

CHAPTER 1

INTRODUCTION

1.1 Background of the Survey

India's first National Family Health Survey (NFHS-1) was conducted in 1992–93 (International Institute for Population Sciences, 1995). The Ministry of Health and Family Welfare (MOHFW) subsequently designated the International Institute for Population Sciences (IIPS), Mumbai, as the nodal agency to initiate a second survey (NFHS-2), which was conducted in 1998–99. An important objective of NFHS-2 is to provide state-level and national-level information on fertility, family planning, infant and child mortality, reproductive health, child health, nutrition of women and children, and the quality of health and family welfare services. Another important objective is to examine this information in the context of related socioeconomic and cultural factors. The survey is also intended to provide estimates at the regional level for four states (Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh) and for three metro cities (Chennai, Kolkata, and Mumbai), as well as slum areas in Mumbai. This information will assist policymakers and programme administrators in planning and implementing strategies for improving population, health, and nutrition programmes. Comparative state results from NFHS-2 have already been published (International Institute for Population Sciences and ORC Macro, 2000). The current report provides a more comprehensive picture of the findings for Madhya Pradesh.

The NFHS-2 national sample covers more than 99 percent of India's population, living in all the 26 states at the time of the survey. It does not cover the union territories. NFHS-2 is a household survey with an overall sample size of over 90,000 ever-married women age 15–49 living in over 92,000 households.

NFHS-2 was conducted with financial support from the United States Agency for International Development (USAID), with additional funding from UNICEF. Technical assistance was provided by ORC Macro, Calverton, Maryland, USA, and the East-West Center, Honolulu, Hawaii, USA. Thirteen field organizations were selected to collect the data. Eight of the field organizations are private sector organizations and five are Population Research Centres (PRCs) established by the Government of India in various states. Each field organization had responsibility for collecting the data in one or more states. The Centre for Population and Development Studies (CPDS) in Hyderabad was selected as the field organization for NFHS-2 in Madhya Pradesh.

1.2 Basic Socioeconomic and Demographic Features of Madhya Pradesh¹

Madhya Pradesh, as its name implies, is located at the geographic centre of India, with Bhopal as the state capital. It shares its border with seven states, namely, Maharashtra, Gujarat, Rajasthan, Uttar Pradesh, Bihar, Orissa, and Andhra Pradesh. Spread over 443 thousand square kilometers, Madhya Pradesh is the largest Indian state in terms of area and accounts for 14 percent of India's

¹Because the NFHS-2 survey was conducted before the state of Chattisgarh was established, this report covers Madhya Pradesh as it existed at the time of the survey.

land mass and 8 percent of India's population. Till recently, the state was divided into 45 administrative districts grouped into seven geopolitical regions, namely Central, Chattisgarh, Malwa Plateau, Northern, South Central, South Western, and Vindhya . (The number of districts has since been increased to 61.)

Agriculture continues to be the mainstay of the economy of the state. The contribution of the agricultural sector to the state domestic product has declined slowly, from 44 percent in 1980–81 to 41 percent in 1996–97. The contribution of the manufacturing sector has increased from 12 percent to 15 percent during the same period and the share of other sectors has remained more or less unchanged (EPW Research Foundation, 1998). At the time of the 1991 census, agriculture provided livelihood to 76 percent of the working population. (Office of the Registrar General and Census Commissioner, 1992). Both *kharif* and *rabi* crops are grown in the state. The major crops include wheat, rice, *jowar*, *bajra* sugarcane, maize, cotton, groundnut, soyabean, pulses, gram, and *tur*. Agriculture in the state, however, remains traditional in nature, marked by low productivity. Population density in square kilometres has more than doubled since 1951, when it was 60, to 149 in 1991. Although the population density in Madhya Pradesh remains low relative to most other large states, the increasing density indicates an increasing pressure on land and other resources.

