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# Operations Research

**Review of Family Planning  
in Uttar Pradesh:  
A Synthesis**

M.E. Khan  
Bella C. Patel

**WORKING PAPERS**

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8

This is the **third** of a series of working papers covering Operations Research activities conducted with assistance from the Population Council's Asia and Near East Family Planning Operations Research and Technical Assistance Project. The previous two dealt with Indonesia; this focuses on India. It tries to get findings circulated early among managers and researchers who can use them to improve family planning services. The ANE OR/TA Project is funded by the U.S. Agency for International Development, Office of Population, under contract No. DPE-3030-Q-00-0023-00, Strategies for Improving Family Planning Delivery Service.

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PN-ABZ-301

***REVIEW OF FAMILY PLANNING IN UTTAR PRADESH***

***A Synthesis Paper***

***M. E. Khan and Bella C. Patel***

***The Population Council, India***

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## ABSTRACT

A 1993 review of the state of the family welfare program in the State of Uttar Pradesh (U.P.) India. With 139 million people, U.P. is larger than all but six countries in the world. This synthesis of previous studies and recent Census and other existing data provides:

- (1) a socio-economic and demographic profile with emphasis on fertility and mortality;
- (2) a review of family size and family planning preferences;
- (3) an evaluation of the performance of the family welfare services in place;
- (4) an assessment of family planning IEC programs; and
- (5) a review of the extent of involvement of NGO's and the organized sector in the family welfare program.



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## INTRODUCTION

This report prepared in 1993 presents a review of the family welfare program in the state of Uttar Pradesh. As the most populous state in India, UP has a direct bearing on the national demographic scenario. The present report, based on the available statistics and studies, has been prepared by the Population Council, India. This synthesis of findings will provide useful background material both for the Ministry of Health and Family Welfare and donor agencies, for planned activities in U.P.

This review aims to provide a detailed description of what is already known about the family planning program in UP. Information is included on contraceptive use, sources of services, accessibility of services, IEC activities, and programs in the private and NGO sectors. The material presented is based on data from independent surveys and government statistics.

The review is organized into five chapters. The first chapter contains a profile of Uttar Pradesh, including demographic statistics on the state's population and socio-economic indicators and fertility and mortality data. The second chapter examines family size preferences and use of family planning. The third chapter examines the performance of the family welfare program currently in place in UP. The fourth looks at the IEC activities under the family planning program. The fifth and final chapter reviews available information on involvement of NGOs and the organized sector in the family welfare program.

# 1. UTTAR PRADESH: SOCIO-ECONOMIC AND

## DEMOGRAPHIC PROFILE

### Overview

Uttar Pradesh, located in the north of India, is bordered on the north by Himachal Pradesh, Tibet (China) and Nepal, on the east by Bihar, on the south by Madhya Pradesh, and on the west by Rajasthan, Haryana and Delhi. It is the second largest state in the country, spread over 29.4 million hector acres. In terms of population, Uttar Pradesh is the most populous state.

This chapter provides a demographic profile of Uttar Pradesh, comparing its population size, distribution, and growth rate with the rest of India. Other socio-economic indicators are also examined, which show UP to be one of the poorest and least developed states in the country. Besides, fertility and mortality has also been briefly reviewed.

### *Population Size*

According to the 1991 Census, on March 1, 1991 the population of Uttar Pradesh was 139 million. In terms of population, UP is larger than all but 6 countries in the world; it is home to every 22nd person in the developing world (excluding China) and every 39th person worldwide. This state is important, therefore, not only for the population stabilization of India, but also for the developing world as a whole.

Figure one compares the population of Uttar Pradesh with that of India since 1951. During 1951-91 period while UP population increased by 120 per cent, India's population registered an increase of 134 per cent. (Figure 1.1)

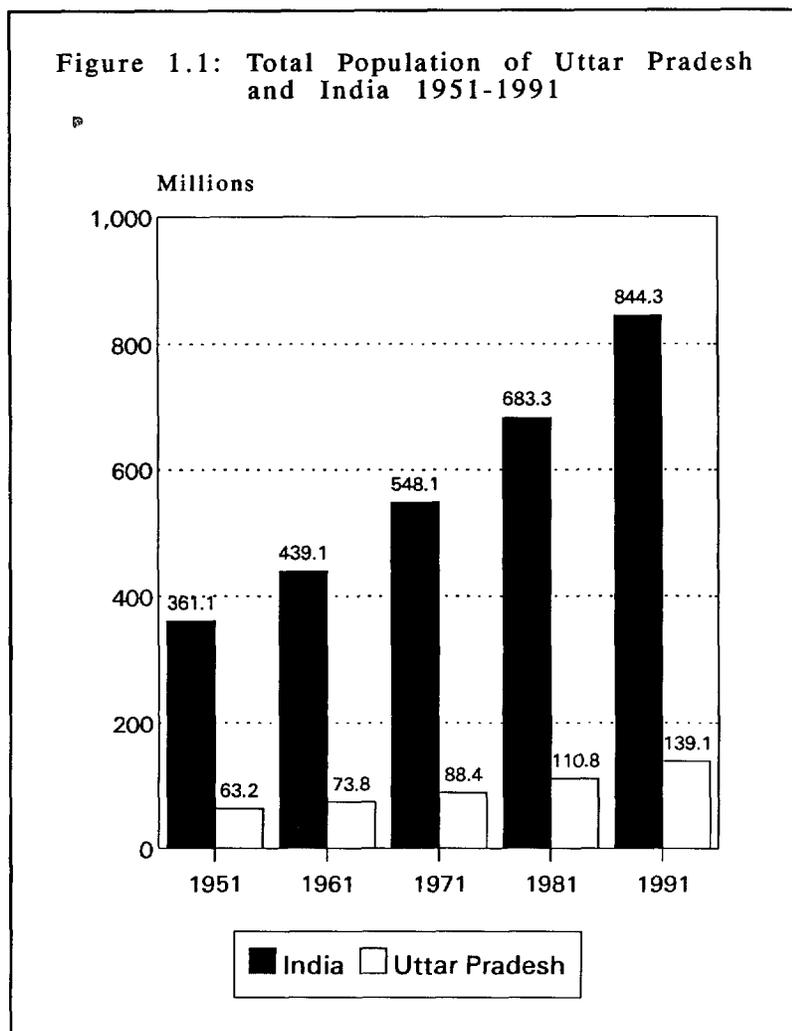
### ***Population Distribution***

The state of Uttar Pradesh is divided into 63 administrative districts, 895 blocks and 112,568 villages. Almost half of the villages in UP have a population of less than 500 (Table 1.1). The average population of districts in Uttar Pradesh is about 2.2 million, which is considerably higher than the national average of 1.8 million.

**Table 1.1: Population distribution by districts, blocks and villages**

<u>Number of:</u>	<b>India</b>	<b>U.P.</b>
Districts (1991)	452	63
Blocks	5,143	895
Villages	588,651	112,568
Average population per district (000's) (1991)	1,867	2,203
Percent villages with population less than 500 (1981)	48.6	47.3
Density of population per sq. km. (1991)	257	471

## Population Growth



The average annual population growth rate in Uttar Pradesh increased consistently from 1951 to 1981 (Table 1.2). From 1981-91, the decadal growth rate and average annual growth rate declined slightly. The current population growth rate in the state is 2.24 per cent, which is still higher than the national population growth rate of 2.11 per cent.

**Table 1.2: Population growth rate (1951-91)**

	1951 -61	1961 -71	1971 -81	1981- 91	Difference in growth rate
India	21.5	24.8	24.7	23.5	*- 1.2 *
Uttar Pradesh	16.7	19.8	25.5	25.2	- 0.3 *
Average annual growth rate of UP (Percent)	1.54	1.79	2.29	2.24	

\* Difference in growth rate in last two decades

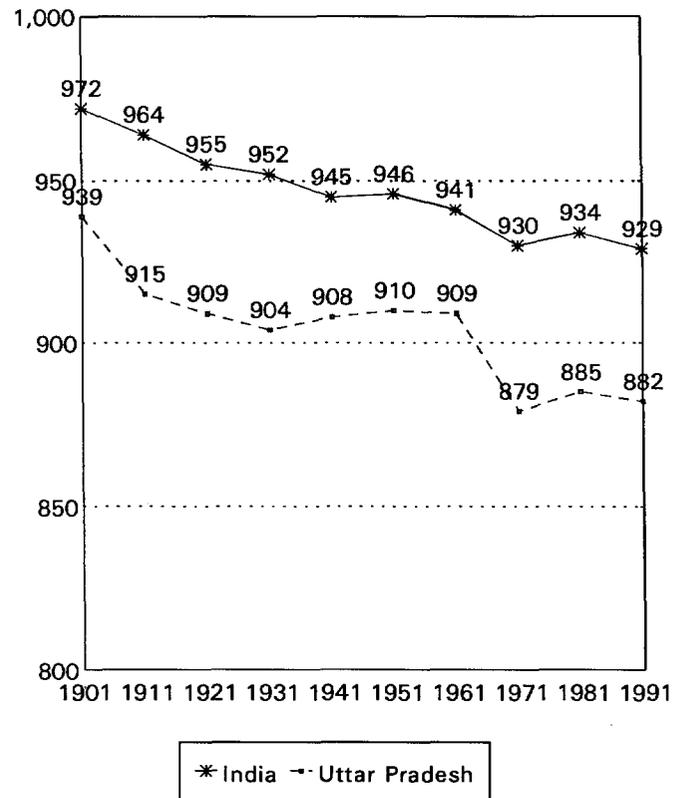
*Source: Census of India, 1991*

### **Sex Ratio**

Historically, the sex ratio in India has been highly unfavorable to females (Figure 1.2). The sex ratio in UP is significantly below the national average, and has declined continuously since 1901, except for slight rises in 1951 and 1981. This indicates that during each successive decade, a larger number of women than men in UP lost their lives, because of various reasons including the lack of accessible health care services (Khan, Anker, Dastidar and Bairathi, 1989; Khan and Patel, 1990; Srivastava and Saxena, 1983) and the negligence of family members (Khan, et. al., 1989).

Studies show that the gender gap in terms of survival is greatest during the first five years of life, when mortality is highest. For this age group, the gap is about 20 times greater than the gap observed in the other five-year age groups, and every sixth death is specifically a result of gender discrimination (World Bank, 1991).

Figure 1.2: Sex Ratio in Uttar Pradesh and India  
1901-1991



Source: Census of India, 1991

### Age Composition

According to the 1981 Census, the age composition of Uttar Pradesh differs from that of the country as a whole in two respects: its child population (population below 15 years of age) is 2 percentage points higher than the national average (41.5 % in UP as compared to 39.6 % in India); and its young adult population is below the national average by 2-3 percentage points. The first of these statistics indicates higher fertility and a younger population, and the second indicates a higher net out migration of young adults from the state.

## Literacy

There is a wide educational gap between Uttar Pradesh and the rest of the country. The literacy level in Uttar Pradesh (55.4 per cent) is significantly below the national level (63.9 per cent). This difference is even greater when literacy levels are examined by gender; while nearly 40 per cent of women in India are literate, female literacy in UP is only 26 per cent (see Figure 1.3). *It is estimated that it will take approximately 15-20 years to raise female literacy in UP to the national level.*

An analysis of the 1991 Census shows considerable variation in female literacy between districts within the state. The districts in UP show strikingly different levels of female literacy, ranging between less than ten per cent to more than 50 per cent (Table 1.3).

**Table 1.3: Distribution of districts by level of female education (1991)**

Percent females literate	< 10	10-19	20-34	35-50	50 +
<b>Uttar Pradesh</b>					
No. of districts (N = 63)	4	26	28	4	1
% of districts	6.3	41.3	44.4	6.4	1.6
<b>India</b>					
No. of districts (N = 452)	11	101	171	115	54
% of districts	2.4	22.3	37.8	25.4	11.9

*Source: Census of India, 1991*

## Economic Profile

The state of UP ranks below the national average on most economic indicators (Table 1.4). In 1984, for example, 45 per cent of the population of Uttar Pradesh was living below the poverty line, compared to 37 per cent in the country as a whole. Similarly, for the year 1985-86, per capita income at constant 1970-71 prices was estimated to be Rs 598 in UP, as compared to a national average of Rs 798. Although the state per capita income is increasing slowly, the gap between the state and the national average is widening. In 1970-71, the difference between the per capita income of the state and the national average was Rs 147; by 1985-86, this difference had increased to Rs 200.

A review of the labor force statistics shows that according to the 1991 Census, 32.3 per cent of the state population participate

in the labor force: 49.4 per cent of men and 12.9 per cent of women. Across all of India, 37.6 per cent of the population were reported to be working: 51.5 per cent of men and 22.7 per cent women. There is a wide gap between male and female labor force participation rates, both at the national and the state level. The gap is much wider at the state level, reflecting the low status of women, and the commonly held belief that women should not work for wages or income.

Industrialization in Uttar Pradesh is low as only 10.6 per cent of the total employed in organized sector, work in Uttar Pradesh. Similarly, of the total invested capital in India only 10.1 percent comes from Uttar Pradesh (Table 1.4). Similarly, of the total work force employed in the organized sector, 20.4 per cent in Uttar Pradesh as against 28.8 at the national level work in private organizations. This indicates that the growth of the private sector in UP is significantly lower than the national average.

**Table 1.4: Selected economic indicators of India and Uttar Pradesh**

	India	Uttar Pradesh
<b>Proportion of population below the poverty line (1984)</b>		
Total	37.4	45.3
Rural	40.4	46.5
<b>Per capita income at constant 1970-71 prices</b>		
1970 - 71	633	486
1975 - 76	663	474
1980 - 81	698	519
1985 - 86	798	598
<b>Work Force (1991)</b>		
<b>Total</b>	37.6	32.3
<b>Male</b>		
Total worker	51.5	49.4
Main worker	50.5	48.7
Marginal worker	1.0	0.7
<b>Female</b>		
Total worker	22.7	12.9
Main worker	16.4	8.3
Marginal worker	6.3	4.6
<b>Employment in organized sector ('000s)</b>		
Public	18326.1	2109.1
Private	7422.2	541.9
Percentage in private	28.8	20.4
<b>Share in total organized sector with respect to (1985)</b>	*	
Employment	100.0	10.6
Invested capital	100.0	10.1
Gross output	100.0	7.6
<b>Rural Electrification (1985)</b>		
Proportion of villages electrified	64.0	56.0
Proportion of households electrified		
Rural	14.7	4.0
Urban	62.5	54.6

\* Total of national level is taken as 100 per cent

**Table 1.5: The five regions of Uttar Pradesh by number of districts and population size**

Region	No. of districts	Population (million)	Percentage of total population of UP
Hill	8	5.88	4.2
Western	21	49.38	35.6
Central	10	24.20	17.4
Eastern	19	52.88	37.9
Bundelkhand	5	6.72	4.9

### *Regional Variations*

Geographically, Uttar Pradesh is divided into five regions (Table 1.5). The Western and Eastern regions together contain about two thirds of the total state population. The fertility behavior of these two regions will be crucial, therefore, in terms of the demography of the state as a whole. According to the 1981 Census, the Hill region has the lowest birth rate (36.8 per thousand), and the lowest infant mortality rate (90 deaths per 1,000 live births). The Western region has the highest birth rate (CBR 40.3), followed by the Eastern region (CBR 39.9), Bundelkhand (CBR 38.3), and the Central region (CBR 38.3).

