Childlessness in Time, Space and Social Groups and its linkages with fertility in India

Usha Ram[1]

Introduction

Both pregnancy and birth are widely associated with rituals that transform a woman from the sterility status or childlessness to motherhood, from being a young wife to a mature woman with the enhanced social status that is conferred upon mothers in many societies (Homans 1982). Infertility or the inability to have children on the other hand affects both men and women of reproductive age in all parts of the world. The prestige and status of women within family often is related directly to their fertility and childlessness can sometimes lead to loss of status. For the individuals, infertility imposes profound emotional and social stress, in turn evoking feelings of denial, anger, grief and guilt, especially among women. Often the ill effects of childlessness are far more severe for women than they are for men. They are subjected to the additional risks of social discrimination in many forms. For example, in some populations childless women are kept away from social celebrations in the family or society and childlessness is the reason enough for the husband to remarry.

India is characterized by pronatalist norms and social values that favor higher fertility. Females in India are almost universally married and marry early (Jain 1975) and newly married girls in India are often given blessing by elders to beget large families and childless or lack of male child invites prejudice and ill will (Gandotra and Pandey 1979). Despite this, the problem of childlessness has been largely overlooked in favor of research and promotion of family planning (IPPF 1982. In words of Jejeebhoy (1998) 'the general thrust of both programmes and research has been on correlates of high fertility and its regulation rather than the context of infertility, its causes and consequences. It may not thus be wrong to say that the fertility levels of any population are very much influenced by the levels of childlessness (both voluntary and involuntary) in the population and it plays an important role in determining both levels and differentials of fertility (Roberts 1972). The evidence in the past has suggested that the decline in impaired fertility leads to an increase in the total fertility rate (Larsen 1996).

[1] Usha Ram, Ph. D. is working as Associate Professor in the Department of Public Health and Mortality Studies at the International Institute for Population Sciences, Govandi Station Road, Mumbai, India.
Tel. (O): 91-22-25563254/5/6, Fax No. 91-22-2556 3257, email: ushaiips@vsnl.net

There would be however much greater implications for health of the women-mental, reproductive etc. In some of the regions infertility is found to be widespread and its prevalence reaching such proportions that it can well be considered as a public health problem affecting the life of the whole society (WHO 1991. In the present paper we explore the dynamics of childlessness over space, time and different social groups in India. We also attempt to understand the mechanism between childlessness in the population and fertility.

Measurement of childlessness:

There appears to be lack of global agreement on pragmatic definitions of important indicators or concepts related to infertility that further limit the comparability of data. While it is clear that infertility, childlessness or sterility all refer to the inability of couples to conceive or bear children when desired, there tends to be some variation in the specific definitions adopted by clinicians, epidemiologists and demographers. Variations in the definitions of childlessness largely occur in (a) the reference period used to establish infertility, and (b) in the classification of women who have experienced pregnancy but not a live birth. Just to give an example, the definition adopted by the WHO (WHO 1991), drawn by the Scientific Group on the Epidemiology of Infertility has used two-years as the reference period for this purpose.

Another term that is sometimes found in the literature (Bogue 1969) is called 'completed childlessness rates. Some of the researchers while analyzing the data related to childlessness have focused exclusively on the women in the last years of the reproductive lives (that is women in the forties, particularly in the late forties). These rates have been termed as 'completed childlessness rates'. In the present analysis we follow this definition i.e all 'Zero Parity' ever married women ages 40-44 are considered as childless. In other words, we have defined childlessness as the proportion of ever-married women ages 40-44 who have never experienced any fertile pregnancy or those who failed to have a live birth at the time census was conducted.

Data:

The childlessness rates in the present analysis are based on the census data from 1981 and 2001 on distribution of ever-married women by parity in India. In order to support certain inferences we do fall upon the following survey data:

- National Family Health Surveys (NFHS I and II)
- Rapid Household Surveys conducted in the districts of India (known as the RCH-DLHS) in 1998-99 and 2002-04

Levels of Childlessness: International Perspective

Before we start exploring the areal and social clustering within India it is required to position India in global perspective. Globally, between 8 to 12 per cent of couples (about 50 to 80 million people) experience some form of infertility during their reproductive lives. The recent data compiled by Population Division of United Nations in 2003 indicates that the large number countries (about 42 per cent of 126 countries having data, aged 40-44) fall in the range of 1-5 per cent category of the childlessness. Another 32 per cent of the countries are in the range of 5-8 per cent category. There are around 32 countries that reported more than 10 per cent childlessness. Many of these countries are in low fertility areas and larger proportion of women may be childless by choice not by chance.