Industrialization in Madhya Pradesh is confined to selected pockets surrounding the state's metropolitan towns. Nonetheless, Madhya Pradesh is a major producer of cement in India and several new and old industries flourish here. The state took an early lead in the production of optical fibres for telecommunication and is home to a large number of automobile industries. Other industries include petrochemical, food processing, and electronics. Madhya Pradesh is also the second largest producer of minerals in India including coal, iron-ore, and manganese. Despite industrial advances, however, there is little diffusion of development to rural and remote areas. According to the Planning Commission, 41 percent of the rural and 48 percent of the urban populations in Madhya Pradesh were below the poverty line in 1993–94 (Central Statistical Organisation, 1999). The per capita net domestic product in the state increased from Rs.1,385 in 1980–81 to only Rs.1,875 in 1996–97 at constant 1980–81 prices and to Rs. 7,445 at current prices (EPW Research Foundation, 1998).

According to the 1991 Census, Madhya Pradesh had a population of 66.2 million, up from 41.7 million in 1971 and 52.2 million in 1981. The 1981–91 decadal growth rate of population (27 percent) was higher than the growth rate for the previous decade (25 percent) and was also higher than the decadal growth rate for 1981–91 for the country as a whole (24 percent). The population sex ratio (number of females per 1,000 males) was 931, marginally higher than the average for India (927). The sex ratio decreased from 971 in 1951 to 953 in 1961 and 941 in 1971. It remained unchanged between 1971 and 1981, but then fell to 931 in 1991. According to the 1991 Census, the proportion of the total population designated as scheduled caste² is slightly lower in Madhya Pradesh (14 percent) than in all of India (16 percent). The state, however, has the highest proportion (23 percent) of scheduled-tribe population in the country outside of the north-eastern states. The scheduled-tribe population in Madhya Pradesh increased from 20 percent of the total population in 1971 to 23 percent in 1991.

²Scheduled castes and scheduled tribes are castes and tribes that the Government of India officially recognizes as socially and economically backward and in need of special protection from injustice and exploitation.

Madhya Pradesh is one of the most educationally backward states in India. According to the 1991 Census, the literacy rate for population age seven and above was 44 percent compared with 52 percent for India as a whole. The literacy rates were 57 percent for males and 28 percent for females in Madhya Pradesh compared with 64 percent and 39 percent for males and females, respectively, for India.

In terms of demographic indicators too, Madhya Pradesh performs poorly relative to most other states. According to the Sample Registration System (SRS), the crude birth rate in Madhya Pradesh was 30.7 per 1,000 population in 1998 and the total fertility rate was 4.0 children. These rates are both fourth highest in the country, lower only than those for Uttar Pradesh, Rajasthan, and Bihar. Both the crude birth rate and the total fertility rate in the state are well above the national average for the same years. According to government service statistics, the percentage of couples effectively protected by various family planning methods increased steadily from 11 percent in 1971 to 47 percent in 1997.

Madhya Pradesh, along with Orissa, had the highest crude death rate and infant mortality rate in the country in 1998. According to SRS estimates for 1998, the crude death rate was 11.2 per 1,000 population and the infant mortality was 98 per 1,000 live births. The corresponding rates for India were 9.0 per 1,000 population and 72 per 1,000 live births. The life expectancy in the state was 54.7 for males and 54.6 for females for the period 1991–95, which is lower than that for all of India (59.7 for males and 60.9 for females).

1.3 Questionnaires

NFHS-2 used three types of questionnaires: the Household Questionnaire, the Woman's Questionnaire, and the Village Questionnaire. The overall content and format of the questionnaires were determined through a series of workshops held at IIPS in Mumbai in 1997 and 1998. The workshops were attended by representatives of a wide range of organizations in the population and health fields, as well as experts working on gender issues. The questionnaires for Madhya Pradesh were bilingual, with questions in both Hindi and English.