Economically, the Western region is the most developed (per capita income Rs 1,365 in 1986-87), while the Eastern region is the least developed (per capita income Rs 905 in 1986-87) (Table 1.6). Female literacy is highest in the Hill region (35.7 per cent), followed by the Central region (24.1 per cent), the Western region (21.7 per cent), and Bundelkhand (19.5 per cent). The Eastern region has the lowest level of female literacy (17.5 per cent).

Within each region, there are wide variations in the social, economic, and demographic indicators between districts. For example, in the Hill region, which has the highest level of female literacy, the rate ranges from 19.1 per cent in the Uttarkashi district to 49.8 per cent in the Dehradun district. In the Eastern region, which has the lowest female literacy rate, it ranges from a mere 8.8 per cent in the Maharajganj district to 23.7 per cent in the Varanasi district. Based on the 1981 census results, thirty-two districts in Uttar Pradesh (with CBR of 39 or more) have been identified by the MOH & FW for special input to promote the family welfare program. Nine of these are in the Eastern region, 16 in the Western region, three in the Central region, two in the Hill region, and the remaining two in the Bundelkhand region. The specific situation in each district must be taken into account when developing program interventions.

Table 1.6: Socio-Economic Data, Uttar Pradesh, Districtwise

Sr. No.	District/Region	% Muslims 1981	% SC & ST 1981	% Urban to Total Population 1981	Crude Literacy Rate 1991**			Per Capita Income at Current Prices 1986-87 (Rs.)	No. of Schools Per Lakh Population 1986-87	Female Work Participation Rate (Main Workers 1991)	% Villages electrified to total Inhabited Villages (1985-86)	% Villages with drinking water facility to the total inhabited villages (1985-86)	Length of Pacca Road per Lakh Population (1985-86)	No. of Hospitals Disp. per Lakh Population (1986-87)
					T	M	F							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Uttarkashi	0.4	22.8	7.2	38.1	55.7	19.1	1978	260	45.1	64.0	85.6	349	15.8
2	Chamoli	0.4	19.8 *	8.4	48.6	63.8	34.2	1292	238	40.5	50.0	86.5	245	16.9
3	Tehri Garhwal	0.5	12.8	5.7	39.1	57.5	21.9	857	215	35.1	14.9	74.1	211	12.2
4	Dehradun	8.3	21.9 *	50.7	58.6	66.0	49.8	1039	116	9.8	79.3	89.4	158	11.9
5	Pauri Garhwal	2.1	11.9	12.2	53.7	66.8	42.0	1148	245	24.7	33.0	54.9	273	18.0
6	Pithoragarh	0.4	22.9 *	7.5	47.5	63.5	32.0	1467	223	36.1	32.0	77.9	n.a.	15.6
7	Almora	0.6	20.9	5.8	47.5	63.0	33.4	1033	207	38.9	56.3	76.9	234	13.3
8	Nainital	12.6	23.0 *	31.5	45.4	54.4	35.2	1971	113	12.1	80.0	99.2	173	9.1
Hill Region 8 Districts		3.2	19.4	21.5	48.4	60.8	35.7	1378	177	25.5	51.2	80.5	205	13.1
9	Agra	11.0	22.2	40.6	40.0	52.4	25.1	877	65	3.8	71.1	76.6	50	2.1
10	Mainpuri	5.1	18.4	13.3	40.0	51.3	26.5	1110	87	1.4	67.0	64.8	52	2.5
11	Firozabad	n.a.	n.a.	26.6	37.3	48.4	24.0	n.a.	n.a.	2.1	n.a.	n.a.	n.a.	n.a.
12	Aligarh	13.2	22.5	52.2	36.0	48.1	21.6	1292	67	3.3	n.a.	25.9	n.a.	8.9
13	Bareilly	27.1	12.5	32.6	26.6	35.2	16.5	1144	70	1.8	61.8	46.8	37	2.5
14	Badaun	19.1	16.8	17.7	19.5	27.1	10.1	1317	75	1.8	60.4	64.2	39	2.6
15	Bulandshahar	19.4	21.4	21.0	36.1	49.7	20.2	1250	61	3.6	100.0	41.8	39	2.0
16	Etah	10.4	17.1	16.8	31.7	42.9	18.2	1300	77	1.8	56.6	24.5	56	2.1
17	Etawah	6.3	25.4	15.8	43.6	54.0	31.2	1036	91	1.9	49.9	69.3	44	2.5
18	Farrukhabad	12.6	17.4	18.8	38.6	48.7	26.5	1094	77	3.1	69.0	54.6	40	2.1
19	Mathura	6.4	19.6	23.5	35.3	50.1	17.4	2184	76	3.8	80.8	81.7	n.a.	2.8
20	Meerut	25.3	16.8	37.1	41.3	51.7	29.2	1894	62	4.3	100.0	6.7	34	1.9
21	Ghaziabad	21.2	19.7	46.4	43.7	53.3	32.2	2133	46	3.9	46.0	16.9	84	2.4
22	Muradabad	38.1	17.1	27.5	24.9	33.3	15.1	989	58	2.8	74.0	31.2	32	1.9
23	Pilibhit	21.1	17.1	18.5	25.5	35.5	13.8	1415	74	1.9	50.7	74.0	59	2.5
24	Rampur	47.2	13.1	26.2	19.9	26.8	11.9	763	61	3.1	62.0	53.8	48	2.6
25	Muzaffarnagar	28.7	14.8	23.9	35.3	45.5	23.5	1647	63	5.9	99.0	7.1	40	1.8
26	Saharanpur	31.6	22.0	25.4	33.6	43.2	22.4	1806	61	2.6	77.0	12.9	41	2.5
27	Bijnor	39.4	20.5	25.2	31.9	41.8	20.7	1524	63	2.5	60.8	22.6	61	2.1
28	Shajahanpur	39.4	20.5	20.8	31.9	41.8	20.7	1524	63	1.7	60.8	22.6	61	2.1
29	Haridwar	n.a.	n.a.	31.1	39.2	48.6	28.1	n.a.	n.a.	3.1	n.a.	n.a.	n.a.	n.a.
Western Region (21 District)		21.0	8.5	26.4	34.4	45.2	21.7	1365	69	3.2	64.7	42.7	47	2.2
30	Banda	5.5	23.6	12.8	28.7	41.6	13.4	1296	88	18.7	50.0	86.9	71	3.8
31	Hamirpur	6.1	24.6	17.4	32.2	45.1	16.8	1471	86	12.4	n.a.	77.9	n.a.	3.2
32	Jalaun	8.2	27.1	32.1	41.3	54.4	25.6	1097	113	6.9	53.3	86.2	80	3.2
33	Jhansi	8.4	28.7	39.7	42.7	55.4	28.0	1559	86	10.2	n.a.	90.2	n.a.	3.1
34	Lalitpur	2.1	24.4	14.2	25.4	35.9	13.8	1003	99	10.0	32.0	90.0	100	4.2

Contd.....

Table: 1.6 (Contd.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Bundelkhand Region (5 District)		6.1	25.7	21.3	34.4	47.0	19.5	1321	93	12.5	45.1	86.2	84	3.5
35	Barabanki	20.4	27.7	9.3	26.3	36.4	14.5	1105	81	9.8		53.3	n.a.	2.5
36	Fatehpur	12.9	23.8	9.0	37.2	49.0	23.9	961	76	12.1	66.4	44.6	46	2.6
37	Hardoi	10.8	29.9	11.8	29.5	40.4	16.1	854	79	3.4	39.7	42.7	43	1.9
38	Kanpur (Nagar)			85.0	58.8	64.5	51.9			5.1	74.0	25.0	9	3.3
								) 1121	) 62					
39	Kanpur (Dehat)	12.5	19.8	5.7	41.5	51.8	29.3			5.4	37.0	n.a.	48	n.a.
40	Kheri			10.7	26.1	36.0	14.4	1111	76	4.1	54.7	73.7	50	2.6
41	Lucknow	16.5	27.5	62.3	51.2	61.3	39.3	999	64	6.9	87.0	36.7	34	4.3
42	Ree Bareilly	19.7	23.8	9.1	31.2	43.4	18.1	1111	68	11.9	100.0	84.3	54	2.4
43	Sitapur	10.2	29.5	12.0	25.3	34.9	13.8	955	83	4.2	34.7	88.2	36	2.1
44	Unnao	17.6	31.0	13.6	31.5	41.7	19.9	794	91	6.8	n.a.	22.5	n.a.	2.4
		10.7	30.2											
Central Region (10 Districts)		14.6	26.8	23.9	35.8	45.9	24.1	1012	79	7.3	61.6	46.8	40	2.8
45	Allahabad	12.8	24.5	21.0	33.8	47.3	18.5	1194	57	15.7	73.5	70.2	46	2.8
46	Azamgarh	14.0	24.8	7.2	31.4	44.3	18.6	959	56	9.3	76.0	29.0	40	2.5
47	Bahraich	25.0	16.8	7.9	20.0	29.2	9.1	649	70	6.1	53.5	98.7	42	2.3
48	Ballia	5.3	15.4	10.0	36.0	49.0	22.4	723	79	10.4	71.2	67.3	39	3.3
49	Basti	20.4	20.0	6.4	29.8	42.0	16.5	588	134	8.7	36.0	62.0	31	1.0
50	SidharthNagar	n.a.	n.a.	3.5	22.3	33.2	10.5	n.a.	n.a.	12.0	n.a.	n.a.	n.a.	n.a.
51	Deoria	20.7	17.4	7.4	29.9	43.9	15.5	844	69	9.7	54.8	52.3	31	2.0
52	Faizabad	12.5	24.2	11.7	33.8	45.7	20.9	798	70	10.4	56.0	29.6	34	2.1
53	Ghazipur	10.1	20.6	7.2	34.4	48.1	20.1	997	64	10.0	99.0	57.8	40	2.9
54	Gonda	22.5	15.8	7.7	22.6	32.8	10.8	552	77	10.2	49.0	39.7	39	1.9
55	Gorakhpur	10.8	21.6	18.4	34.3	47.5	20.1	804	57	9.2	54.0	48.6	29	2.0
56	Maharajganj	n.a.	n.a.	4.9	23.4	36.8	8.8	n.a.	n.a.	16.1	n.a.	n.a.	n.a.	n.a.
57	Jaunpur	8.3	21.4	6.9	33.9	49.3	18.4	695	62	8.7	79.8	53.6	41	1.9
58	Mirzapur	5.4	32.5	13.8	31.3	42.9	17.9	1638	81	14.3	30.4	77.9	62	3.2
59	Sonbhadra	n.a.	n.a.	13.5	27.4	38.0	15.1	n.a.	n.a.	22.5	n.a.	n.a.	n.a.	n.a.
60	Pratapgarh	10.9	21.6	5.6	33.1	48.3	17.8	775	70	13.3	n.a.	25.1	n.a.	2.2
61	Sultanpur	12.9	23.1	4.5	32.0	45.1	18.0	941	87	10.6	74.8	50.5	47	2.4
62	Varanasi	10.4	18.1	27.2	38.2	51.2	23.7	989	52	11.0	59.0	72.5	35	2.0
63	Mau	n.a.	n.a.	17.2	34.9	46.9	22.5	n.a.	n.a.	11.4	n.a.	n.a.	n.a.	n.a.
Eastern Region (19 Districts)		12.5	21.1	12.6	31.2	43.9	17.5	905	69	11.1	62.8	55.6	40	2.4
Uttar Pradesh		15.9	21.4	17.9	33.8	45.1	20.9	1114	78	8.2	60.0	54.5	51	2.9

\* Districts having more than 2% S.T. Population.

\*\* Where

Number of literate

Crude Literacy Rate= ----- X 100

Total population (inclusive of 0-6) age group)

Source : Misra, 1991.

### ***Fertility and Mortality:***

A review of SRS fertility and mortality estimates for the state of Uttar Pradesh shows a much higher fertility level than the national average. Furthermore, fertility is declining very slowly, which indicates that the family planning program is having only marginal success in reducing the birth rate.

Both the death rate and the infant mortality rate in UP have declined over time, and the gap between UP and the rest of the country has also been reduced.

### ***Fertility***

#### ***Birth Rate***

The Census Sample Registration Survey (SRS) estimates of the birth rate in Uttar Pradesh for the period 1951-1990 are compared to national figures in Table 1.7. Prior to 1951, separate estimates for Uttar Pradesh were not available.

**Table 1.7: Birth Rate (1951-1961 to 1990)**

	1951-61	1961-71	1971-81	1980	1985	1990
UP	42	42	45	39.5	38	35.6
India	44	42	37	33.7	32	30.2
Difference	-2	0	8	5.8	6	5.4

**Source: SRS, 1991**

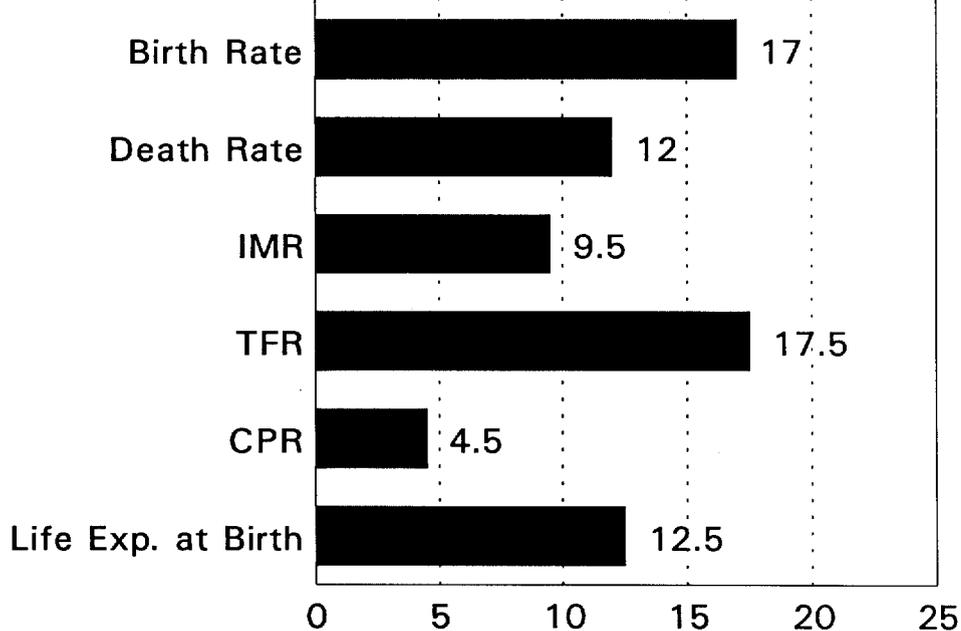
The birth rate in Uttar Pradesh was identical to the national birth rate during 1961-71, but since 1961 the birth rate in India has declined at a faster rate. There is now a substantial difference between the birth rate in Uttar Pradesh and the national rate; it is estimated that the state's birth rate is lagging behind the rest of the country by about 15 years (see Figure 1.3).

