosis and treatment with antibiotics can prevent a large proportion of these ARI/pneumonia deaths. Fever is a major manifestation of malaria, although it also accompanies various other illnesses. The mothers of children born during the past four years 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 child. Table 9.11 shows the percentage of children with cough accompanied by rapid breathing (i.e., acute respiratory infection or 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. Information on the prevalence and treatment of these conditions is presented in Tables 9.11 to 9.16.

Only 1 in 23 children suffered from the symptoms of ARI during the two weeks preceding the survey. The children most vulnerable to ARI were those from 6 to 23 months of

**Table 9.10 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 and residence, Bihar, 1993

Vaccination status	Current age of child in months			Total
	12-23	24-35	36-47	
<b>URBAN</b>				
Vaccination card shown to interviewer	23.6	16.1	4.7	14.9
Percent vaccinated at 0-11 months <sup>1</sup>				
BCG	47.1	41.0	23.4	37.2
Polio 0	6.5	7.0	4.1	5.8
DPT				
1	54.5	46.2	35.4	45.5
2	48.3	45.2	30.6	41.4
3	36.0	40.0	27.8	34.5
Polio				
1	57.7	46.0	34.9	46.4
2	53.4	46.1	30.2	43.4
3	38.4	42.1	28.3	36.2
Measles	20.5	16.7	9.2	15.5
All vaccinations <sup>2</sup>	11.1	11.0	--	7.4
No vaccinations	40.4	54.3	62.3	52.1
Number of children	114	102	109	326
<b>RURAL</b>				
Vaccination card shown to interviewer	15.7	11.8	7.5	11.7
Percent vaccinated at 0-11 months <sup>1</sup>				
BCG	25.6	12.2	11.1	16.7
Polio 0	2.3	2.7	2.5	2.5
DPT				
1	33.4	19.6	19.4	24.5
2	26.3	15.3	13.0	18.5
3	20.0	13.3	12.3	15.4
Polio				
1	35.1	20.3	20.3	25.7
2	29.0	17.0	14.5	20.5
3	22.1	14.9	13.9	17.1
Measles	8.5	3.3	5.6	6.0
All vaccinations <sup>2</sup>	5.5	2.3	4.2	4.1
No vaccinations	63.0	78.9	78.9	73.1
Number of children	760	592	738	2090

**Table 9.10 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 and residence, Bihar, 1993

Vaccination status	Current age of child in months			Total
	12-23	24-35	36-47	
<b>TOTAL</b>				
Vaccination card shown to interviewer	16.7	12.4	7.1	12.1
<b>Percent vaccinated at 0-11 months<sup>1</sup></b>				
BCG	28.5	16.5	12.5	19.4
Polio 0	2.8	3.3	2.7	2.9
DPT				
1	36.2	23.2	21.2	27.2
2	29.2	19.1	14.6	21.2
3	22.1	16.7	13.7	17.6
Polio				
1	38.1	23.8	22.0	28.3
2	32.2	20.7	16.1	23.3
3	24.2	18.4	15.5	19.5
Measles	10.0	5.0	6.3	7.3
All vaccinations <sup>2</sup>	6.2	3.7	4.6	4.9
No vaccinations	60.0	75.4	77.1	70.4
Number of children	875	695	847	2416

age. Small differences are observed according to the gender and birth order of the child, residence and the mother's educational level. Children from backward districts and schedule caste women are more likely to suffer from the symptoms of ARI than others.

Fever is the most prevalent of the three conditions examined. More than one-fifth of the children suffered from fever during the two weeks prior to the survey. Children age 6-23 months, male children, children of other religions and those residing in rural areas and backward districts were somewhat more prone to fever. No consistent relationship was observed between the prevalence of fever and education of the mother or birth order.

The prevalence of diarrhoea during the two weeks before the survey was low (14 percent for any type of diarrhoea and 1 percent for bloody diarrhoea). Only 6 percent of children had diarrhoea during the preceding 24 hours. Due to seasonal variations in the incidence of diarrhoea, these estimates may not reflect the average situation throughout the year. The prevalence of diarrhoea was the highest (23 percent) among children age 6-11 months, after which it declines with increasing age. Diarrhoea was also relatively more prevalent among children whose mothers were from rural areas (14 percent) or backward districts (15 percent) and from scheduled castes (16 percent).

**Table 9.10 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 and residence, Bihar, 1993

Vaccination status	Current age of child in months			Total
	12-23	24-35	36-47	
<b>BACKWARD DISTRICTS</b>				
Vaccination card shown to interviewer	12.0	8.4	6.8	9.2
Percent vaccinated at 0-11 months <sup>1</sup>				
BCG	17.2	12.4	7.4	12.3
Polio 0	2.7	1.4	2.6	2.3
DPT				
1	25.5	17.9	7.5	16.9
2	22.4	12.5	5.2	13.5
3	16.4	11.2	6.3	11.3
Polio				
1	26.6	19.8	10.6	18.9
2	24.6	13.9	6.7	15.2
3	19.9	13.1	7.7	13.6
Measles	6.0	1.4	--	2.6
All vaccinations <sup>2</sup>	1.9	0.9	--	0.9
No vaccinations	70.6	79.3	87.6	79.1
Number of children	132	95	132	359

-- Less than 0.05 percent  
<sup>1</sup>Information was obtained either from the vaccination card or from the mother if there was no 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 a written record of vaccinations.  
<sup>2</sup>Children who have received BCG, measles and three doses of DPT and polio vaccines (excluding polio 0).

### Treatment of ARI

Table 9.12 presents information on the type of treatment received by children suffering from ARI. Seventy-three percent of the children who suffered from ARI during the past two weeks were taken to a health facility for treatment or were treated by a doctor or other health professional. Only 13 percent of children with ARI did not receive any treatment. Sick children were most often treated with antibiotic pills or syrup. Children age 12-23 months were most likely to receive treatment for ARI. The percentage of male children given treatment is much higher (77 percent) than that for female children (67 percent) which indicates likely discrimination against female children in the provision and use of health care facilities. Higher order children, those living in rural areas and backward districts and those of illiterate and Muslim mothers are less likely to be given treatment for ARI than others.

**Table 9.11 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, Bihar, 1993

Background characteristic	Percentage of children suffering in previous two weeks from:					Number of children
	Cough accompanied by fast breathing	Fever	Diarrhoea <sup>1</sup>		Any diarrhoea in previous 24 hours <sup>2</sup>	
			Any	Bloody		
<b>Child's age</b>						
< 6 months	3.8	15.5	12.0	0.1	6.7	405
6-11 months	5.5	28.5	23.3	1.2	13.4	430
12-23 months	6.5	27.4	17.3	1.6	7.4	875
24-35 months	2.9	17.7	12.0	2.3	5.0	695
36-47 months	2.8	16.2	7.4	1.3	2.5	847
<b>Sex</b>						
Male	4.9	23.0	13.8	1.4	6.2	1648
Female	3.7	19.1	13.6	1.5	6.4	1603
<b>Birth order</b>						
1	4.2	21.3	14.0	1.8	6.4	755
2-3	5.1	19.2	13.2	1.3	6.2	1216
4-5	3.4	23.7	14.7	1.4	6.6	800
6+	3.8	21.1	12.9	1.3	6.1	481
<b>Residence</b>						
Urban	3.6	19.6	9.6	0.8	4.3	440
Rural	4.4	21.3	14.3	1.5	6.6	2811
Backward districts	5.9	24.9	15.1	2.0	7.1	487
<b>Mother's education</b>						
Illiterate	4.3	22.0	13.7	1.4	6.4	2558
Lit., < middle complete	4.1	17.5	15.4	1.4	6.0	331
Middle school complete	4.3	24.8	10.3	0.6	2.2	93
High school and above	4.0	15.5	13.1	2.4	7.5	269
<b>Religion</b>						
Hindu	4.2	21.1	13.6	1.4	6.2	2562
Muslim	4.7	20.2	14.5	1.7	7.6	631
Other	2.6	30.6	8.9	--	--	58
<b>Caste/tribe</b>						
Scheduled caste	5.6	22.2	15.8	2.2	6.7	314
Scheduled tribe	1.2	21.0	5.3	0.6	2.4	255
Other	4.4	20.9	14.2	1.4	6.7	2682
<b>Source of drinking water</b>						
Piped water	U	U	10.9	1.0	3.8	211
Ground water	U	U	14.8	1.9	7.3	1899
Well water	U	U	12.0	0.8	5.1	1079
Other	U	U	(24.8)	(1.5)	(1.9)	35
<b>Total</b>	<b>4.3</b>	<b>21.1</b>	<b>13.7</b>	<b>1.4</b>	<b>6.3</b>	<b>3251</b>

Note: Figures are for children born in the period 1-47 months prior to the survey. Total includes 27 children for whom the source of drinking water is surface water, which are not shown separately.

U: Not available

( ) Based on 25-49 unweighted cases

-- Less than 0.05 percent

<sup>1</sup>Includes diarrhoea in the past 24 hours

<sup>2</sup>Includes diarrhoea with blood

**Table 9.12 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, according to selected background characteristics, Bihar, 1993

Background characteristic	Among children with cough and fast breathing								Number of children
	Percentage taken to a health facility or provider <sup>1</sup>	Percentage treated with						DK/miss-ing	
		Anti-biotic pill or syrup	Injection	Cough syrup	Home remedy/herbal medicine	Other	None		
<b>Child's age</b>									
< 12 months	(65.6)	(55.5)	(40.9)	(44.7)	--	(15.6)	(14.1)	--	39
12-23 months	82.3	51.2	37.9	39.0	2.7	24.4	7.0	--	57
24+ months	67.4	36.3	20.4	28.6	--	30.0	18.2	4.7	44
<b>Sex</b>									
Male	77.3	54.1	35.3	33.8	--	24.0	8.9	--	81
Female	66.9	39.1	30.6	42.1	2.6	23.3	17.4	3.5	59
<b>Birth order</b>									
1	(87.5)	(57.1)	(51.3)	(46.5)	--	(11.7)	(3.9)	(6.4)	32
2+	68.7	45.0	27.9	34.5	1.4	27.3	15.1	--	108
<b>Residence</b>									
Urban	(82.6)	(44.7)	(35.3)	(54.1)	--	(41.7)	(5.9)	--	16
Rural	71.7	48.2	33.0	35.2	1.2	21.4	13.4	1.7	124
Backward districts	57.9	48.3	40.9	29.2	--	10.3	29.2	1.9	29
<b>Mother's education</b>									
Illiterate	70.4	41.8	32.2	39.8	--	26.1	15.4	0.5	111
Literate	(83.0)	(71.1)	(37.6)	(27.8)	(5.3)	(14.4)	(1.3)	(5.3)	28
<b>Religion</b>									
Hindu	75.2	49.4	34.0	41.8	--	25.3	9.7	0.5	109
Muslim	(63.1)	(44.1)	(32.3)	(17.5)	(5.1)	(14.0)	(23.6)	(5.1)	29
<b>Total</b>	<b>72.9</b>	<b>47.8</b>	<b>33.3</b>	<b>37.3</b>	<b>1.1</b>	<b>23.7</b>	<b>12.5</b>	<b>1.5</b>	<b>140</b>

Note: Total includes 2 children belonging to other religions, who are not shown separately.

( ) Based on 25-49 unweighted cases

-- Less than 0.05 percent

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

## Treatment of Fever

Table 9.13 shows treatment patterns for children suffering from fever during the two weeks before the survey. Nearly 60 percent of the children had been taken to a health facility or provider for the treatment of fever. Almost half of the children (48 percent) were treated with antibiotics in the form of pills or syrup and 18 percent were given injections. A smaller proportion were given antimalarial medication (11 percent) or home remedies (3 percent). Differentials in the treatment of fever reveal that children age 6-11 months were most likely to be taken to a health facility or provider. Male children, those of lower birth order, urban children, those of educated mothers and scheduled caste children were more likely to be taken to a health facility or provider than others.

**Table 9.13 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 the health facility or provider and type of treatment given, according to selected background characteristics, Bihar, 1993

Background characteristic	Among children with fever								Number of children
	Per-centage taken to a health facility or provider <sup>1</sup>	Percentage treated with						Don't know/missing	
		Anti-malarial	Antibiotic pill or syrup	Injec-tion	Home remedy/herbal medicine	Other	None		
<b>Child's age</b>									
< 6 months	45.7	1.8	45.1	14.9	5.7	18.6	35.5	1.2	63
6 -11 months	66.2	12.4	59.6	21.4	1.9	23.8	15.2	1.2	123
12-23 months	61.5	12.1	47.7	19.3	3.8	32.0	21.0	0.0	239
24-35 months	58.7	10.8	47.2	13.3	0.6	25.0	27.0	1.2	123
36-47 months	58.2	11.4	40.8	19.1	1.4	21.2	30.4	0.4	137
<b>Sex</b>									
Male	64.3	11.1	51.1	17.1	2.1	27.6	22.0	--	379
Female	54.0	10.4	44.4	19.5	3.1	23.8	27.0	1.4	306
<b>Birth order</b>									
1	64.6	13.8	50.7	19.9	1.5	28.8	17.1	1.3	161
2-3	63.1	11.9	52.0	17.0	2.5	24.9	20.5	0.6	233
4-5	54.5	9.4	40.6	18.5	4.2	28.0	29.0	0.4	189
6+	53.9	6.3	49.3	17.4	1.5	19.6	35.4	--	102
<b>Residence</b>									
Urban	70.7	14.0	46.0	12.9	0.9	40.1	15.7	0.9	86
Rural	58.1	10.4	48.4	18.9	2.8	23.8	25.5	0.6	599
Backward districts	58.3	9.6	46.9	25.4	2.0	27.5	25.7	0.4	121
<b>Mother's education</b>									
Illiterate	57.0	11.5	45.8	19.1	2.8	25.6	27.3	0.1	562
Literate, < primary	63.4	2.8	54.5	20.4	3.4	24.1	14.3	5.2	58
High school and above	75.0	8.5	61.7	9.1	--	36.1	9.8	0.0	42
<b>Religion</b>									
Hindu	60.0	9.7	48.7	17.1	2.7	26.7	24.2	0.5	540
Muslim	59.1	15.5	45.9	24.7	1.2	20.6	25.5	1.2	127
<b>Caste/tribe</b>									
Scheduled caste	68.1	16.1	52.3	20.9	--	22.8	23.9	--	70
Scheduled tribe	(53.5)	(5.6)	(47.9)	(5.6)	(8.5)	(26.7)	(31.0)	(--)	54
Other	59.3	10.7	47.7	19.0	2.3	26.2	23.7	0.8	562
<b>Total</b>	<b>59.7</b>	<b>10.8</b>	<b>48.1</b>	<b>18.1</b>	<b>2.6</b>	<b>25.9</b>	<b>24.3</b>	<b>0.6</b>	<b>685</b>

Note: Total includes 23 children with mother's education middle school complete and 18 children belonging to other religions, who are not shown separately.

( ) Based on 25-49 unweighted cases

-- Less than 0.05 percent

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

## Treatment of Diarrhoea

Deaths from acute diarrhoea are most often due to the dehydration that results from the loss of water and electrolytes (Black, 1984). However, nearly all dehydration-related deaths can be prevented by prompt administration of rehydration solutions. Since deaths due to diarrhoea are a significant proportion of all deaths to children, health programmes emphasize instructing mothers in the use of Oral Rehydration Salt (ORS) packets and the preparation of rehydration solutions at home, which are known as Recommended Home Solutions (RHS). This education is given mostly through the electronic and print media, and in adult literacy classes. Documentaries covering the topic of diarrhoea among children and the use of ORS and preparation of RHS are regularly shown in cinema theatres and movie halls. Such spots are also shown on television and All India Radio 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. Table 9.14 shows that only 36 percent of mothers knew about ORS and a little less than one-quarter had ever used ORS packets. As expected, both knowledge and use of ORS are higher among urban mothers than those from rural areas and backward districts. Levels of knowledge and use of ORS are positively related to the educational attainment of mothers. Muslim mothers and those from scheduled tribes are less likely to have knowledge about ORS than others. Mass media can evidently play an important role in oral rehydration programmes. Both knowledge and use of ORS are twice as high among mothers exposed to electronic mass media as among those with no such exposure.

Table 9.15 shows the type of treatment obtained for children who had diarrhoea during the two weeks before the survey. Nearly three-fifths of all the children who suffered from diarrhoea were taken to a health facility or provider for treatment. Treatment at a health facility or by a health provider was most common for children age 12-23 months, for male children, those of first birth order, those living in urban areas and those with educated mothers.

Table 9.15 also shows the percentage of children suffering from diarrhoea who received various types of treatment. Twelve percent of children were treated with ORS packets and 14 percent received a Recommended Home Solution (RHS). In order to reduce dehydration due to diarrhoea, mothers are also taught to increase the supply of fluids to children with diarrhoea. However, 68 percent of the children received neither oral rehydration therapy (ORS or RHS) nor increased fluids. Only 14 percent of children received an increased supply of fluids, such as water, lemon and sugar water drink, milk, juice, soup, coconut water, tea, barley water, or breast milk.

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. Overall, 47 percent of children with diarrhoea were given antibiotics, 14 percent received injections and 32 percent were treated at home. Oral rehydration therapy (ORS or RHS) was not used extensively by any population subgroup, but such treatment was even less common for very young children (under 6 months), Muslims, children of illiterate mothers, and scheduled caste children.

**Table 9.14 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, Bihar, 1993

Background characteristic	Know about ORS packets	Have ever used ORS packets	Number of mothers
<b>Mother's age</b>			
15-19	31.0	20.7	301
20-24	39.4	24.3	906
25-29	39.9	27.5	805
30-34	32.2	23.7	505
35+	29.2	20.8	313
<b>Residence</b>			
Urban	61.5	43.4	356
Rural	32.6	21.6	2473
Backward districts	35.1	22.0	437
<b>Mother's education</b>			
Illiterate	27.3	17.3	2264
Lit., < middle school complete	63.5	46.6	270
Middle school complete	69.5	46.6	77
High school and above	83.7	62.5	217
<b>Religion</b>			
Hindu	37.7	25.8	2243
Muslim	30.6	18.2	537
Other	33.9	25.5	49
<b>Caste/tribe</b>			
Scheduled caste	34.4	20.8	290
Scheduled tribe	18.3	11.2	225
Other	38.2	26.1	2314
<b>Mother's exposure to media</b>			
Exposed to media	56.9	40.0	767
Watches television weekly	78.1	56.5	293
Listens to radio weekly	55.0	37.8	686
Visits cinema/theatre monthly	70.7	46.9	133
Not exposed to any of the media	28.6	18.5	2062
<b>Total</b>	<b>36.3</b>	<b>24.3</b>	<b>2829</b>

Note: There were no births reported during the last four years to women age 13-14.