Table 1: Distribution of Countries by Level of Childlessness, Circa 1990.

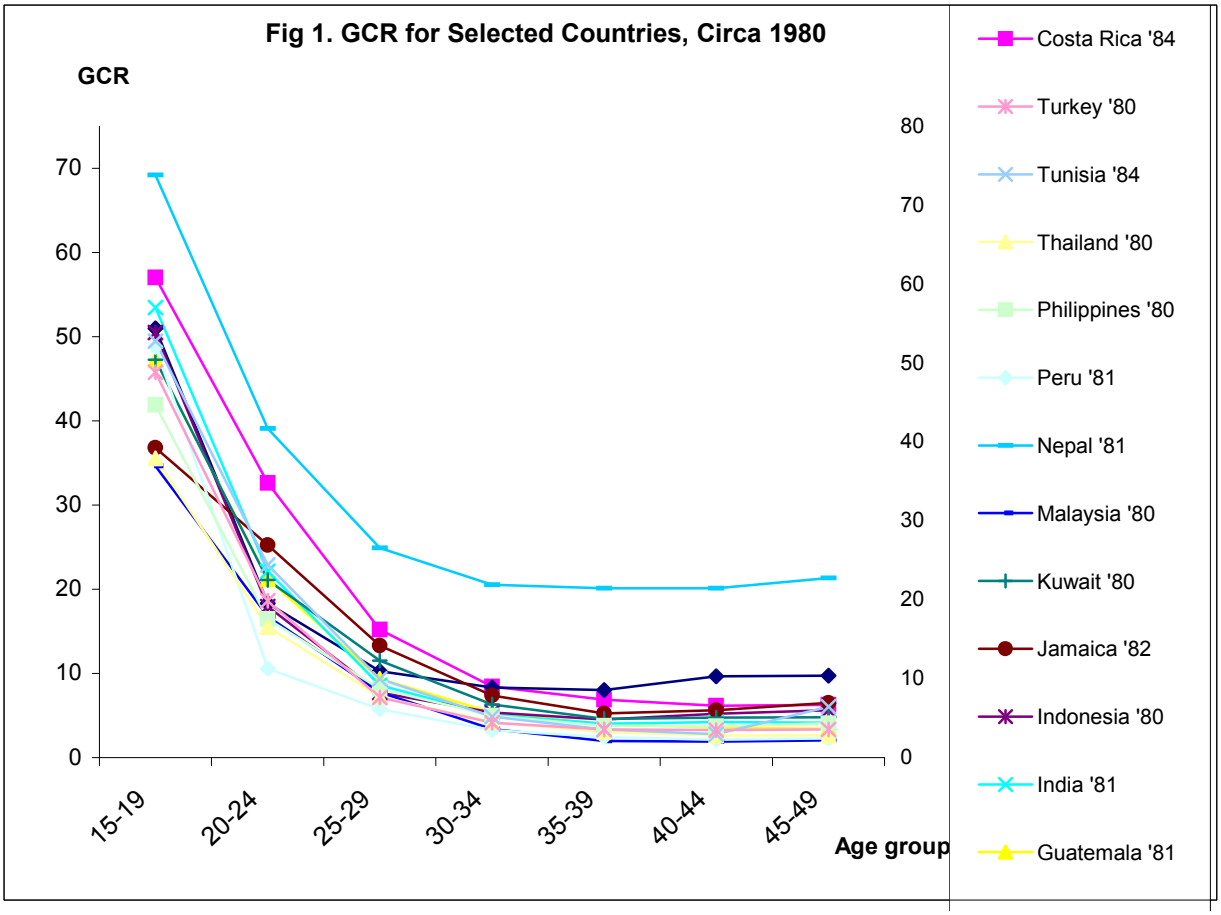
	Age of the Woman		
Per cent of childless woman	**35-39**	**40-44**	**45-49**
Less or equal to 5 %	33.6	42.1	45.5
5.01- 8.00 %	28.1	32.5	26.4
8.01-10.00 %	14.1	12.7	19.0
More than 10 %	24.2	12.7	9.1
Number of Countries	128	126	121

