

K. G. Jolly

Relation of Family Planning Adoption with Selected Socio-Economic Characteristics at District Level

A N attempt has been made in this study to find out the acceptance rates of different methods of Family Planning at district level. The study also tries to find out the relationship between the various socio-economic variables and cumulative acceptance rates for a period of time. Similarly the relationship between the acceptance rate and socio-economic variables has also been explored for the period of intensive effort.

Data and Methodology

The study is based on the data available with the Department of Family Welfare from the year 1969-70 to 1975-76 at district level. The acceptance rates of different methods of Family Planning refer to currently married women in the reproductive age-groups and on the basis of these rates the performance in each district has been assessed. Acceptors have been classified into two categories, namely "Sterilisation", and "Equivalent sterilisation". Equivalent sterilisation has been arrived at by taking 1/3 of IUD insertions or 1/12 of conventional contraceptive users as equivalent to one sterilisation. For the study, 334 districts have been taken in the original form, while Rajouri and Punch in J and K; all the 5 districts in Manipur; all the 5 districts in Arunachal Pradesh; all the three districts in Nagaland; all the 3 districts of Goa, Daman and Diu; and all the 4 districts of Pondicherry have been grouped into one unit each.

Districts have been classified into three categories namely, "good", "moderate" and "poor" according to their performance in each year. Mean and Standard deviation of different methods of Family Planning in each year have been computed. Taking "m" as mean and "a" as standard deviation, the districts having $\geq m + 0.43a$ performance have been classified as "good", those having $\leq m - 0.43a$ as "poor" and the rest as "moderate". A "Composite index" has also been developed to identify the performance in the long-run. A score of 1, '2' and '3' been assigned to "poor", "moderate" and "good" performing district each year. In this way the score varied between 7 and 21. The score has been divided into three equal groups, i.e. 7-11, 12-16 and 17-21. The districts having score of 7-11, 12-16, and 17-21 have been classified as "poor", "moderate" and "good" performing districts, respectively. So we have both short and long-term performance indices for examining their relation to various socio-economic variables.

Performance at District Level

Table 1 shows the distribution of districts according to their performance in different years. The progress of Family Planning has not been uniform during the period under review. The performance in sterilisation was the highest in 1972-73 but the lowest in 1973-74. There is a steady decline of IUD users and the number of C. C. users has constantly increased except in 1973-74. Looking to the macro level we find that the share of IUD and C. C. users is very small and the programme is basically sterilisation oriented,

We find that the number of "good" performing districts is large during the period when performance of the national level is high and vice-versa. We also find that the number of "good" performing districts is generally larger by "Equi. sterilisation" index than the "sterilisation" index, indicating that the acceptance of non-terminal methods, particularly condom, has been sizable.

An important object of the study is to find out the impact of various socio-economic variables on Family Planning performance in the long as well as in the short-term periods of intensive efforts. Percent literates, percent urban population, percent Hindu population, percent Muslim population and percent Scheduled castes population at district level are the socio-economic variables

TABLE 1—PER CENT DISTRIBUTION OF DISTRICTS ACCORDING TO THEIR PERFORMANCE IN DIFFERENT YEARS

Year	Sterilisation			Equi. sterilisation		
	I	II	III	I	II	III
1969-70	156 (45.9)	101 (29.7)	83 (24.4)	153 (45.0)	95 (27.9)	92 (27.1)
1970-71	146 (42.9)	118 (34.7)	76 (22.4)	151 (44.5)	112 (32.9)	77 (22.6)
1971-72	166 (48.9)	96 (28.2)	78 (22.9)	156 (46.0)	92 (27.0)	92 (27.0)
1972-73	129 (37.9)	93 (27.4)	118 (34.7)	133 (39.1)	82 (24.1)	125 (36.8)
1973-74	170 (50.0)	94 (27.6)	76 (22.4)	167 (49.1)	93 (27.4)	80 (23.5)
1974-75	147 (43.3)	111 (32.6)	82 (24.2)	159 (46.8)	102 (30.0)	79 (23.2)
1975-76	137 (40.3)	98 (28.8)	105 (30.9)	138 (40.6)	99 (29.1)	103 (30.3)
Overall	149 (43.9)	113 (33.2)	78 (22.9)	154 (45.3)	100 (29.4)	86 (25.3)

*I stands for poor, II for moderate and III for good performing districts.

used in this exercise. Table 2 shows the distribution of "good" performing districts in the long-run by various socio-economic variables.