The Household Questionnaire lists all usual residents in each sample household plus any visitors who stayed in the household the night before the interview. For each listed person, the survey collected basic information on age, sex, marital status, relationship to the head of the household, education, and occupation. The Household Questionnaire also collected information on the prevalence of asthma, tuberculosis, malaria, and jaundice, as well as three risk behaviours—chewing *paan masala* or tobacco, drinking alcohol, and smoking. Information was also collected on the usual place where household members go for treatment when they get sick, the main source of drinking water, type of toilet facility, source of lighting, type of cooking fuel, religion of the household head, caste/tribe of the household head, ownership of a house, ownership of agricultural land, ownership of livestock, and ownership of other selected items. In addition, a test was conducted to assess whether the household uses cooking salt that has been fortified with iodine. Finally, the Household Questionnaire asked about deaths occurring to household members in the two years preceding the survey, with particular attention to maternal mortality. The information on the age, sex, and marital status of household members was used to identify eligible respondents for the Woman's Questionnaire.

The Woman's Questionnaire collected information from all ever-married women age 15–49, who were usual residents of the sample household or visitors who stayed in the sample household the night before the interview. The questionnaire covered the following topics:

Background characteristics: Questions on age, marital status, education, employment status, and place of residence provide information on characteristics likely to influence demographic and health behaviour. Questions are also asked about the characteristics of the woman's husband.

Reproductive behaviour and intentions: Questions cover dates and survival status of all births, current pregnancy status, and future childbearing intentions of each woman.

Quality of care: Questions assess the quality of family planning and health services.

Knowledge and use of contraception: Questions cover knowledge and use of specific family planning methods. For women not using family planning, questions are included about reasons for not using contraception and intentions for future use.

Sources of family planning: Questions determine where a user obtained her family planning method.

Antenatal, delivery, and postpartum care: For women who had a birth since January 1995, the questionnaire collects information on whether antenatal and postpartum care was received, who attended the delivery, and the nature of any complications during pregnancy.

Breastfeeding and health: Questions cover the length of breastfeeding, immunizations, and recent occurrences of diarrhoea, fever, and cough for the last two births since January 1995.

Reproductive health: Questions assess various aspects of women's reproductive health and the type of care sought for health problems.

Status of women: The questionnaire asks about women's autonomy, gender roles, and violence against women.

Knowledge of AIDS: Questions assess women's knowledge of AIDS and sources of their knowledge, as well as their knowledge about ways to avoid getting AIDS.

In addition, the health investigator on each survey team measured the height and weight of each woman and each of her children born since January 1995. This height and weight information is useful for assessing levels of nutrition prevailing in the population. The health investigators also took blood samples from each woman and each of her children born since January 1995 to assess haemoglobin levels. This information is useful for assessing prevalence rates of anaemia among women and children. Haemoglobin levels were measured in the field at the end of each interview using portable equipment (the HemoCue) that provides test results in less than one minute. Severely anaemic women and children were referred to local medical authorities for treatment.

For each village selected in the NFHS-2 sample, the Village Questionnaire collected information on the availability of various facilities in the village (especially health and education facilities) and amenities such as electricity and telephone connections. Respondents to the

Village Questionnaire were also asked about development and welfare programmes operating in the village. The village survey included a short, open-ended questionnaire that was administered to the village head, with questions on major problems in the village and actions that could be taken to alleviate the problems.

1.4 Survey Design and Sample Implementation

Sample Size and Reporting Domains

The overall target sample size for Madhya Pradesh was 7,000 completed interviews with eligible women. The NFHS-1 nonresponse rates at the household and individual levels were used to estimate the sample size required to achieve the target number of completed interviews in NFHS-2.

The sample was designed to provide estimates for the state as a whole, for urban and rural areas, and for the seven regions of the state. The sample is not large enough to provide reliable estimates for individual districts. Within a region, the required sampling rates for rural and urban areas were determined by allocating the sample proportionally to the population of the two areas and taking into account their expected nonresponse rates (based on the nonresponse rates in NFHS-1).