Figure 1.3: Uttar Pradesh: Years Behind National Average

a. Social



b. Demographic



### **Total Fertility Rate (TFR)**

The TFR is often thought to be a better and more refined measure of fertility. The latest available TFR estimates show that in 1988, the TFR of Uttar Pradesh was about 5.4 (Table 1.8). The TFR in Uttar Pradesh is consistently higher than the national average, by an average of 1.3 children. This gap has not narrowed over time. This suggests that while improvements in the family welfare program are necessary, concomitant social change, in particular increasing female literacy and female participation in the paid labor force, is also required to accelerate the rate of fertility decline in UP.

**Table 1.8: Total Fertility Rate**

	1980			1985			1988		
	R	U	T	R	U	T	R	U	T
Uttar Pradesh	6.1	4.4	5.8	5.9	4.5	5.7	5.6	4.2	5.4
India	4.7	3.4	4.4	4.6	3.3	4.3	4.3	3.1	4.0
Difference	1.4	1.0	1.4	1.3	1.2	1.4	1.3	1.1	1.4

R = Rural

U = Urban

T = Total

### **Cumulative Fertility**

A majority of the sample surveys carried out by the research institutions are small and cover only a few districts. The only exceptions are the Third All India Family Planning Survey conducted by ORG in 1989 and the National Family Health Survey (NFHS), field work of which is currently in progress. According to ORG survey as well as other major studies, the average number of live births in rural UP range from 3.4 to 3.7. The average is approximately 3.3 in urban centers and 3.5 for the state as a whole (ORG, 1990). The mean of number of living children in UP ranges from 2.7 to 2.9, indicating that 20 per cent of the children born do not survive.

The results of NFHS will be available in a few months. The large sample size (12,000 currently married women) should permit more precise estimate of demographic and health indicators for 1992 - 93.

## ***Mortality***

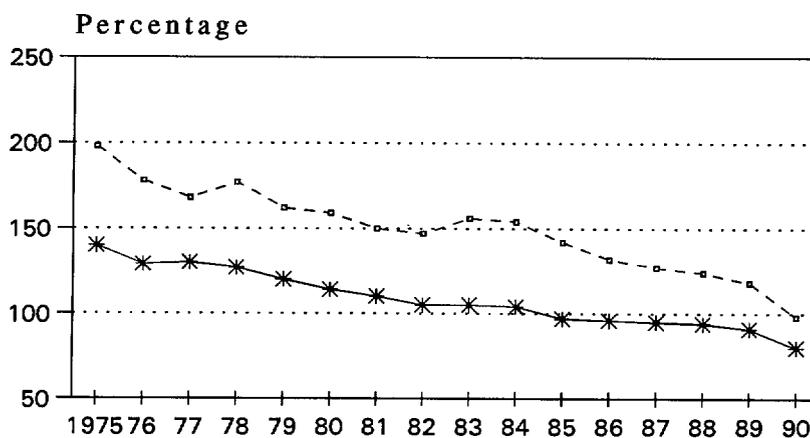
### ***Death Rate***

According to SRS estimates in 1990, the death rate in Uttar Pradesh was 12.0, compared to 9.7 for the country as a whole. During 1980-90, while the death rate of Uttar Pradesh declined by about 4.4 points, from 16.4 to 12.0, the national average declined from 12.6 to 9.7: a reduction of 3.2 points. The gap between the death rate in Uttar Pradesh and the national average has therefore narrowed. This encouraging sign is largely due to the rapid decline in infant mortality in UP.

### ***Infant Mortality***

The gap between the Infant Mortality Rate (IMR) in UP and the national average has narrowed from 58 points in 1975 to 18 points in 1990, as the IMR in UP has declined more rapidly than the national rate. The IMR in Uttar Pradesh has always been high, particularly in the rural areas. Until 1989, the state had the highest infant mortality rate in India. In 1975, infant mortality was 198 (205 in rural areas and 128 in urban areas), while the national average for the same year was estimated to be 140. Thanks to a universal immunization program, and the promotion of ORS and other health interventions, the infant mortality rate has declined considerably, both at the state and the national levels. In 1990, the infant mortality rate in Uttar Pradesh was reported to be 98, as compared to the national average of 80 (Figure 1.4).

Figure 1.4: Infant Mortality Rate  
1975 - 1990



India	140	129	130	127	120	114	110	105	105	104	97	96	95	94	91	80
Uttar Pradesh	198	178	168	177	162	159	150	147	156	154	142	132	127	124	118	98

Years

\* India -□- Uttar Pradesh

Further analysis of the components of infant mortality shows that most of the decline is due to a decline in post-natal mortality. Neo-natal mortality (death within one month of birth), which contributes 50 per cent of the total infant death in Uttar Pradesh, has remained unchanged over the past two decades. Similarly, peri-natal deaths \* in UP remain high. Unless factors such as severe malnutrition, low age at marriage and first delivery, multiple births, high female illiteracy, and short intervals between pregnancies are improved, neo-natal and peri-natal mortality will remain high. In other words, a decline in the infant mortality rate beyond a certain level in Uttar Pradesh may not be possible, therefore, without an improvement in the overall quality of life.

\* Peri-natal deaths include foetal deaths beyond 28 weeks of pregnancy and death of infants at birth and within seven days of birth).

### ***Life Expectancy***

Expectation of life at birth in Uttar Pradesh for the period 1981-85 is approximately 50 years; 51.4 for males and 48.5 for females. These figures are about five and a half years lower than the national average (55.4 years; 55.4 for males and 55.7 for females). The difference is more significant for women (7.2 years). Within the state, female life expectancy is almost three years lower than male life expectancy, whereas at the national level, female life expectancy is 0.3 year higher than male life expectancy. These figures may indicate a much higher order of neglect and discrimination against female children and women in Uttar Pradesh than in the country as a whole.

### ***Fertility and Mortality at the Regional Level***

There are no data available on demographic parameters such as birth rate, death rate, IMR etc., at the district or regional levels. However, by applying indirect methods to the 1981 Census results, the RGI office has provided district level estimates for 1981. Regional level estimates are summarized in Table 1.9 and 1.10.

**Table 1.9: Selected Indicators of Fertility and Mortality by Region**

	<b>Sex Ratio</b>	<b>CBR (1981)</b>	<b>TFR</b>	<b>IMR</b>
Hill Region	974	36.8	4.2	90
Western Region	844	40.3	4.9	129
Bundelkhand	847	38.9	5.0	119
Central Region	856	38.3	4.2	132
Eastern Region	925	39.3	4.2	122

*Source: Census of India, 1981*

A district level analysis of 1981 data shows significant variation in the fertility (TFR) level. The districts which had a much higher fertility than state average were Rampur, Bijnor, Moradabad, Hardoi, Badaun, etc. These districts are located adjacent to each other in the western part of Uttar Pradesh, the area which is relatively more developed and known for its agricultural prosperity.

## 2. FAMILY SIZE PREFERENCE AND CONTRACEPTIVE USE

### Overview

This chapter reviews the family size preferences and use of contraceptives in Uttar Pradesh. The subjects which have been examined in this chapter include: Family size preferences, awareness of various family planning methods; knowledge of correct use of methods; misconceptions about existing contraceptives; contraceptive prevalence rate; and unmet need.

### *Ideal Family Size*

The family size norm in Uttar Pradesh is larger than the national norm. Analysis of the data collected from Uttar Pradesh in the Third All India Family Planning Survey shows that as late as 1989, 32 per cent of couples in Uttar Pradesh perceived 4 or more children as the ideal family size (Khan and Patel, 1992). Corresponding figures for female respondents were still higher (37 per cent). An analysis of the concept of small family size revealed that about half of the couples in Uttar Pradesh thought small family meant 3 children, while one fourth thought it meant 4 children. Similar observations were made in earlier studies (Mishra, et. al., 1976; Khan, 1979), which showed that in both urban and rural areas a substantial number of couples (37 per cent) thought even 4-5 children was a small family. Generally, women showed more preference for larger families than their husbands (ORG, 1992; ICMR, 1986; Khan, 1979).

Continued preference for large families is also reflected in the desire for additional children. According to the ORG survey, in 1989 about one fourth of couples with three or more living children desired at least one additional child (Figure 2.1). In eastern Uttar Pradesh, the figures were even higher, ranging between 31-36 per cent. The estimated completed family size, obtained by adding living children to number of additional desired children, shows that on average, couples in Uttar Pradesh want 4 children. The corresponding figure for the country as a whole is 3. In other words, couples in Uttar Pradesh on average want one more child than the national average.

### ***Son Preference***

Most of the available studies (Saxena, 1976; Mishra, et. al., 1976; Khan, 1979; Rastogi, 1984a; 1984b; Lal, et. al., 1982; Khan and Patel, 1992) show a strong son preference. On average, most couples want **at least two sons**. The strong son preference can also be seen from the fact that 40 per cent of the couples were ready to accept two additional daughters, and yet another 43 per cent were ready to accept three or more daughters in order to get a second son (Khan and Patel, 1992). The strong desire for a second son has not reduced much over time. Studies show that as long as couples continue to try for a second son, they will generally end up with four or more children (May and Heer, 1968).

The strong desire for a second son is contributing to the high fertility level in Uttar Pradesh. Seventy per cent of the couples with three living children who desired at least one more child were waiting for their second son.

### ***Total Estimated Number of Eligible Couples in Uttar Pradesh by Number of Living and Additional Desired Children***

Figure 2.1 shows the total number of eligible couples in Uttar Pradesh in 1989, according to their residence, (towns, large villages, and remote villages), number of living children, and desire for additional children. Out of the 22.5 million eligible couples in Uttar Pradesh, 18.7 million (83 per cent) live in rural areas. Among those living in villages, about 6 million (32 per cent) live in relatively bigger villages, where PHCs/SCs are located. The remaining 12.7 million (68 per cent) are in remote villages. Of the total eligible couples in Uttar Pradesh 11.8 million couples (52 per cent of total eligible couples) had 3 or more living children. Further, from among those having 3 or more living children about one fourth (2.8 million) were desirous of at least one additional child. These figures further confirm the continued large family preference in Uttar Pradesh.

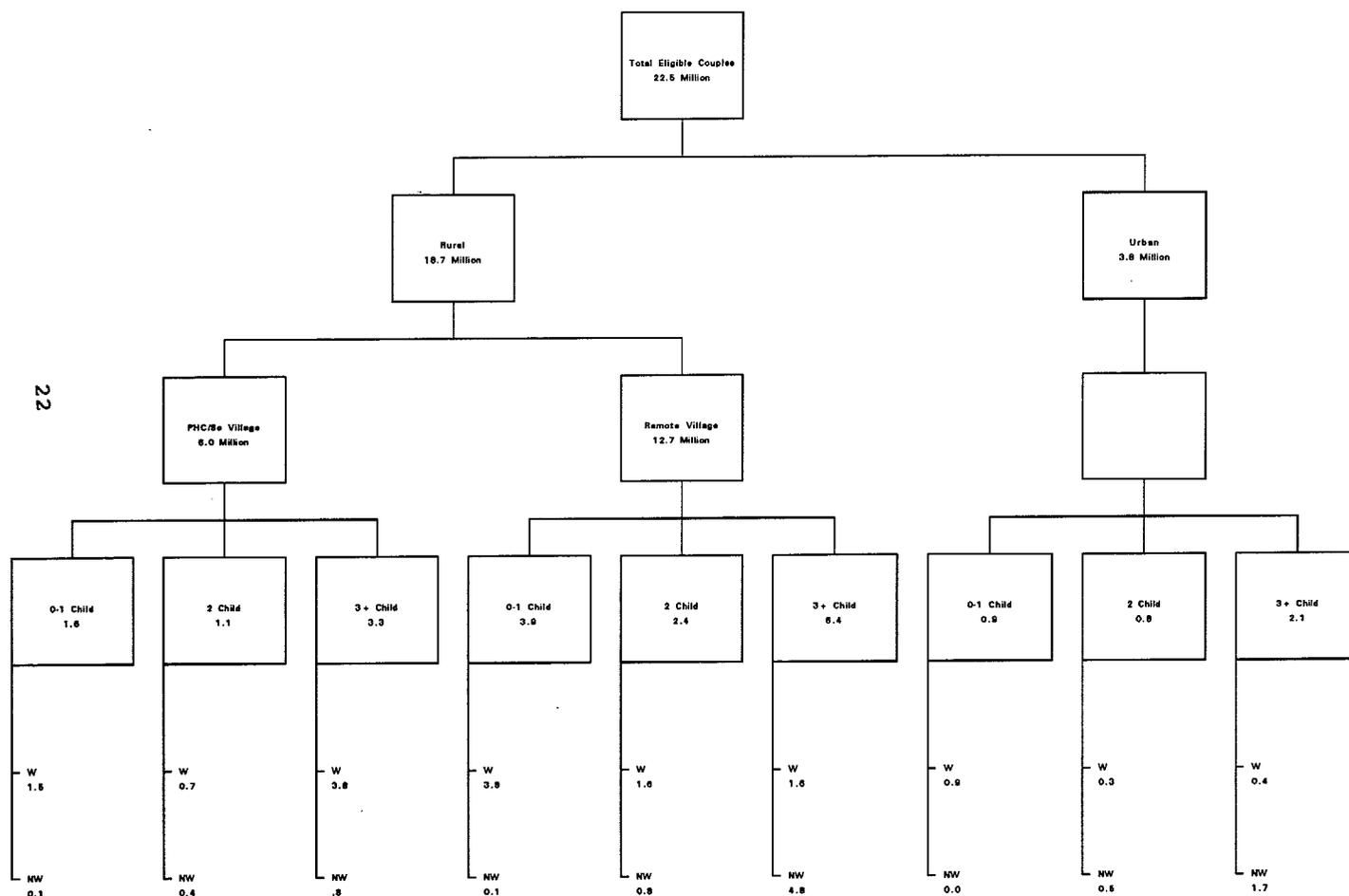
The present review shows that reasons for the large family size include expected old age support (NSS, No. 16, 1967; Khan and Prasad, 1982; ORG, 1992; Khan and Patel, 1992), fear of child death (Srivastava, 1987; Arora, 1989), continuation of the family name, religious belief (Saxena, 1965, 1973; Khan, 1979; Anonymous, 1980), and the economic value of children (Khan, 1979; ORG, 1992).

#### ***Knowledge and Practice of Family Planning Methods***

To date the three national level family planning surveys carried out by ORG are the only studies which provide estimates for the entire state of UP with comparable findings. Unfortunately, the first two ORG surveys do not provide state level information for all aspects of family planning. The Third All India Family Planning Survey report, however, provides much more comprehensive state level information. UP data from the ORG surveys has been further analyzed, and detailed results on all aspects of fertility and family planning were tabulated for this review.

Another major survey (NHFS) which is currently in progress in Uttar Pradesh, would be able to provide the latest information on various aspects of contraceptive behavior including choice of contraceptive, level of unmet need, problem faced after acceptance of method, husband-wife communication on contraception, exposure to family planning message, etc.