Source: United Nations 2003, World Fertility Tables-2003, UN Population Division, New York

The data in Table 2 (Fig 1 given below) reveals that circa eighties the mean ASCR for the selected countries (including Nepal) declined from about 51 per cent in age groups 15-19 to just 23 per cent in the age group for 20-24 years (lower than half the level) and further to just 11 and 7 per cent for the next two age groups (that is 25-29 and 30-34). However, it revolved around 6 per cent for the last three age groups. This pattern is found to be true for all countries but Bangladesh, Indonesia, Jamaica and Kuwait. In these four countries, the proportion of childless women declines till age 35-39 and then increases marginally for the last two age groups. Similar patterns may also be observed for the means excluding Nepal. Values for Nepal and Bangladesh are abnormally high and cannot be

explained with prevailing socio-cultural milieu in these countries. Like in India these countries put very high premium on child especially son.

The data for the individual country reveal that the ASCR for the age group 15-19 ranges from low of 37 to 39 per cent in Malaysia, Jamaica and Thailand to about 74 per cent in Nepal followed by India and Costa Rica (at about 57 per cent). The ASCR for the age group 20-24 varies between 11 per cent in Peru to nearly 33 per cent in Costa Rica followed by Jamaica (27 per cent), India and Tunisia (about 24 per cent). It may be mentioned that the ASCR for India for the age group 20-24 is very close to the mean value of 22.59 per cent. In case of the age group 25-29, the ASCR varies between a little over 6 per cent for Peru and around 8 per cent for Thailand, Turkey, Indonesia and Malaysia to the high of 27 per cent for Nepal followed by Costa Rica (15 per cent) and Jamaica (14 per cent). The ASCR in this age group for India is nearly 9 per cent. Further, the ASCR in the age group 30-34 years ranges between a low of 3 to 4 per cent in Peru and Malaysia to close to about 5 per cent in Philippines, Thailand, Tunisia and Turkey to high of about 22 per cent in Nepal. For the remaining countries however, it varies between 6 to 9 per cent.



Coming to the last three age groups, it may be seen from the Table, the levels of ASCRs range between around 2 per cent to 21 per cent in the age groups 35-39 and 40-44 and to nearly 23 per cent in the age groups 45-49 years. Further, the highest value is observed for Nepal and lowest is observed for Malaysia (true for all 3 age groups). The levels of ASCR in these 3 age groups are slightly over 4 per cent for India (marginally lower than the mean value).

Table 2: Age Specific Childlessness Rates (ASCRs) for the Selected Developing Countries during the Period Circa 1980.

Country Name	Year	*ASCRs*						
		15-19	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**
Bangladesh	1974	54.39	19.54	10.94	8.89	8.54	10.29	10.37
Costa Rica	1984	57.04	32.63	15.20	8.43	6.89	6.15	6.28
Guatemala	1981	50.39	22.64	9.98	5.72	4.22	3.81	3.67
India	***1981***	***57.05***	***23.62***	***9.17***	***5.44***	***4.29***	***4.49***	***4.43***
Indonesia	1980	53.86	19.15	8.24	5.74	4.81	5.56	6.01
Jamaica	1982	39.27	26.95	14.18	7.86	5.59	6.00	6.92
Kuwait	1980	50.43	22.52	12.30	6.73	4.92	5.08	5.10
Malaysia	1980	36.95	17.89	8.28	3.63	2.11	2.04	2.19
Nepal	1981	73.82	41.69	26.59	21.92	21.47	21.48	22.74
Peru	1981	52.06	11.29	6.11	3.49	2.58	2.26	2.44
Philippines	1980	44.69	17.57	8.74	5.33	4.03	3.99	4.35
Thailand	1980	37.92	16.54	7.70	4.50	3.23	2.80	2.79
Tunisia	1984	52.76	24.44	9.98	5.19	3.58	2.96	6.46
Turkey	1980	48.83	19.86	7.61	4.44	3.59	3.48	3.59
Mean (Incl. Nepal)		50.68	22.59	11.07	6.95	5.70	5.74	6.24
SD		9.13	7.22	4.96	4.45	4.66	4.82	5.03
Maximum Value		73.82	41.69	26.59	21.92	21.47	21.48	22.74
Minimum Value		36.95	11.23	6.11	3.49	2.11	2.04	2.19
Mean (excl. Nepal)		48.90	21.13	9.88	5.80	4.49	4.53	4.97
SD		6.74	5.09	2.56	1.66	1.68	2.11	2.17
Maximum Value		57.05	32.63	15.20	8.89	8.54	10.29	10.37
Minimum Value		36.95	11.29	6.11	3.49	2.11	2.04	2.19

