

collected on the eligibility of respondents. During the period of data collection, IIPS assigned one Research Officer to the survey in most states for ensuring the use of correct survey procedures and maintaining the quality of the data. Throughout the survey, the staff from the CO, the PRC, and IIPS maintained close contact with all the teams through direct communication and spot-checking. The objective was to provide support and advice to staff in the field and to enhance data quality and the efficiency of interviewers. This objective was accomplished by communicating data problems and possible solutions to the interviewing teams, reminding interviewers about proper probing techniques, and examining the work of the supervisors. In addition, data from the field were simultaneously entered into microcomputers, and field check tables were produced during the fieldwork to assess the quality of the data and to identify problem areas. These tables were discussed with the interviewing teams and supervisors during the fieldwork so that they could improve their performance if needed.

2.5 Field Problems

Every survey is subject to a variety of field problems that cannot be fully anticipated. Especially a survey like the NFHS, which was conducted in 25 different states of India with the coordination of more than 30 different organizations, can not be free of problems during the data collection. In some states the NFHS data collection went on smoothly without any significant problems. The major problems encountered in the NFHS in other states are highlighted below.

Transportation

All the data collection teams in most of the states were provided with vehicles in the field to visit the selected PSUs. However, teams in certain states, including Uttar Pradesh, Himachal Pradesh, Jammu, Assam, and other Northeastern states, experienced difficulty in reaching PSUs located in hilly regions due to the absence of proper approachable roads. These PSUs were covered by foot or by the use of local means of transportation.

Security of Teams

In many of the states covered during the second phase of data collection, fieldwork had to be suspended for about 15 days during the communal riots in December, 1992. In Uttar Pradesh, some selected PSUs had to be replaced because of the presence of dacoits (bandits) in a village within that PSU. In Madhya Pradesh, the good offices of some local saints popular in dacoit-infested areas in Chambal were utilized to complete the data collection in PSUs situated in this area.

Household Identification

In hilly regions and in Goa, houses are not as densely packed as in other parts of India, but are scattered throughout the village. Consequently good village maps were required to identify the sample households. Perhaps because of inadequate training, maps drawn during household listing in some states were not very satisfactory. Field teams were sometimes forced to abandon the map and take the help of knowledgeable local people to trace the sample households.

Drop-out of Members of Interviewing Teams

The drop-out of *ad hoc* staff recruited for the fieldwork is common to all surveys. In some states the NFHS experienced problems with the drop-out of members of interviewing teams in the middle of fieldwork for various reasons. To maintain the quality of data, field staff who dropped out were usually not replaced at any stage, because new recruits would require extensive training which would be difficult to provide, particularly at the later stages of data collection.

Temporary Absenteeism of Households

In a few states, noncontact with some households and eligible women for individual interviews was high in certain PSUs because of temporary absenteeism. These absent households and eligible women had to be revisited at a later date so as to keep the nonresponse to a minimum.

Unseasonal Rains

Due to unseasonal heavy rains, data collection was interrupted in a few states including Karnataka, Kerala, and the Northeastern states.

Funds

Fieldwork in some states was delayed because of delays in the receipt of funds by the interviewing teams.

2.6 Data Processing

All completed questionnaires for the NFHS were sent for data processing to the office of the concerned CO. 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 CO by specially trained office editors. The office editors checked all skip sequences, all circled response codes, and 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. In the second stage of office editing, appropriate codes were assigned for the information on occupation, caste, and cause of death, and commonly mentioned "other" responses were added to the coding scheme. One supervisor and four data entry operators were typically responsible for data entry and computer editing operations. For each state, 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 were entered directly from the precoded questionnaires, starting within one week of the receipt of the first set of completed questionnaires. All data entry and editing operations were completed a few days after the end of fieldwork in each state. Computer-based checks were used 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.

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. The NFHS report for each state was prepared by IIPS, in collaboration with the concerned PRCs and the East-West Center/Macro International, on the basis of the tabulation plan discussed at a workshop held at Vadodara in December, 1992. Each state-level report contains detailed information pertaining to that state on the survey design and implementation, household and respondent background characteristics, marriage patterns, fertility, family planning, fertility preferences, mortality, maternal and child health, infant feeding and child nutrition, village profile, and detailed findings on the state-specific questions, if any.

The preliminary findings of the NFHS relating to the country as a whole were published in October, 1994. The contents and tabulation plan for the detailed national report were decided in a workshop held at Bombay in September, 1994. Based on this tabulation plan, tables for this national report were prepared at IIPS.

2.7 Presentation of Survey Results

In this report, survey results are reported separately for urban areas, rural areas and total India. A comparison across the 25 states covered in the survey is also presented. For a better understanding of the state differentials, the states are grouped into six regions of the country (north, central, east, northeast, west, and south), but aggregate estimates are not shown for these regions. In the text, reference is sometimes made to "major states". In this report, the major states refer to the 17 states with a 1991 population of more than 5 million⁵. Although both usual residents and visitors were eligible for the individual interviews, the standard tables for women and children are based only on *de facto* women (those who slept in the household the night before the interview) to avoid double counting. All tables in the report are weighted according to the sample design except for Tables 2.1 and 2.2, which summarize the basic characteristics of sample households and eligible women.

2.8 Sample Implementation

Tables 2.1 and 2.2 show the month and year of fieldwork, the number of households and eligible women interviewed and the household and individual response rates. As noted earlier, the data collection for the NFHS was carried out in three phases. The first phase started in Andhra Pradesh in April, 1992 and the third phase was completed in all states except Punjab by June, 1993. The fieldwork in Punjab was completed in September, 1993. Because most of the data collection for the NFHS was done within the span of about one year, adjustments for the different timing of data collection in different states are not necessary for the all-India estimates of demographic and health parameters.