The district composition of the seven regions (based on the 45 districts in Madhya Pradesh at the time of the 1991 Census) is as follows:

Region I:	Chattisgarh ³	Bilaspur, Durg, Raipur, Rajnandgaon, Raigarh, Surguja, Bastar
Region II:	Vindhya	Panna, Rewa, Satna, Sidhi, Shahdol Chhatarpur, Tikamgarh
Region III:	Central	Raisen, Sagar, Damoh, Vidisha, Bhopal, Sehore
Region IV:	Malwa Plateau	Dewas, Dhar, Indore, Jhabua, Ujjain, Rajgarh, Ratlam, Mandsaur, Shajapur
Region V:	South Central	Mandla, Jabalpur, Seoni, Narsimhapur, Chhindwara, Balaghat
Region VI:	South Western	Betul, Hoshangabad, East Nimar, West Nimar
Region VII:	Northern	Gwalior, Bhind, Morena, Datia, Guna, Shivpuri

Sample Design

Within each of the 14 sampling domains (rural and urban areas of the seven regions), a systematic, multistage stratified sampling design was used. The rural sample within each region was selected in two stages: the selection of Primary Sampling Units (PSUs), which are villages or groups of villages (in the case of small linked villages), with probability proportional to size (PPS) in the first stage, followed by selection of households using systematic sampling within each selected PSU in the second stage. In urban areas within each region, a three-stage sampling procedure was followed. In the first stage, wards were selected with PPS. From each selected ward, one census enumeration block (CEB) was selected with PPS in the second stage, followed

³The area of the Chattisgarh Region coincides exactly with the area of the new state of Chattisgarh established in 2000. A fact sheet which provides summary information about the new state of Chattisgarh is included in this report.

by selection of households using systematic sampling within each selected CEB in the third stage.

Sample Selection in Rural Areas

In rural areas, the 1991 Census list of villages served as the sampling frame. Within each region, the list was stratified by a number of variables. The first level of stratification was geographic, with districts being subdivided into the seven contiguous regions described above. In each region, villages were further divided into a number of strata considering village size, the percentage of the population designated as scheduled caste or scheduled tribe, and the percentage of males engaged in non-agricultural activities. Table 1.1 provides details of sample stratification in rural areas along with the population of each stratum. The final level of stratification was implicit for all the strata, consisting of an ordering of the villages within each stratum by the level of female literacy (obtained from the 1991 Census Village Directory). From the list of villages within each region arranged in this manner, villages were selected systematically with probability proportional to the 1991 Census population of the village. Small villages with 5–49 households were linked with one or more adjoining villages to form PSUs with a minimum of 50 households. Villages with fewer than five households were excluded from the sampling frame.

The domain sampling fraction, i.e., the probability of selecting a woman (f) in a domain (the rural part of any one of the seven regions) was computed as:

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

where n_i = number of women to be interviewed in the i^{th} domain (after adjusting upward to account for nonresponse and other loss),
 N_i = projected population of eligible women in the i^{th} domain in December 1998.

The probability of selecting a PSU from the domain (f_i) was computed as:

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

where a = number of PSUs to be selected from the domain,
 s_i = population size of the i^{th} PSU within the domain,
 $\sum s_i$ = total population of the domain.

A mapping and household listing operation carried out in each sample area provided the necessary frame for selecting households at the second stage. The household listing operation involved preparing up-to-date notional and layout sketch maps of each selected PSU, assigning numbers to structures, recording addresses of these structures, identifying residential structures, and listing the names of heads of all the households in residential structures in the selected PSUs. Sample villages larger than 500 households were segmented into three or more segments, and two segments were selected randomly using the PPS method. The household listing in these