When a child has diarrhoea, it is inappropriate to reduce the child's frequency of breastfeeding or the total intake of breast milk or other fluids. In the NFHS, the mothers of the children who suffered from diarrhoea were asked about changes in feeding practices of those children during the diarrhoea. Table 9.16 provides information on feeding practices during diarrhoea for children under 4 years of age. For a large majority of children (82 percent), the frequency of breastfeeding remained the same or increased during the diarrhoea. The amount of other fluids given to the children was the same as usual or more for 72 percent of children, and 25 percent of children with diarrhoea were given less fluids than they received before the diarrhoea began. Children age 1-3 were given less fluids in 27 percent of the cases, compared with 20 percent of children under one year of age.

**Table 9.15 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, according to selected background characteristics, Bihar, 1993

Background characteristics	Percent taken to a health facility or provider <sup>1</sup>	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		
<b>Child's age</b>											
<6 months	53.9	4.5	8.7	13.2	17.9	72.1	37.5	5.0	24.8	27.6	113
6-11 months	71.5	15.4	8.8	22.0	22.2	62.7	49.8	14.3	30.0	7.8	105
12-23 months	66.1	17.1	12.4	27.0	24.5	58.9	44.2	17.3	35.3	13.3	216
24-35 months	69.4	9.6	20.1	24.5	19.5	63.7	46.2	13.0	34.5	12.4	114
36-47 months	68.0	13.1	13.7	22.9	19.2	61.7	44.1	16.3	30.2	12.1	91
<b>Sex</b>											
Male	65.4	15.9	11.5	24.1	22.7	62.2	44.5	13.2	32.8	12.4	328
Female	65.9	9.3	13.9	21.2	19.9	64.1	44.0	14.2	30.5	16.9	311
<b>Birth order</b>											
1	68.4	16.0	11.2	25.5	22.1	64.4	49.9	15.9	29.4	13.7	140
2-3	69.7	13.8	13.3	24.0	19.8	61.8	45.8	14.1	30.2	13.6	202
4-5	61.9	11.0	15.1	23.3	27.3	56.2	37.9	8.1	33.0	14.2	165
6+	61.4	9.6	10.4	17.1	15.3	72.4	44.0	17.8	34.7	17.7	132
<b>Residence</b>											
Urban	76.0	4.9	16.7	21.4	19.8	65.4	48.0	13.7	40.1	11.0	105
Rural	63.6	14.2	11.9	23.0	21.6	62.7	43.5	13.7	30.0	15.3	534
Backward districts	64.5	11.8	11.9	19.8	22.0	64.0	45.2	14.6	31.4	13.7	413
<b>Mother's education</b>											
Illiterate	65.6	10.7	11.4	19.6	19.2	66.0	44.4	13.4	31.3	15.0	499
Lit., <middle complete	61.1	16.8	15.7	30.7	29.0	51.5	39.7	15.6	34.1	14.8	64
Middle complete	(62.0)	(29.1)	(12.3)	(35.7)	(22.6)	(64.0)	(44.4)	(16.0)	(28.3)	(19.9)	39
High school and above	(78.2)	(14.8)	(26.1)	(37.1)	(35.5)	(42.6)	(50.5)	(12.4)	(36.2)	(3.4)	37
<b>Religion</b>											
Hindu	64.9	13.5	12.1	22.9	22.0	62.3	44.6	13.5	30.1	14.9	547
Muslim	70.6	7.0	17.2	21.5	18.2	68.0	42.5	15.5	41.8	13.0	88
<b>Caste/tribe</b>											
Scheduled caste	73.0	12.7	12.7	23.7	18.8	62.4	47.4	17.4	38.0	8.1	140
Other (Non-SC/ST)	63.6	12.6	12.9	22.5	22.3	63.1	43.5	12.2	29.7	16.5	492
<b>Total</b>	<b>65.7</b>	<b>12.7</b>	<b>12.7</b>	<b>22.7</b>	<b>21.3</b>	<b>63.1</b>	<b>44.3</b>	<b>13.7</b>	<b>31.7</b>	<b>14.6</b>	<b>639</b>

Note: Figures are for children born in the period 1-47 months prior to the survey. Total includes 10 children with mother's education middle complete, 5 belonging to other religions and 14 scheduled tribe children, who are not shown separately.

(<sup>1</sup>) Based on 25-49 unweighted cases

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

**Table 9.16 Feeding practices during diarrhoea**

Percent distribution of children under four years who had diarrhoea in the past two weeks, according to feeding practices during diarrhoea and age, Bihar, 1993

Feeding practices during diarrhoea	Age of the child		
	<1 year <sup>1</sup>	1-3 years	Total <sup>2</sup>
<b>Breastfeeding frequency<sup>3</sup></b>			
Same as usual	78.3	75.3	76.4
Increased	3.5	6.4	5.3
Reduced	14.9	14.6	14.7
Stopped	3.2	2.5	2.8
Don't know/missing	--	1.2	0.8
Total percent	100.0	100.0	100.0
Number of children	139	242	381
<b>Amount of fluids given</b>			
Same as usual	66.5	58.2	61.0
More	10.5	10.5	10.5
Less	19.7	27.0	24.6
Don't know	3.3	4.3	4.0
Total percent	100.0	100.0	100.0
Number of children with diarrhoea	149	297	445

-- Less than 0.05 percent

<sup>1</sup>Children born in the period 1-11 months prior to the survey

<sup>2</sup>Children born in the period 1-47 months prior to the survey

<sup>3</sup>Applies only to children who are still breastfed

## 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 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 the 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 breastfed 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 12-15 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 survey -- a total of 3,600 births. In India, traditionally breast milk has been the main source of nutrition for infants and young children. Breast milk not only provides the child with important nutrients but also protects the child against certain infections. Breastfeeding is nearly universal in Bihar, with 95 percent of all children having been breastfed. The practice of breastfeeding is high in all groups, ranging from 89 to 97 percent.

The early initiation of breastfeeding is important since 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. Colostrum and breast milk are sufficient for newborn infants; 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.

It is also recommended that the first breast milk should be given to the child rather than squeezed from the breast because it contains colostrum, which provides natural immunity to the child. For children who were ever breastfed, Table 10.1 also shows how soon after birth breastfeeding was initiated. This information was collected for the most recent birth of each woman who had a birth in the four years before the survey (a total of 2,854 births). While almost all children are breastfed, it is rare for breastfeeding to begin very soon after delivery. In fact, only 2 percent of children began breastfeeding within one hour of birth and only 12 percent began breastfeeding during the first 24 hours of their life. NFHS data not shown indicate that the practice of squeezing the first milk from the breast is very common in Bihar. A substantial majority of women who breastfeed do squeeze the first milk from the breast before they begin breastfeeding their babies. This suggests the importance of launching an educational campaign to inform women about the benefits of providing the first breast milk to their children.

There is no difference in the timing of initiation of breastfeeding by the sex of the child, but there are substantial differences according to background characteristics and the circumstances of the delivery. The most striking finding is that one-fifth of the children of women with at least a high school education initiate breastfeeding within the first 24 hours of their life. Among the small number of children of women belonging to other religions one-fourth initiate breastfeeding within the first 24 hours of life. The postponement of breastfeeding is more common in rural areas and backward districts than in urban areas and among scheduled castes and tribes than among others. The postponement of breastfeeding is less likely for children whose births take place in health facilities and those whose births are attended by health professionals than among those born at home and without assistance from a health professional. If short intervals between birth and first breastfeeding are indicative of salutary circumstances for the child, then private health facilities would be ranked as the best place for a delivery, followed by public health facilities. Although there are differences in the initiation of breastfeeding by background characteristics, the postponement of breastfeeding in all groups shows that feeding practices for newborn infants are not beneficial. Breastfeeding was initiated, as recommended, within the first hour for only 1 in 67 babies. Overall, 88 out of 100 infants did not start breastfeeding even in the first 24 hours of life.

**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, Bihar, 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 <sup>1</sup>	Number of children
<b>Sex of child</b>					
Male	94.5	1831	1.5	11.6	1477
Female	95.7	1769	1.5	12.0	1377
<b>Residence</b>					
Urban	94.6	472	2.4	16.7	359
Rural	95.2	3128	1.4	11.1	2495
Backward districts	95.4	544	1.2	13.6	439
<b>Mother's education</b>					
Illiterate	95.6	2856	1.3	10.4	2285
Lit., < middle complete	94.1	361	1.5	17.8	273
Middle school complete	96.1	99	2.0	8.8	77
High school and above	91.7	283	3.0	20.0	219
<b>Religion</b>					
Hindu	95.3	2817	1.6	11.3	2263
Muslim	95.1	716	1.3	12.4	542
Other	88.7	67	1.5	25.0	49
<b>Caste/tribe</b>					
Scheduled caste	93.8	361	1.5	8.7	295
Scheduled tribe	96.1	273	--	9.8	222
Other	95.2	2965	1.6	12.4	2336
<b>Assistance at delivery</b>					
Health professional	93.1	683	2.4	15.5	546
Traditional birth attendant	96.2	2101	1.5	11.6	1664
Other or none	94.8	805	0.8	9.2	640
<b>Place of delivery</b>					
Public health facility	91.0	208	3.0	13.8	162
Private health facility	92.2	226	4.4	18.3	177
Own home	95.6	2733	1.2	11.4	2159
Parents' home	97.4	407	0.7	8.6	337
<b>Total</b>	<b>95.1</b>	<b>3600</b>	<b>1.5</b>	<b>11.8</b>	<b>2854</b>

Note: Table is based on children born in the four years preceding the survey, whether living or dead at the time of interview. The total among all children includes 10 children with missing information on assistance at delivery, 16 children with 'other' place of delivery and 9 children with missing information on place of delivery; and the total among the last-born includes 4 children with missing information on assistance at delivery, 16 children with 'other' place of delivery and 3 children with missing information on place of delivery, who are not shown separately.

-- Less than 0.05 percent

<sup>1</sup>Includes children who started breastfeeding within one hour of birth.

For children currently being breastfed, mothers were asked if the children had been given any other liquids or solid foods at any time the previous day or night. The results are shown in Table 10.2 and Figure 10.1. Children who received nothing but breast milk in the previous 24 hours are defined as being *exclusively breastfed*, while *full breastfeeding* refers to both those given only breast milk and those who received breast milk and plain water only. In Bihar, exclusive breastfeeding is quite common for very young children, but even at age 0-1 months about two-fifths of babies are given water or other supplements. Fifty-two percent of infants under four months are given only breast milk and almost 80 percent receive full breastfeeding. The percentage of babies being exclusively breastfed drops off rapidly after the first few months of life, to less than 10 percent at age 10-11 months and older ages. Supplements other than plain water are given in addition to breast milk to 13 percent of children age 0-1 month, 23 percent of those age 2-3 months, and more than two-fifths (41 percent) of those age 6-7 months. Although supplements are given to more than 80 percent of children by age 12-13 months, breastfeeding typically continues for long durations. After two years of life (age 24-25 months), 56 percent of children are still being breastfed and after three years (36-37 months), 34 percent are still being breastfed.

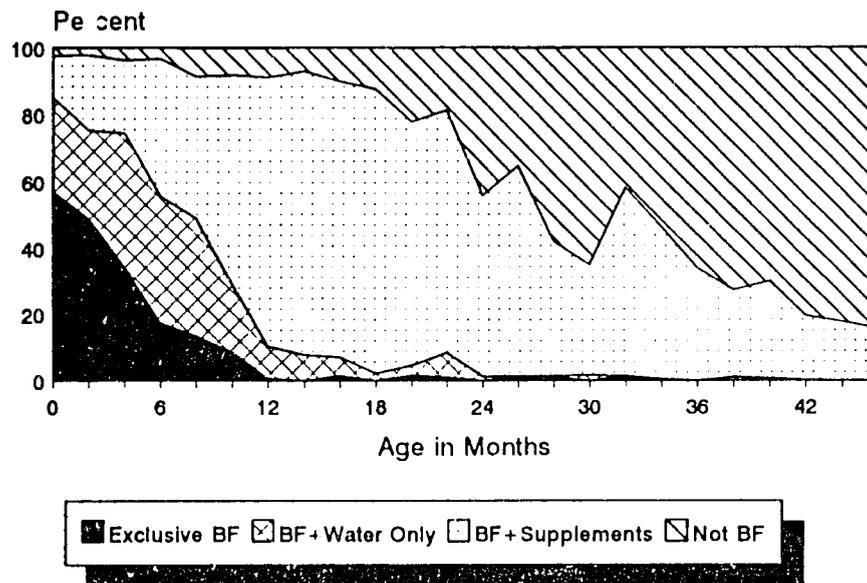
**Table 10.2 Breastfeeding status by child's age**

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

Age in months	Percentage among all living children					Total percent	Number of living children
	Not breast-feeding	Exclusively breastfeeding	Breastfeeding and				
			Plain water only	Supple-ments	DK supple-ments		
0 - 1	2.3	57.1	28.0	12.6	--	100.0	96
2 - 3	2.1	48.9	26.4	22.6	--	100.0	179
4 - 5	3.7	34.2	40.3	21.8	--	100.0	167
6 - 7	3.3	17.7	38.0	41.0	--	100.0	212
8 - 9	8.5	13.7	35.4	42.3	--	100.0	127
10-11	8.2	8.8	20.1	62.8	--	100.0	91
12-13	8.8	0.8	9.6	80.7	--	100.0	177
14-15	7.2	--	7.8	85.1	--	100.0	157
16-17	10.2	1.6	5.5	82.7	--	100.0	160
18-19	12.4	--	2.2	85.4	--	100.0	156
20-21	22.1	1.7	3.0	72.5	0.6	100.0	129
22-23	18.7	1.2	7.3	72.8	--	100.0	93
24-25	44.1	--	1.3	54.6	--	100.0	162
26-27	35.2	1.1	0.4	62.1	1.1	100.0	132
28-29	57.8	1.2	0.4	40.5	--	100.0	123
30-31	65.0	--	1.7	33.3	--	100.0	90
32-33	41.8	1.5	--	56.7	--	100.0	101
34-35	53.4	--	0.6	46.0	--	100.0	86
36-37	66.1	--	--	33.9	--	100.0	128
38-39	72.7	--	1.1	26.3	--	100.0	138
40-41	70.0	--	0.7	29.4	--	100.0	129
42-43	80.3	--	0.2	18.6	0.9	100.0	172
44-45	82.1	--	--	17.9	--	100.0	159
46-47	84.1	--	--	15.9	--	100.0	121

Note: Breastfeeding status refers to last 24 hours. Children classified as "Breastfeeding and plain water only" receive no supplements.  
 DK: Don't know  
 -- Less than 0.05 percent

Figure 10.1  
Distribution of Children by Breast-feeding (BF) Status According to Age



Note: BF + Supplements includes  
BF + DK (Don't know) Supplements

NFHS, Bihar, 1993

Table 10.3 and Figure 10.2 show 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 numbers of children in each two-month age group are shown in the far right column. Note that the number of breastfeeding children declines sharply with increasing age after about two years of age, so that the percentages for older ages are based on small numbers of cases.

The use of infant formula is rare in Bihar. The percentages given infant formula exhibit no significant trend by age. Supplementation of breast milk by other milk rises steadily with age through age 16-17 months to 43 percent of all children after which it remains fairly constant. Supplementation by other liquids, such as juice or tea, rises rapidly to 48 percent of all children age 12-13 months and thereafter more slowly to a level of over 65 percent by about age two years. Supplementation by solid or mushy foods shows much the same pattern, with a rise from only 15 percent at age 6-7 months to 77 percent by age 12-13 months and a slower rise thereafter. Only 19 percent of breastfed infants in the age group 6-9 months received solid foods as recommended. While almost all of the infants in this age group were breastfed, most did not receive recommended complementary foods.

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 since the period of amenorrhoea is shortened when mothers feed their children from bottles with nipples. In addition, since it is difficult to sterilize the nipple properly, the use of

**Table 10.3 Type of supplementation by child's age**

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

Age in months	Percentage of breastfeeding children who are:					Number of breast-feeding children
	Receiving supplement				Using bottle with a nipple	
	Infant formula	Other milk	Other liquid	Solid/mushy food		
0 - 1	--	6.8	7.0	1.6	4.4	94
2 - 3	5.4	11.9	8.1	0.2	9.9	175
4 - 5	0.9	19.0	10.3	4.5	10.0	161
6 - 7	4.5	25.7	17.5	15.0	7.3	205
8 - 9	7.8	18.8	16.9	26.4	3.7	116
10-11	3.3	31.1	34.6	46.9	12.7	84
12-13	4.1	34.6	47.6	77.4	6.9	164
14-15	1.3	36.9	51.2	83.2	1.0	146
16-17	6.3	43.3	60.7	84.7	2.4	144
18-19	5.6	30.4	60.1	87.3	0.5	137
20-21	4.1	30.8	59.6	87.7	2.8	100
22-23	2.9	40.2	65.0	79.5	5.1	75
24-25	2.0	32.5	66.9	95.7	--	91
26-27	3.5	41.5	79.4	92.2	5.4	84
28-29	(--)	(36.3)	(54.4)	(53.2)	(9.7)	52
30-31	(2.2)	(39.1)	(70.2)	(85.7)	(1.7)	32
32-33	2.6	46.1	52.7	97.4	--	59
34-35	(--)	(37.5)	(71.0)	(93.1)	(1.9)	40
36-37	(1.2)	(45.2)	(52.7)	(95.3)	(--)	43
38-39	(0.9)	(39.9)	(66.3)	(92.0)	(2.2)	38
40-41	(--)	(50.5)	(53.2)	(93.8)	(--)	39
42-43	(2.3)	(20.6)	(63.3)	(98.9)	(7.0)	32
44-47	11.0	47.0	68.0	97.3	--	47

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

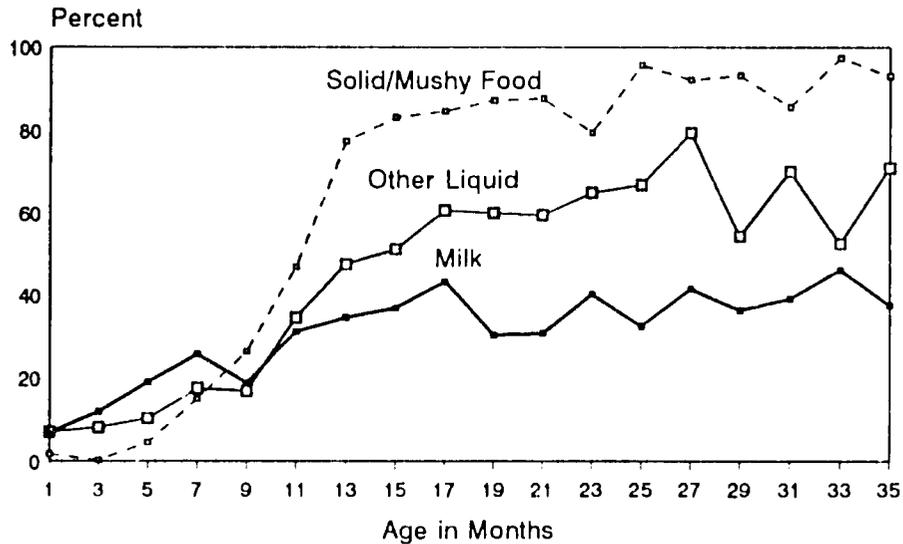
( ) Based on 25-49 unweighted cases

-- Less than 0.05 percent

bottles with nipples exposes children to an increased risk of developing diarrhoea and other diseases. The use of bottles with nipples is relatively rare in Bihar, increasing from 4 percent in the first two months after birth to a high of 13 percent for children age 10-11 months, after which it declines slowly to zero for children approaching four years of age.