A total of 88,562 households were interviewed, two-thirds of which were rural. The overall household response rate -- the number of households interviewed per 100 occupied households -- is 96 percent. The household response rate is slightly lower in urban areas (94

⁵ The major states are Andhra Pradesh, Assam, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal.

Table 2.1 Number of households and women interviewed

Month and year of fieldwork, and number of households and women interviewed, by residence and state (unweighted), India, 1992-93

State	Month and year of fieldwork		Number of households interviewed			Number of women interviewed		
	From	To	Urban	Rural	Total	Urban	Rural	Total
India	4/92	9/93	28822	59740	88562	27534	62243	89777
North								
Delhi	2/93	5/93	3377	300	3677	3189	268	3457
Haryana	1/93	4/93	1033	1702	2735	1002	1844	2846
Himachal Pradesh	6/92	10/92	1036	2083	3119	930	2032	2962
Jammu Region of J & K	5/93	7/93	988	1851	2839	945	1821	2766
Punjab	7/93	9/93	937	2276	3213	836	2159	2995
Rajasthan	12/92	5/93	1103	3911	5014	1019	4192	5211
Central								
Madhya Pradesh	4/92	8/92	1459	4398	5857	1476	4778	6254
Uttar Pradesh	10/92	2/93	2315	7795	10110	2337	9101	11438
East								
Bihar	3/93	6/93	1088	3660	4748	1267	4682	5949
Orissa	3/93	6/93	1296	3306	4602	1143	3114	4257
West Bengal	4/92	7/92	1086	3152	4238	898	3424	4322
Northeast								
Arunachal Pradesh	5/93	6/93	144	817	961	130	752	882
Assam	12/92	3/93	1230	2025	3255	1107	1899	3006
Manipur	3/93	5/93	346	740	1086	307	646	953
Meghalaya	4/93	6/93	202	790	992	221	916	1137
Mizoram	5/93	6/93	561	526	1087	517	528	1045
Nagaland	5/93	6/93	228	832	1060	240	909	1149
Tripura	2/93	4/93	231	908	1139	221	879	1100
West								
Goa	12/92	2/93	1834	1907	3741	1559	1582	3141
Gujarat	2/93	6/93	1360	2515	3875	1344	2488	3832
Maharashtra	11/92	3/93	1754	2309	4063	1699	2407	4106
South								
Andhra Pradesh	4/92	7/92	1096	3112	4208	1116	3160	4276
Karnataka	11/92	2/93	1449	2820	4269	1442	2971	4413
Kerala	10/92	2/93	1220	3167	4387	1218	3114	4332
Tamil Nadu	4/92	7/92	1449	2838	4287	1371	2577	3948

Note: The table is based on the number of households with completed interviews and the number of *de facto* women with completed interviews.

percent) than in rural areas (96 percent). The household response rate ranged between 92 and 98 percent in every state except Arunachal Pradesh, where the household response rate was 88 percent. In all, interviews were completed with 89,777 eligible women who slept in the household the night before the household interview. The individual response rate -- the number of completed interviews per 100 identified eligible women in the household -- was 96 percent in both urban and rural areas. The individual response rate ranged from 91 percent in Arunachal Pradesh to nearly 100 percent in Nagaland. Most of the larger states had an individual response rate of more than 95 percent.

Table 2.2 Household and individual response rates

Household and individual response rates, by residence and state (unweighted), India, 1992-93

State	Household response rate			Individual response rate		
	Urban	Rural	Total	Urban	Rural	Total
India	94.4	96.1	95.6	96.2	96.0	96.1
North						
Delhi	96.7	98.0	96.8	98.1	98.2	98.1
Haryana	94.2	95.4	94.9	94.2	92.5	93.1
Himachal Pradesh	91.7	96.8	95.0	96.6	94.8	95.3
Jammu Region of J & K	96.2	97.0	96.7	93.1	93.2	93.2
Punjab	93.9	96.1	95.4	91.1	93.0	92.5
Rajasthan	94.8	95.1	95.0	97.2	94.3	94.8
Central						
Madhya Pradesh	91.5	94.7	93.9	95.4	95.8	95.7
Uttar Pradesh	95.7	97.8	97.3	97.1	97.5	97.4
East						
Bihar	93.9	96.0	95.5	96.6	98.3	97.9
Orissa	93.6	96.9	95.9	94.6	96.1	95.7
West Bengal	92.6	97.3	96.0	93.2	97.0	96.2
Northeast						
Arunachal Pradesh	88.3	88.2	88.2	97.7	89.7	90.8
Assam	94.1	96.4	95.5	98.0	97.3	97.5
Manipur	97.7	95.4	96.1	95.0	94.9	94.9
Meghalaya	96.7	93.6	94.2	98.7	99.2	99.1
Mizoram	92.6	93.6	93.1	94.5	98.5	96.5
Nagaland	100.0	96.9	97.5	100.0	99.9	99.9
Tripura	96.3	91.0	92.0	97.8	94.5	95.2
West						
Goa	97.5	96.6	97.0	97.9	95.6	96.7
Gujarat	92.5	95.8	94.7	97.5	96.7	97.0
Maharashtra	89.9	96.4	93.5	94.5	94.5	94.5
South						
Andhra Pradesh	93.4	95.6	95.0	97.5	96.0	96.3
Karnataka	94.0	96.5	95.6	94.6	95.5	95.2
Kerala	97.1	97.5	97.4	96.7	96.1	96.3
Tamil Nadu	95.6	96.4	96.1	97.2	97.9	97.7

Note: The household response rate is defined as the number of households interviewed per 100 occupied households. The individual response rate is defined as the number of eligible women interviewed per 100 eligible women identified in the selected households.