Note: The proportions have been calculated from the data in the Demographic Year Book of the United Nations for 1981 and 1986.

National Perspectives: Regional Clustering

In case of Indian data we discuss the results from 1981 and 2001 census. We hypothesize that 20 years period would be sufficient large to observe changes in the determinants of natural fecundity. These changes would be generally to improve/reduce involuntary childlessness. Factors like nutrition, coital frequency, reduction in duration of

breast-feeding, and pregnancy wastage; all would contribute to improve chances of having at least one live birth there by reducing involuntary childlessness. In other words any increase in childlessness for women age 40-44 years over time have to be explained either by biological factors or by behavioral factors that lead to voluntary childlessness.

Table 3 indicates the percent of women who have reported in the category of zero parity in rural-urban setting and also for some selected social groups. It may be observed that in 1981 about 4 per cent of women did not have any child in their lifetime. This goes well with the various estimates of primary sterility in Indian sub-continent. Rural and urban differentials were also not very substantial in 1981. This is also in tune with the fact that this cohort of woman has experience the fertility regime of almost thirty years preceding 1981. This means that the initial years of childbearing was spent when contraceptive environment was not very favorable and female literacy (an indicator of ignorance about contraceptive and their availability) was low even in the urban areas. It may be possible that during this time determinant of natural fertility did not differ across rural and urban areas in the country.

In the past twenty years, that is during 1981-2001, childlessness has increased to 6.2 per cent (from 4 to 5.7 in rural India and 4.2 to 7.2 in urban India] i.e. increase of 2 women for every 100 women who have completed child bearing. In urban India an increase is to the tune of 3 women for 100 married women. By social groups again differential is not very great at national level but increase over time is consistent. In other words, increase in childlessness is omnipresent whether we take place of residence or we take various social groups in India. It may be interesting to note that the Scheduled Tribes (the most deprived castes in India) reported higher levels of childlessness as compared to the other social class during the 1981. It is rather surprising that they have recorded even higher levels of childlessness over time, as there is an increase in the proportion childless women in this group during 1981-2001. This needs greater exploration, as it is not consistent with our hypothesis.

Now then question arises what could be the reasons for such upwards increase in childlessness in the population that value children so much and women have very high stakes when they do not produce any child especially son/s. It is difficult to argue and justify the increase with over reporting of zero parity especially when strong stigma is attached with childlessness in the society. There are some chances on part of investigators who may not visit each and every household. This kind of quality concern could improve with time when more inputs/efforts are put in and educational status of the population has

been increasing. So the argument of over reporting of zero parity may not stand scrutiny of social system and rigorous data analysis.

One may again take the side of biological factors to explain an increase in childlessness. Literature is replete with evidences to support improvement in natural fecundity i.e. reduction in involuntary childlessness with social and economic development. There are no strong reasons to believe higher pregnancy wastage, lower coital frequency, increase in morbidity affecting fecundity etc.

It may be premature in absence of any direct evidence, but one may argue that voluntary childlessness could only explain an increase of 55 per cent in childlessness in India [nearly 43 per cent in rural and 71 per cent in urban] during 20 years period. Before we attempt to provide some logical explanation let us look at areal scenario of the childlessness. Table 4 provides level of childlessness in 1981 and 2001for states of India and for some selected social groups. Let us focus our discussion first on bigger states that constitute more than 95 per cent of India's population.