The table suggests that the long-term performance is clearly related to different socio-economic characteristics of the districts. There is a positive relationship between the literacy rate and adoption of family planning, i.e., higher the level of literacy higher is the adoption rate. The chi-square test shows that the relationship is significant. Similar is the relation between the proportion of urban population and the adoption rate; the chi-square test on this data confirms this. The data shows that the performance is comparatively better in

TABLE 2—PERCENT DISTRIBUTION OF "GOOD" PERFORMING DISTRICTS
BY VARIOUS SOCIO-ECONOMIC VARIABLES

<i>Variables</i>	<i>Sterilisation</i>	<i>Equivalent-Sterilisation</i>
Percent Literate Population		
0—19	6.3	6.3
20—29	15.0	15.8
30—39	40.5	44.6
40+	48.0	56.0
Percent Urban Population		
0—9	6.6	7.4
10—19	25.9	28.4
20—29	35.6	37.3
30+	43.2	50.0
Percent Hindu Population		
0—69	9.8	23.5
70—79	38.2	32.4
80—89	28.6	28.6
90+	19.6	21.7
Percent Muslim Population		
0—9	23.7	28.8
10—19	27.9	25.6
20+	7.7	5.1
Percent Scheduled Castes Population		
0—9	24.2	34.7
10—19	44.9	23.6
20+	65.2	17.5

districts having 70-90 percent Hindu population than those with either a higher or lower proportion of Hindus. The Chi-Square test shows this relationship to be significant at 5% level of significance. In the case of Muslim and Scheduled Castes population, the performance in the districts having a higher proportion of either Muslim or Scheduled Castes population is low. The Chi-Square test shows a negative relationship in both cases. It would thus appear that the dis-

tricts having "Good" performance, in the long-run, are the districts having high literacy rate, high proportion of urban population, high proportion of Hindu population, low proportion of Muslim population and *low* proportion of Scheduled Castes population.

Out of the total districts, 78 have been categorised as "Good" performing districts under the sterilisation and 86 districts under the equivalent sterilisation index. Sterilisation performance has been found to be good in sizeable number of districts in Andhra Pradesh, Gujarat, Maharastra, Kerala, Tamil Nadu and Orissa. The number of "Good" performing districts has increased to 86 under the "Equivalent Sterilisation" index and this additional coverage is mainly confined to Punjab, Haryana, Orissa and Madhya Pradesh as the performance of C. C. users is fairly good in these districts.

Performance During Intensive Effort Period

We have already seen that the various socio-economic variables influence the adoption of Family Planning. We can not ignore the fact that Government effort in promoting family planning has not been uniform in intensity over time; we find that the effort was at the maximum during 1972-73. It will be of interest to study as how the various socio-economic relationships are affected with the introduction of intensive government effort. Table 3 shows the percent distribution of "Good" performing districts by various socio-economic variables in different years.

These data clearly demonstrate that during the period of intensive organisational efforts, 1972-73 in particular, the rate of adoption in all the districts had gone up but the extent of improvement differed significantly among districts. It is notable that the improvement in performance was quite selective. In this period of intensive efforts, districts having low level of literacy and low level of urban population fared much better. Similarly the performance increased substantially in the districts having a high proportion of Muslim as well as those with high proportion of Scheduled Castes population. In other words, during the period of intensive efforts, the programme was comparatively more effective among the people with low literacy, among the rural people, among Muslims and those belonging to Scheduled Castes.

In conclusion, it would appear that while improvement in social and econo-

mic conditions help in acceptance of family planning, the programme has a useful role to play not only in provision of services for people who are already motivated through socio-economic progress but also in attracting people who can be persuaded to accept family planning for bettering their social and economic status.

TABLE 3—PERCENT DISTRIBUTION OF "GOOD" PERFORMING DISTRICTS IN DIFFERENT YEARS BY VARIOUS SOCIO-ECONOMIC VARIABLES
(Based on Sterilisation Index)

Variables	Year						
	1969-70	70-71	71-72	72-73	73-74	74-75	75-76
Literacy Rate							
0-19	10.4	8.3	10.4	30.3	4.2	5.2	8.4
20-29	24.4	17.5	14.1	30.3	15.0	14.1	25.0
30-39	32.5	32.5	40.5	40.5	39.2	44.6	50.0
40+	42.5	46.0	42.0	46.0	50.0	54.0	60.0
Percent Urban Population							
0-9	12.4	9.9	9.9	24.0	13.2	9.9	19.0
10-19	25.9	25.9	29.2	39.6	17.2	25.0	32.8
20-29	33.9	27.1	28.3	39.0	37.3	33.9	39.0
30+	41.0	41.0	34.1	45.5	41.0	47.7	47.7
Percent Hindu Population							
0-69	17.6	9.9	7.9	25.5	15.7	19.6	27.5
70-79	29.4	38.3	35.3	47.0	26.4	26.4	47.0
80-89	27.7	26.8	26.8	39.3	25.0	24.1	36.6
90+	23.1	19.5	22.4	31.4	21.7	25.1	23.8
Percent Muslim Population							
0-9	26.0	22.4	24.2	34.9	26.0	28.4	33.5
10-19	26.7	29.1	26.7	38.4	19.7	20.9	27.9
20+	10.3	7.7	7.7	25.7	7.7	7.7	23.1
Percent Scheduled Caste Population							
0-9	41.0	41.0	42.1	46.3	27.4	35.7	50.5
10-19	23.0	20.6	20.0	32.7	24.2	22.5	26.0
20+	7.5	3.7	6.2	25.0	12.5	13.7	17.4