Table 10.4 shows several statistics describing the length of breastfeeding by selected background characteristics. The median length of breastfeeding of any kind is 26.5 months. Supplementation begins early, however, with a median length of exclusive breastfeeding of only 1.5 months and a median length of full breastfeeding of 7.5 months. The mean length of breastfeeding (28.5 months) 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 the 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 mothers were breastfeeding at the time

Figure 10.2  
 Percentage of Children Given Milk,  
 Other Liquid, or Solid/Mushy Food  
 the Day Before the Interview



Note: Based on youngest child being breastfed;  
 Milk refers to fresh milk and tinned/powdered milk

NFHS, Bihar, 1993

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 the seasonality of births and possible reference period errors). For each measure of breastfeeding, the prevalence-incidence means are very close to the means calculated in the conventional manner.

Male children are breastfed slightly longer than female children (29.1 months compared to 25.5 months). Other groups with relatively long breastfeeding durations include Hindus, scheduled tribes, and children whose birth was not attended by a health professional or traditional birth attendant. Previous studies in Bihar have found slightly shorter duration of breastfeeding but the differentials by background characteristics are similar (Sinha, 1994).

Children from rural and backward districts who make up the vast majority of children were breastfed 2 and 4 months longer, respectively, than urban children. Childbearing mothers from scheduled tribes breastfed longer than any other group. In addition to the length of breastfeeding, the frequency with which mothers breastfeed can affect the duration of postpartum amenorrhoea. The health and nutritional status of the child may also be influenced by the frequency of breastfeeding. About 95 percent of children under six months of age were breastfed six or more times on the day before the interview. This finding suggests that there is a high intensity of breastfeeding in Bihar.

**Table 10.4 Median duration and frequency of breastfeeding by background characteristics**

Median durations of any, exclusive and full breastfeeding among children under four years and the percentage of children under six months of age who were breastfed six or more times in the 24 hours preceding the interview, according to selected background characteristics, Bihar, 1993

Background characteristic	Median durations (months) <sup>1</sup>			Number of children	Children under 6 months	
	Any breast-feeding	Exclusive breast-feeding	Full breast-feeding <sup>2</sup>		Breastfed 6+ times in last 24 hours	Number of children
<b>Sex of child</b>						
Male	29.1	1.7	6.7	1831	96.5	232
Female	25.5	1.3	8.4	1769	93.2	211
<b>Residence</b>						
Urban	25.3	0.4	4.7	472	88.1	53
Rural	27.2	1.8	7.9	3128	95.9	389
Backward districts	29.0	2.7	7.3	544	95.5	63
<b>Mother's education</b>						
Illiterate	27.0	2.2	8.6	2856	95.5	356
Literate, < middle complete	22.4	1.5	3.4	361	(95.4)	40
Middle school complete	26.5	0.4	5.2	99	*	13
High school and above	21.8	0.4	1.8	283	(86.6)	34
<b>Religion</b>						
Hindu	27.7	1.0	7.1	2817	95.3	316
Muslim	22.1	2.6	8.4	716	93.7	116
Other	21.6	0.4	5.9	67	*	10
<b>Caste/tribe</b>						
Scheduled caste	26.4	2.5	9.6	361	(88.4)	39
Scheduled tribe	33.3	0.4	7.3	273	*	32
Other	26.2	1.8	7.2	2965	95.2	372
<b>Mother's work status</b>						
Not working	26.0	1.5	7.3	2810	94.4	364
Working in family farm/business	29.6	1.7	5.9	182	*	18
Employed by someone else	28.3	0.7	9.4	532	97.9	52
Self-employed	22.5	2.2	2.7	76	*	8
<b>Mother's exposure to media</b>						
Exposed to media	25.4	1.1	4.9	976	92.5	104
Matches television weekly	23.6	0.5	1.9	379	92.6	40
Listens to radio weekly	25.6	1.1	5.1	877	93.2	93
Visits cinema/theatre monthly	25.0	0.4	0.7	170	*	14
Not exposed to any of the media	27.2	1.8	8.5	2624	95.7	338
<b>Assistance at delivery</b>						
Health professional	24.8	0.6	2.3	683	85.4	82
Traditional birth attendant	27.2	1.6	8.0	2101	97.1	257
Other or none	28.9	3.2	9.5	805	97.1	103
Total <sup>1</sup>	26.5	1.5	7.5	3600	94.9	442
Mean for all children <sup>1</sup>	28.5	4.0	8.2	NA	NA	NA
P/I for all children <sup>1</sup>	28.5	3.6	8.2	NA	NA	NA

Note: Total includes 10 children with missing information on assistance at delivery, who are not shown separately.

NA: Not applicable

( ) Based on 25-49 unweighted cases

\* Percentage not shown; based on fewer than 25 unweighted cases

<sup>1</sup>Median and mean based on current status

<sup>2</sup>Either exclusively breastfed or received breast milk and plain water only

<sup>3</sup>Prevalence-incidence mean

## 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 anthropometric measurements were obtained following the guidelines in the United Nations manual "How to Weigh and Measure Children" (United Nations, 1986). The children's weight was measured to the nearest 100 grams using a hanging spring weighing machine (Salter scale), and their height or length was measured to the nearest 0.1 centimetres using an adjustable measuring board. Training of the measurers followed the recommendations in the United Nations manual. The data on weight and height were used to calculate three summary indices of nutritional status, which affects children's susceptibility to disease and their chances of survival. The following indices were calculated for children under age four:

- 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 deemed to be *severely undernourished*.

Each of the indices provides somewhat different information about nutritional status: 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 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, therefore, is a measure of the long-term effects of undernutrition.

The weight-for-height index measures body mass in relation to 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).

The validity of these indices is determined by many factors, including the coverage of the population of children and accurate anthropometric measurements. In the Bihar NFHS, 15 percent of living children under age four were not weighed and measured (see Table B.3 in Appendix B), usually because the child was not at home or because the mother refused to allow the measurements to be taken. Also excluded from the analysis are children whose month and year of birth were not reported by the mother, and those with grossly improbable height and weight 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 the only one which does not depend on accurate age reporting.

Table 10.5 shows the nutritional status of children by selected demographic characteristics. Both chronic and acute undernutrition are very high in Bihar, with more than three-fifths of all children underweight and a similar proportion stunted. The proportion of children who are severely undernourished is especially notable -- 31 percent in the case of weight-for-age and 40 percent in the case of height-for-age. Perhaps the most serious nutritional problem measured (wasting) is also quite evident in Bihar, affecting more than one in every five children.

All of the measures of undernutrition vary substantially according to the child's age. 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 children who are underweight reaches a maximum of about 75 percent at age two years (Figure 10.3) and then declines, but the prevalence of stunting continues to grow, reaching a peak of 77 percent of children who are three years old. The prevalence of wasting, on the other hand, reaches a maximum of 31 percent of children who are one year old and declines thereafter.

Interestingly, there is no evidence that female children are nutritionally disadvantaged. In fact, on every measure except severe stunting on which girls and boys are virtually equal, boys are slightly more likely to be undernourished than girls. In most cases, the longer the interval preceding the birth of a child, the lower the percentage who are underweight or stunted. These differences are surprisingly modest, however, in view of the large differences in mortality according to the interval since the preceding birth (Chapter 8). Evidently children who survive are not much disadvantaged by having been born shortly after the birth of a sibling.

Table 10.6 shows nutritional status by selected background characteristics. The percentages of children who are underweight, stunted, and wasted are higher in rural areas than in urban areas and backward districts (Figure 10.4). Scheduled caste children are slightly more undernourished than other children, according to the weight-for-age and height-for-age measures, but again the differentials are small.

**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, Bihar, 1993

Demographic characteristic	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percentage below -3 SD	Percentage below -2 SD <sup>1</sup>	Percentage below -3 SD	Percentage below -2 SD <sup>1</sup>	Percentage below -3 SD	Percentage below -2 SD <sup>1</sup>	
<b>Child's age</b>							
< 6 months	2.3	22.6	8.0	21.0	2.3	9.0	282
6-11 months	21.7	53.3	21.6	41.8	5.4	17.4	354
12-23 months	41.8	73.5	44.5	67.8	6.3	31.1	695
24-35 months	40.0	75.2	44.1	66.6	3.0	26.4	555
36-47 months	29.7	62.8	54.1	76.9	2.6	15.5	628
<b>Sex</b>							
Male	33.1	64.9	39.4	62.4	4.9	25.5	1256
Female	29.1	60.4	39.6	59.4	3.2	18.0	1258
<b>Birth order</b>							
1	28.2	61.4	37.2	59.6	4.0	22.6	583
2-3	30.6	61.6	37.2	58.7	3.7	21.4	957
4-5	33.4	65.3	42.6	65.3	5.0	22.6	604
6+	33.5	63.1	43.8	61.5	3.7	20.1	371
<b>Previous birth interval<sup>2</sup></b>							
First birth	28.1	61.5	37.4	59.7	4.0	22.5	585
< 24 months	30.6	63.3	42.0	64.5	4.0	17.8	396
24-47 months	31.3	64.3	41.5	63.0	3.6	20.9	1092
48+ months	35.0	59.5	35.1	54.0	5.6	26.5	442
<b>Total</b>	<b>31.1</b>	<b>62.6</b>	<b>39.5</b>	<b>60.9</b>	<b>4.1</b>	<b>21.8</b>	<b>2515</b>

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 percents 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.

<sup>1</sup>Also includes the children who are below -3 standard deviations from the International Reference Population median

<sup>2</sup>In the case of first-born twins, both twins are counted as first births because neither has a previous birth interval.

The variability by educational level is in striking contrast to the muted differences shown for the other background characteristics, although here as elsewhere it must be noted that the vast majority of all children, nearly 80 percent, have illiterate mothers. For almost all of the indices, undernutrition declines steadily with the increasing educational attainment of the mother.

**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, Bihar, 1993

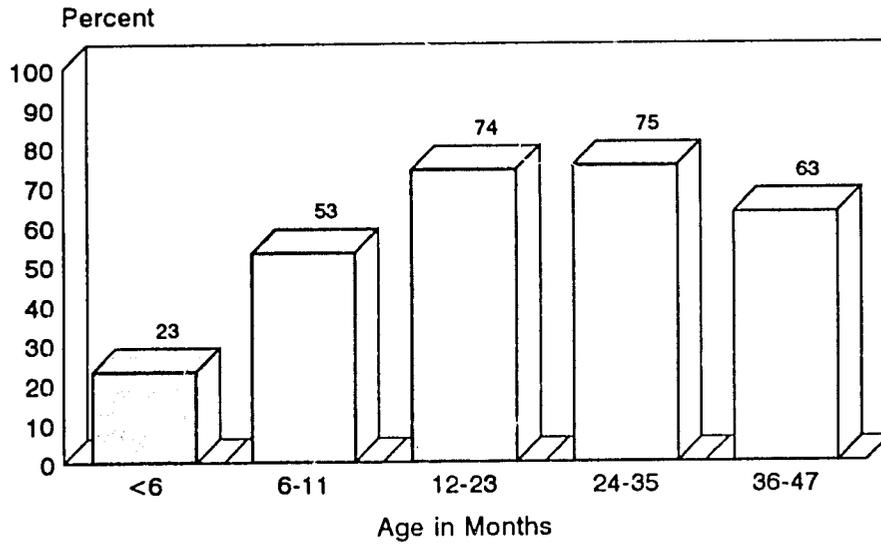
Background characteristic	Weight-for-age		Height-for-age		Weight-for-height		Number of children
	Percentage below -3 SD	Percentage below -2 SD <sup>1</sup>	Percentage below -3 SD	Percentage below -2 SD <sup>1</sup>	Percentage below -3 SD	Percentage below -2 SD <sup>1</sup>	
<b>Residence</b>							
Urban	26.3	53.8	38.3	55.2	4.1	16.3	352
Rural	31.9	64.1	39.7	61.8	4.1	22.7	2162
Backward districts	27.3	60.2	37.8	58.8	4.3	18.1	364
<b>Mother's education</b>							
Illiterate	33.5	65.1	42.2	64.2	4.2	22.1	1988
Lit., < middle complete	25.7	57.5	32.4	51.5	4.7	22.0	244
Middle complete	19.3	61.6	31.2	52.7	3.9	24.0	72
High school and above	19.1	45.3	24.7	43.5	2.7	17.8	209
<b>Religion</b>							
Hindu	30.8	62.5	39.8	61.1	4.0	21.3	1971
Muslim	32.5	62.7	39.7	60.1	4.2	23.8	502
Other	(30.5)	(66.4)	(23.7)	(59.4)	(4.4)	(18.0)	41
<b>Caste/tribe</b>							
Scheduled caste	37.2	66.1	50.6	66.9	3.0	23.7	245
Scheduled tribe	32.0	61.8	35.3	63.0	4.0	24.4	207
Other	30.3	62.3	38.6	60.0	4.2	21.3	2063
<b>Total</b>	<b>31.1</b>	<b>62.6</b>	<b>39.5</b>	<b>60.9</b>	<b>4.1</b>	<b>21.8</b>	<b>2515</b>

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 percents 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.

(<sup>1</sup>) Based on 25-49 unweighted cases

<sup>1</sup>Also includes the children who are below -3 standard deviations from the International Reference Population median

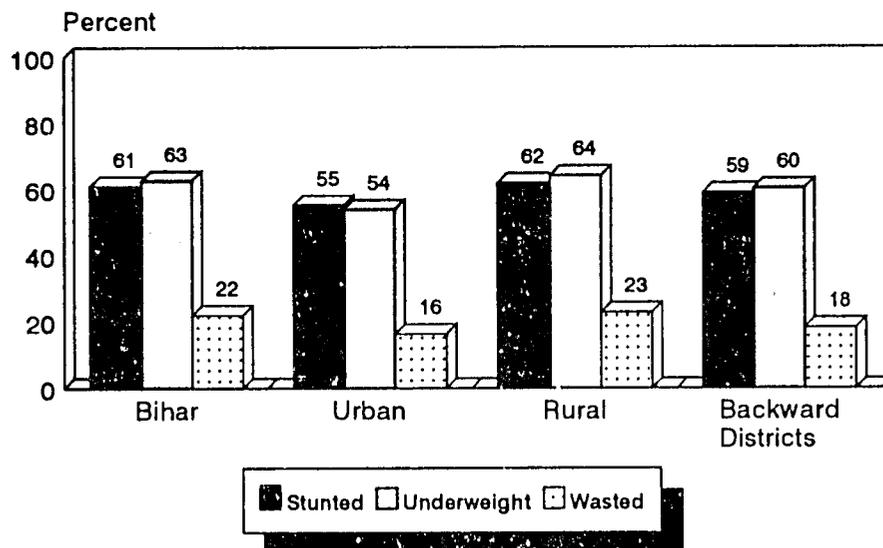
**Figure 10.3**  
**Percentage of Children Under Age Four**  
**Who Are Underweight by Age**



Note: Percentage of children more than 2 standard deviations below the median of the International Reference Population

NFHS, Bihar, 1993

**Figure 10.4**  
**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, Bihar, 1993

## CHAPTER 11

### VILLAGE PROFILE

The use of family planning methods, health services and educational facilities often depends as much on the supply of such services and facilities as on the demand. The NFHS included a Village Questionnaire to assess the availability, or supply, of family planning and other health and educational services in rural areas.

Information was obtained on the quality of roads that connect the village to other places, and the distance to transportation depots such as railway stations and bus stands, the nearest town, and block and tehsil headquarters. A series of questions was included on the availability and distance to various types of educational institutions and programmes, as well as health personnel and facilities. The existence of important support services and facilities in the village (including banks, cooperative societies, post offices, markets and shops) was also determined because they contribute to the quality of life in the village and can serve as one indicator of the degree of isolation of the village.

The supervisor of each interviewing team was responsible for locating key informants in the village who were knowledgeable about village facilities and infrastructure. The village headman (*Sarpanch*) would usually be contacted by the supervisor to obtain an overview of the village and names of other persons who could provide more specific information. For example, a teacher or school principal might be asked about available schools and educational services, a doctor or health practitioner could be questioned about health facilities, the village land record keeper (*Patwari*) could provide information about heavy equipment and other capital goods used for farming, and the village extension worker (*Gram Sevak*) might be asked about the availability of electricity, irrigation and other production infrastructure. Based upon the responses from these informants, the supervisor filled in the questionnaire during the fieldwork in each village. The information in this chapter is based on questionnaires completed for 137 villages in the NFHS sample.

#### 11.1 Distance from the Nearest Town and Transportation Facility

Table 11.1 presents the distribution of sample villages according to the distance from the nearest town, railway station and bus stand. Only 25 percent of the villages are within 5 km of the nearest town and 54 percent are 10 or more km away. The median distance to the nearest town is 11 km. The majority of villages (60 percent) are 10 or more km from the nearest railway station, and the median distance is 12 km. Bus service is somewhat more accessible to the villages in Bihar. Fifty-six percent of the villages are less than 5 km from the nearest bus stand, and only 15 percent are 10 or more km away from one. The median distance to the nearest bus stand is about 5 km.

#### 11.2 Availability of Educational Facilities

As indicated in previous chapters of this report, the availability of education is very important for the improvement of health and family welfare. Women with a high school education have fewer and healthier children than illiterate women.

**Table 11.1 Distance from nearest town and transportation facility**

Percent distribution of villages according to distance from the nearest town, railway station and bus stand, Bihar, 1993

Distance	Nearest town	Nearest railway station	Nearest bus stand
< 5 km	25.2	17.8	56.0
5-9 km	20.4	22.6	26.0
10+ km	53.9	59.6	15.1
Don't know/missing	0.4	--	2.9
Total percent	100.0	100.0	100.0
Median distance	11.3	11.8	4.5

-- Less than 0.05 percent

Most of the sample villages in Bihar have access to some form of educational facility (see Table 11.2). The majority of villages (69 percent) have a primary school located within the village, and three-fourths (78 percent) of the villages have a middle school either within the village or within 5 km of the village. The median distance of villages from a secondary school is 4 km and from a higher secondary school is 6 km. However, colleges are located quite far from the villages, at a median distance of almost 13 km. Fifty-six percent of the villages are 10 or more km from the nearest college.

