Couple Protection Rate in Orissa: One Step Forward, Two Steps Backward- A District Level Study

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Abstract:

The growth rate of population is on declining trend in Orissa since 1971. High prevalence of couple protection rate among tribal dominated districts of Orissa indicates towards the plight of tribal people because innocent and poor tribal are lured by the incentive provided by the health and family welfare department. The districts with high proportion of scheduled caste and scheduled tribe population have higher couple protection rate in comparison to districts with lower percentage of scheduled population. The relationship between family planning performance and socio-economic variables such as female literacy rate, percentage of urban population, female work force participation rate and proportion of scheduled caste/tribe population is a good measure to analyse the influence of development on CPR. Female work force participation rate shows a highly positive and significant correlation with CPR in Orissa. High CPR in Orissa cannot be explained on the basis of developmental indicators because it is a developing state having low levels of industrialisation and urbanisation. It is also agriculturally backward state of India. So the state government should make conscious efforts to uplift the health and educational infrastructure particularly for females and scheduled population to prevent their exploitation.

Keywords- Couple Protection Rate (CPR), Sterilisation, Literacy, Family Planning, FWPR

1. Introduction:

The population of Orissa has been growing at very modest rate since 1971. The annual exponential growth rate of population was 1.91 percent, 1.83 percent, 1.48 percent and 1.32 percent during the period 1971-81, 1981-91, 1991-2001 and 2001-2011 respectively (Table 1). In population growth rate Orissa ranks fourth among the low growing states of India only after Kerala, Tamil Nadu and Goa. Unlike the other states, Orissa's case is very complex. In some official circles, the low growth rate of Orissa during 1971-81 was attributed primarily to the success of family planning programme (Census of India, 1981, Paper 1 of 1981 supplement). The low growth rate during 1981-91 was also attributed to the success of family planning programmes by some social scientists.

So, the present paper assumes great importance as it analysis the differential pattern of couple protection rate (CPR) across the districts of Orissa and find out the relationship between the socio-economic variables with the family planning performance i.e. CPR.

2. HYPOTHESES

The following are the hypothetical considerations:

1. Districts with high female literacy would mean high couple protection rates.
2. Districts with high proportion of scheduled caste population would have lower couple protection rate.
3. Districts which have higher proportion of urban population will be better in terms of CPR.
4. Districts with high proportion of scheduled tribes population would have lower couple protection rate.
5. Districts where female workforce participation rate is more, would have high acceptance of family planning means higher CPR.

3. District –wise CPR:

All the districts in Orissa show an increase in the levels of couple protection rate during 1989-90. From Table 2, it is conspicuous that increase in the levels of CPR, differ across the districts. All the districts can be grouped into three categories according to the increase in the levels of CPR during the period. The districts of Baleshwar, Kalahandi, Mayurbhanj and Shambhalpur fall in category 1, where increase in CPR is less than 1point. Bolangir, Cuttack, Ganjam, Keojhar, Koraput, Phulbani and Sundergarh districts fall into category 2, where increase in CPR is between 1 and 2 points. Dhenkanal and Puri fall in category 3, where increase in CPR is more than 2 points. Table 3, which shows frequency distribution of districts by CPR due to all methods and CPR due to sterilisation, make certain features conspicuous. The table shows that no district in Orissa has CPR due to all methods below 30 % and only Mayurbhanj have CPR more than 50%. The majority of districts have CPR between 40% and 50%. 30.8% of the districts have CPR due to sterilisation below 30% and 50.8% of the districts have CPR due to sterilisation between 30% and 40%. The remaining 15.4% of the districts have CPR due to sterilisation between 40% and 50%.

The tribal districts show higher CPR due to all methods as well as due to sterilisation as compared to non tribal districts. The probable explanation to this may be the poor economic conditions of tribal people lured them towards the monetary gains provided by government run family welfare programmes. The comparison of frequency distribution of districts reveals that there has been a decline by 15.3% points in proportion of districts with CPR between 30% and 40%. This trend is also reflected among tribal districts as well as among non-tribal districts of Orissa. This trend reflects, overall substantial improvement in levels of CPR during the period in Orissa.