Appendix I

LIST OF DISTRICTS HAVING "GOOD" PERFORMANCE IN THE LONG-RUN

<i>District</i>	<i>State</i>	<i>Sterilisation Index</i>	<i>Equivalent Sterilisation</i>
1	2	3	4
Srikakulam	Andhra Pradesh	Yes	Yes
Visakhapatnam	"	Yes	Yes
East Godavari	"	Yes	Yes
West Godavari	"	Yes	Yes
Krishna	"	Yes	Yes
Guntur	"	Yes	Yes
Chittoor	"	Yes	Yes
Cuddapah	"	Yes	Yes
Kurnool	"	Yes	No
Hyderabad	"	Yes	Yes
Nizamabad	"	Yes	Yes
Khammam	"	Yes	No
	Assam		NIL
	Bihar		NIL
Rajkot	Gujarat	Yes	Yes
Surendra Nagar	"	Yes	Yes
Bhav Nagar	"	Yes	No
Amreli	"	No	Yes
Junagadh	"	Yes	Yes
Mahesana	"	Yes	No
Ahmedabad	"	Yes	Yes
Kheda	"	Yes	Yes
Vadodara	"	Yes	Yes

Appendix I (contd. on page 69)

1	2	3	4
Bharuch	..	Yes	Yes
Surat	..	Yes	Yes
Valsad	..	Yes	Yes
Ambala	Haryana	Yes	Yes
Karnal	..	No	Yes
Rohtak	..	No	Yes
Mahendragarh	..	Yes	Yes
Hissar	..	Yes	Yes
Jind	..	No	Yes
Simla	Himachal Pradesh	Yes	Yes
Kozhikode	Kerala	Yes	Yes
Ernakulam	..	Yes	Yes
Quilon	..	Yes	Yes
Trivandrum	..	Yes	Yes
Gwalior	Madhya Pradesh	No	Yes
Ratlam	..	Yes	Yes
Ujjain	..	Yes	Yes
Indore	..	Yes	Yes
Greater Bombay	Maharashtra	Yes	Yes
Thana	..	Yes	Yes
Kolaba	..	Yes	No
Nasik	..	Yes	Yes
Dhulia	..	Yes	Yes
Jalgaon	..	Yes	Yes
Ahmednagar	..	Yes	Yes
Poona	..	Yes	Yes

1	2	3	4
Satara	Maharashtra	Yes	Yes
Sangli	"	Yes	Yes
Sholapur	"	Yes	Yes
Kolhapur	"	Yes	Yes
Aurangabad	"	Yes	Yes
Parbhani	"	Yes	Yes
Bhir	"	Yes	Yes
Nanded	"	Yes	No
Osmanabad	"	Yes	Yes
Buldhana	"	Yes	Yes
Akola	"	Yes	Yes
Amravati	"	Yes	Yes
Yeotmal	"	Yes	Yes
Wardha	"	Yes	Yes
Nagpur	"	Yes	Yes
Bhandra	"	Yes	Yes
Chandrapur	"	Yes	Yes
Coorg	Mysore	Yes	Yes
Sambalpur	Orissa	Yes	No
Sundergarh	"	Yes	Yes
Keonjhar	"	Yes	Yes
Mayurbhanj	"	Yes	Yes
Balasore	"	Yes	Yes
Cuttack	"	Yes	Yes
Dhenkanal	"	No	Yes
Baudh Khondmals	"	No	Yes
Kalahandi	"	Yes	Yes

1	2	3	4
Koraput	Orissa	Yes	Yes
Gurdaspur	Punjab	No	Yes
Ferozpur	"	No	Yes
Ludhiana	"	No	Yes
Kapurthala	"	Yes	Yes
Hoshiarpur	"	No	Yes
Ropar	"	No	Yes
Patiala	"	No	Yes
Bhatinda	"	No	Yes
	Rajasthan		NIL
Madras	Tamil Nadu	Yes	Yes
Chingleput	"	Yes	Yes
South Arcot	"	Yes	Yes
Salem	"	Yes	Yes
Nilgiris	"	Yes	Yes
Madurai	"	Yes	Yes
Tiruchirapalli	"	Yes	Yes
	Uttar Pradesh		NIL
Birbhum	West Bengal	Yes	No
Chandigarh	Union Territory	No	Yes
Delhi	"	No	Yes
Pondicherry	"	Yes	Yes