Table 1.1 Sampling stratification

Sampling stratification procedure in rural areas, Madhya Pradesh

Stratum	Region	Stratification variables			Population ¹
		Village size (number of residential households)	Percentage of population SC/ST	Percentage of males in non- agricultural activities	
1	1	≤ 100	NU	NU	2,489,955
2	1	> 100 and ≤ 200	≤ 55	NU	2,793,080
3	1	> 100 and ≤ 200	> 55	NU	2,445,759
4	1	> 200	≤ 55	≤ 7.5	2,058,721
5	1	> 200	≤ 55	> 7.5	2,316,007
6	1	> 200	> 55	NU	2,443,521
7	2	≤ 100	NU	NU	1,269,680
8	2	> 100 and ≤ 175	≤ 35	NU	935,825
9	2	> 100 and ≤ 175	> 35	NU	1,031,904
10	2	> 175	≤ 35	≤ 7.0	1,192,839
11	2	> 175	≤ 35	> 7.0	1,369,503
12	2	> 175	> 35	≤ 6.0	878,100
13	2	> 175	> 35	> 6.0	783,124
14	3	≤ 90	NU	NU	910,288
15	3	> 90 and ≤ 140	NU	NU	1,056,950
16	3	> 140	≤ 30	≤ 8.0	648,882
17	3	> 140	≤ 30	> 8.0	839,302
18	3	> 140	> 30	NU	917,313
19	4	≤ 100	NU	NU	1,615,364
20	4	> 100 and ≤ 140	NU	NU	1,324,865
21	4	> 140	≤ 40	≤ 7.5	1,631,675
22	4	> 140	≤ 40	> 7.5	1,670,325
23	4	> 140	> 40	NU	1,672,788
24	5	≤ 90	NU	NU	1,098,186
25	5	> 90 and ≤ 180	≤ 50	NU	1,136,834
26	5	> 90 and ≤ 180	> 50	NU	1,314,075
27	5	> 180	≤ 40	≤ 9.0	1,045,042
28	5	> 180	≤ 40	> 9.0	1,118,638
29	5	> 180	> 40	NU	852,015
30	6	≤ 100	NU	NU	826,017
31	6	> 100 and ≤ 175	NU	NU	1,296,195
32	6	> 175	≤ 60	≤ 8.0	864,923
33	6	> 175	≤ 60	> 8.0	916,580
34	6	> 175	> 60	NU	736,426
35	7	≤ 90	NU	NU	823,562
36	7	> 90 and ≤ 200	≤ 30	NU	1,109,164
37	7	> 90 and ≤ 200	> 30	NU	893,493
38	7	> 200	≤ 30	≤ 5.0	884,615
39	7	> 200	≤ 30	> 5.0	796,136
40	7	> 200	> 30	NU	723,892
Total	NA	NA	NA	NA	50,816,712

Note: The level of female literacy is used for implicit stratification.

SC: Scheduled caste

ST: Scheduled tribe

NA: Not applicable

NU: Not used for stratification

¹The population shown is the 1991 Census population, excluding persons living in villages with fewer than five households.

PSUs was carried out only in the selected segments. The household listing operation was done by nine teams, each comprising one lister and one mapper, under the supervision of three field supervisors and three field executives. The teams were trained from 9–10 September 1998 in Bhopal by an official from CPDS, Hyderabad, who was earlier trained in a workshop conducted by IIPS. The mapping and household listing operation was carried out between September 1998 and January 1999. The households to be interviewed were selected with equal probability from the household list in each area using systematic sampling.

The probability of selecting a household from a selected PSU (f_2) in the domain (the rural part of any one of the seven regions) was computed as:

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

On average, 30 households were initially targeted for selection in each selected enumeration area. To avoid extreme variations in workload, minimum and maximum limits were put on the number of households that could be selected from any area, at 15 and 60, respectively. All the selected households were visited during the main survey, and no replacement was allowed if a selected household was absent during data collection. However, if a PSU was inaccessible, a replacement PSU with similar characteristics was selected by IIPS and provided to the field organization.

Sample Selection in Urban Areas

The 1991 Census list of urban wards in each region was arranged according to districts and within districts by the level of female literacy, and a sample of wards was selected systematically with probability proportional to population size. Next, one census enumeration block (CEB), consisting of approximately 150–200 households, was selected from each selected ward using the PPS method. As in rural areas, a household listing operation was carried out in the selected CEBs, and, on average, 30 households per block were targeted for selection.

The domain sampling fraction, i.e., the probability of selecting a woman (f) in a domain (the urban part of any one of the seven regions) was computed as:

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

where n_i = number of women to be interviewed in the i^{th} domain (after adjusting upward to account for nonresponse and other loss),
 N_i = projected population of eligible women in the i^{th} domain in December 1998.

The probability of selecting a ward (f_1) was computed as:

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

where a = number of wards selected from the domain,
 s_i = population size of the i^{th} ward within the domain,
 Σs_i = total population of the domain.