Figure 2.1: Distribution of Eligible Couples by No. Living Children and Additional Children Desired (millions)



Service statistics, maintained by the State Family Welfare Departments and published every year by E & I Division of MOH & FW, New Delhi, are another source of useful information on program inputs and performance. They provide data on CPR, characteristics of the sterilized and IUD acceptors, and the extent of family planning target achievement. An analysis of the trends shown by this data provides insight into the performance of the family welfare program.

### ***Awareness of Methods***

Most of the available studies confirm that awareness of family planning methods, particularly sterilization, is universal. On average, every married person is aware of at least two modern forms of contraception. According to the Third All India Family Planning Survey, more than 90 per cent of couples both in rural and urban Uttar Pradesh were aware of vasectomy and tubectomy. However, awareness of the IUD, the pill, and to an extent the condom, is lower. For instance, in 1989, only about 46 per cent of the couples were aware of the IUD, and 59 per cent knew about contraceptive pills. Other studies at the same period confirm low awareness of non-terminal methods, which is probably due to the program's over-emphasis on achieving the sterilization target. (ORG, 1988; Population Center, 1984; Kumar, et. al., 1985; ICMR, 1986; Khan and Gupta, 1988).

A recent study in western Uttar Pradesh shows that, due to the recent shift in program emphasis from almost exclusively sterilization to a more balanced contraceptive mix, the level of awareness of non-terminal methods has increased. According to this study, in 1991, 57 per cent of the eligible couple were aware of the IUD, and 67 per cent knew about the pill (ORG, 1992).

### ***Correct Knowledge of Methods***

The two ORG data sets (ORG, 1992; Khan and Patel, 1992), provide some insight into these aspects, showing that only a small proportion of the eligible couples had correct knowledge about the methods. Only 12 per cent of couples in rural UP and 33 per cent in urban centers, knew how the IUD was used or administered. Knowledge about the pill was slightly better, yet still only one third of the couples at the state level had correct knowledge. The ORG 1992 survey in western UP, however, shows that knowledge of

these methods has increased slightly, and is now estimated to be 48 per cent for the IUD, 37 per cent for the pill and 89 per cent for the condom.

### ***Misconceptions about Methods***

The available studies also show wide ranging misconceptions about each method. A substantial proportion of couples believe that the methods have serious side effects, with the percentage of such respondents varying by individual method. For instance, the latest survey carried out in the western part of UP shows that, of the 80-90 per cent of couples who were aware of sterilization, about 45 per cent believed that this method had serious after effects. The most frequently mentioned after effect of vasectomy and tubectomy was that the acceptors become weak, and cannot work hard. Pain in the abdominal area was also frequently mentioned as an after effect of tubectomy. Other commonly held misconceptions about sterilization are that it has a high failure rate, and can cause impotency.

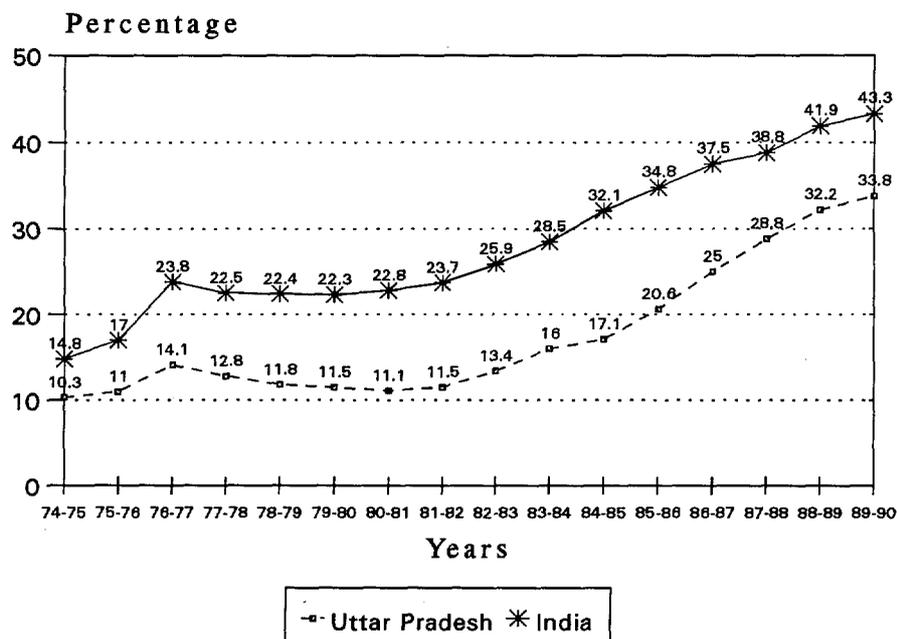
The percentage of couples who knew of the IUD and yet had misconceptions about it varied from 25 per cent to 39 per cent. The most commonly held misconceptions about the IUD included: excess bleeding, pain making women permanently weak, cancer, and high failure rate (Pathak, Jain and Chabra, 1973).

### ***Contraceptive Prevalence Rate***

According to GOI statistics, the percentage of couples in UP effectively protected by various modern family planning methods has risen from 11.0 per cent in 1975 to 33.8 per cent in 1990. During the same period, the national average increased from 17.0 per cent to 43.3 per cent.

An analysis of CPR trends shows that after 1981-82, while the national CPR increased by an average of 2.5 points annually, the annual increase in UP was 2.8 points. The gap between the CPR in UP and the national average, which had widened from 6 percentage points in 1975-76 to 15 percentage points in 1984-85, began to narrow, reaching 9.5 points by the year 1989-90 (Fig. 2.2). Thus, according to service statistics, the performance of the family welfare program in UP is reasonably high, with a higher rate of increase in CPR than the national rate.

Figure 2.2: Trend in CPR: Uttar Pradesh and India  
1974 - 1990



Source: Year book, 1991, MOH & FW

Independent surveys do not support the government figures, though. The Third All India Family Planning Survey in 1989 shows the CPR in Uttar Pradesh at only 25.2, compared to the government estimate of 32.2. In 1989 ORG estimates are lower, perhaps because of inflated figures of family planning acceptance reported by grassroots workers, particularly for temporary methods. The largest discrepancy is due to reported difference in IUD use (Table 2.1). If one compares these figures with other independent surveys, it appears that the ORG estimates are perhaps more close to reality (Table 2.2).

**Table 2.1: Pattern of contraceptive use in Uttar Pradesh: Comparison of GOI & ORG estimates (1989)**

	Sterilization	IUD	Pills	Condom	CPR due to temporary methods	Any modern method
GOI	19.9	10.4	0.8	2.8	14.0	33.9
ORG	16.7	0.9	1.2	6.4	8.5	25.2

Taking ORG estimates as base, the current (1992) CPR in Uttar Pradesh is approximately 30 per cent. This CPR was reached at the national level in 1984. In terms of contraceptive use, therefore, Uttar Pradesh is lagging behind the rest of the country by about 8 years.

**Table 2.2: Contraceptive Use Pattern in Uttar Pradesh**

	Year of Study							
	1991	1989			1988	1987	1984	1980
		U P	Rural	Urban				
% Using FP	42.6	28.5	24.9	45.6	25.5	30.2	27.8	24.7
% Using modern methods	38.8	25.2	22.1	40.7	22.6	25.2	25.2	18.2
% Using non-terminal methods	20.3	8.5	5.9	21.8	5.6	9.2	9.8	8.1
IUD	3.9	0.9	0.4	3.4	1.2	1.3	0.6	0.6
Pill	2.5	1.2	1.1	2.0	1.1	1.1	1.1	0.8
Condom	13.9	6.4	4.4	16.4	3.3	6.8	8.1	6.7
Range of Con. use	33.5-48	-	-	-	21.3-25.7			
Sample Size	3018	4835	2894	1941	3000	1800	1790	4100
Area Covered	6 Western district Rural	Whole UP Rural +Urban	Whole UP Rural	Whole UP Urban	3 Eastern district Rural	3 District Rural	3 District Rural	Whole UP Rural + Urban
Source	ORG 1992	Khan and Patel 1992			Khan and Gupta 1988a: 1988b		Khan et al, 1988; ICMR 86	Khan and Prasad 1983

### **Unmet need**

Unmet need is defined as proportion of couples who want to **stop** child bearing or **delay** their next pregnancy but not using any family planning method. A precise estimate of unmet need in India or Uttar Pradesh is not available. However, a **conservative** estimate based on proportion of couples not wanting any additional child but yet not practicing family planning is available from the Third All India Family Planning Survey (ORG, 1991). The ORG estimate is however on the lower side as it does not include the proportion of couples desiring to delay their next pregnancy but not practicing family planning. NFHS takes care of both of these components. Once the NFHS data is available it will provide a precise estimate of unmet need in Uttar Pradesh as well as in other parts of the country.

**Table 2.3: A Conservative Estimate of Unmet Need in Uttar Pradesh\***

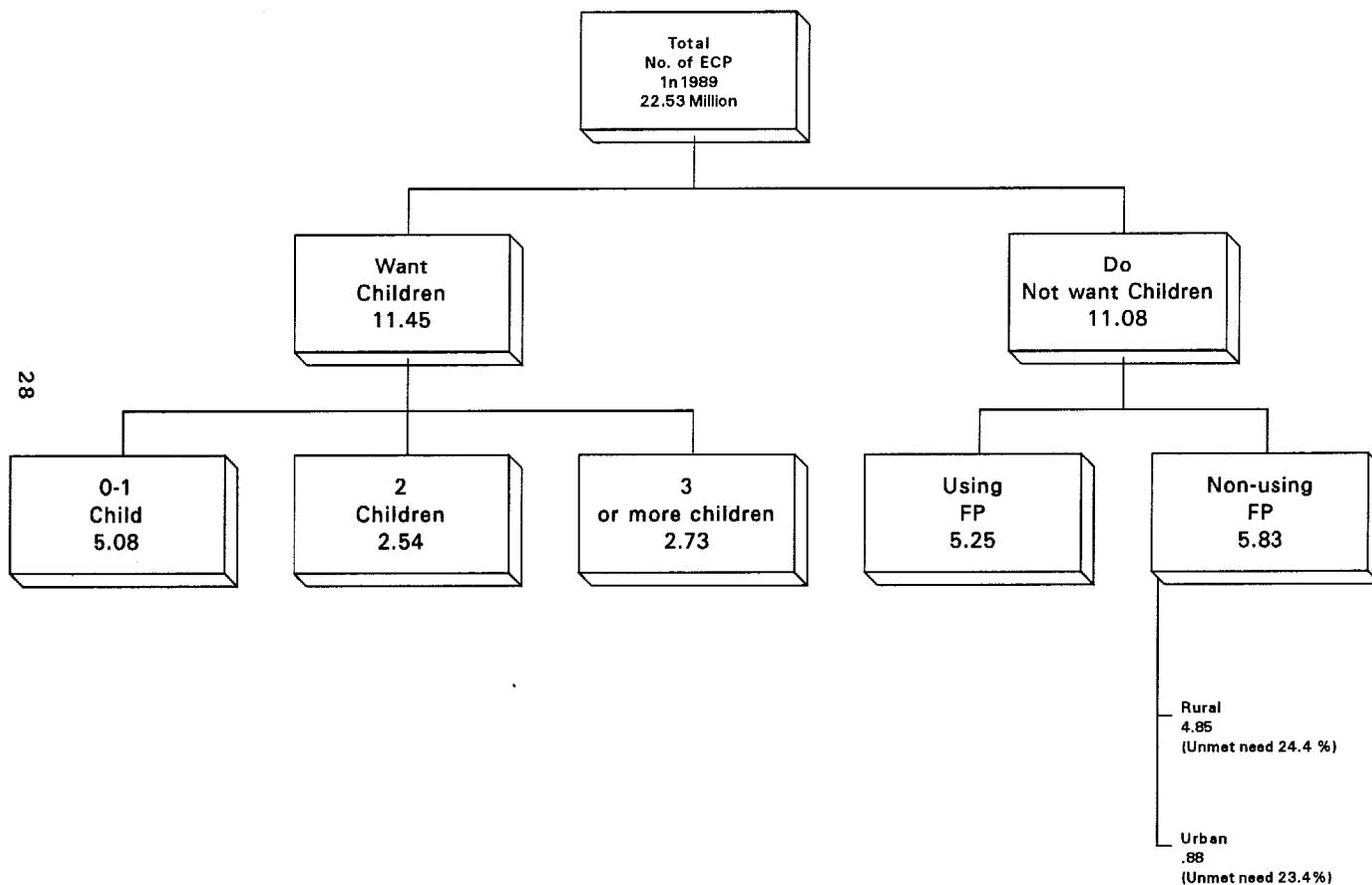
	India	UP	Area		PHC/SC village	Remote village
			Rural	Urban		
Level of unmet need	18.3	25.6	26.4	23.4	25.7	26.4
Eligible couples ('000s)	134,136	22,525	18,740	2,894	6,010	12,729

\* The estimate does not include couples desiring to delay their next pregnancy but not using any contraceptive

*Source: Khan and Patel, 1992.*

With the limitation mentioned above in ORG data, the level of unmet need in UP is estimated to be 25.6 per cent, as compared to 18.3 per cent for the country as whole (Table 2.3). In terms of absolute numbers, out of the 22.5 million estimated eligible couples in Uttar Pradesh in 1989, 11.1 million (49.2 per cent) did not want any additional child (See Figure 2.3). Of these, 5.25 million were using contraceptives, while the remaining 5.83 million were not protecting themselves from unwanted pregnancy. In other words, up to 52.6 per cent of those who did not want additional children, and 25.6 per cent of the total eligible couples in Uttar Pradesh, were exposed to unwanted pregnancy.

**Figure 2.3: Level of Unmet Need in Uttar Pradesh**  
(millions)



Analysis of the reasons for unmet need reveals that about 70 per cent of the cases are due to programmatic factors, while the remaining 30 per cent of cases are due to religious factors, cultural factors (opposition from the husband, for example), or biological factors (reported natural sterility). The most frequently mentioned programmatic factors contributing to the unmet need include dislike of the existing methods, fear of operation or adverse side effects, and inaccessibility of services (Khan and Patel, 1992).

### ***Impact of Family Planning on Fertility***

Available studies show that impact of family planning program on the birth rate of Uttar Pradesh and on the country as a whole is very modest (Natarajan, 1989; Srinivasan, 1991; Rajgopal, 1992; Srikantan and Balasubramaniam, 1989). One of the important reasons for the little impact of contraception on fertility is that the program has failed to attract young couples for using contraceptive. Further, still in majority of the cases family planning is accepted for stopping child bearing after having 3 or more children (Table 2.4). Table 2.4 also shows that during the last 10 years no significant change has occurred in the demographic characteristics (age of women and number of living children at the time of acceptance method) of the acceptors. A recent study indicates that what ever modest decline in the total fertility of Uttar Pradesh had taken place, it is more due to lactation and postpartum amenorrhoea (35 percent) than contraceptive (8 percent) [Srinivasan 1991].