**Table 11.2 Distance from nearest educational facility**

Percent distribution of villages according to distance from nearest educational facility, Bihar, 1993

Distance	Educational facility				
	Primary school	Middle school	Secondary school	Higher secondary school	College
Within village	69.2	31.3	7.8	2.6	--
< 5 km	22.5	46.6	48.9	26.3	29.6
5-9 km	8.2	20.2	34.2	25.8	13.6
10+ km	0.1	0.3	9.1	28.5	56.3
Don't know/missing	--	1.6	--	13.8	0.4
Total percent	100.0	100.0	100.0	100.0	100.0
Median distance	0.0	2.5	3.9	5.9	12.8

-- Less than 0.05 percent

### 11.3 Availability of Health Facilities

The availability of health facilities either within or close to a village is critical to the health and well-being of village mothers and their children. Table 11.3 shows the distance of villages from the nearest health facility as well as the percentage of ever-married women in rural areas who have access to the facilities. Nearly 42 percent of all sample villages in Bihar have some form of health facility within the village. Eighteen percent have a sub-centre within the village, the same percentage as have a hospital. Fifteen percent have a dispensary/clinic, but only 4 percent of villages have a Primary Health Centre within the village and 31 percent have the nearest one located at a distance of at least 10 km. Seventy-three percent of the villages have a sub-centre within the village or within 5 km of the village. Forty-two percent of villages have the nearest hospital located 10 or more km away.

The median distance of villages to a sub-centre is almost 3 km, while the median distance to a Primary Health Centre is 7 km. The median distance of villages from a hospital is 7 km.

The percent distribution of ever-married women according to the distance to the nearest health facility mirrors the distribution of villages. Sixty-two percent of ever-married women have access to a health facility within their village and the most common facility is a sub-centre (43 percent). Most women (52 percent) would have to travel 10 or more km to a hospital.

Table 11.3 Distance from nearest health facility						
Percent distribution of villages and ever-married women age 13-49, according to distance from nearest health facility, Bihar, 1993						
Distance	Health facility					Any health facility
	Primary Health Centre	Sub-centre	Either PHC/Sub-centre	Hospital	Dispensary/clinic	
<b>VILLAGES</b>						
Within village	3.7	17.7	18.5	18.6	14.8	41.9
< 5 km	35.2	55.1	57.6	26.6	44.2	35.5
5-9 km	29.7	20.9	22.2	13.3	19.1	21.8
10+ km	30.9	3.4	1.7	41.5	12.3	0.8
Don't know/missing	0.4	2.9	--	--	9.5	--
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Median distance	7.3	2.5	2.4	7.2	2.9	1.5
<b>EVER-MARRIED WOMEN</b>						
Within village	6.4	43.3	44.3	11.8	27.7	62.0
< 5 km	26.7	38.4	39.8	16.6	28.2	24.3
5-9 km	34.2	14.7	14.7	20.1	20.6	12.7
10+ km	32.8	2.8	1.1	51.5	17.9	1.0
Don't know/missing	--	0.8	--	--	5.7	--
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Median distance	7.5	1.2	1.1	10.4	3.1	0.8
-- Less than 0.05 percent						

## 11.4 Availability of Other Facilities and Services

Health personnel are also very important for the provision of health services to mothers and their children. Table 11.4 indicates the availability of health personnel within the villages. Only 18 percent of the villages have a village health guide, only 15 percent have a trained birth attendant, and less than 2 percent have a mobile health unit or have been visited by a mobile health unit.

Table 11.4 also details the availability of various other facilities and services in the villages. About one third of all the villages (32 percent) are electrified. Among the government rural development programmes in India, the most important is the Integrated Rural Development Programme, but it exists in only 35 percent of the villages in Bihar. Only 6 percent of the villages have National Rural Employment Programme (NREP), 5 percent have Training the Youth for Self-Employment (TRYSEM), and 2 percent have the Employment Guarantee Scheme (EGS). One in seven villages have an *Anganwadi* centre (a preschool child care centre under the Integrated Child Development Scheme), 9 percent have adult education classes, 8 percent have *Jana Shikshana Nilayam* (post-literacy adult education centre) and 6 percent have youth clubs. Only 1 percent of them have *Mahila Mandal* (women's club). One-fourth of the villages have some type of cooperative society. Shops or markets are more common, but are not available in most villages. A little less than one-fifth of villages (19 percent) have a fair price shop and 24 percent have a market or other type of shop. Only 10 percent have a bank and 25 percent have a post office.

Facility/service	Percentage
<i>Anganwadi</i>	13.6
Adult education classes	8.7
<i>Jana Shikshana Nilayam</i>	7.6
Village health guide	18.3
Trained birth attendant	15.3
Mobile health unit	1.6
Electricity	31.8
Bank	10.2
Cooperative society	10.9
Agriculture cooperative society	12.5
Milk cooperative society	1.7
Post office	24.7
Market/shop	24.2
Fair price shop	19.2
<i>Mahila Mandal</i>	1.2
Youth club	5.8
Integrated Rural Development Programme (IRDP)	34.9
National Rural Employment Programme (NREP)	6.3
Training the Youth for Self-employment (TRYSEM)	4.7
Employment Guarantee Scheme (EGS)	2.0

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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  $h^{\text{th}}$  stratum,
- $y_{hi}$  is the sum of the values of variable  $y$  in PSU  $i$  in the  $h^{\text{th}}$  stratum,
- $x_{hi}$  is the sum of the number of cases in PSU  $i$  in the  $h^{\text{th}}$  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 the state as a whole, for urban and rural areas, and separately for backward districts. 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 unweighted (N) and weighted (WN) cases, 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, Bihar, 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 injections	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 a 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
Fertility rates	Rate	All women, population
Mortality rates	Rate	Births, population

Table A.2 Sampling errors, Bihar, 1993

Variable/residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
<b>SEX RATIO (Household <i>de facto</i> population)</b>									
Urban	918	21.3	3596	2396	17.490	1.218	0.023	875.5	960.7
Rural	999	13.2	11513	12439	10.688	1.237	0.013	972.3	1025.1
Total	986	11.5	15109	14835	9.205	1.248	0.012	962.7	1008.6
Backward districts	983	18.7	5203	2197	16.020	1.169	0.019	945.2	1020.1
<b>ILLITERATE (Household <i>de facto</i> population, age 6 and over)</b>									
Urban	0.262	0.029	5848	3900	0.010	2.868	0.110	0.204	0.320
Rural	0.610	0.013	18876	20411	0.006	2.129	0.022	0.583	0.636
Total	0.554	0.013	24724	24311	0.006	2.232	0.023	0.529	0.579
Backward districts	0.584	0.019	8490	3579	0.009	2.030	0.033	0.546	0.622
<b>PIPED WATER AS SOURCE OF DRINKING WATER (Households)</b>									
Urban	0.417	0.050	1088	723	0.015	3.347	0.120	0.317	0.517
Rural	0.026	0.007	3660	4025	0.003	2.527	0.257	0.012	0.039
Total	0.085	0.011	4748	4748	0.004	2.685	0.128	0.064	0.107
Backward districts	0.046	0.013	1595	686	0.005	2.475	0.283	0.020	0.072
<b>PUMPED WATER AS SOURCE OF DRINKING WATER (Households)</b>									
Urban	0.305	0.028	1088	723	0.014	1.982	0.091	0.250	0.360
Rural	0.595	0.023	3660	4025	0.008	2.772	0.038	0.550	0.640
Total	0.551	0.020	4748	4748	0.007	2.730	0.036	0.511	0.590
Backward districts	0.628	0.026	1595	686	0.012	2.150	0.041	0.576	0.680
<b>WELL WATER AS SOURCE OF DRINKING WATER (Households)</b>									
Urban	0.265	0.033	1088	723	0.013	2.478	0.125	0.199	0.332
Rural	0.358	0.021	3660	4025	0.008	2.699	0.060	0.315	0.401
Total	0.344	0.019	4748	4748	0.007	2.743	0.055	0.306	0.382
Backward districts	0.308	0.025	1595	686	0.012	2.153	0.081	0.259	0.358
<b>SURFACE WATER AS SOURCE OF DRINKING WATER (Households)</b>									
Urban	0.001	0.001	1088	723	0.001	1.039	0.990	0.000	0.003
Rural	0.015	0.004	3660	4025	0.002	1.790	0.241	0.008	0.022
Total	0.013	0.003	4748	4748	0.002	1.879	0.240	0.007	0.019
Backward districts	0.004	0.002	1595	686	0.001	1.091	0.456	0.000	0.007
<b>OTHER SOURCE OF DRINKING WATER (Households)</b>									
Urban	0.011	0.005	1088	723	0.003	1.463	0.413	0.002	0.021
Rural	0.007	0.002	3660	4025	0.001	1.425	0.288	0.003	0.010
Total	0.007	0.002	4748	4748	0.001	1.429	0.241	0.004	0.011
Backward districts	0.014	0.003	1595	686	0.003	0.990	0.209	0.008	0.020
<b>ILLITERATE (Ever-married women age 13-49)</b>									
Urban	0.451	0.045	1267	867	0.014	3.217	0.100	0.361	0.541
Rural	0.839	0.012	4682	5082	0.005	2.259	0.014	0.815	0.864
Total	0.783	0.013	5949	5949	0.005	2.381	0.016	0.757	0.808
Backward districts	0.825	0.018	2067	887	0.008	2.145	0.022	0.789	0.861
<b>WITH SECONDARY EDUCATION OR MORE (Ever-married women age 13-49)</b>									
Urban	0.296	0.034	1267	867	0.013	2.636	0.114	0.229	0.364
Rural	0.044	0.005	4682	5082	0.003	1.626	0.111	0.034	0.054
Total	0.081	0.007	5949	5949	0.004	2.052	0.090	0.066	0.095
Backward districts	0.060	0.008	2067	887	0.005	1.546	0.135	0.043	0.076

Table A.2 Sampling errors, Bihar, 1993 (Contd.)

Variable/residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
<b>CURRENTLY MARRIED (Ever-married women age 13-49)</b>									
Urban	0.956	0.006	1267	867	0.006	1.006	0.006	0.944	0.968
Rural	0.956	0.004	4682	5082	0.003	1.256	0.004	0.948	0.963
Total	0.956	0.003	5949	5949	0.003	1.257	0.003	0.949	0.963
Backward districts	0.959	0.004	2067	887	0.004	0.883	0.004	0.951	0.967
<b>MEAN NUMBER OF CHILDREN EVER BORN (Ever-married women age 13-49)</b>									
Urban	3.119	0.070	1267	867	0.063	1.114	0.022	2.979	3.259
Rural	3.260	0.046	4682	5082	0.036	1.299	0.014	3.167	3.352
Total	3.239	0.041	5949	5949	0.031	1.304	0.013	3.158	3.321
Backward districts	3.176	0.052	2067	887	0.053	0.975	0.016	3.072	3.280
<b>MEAN NUMBER OF CHILDREN SURVIVING (Ever-married women age 13-49)</b>									
Urban	2.779	0.057	1267	867	0.055	1.040	0.021	2.665	2.893
Rural	2.714	0.036	4682	5082	0.030	1.217	0.013	2.641	2.786
Total	2.723	0.032	5949	5949	0.026	1.225	0.012	2.659	2.788
Backward districts	2.639	0.043	2067	887	0.045	0.951	0.016	2.554	2.724
<b>KNOW AT LEAST ONE CONTRACEPTIVE METHOD (Currently married women age 13-49)</b>									
Urban	0.974	0.005	1214	828	0.005	1.091	0.005	0.964	0.984
Rural	0.945	0.007	4481	4858	0.003	2.101	0.008	0.930	0.959
Total	0.949	0.006	5695	5687	0.003	2.115	0.006	0.937	0.961
Backward districts	0.929	0.019	1987	851	0.006	3.361	0.021	0.890	0.967
<b>KNOW SOURCE FOR ANY MODERN METHOD (Currently married women age 13-49)</b>									
Urban	0.946	0.007	1214	828	0.006	1.033	0.007	0.933	0.959
Rural	0.874	0.012	4481	4858	0.005	2.408	0.014	0.850	0.898
Total	0.885	0.010	5695	5687	0.004	2.421	0.012	0.864	0.905
Backward districts	0.880	0.022	1987	851	0.007	3.032	0.025	0.836	0.924
<b>HAVE EVER USED ANY METHOD (Currently married women age 13-49)</b>									
Urban	0.485	0.024	1214	828	0.014	1.702	0.050	0.436	0.534
Rural	0.224	0.013	4481	4858	0.006	2.057	0.057	0.199	0.250
Total	0.262	0.012	5695	5687	0.006	2.034	0.045	0.239	0.286
Backward districts	0.228	0.015	1987	851	0.009	1.596	0.066	0.198	0.258
<b>CURRENTLY USING ANY METHOD (Currently married women age 13-49)</b>									
Urban	0.425	0.024	1214	828	0.014	1.706	0.057	0.376	0.473
Rural	0.198	0.012	4481	4858	0.006	1.954	0.059	0.174	0.221
Total	0.231	0.011	5695	5687	0.006	1.946	0.047	0.209	0.253
Backward districts	0.199	0.015	1987	851	0.009	1.656	0.074	0.170	0.229
<b>CURRENTLY USING ANY MODERN METHOD (Currently married women age 13-49)</b>									
Urban	0.392	0.022	1214	828	0.014	1.549	0.055	0.348	0.435
Rural	0.185	0.011	4481	4858	0.006	1.860	0.058	0.164	0.207
Total	0.216	0.010	5695	5687	0.005	1.839	0.046	0.195	0.236
Backward districts	0.192	0.015	1987	851	0.009	1.697	0.078	0.162	0.222
<b>CURRENTLY USING PILLS (Currently married women age 13-49)</b>									
Urban	0.023	0.003	1214	828	0.004	0.711	0.134	0.016	0.029
Rural	0.009	0.002	4481	4858	0.001	1.253	0.199	0.005	0.012
Total	0.011	0.002	5695	5687	0.001	1.148	0.146	0.008	0.014
Backward districts	0.008	0.002	1987	851	0.002	1.129	0.277	0.004	0.013

Table A.2 Sampling errors, Bihar, 1993 (Contd.)

Variable/residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
<b>CURRENTLY USING COPPER T/IUD (Currently married women age 13-49)</b>									
Urban	0.016	0.004	1214	828	0.004	1.226	0.280	0.007	0.024
Rural	0.004	0.001	4481	4853	0.001	1.304	0.328	0.001	0.006
Total	0.005	0.001	5695	5687	0.001	1.250	0.228	0.003	0.008
Backward districts	0.003	0.001	1987	851	0.001	0.974	0.371	0.001	0.006
<b>CURRENTLY USING INJECTIONS (Currently married women age 13-49)</b>									
Urban	0.002	0.001	1214	828	0.001	1.067	0.721	0.000	0.004
Rural	0.000	0.000	4481	4858	0.000	NC	NC	0.000	0.000
Total	0.000	0.000	5695	5687	0.000	NC	NC	0.000	0.000
Backward districts	0.001	0.001	1987	851	0.001	1.121	1.003	0.000	0.002
<b>CURRENTLY USING CONDOMS (Currently married women age 13-49)</b>									
Urban	0.045	0.007	1214	828	0.006	1.177	0.155	0.031	0.059
Rural	0.007	0.002	4481	4858	0.001	1.262	0.219	0.004	0.011
Total	0.013	0.002	5695	5687	0.001	1.162	0.135	0.009	0.016
Backward districts	0.008	0.002	1987	851	0.002	1.216	0.308	0.003	0.013
<b>CURRENTLY USING FEMALE STERILIZATION (Currently married women age 13-49)</b>									
Urban	0.274	0.017	1214	828	0.013	1.307	0.061	0.240	0.307
Rural	0.156	0.010	4481	4858	0.005	1.863	0.065	0.135	0.176
Total	0.173	0.009	5695	5687	0.005	1.802	0.052	0.155	0.191
Backward districts	0.157	0.014	1987	851	0.008	1.698	0.088	0.130	0.185
<b>CURRENTLY USING MALE STERILIZATION (Currently married women age 13-49)</b>									
Urban	0.033	0.004	1214	828	0.005	0.818	0.128	0.024	0.041
Rural	0.010	0.002	4481	4858	0.001	1.205	0.179	0.006	0.014
Total	0.013	0.002	5695	5687	0.002	1.103	0.126	0.010	0.017
Backward districts	0.014	0.003	1987	851	0.003	1.166	0.218	0.008	0.020
<b>CURRENTLY USING PERIODIC ABSTINENCE (Currently married women age 13-49)</b>									
Urban	0.017	0.004	1214	828	0.004	1.007	0.223	0.009	0.024
Rural	0.008	0.002	4481	4858	0.001	1.142	0.190	0.005	0.011
Total	0.009	0.001	5695	5687	0.001	1.115	0.153	0.006	0.012
Backward districts	0.004	0.002	1987	851	0.001	1.154	0.404	0.001	0.007
<b>USING PUBLIC SOURCE FOR MODERN METHOD (Current users of modern methods)</b>									
Urban	0.550	0.032	470	325	0.023	1.385	0.058	0.486	0.614
Rural	0.837	0.016	806	901	0.013	1.205	0.019	0.806	0.868
Total	0.761	0.017	1276	1226	0.012	1.464	0.023	0.726	0.796
Backward districts	0.814	0.022	372	163	0.020	1.088	0.027	0.770	0.858
<b>DO NOT WANT ANY MORE CHILDREN (Currently married women age 13-49)</b>									
Urban	0.249	0.015	1214	828	0.012	1.182	0.059	0.219	0.278
Rural	0.239	0.008	4481	4858	0.006	1.301	0.035	0.223	0.256
Total	0.241	0.007	5695	5687	0.006	1.307	0.031	0.226	0.255
Backward districts	0.239	0.011	1987	851	0.010	1.196	0.048	0.216	0.262
<b>WANT TO DELAY BIRTH AT LEAST TWO YEARS (Currently married women age 13-49)</b>									
Urban	0.190	0.012	1214	828	0.011	1.079	0.064	0.165	0.214
Rural	0.248	0.008	4481	4858	0.006	1.242	0.032	0.232	0.264
Total	0.240	0.007	5695	5687	0.006	1.243	0.029	0.225	0.254
Backward districts	0.269	0.010	1987	851	0.010	1.045	0.039	0.248	0.290

Table A.2 Sampling errors, Bihar, 1993 (Contd.)