There are two states that need mention here. The state of Andhra Pradesh (AP) and Tamil Nadu (TN) that have not only reported higher prevalence of childlessness but also experience comparatively faster increase. In AP childlessness increased from 8 in 1981 to 9.3 percent in 2001 whereas in TN it increased from 6.4 per cent to almost 11 per cent in 2001. Some of the smaller states like Manipur, Meghalaya and Nagaland have also exhibited such higher incidence/prevalence of childlessness. With a few exceptions, it may be stated that the areas that have exhibited higher fertility levels have exhibited lower levels of childlessness. In 1981, states of Rajasthan, Uttar Pradesh, Punjab, Kerala, Maharashtra, Haryana and Bihar had relatively lower levels of childlessness. It may be reminded that the fertility decline in these states has been relatively slow and the childlessness too have changed very little in these states.

Regional clustering is difficult to emerge when one considers a larger unit such as states in India. However, district level analysis may bring out some types of regionalization of the event that may prevail. Although we understand that in India even districts too are relatively larger in size. Map -1 clearly indicates some contiguous areas that report higher prevalence of childlessness (the levels being more than 8 per cent). The final scrutiny of these areas leads us to following two -common characteristics:

1. All these areas (with higher levels) are having comparatively larger per cent of SC and ST populations.

2. Some of these areas, especially those in the southern states of the country, have already attained lower levels of fertility, that is, better social and economic development.

It is thus clear that dissimilarity within the clusters is an indicative of the fact that one possibly cannot provide ant general explanation, either under the framework of natural fertility determinants or under framework for desired for voluntary childlessness. It is therefore important to understand these from a very different perspective with various sub-groups of the population.

Differentials by Social Groups

In the present analysis we are considering only two of the dimensions of social classification of a population, that is, religion (Hindu, Muslim and Christian) and Caste composition (Scheduled castes and Scheduled tribes). It may be brought to the knowledge of the readers that the scheduled castes and tribes population come mainly from the Hindu religion as the census collects caste information only from the Hindu and/or Sikh populations and not from any other religion.

As comes from the analysis, at the national level, the scheduled tribes have reported higher levels of childlessness in the 1981. Again, during 1981-2001, they have recorded higher increase in the levels in comparison to all other sub-groups except Christian. In some states like Tamil Nadu, childlessness levels are notably high, which is rather difficult to explain with the help of 'deteriorating health conditions including nutritional health conditions'. The differentials by religion within the states are however not significant. For example, even Muslim reported about 11 per cent childlessness in Tamil Nadu and Andhra Pradesh in 2001, which is similar to the levels reported by the general population. This apparently suggests the need for contextual and cultural specific analysis as similar levels of childlessness in one context may have very different meaning and determinants compared to that in another context.

Concluding Remarks

In the present paper, an attempt has been made to analyze the zero parity data from census of India for 1981 through 2001 for India and its states. The analysis very clearly indicates areal clustering of childlessness. However, cluster formation has two dimensions – one that is formed due to natural factors and other one due to deliberate choice. Childlessness in India may be more with the strength of the patriarchal system. From the available data, estimation of voluntary childlessness has to incorporate these revelations in

the technique. Data for India and states do indicate increase in the levels of childlessness during the past two decades, that is 1981-2001 and it does seem to be partly due to voluntary choice of the couples. This group would increase in future owing to their aspiration and life style and would have far reaching implications. .

Table 3: Childlessness in India by place of residence, religion and caste, 1981-2001.

India	Age of the Woman		
	35-39	**40-44**	**45-49**
Place of residence			
Combined			
1981	3.86	4.05	4.00
2001	6.30	6.16	6.14
Rural			
1981	3.85	4.01	3.95
2001	5.79	5.74	5.80
Urban			
1981	3.89	4.22	4.18
2001	7.47	7.15	7.05
Religion			
Hindu			
1981	3.95	4.16	4.13
2001	6.23	6.12	6.17
Muslim			
1981	3.40	3.45	3.39
2001	6.53	6.40	6.20
Christian			
1981	3.20	3.37	3.22
2001	8.13	7.45	7.16
Caste			
Scheduled Caste	3.88	4.01	3.87
1981	5.75	5.76	5.97
2001			
Scheduled Tribes	5.18	5.18	5.02
1981	6.73	6.78	7.07
2001			