The probability of selecting a CEB from a selected ward (f_2) was computed as:

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

where B_i = population size of the i^{th} block,
 $\sum B_i$ = total population of the ward.

A household listing operation carried out in each selected block provided the necessary frame for selecting households in the third stage of sample selection. The probability of selecting a household from a selected CEB (f_3) was computed as:

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

Sample Weights

Sample weights for households and women have been calculated to adjust for the effect of differential nonresponse in different geographical areas. The method of calculating the weights is specified below.

Let R_{Hi} and R_{Wi} be the households' and eligible women's response rates, respectively. Then the household weight w_{Hi} is calculated as follows:

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

where w_{Di} = the design weight for the i^{th} domain (rural or urban part of each of the seven regions), calculated as the ratio of the overall sampling fraction ($F = n/N$) and the sampling fraction for the i^{th} domain ($f = n_i/N_i$). Note that $n = \sum n_i$ and $N = \sum N_i$.

An eligible woman's weight w_{Wi} is calculated as follows:

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

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 weights for households and eligible women are:

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

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

where n_i refers to the actual number of cases (households or eligible women) interviewed in the i th domain.

For the tabulations on anaemia and height/weight for women and children, two separate sets of weights were calculated using a similar procedure. In this case, however, the response rates for anaemia (for both women and children) are based on the percentage of eligible women whose haemoglobin level was measured, and the response rates for height/weight (for both women and children) are based on the percentage of eligible women whose height or weight was measured.

Sample Implementation

A total of 233 PSUs were selected, of which 56 (24 percent) were urban and 177 (76 percent) were rural. Table 1.2 shows response rates for households and individuals and reasons for nonresponse. Nonresponse can occur at the stage of the household interview or at the stage of the woman's interview. The last row of the table shows the overall effect of nonresponse at the two stages. The survey achieved a high overall response rate of 95 percent. The response rate does not differ substantially by rural-urban residence nor by region (Table 1.3), except in the Vindhya Region where, at 97 percent, the response rate was higher than for any other region.

Of the 7,111 households selected in Madhya Pradesh, interviews were completed in 95 percent of the cases, 2 percent did not have a competent respondent at home, 1 percent of the selected households were absent for an extended period, and 1 percent were found to be vacant (Table 1.2). The household response rate—the number of households interviewed per 100 occupied households—was 98 percent.

In the interviewed households, 7122 women were identified as eligible for the individual interview. Interviews were successfully completed with 98 percent of the eligible women. Nonresponse at the individual level was primarily due to eligible women not being at home despite repeated household visits. Less than one-half of one percent of eligible women refused to be interviewed.

1.5 Recruitment, Training, and Fieldwork

Field staff for the main survey were trained in Jabalpur. The training was conducted by officials of CPDS who were trained earlier in a Training of Trainers Workshop conducted by IIPS. The training in Madhya Pradesh consisted of classroom training, general lectures, and demonstration

Table 1.2 Sample results						
Sample results for households and ever-married women age 15–49, by residence, Madhya Pradesh, 1998–99						
Result	Urban		Rural		Total	
	Number	Percent	Number	Percent	Number	Percent
Households selected	1,905	100.0	5,206	100.0	7,111	100.0
Households completed (C)	1,799	94.4	4,950	95.1	6,749	94.9
Households with no household member at home or no competent respondent at home at the time of interview (HP)	43	2.3	108	2.1	151	2.1
Households absent for extended period (HA)	19	1.0	60	1.2	79	1.1
Households postponed (P)	0	0.0	0	0.0	0	0.0
Households refused (R)	8	0.4	8	0.2	16	0.2
Dwelling vacant/address not a dwelling (DV)	32	1.7	69	1.3	101	1.4
Dwelling destroyed (DD)	2	0.1	10	0.2	12	0.2
Dwelling not found (DNF)	2	0.1	1	0.0	3	0.0
Other (O)	0	0.0	0	0.0	0	0.0
Households occupied	1,852	100.0	5,067	100.0	6,919	100.0
Households interviewed	1,799	97.1	4,950	97.7	6,749	97.5
Households not interviewed	53	2.9	117	2.3	170	2.5
Household response rate (HRR) ¹	NA	97.1	NA	97.7	NA	97.5
Eligible women	1,883	100.0	5,239	100.0	7,122	100.0
Women interviewed (EWC)	1,829	97.1	5,112	97.6	6,941	97.5
Women not at home (EWNH)	34	1.8	85	1.6	119	1.7
Women postponed (EWP)	0	0.0	0	0.0	0	0.0
Women refused (EWR)	10	0.5	21	0.4	31	0.4
Women partly interviewed (EWPC)	8	0.4	6	0.1	14	0.2
Other (EWO)	2	0.1	15	0.3	17	0.2
Eligible women's response rate (EWRR) ²	NA	97.1	NA	97.6	NA	97.5
Overall response rate (ORR) ³	NA	94.4	NA	95.3	NA	95.1