Variable/residence	Value (R)	Standard error (SE)	Number of cases		Standard error assuming SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
<b>IDEAL NUMBER OF CHILDREN (Ever-married women age 13-49)</b>									
Urban	2.980	0.059	1171	803	0.032	1.832	0.020	2.862	3.098
Rural	3.480	0.034	4102	4412	0.019	1.851	0.010	3.411	3.549
Total	3.403	0.031	5273	5214	0.016	1.872	0.009	3.342	3.464
Backward districts	3.560	0.074	1858	800	0.029	2.589	0.021	3.411	3.709
<b>IDEAL NUMBER OF SONS (Ever-married women age 13-49)</b>									
Urban	1.649	0.054	1160	794	0.026	2.048	0.033	1.541	1.757
Rural	2.055	0.023	4098	4408	0.014	1.650	0.011	2.009	2.100
Total	1.993	0.021	5258	5202	0.012	1.740	0.011	1.950	2.036
Backward districts	2.155	0.047	1656	799	0.021	2.292	0.022	2.061	2.250
<b>IDEAL NUMBER OF DAUGHTERS (Ever-married women age 13-49)</b>									
Urban	1.081	0.023	1160	794	0.018	1.248	0.021	1.035	1.126
Rural	1.263	0.017	4098	4408	0.010	1.583	0.013	1.230	1.296
Total	1.235	0.015	5258	5202	0.009	1.590	0.012	1.206	1.264
Backward districts	1.315	0.027	1856	799	0.016	1.676	0.021	1.261	1.369
<b>RECEIVED NO ANTENATAL CARE (Births in last 4 years)</b>									
Urban	0.343	0.029	592	470	0.021	1.358	0.084	0.285	0.401
Rural	0.668	0.017	2851	3092	0.010	1.705	0.025	0.635	0.701
Total	0.625	0.015	3543	3562	0.009	1.686	0.025	0.594	0.656
Backward districts	0.653	0.024	1256	540	0.015	1.624	0.037	0.605	0.702
<b>RECEIVED TETANUS TOXOID (2 DOSES) (Births in last 4 years)</b>									
Urban	0.587	0.033	692	470	0.022	1.485	0.056	0.522	0.653
Rural	0.264	0.016	2851	3092	0.009	1.729	0.061	0.232	0.297
Total	0.307	0.015	3543	3562	0.009	1.717	0.049	0.277	0.337
Backward districts	0.238	0.020	1256	540	0.013	1.520	0.086	0.197	0.278
<b>RECEIVED MEDICAL ASSISTANCE AT DELIVERY (Births in last 4 years)</b>									
Urban	0.520	0.033	692	470	0.023	1.456	0.064	0.454	0.587
Rural	0.139	0.011	2851	3092	0.007	1.462	0.076	0.118	0.161
Total	0.190	0.010	3543	3562	0.008	1.374	0.055	0.169	0.210
Backward districts	0.200	0.020	1256	540	0.013	1.555	0.100	0.160	0.240
<b>HAD DIARRHOEA IN THE LAST 24 HOURS (Children under 4 years of age)</b>									
Urban	0.043	0.008	646	440	0.008	1.006	0.187	0.027	0.059
Rural	0.066	0.005	2587	2811	0.005	1.098	0.083	0.056	0.077
Total	0.063	0.005	3233	3251	0.004	1.119	0.077	0.054	0.073
Backward districts	0.071	0.011	1135	487	0.008	1.426	0.160	0.043	0.094
<b>HAD DIARRHOEA IN THE LAST 2 WEEKS (Children under 4 years of age)</b>									
Urban	0.096	0.013	646	440	0.012	1.085	0.132	0.070	0.121
Rural	0.143	0.009	2587	2811	0.007	1.259	0.061	0.126	0.161
Total	0.137	0.008	3233	3251	0.006	1.287	0.058	0.121	0.153
Backward districts	0.151	0.019	1135	487	0.011	1.738	0.123	0.114	0.189
<b>TREATED WITH ORS PACKETS (Children with diarrhoea in the last 2 weeks)</b>									
Urban	0.192	0.045	64	42	0.050	0.884	0.232	0.103	0.281
Rural	0.109	0.019	371	403	0.017	1.157	0.177	0.071	0.148
Total	0.117	0.018	435	445	0.016	1.155	0.155	0.081	0.153
Backward districts	0.094	0.020	165	74	0.022	0.894	0.213	0.054	0.134

Table A.2 Sampling errors, Bihar, 1993 (Contd.)

Variable/residence	Value (R)	Standard error (SE)	Number of cases		Error assuming SRS (SER)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits	
			Unweighted (N)	Weighted (WN)				R-2SE	R+2SE
<b>CONSULTED MEDICAL PERSONNEL FOR DIARRHOEA (Children with diarrhoea in the last 2 weeks)</b>									
Urban	0.668	0.068	64	42	0.061	1.121	0.102	0.533	0.804
Rural	0.577	0.035	371	403	0.026	1.338	0.061	0.507	0.647
Total	0.585	0.032	435	445	0.024	1.354	0.055	0.521	0.650
Backward districts	0.632	0.041	165	74	0.038	1.091	0.065	0.550	0.715
<b>SHOWING VACCINATION CARD (Children age 12-23 months)</b>									
Urban	0.236	0.035	173	114	0.033	1.065	0.148	0.166	0.306
Rural	0.157	0.019	694	760	0.014	1.416	0.124	0.118	0.196
Total	0.167	0.017	867	875	0.013	1.384	0.105	0.132	0.202
Backward districts	0.120	0.019	309	133	0.019	1.015	0.156	0.083	0.158
<b>RECEIVED BCG VACCINATION (Children age 12-23 months)</b>									
Urban	0.517	0.036	173	114	0.039	0.935	0.070	0.445	0.589
Rural	0.313	0.029	694	760	0.018	1.640	0.092	0.255	0.370
Total	0.339	0.025	867	875	0.016	1.589	0.075	0.288	0.390
Backward districts	0.235	0.034	309	133	0.024	1.388	0.143	0.168	0.302
<b>RECEIVED DPT VACCINATION (3 DOSES) (Children age 12-23 months)</b>									
Urban	0.457	0.033	173	114	0.039	0.869	0.073	0.391	0.524
Rural	0.266	0.023	694	760	0.017	1.393	0.087	0.220	0.313
Total	0.291	0.021	867	875	0.015	1.363	0.072	0.250	0.333
Backward districts	0.208	0.023	309	133	0.023	0.990	0.110	0.162	0.254
<b>RECEIVED POLIO VACCINATION (3 DOSES) (Children age 12-23 months)</b>									
Urban	0.489	0.032	173	114	0.039	0.830	0.066	0.425	0.553
Rural	0.290	0.024	694	760	0.017	1.404	0.083	0.242	0.338
Total	0.316	0.022	867	875	0.016	1.367	0.068	0.273	0.359
Backward districts	0.240	0.024	309	133	0.024	0.978	0.099	0.193	0.288
<b>RECEIVED MEASLES VACCINATION (Children age 12-23 months)</b>									
Urban	0.277	0.048	173	114	0.035	1.380	0.172	0.182	0.373
Rural	0.127	0.018	694	760	0.013	1.431	0.142	0.091	0.163
Total	0.146	0.017	867	875	0.012	1.423	0.116	0.112	0.180
Backward districts	0.091	0.019	309	133	0.016	1.132	0.203	0.054	0.128
<b>FULLY VACCINATED (Children age 12-23 months)</b>									
Urban	0.215	0.042	173	114	0.032	1.320	0.195	0.131	0.299
Rural	0.091	0.017	694	760	0.011	1.597	0.191	0.056	0.126
Total	0.107	0.016	867	875	0.010	1.547	0.151	0.075	0.139
Backward districts	0.031	0.010	309	133	0.010	0.980	0.311	0.012	0.050

**Table A.2. Sampling errors, Bihar, 1993 (Contd.)**

Variable/residence	Value (R)	Standard error (SE)	Relative error (SE/R)	Confidence limits	
				R-2SE	R+2SE
<b>TOTAL FERTILITY RATE (Women age 15-49)</b>					
Urban	3.254	0.178	0.055	2.898	3.609
Rural	4.145	0.121	0.029	3.903	4.386
Total	4.002	0.106	0.026	3.790	4.214
Backward districts	4.050	0.114	0.028	3.823	4.278
<b>TOTAL FERTILITY RATE (Women age 15-44)</b>					
Urban	3.254	0.178	0.055	2.898	3.609
Rural	4.120	0.120	0.029	3.880	4.360
Total	3.982	0.105	0.026	3.771	4.192
Backward districts	4.038	0.113	0.028	3.813	4.264
<b>AGE-SPECIFIC FERTILITY RATE (Age group 15-19)</b>					
Urban	0.089	0.011	0.123	0.067	0.111
Rural	0.127	0.006	0.050	0.114	0.140
Total	0.121	0.006	0.046	0.110	0.132
Backward districts	0.146	0.008	0.056	0.129	0.162
<b>AGE-SPECIFIC FERTILITY RATE (Age group 20-24)</b>					
Urban	0.224	0.012	0.052	0.201	0.248
Rural	0.244	0.008	0.032	0.228	0.259
Total	0.241	0.007	0.028	0.228	0.255
Backward districts	0.250	0.010	0.041	0.230	0.271
<b>AGE-SPECIFIC FERTILITY RATE (Age group 25-29)</b>					
Urban	0.182	0.019	0.106	0.144	0.221
Rural	0.191	0.009	0.047	0.173	0.209
Total	0.190	0.008	0.043	0.174	0.206
Backward districts	0.177	0.008	0.047	0.160	0.194
<b>AGE-SPECIFIC FERTILITY RATE (Age group 30-34)</b>					
Urban	0.090	0.016	0.180	0.057	0.122
Rural	0.150	0.009	0.057	0.133	0.167
Total	0.141	0.008	0.055	0.125	0.156
Backward districts	0.141	0.013	0.093	0.115	0.167
<b>AGE-SPECIFIC FERTILITY RATE (Age group 35-39)</b>					
Urban	0.053	0.011	0.216	0.030	0.076
Rural	0.083	0.010	0.121	0.063	0.104
Total	0.078	0.009	0.110	0.061	0.095
Backward districts	0.078	0.011	0.147	0.055	0.101
<b>AGE-SPECIFIC FERTILITY RATE (Age group 40-44)</b>					
Urban	0.012	0.005	0.417	0.002	0.023
Rural	0.029	0.006	0.190	0.018	0.040
Total	0.026	0.005	0.179	0.017	0.035
Backward districts	0.016	0.005	0.317	0.006	0.026
<b>AGE-SPECIFIC FERTILITY RATE (Age group 45-49)</b>					
Urban	0.000	0.000	NC	0.000	0.000
Rural	0.005	0.003	0.527	0.000	0.010
Total	0.004	0.002	0.529	0.000	0.008
Backward districts	0.002	0.002	1.016	0.000	0.007

Table A.2 Sampling errors, Bihar, 1993 (Contd.)

Variable/residence	Value (R)	Standard error (SE)	Relative error (SE/R)	Confidence limits	
				R-2SE	R+2SE
<b>NEONATAL MORTALITY (5-year period preceding survey)</b>					
Urban	34.878	6.871	0.197	21.137	48.620
Rural	57.817	5.141	0.089	47.536	68.099
Total	54.783	4.573	0.083	45.638	63.928
Backward districts	56.232	5.808	0.103	44.615	67.849
<b>INFANT MORTALITY <math>{}_1q_0</math> (5-year period preceding survey)</b>					
Urban	59.328	8.958	0.151	41.412	77.245
Rural	93.778	5.384	0.057	83.010	104.546
Total	89.228	4.880	0.055	79.468	98.987
Backward districts	94.779	7.748	0.082	79.283	110.275
<b>CHILD MORTALITY <math>{}_4q_1</math> (5-year period preceding survey)</b>					
Urban	35.735	7.724	0.216	20.286	51.183
Rural	42.968	4.240	0.099	34.488	51.448
Total	41.999	3.797	0.090	34.405	49.593
Backward districts	48.983	6.516	0.133	35.950	62.016
<b>UNDER-FIVE MORTALITY <math>{}_5q_0</math> (5-year period preceding survey)</b>					
Urban	92.943	13.558	0.146	65.827	120.059
Rural	132.717	7.007	0.053	118.702	146.731
Total	127.479	6.371	0.050	114.738	140.220
Backward districts	139.120	9.117	0.066	120.886	157.354
<b>CRUDE BIRTH RATE (Based on Household Questionnaire)</b>					
Urban	25.462	1.624	0.064	22.214	28.710
Rural	33.514	0.902	0.027	31.710	35.318
Total	32.273	0.833	0.026	30.607	33.939
Backward districts	33.369	1.175	0.035	31.019	35.719
<b>CRUDE DEATH RATE (Based on Household Questionnaire)</b>					
Urban	9.014	1.160	0.129	6.694	11.334
Rural	11.997	0.557	0.046	10.883	13.111
Total	11.537	0.509	0.044	10.519	12.555
Backward districts	12.107	0.924	0.076	10.259	13.955
<b>CRUDE RATE OF NATURAL INCREASE (Based on Household Questionnaire)</b>					
Urban	16.448	1.236	0.075	13.976	18.920
Rural	21.517	0.926	0.043	19.665	23.369
Total	20.736	0.816	0.039	19.104	22.368
Backward districts	21.262	1.306	0.061	18.650	23.874
<b>CRUDE BIRTH RATE (Based on birth history)</b>					
Urban	27.454	1.312	0.048	24.830	30.078
Rural	32.947	0.784	0.024	31.378	34.515
Total	32.125	0.693	0.022	30.739	33.510
Backward districts	32.872	1.001	0.030	30.870	34.874

NC: Not calculated because denominator is 0.000

SRS: Simple random sample

## 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 (except women age 50), 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. This can be seen, for example, by comparing the degree of age heaping in the NFHS with the 1981 Census, which is the most recent census that has already published data by single year of age (see Chapter 3, Section 3.1). The age reporting for females appears to be particularly good during the childbearing years, when interviewed women reported their own ages. Another measure of the quality of the NFHS age data is the negligible number of persons whose ages were recorded as not known or missing. In Bihar, age was missing for only 7 persons out of a total of 29,457 persons listed on the household schedule.

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. Neither of these patterns is evident in the NFHS data. It can, therefore, be concluded that there was no concerted effort to misidentify eligible women in the NFHS in Bihar.

**Table B.1 Household age distribution**

Single year age distribution of the *de facto* household population by sex (weighted), Bihar, 1993

Age	Male		Female		Age	Male		Female	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent
< 1	441	3.0	422	2.9	38	167	1.1	136	0.9
1	452	3.0	437	3.0	39	92	0.6	135	0.9
2	336	2.3	358	2.4	40	283	1.9	145	1.0
3	448	3.0	455	3.1	41	78	0.5	106	0.7
4	422	2.8	359	2.5	42	150	1.0	127	0.9
5	542	3.7	469	3.2	43	59	0.4	91	0.6
6	491	3.3	485	3.3	44	66	0.4	116	0.8
7	404	2.7	414	2.8	45	217	1.5	118	0.8
8	516	3.5	536	3.7	46	107	0.7	120	0.8
9	366	2.5	313	2.1	47	45	0.3	109	0.7
10	596	4.0	512	3.5	48	101	0.7	136	0.9
11	274	1.8	245	1.7	49	57	0.4	97	0.7
12	522	3.5	495	3.4	50	177	1.2	29	0.2
13	281	1.9	251	1.7	51	58	0.4	42	0.3
14	301	2.0	313	2.1	52	113	0.8	97	0.7
15	343	2.3	289	2.0	53	47	0.3	55	0.4
16	278	1.9	309	2.1	54	45	0.3	57	0.4
17	176	1.2	270	1.8	55	169	1.1	148	1.0
18	345	2.3	365	2.5	56	95	0.6	108	0.7
19	179	1.2	267	1.8	57	18	0.1	29	0.2
20	336	2.3	328	2.2	58	54	0.4	87	0.6
21	164	1.1	274	1.9	59	29	0.2	41	0.3
22	329	2.2	281	1.9	60	219	1.5	126	0.9
23	131	0.9	242	1.7	61	54	0.4	50	0.3
24	164	1.1	260	1.8	62	76	0.5	129	0.9
25	353	2.4	259	1.8	63	22	0.2	39	0.3
26	224	1.5	250	1.7	64	32	0.2	33	0.2
27	125	0.8	206	1.4	65	141	0.9	105	0.7
28	275	1.9	266	1.8	66	61	0.4	39	0.3
29	120	0.8	195	1.3	67	19	0.1	24	0.2
30	383	2.6	223	1.5	68	40	0.3	44	0.3
31	108	0.7	189	1.3	69	9	0.1	17	0.1
32	250	1.7	205	1.4	70+	440	3.0	345	2.4
33	82	0.6	155	1.1	Don't				
34	110	0.7	187	1.3	know/				
35	338	2.3	173	1.2	missing	3	--	4	--
36	215	1.4	145	1.0					
37	69	0.5	137	0.9	Total	14835	100.0	14622	100.0

Note: The *de facto* population includes residents and nonresidents who slept in the household the night before the interview.

-- Less than 0.05 percent

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. For Bihar, the extent of missing information is very low on all of the measures shown except for the measurement of the height and weight of young children (Table B.3). The data are exceptionally complete for month and year of birth, 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. Data on height and weight are available for more than 85 percent of children, which is also acceptable since 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

**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 aged 13-49, and percentage of eligible women who were interviewed (weighted), Bihar, 1993

Age	All women	Ever-married women	Interviewed women		Percent interviewed
			Number	Percent	
10-12	1252	10	NA	NA	NA
13-14	564	31	29	0.5	95.7
15-19	1500	766	755	12.7	98.5
20-24	1384	1247	1226	20.6	98.3
25-29	1175	1148	1134	19.1	98.8
30-34	959	951	945	15.9	99.4
35-39	726	723	712	12.0	98.5
40-44	586	583	579	9.7	99.3
45-49	580	574	568	9.6	99.0
50-54	280	280	NA	NA	NA
13-49	7474	6023	5949	100.0	98.8

Note: The *de facto* population includes all residents and nonresidents who slept in the household the night before the interview. To allow comparison of distributions, weights for both households and interviewed women are household weights.