**Table 2.4: Women's age and number of living children at the time of accepting the method**

	78-79			84-85			88-89		
	V	T	IUD	V	T	IUD	V	T	IUD
<u>Mean age at acceptance</u>									
UP	33.0	31.6	29.2	33.6	32.2	29.1	30.8	32.5	33.9
India	32.4	30.4	28.3	31.8	30.3	27.4	31.3	29.9	29.0
<u>Mean no. of living children</u>									
UP	4.1	4.1	3.0	3.8	4.0	2.8	4.0	3.8	2.7
India	3.5	3.7	2.7	3.3	3.5	2.4	3.6	3.3	2.3

*Source: Year book, 1991, MOH & FW*

### 3. FAMILY WELFARE PROGRAM PERFORMANCE

#### Overview

This chapter reviews the performance of the family welfare program in Uttar Pradesh. Four aspects of the program are evaluated: the organizational structure, logistics and supplies/supervision and monitoring and quality of care provided.

#### *Organizational structure*

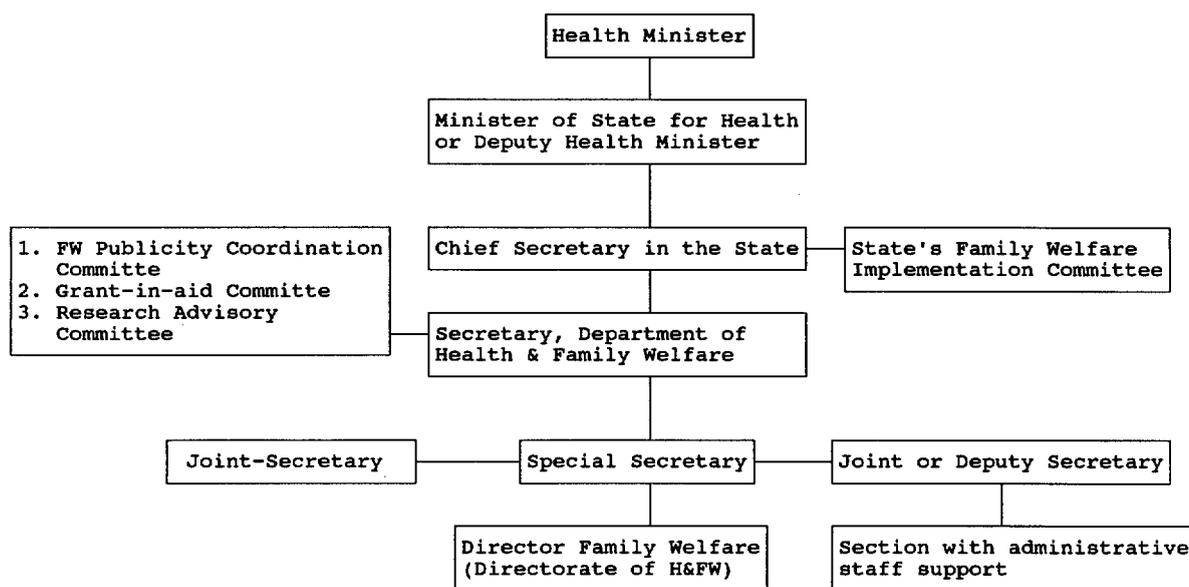
The organizational structure of the Family Welfare Department is presented in Figure 4.1. At the secretariat level, the Secretary of Health and Family Welfare organizes both health and family welfare (i.e. MCH and family planning) activities. The Special Secretary, who is exclusively responsible for MCH and family planning activities, coordinates the program in Uttar Pradesh with the Directorate of Health and Family Welfare at Lucknow.

The Directorate, headed by the Director of Health and Family Welfare, is responsible for the actual implementation of the program. Before 1985, the Director of Health and Family Welfare was responsible for both health and family welfare activities. Assistance was provided by an Additional Director, called a State Family Welfare Officer (SFPO). In 1985 the post of SFPO was upgraded to Director level. MCH and family planning activities are now separated from health activities at the directorate level. The State Family Welfare Bureau has five divisions: Operations; Education and Information; Training; MCH; and Demography and Evaluation. For administrative purposes, UP has been divided into 13 divisions, each consisting of four to six districts. Each division is looked after by an Additional Director of Health and Family Welfare. At the district level, the Chief Medical Officer (CMO) is in charge of both the health and the family welfare programs. Each CMO is assisted by a number of Deputy CMOs, who coordinate and implement the programs. The number of Deputy CMOs in each district ranges from three to nine, depending on the size and spread of the district. Each Deputy CMO supervises four to five Primary Health Centers (PHCs), which are the main health and family welfare service delivery points. The PHCs are staffed by doctors, Community Health Officers (CHOs), pharmacists, nurse midwives, Auxiliary Nurse Midwives (ANMs), male health workers, and other support staff.

The Government of India has set a target of establishing one PHC per 30,000 population. In hilly and tribal areas, there will be one PHC per 20,000 population. Before the present norm was introduced, each PHC covered about 100,000 people, and had three

doctors. In Uttar Pradesh, these PHCs now function as developed PHCs, and the PHCs established on the basis of the new regulations are known as 'New PHCs.' The new PHCs function as satellites to the developed PHCs; most of them are not fully staffed, and face considerable problems in implementing the program.

**Figure 4.1**  
***Organizational Setup for Implementing Family Welfare***  
***Programme in Uttar Pradesh***



*Source: Singh (1985)*

Under each PHC there are four to six sub-centers (SC). According to the national norm, there should be one SC per 5,000 population in plain areas, and one SC per 3,000 population in hilly and tribal areas. Each sub-center is staffed by one female and one male paramedic. There are four to six Voluntary Health Workers (VHWs) (one per village or one per 1,000 population), who are paid an honorarium of Rs 50 per month. The VHWs assist with the family welfare program. A traditional birth attendant (TBA) is also trained from each village with a population of 1,000 or more.

The family welfare program in Uttar Pradesh thus appears to be well-organized and well-staffed. In practice, though, program implementation is hindered by several organizational weaknesses.

As of March 31, 1990 in Uttar Pradesh 217 community health centers (CHCs), 3130 PHCs and 21,653 sub-centers were functioning (Rural Health Statistics, 1991). An examination of the facilities at the PHCs however, shows that many are lacking basic facilities (Table 3.1).

**Table 3.1: Physical infrastructure of the PHC**

	India	Uttar Pradesh
% CHCs in Govt. building *	61.5	84.3
% PHCs in Govt. building **	57.8	29.4
Mean number of rooms per PHC **	8.9	5.1
% PHCs with electricity **	80.6	61.8
% PHCs with safe drinking water	61.9	70.6
N	8,046	1,107
Per cent PHCs covered	54.5	58.6

Sources: \* *Rural Health Statistics, MOH& FW, GOI, 1991*

\*\* *Khan, et. al., (1989) Directory of Rural Health Infrastructure Uttar Pradesh Vol II.*

Only 29 per cent of the PHCs in UP have their own buildings, compared to a national average of 58 per cent, and PHCs in UP operate from much smaller buildings than the national average. Thirty-eight per cent of PHCs in UP have no electricity, and 30 per cent function without drinking water facility.

A case study comparing selected PHCs constructed under the World Bank funded IPP II projects and those functioning from rented buildings shows major differences in the working environment. The PHCs constructed under IIP II are more spacious. They provide better sitting arrangements for both the staff and the waiting patients, and privacy can be maintained while examining clients. The availability of electricity and fans enable the staff to stay for longer hours at the clinics. All these factors help to increase the utilization of the PHCs (Khan, Basu and Tamang, 1988).

Examination of the sub-centers shows that they have even poorer facilities (Table 3.2). The majority of the sub-centers in UP operate from a one room rented space, and only 14 per cent have electricity. The sub-centers in UP are below the national average on every measure.

**Table 3.2: Physical infrastructure of the sub-centers**

	India	Uttar Pradesh
% SCs in government building	40	25
Mean number of rooms	2.3	1.0
% with electricity	34	14
% with safe drinking water	28	NA
% SCs linked with tar road	53	45
Average distance of SC from tar road (km)	3.2	1.4
N	78223	14,009
Per cent SCs covered	77.2	81.4

Source: *Khan, et. al, (1989) Directory of Rural Health Infrastructure, Uttar Pradesh, Vol. II*

According to the existing rule, a maximum of Rs 50 (US \$ 1.75) can be paid for renting space for a sub-center (Mishra, 1992). Finding space to rent in rural areas is itself difficult, and such budgetary constraints make it nearly impossible. As a result, many sub-centers function from almost deserted buildings, and many ANMs operate from their homes.

A case study of some of the newly constructed sub-centers under the IIP II project shows that if the clinics are centrally located and contain proper facilities, the sub-centers are better utilized. The work load at the PHCs and the CHCs is thus reduced, because patients with minor complaints such as coughs, colds and fevers are treated at the sub-centers (Khan, et. al., 1988). This study also shows that the 20-25 percent of the newly constructed sub-centers under the World Bank's IPP II project, which are located in isolated and peripheral areas are not utilized as much, largely because the ANMs and the LHVs refuse to stay there.

**Residential arrangements of doctors and other paramedical staff**

In order to increase service utilization, it is essential that the doctors reside at the PHCs and that the ANMs reside at the sub-centers (ICMR, 1986; IIM, 1985; Khan, et. al., 1988). The ANMs form the main link between the community and the health posts. The residential arrangements of the doctors, BEEs and other selected paramedical staff in UP are shown in Table 3.3.

**Table 3.3: Residential Arrangements of doctors and paramedical staff (Percentage)**

	Doctors		BEE	LHV/ FHS	MPHS (M)	ANM/ MPWS	MPWS
	M	F					
Living in Quarters	54	59	73	46	30	40	20.6
Living in same village but quarters not provided	32	10	19	27	34	32	40
Living in other village	12	7	6	18	28	21	
Living in towns	11	24	8	9	7	7	
Total N	1259	82	670	1152	1163	1647	1111

Source: Khan, et.al., (1988) Directory of Rural Health Infrastructure in Uttar Pradesh, II

These figures show that approximately 25 per cent of the doctors and 25-40 per cent of other paramedical staff live outside the village, in other villages or nearby towns. Some of the recent micro-level studies, however, show that the proportion of paramedical staff, and particularly ANMs, living in other villages or towns is higher than this (Mishra, 1992; Alok, 1992; ORG, 1991, ICMR, 1988). In some of the cases the workers have officially taken charge of the quarter but continue to stay elsewhere.

According to one study, in 55 per cent of the cases, the paramedical staff were living more than five kilometers away, and were commuting daily by bus. In about 16 per cent of the cases, they were commuting on foot, while another 12 per cent were using bicycles (Alok, 1992). In these situations, often the doctors and workers either do not attend their clinics at all or are only available for a very short time period. This seriously reduces the utilization of the PHCs and the sub-centers, and contributes to the public's poor perception of the government clinics.

## Manpower

An analysis of the number of posts sanctioned in UP and the number of people actually in position as of March 31, 1990 shows that all of the positions<sup>1</sup> are filled except for the doctors, where there is a 40 per cent vacancy. Many of the PHCs in Uttar Pradesh, as a result, are functioning without doctor.

Table 3.4: Posts sanctioned and in position as of March 31, 1990 in Uttar Pradesh

Posts	Number of Posts			
	Sanctioned	In Position	Percentage in position UP	Percentage in position India
PHC doctors	3787	2263	59.8	83.2
BEEs	1026	1026	100.0	91.5
Health Assistants	3567	3567	100.0	92.1
Female/LHVs	3068	3068	100.0	81.6
Male Health Workers	11547	11363	98.4	92.1
Female Health Workers	23645	23645	100.0	91.2

Source: Rural Health Statistics, MOH & FW, 1992

The proportion of PHCs without doctors is highest in the hilly areas, where 75 per cent of the posts are vacant, according to Mishra (1992). In an attempt to improve this situation, the government has reserved 44 of the seats in the hilly areas for students in the seven state medical colleges. Each student who gains admission against a reserved seat is bound to work in the hilly regions for at least 5 years after completing their education. However, the study shows that most of these students use their political influence to get posted in plain areas (Mishra, 1992).

However, if the number of staff in position is compared with the number required as per norm (i.e. prescribed worker-population ratio), several deficiencies are observed.

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<sup>1</sup> No position was vacant in case of Block Extension Educator, Male and Female (LHV) health supervisor, Male and Female (ANM) workers

**Table 3.5: Number of workers required as per norm and actually appointed in Uttar Pradesh.**

Posts	Norm: Population per worker	Minimum no. of staff required as per norm*	Staff in position as on March 31, 1990	Percentage deficient
Doctor	30,000	3713	2263	39.9
Health Assistant (Male)	30,000	3713	3567	4.0
Health Assistant (Female/LHV)	30,000	3713	3068	17.4
Male Health Workers	5,000	22280	11363	49.0
Female Health Workers/ANM	5,000	22280	23645	(+6.1)
Trained Dai	1000	111400	143559	(+28.8)
Village Health Guides	1000	111400	90111	19.2

This is slightly under estimated as\*norm is taken uniform for all through the state. Where as in tribal and hilly areas norm is slightly less than indicated above e.g. one LHV for every 20,000 population and one worker for every 3,000 population.

The main deficiencies in terms of staff recruitment are with doctors, male health workers, LHVs, and Village Health Guides. As a result of these deficiencies, the worker to population ratio is almost double what it should be for male health workers (8,900 instead of 5,000) and about 21 per cent more than it should be for LHVs (36,310 instead of 30,000).

It has been observed that the failure to recruit male workers severely affects family planning motivational work, as men are generally not contacted by female workers (ANMs). In a traditional society like Uttar Pradesh, where most of the important decisions, including acceptance of family planning, are taken by men, neglecting the men in educational and motivational campaigns could adversely affect program performance. Similarly, failure to recruit LHVS could adversely affect program monitoring and supervision.

### **Vehicles**

There is no detailed information available on the percentage of PHCs which have vehicles. An IIM study shows that the number of vehicles provided per district varies, and there are no clear explanations for the variation. For example, the study reports that Rai Bareli district has 53 vehicles, while Saharanpura district has only 33 for about the same geographical area (IIM, 1985). Most of the vehicles are quite old and at any one point in time only about 70-75 per cent of the vehicles are in working condition (ICMR, 1991; Khan, et. al., 1988; IIM, 1985).

The PHC vehicles are often withdrawn by "higher ups" for emergency use. As Deputy CMO's are not provided with vehicles, they often take the PHC vehicles for their 'supervision' work (Mishra, 1992). At times, the PHC vehicles are also sent to the CMO's or the Collector's offices for emergency use (Khan, et. al., 1988).

Insufficient funds are provided for petrol and lubrication (POL). A standard amount of Rs 7,000 per year is provided for petrol-run vehicles, and Rs 3,000 per year is provided for diesel-run vehicles, irrespective of the terrain and distance to be covered in the individual PHCs. With the increasing price of petrol and diesel, these amounts are hardly sufficient for six months (Mishra, 1992). As a result, the Medical Officers try to minimize the use of the vehicles by others, so that they can use them throughout the year. Vehicles are not provided for IEC activities or supervision work. (Mishra, 1992; Khan et. al., 1988; IIM, 1985).