Table 4: Childlessness by States and Religion, 1981-2001

India/States	All Religion		Hindu		Muslim		Christian	
	2001	1981	2001	1981	2001	1981	2001	1981
Major States								
Andhra Pradesh	9.28	8.09	9.05	8.13	11.43	4.84	10.94	7.73
Bihar	5.54	3.78	5.45	3.73	5.97	3.83	7.19	3.04
Gujarat	4.97	5.06	4.81	4.90	6.45	6.61	5.57	5.32
Haryana	2.35	2.56	2.33	2.56	2.46	2.76	3.96	2.60
Jammu & Kashmir	6.96	4.58	3.72	4.32	8.43	4.67	6.01	6.88
Karnataka	6.99	1.06	7.01	1.09	6.59	0.90	7.82	0.81
Kerala	5.68	2.86	6.06	3.09	5.82	3.17	4.47	1.82
Madhya Pradesh	4.13	5.59	4.06	5.60	4.79	5.24	5.99	4.68
Maharashtra	5.47	2.68	5.43	2.72	5.89	2.45	7.01	1.54
Orissa	5.81	5.80	5.74	5.75	5.58	5.37	6.97	5.59
Punjab	4.35	3.28	4.66	3.12	4.58	5.24	4.80	2.88
Rajasthan	3.41	4.44	3.41	4.46	3.79	4.60	5.32	4.65
Tamil Nadu	11.20	6.42	11.27	6.58	10.69	5.88	10.34	4.32
Uttar Pradesh	6.11	2.76	6.00	2.74	6.57	2.86	9.34	4.16
West Bengal	5.97	2.23	6.09	2.28	5.20	1.95	7.17	2.28
Minor States & UTs								
A & N Island	3.29	3.29	2.56	2.21	2.94	1.76	5.21	5.34
Arunachal Pradesh	7.08	1.55	5.82	0.76	8.03	--	7.14	2.00
Assam	6.89	----	7.14	--	6.03	--	8.42	----
Chandigarh	2.92	2.02	2.96	1.94	2.73	2.13	2.20	4.11
Chhatisgarh	5.93	----	5.96	--	6.13	--	5.33	----
Delhi	3.12	0.60	3.02	0.60	3.75	0.90	4.82	0.67
Dadra & Nagar Haveli	6.39	3.74	6.16	3.70	3.64	--	16.55	--
Daman & Diu	5.54	6.07	4.88	---	11.25	--	9.28	--
Goa	6.70	----	6.41	6.06	4.97	4.66	7.63	6.20
Himachal Pradesh	3.27	2.68	3.23	2.68	3.44	1.33	9.09	----
Jharkhand	6.29	----	5.93	--	5.20	--	7.81	----
Lakshadweep	5.83	6.78	4.76	--	5.93	4.66	--	---
Manipur	10.66	4.34	8.94	3.31	9.40	2.74	14.24	6.78
Meghalaya	10.82	0.59	11.72	0.36	7.76	0.46	10.81	0.67
Mizoram	4.47	0.68	7.45	0.56	1.11	--	4.52	0.71
Nagaland	9.30	2.40	10.77	1.68	12.86	0.89	9.18	2.43
Pondicherry	5.29	4.72	5.13	4.71	6.58	4.69	5.99	4.67
Sikkim	5.12	4.78	4.92	4.85	5.10	--	5.78	----
Tripura	5.34	4.80	5.39	--	5.06	--	4.94	----
Uttaranchal	3.94	----	3.92	--	4.00	--	8.93	----
India	**6.16**	**6.16**	**6.12**	**4.16**	**6.40**	**3.45**	**7.45**	**3.37**