NA: Not applicable

**Table B.3 Completeness of reporting**

Percentage of observations missing information for selected demographic and health questions (weighted), Bihar, 1993

Subject	Reference group	Percentage missing information	Number of cases
Birth date	Births in last 15 years		
Month only		0.32	13476
Month and year		0.11	13476
Age at death	Deaths to births in last 15 years	0.26	1860
Age at 1st marriage	Ever-married women	0.08	5949
Woman's education	Ever-married women	0.00	5949
Child's size at birth	All births in last 0-47 months	0.23	3600
Anthropometry <sup>1</sup>	Living children age 0-47 months		
Height		14.44	3290
Weight		12.98	3290
Height or weight		14.67	3290
Diarrhoea in last 2 weeks	Living children age 0-47 months	0.31	3289

<sup>1</sup>Child not measured

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 more than 99 percent of both living as well as dead children listed in the birth history had complete birth dates. 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.

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

**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 (weighted), Bihar, 1993

Calendar year	Number of births			Percent with complete birth date <sup>1</sup>			Sex ratio at birth <sup>2</sup>			Calendar year ratio <sup>3</sup>		
	L	D	T	L	D	T	L	D	T	L	D	T
1993	304	19	323	100.0	100.0	100.0	768	596	757	NA	NA	NA
1992	936	68	1004	99.8	99.3	99.8	1022	997	1020	NA	NA	NA
1991	834	83	917	100.0	100.0	100.0	949	542	903	104.2	114.3	105.0
1990	665	77	743	99.8	100.0	99.8	1001	1245	1024	82.6	87.0	83.0
1989	777	94	871	99.8	100.0	99.8	1058	829	1031	100.6	82.2	98.2
1988	880	152	1032	100.0	99.6	99.9	831	1565	912	104.6	122.7	106.9
1987	906	154	1059	99.6	96.8	99.2	948	880	938	104.2	102.1	103.9
1986	859	149	1008	99.7	100.0	99.7	1090	1064	1086	96.9	98.1	97.1
1985	866	150	1016	99.9	100.0	99.9	1035	913	1016	101.9	101.8	101.9
1984	841	146	987	99.2	99.0	99.1	982	1020	987	102.7	94.5	101.4
1983	772	159	931	99.5	99.5	99.5	809	1136	858	97.8	102.4	98.6
1988-1992	4093	474	4567	99.9	99.8	99.9	966	1036	973	NA	NA	NA
1983-1987	4245	757	5002	99.6	99.1	99.5	972	999	976	NA	NA	NA
1978-1982	3151	668	3819	99.7	99.4	99.7	880	1189	928	NA	NA	NA
1973-1977	2084	518	2602	99.7	99.7	99.7	1002	1049	1011	NA	NA	NA
1972 or earlier	2325	633	2958	99.7	99.9	99.7	923	882	914	NA	NA	NA
All	16201	3069	19271	99.7	99.5	99.7	944	1022	956	NA	NA	NA

NA: Not applicable

<sup>1</sup>Both year and month of birth given

<sup>2</sup> $(B_f/B_m) \times 1000$ , where  $B_f$  and  $B_m$  are the numbers of female and male births, respectively

<sup>3</sup> $(2B_x / (B_{x-1} + B_{x+1})) \times 100$ , where  $B_x$  is the number of births in calendar year  $x$ .

NFHS began; therefore, interviewer training stressed this issue to try to avoid any biases due to age displacement. In Bihar, the cutoff date for asking the health questions was 1 January 1989. An examination of Table B.4 indicates that there is little or no age displacement across this boundary for living children. There does, however, appear to be some likely omission of dead children since 1988, although much of the decline in the number of deaths to children born after 1988 is undoubtedly real. Moreover, the proportion of children who died will naturally decrease with each successive calendar year because the more recent births have been subject to the risk of mortality for a shorter period of time.

Table B.5 presents information on the reporting of age at death in days. Results from the table suggest that early infant deaths have not been severely underreported in Bihar, 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

**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 five-year periods of birth preceding the survey (weighted), Bihar, 1993

Age at death (days)	Years preceding survey			
	0-4	5-9	10-14	0-14
<1	60	83	59	202
1	41	36	25	102
2	24	25	15	64
3	18	20	19	58
4	15	11	12	37
5	3	9	9	21
6	15	28	9	53
7	6	18	11	36
8	14	17	12	43
9	8	6	4	18
10	6	7	13	27
11	2	2	2	5
12	2	2	5	9
13	1	1	0	2
14	0	2	0	2
15	5	8	6	19
16	0	0	3	3
17	1	0	0	1
18	2	6	0	8
19	0	0	0	0
20	3	9	8	20
21	2	2	2	5
22	2	2	1	4
23	0	0	0	0
24	2	1	0	2
25	3	4	2	8
26	2	1	0	2
27	0	0	0	0
28	0	1	6	8
29	3	4	2	9
30	0	0	0	0
0-30	239	303	226	768
Percent early neonatal <sup>1</sup>	74	70	66	70

<sup>1</sup>Deaths during first 6 days divided by deaths during first 30 days.

ratios are 74, 70 and 66 for 0-4 years, 5-9 years and 10-14 years, respectively, prior to the survey. Although there was no severe underreporting in Bihar, there was some misreporting of age at death due to a preference for reporting age at death at 6, 8, 10, 15 and 20 days (see Table B.5).

Table B.6 shows the ratios of infant deaths that occurred during the neonatal period. These ratios are also quite high, suggesting that there is no major omission of early deaths. Moreover, there is a slight increase over time from 56 to 64. 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 (that is, at ages 12-23

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 five-year periods of birth preceding the survey (weighted), Bihar, 1993

Age at death (months)	Years preceding survey			
	0-4	5-9	10-14	0-14
<1	239	303	226	768
1	16	27	13	56
2	19	28	35	82
3	26	20	17	64
4	12	10	6	28
5	6	10	8	24
6	20	34	27	81
7	3	9	4	16
8	7	10	11	29
9	13	12	16	40
10	9	23	18	50
11	6	35	22	63
12	17	25	19	60
13	3	6	5	15
14	3	7	6	16
15	0	5	2	7
16	1	7	2	10
17	1	2	1	3
18	5	14	12	31
19	0	2	2	3
20	1	2	0	2
21	2	0	0	2
22	2	3	3	8
23	0	3	7	10
1 year	0	0	1	1
0-11	376	522	404	1301
Percent neonatal <sup>1</sup>	64	58	56	59

<sup>1</sup>Deaths during first month divided by deaths during first year.

months), may have actually occurred during infancy (that is, at ages 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 15 years prior to the survey by month of death (Table B.6) indicates that the calculated infant mortality rates for the population of Bihar as a whole are not likely to be understated by more than 1-2 percent due to age misreporting. There was surprisingly little heaping on particular months of death and due to strong emphasis during training, an almost negligible number of deaths were reported at age "one year", making any adjustment of infant and child mortality rates unnecessary.

This brief check on internal consistency of the Bihar NFHS childhood mortality data suggests that there is no serious underreporting of deaths during the time periods for which mortality rates are estimated. However, some proportion of the decline in the number of deaths after 1988 is undoubtedly due to omission or misreporting. Although there is some evidence of heaping in age at death at certain ages, the bias in infant and child mortality rates arising from this heaping is negligible.

## APPENDIX C

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Ministry of Health and Family Welfare

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**APPENDIX D**  
**SURVEY INSTRUMENTS**



HOUSEHOLD SCHEDULE

1	RECORD THE TIME.	HOUR..... <table border="1" style="display: inline-table; width: 30px; height: 20px; vertical-align: middle;"> <tr><td style="width: 15px; height: 10px;"></td><td style="width: 15px; height: 10px;"></td></tr> <tr><td style="width: 15px; height: 10px;"></td><td style="width: 15px; height: 10px;"></td></tr> </table>				
		MINUTES..... <table border="1" style="display: inline-table; width: 30px; height: 20px; vertical-align: middle;"> <tr><td style="width: 15px; height: 10px;"></td><td style="width: 15px; height: 10px;"></td></tr> <tr><td style="width: 15px; height: 10px;"></td><td style="width: 15px; height: 10px;"></td></tr> </table>				

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD*	RESIDENCE		SEX	AGE	IF AGED 6 YEARS OR OLD				
							MARITAL STATUS**	EDUCATION			IF ATTEND
								What is the current marital status of (NAME)?	Can (NAME) read and write?	Has (NAME) ever been to school?	
(2)	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)?					
	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD*	RESIDENCE		SEX	AGE	IF AGED 6 YEARS OR OLD														
			YES	NO			M	F	IN YEARS	M	S	W	D	N	YES	NO	YES	NO	GRADE		
01		<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>	1	2	3	4	5	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>		
02		<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	3	4	5	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>
03		<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	3	4	5	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>
04		<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	3	4	5	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>
05		<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	3	4	5	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>
06		<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	3	4	5	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>
07		<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	3	4	5	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>
08		<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>	1	2	1	2	3	4	5	1	2	1	2	<table border="1" style="width: 30px; height: 20px;"></table>

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:					Did anyone listed suffer from malaria any time during the last THREE months? (19)	CIRCLE LINE NUMBER Or 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?				
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 1 2	<input type="checkbox"/> <input type="checkbox"/>	YES YES NO PART COMP IAL LETE 1 2 3	YES NO 1 2	YES NO 1 2	YES YES YES NO HAN LEGS BO DS TH 1 2 3 4	YES NO 1 2		01	
1 2	<input type="checkbox"/> <input type="checkbox"/>	1 2 3	1 2	1 2	1 2 3 4	1 2		02	
1 2	<input type="checkbox"/> <input type="checkbox"/>	1 2 3	1 2	1 2	1 2 3 4	1 2		03	
1 2	<input type="checkbox"/> <input type="checkbox"/>	1 2 3	1 2	1 2	1 2 3 4	1 2		04	
1 2	<input type="checkbox"/> <input type="checkbox"/>	1 2 3	1 2	1 2	1 2 3 4	1 2		05	
1 2	<input type="checkbox"/> <input type="checkbox"/>	1 2 3	1 2	1 2	1 2 3 4	1 2		06	
1 2	<input type="checkbox"/> <input type="checkbox"/>	1 2 3	1 2	1 2	1 2 3 4	1 2		07	
1 2	<input type="checkbox"/> <input type="checkbox"/>	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 NH	YES NO	YES NO	GRADE
09		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2 3 4 5	1 2	1 2	<input type="text"/>
10		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2 3 4 5	1 2	1 2	<input type="text"/>
11		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2 3 4 5	1 2	1 2	<input type="text"/>
12		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2 3 4 5	1 2	1 2	<input type="text"/>
13		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2 3 4 5	1 2	1 2	<input type="text"/>
14		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2 3 4 5	1 2	1 2	<input type="text"/>
15		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2 3 4 5	1 2	1 2	<input type="text"/>
16		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2 3 4 5	1 2	1 2	<input type="text"/>
17		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2 3 4 5	1 2	1 2	<input type="text"/>
18		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	1 2 3 4 5	1 2	1 2	<input type="text"/>

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
  - 02= WIFE OR HUSBAND
  - 03= SON OR DAUGHTER
  - 04= SON OR DAUGHTER-IN-LAW
  - 05= GRANDCHILD
  - 06= PARENT
  - 07= PARENT-IN-LAW
  - 08= BROTHER OR SISTER
  - 09= BROTHER OR SISTER-IN-LAW
  - 10= OTHER RELATIVE
  - 11= ADOPTED/FOSTER CHILD
  - 12= NOT RELATED
  - 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 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 OTHER.....81 (SPECIFY)	24
23	How long does it take to go there, get water, and come back in one trip?	MINUTES..... <input type="text"/>	
24	Does your household get drinking water from this same source?	YES.....1 NO.....2	26
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="1"> <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>Did any usual resident of this household give birth to a child since (Pongal/Makar Sankranti/January) 1991 in this (city/town/village) or outside?</p>	<p>YES.....1 NO.....2</p>	→45
44	How many births took place?	TOTAL BIRTHS..... <input type="text"/>	
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	How many births took place?	TOTAL BIRTHS..... <input type="text"/>	
47	CHECK 44 AND 46:	<p>ONE OR MORE BIRTHS <input type="text"/> NO BIRTHS <input type="text"/></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"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/>	SINGLE..1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> MONTHS..2 <input type="text"/>
02 _____ (NAME)	RESIDENT...1 VISITOR...2	LINE NUMBER <input type="text"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/>	SINGLE..1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> MONTHS..2 <input type="text"/>
03 _____ (NAME)	RESIDENT...1 VISITOR...2	LINE NUMBER <input type="text"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/>	SINGLE..1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> MONTHS..2 <input type="text"/>
04 _____ (NAME)	RESIDENT...1 VISITOR...2	LINE NUMBER <input type="text"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/>	SINGLE..1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> MONTHS..2 <input type="text"/>
05 _____ (NAME)	RESIDENT...1 VISITOR...2	LINE NUMBER <input type="text"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/>	SINGLE..1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> MONTHS..2 <input type="text"/>
06 _____ (NAME)	RESIDENT...1 VISITOR...2	LINE NUMBER <input type="text"/> MOTHER DIED.....95 LEFT HH..96	AGE OF MOTHER <input type="text"/>	SINGLE..1 MULT....2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 (GO TO NEXT BIRTH) NO....2	DAYS....1 <input type="text"/> MONTHS..2 <input type="text"/>

57	COMPARE SUM OF 44 AND 46 WITH NUMBER OF BIRTHS IN 48 AND MARK:
NUMBERS ARE SAME <input type="checkbox"/>	NUMBERS ARE DIFFERENT <input type="checkbox"/> → 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>YES.....1 NO.....2</p>	60
59	<p>How many persons died?</p>	<p>TOTAL DEATHS..... <input type="text"/></p>	
60	<p>Did any visitor to this household die since (Pongal/Makar Sankranti/January) 1991?</p>	<p>YES.....1 NO.....2</p>	62
61	<p>How many deaths took place?</p>	<p>TOTAL DEATHS..... <input type="text"/></p>	
62	<p>CHECK 59 AND 61:</p> <p>ONE OR MORE DEATHS <input type="checkbox"/> 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	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	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	SYMPTOMS _____ _____	
74	COMPARE SUM OF 59 AND 61 WITH NUMBER OF DEATHS IN 63 AND MARK: NUMBERS ARE SAME <input type="checkbox"/> NUMBERS ARE DIFFERENT <input type="checkbox"/> → PROBE AND RECONCILE										
75	RECORD THE TIME.								HOUR..... MINUTES.....	<input type="checkbox"/>	

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NATIONAL FAMILY HEALTH SURVEY  
(MCH AND FAMILY PLANNING)  
WOMAN'S 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: 20px; height: 20px;"></td><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><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><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><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><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><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></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 AND LINE NUMBER OF WOMAN _____	<table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr><td style="width: 20px;"></td><td style="width: 20px;"></td></tr> </table>																					
ADDRESS OF HOUSEHOLD _____	<table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr><td style="width: 20px;"></td><td style="width: 20px;"></td></tr> </table>																					

INTERVIEWER VISITS						
	1	2	3	FINAL VISIT		
DATE	_____	_____	_____	DAY <table border="1" style="width: 20px; height: 20px; border-collapse: collapse;"></table> MONTH <table border="1" style="width: 20px; height: 20px; border-collapse: collapse;"></table> YEAR <table border="1" style="width: 20px; height: 20px; border-collapse: collapse;"></table>		
INTERVIEWER'S NAME	_____	_____	_____	NAME <table border="1" style="width: 20px; height: 20px; border-collapse: collapse;"></table>		
RESULT*	_____	_____	_____	RESULT <table border="1" style="width: 20px; height: 20px; border-collapse: collapse;"></table>		
NEXT VISIT: DATE TIME	_____	_____	<table border="1" style="width: 20px; height: 20px; border-collapse: collapse;"> <tr><td style="width: 10px; height: 10px;"></td><td style="width: 10px; height: 10px;"></td></tr> </table>			TOTAL NUMBER OF VISITS <table border="1" style="width: 20px; height: 20px; border-collapse: collapse;"></table>

\*RESULT CODES:  
 1 COMPLETED      3 POSTPONED      5 PARTLY COMPLETED  
 2 NOT AT HOME      4 REFUSED      6 OTHER \_\_\_\_\_ (SPECIFY)

LANGUAGE OF QUESTIONNAIRE**.....	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <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> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>						
LANGUAGE OF INTERVIEW**.....							
NATIVE LANGUAGE OF RESPONDENT**.....							
TRANSLATOR USED..... YES...1 NO...2							
**LANGUAGE CODES:							
01 Assamese      05 Hindi      09 Marathi      13 Sindhi							
02 Bengali      06 Kannada      10 Oriya      14 Tamil							
03 English      07 Kashmiri      11 Punjabi      15 Telugu							
04 Gujarati      08 Malayalam      12 Sanskrit      16 Urdu							
17 Other (SPECIFY) _____      18 Konkani							

NAME	SPOT-CHECKED BY	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY		
DATE	_____	_____	_____	_____	<table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr><td style="width: 20px;"></td><td style="width: 20px;"></td></tr> </table>		

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 →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"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
111	How 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"><tr><td></td><td></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"><tr><td></td><td></td></tr></table>				
114	How old were you when your first marriage dissolved?	AGE IN COMPLETED YEARS.....	<table border="1"><tr><td></td><td></td></tr></table>				
115	How old were you at the time of your [current] marriage?	AGE IN COMPLETED YEARS.....	<table border="1"><tr><td></td><td></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"/> <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"/> <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"/> <input type="text"/>	
123	CHECK 122: GRADE 0-5 <input type="checkbox"/> GRADE 6-12 <input type="checkbox"/> GRADE 13+ <input type="checkbox"/>	GRADE 6-12 → 126 GRADE 13+ → 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-TECH DEGREE BACHELOR DEGREE.....02 MASTER DEGREE.....03 Ph.D.....04 TECHNICAL DEGREE BACHELOR DEGREE.....05 MASTER DEGREE.....06 TECHNICAL DIPLOMA/CERTIFICATE NOT EQUIVALENT TO DEGREE.....07 NON-TECHNICAL DIPLOMA/CERTIFICATE 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	CHECK Q.5 IN THE HOUSEHOLD SCHEDULE:	THE WOMAN INTERVIEWED IS A USUAL RESIDENT	201						
	THE WOMAN INTERVIEWED IS NOT A USUAL RESIDENT	<input type="checkbox"/>	201						
	<input type="checkbox"/> ↓								
130	How long have you been visiting in this house?	DAYS.....1 MONTHS.....2 YEARS.....3	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>						
131	How much longer do you intend to stay here?	DAYS.....1 MONTHS.....2 YEARS.....3 DK.....998	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>						
132	What is the main reason for your visiting this household?	VISITING FOR DELIVERY PURPOSE..1 VISITING FOR OTHER PURPOSE.....2							
133	How I would like to ask about the place in which you usually live.  Do you usually live in a city, in a town, or in a village? IF CITY:  In which city do you live? _____	LARGE CITY (1 MILLION +).....1 SMALL CITY.....2 TOWN.....3 VILLAGE.....4							