Note: Eligible women are defined as ever-married women age 15–49 who stayed in the household the night before the interview (including both usual residents and visitors). This table is based on the unweighted sample; all subsequent tables (except Table 1.3) are based on the weighted sample unless otherwise specified.
NA: Not applicable
¹Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

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

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

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

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

$$\text{ORR} = \frac{\text{HRR} \times \text{EWRR}}{100}$$

and practice interviews, as well as field practice and additional training for field editors and supervisors. Health investigators attached to interviewing teams for height and weight measurements and anaemia testing were given additional specialized training on measuring height and weight and testing for anaemia in a centralized training programme conducted by IIPS in collaboration with the All India Institute of Medical Sciences (AIIMS), New Delhi. This specialized training took place in New Delhi. It included not only classroom training but also extensive field practice in schools, *anganwadis*, and communities.

Table 1.3 Sample results by region								
Sample results for households and ever-married women age 15–49, by region, Madhya Pradesh, 1998–99								
Result	Region							Total
	Chattisgarh	Vindhya	Central	Malwa Plateau	South Central	South Western	Northern	
Number of households interviewed	977	1,091	952	902	957	919	951	6,749
Number of eligible women interviewed	942	1,100	943	964	914	969	1,109	6,941
Household response rate	97.5	99.2	96.4	96.9	98.2	97.0	97.4	97.5
Eligible women's response rate	96.8	97.9	97.6	97.9	97.1	97.9	97.0	97.5
Overall response rate	94.4	97.1	94.1	94.8	95.3	95.0	94.5	95.1

Note: Eligible women are defined as ever-married women age 15–49 who stayed in the household the night before the interview (including both usual residents and visitors). This table is based on the unweighted sample.

Eight interviewing teams conducted the main fieldwork, each team consisting of one field supervisor, one female field editor, four female interviewers, and one health investigator. The fieldwork was carried out between 26 November 1998 and 24 April 1999. The coordinators and senior staff of CPDS monitored and supervised the data collection operations. IIPS also appointed one research officer to help with monitoring throughout the training and fieldwork period in order to ensure that correct survey procedures were followed and data quality was being maintained. From time to time, project coordinators, senior research officers, and other faculty members from IIPS, as well as staff members from ORC Macro and the East-West Center, visited the field sites to monitor the data collection operation. Medical health coordinators appointed by IIPS monitored the nutritional component of the survey. Field data were quickly entered into microcomputers and field-check tables were produced to identify certain types of errors that might have occurred in eliciting information and filling out questionnaires. Information from the field-check tables was fed back to the interviewing teams and their supervisors so that they could improve their performance.

1.6 Data Processing

Completed questionnaires were sent to the office of CPDS in Hyderabad for data processing, which consisted of office editing, coding, data entry, and machine editing using the Integrated System for Survey Analysis (ISSA) software. Data entry was done by six operators under the supervision of senior staff at CPDS who were trained at a data-processing workshop in Hyderabad. Data-entry and editing operations were completed by April 1999. Tabulations for the preliminary report as well as for this final report were done at IIPS in Mumbai.