4. Inter-District Variation in CPR:

There is a great deal of variation in CPR from district to district within the state. If we divide the whole state into two regions as one comprising of tribal districts and other non-tribal districts, amount of deviation from uniform performance differs among the regions (Table4). Inter-district variation has been measured by the range and standard deviation. The state of Orissa shows a modest inter-district variation.

The inter-district variation is slightly higher for CPR due to sterilisation than CPR due to all methods. The coefficient of variation is also high for CPR due to sterilisation than CPR due to all methods but overall it is on the lower side, means performance in most of the districts of Orissa is more or less uniform. If we take inter-district variations in CPR (due to sterilisation as well as due to all methods) for tribal and non-tribal districts, the variation in terms of range, standard deviation and coefficient of variation is higher for tribal districts than non-tribal districts, which imply that performance of family welfare programmes in most of the non-tribal districts is more uniform in comparison to tribal districts.

5. Relationship between CPR and Female Literacy:

Correlation and regression analysis is carried out to assess the strength of relationship between CPR and female literacy across the districts of Orissa. For this purpose, CPR for sterilisation and CPR for all methods combined and female literacy rates are used. It is found that there is a strong negative correlation between female literacy rate and CPR and is statistically significant at 1% level. The correlation coefficient between female literacy and CPR (Sterilisations) is also negative and is found statistically significant at 5% levels. This implies that higher female literacy rates are accompanied by lower CPR which means our hypothesis that higher female literacy leads to higher CPR is rejected which is highly undesirable. Nevertheless it is a mind boggling issue which needs to be looked into by the government officials and policy makers.

6. Relationship between Female Work-Force Participation (FWP) and CPR:

Regression and correlation analysis is carried out to assess the strength of relationship between FWPR and CPR. The regression equation arrived at is: CPR = 35.4+0.41 FWPR

The correlation coefficient between FWPR and CPR (r= 0.57) is positive and statistically significant at 5% level. This implies that increase in FWPR will lead to increase in CPR. This means our hypothesis that higher FWPR leads to higher CPR is not rejected. The only valid conclusion could be that this variable significantly influence family planning acceptance positively.

7. Relationship between Urbanisation and CPR:

The correlation coefficient between proportion of urbanisation to total population and CPR is -0.40. But it is not statistically significant even at 20% level. Though the strength of relationship improves with CPR due to sterilisation even then it is not statistically significant which implies that urbanisation does not influence CPR either positively or negatively.

8. Relationship between Proportion of Scheduled Tribe Population and CPR:

The correlation coefficient between proportion of ST population to total population and CPR is positive (+0.59). The strength of relationship improves if CPR is only confined to sterilisation. Both these correlation coefficients are statistically significant at 5% level. This means higher proportion of ST population leads to higher CPR.

The regression equation arrived at between proportion of ST population and CPR is: CPR = 50.5+ 0.63 ST population which is significant at 1% level. This implies that 1% increase in ST population will lead to 0.63% increase in CPR. This means that our hypothesis is rejected.

9. Relationship between Proportion of Scheduled Caste (SC) Population and CPR:

The proportion of SC population shows a positive correlation with CPR. The strength of relationship increases if CPR is confined to sterilisation. Both these correlation coefficients are statistically significant, implying that increase in SC population will lead to increase in CPR. The regression equation between proportion of SC population and CPR is given by CPR = 51.5+0.61 SC population, shows that 1 percent increase in SC population will lead to 0.61 percent increase in CPR. This percentage increase in CPR is increased by 0.64 percent if CPR is confined to sterilisation. Both these are statistically significant. This means our hypothesis is rejected.