134	<p>In which state do you usually live?</p>	<ul style="list-style-type: none"> <li>ANDHRA PRADESH.....01</li> <li>ARUNACHAL PRADESH.....02</li> <li>ASSAM.....03</li> <li>BIHAR.....04</li> <li>GOA.....05</li> <li>GUJARAT.....06</li> <li>HARYANA.....07</li> <li>HIMACHAL PRADESH.....08</li> <li>JAMMU &amp; KASHMIR.....09</li> <li>KARNATAKA.....10</li> <li>KERALA.....11</li> <li>MADHYA PRADESH.....12</li> <li>MAHARASHTRA.....13</li> <li>MANIPUR.....14</li> <li>MEGHALAYA.....15</li> <li>MIZORAM.....16</li> <li>NAGALAND.....17</li> <li>ORISSA.....18</li> <li>PUNJAB.....19</li> <li>RAJASTHAN.....20</li> <li>SIKKIM.....21</li> <li>TAMIL NADU.....22</li> <li>TRIPURA.....23</li> <li>UTTAR PRADESH.....24</li> <li>WEST BENGAL.....25</li> <li>ANDMAN &amp; NICOBAR ISLANDS.....26</li> <li>CHANDIGARH.....27</li> <li>DADRA &amp; NAGAR HAVELI.....28</li> <li>DAMAN &amp; DIU.....29</li> <li>DELHI.....30</li> <li>LAKSHADWEEP.....31</li> <li>PONDICHERRY.....32</li> <li>OUTSIDE INDIA.....33</li> </ul>	
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135	<p>Now I would like to ask about the household in which you usually live.</p> <p>What is the main source of water your household uses for bathing and washing?</p>	<ul style="list-style-type: none"> <li>PIPED WATER</li> <li>PIPED INTO</li> <li>RESIDENCE/YARD/PLOT.....11 → 137</li> <li>PUBLIC TAP.....12</li> <li>GROUND WATER</li> <li>HANDPUMP IN YARD/PLOT.....21 → 137</li> <li>PUBLIC HANDPUMP.....22</li> <li>WELL WATER</li> <li>WELL IN RESIDENCE/YARD/PLOT...23 → 137</li> <li>PUBLIC WELL.....24</li> <li>SURFACE WATER</li> <li>SPRING.....31</li> <li>RIVER/STREAM.....32</li> <li>POND/LAKE.....33</li> <li>DAM.....34</li> <li>RAINWATER.....41</li> <li>TANKER TRUCK.....51</li> <li>OTHER.....81</li> <li>(SPECIFY)</li> </ul>	
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136	<p>How long does it take to go there, get water, and come back in one trip?</p>	<p>MINUTES..... <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/></p>	
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137	<p>Does your household get drinking water from this same source?</p>	<ul style="list-style-type: none"> <li>YES.....1 → 139</li> <li>NO.....2</li> </ul>	
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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 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	What materials have been used for the construction of roof, walls and floor of the house where you usually live? ROOF _____ WALLS _____ FLOOR _____	PUCCA.....1 KACHHA.....2 SEMI-PUCCA.....3	
145	What is the religion of the head of the household?	HINDU.....01 SIKH.....02 BUDDHIST/NEO BUDDHIST.....03 CHRISTIAN.....04 JAIN.....05 JEWISH.....06 MUSLIM.....07 ZOROASTRIAN.....08 NO RELIGION.....09 OTHER _____ 10 (SPECIFY)	
146	Does the head of the household belong to a scheduled tribe?	YES.....1 NO.....2	→148
147	What is the name of the tribe?	TRIBE _____ <input type="text"/> <input type="text"/> <input type="text"/> (NAME)	→149
148	To which caste does the head of the household belong?	CASTE _____ <input type="text"/> <input type="text"/> <input type="text"/> (NAME) NO CASTE.....996	
149	Does your household own any agricultural land?	YES.....1 NO.....2	→152
150	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	
151	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	

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>A sewing machine?</td> <td>SEWING MACHINE.....1</td> <td>2</td> </tr> <tr> <td>A clock or watch?</td> <td>CLOCK/WATCH.....1</td> <td>2</td> </tr> <tr> <td>A sofa set?</td> <td>SOFA SET.....1</td> <td>2</td> </tr> <tr> <td>A fan?</td> <td>FAN.....1</td> <td>2</td> </tr> <tr> <td>A radio or transistor?</td> <td>RADIO/TRANSISTOR.....1</td> <td>2</td> </tr> <tr> <td>A refrigerator?</td> <td>REFRIGERATOR.....1</td> <td>2</td> </tr> <tr> <td>A television?</td> <td>TELEVISION.....1</td> <td>2</td> </tr> <tr> <td>A VCR or VCP?</td> <td>VCR/VCP.....1</td> <td>2</td> </tr> <tr> <td>A bicycle?</td> <td>BICYCLE.....1</td> <td>2</td> </tr> <tr> <td>A motorcycle or scooter?</td> <td>MOTORCYCLE/SCOOTER.....1</td> <td>2</td> </tr> <tr> <td>A car?</td> <td>CAR.....1</td> <td>2</td> </tr> <tr> <td>A bullock cart?</td> <td>BULLOCK CART.....1</td> <td>2</td> </tr> <tr> <td>A tractor?</td> <td>TRACTOR.....1</td> <td>2</td> </tr> <tr> <td>A thresher?</td> <td>THRESHER.....1</td> <td>2</td> </tr> <tr> <td>A water pump?</td> <td>WATER PUMP.....1</td> <td>2</td> </tr> </tbody> </table>		YES	NO	A sewing machine?	SEWING MACHINE.....1	2	A clock or watch?	CLOCK/WATCH.....1	2	A sofa set?	SOFA SET.....1	2	A fan?	FAN.....1	2	A radio or transistor?	RADIO/TRANSISTOR.....1	2	A refrigerator?	REFRIGERATOR.....1	2	A television?	TELEVISION.....1	2	A VCR or VCP?	VCR/VCP.....1	2	A bicycle?	BICYCLE.....1	2	A motorcycle or scooter?	MOTORCYCLE/SCOOTER.....1	2	A car?	CAR.....1	2	A bullock cart?	BULLOCK CART.....1	2	A tractor?	TRACTOR.....1	2	A thresher?	THRESHER.....1	2	A water pump?	WATER PUMP.....1	2	
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A water pump?	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	SI,IP TO				
201	<p>Now I would like to ask about all the births you have had during your life. Have you ever given birth?</p>	<p>YES.....1 NO.....2</p>	→206				
202	<p>Do you have any sons or daughters to whom you have given birth who are now living with you?</p>	<p>YES.....1 NO.....2</p>	→204				
203	<p>How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.</p>	<p>SONS AT HOME..... DAUGHTERS AT HOME.....</p> <table border="1"> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table>					
204	<p>Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?</p>	<p>YES.....1 NO.....2</p>	→206				
205	<p>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'.</p>	<p>SONS ELSEWHERE..... DAUGHTERS ELSEWHERE.....</p> <table border="1"> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table>					
206	<p>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?</p>	<p>YES.....1 NO.....2</p>	→208				
207	<p>In all, how many boys have died? And how many girls have died? IF NONE, RECORD '00'.</p>	<p>BOYS DEAD..... GIRLS DEAD.....</p> <table border="1"> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table>					
208	<p>SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE RECORD '00'.</p>	<p>TOTAL.....</p> <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		

215

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 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO...2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
02 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO...2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
03 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO...2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
04 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO...2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
05 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO...2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
06 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO...2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3
07 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL..2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO...2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3

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 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/>
09 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/>
10 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/>
11 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/>
12 _____ (NAME)	SING...1 MULT...2	BOY...1 GIRL...2	MONTH.. <input type="text"/> YEAR... <input type="text"/>	YES...1 NO....2 ↓ 223	AGE IN YEARS <input type="text"/>	YES.....1 NO.....2 ↓ (GO TO NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3 <input type="text"/>

224 COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK:

NUMBERS ARE SAME  NUMBERS ARE DIFFERENT  (PROBE AND RECONCILE)

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.

225 CHECK 219 AND ENTER THE NUMBER OF BIRTHS SINCE JANUARY 1989.  
 IF NONE, RECORD '0'.



SECTION 3. CONTRACEPTION

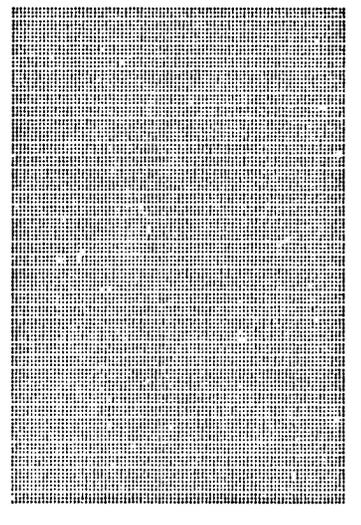
301

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    <u>Pill</u> Women can take a pill every day.	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
02    <u>Loop or Copper I</u> Women can have a loop or coil placed inside them by a doctor or a nurse.	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
03    <u>Injections</u> Women can have an injection given by a doctor or nurse which stops them from becoming pregnant for several months.	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
04    <u>Condom or Nirodh</u> Men can use a rubber sheath during sexual intercourse.	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	YES.....1 NO.....2
05    <u>Female sterilization</u> Women can have an operation to avoid having any more children.	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

	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	Has your husband ever had an operation to avoid having any more children?  YES.....1 NO.....2	YES.....1 NO.....2
Male sterilization Men can have an operation to avoid having any more children.			
07	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	Do you know where a person can obtain advice on how to practice periodic abstinence?  YES.....1 NO.....2
Rhythm or Periodic abstinence Couples can avoid having sexual intercourse on certain days of the month when the woman is more likely to become pregnant.			
08	YES/SPONTANEOUS.....1 YES/PROBED.....2 NO.....3	YES.....1 NO.....2	
Withdrawal Men can be careful and pull out before climax.			
09	YES/SPONTANEOUS.....1 NO.....3	YES.....1 NO.....2  YES.....1 NO.....2  YES.....1 NO.....2	
Have you heard of any other ways or methods that women or men can use to avoid pregnancy?  1 _____ (SPECIFY)  2 _____ (SPECIFY)  3 _____ (SPECIFY)			

305 CHECK 303: NOT A SINGLE "YES" (NEVER USED)

AT LEAST ONE "YES" (EVER USED)

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"/>	352
		WIDOWED DIVORCED SEPARATED <input type="checkbox"/>	
310	CHECK 227:	NOT PREGNANT OR UNSURE <input type="checkbox"/>	345
		PREGNANT <input type="checkbox"/>	
311	CHECK 303:	NEITHER STERILIZED <input type="checkbox"/>	313A
		HE OR SHE STERILIZED <input type="checkbox"/>	
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 OTHER.....09 → 341 (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 ACHES.....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	<p>Have you had any problems with the use of the (LOOP/COPPER T)?</p>	<p>YES.....1 NO.....2</p>	→352
327	<p>What problems have you had? RECORD ALL PROBLEMS MENTIONED</p>	<p>CRAMPS.....A BACKACHE.....B IRREGULAR PERIODS.....C EXCESSIVE BLEEDING.....D WEAKNESS/INABILITY TO WORK.....E EXPULSION.....F OTHER _____ G (SPECIFY)</p>	→352
328	<p>For how many months have you been using injections continuously? IF LESS THAN 1 MONTH, RECORD '00'.</p>	<p>MONTHS..... <input type="text"/> <input type="text"/> 8 YEARS OR LONGER.....96</p>	
329	<p>Where did you obtain the injection the last time?  _____ (NAME OF HOSPITAL IF CODE 11 OR 21)</p>	<p>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)</p>	→352
330	<p>For how many months have you been using (condoms/Nirodhs) continuously? IF LESS THAN 1 MONTH, RECORD '00'.</p>	<p>MONTHS..... <input type="text"/> <input type="text"/> 8 YEARS OR LONGER.....96</p>	
331	<p>Where did you obtain the (condoms/Nirodhs) the last time?  _____ (NAME OF HOSPITAL IF CODE 11 OR 21)</p>	<p>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</p>	→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..... <input type="text"/> <input type="text"/> 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 →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    
 NO BIRTHS SINCE JAN. 1989   (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 NAME	NEXT-TO-LAST BIRTH NAME	SECOND-FROM-LAST BIRTH 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  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) ←	THEN.....1 (SKIP TO 405) ←	THEN.....1 (SKIP TO 405) ←
	LATER.....2	LATER.....2	LATER.....2
	NO MORE.....3 (SKIP TO 405) ←	NO MORE.....3 (SKIP TO 405) ←	NO MORE.....3 (SKIP TO 405) ←

404  How much longer would you like to have waited?	MONTHS.....1 <input type="text"/>	MONTHS.....1 <input type="text"/>	MONTHS.....1 <input type="text"/>
	YEARS.....2 <input type="text"/>	YEARS.....2 <input type="text"/>	YEARS.....2 <input type="text"/>
	DK.....998	DK.....998	DK.....998

405  When you were pregnant with (NAME), did any health worker visit you at home for an antenatal check-up?	YES.....1	YES.....1	YES.....1
	NO.....2 (SKIP TO 408) ←	NO.....2 (SKIP TO 408) ←	NO.....2 (SKIP TO 408) ←

406  How many months pregnant were you when a health worker first visited you?	MONTHS..... <input type="text"/>	MONTHS..... <input type="text"/>	MONTHS..... <input type="text"/>
--	----------------------------------	----------------------------------	----------------------------------

	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____	
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 PROFFSNL...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 PROFFSNL...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 PROFFSNL...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)

	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./MUNICPL HOSPITL..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./MUNICPL HOSPITL..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./MUNICPL HOSPITL..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>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</p> <p>DOCTOR.....A</p> <p>AYURVEDIC DOCTOR/VAID...B</p> <p>NURSE/MIDWIFE.....C</p> <p>ANM/LHV.....D</p> <p>OTHER PERSON</p> <p>TRAINED (TRADITIONAL) BIRTH ATTENDANT.....E</p> <p>TRADITIONAL BIRTH ATTENDANT.....F</p> <p>RELATIVE/FRIEND.....G</p> <p>OTHER.....H</p> <p>(SPECIFY)</p> <p>NO ONE.....I</p>	<p>HEALTH PROFESSIONAL</p> <p>DOCTOR.....A</p> <p>AYURVEDIC DOCTOR/VAID...B</p> <p>NURSE/MIDWIFE.....C</p> <p>ANM/LHV.....D</p> <p>OTHER PERSON</p> <p>TRAINED (TRADITIONAL) BIRTH ATTENDANT.....E</p> <p>TRADITIONAL BIRTH ATTENDANT.....F</p> <p>RELATIVE/FRIEND.....G</p> <p>OTHER.....H</p> <p>(SPECIFY)</p> <p>NO ONE.....I</p>	<p>HEALTH PROFESSIONAL</p> <p>DOCTOR.....A</p> <p>AYURVEDIC DOCTOR/VAID...B</p> <p>NURSE/MIDWIFE.....C</p> <p>ANM/LHV.....D</p> <p>OTHER PERSON</p> <p>TRAINED (TRADITIONAL) BIRTH ATTENDANT.....E</p> <p>TRADITIONAL BIRTH ATTENDANT.....F</p> <p>RELATIVE/FRIEND.....G</p> <p>OTHER.....H</p> <p>(SPECIFY)</p> <p>NO ONE.....I</p>
418	<p>Was (NAME) born on time or prematurely?</p>	<p>ON TIME.....1</p> <p>PREMATURELY.....2</p> <p>DK.....8</p>	<p>ON TIME.....1</p> <p>PREMATURELY.....2</p> <p>DK.....8</p>	<p>ON TIME.....1</p> <p>PREMATURELY.....2</p> <p>DK.....8</p>
419	<p>Were there any complications in the delivery of (NAME)?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>(SKIP TO 421) ←</p>	<p>YES.....1</p> <p>NO.....2</p> <p>(SKIP TO 421) ←</p>	<p>YES.....1</p> <p>NO.....2</p> <p>(SKIP TO 421) ←</p>
420	<p>What were the complications?</p> <p>RECORD ALL MENTIONED.</p>	<p>CAESARIAN SECTION.....A</p> <p>USE OF FORCEPS.....B</p> <p>EXCESSIVE BLEEDING.....C</p> <p>LONG PERIOD OF LABOR.....D</p> <p>DELAYED DELIVERY OF PLACENTA.....E</p> <p>OTHER.....F</p> <p>(SPECIFY)</p>	<p>CAESARIAN SECTION.....A</p> <p>USE OF FORCEPS.....B</p> <p>EXCESSIVE BLEEDING.....C</p> <p>LONG PERIOD OF LABOR.....D</p> <p>DELAYED DELIVERY OF PLACENTA.....E</p> <p>OTHER.....F</p> <p>(SPECIFY)</p>	<p>CAESARIAN SECTION.....A</p> <p>USE OF FORCEPS.....B</p> <p>EXCESSIVE BLEEDING.....C</p> <p>LONG PERIOD OF LABOR.....D</p> <p>DELAYED DELIVERY OF PLACENTA.....E</p> <p>OTHER.....F</p> <p>(SPECIFY)</p>
421	<p>When (NAME) was born, was he/she: large, average or small?</p>	<p>LARGE.....1</p> <p>AVERAGE.....2</p> <p>SMALL.....3</p> <p>DK.....8</p>	<p>LARGE.....1</p> <p>AVERAGE.....2</p> <p>SMALL.....3</p> <p>DK.....8</p>	<p>LARGE.....1</p> <p>AVERAGE.....2</p> <p>SMALL.....3</p> <p>DK.....8</p>
422	<p>Was (NAME) weighed at birth?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>(SKIP TO 424) ←</p>	<p>YES.....1</p> <p>NO.....2</p> <p>(SKIP TO 425) ←</p>	<p>YES.....1</p> <p>NO.....2</p> <p>(SKIP TO 425) ←</p>



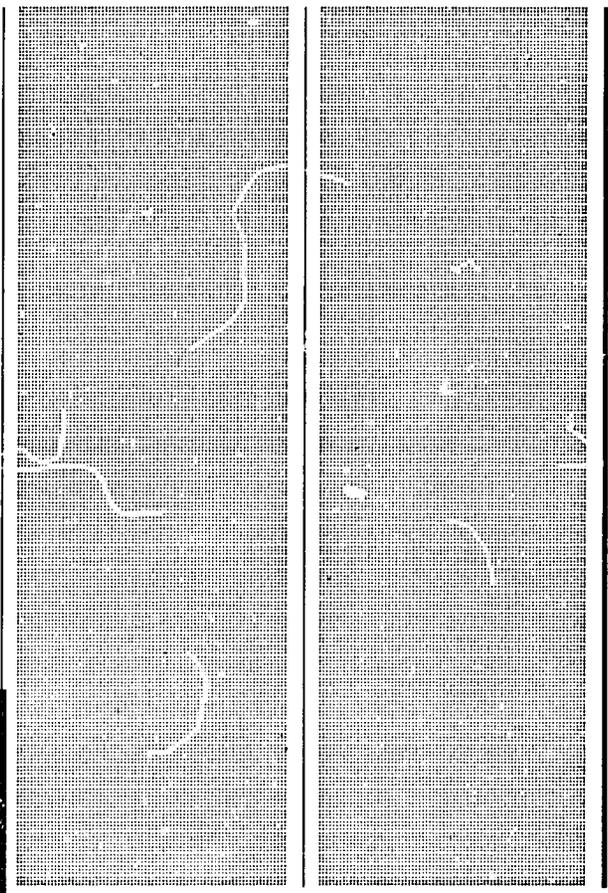
	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
430	<p>Did you ever breastfeed (NAME)?</p> <p>YES.....1 (SKIP TO 432)←</p> <p>NO.....2</p>	<p>YES.....1 (SKIP TO 440)←</p> <p>NO.....2</p>	<p>YES.....1 (SKIP TO 440)←</p> <p>NO.....2</p>
431	<p>Why did you not breastfeed (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"/> (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?:

Plain water?	PLAIN WATER.....1	YES NO 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

For how many months did you breastfeed (NAME)?	MONTHS..... <input type="text"/> <input type="text"/>	MONTHS..... <input type="text"/> <input type="text"/>	MONTHS..... <input type="text"/> <input type="text"/>
	UNTIL DIED.....96 (SKIP TO 443) ←	UNTIL DIED.....96 (SKIP TO 443) ←	UNTIL DIED.....96 (SKIP TO 443) ←
		STILL BREASTFEEDING.....95 (SKIP TO 442) ←	

441

Why did you stop breastfeeding (NAME)?