Once the vehicles break down, it generally takes a long time to get them repaired. Delays are caused by a lack of funds, and the lengthy procedure which is required to get the repairs sanctioned (IIM, 1985). *There are occasions when for want of minor repair vehicles remain non operational for months together and the drivers get salary without doing any work (Khan, et. al., 1988).*

#### **Drugs**

One of the most important factors contributing to the bad image of the PHCs and the sub-centers is the inadequate and unbalanced supply of medicines. Many of the available studies show that medicines are not supplied according to the inventory submitted, nor according to the quantity required by the PHCs. This creates a surplus of certain types of medicines, and a shortage of others.

The procedure followed in Uttar Pradesh is that 60 per cent of the drugs required for PHCs are purchased by CMSD at Lucknow, and 40 per cent are purchased by the CMO at the district level (Mishra, 1992; IIM, 1985). There is hardly any consultation between CMSD and the CMOs or the PHC doctors to make a real assessment of the requirements before the order is placed. The result is usually an unbalanced supply of the medicines. The ICMR study (1991) clearly demonstrates an inadequate supply of essential drugs at PHCs and SCs both at the state and the national level.

In Uttar Pradesh, the supply of all essential drugs is inadequate. Less than half of the PHCs reported adequate supply of analgesics and antispasmodics medicines and only 14 per cent PHCs had been supplied with required quantity of antibiotics. All these medicines are important and should be in stock in adequate quantities to meet family planning service requirements. UP compares quite poorly with the national average. The situation is

much worse in the sub-centers; in many sub-centers even ORS, antidiarrheal drugs and antimalarial are not available. A case study of PHCs carried out by CORT shows that when there is an inadequate supply of medicine, the MOIs generally try to keep as much medicine as possible at the PHC, instead of giving it to the sub-centers, so that they can meet the requirements of patients visiting the PHCs (CORT, 1992). One of the doctors interviewed asked, "If I supply everything to the sub-centers, what will I give to the patients visiting the PHC?" CORT's study from other states reported that in order to save medicine, doctors often provide incomplete courses to patients. To quote one PHC doctor, "We have to satisfy everybody. If I give a full course to all patients, the drugs will only last two months." (CORT, 1992)

Because of the inadequate supplies, doctors often have to tell their patients to buy medicine from the market. This creates a serious credibility problem, and the clients believe that doctors are selling their supplies to the market, instead of giving them to their patients. The following comments from an ICMR study on under-utilization of PHCs in Bihar, Gujarat and Kerala (ICMR, 1988) indicate how the clients feel:

"He (the doctor) does not give any medicine, but sells it and then asks us to purchase it from the market."

"Nothing is available there (the PHC)."

"Medicines given from PHC or sub-center to us are of sub-standard."

"He is a 'chor' (thief). He has purchased a new car by selling the government's medicines and conducting a private practice during PHCs visiting hours."

While some of the feelings expressed above are correct, the inadequate supplies have played a significant role in creating the lack of credibility and the poor image of the public clinics. Family planning service which is integrated with other health and MCH cares provided by the public clinics can not improve its image unless other aspects (curative and preventive) also improve its functioning.

## Contraceptive facilities and supplies

### Public Clinics

The Directory of Rural Health Infrastructure, which was compiled by ORG in 1989, shows that in Uttar Pradesh, out of the 1,107 PHCs covered, 849 (77 per cent) had facilities for vasectomy and 379 (42 per cent) were equipped to conduct tubectomy operations, while only 598 (54 per cent) were in a position to provide IUD services. Tubectomy has remained the main contraceptive of the program, yet even facilities for this operation are not available in a large number of PHCs. A more detailed inquiry by ICMR shows that if the condition of the equipments and the availability of trained personnel are also considered, in addition to the availability of essential equipments, the availability of family planning facilities at PHC becomes very limited (ICMR, 1990).

The availability of sterilization facilities varies in different regions of Uttar Pradesh (Table 3.6). In four western districts and six eastern districts, at least a quarter of the PHCs did not have vasectomy facilities. Similarly, in seven western districts and five eastern districts, 70 per cent or more of the PHCs did not have facilities for conducting tubectomy.

**Table 3.6: Availability of vasectomy and tubectomy facilities at PHCs in different region of Uttar Pradesh**

Regions	No. of districts having	
	25 per cent PHCs with no facility of vasectomy	70 per cent PHCs with no facility for tubectomy
Hill	-	1
Western	4	7
Central	-	2
Eastern	6	4
Bundelkhand	1	-

*Source: Khan, et. al., (1989) Directory of Rural Health Infrastructure: Uttar Pradesh Vol. II*

In an attempt to meet targets, regular mini-camps are organized where sterilizations are performed. Although these camps do increase the accessibility of sterilization, temporary family planning methods are not offered. Furthermore, the sterilization operations in these camps are not performed in the desired hygienic conditions, resulting in high rates of post-operative infections. According to an ICMR study, the quality of services provided in the camps is often sub-standard (ICMR, 1991).

There are a large number of couples (11.08 million) in UP who do not desire any additional children. About half of them (5.25 million) are currently using one or the other contraceptive. The rest are exposed to unwanted pregnancy. Sterilization may be the best choice for majority of such couples. Thus sterilization will continue to play an important role in the family welfare program. Technical assistance is needed to increase the availability of sterilization facilities at PHCs, and to improve the efficiency and quality of services.

The IUD is not readily available in UP, and IUD use is low. The family welfare program is set up so that the IUD can be inserted at CHCs, PHCs and in a select number of sub-centers where LHVs or ANMs are trained in IUD insertion. According to the service statistics, the share of IUD acceptors among family planning acceptors in UP is increasing each year, and the targets have been achieved. However, these claims appear to be incorrect, as all independent surveys show that less than two per cent of couples actually use IUDs (See Table 2.2).

An assessment of the availability of IUD services also shows that only around 54 per cent of the PHCs and CHCs in the state are actually equipped for inserting IUDs. An analysis by district shows that in 19 districts (four in the Hilly region, seven in the Western region, three in the Central region, and five in the Eastern region), 50 per cent or more of the PHCs are not in a position to provide IUD services (Khan, et. al., 1989). An ICMR study (1991) also points to the inaccessibility of the IUD in rural areas. According to this study, in 48 per cent of the sub-centers studied, the IUD was not in stock (Table 3.7).

**Table 3.7: Availability of temporary contraceptives at PHCs and sub-centers in Uttar Pradesh and India.**  
(Percentage)

	PHC*		Sub-center**			
			UP		India	
	UP	India	Adequate supply	Absent	Adequate supply	Absent
Copper-T	63	79	41	48	47	29
OCP	70	58	49	38	73	18
Condom	78	68	50	32	79	18
<b>Total</b>	<b>41</b>	<b>347</b>	<b>90</b>		<b>598</b>	

\* Compiled and recalculated from Vol I and Vol II of Concurrent Evaluation of Family Planning Programme, MOH & FW, 1992

\*\* ICMR, 1991

The availability of condom and pills is slightly better, yet there are many PHCs and sub-centers where the supply of these contraceptives is also inadequate. According to the ICMR study, in about one third of the sub-centers studied, OCP and condoms were not available. The corresponding figure for the country as a whole was about 18 per cent (Table 3.7). Recent reports published in newspapers shows that both IUD and oral pills are a indeed short supplied in Uttar Pradesh as well as in other parts of the country.

Studies on the contraceptive supply system (ORG, 1991; Giridhar, et. al., 1989) show that it is not need-based, but rather the supplies are 'pushed' from the State Head Quarter to the District Head Quarter to the PHC to the sub-centers as soon as they arrive from the distributors and factories. This rush is largely due to a lack of storage facilities at all levels. The distribution to the district offices and the PHCs is according to the designated targets. Little or no buffer stock is maintained at the state, district, or PHC levels to meet demands at service delivery points.

### *Social Marketing*

**Oral Contraceptive Pill:** In India, OCP and Condom apart from being freely distributed from public clinics are also promoted through social marketing and other commercial channels. Social marketing of OCP was launched in 1987 with a product name 'Mala-D'. In Uttar Pradesh and other northern states, 'Mala-D' is distributed by Hoechst, one of the four pharmaceutical firms who have agreed to participate in the social marketing of OCP. The firms gets the contraceptive from government at the rate of rupees one per cycle, gives it to stockiest at rate of Rs. 1.40/- per cycle. From stockiest retailers/chemists purchase at the rate of Rs 1.60/- per cycle and sale to consumers in Rs 2/- per cycle. During 1991, Hoechst had sold 2.6 million cycles of OCP of which about 1.1 million was sole in Uttar Pradesh. According to Hoechst, they are not making any profit on Mala-D and they see their effort as primarily as service to the government family welfare program (ORG, 1992). According to the study, the major difficulty in distribution and sales of OCP has been occasional shortages of supply from manufacturer.

Two NGOs, PSS (Privar Seva Sanstha) and PSI (Population Service International) are also promoting OCP under their social marketing program. While PSS is primarily concentrating its efforts in Haryana PSI is marketing OCP under the brand name of 'Pearl'. 'Pearl' was launched in 25 major cities of Uttar Pradesh in 1991. Its target for 1992 was 300,000 cycles.

At present only 1.2 per cent of couples in Uttar Pradesh and 1.4 per cent in India use oral pills. During 1980 - 88 the increase in use of OCP was negligible (within 1 per cent). It indicates that unless OCP is aggressively promoted through social

marketing and other innovative approaches like community base distribution program, presently the market of OCP is limited and estimate to be around 3.5 million cycles.

**Condom:** Social marketing of condom in India was launched in 1969 with brand name 'Nirodh'. Today, the three brands which are being sold in Government's social marketing program includes 'Nirodh Regular', 'Nirodh Deluxe' and 'Nirodh Super Deluxe'. Apart from Government's social marketing program PSS and PSI are also selling condom under social marketing program with brand name 'Sawan' and 'Masti' respectively. PSS however, presently concentrating its effort in Haryana. Apart from these, some of the popular commercial brands which are sold in Uttar Pradesh include 'Kohinoor', 'Kamasutra' and some imported one.

According to ORG shop edit report out of the 487 million condoms sold during 1990-91, 117 million (24 per cent) was sold in Uttar Pradesh (Narasimhan & Khan, 1992). Over the last 9 years, the share of Uttar Pradesh in the total condom market has increased from 19.6 per cent (37.2 million pieces) to 24 per cent (117 million pieces). In rural Uttar Pradesh, the condom market is estimated at 55 million pieces (47 per cent), while the rest 62 million pieces are consumed in urban centers. Further analysis shows that in 1990 out of the total 487 million condoms sold in India, 66.4 per cent of the market share was controlled by 'Nirodh group' (the three brands of 'Nirodh') of condoms. The market share of 'Nirodh group' in Uttar Pradesh is still higher (77 per cent). Market share of 'Masti' and 'Kohinoor' in 1990 was estimated to be 10.6 and 8.5 per cent respectively.

The growth of market share of 'Masti' is quite impressive as it was introduced only in 1988. During 1991, a total of 28 million pieces of condom was sold, registering a growth of 67 per cent. However, an ORG study shows that to a great extent, the high growth of 'Masti' is due to the financial support of donors particularly USAID/D which enabled PSI to launch an aggressive promotional campaign and subsidize their distribution cost. This perhaps also indicate that given enough financial support for marketing of 'Nirodh', its acceptance could be substantially increased.

A review of the market over the last three years however, shows that during 1991 both in rural and urban areas of Uttar Pradesh, the average monthly sale of condom has dropped (Table 3.8).

**Table 3.8: Average Monthly Sales of Condoms in UP**

	Average monthly sales (in million)		
	1989	1990	1991
Urban	3.3	4.9	4.2
Rural	3.1	4.8	4.6

*Source: ORG Shop Edit Reports, 1991*

According to ORG shop edit reports in 1991 only about 14.4 per cent of the total retail outlets (approximately 22,3500) were stocking condom. The corresponding percentages for urban and rural areas were estimated to be 25.5 and 11.8 per cent respectively. Further, at national level during the last 10 years (1981-91) percentage of retail outlets stocking condom has increased from 18.2 to 25.5 per cent. **The penetration of condom in rural areas has remained poor and in 1991 only 30 per cent of the villages in Uttar Pradesh had one retail outlet stocking condom.** The corresponding figures for smaller villages (Population < 1000) is only 13.3. On this account, the situation in Uttar Pradesh is slightly better than national average (Table 3.9).

**Table 3.9: Percentage of Village with at least One retail Outlet Stocking Condom**

	Village Size			
	< 1000	1000-5000	> 5000	All villages
UP	13.3	78.6	93.8	30.0
India	14.8	46.2	81.0	23.7

*Source: Narasimhan & Khan, 1992*

A recent survey of retail outlets (ORG, 1991) in Uttar Pradesh shows that while most of the chemist shops (90 per cent) stock condom; only recently grocers have started stocking the product as its 'demand is increasing'. Majority of the retailers who had never stocked condom or had stopped stocking it, attributed it to 'lack of demand' (72 per cent) or its free distribution by government (13 per cent).

#### **Monitoring and supervision of family welfare program**

**Management Information System:** At the state level the responsibility for monitoring and evaluation of the family welfare program is with the Demographic and Evaluation Cell (D & E Cell). For this purpose a variety of data are compiled at PHC and Sub-center levels and are periodically provided to district and state

center levels and are periodically provided to district and state level officials. A number of studies (Narayana and Venkatesh, 1990; ORG, 1989; Khan, 1986; Murthy and Patel, N.D) show that at sub-centers ANMs maintain 20-23 different types of records. Out of these seven are related to promotion of family planning. Records are also maintained at the PHC level.

Each month performance data on the various aspects of the health and family welfare program are compiled at the sub-center level by the ANMs and submitted to the PHC. This is done by the first day of the following month. The sector LHV/Supervisor assists and guides the ANMs/workers in their areas to prepare these monthly reports. The monthly meeting of the PHC is held between the 1st and 3rd of each month. Each sub-center report is reviewed and discussed by the Medical Officer In-charge (MOI). Sometimes the Dy. CMO is also present during these meetings. Between the 3rd and 5th, data are compiled at the PHC by the Computer (it is designation of computing clerk) and submitted to the District Health Office, where the data submitted by the PHCs are reviewed. Subsequently, the data are consolidated and the monthly report is sent to the State Headquarters. This is done by the 10th of each month at the latest. Before forwarding the report to the Central Government it is discussed at the state level during the monthly meeting of District Health Officers. An abstract of sterilization/IUD usage is sent to the Government of India by the 7th of each month.

**Shortcomings of the Existing System:** Since an enormous amount of money is being spent one would expect that the established data system would provide fairly accurate and useful information for monitoring and planning services. However, a review of the existing MIS and the quality of the data indicated a number of shortcomings. Apart from the fact that the available data are generally incomplete, in a number of cases the quality of data is also questionable. Pointing to these issues, a report from the E & I Division of the Ministry of Health and Family Welfare (GOI, 1986) concludes that:

- 1 In most of the states, Eligible Couples Registers are neither maintained properly nor updated;
- 2 Maintenance of other types of registers/case cards are also unsatisfactory;
- 3 In most centers, the reported performance figures do not coincide with the monthly progress reports and records/registers.