10. Conclusion:

To conclude we can say that the variable FWPR is playing a major and important role in promoting family planning programme. It is impalpable that districts with high female literacy rates and higher urbanisation are having lower CPR than the districts with lower female literacy rates and low levels of urbanisation. The SC population and ST population are showing a high positive correlation with CPR means the districts with higher proportion of scheduled caste and scheduled tribe population are having higher couple protection rate in comparison to districts with lower proportion of SC/ST populations. This implies that the story of family planning success is mainly centred on SC/ST population. Is increasing sterilisation of tribal population really means successful family planning programmes and development? This ethical question remained unanswered in the literature. The higher CPR in Orissa can not be explained by the developmental indicators as it is a economically backward state with low levels of urbanisation and industrialisation. It is also not much agriculturally progressive and developed state. The levels of health and education particularly among females and rural population are not well above national averages. One can not look for any other spectacular modernising element; the only valid reason for high CPR seems to be the monetary incentives offered by government to the poorest among the poor, which are generally backward, tribal and downtrodden people. There is a desperate need to uplift the poor to prevent their exploitation so that they can also contribute for the development of their state.

11. References:

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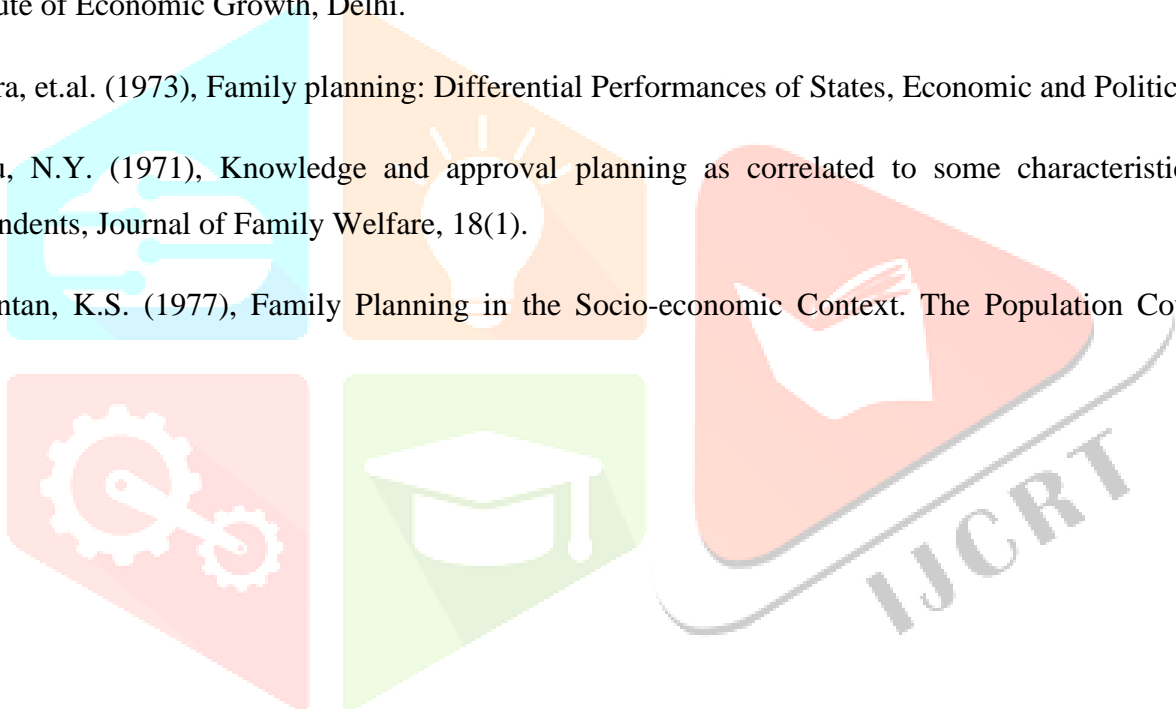Srikantan, K.S. (1977), Family Planning in the Socio-economic Context. The Population Council, New York.