Table 5: Childlessness among SC and ST ages 40-44 in Indian states, 1981-2001

India/States	Scheduled Caste		Scheduled Tribe	
	2001	1981	2001	1981
Major States				
Andhra Pradesh	9.04	8.90	5.99	7.82
Bihar	5.56	3.60	14.16	4.46
Gujarat	4.32	4.34	5.59	4.69
Haryana	2.02	2.27	7.27	--
Jammu & Kashmir	3.38	5.25	6.70	--
Karnataka	6.94	1.06	8.43	1.12
Kerala	6.63	3.58	8.43	1.99
Madhya Pradesh	3.63	5.46	6.49	6.80
Maharashtra	5.25	2.61	5.59	2.77
Orissa	5.75	6.02	5.36	7.97
Punjab	3.47	2.84	4.58	--
Rajasthan	3.13	4.15	7.90	4.46
Tamil Nadu	10.90	6.58	15.25	6.75
Uttar Pradesh	5.47	2.73	9.20	9.57
West Bengal	4.83	2.13	7.09	3.40
Minor States & UTs				
A & N Island	--	--	--	--
Arunachal Pradesh	4.90	--	4.71	1.67
Assam	6.12	--	8.31	--
Chandigarh	2.66	2.49	3.88	--
Chhatisgarh	6.52	---	5.69	--
Delhi	2.47	0.62	5.71	--
Dadra & Nagar Haveli	7.69	2.44	7.24	4.10
Daman & Diu	4.35	--	9.73	--
Goa	6.62	6.63	15.25	3.98
Himachal Pradesh	3.62	3.74	4.07	3.33
Jharkhand	5.44	--	4.49	---
Lakshadweep	--	--	---	--
Manipur	4.84	5.37	10.8	6.44
Meghalaya	11.39	--	8.50	---
Mizoram		--		---
Nagaland		--		--
Pondicherry	4.97	4.12	8.86	---
Sikkim	4.05	5.07	4.42	4.69
Tripura	4.76	--	7.84	--
Uttaranchal	3.43	--	7.76	--
India	**5.76**	**4.01**	**6.78**	**5.18**

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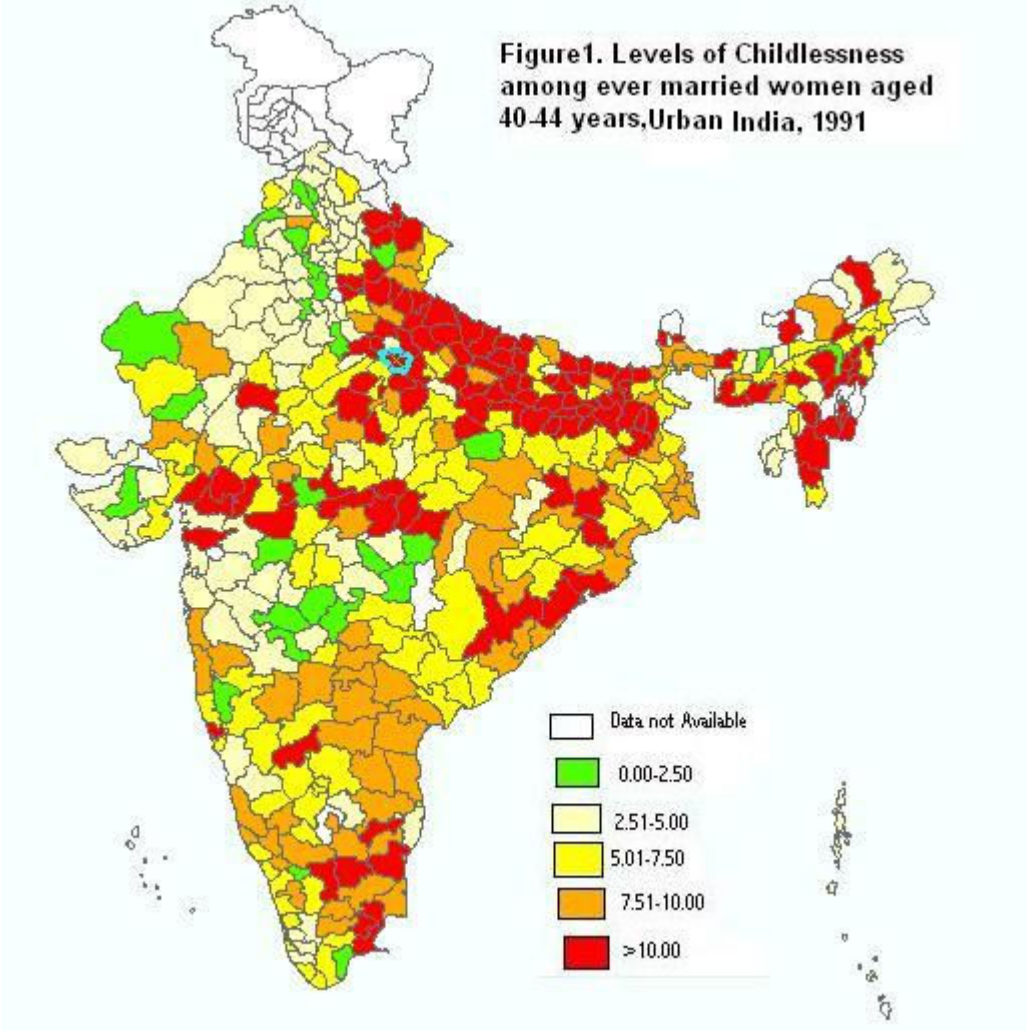