- 4 Statistical staff at District Bureaus/Centers are not very familiar with the reporting system. While converting conventional contraceptive (CC) and oral pill (OP) users, they often do not use the correct formula.

Similar observations have been made by many others (Gandotra and Das, 1977; Khan, M. E., 1986; ASCI, 1989; Narayana and Venkatesh, 1990; Murthy and Patel, ND; ORG, 1989).

Several reasons exist for explaining the poor quality of data maintained at the Sub-centers/PHCs. For instance despite the fact that grass root workers spend 25 to 30 per cent of their time in maintaining and compiling the records they do not receive proper feedback from their supervisors about the quality of data collected and how it is used. Therefore, the workers at the lowest level responsible for data collection and maintenance of records are themselves not convinced about the utility of the data. Informal discussions at several of the PHCs and sub-centers in UP revealed that for these workers filling out forms is simply *Khanapuri* (filling up blanks in a casual manner) and it hardly matters to them whether they over or under report. This is supported by a recent study (Alok, 1991) which showed that out of 502 PHC/SC staff interviewed in UP about two thirds believed that the data collected were not used or at best had only marginal utility in program monitoring and decision making. It could be said that their perceptions may be true because it is not clear how the large volume of data (irrespective of its accuracy) is used in the decision making process.

Another problem in using PHC data for monitoring family planning services arises from the manner in which the statistics are collected and maintained. For example in case of non-terminal methods, no information is maintained whether the acceptors is continuing with the methods, say IUD. Similarly there is no record on follow-up of acceptors, and incidence of post acceptance complications, if any. In absence of these information it is difficult to monitor quality of care of services provided by the PHCs and Sub-centers.

**Supervision:** Apart from MIS, the functioning of family welfare workers are individually supervised at various levels. At PHC level, the Medical Officer Incharge (MOI) is the program manager and he monitors the work with assistance from LHVs and male supervisors. Each field supervisor (LHV, male supervisor) is expected to make regular field visit to supervise work of the grass root workers (ANM, male worker), check their records and help in their work. Each male and female supervisor covers about 30,000 population and supervise work of 4-6 grass root workers. The MOI is also expected to make occasional visit to sub-centers to supervise their work, examine their records and provide clinic services if required. Monthly meeting as already discussed above, also provide an excellent opportunity to review the program activities.

Most of the available studies (Mishra, 1991; Alok, 1991; Satia and Giridhar, 1991; Khan, Basu and Tamang, 1988; Khan and

Gupta, 1988; ICMR, 1988; ICMR, 1986; IIM, 1985; Mishra, et. al., 1979) however, shows that generally the quality of supervision is poor and the attention is given mainly to target achievement, particularly sterilization. Generally no questions are asked on follow-up, continuation of IUD or other non-terminal contraceptives, reasons for discontinuation etc,. Nothing is done to encourage the workers and solve either their operational or personal problems. While connection of the grass root workers with local political bosses ensures that they could survive without attending to their work, the supervisors feel helpless as neither could they reward for good work nor punish for poor performance of their subordinates. At district level, CMOs control all programs and administration and do not want to share their power with Dy. CMOs who are supposed to monitor 4-5 PHCs falling in their territorial jurisdiction. As result, the Dy. CMOs are generally weak and ineffective in providing any leadership in the family welfare program (IIM, 1985; Mishra, 1991).

Further, the MOI and CMOs who are program managers at PHC and district levels respectively have strong orientation towards clinical practice with no training in public health and or program management. Only 18 out of 56 CMOs and 5 out of 185 Dy. CMOs have diploma in public health. Most of them have no orientation in program management (IIM, 1985).

#### ***Quality of Care***

According to Bruce's (1990) definition, the six important elements of quality of care include: choice of methods, information given to clients, technical competence, interpersonal relations between client and providers, follow-up/continuity mechanisms and appropriate constellation of services. A review of literature show that there is hardly any study which has systematically addressed all these six elements of quality of care. However, available information on some of the elements shows that over all quality of services provided in Uttar Pradesh is far from satisfactory. The emphasis on achieving sterilization targets and limited availability of required infrastructure and supplies (already discussed in previous section) indicate that choice of contraceptive is very limited. This is particularly true in the remote villages which constitute more than 50 per cent of the UP villages. Generally the workers are selective in approaching higher parity clients and mostly they pursue them to accept sterilization or in some cases IUD (ICMR, 1991; Khan, et. al., 1985; ICMR, 1988; SRI, 1992). According to the ICMR study (1991) only 18 per cent of the ANMs observed gave out information regarding OCP and 27 per cent disseminated information regarding condoms compared to 62 per cent for sterilization and 57 per cent for IUD. Another prospective study shows that out of 1197 acceptors from various government public clinics only in 12 per cent of cases were clients informed about more than one method; in only 16 per cent of cases was any information given about

effectiveness of the contraceptive and in less than one per cent of cases information was given on possible side effects (Khan, Patel and Chandrasekher, 1992). Studies from other parts of the country also support these observations (ICMR, 1986, 1986a, 1988; CORT, 1992).

The limited studies available on client-provider interaction in Uttar Pradesh show that in general it is poor. The overall credibility is poor and they are mainly perceived as workers looking for sterilization cases. Charges of corruption and bad behavior at clinics are yet other common complaints received in studies on causes of under-utilization of public services. Contrary to the general belief, post acceptance follow-up service is not bad. However, this is more true in case of sterilization where 75 per cent or more acceptors were visited by the paramedics to provide post-operative follow-up care, if required (ICMR, 1991; MOH & FW, 1991; ORG, 1988). However, in case of IUD and OCP, follow-up services are limited and could be contributing to the reported high discontinuation of the contraceptives.

The very few studies which are available on technical competence of workers show that many of the workers held misconceptions about the methods and lack technical competence in inserting IUDs. Their knowledge on provision of MCH care and use of related equipment is also quite limited (ICMR, 1991; Khan, et.al., 1989; ORG, 1988). A recent study carried out by CORT in Varanasi and Lucknow districts also indicate poor technical competency of the workers both in the area of MCH and family planning. The ICMR study also shows that the operations are not always done in hygienic conditions. Infection rates are reportedly high in some places. Further, it does not appear that quality assurance techniques such as the AVSC COPE program are being utilized. Similarly, though most of the LHVs and many ANMs are trained in insertion of IUD, their competence is questionable and needs to be assessed. The NIHFV study (1988) shows that about 71 per cent of IUD acceptors in rural areas and 56 per cent in urban areas discontinue the method within one year. Reasons for such high discontinuation are not clear but lack of competence, poor counselling and wrong selection of clients (e.g., clients with UTI) could be possible factors. Diagnostic study and operations research are required to assess factors contributing to such high discontinuation rate and possible interventions to increase acceptability and continuation of IUD. Similar studies are also required for OCP and other non-terminal methods.

## 4. INFORMATION, EDUCATION, AND COMMUNICATION (IEC) ACTIVITIES

### Overview

Information, education, and communication (IEC) activities are utilized in the Indian family welfare program to stimulate a demand for contraceptives, to create a positive image of service providers and the program, and to build support for population activities among influential sectors of society.

In this chapter, a review of the available literature on current IEC activities in Uttar Pradesh has been undertaken to assess the material and to suggest possible interventions to make it more effective.

### *Sources of Data*

IEC activities have been given a low priority in the family welfare program. Researchers have not examined the IEC component of the program, and only a few studies focus specifically on IEC activities, including a recent study in western Uttar Pradesh (ORG, 1992), and a multicentric study by NIH & FW (1985). However, there are several other family planning studies in which IEC activities have been briefly analyzed and presented (ORG, 1990, Khan et. al., 1988; ORG, 1988; Mishra, 1991; IIMA, 1985; Basu, 1984; Gray, 1985; Mittal, 1976, Saxena and Rastogi, 1987). All of these studies clearly indicate a number of constraints and problems which need to be seriously considered before planning new IEC activities in Uttar Pradesh.

### *Media Outreach*

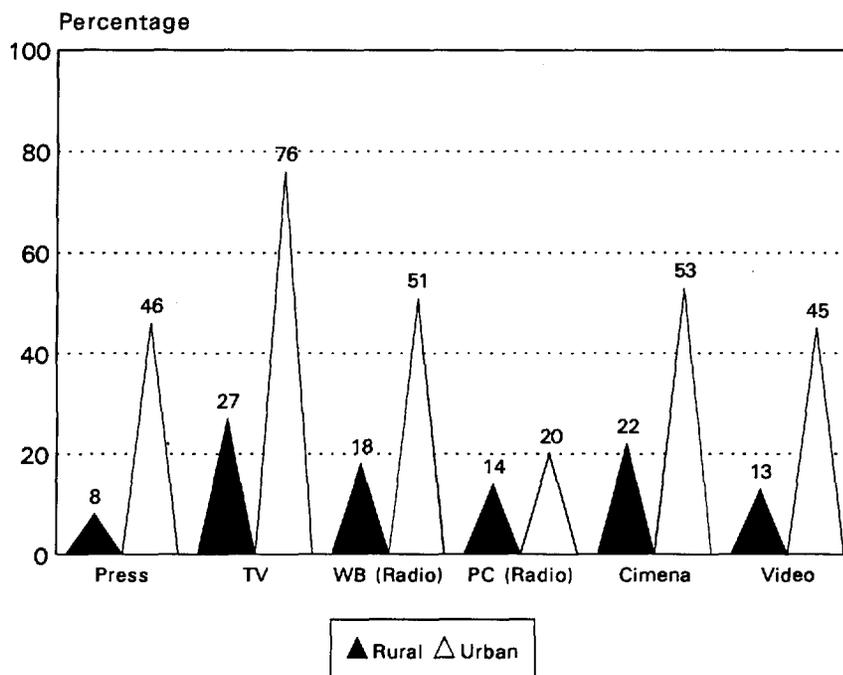
It is important to recognize that the poor socio-economic situation and low levels of literacy in Uttar Pradesh are major constraints to IEC activities, as mass media and other sources of information are inaccessible to many. Analysis of the coverage of various types of media in Uttar Pradesh shows that readership of newspapers and magazines is very low.

According to the data collected in the Third All India Family Planning Survey in 1989, only 13 per cent of eligible couples in UP were ever exposed to newspapers or magazines, as compared to 21 per cent in the country as a whole. This reflects the low literacy level in UP, particularly for females. Out of the 32 poorest districts of UP\* which have been selected for special family

planning inputs by the MOH & HW in 13 districts female literacy is below 10 per cent, in 16 districts it is between 10-16 per cent, and in the remaining three districts it is between 20-30 per cent (Census of India, 1991).

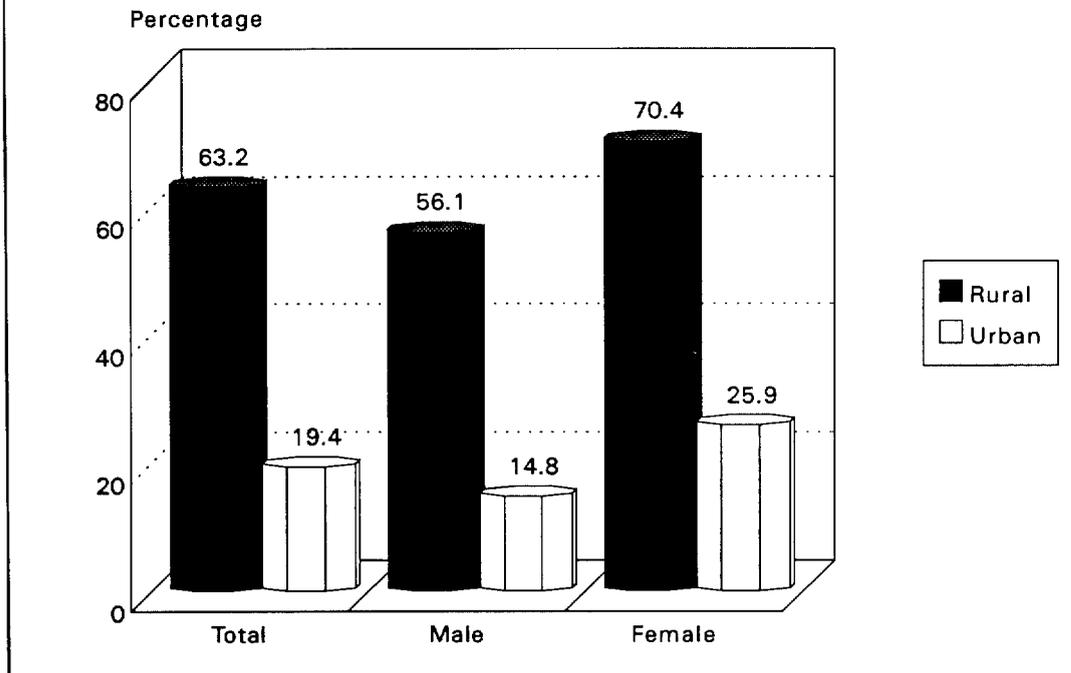
Exposure to radio (25 per cent) was estimated to be slightly higher than newspaper and magazine exposure (13 per cent). In western UP, which is the relatively more developed part of the state, a greater percentage of the people (around 44 per cent) listened to the radio than read magazines or newspapers (30 per cent).

Figure 4.1: Exposure to Mass Media in Uttar Pradesh



Television appears to reach the greatest number of people, and its coverage is steadily increasing. One study shows television coverage at 35 per cent in 1989 (ORG, 1990), while another ORG study shows that it was about 52 per cent in western UP. These figures indicate that television is potentially a successful way to reach the population, particularly in urban areas. The latest ORG National Readership Survey clearly shows that by 1990, television had the greatest reach of any form of media, both in rural and urban areas (Fig 4.1). It, however, needs to be kept in mind that there is a considerable gap between these figures which reflect irregular viewing of TV and reaching an audience with a family planning message. A detailed analysis of the coverage of various forms of mass media, however, also shows that about 40 per cent of the adult population in India, and about 53 per cent in Uttar Pradesh, are not reachable by any mass media ( Fig 4.2). In terms of absolute numbers, about 14 million adult males and 17.5 million adult females in Uttar Pradesh are beyond the reach of mass media, or approximately one of four adults. In order to reach them a separate strategy using alternative sources of information, such as traditional folk media and inter-personal communication must be employed.

Figure 4.2: Adults Not Reached By Any Media in UP



Mass media is still potentially important in promoting family planning in UP particularly in the urban areas, where 80 per cent of adults (85 per cent of males and 74 per cent of females) have been reached by one form of mass media or another. The emerging trend shows that at least for urban areas (including the slum and poor areas), television will be one of the most important media for information dissemination in Uttar Pradesh (ORG, 1990). Plans should be made to utilize the potential of the mass media to reach couples in slum and poor localities, who are often poorer than couples living in villages. These place, however need to keep in mind that the present data on coverage and exposure do not confined that attention is necessarily going to paid to family planning massaged or that television exposure is, in many cases, much more than having seen it but having limited access to it regularly.