Table I

Population of Orissa and its Growth (1991-2011)

Year	Total Population in millions	Decadal Absolute	Growth Percent	Average Annual Growth Rate (%)	% Distribution of Population
1901	10.3	-	-	-	4.32
1911	11.4	1.1	10.7	1.02	4.52
1921	11.2	-0.2	-1.8	-0.18	4.44
1931	12.5	1.3	11.6	1.10	4.48
1941	13.8	1.3	10.4	1.00	4.32
1951	14.6	0.8	5.8	0.62	4.06
1961	15.5	0.9	6.2	0.62	4.00
1971	21.9	6.4	41.3	3.51	4.00
1981	26.4	4.5	20.5	1.91	3.86
1991	31.7	5.3	19.3	1.84	3.73
2001	36.8	5.1	15.9	1.48	3.58
2011	42.0	5.2	14.1	1.32	3.47

Area of Orissa = 155,707 sq.km

Table II

Percentage of Couple Effectively Protected as on 31st March

S.No.	State/District	Due to Sterilisation 1990	Due to all methods 1990	1989	Increase (+) / Decrease (-) in CPR
	Orissa	31.4	40.7	39.6	1.1
1.	Baleshwar	31.8	41.2	40.7	0.5
2.	Bolangir	27.3	36.8	35.9	0.9
3.	Cuttack	31.0	39.9	38.6	1.3
4.	Dhankanal	29.1	40.0	37.6	2.4
5.	Ganjam	30.3	39.8	38.3	1.5
6.	Kalahandi	40.0	48.3	48.0	0.3
7.	Keonjhar	35.0	44.5	43.5	1.0
8.	Koraput	36.9	45.4	43.9	1.5
9.	Mayurbhanj	43.6	52.4	52.1	0.3
10.	Phulbani	31.9	42.0	40.7	1.3
11.	Puri	28.1	38.2	36.0	2.2
12.	Sambalpur	29.5	38.5	38.2	0.3
13.	Sundergarh	31.6	41,0	39.1	1.9

Table III

Frequency Distribution of Districts by CPR due to all methods and CPR due to Sterilisation as on 31st March

Frequency Distribution of Districts	Less than 30%	30%-40%	40%-50%	50% and above
I Due to all methods				
1989	0	7(53.8)	5(38.5)	1(7.7)
1990	0	5(38.5)	7(53.8)	1(7.7)
II Due to sterilisations	4(30.8)	7(53.8)	2(15.4)	0
Tribal Districts*				
I Due to all methods				
1989	0	2(28.6)	4(57.2)	1(14.3)
1990	0	1(14.3)	5(71.4)	1(14.3)
II Due to sterilisations	1(14.3)	4(57.1)	2(28.6)	0
Non-Tribal Districts**				
I Due to all methods				
1989	0	5(83.3)	1(16.7)	0
1990	0	4(66.7)	2(33.3)	0
II Due to sterilisations	3(50)	3(50)	0	0

*Tribal Districts includes the districts of Kalahandi, Kenojhar, Mayurbhanj, Phulbani, Koraput, Sambapur and Sundergarh.

**Non-Tribal districts comprising all the districts excluding Tribal districts.

Note: In Brackets are given the % of districts.

Table IV

Orissa

Correlation and regression co-efficient between Female literacy rates, Proportion of Urban Population to Total Population, SC Population, ST Population, FWPR and CPR at district level.

S.No	Independent Variables	Dependent Variables					
		CPR(all methods) 1990			CPR (Sterilisation)		
		A	B	r	A	B	r
1	Female Literacy	48.3	-0.20	-0.71^{**}	36.5	-0.11^{**}	-0.63^{**}
2	Urbanisation	45.23	-0.24	-0.40	36.63	-0.28	-0.41
3	% age of SC Population	51.52	0.61^{**}	0.58^{**}	42.53	0.64^{**}	0.59^{**}
4	% age of ST Population	50.51	0.63^{**}	0.59^{**}	44.36	0.47^{**}	0.61^{**}
5	WPR (Female)	35.44	0.41	0.57^{**}	28.0	0.34	0.48

Note: Data on CPR is taken from analytical review of CPR (1990), Govt. of India, New Delhi-1991.

** Significant at 1% level

* Significant at 5% level