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	OTHER _____ 11	OTHER _____ 11
(SPECIFY)	(SPECIFY)	(SPECIFY)

442 CHECK 220:  
CHILD ALIVE?

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)



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 style="width:40px; height:20px;" type="text"/>	<input style="width:40px; height:20px;" type="text"/>	<input style="width:40px; height:20px;" 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"/>
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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
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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.	DAY MO YR <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>BCG</td><td></td><td></td><td></td><td></td></tr> <tr><td>P0</td><td></td><td></td><td></td><td></td></tr> <tr><td>D1</td><td></td><td></td><td></td><td></td></tr> <tr><td>D2</td><td></td><td></td><td></td><td></td></tr> <tr><td>D3</td><td></td><td></td><td></td><td></td></tr> <tr><td>P1</td><td></td><td></td><td></td><td></td></tr> <tr><td>P2</td><td></td><td></td><td></td><td></td></tr> <tr><td>P3</td><td></td><td></td><td></td><td></td></tr> <tr><td>MEA</td><td></td><td></td><td></td><td></td></tr> </table>	BCG					P0					D1					D2					D3					P1					P2					P3					MEA					DAY MO YR <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>BCG</td><td></td><td></td><td></td><td></td></tr> <tr><td>P0</td><td></td><td></td><td></td><td></td></tr> <tr><td>D1</td><td></td><td></td><td></td><td></td></tr> <tr><td>D2</td><td></td><td></td><td></td><td></td></tr> <tr><td>D3</td><td></td><td></td><td></td><td></td></tr> <tr><td>P1</td><td></td><td></td><td></td><td></td></tr> <tr><td>P2</td><td></td><td></td><td></td><td></td></tr> <tr><td>P3</td><td></td><td></td><td></td><td></td></tr> <tr><td>MEA</td><td></td><td></td><td></td><td></td></tr> </table>	BCG					P0					D1					D2					D3					P1					P2					P3					MEA					DAY MO YR <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>BCG</td><td></td><td></td><td></td><td></td></tr> <tr><td>P0</td><td></td><td></td><td></td><td></td></tr> <tr><td>D1</td><td></td><td></td><td></td><td></td></tr> <tr><td>D2</td><td></td><td></td><td></td><td></td></tr> <tr><td>D3</td><td></td><td></td><td></td><td></td></tr> <tr><td>P1</td><td></td><td></td><td></td><td></td></tr> <tr><td>P2</td><td></td><td></td><td></td><td></td></tr> <tr><td>P3</td><td></td><td></td><td></td><td></td></tr> <tr><td>MEA</td><td></td><td></td><td></td><td></td></tr> </table>	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>YES.....1 NO.....2 DK.....8</p>	<p>YES.....1 NO.....2 DK.....8</p>	<p>YES.....1 NO.....2 DK.....8</p>	
<p>A vaccination against diphtheria, whooping cough and tetanus given as an injection?</p> <p>IF YES:</p> <p>How many times?</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>Polio vaccine, that is, drops in the mouth?</p> <p>IF YES:</p> <p>How many times?</p> <p>IF YES:</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>When was the first polio vaccine given -- just after birth or later?</p>	<p>JUST AFTER BIRTH.....1 LATER.....2 DK.....8</p>	<p>JUST AFTER BIRTH.....1 LATER.....2 DK.....8</p>	<p>JUST AFTER BIRTH.....1 LATER.....2 DK.....8</p>	
<p>An injection against measles?</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>	

	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? Measles? Polio? Diphtheria? Chicken pox? Rickets?	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 JACK 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"/> OTHER (SKIP TO 469) v	"YES" IN EITHER 459 OR 460 <input type="checkbox"/> OTHER (SKIP TO 469) v	"YES" IN EITHER 459 OR 460 <input type="checkbox"/> OTHER (SKIP TO 469) v
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 SHCP.....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 _____
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468	<p>What was given to treat the fever/cough?</p> <p>Anything else?</p> <p>RECORD ALL MENTIONED.</p>	<p>INJECTION.....A</p> <p>ANTIBIOTIC (PILL OR SYRUP).....B</p> <p>ANTIMALARIAL (PILL OR SYRUP).....C</p> <p>COUGH SYRUP.....D</p> <p>OTHER PILL OR SYRUP.....E</p> <p>UNKNOWN PILL OR SYRUP....F</p> <p>HOME REMEDY/ HERBAL MEDICINE.....G</p> <p>OTHER _____ H (SPECIFY)</p>	<p>INJECTION.....A</p> <p>ANTIBIOTIC (PILL OR SYRUP).....B</p> <p>ANTIMALARIAL (PILL OR SYRUP).....C</p> <p>COUGH SYRUP.....D</p> <p>OTHER PILL OR SYRUP.....E</p> <p>UNKNOWN PILL OR SYRUP....F</p> <p>HOME REMEDY/ HERBAL MEDICINE.....G</p> <p>OTHER _____ H (SPECIFY)</p>	<p>INJECTION.....A</p> <p>ANTIBIOTIC (PILL OR SYRUP).....B</p> <p>ANTIMALARIAL (PILL OR SYRUP).....C</p> <p>COUGH SYRUP.....D</p> <p>OTHER PILL OR SYRUP.....E</p> <p>UNKNOWN PILL OR SYRUP....F</p> <p>HOME REMEDY/ HERBAL MEDICINE.....G</p> <p>OTHER _____ H (SPECIFY)</p>
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469	<p>Has (NAME) had diarrhoea in the last two weeks?</p>	<p>YES.....1 (SKIP TO 471)←</p> <p>NO.....2</p> <p>DK.....8</p>	<p>YES.....1 (SKIP TO 471)←</p> <p>NO.....2</p> <p>DK.....8</p>	<p>YES.....1 (SKIP TO 471)←</p> <p>NO.....2</p> <p>DK.....8</p>
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470 → GO BACK TO 449 FOR NEXT BIRTH; OR, IF NO MORE BIRTHS, SKIP TO 489.

471	<p>Has (NAME) had diarrhoea in the last 24 hours?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DK.....8</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DK.....8</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DK.....8</p>
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472	<p>For how many days (has the diarrhoea lasted/did the diarrhoea last)?</p> <p>IF LESS THAN 1 DAY, RECORD '00'</p>	<p>DAYS..... <input type="text"/> <input type="text"/></p>	<p>DAYS..... <input type="text"/> <input type="text"/></p>	<p>DAYS..... <input type="text"/> <input type="text"/></p>
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473	<p>Was there any blood in the stools?</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DK.....8</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DK.....8 (SKIP TO 477)</p>	<p>YES.....1</p> <p>NO.....2</p> <p>DK.....8 (SKIP TO 477)</p>
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474	<p>CHECK 430/435: LAST CHILD STILL BREASTFEEDING?</p> <p>YES <input type="checkbox"/> NO <input type="checkbox"/></p> <p>(SKIP TO 477)</p>	<p>←</p>	<p>←</p>	<p>←</p>
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475	<p>During (NAME)'s diarrhoea, did you change the frequency of breastfeeding?</p>	<p>YES.....1</p> <p>NO.....2 (SKIP TO 477)←</p>	<p>←</p>	<p>←</p>
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476	<p>Did you <u>increase</u> the number of breastfeeds or <u>reduce</u> them, or did you <u>stop completely</u>?</p>	<p>INCREASED.....1</p> <p>REDUCED.....2</p> <p>STOPPED COMPLETELY.....3</p>	<p>←</p>	<p>←</p>
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	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 NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____			
482	CHECK 481:  ORS FLUID FROM PACKET MENTIONED?	YES, ORS FLUID MENTIONED <input type="checkbox"/> v (SKIP TO 484)	NO, ORS FLUID NOT MENTIONED <input type="checkbox"/> v	YES, ORS FLUID MENTIONED <input type="checkbox"/> v (SKIP TO 484)	NO, ORS FLUID NOT MENTIONED <input type="checkbox"/> v	YES, ORS FLUID MENTIONED <input type="checkbox"/> v (SKIP TO 484)	NO, ORS FLUID NOT MENTIONED <input type="checkbox"/> v
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"/> v (SKIP TO 487)	NO, HOME FLUID NOT MENTIONED <input type="checkbox"/> v	YES, HOME FLUID MENTIONED <input type="checkbox"/> v (SKIP TO 487)	NO, HOME FLUID NOT MENTIONED <input type="checkbox"/> v	YES, HOME FLUID MENTIONED <input type="checkbox"/> v (SKIP TO 487)	NO, HOME FLUID NOT MENTIONED <input type="checkbox"/> v
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>1 1/2 LITER.....901</p> <p>1 LITER.....902</p> <p>1 1/2 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)

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="checkbox"/></p> <p>YEARS.....2 <input type="checkbox"/></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





SECTION 5A. STATE SPECIFIC QUESTIONS: DOWRY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
519	How much education, in your opinion, should be given to a daughter?	NO EDUCATION NECESSARY.....01 AS MUCH AS SHE WANTS.....02 AS MUCH AS POSSIBLE.....03 UPTO PRIMARY.....04 UPTO MIDDLE.....05 UPTO SECONDARY.....06 UPTO GRADUATION.....07 ABOVE GRADUATION.....08 PROFESSIONAL DEGREE.....09 OTHER _____ 10 (SPECIFY) DK.....98	
520	How much education, in your opinion, should be given to a son?	NO EDUCATION NECESSARY.....01 AS MUCH AS HE WANTS.....02 AS MUCH AS POSSIBLE.....03 UPTO PRIMARY.....04 UPTO MIDDLE.....05 UPTO SECONDARY.....06 UPTO GRADUATION.....07 ABOVE GRADUATION.....08 PROFESSIONAL DEGREE.....09 OTHER _____ 10 (SPECIFY) DK.....98	
521	Now I would like to ask you about marriage practices prevalent in your community.  In case of a marriage in your family, who would generally bear the marriage expenses?	BRIDE'S FAMILY.....1 BRIDEGROOM'S FAMILY.....2 BOTH THE FAMILIES SHARE.....3	
522	Generally in your family, how much money is spent for the daughter's marriage, excluding the money spent on dowry?	CASH IN THOUSANDS... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DK.....9998	
523	Generally in your family, how much cash do you have to pay as dowry at the time of daughter's marriage?	CASH IN THOUSANDS... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> NO DOWRY.....9997 DK.....9998	
524	Generally in your family, what are the things that are given in kind as dowry at the time of daughter's marriage?	GOLD.....A SILVER.....B LAND.....C HOUSE/FLAT.....D CAR.....E TV.....F VCR/VCP.....G SCOOTER/BIKE.....H FURNITURE.....I UTENSILS.....J RADIO/TRANSISTOR.....K CYCLE.....L OTHER _____ M (SPECIFY) ONLY CASH, NOTHING IN KIND.....N NO DOWRY .....O	→526

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	TO
525	<p>How much gold will your family have to pay?            And how much silver will your family have to give?</p> <p>RECORD '00' IF NONE. IF MORE THAN 97 FOR GOLD OR SILVER,            RECORD '97'.</p>	<p>GOLD IN TEN GRAMS..... <input type="text"/> <input type="text"/></p> <p>SILVER IN TEN GRAMS..... <input type="text"/> <input type="text"/></p> <p>DK.....9998</p>	
526	<p>In general, do you approve or disapprove dowry system?</p>	<p>APPROVE.....1            DISAPPROVE.....2</p>	
527	<p>Why do you (approve/disapprove) dowry system?</p>	<p><input type="text"/> <input type="text"/></p> <p>_____</p> <p>_____</p> <p>_____</p>	

**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 <input type="checkbox"/></p> <p>DIVORCED <input type="checkbox"/></p> <p>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</p> <p>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"/></p> <p>GRADE 13+ <input type="checkbox"/></p>		608 607
606	<p>(Can/Could) he read and write?</p>	<p>YES.....1</p> <p>NO.....2</p>	608
607	<p>What is the highest degree he obtained?</p>	<p>DEGREE NOT COMPLETED.....01</p> <p>NON-TECHNICAL DEGREE</p> <p>BACHELOR'S DEGREE.....02</p> <p>MASTER'S DEGREE.....03</p> <p>Ph.D.....04</p> <p>TECHNICAL DEGREE</p> <p>BACHELOR'S DEGREE.....05</p> <p>MASTER'S DEGREE.....06</p> <p>TECHNICAL DIPLOMA/CERTIFICATE</p> <p>NOT EQUIVALENT TO DEGREE.....07</p> <p>NON-TECHNICAL DIPLOMA/CERTIF.</p> <p>NOT EQUIVALENT TO DEGREE.....08</p> <p>OTHER DEGREE.....09</p> <p>(SPECIFY)</p>	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
608	What kind of work does (did) your (last) husband mainly do?	<div style="display: flex; justify-content: space-between;"> <div style="width: 80%; border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="width: 15%; border: 1px solid black; text-align: center; padding: 2px;"> <div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="border-bottom: 1px solid black; width: 100%;"></div> </div> </div>	
609	CHECK 608:  WORKS (WORKED) IN AGRICULTURE <input type="checkbox"/> DOES (DID) NOT WORK IN AGRICULTURE <input type="checkbox"/>	<div style="display: flex; justify-content: space-between;"> <div style="width: 80%; border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="width: 15%; border: 1px solid black; text-align: center; padding: 2px;"> <div style="border-bottom: 1px solid black; width: 100%;"></div> </div> </div>	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="display: flex; justify-content: space-between;"> <div style="width: 80%; border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="width: 15%; border: 1px solid black; text-align: center; padding: 2px;"> <div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="border-bottom: 1px solid black; width: 100%;"></div> </div> </div>	
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      NO <input type="checkbox"/> <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(REM).....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..... <input type="text"/> <input type="text"/> MINUTES..... <input type="text"/> <input type="text"/>																			
621	PRESENCE OF OTHERS DURING MOST OF THE INTERVIEW TIME.	<table border="0"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>CHILDREN UNDER 10.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>HUSBAND.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>MOTHER-IN-LAW.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>OTHER MALES.....</td> <td>1</td> <td>2</td> </tr> <tr> <td>OTHER FEMALES.....</td> <td>1</td> <td>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**

<b>701</b>	<b>CHECK 219/220:</b>	<input type="checkbox"/> <b>ONE OR MORE LIVING CHILDREN BORN SINCE JAN. 1989</b>	<input type="checkbox"/> <b>NO LIVING CHILDREN BORN SINCE JAN. 1989</b>	<b>END</b>
------------	-----------------------	--	---	------------

**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
<b>702</b> LINE NO. FROM Q.216	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
<b>703</b> NAME FROM Q.216 FOR CHILDREN	(NAME) _____	(NAME) _____	(NAME) _____
<b>704</b> DATE OF BIRTH  FROM Q.219 FOR CHILDREN, COPY MONTH AND YEAR OF BIRTH AND ASK FOR DAY OF BIRTH	DAY..... <input type="text"/> <input type="text"/> MONTH.... <input type="text"/> <input type="text"/> YEAR..... <input type="text"/> <input type="text"/>	DAY..... <input type="text"/> <input type="text"/> MONTH.... <input type="text"/> <input type="text"/> YEAR..... <input type="text"/> <input type="text"/>	DAY..... <input type="text"/> <input type="text"/> MONTH.... <input type="text"/> <input type="text"/> YEAR..... <input type="text"/> <input type="text"/>
<b>705</b> HEIGHT (in centimeters)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> . <input type="text"/>
<b>706</b> WAS HEIGHT/LENGTH OF CHILD MEASURED LYING DOWN OR STANDING UP?	LYING.....1 STANDING.....2	LYING.....1 STANDING.....2	LYING.....1 STANDING.....2
<b>707</b> WEIGHT (in kilograms)	<input type="text"/> <input type="text"/> . <input type="text"/>	<input type="text"/> <input type="text"/> . <input type="text"/>	<input type="text"/> <input type="text"/> . <input type="text"/>
<b>708</b> DATE WEIGHED AND MEASURED	DAY..... <input type="text"/> <input type="text"/> MONTH.... <input type="text"/> <input type="text"/> YEAR..... <input type="text"/> <input type="text"/>	DAY..... <input type="text"/> <input type="text"/> MONTH.... <input type="text"/> <input type="text"/> YEAR..... <input type="text"/> <input type="text"/>	DAY..... <input type="text"/> <input type="text"/> MONTH.... <input type="text"/> <input type="text"/> YEAR..... <input type="text"/> <input type="text"/>
<b>709</b> 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) _____
<b>710</b> NAME OF MEASURER: _____	<input type="text"/> <input type="text"/>	NAME OF ASSISTANT: _____	<input type="text"/> <input type="text"/>

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 SCHEDULE

CONFIDENTIAL  
For Research  
Purpose only

INDIA 1992-1993

IDENTIFICATION																									
NAME OF STATE _____	<table border="1"> <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> <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.....																									

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)

Previous Page Blank

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: 

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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: 

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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: 

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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:

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