### ***IEC Activities***

IEC activities under the family welfare program in Uttar Pradesh are managed directly by the Directorate of Family Welfare. Within the Directorate, the IEC team consists of a Joint Director, a Mass Education Communication Officer, a Program Officer (production), an Editor, an Artist/Photographer and an Audio-visual Officer. At the district level, the District Health Education and Information Officer is responsible for coordinating the IEC activities. IEC activities of the District Media Units include film shows, orientation training camps, exhibitions, newspaper advertisements, folk media presentations, and occasional radio interviews. At the PHC level, Block Extension Educators (BEE) are responsible for carrying out IEC activities. The BEE reports to the Medical Officer in charge of the PHC for administrative purposes, and works with the District Health Education and Information Officer for technical guidance. Generally, the BEEs are the most educated persons after the Medical Officer at the PHC level; most have a graduate, and sometimes a post graduate, degree.

According to the latest available statistics, there are 189 District Health Education and Information Officers, 907 Rural Block Extension Educators, 116 Urban Block Extension Educators, and 85 Projectionists working for IEC activities in Uttar Pradesh.

The available literature on IEC indicates that IEC activities are poorly organized, and often non-functional. For example, in Saharanpur district, Banerjee (1979) observed that 90 per cent of the women interviewed had not received any messages through films organized by the Media Units. Data collected during the Third All India Family Planning Survey showed that only 15.5 per cent of the couples in Uttar Pradesh had attended an orientation camp, 24 per cent had seen wall hoardings, and less than 2 per cent had seen film shows or puppet shows organized by the Media Unit (Khan and Patel, 1992). A recent ORG study (1992) on communication needs of couples in six districts of western Uttar Pradesh shows similar poor coverage. The IIMA study (1985) and an in depth analysis of

IEC activities in the three districts of eastern Uttar Pradesh covered under the IPP project (Khan, Basu and Tamang, 1988) highlights the following points:

1. IEC activities are planned, directed and supervised by doctors who do not appreciate usefulness and importance of IEC.
2. Only about 40 per cent of District Extension Educators (DEE) in UP are trained in some aspects of IEC. Most of them lack imagination and creativity.
3. Though the record on Orientation and Training Camps (OTC), shows that OTCs are organized regularly, in reality often it is not done. Sanction for OTCs are released very late (often in mid of March) and all OTCs are expected to be organized by the end of March. When ever OTC is organized, it is held poorly and without preparation to make it effective.
4. Educational material like films, film strips, studies, charts are rarely used.
5. Most of the BEEs lack basic training in communication techniques. Those who have been promoted to the post of BEE, or who have been transferred to the position from parallel health posts, have no training at all.
6. The pressure on BEEs to complete family planning targets distracts them from their main task, which is to plan and carry out educational campaign in their work areas.
7. As the BEEs are often the most highly educated people in the PHC, after the Medical Officers, they are given a lot of other duties which have nothing to do with IEC activities. Such duties include maintaining the registers and supervising the workers.
8. The doctors generally do not appreciate the importance of IEC activities, and hence instead of encouraging and guiding the BEEs to carry out their work, they discourage them by giving them additional responsibilities and rejecting their IEC initiatives. The doctors' main concern is achieving the family planning targets.
9. Much of the expensive equipment (for example, super aid slide projectors) provided to PHCs in the project area remains unutilized, as the BEEs are not trained to use it.

10. BEEs have no access to the PHC vehicles to carry the costly and heavy equipment to remote villages. Carrying them by bicycle is not practical.
11. No batteries were supplied. The slide projectors and other IEC equipment can thus only be used in a few electrified villages,
12. No funds were provided for equipment repairs.

These observations are consistent with those made by many other studies carried out in other parts of the state (ORG, 1992; Narayana, 1991; IIMA, 1985). The IIMA study (1985) indicates that the government's IEC efforts only publicize the family planning program, and neglect the actual information needs of the people. Which may be to have information about the way the method works, extent of side effects, safety and efficacy, etc. The majority of the District Extension Educators are not trained in any aspects of IEC, and most of them lack imagination and creativity. The IIMA study further reports that the budget did not adequately reflect the program need for mass education. At the national level, 3.2 per cent of the resources were allotted to mass education in the Sixth Five Year Plan, while in Uttar Pradesh the allocation was only one to one and a half per cent. This amount was not fully utilized, and the actual expenditure on IEC was 20 per cent less than the allocated resources. Another study on health financing shows that in 1982-83, while 22.9 per cent of the total health and family welfare expenditure in UP went on the family welfare program, the expenditure on IEC was only 0.2 per cent. Therefore, less than one per cent of the total budget of the family welfare program was actually spent on IEC (Rao, Khan and Prasad, 1986). The state officials responsible for IEC activities admit that the IEC component is a low priority in the family welfare program.

Reviewing IEC efforts Khanna (1992) points out that educational approach requires not only patience but competence. Orientation training in IEC is required at all levels: workers, PHC doctors, district authorities and the program managers. The educational component need to be strengthen and made cultural specific. Jagatdeb (1987) argues that presently in the drive to keep mass education simple and widespread, the effort lost its educational component and become pure propaganda.

The most fatal flaw in the present IEC effort is the tendency to gloss over negative factors and an oversell of deemed advantages (Khanna, 1992). The main purpose of a well-orchestrated IEC strategy is to create intelligent demand by means of a steady flow of information and support by timely counsel. However, the long term effectiveness of the IEC component of the program would largely depend on assured availability of synchronous services and well targeted interpersonal communication to generate a sense of

trust in the users. It would also depend on IEC to intimately relate generalized information to specific needs of the individual and family within the realm in socio-cultural choice (Khanna, 1992).

#### **Inter-Personal Communication**

A review of the literature on the extent to which IEC activities are carried out through inter-personal communication (home visits or group meetings) shows an equally discouraging situation. ANMs, male family planning workers, and BEEs who are responsible for educating and motivating couples about MCH and family planning are not able to carry out these tasks effectively, neither in terms of quantity nor quality. Almost half of all eligible couples are never contacted by a family planning worker (Table 4.1). According to studies conducted after 1985, the percentage of couples who have been contacted by a family planning worker varies widely between 24 per cent to 56 per cent. Most of the recent studies, both in Uttar Pradesh as well as in other parts of the country, clearly indicate that family welfare workers lack counselling and communication skills (IIMA, 1985; ORG, 1992).

**Table 4.1: Contact with ANMs or other health workers to discuss family Planning**

Name of the study	Area Covered	Sample Size	Percentage of couples ever contacted	Year of study	Source
Communication needs assessment in UP	6 districts	3,018	41.6	1990	ORG, 1992
End line survey of IPP project in UP	3 districts eastern UP	3,000	23.8	1988	Khan, Gupta 1988
Role of health delivery services in acceptance of FP in UP	3 districts	1,800	56.0	1987	Khan, Gupta 1988
Post project survey IPPF	3 districts	NA	15.0	1983	Pop. center Lucknow
Study of maternity & sterilization wings	1 districts	1,000	7.0	1980	Kumar, et.al
Family planning among Muslims	Kanpur, Urban	330	7.8	1975	Khan, 1979
Organization for change (Kanpur study)	Allahabad Division	2,500	13.0	1971	Mishra, et. al, 1982

To increase inter-personal communication and to reduce the work load of the ANMs, an IEC project was launched in 1988 in the four BIMARU states, with financial assistance from USAID. The project envisaged involving community members to work as link workers (one member for every twenty families). The ANMs would visit on fixed days, and their mobility would be increased through the provision of loans to purchase a moped or bicycle. A mid-term project evaluation, one year after its initiation, however, showed that the program could not be effectively implemented because of a shortage of staff, and delays in the release of funds. The link workers did not have access to IEC literature, and the required training at various levels could not be organized (Narayana, 1990).

The available studies thus clearly indicate that the family welfare workers, who are primarily responsible for health education and the promotion of family planning through inter-personal communication, have failed to accomplish their tasks. There is a great need for more effective training, planning, supervision and counseling in their out each activities.

Other sources must be explored, to complement the efforts of the family welfare workers. Doctors trained in Indian System of Medicine (ISM), other rural health practitioners, and angaewadi workers, among others, could be involved in the family planning program and work as agents of change in rural Uttar Pradesh. Some of the recent studies carried out in different parts of India, including Uttar Pradesh, demonstrate that the rural health practitioners have a keen interest in undergoing training in MCH and family planning, and already work as depot holders of condoms and OCP.

#### *NGOs Involvement*

There is almost no literature on the involvement of NGOs in IEC activities. The Family Planning Association of India (FPAI), with its branches in Lucknow and other places in UP, organizes film shows, group meetings, and door-to-door visits in its project areas. The population covered by FPAI in Uttar Pradesh is estimated to be 541,000. It is generally believed that the quality of the services provided by FPAI units is better than the quality of government services.

The IEC activities of FPAI are well-planned, using both mass media and inter-personal communication to educate and motivate couples for family planning. The Population Council is supporting a study to assess the quality of services provided by the Mobile Educational and Service Unit (MESU) of the Association in the district of Lucknow. A MESU covers about 41,000 population and emphasize on (a) taking services at the door step of people (b) provide a wider choice of contraceptives and a good quality of services (c) educate couples and adolescents about family life including contraception. Film show, group meeting and individual

counselling are used to promote contraception, particularly spacing methods. This study will demonstrate how the experiences of the Association could be utilized to improve the IEC component in the public sector, as well as that of other NGOs.

Other NGOs, such as Parivar Seva Sanstha Population Services International (PSS) and Population Service International (PSI), are also carrying out some IEC activities in UP. These organizations are mainly concerned with the social marketing of pills and condoms, and the provision of safe MTP facilities (PSS). Their IEC activities (promotional campaigns) will be assessed in the social marketing section.

Though most of the official documents strongly emphasize the need of involving NGOs in the family planning promotional efforts, so far it has not been translated into action. Serious consideration should be given as to how best to involve NGOs in all aspects of the family welfare program, including IEC activities. The team which visited Uttar Pradesh during the development of the IFPS project paper felt that Literacy House, IMA, and VHAI all have the potential to collaborate with the government in the effort to promote family planning.

## 5. INVOLVEMENT OF NGOs AND ORGANIZED SECTOR IN FAMILY WELFARE PROGRAM

### Overview

This chapter briefly reviews the current involvement and potential for expansion of NGOs and the organized sector in the family welfare program in Uttar Pradesh.

#### *Involvement of NGOs*

Despite repeated commitment expressed by GOI to involve NGOs in family welfare program, it has yet not been implemented seriously. For instance, though it has been decided that 20 per cent of family welfare budget will be channeled through NGOs, so far only about 1.5 to 2 per cent of the family welfare fund is actually spent as grants to NGOs.

Recently, however, PVOH projects funded by USAID/D and the SCOVA project initiated by GOI have succeeded in increasing NGOs participation in the family welfare program. To date nearly 75 community base projects have been initiated in different parts of the country. One major problem encountered in increasing involvement of NGOs in family welfare activities is that most of them are urban based and they cover very small populations. Further, many of them are not presently interested in the family welfare program. As of today no precise information is available on the number of NGOs working in different parts of the country and how much population they cover collectively.

NGOs, such as the Family Planning Associations of India (FPAI) are exceptions in being large, working both in rural and urban areas and covering a significantly large population. Under its 20 integrated rural development projects, spread over the country, FPAI covers 3,000 villages. In Uttar Pradesh, FPAI apart from its two branches (at Lucknow and Kanpur) is supporting four rural integrated projects, one slum project and a mobile education and service unit. The estimated population covered by FPAI in Uttar Pradesh is around 350,000. Apart from this a CBD project funded by FPAI in Varanasi district covers 1242 villages and serves about 40,000 couples.

The NIRPAD integrated rural development project in Mathra district provides family planning services to about 150,000 population. Recently on the request of GOI, FPAI has developed an inventory of active NGOs in Uttar Pradesh who are involved in family welfare activities. According to this, the number of such NGOs is 129 and cover approximately 4.2 million population. These

NGOs work only at UP level. Apart from these, 10 national level NGOs are also actively functioning in UP. Reviewing the potential of expanding NGO activities in Uttar Pradesh. The following four types of NGOs which could be seriously considered for future expansion, all with large numbers of members are listed below.

<b>Types of NGOs</b>	<b>Estimate membership</b>
<u>Cooperative</u>	
Primary Agricultural cooperatives	7.2 million
Milk cooperatives	0.45 million
Sugar societies	N.A
<u>Women Organization</u>	
Mahila Mandal	5000-15000 active Mahila Mandals each with 20-40 members
Other NGOs involved in women & development projects	30
<u>Health Oriented NGOs</u>	
Number of active NGOs	400
<u>Training Institutions</u>	N.A

*Source: Weeden, 1992*

How far these NGOs could be effectively involved in the family welfare program needs to be carefully examined and tested. However, evidence from Gujarat and Bihar shows that dairy cooperative societies have been quite successfully involved in increasing outreach of the family welfare program. Experience learned from Gujarat and Bihar could be used in Uttar Pradesh. As pointed out above, 9,000 Dairy Cooperative Societies in Uttar Pradesh cover nearly all districts and through its 450,000 members the program could reach to about 5 million population. Similar innovative experiments also could be done with other types of cooperatives.

Similarly, the 400 health-oriented NGOs could be a potential source for promoting the family welfare program. The UP branch of the Voluntary Health Association (VHAI) presently networks with many of these NGOs. The FPAI with its grant from MOH & FW is also

trying to motivate the NGOs to initiate family welfare activities. These two organizations (FPAI & VHAI) perhaps can play crucial role in organizing the smaller NGOs in Uttar Pradesh to promote family planning. A number of operations research studies are required to test how NGOs could be involved to increase the out reach of the programme and its demographic impact.

**Organized Sector:** Like NGOs, information on involvement of the organized sector is also limited. However, as various studies have shown, organized sector represents a potential asset. The workers could be reached more easily. Their economic status and educational level is also relatively better than general population. They are also more prone to change. These characteristics make them a special target group for bringing about planned social change such as introduction of a small family size norm and adoption of contraception.

According to available information, about 2.64 million of the population of Uttar Pradesh are employed in the organized sector. Out of these 2.1 million (80 per cent) are employed in the public sector while 540,000 (20 per cent) are working in the private sector. A geographical distribution of the organized sector showed the major areas of concentration being those districts close to Delhi, Ghaziabad, Muzzfarnagar and Meerut. The other important centers are Kanpur, Agra and Lucknow. Rampur is a growing industrial district.

In absence of any detailed study it is difficult to mention how far the employers will be cooperative in any initiative to involve them in the program. However, in study carried out in other parts of the country, generally it has been observed that despite being positive to the family welfare program, they do not want to take any responsibility particularly if it involves workers' time. They tend to see population as a government problem and expect government to solve it. However, there are notable exceptions as well.

A number of ILO initiatives, however, show that if serious efforts are made, many of them finally may support the program. Before taking any major initiative, however, it is important to conduct some feasibility studies to develop a better data base on employer as well as employee attitude towards family planning. Again, operations research could help in deciding how best the organized sectors could be involved in this planned social change.

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