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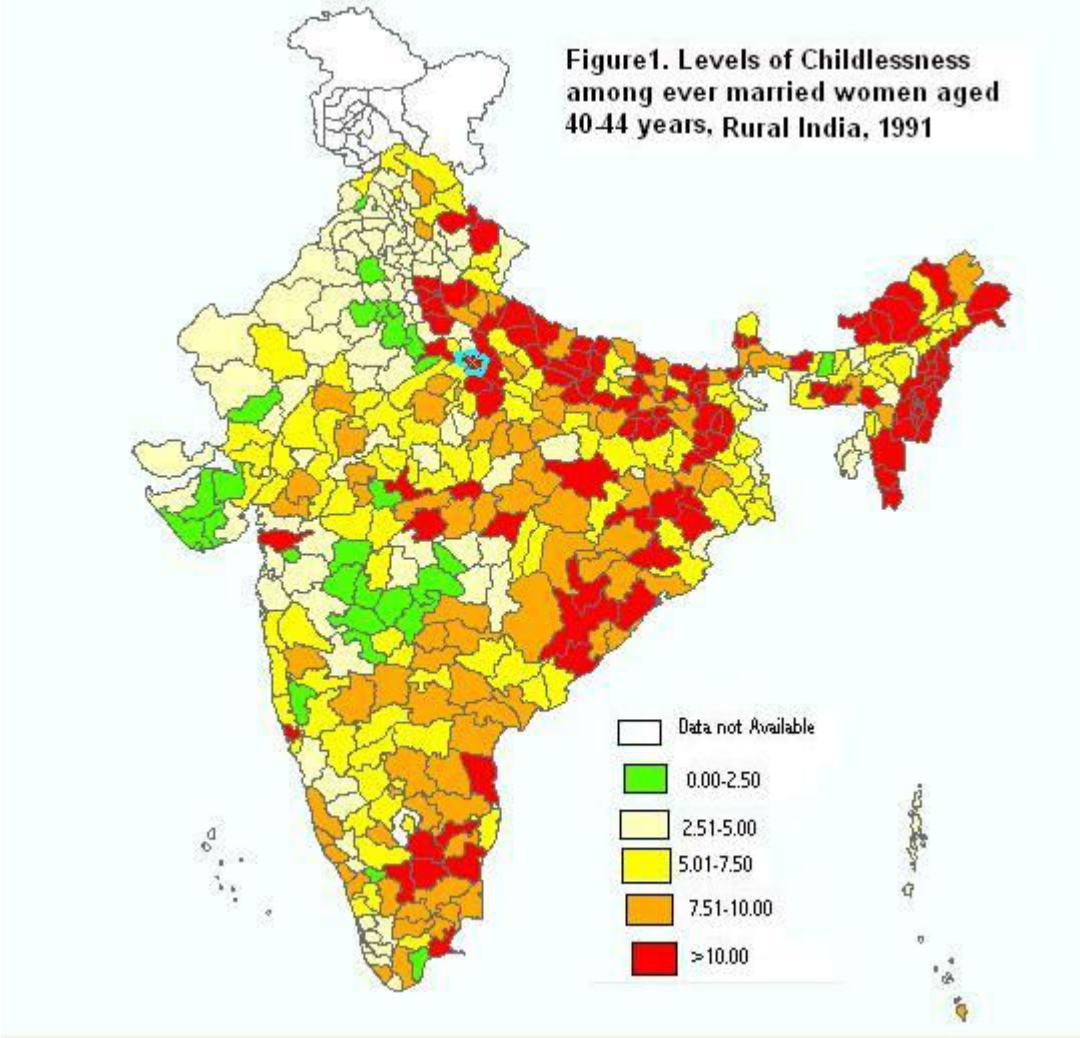

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