Reality Behind Declining Child Sex Ratio in Kashmir-India

It has long been observed that India's population shows an unusually masculine composition. This was generally attributed to higher mortality among females than males in contrast to what has been observed in the western world. However, since the 1990s, the young ages show greater masculinity than in the past and a steep rise in the sex ratio at birth has been observed. There is evidence that sex-selective abortions are widely practiced, facilitated by easy availability of the technology of pre- natal sex-detection and access to medical termination of pregnancy, at least in some parts of the country. However, till, 2011, the practice of sex-selective abortions in Kashmir Valley was unknown and even during third phase of DLHS, very few women reported knowledge of sex detection technologies, but the results of 2011 Census unnerved every conscious citizen of the State. As per Census-2011, the child sex ratio (CSR) in Jammu and Kashmir (J&K) has drastically come down to 859 as against 914 at the all India level and only two states namely Punjab and Haryana have lower child sex ratio than J&K. What is more disturbing is the revelation that J&K has recorded a decline of 82 points in its sex ratio which is the highest decline among all the states in the country. The most alarming situation is from Kashmir Valley which has recorded a decline of 135 points in comparison to 41 points in Jammu Region. In 2001, there were a total of 12 districts in India which had a child sex ratio of more than 1000; and four of these districts namely Kupwara, Anantnag, Pulwama and Budgam were from J&K and in 2011, the same four districts have recorded a child sex ratio of less than 850.

The results of Census-2011 pertaining to CSR in Kashmir sent shock waves both among the members of the civil society as well as in the civil administration. While the civil society initially could not digest these alarming figures, but some write ups in the local dailies complimenting the Census Directorate to have done a splendid job of completing Census in a sensitive State of Jammu and Kashmir made people to believe in the authenticity of census figures. The State Health Government also initially doubted the CSR figures but lost no time to seal all unregistered ultrasound clinics in the State in general and in Kashmir Valley in particular. The National Rural Health Mission (NRHM) Directorate used the local print and electronic media to propagate and educate people about the menace of female feticide in such a way that common man started to believe that the sharp decline in CSR in Kashmir is a reality and is the result of rapid spread of the use of ultrasound and amniocentesis for sex determination followed by sex selective abortion. However, no serious exercise has been conducted to examine the quality of Census data and relate it with other sources and ascertain whether sex selective abortions is really a problem in Kashmir or the there are some other reasons responsible for skewed child sex ratio in Kashmir.
A close look at the J&K Census data raises some important questions about the quality of its data in general and more particularly the information pertaining to children in the age group of 0-6 years. The provisional census results in J&K seem to be confusing due to the following three main anamolies.

1. The census-based population growth rate of 21.5% during 2001-11 is significantly higher in Jammu and Kashmir than the SRS-based rates of natural increase (birth rates minus death rates) of 14%. In other states, there is not much difference between the two estimates.
2. The proportion of population below seven has increased from 14.6% to 16% in Jammu and Kashmir, whereas it has decreased significantly in all other States in India during 2001-11, despite the fact fertility has declined sharply in Kashmir than at the national level.
3. The child sex ratio has decreased considerably from 941 to 859 girls per 1,000 boys under seven, by far the largest decline observed among the states between 2001 and 2011.

Objectives

The main objective of this paper is to analyse the Child Sex Ratio (0-6) and its determinants in Jammu and Kashmir and also try to analyse whether the female feticide in Kashmir is a reality or the politicization of census and resultant over count of male child population has resulted in a drastic decline in Child Sex Ratio in Kashmir.

Methodology

We will use the Census Data during 2001 and 2011 to analyze the trends in CSE at regional level in J&K. We also use Vital Statistics data to examine Sex Ratio at birth during 2006-2010. We will also use data from Health Management Information System (HMIS) to study the Sex Ratios at Birth during the recent years (2009-2012) in various regions of the State. We will also use data from various rounds of National Family Health Survey and the third round of District Level Household Survey to study the son preference, sex differentials in nutrition, IMR and immunization. Finally we will use the data collected from a few selected health institutions in Kashmir Valley regarding the use of ultrasound and delivery outcome and sex ratios at birth during the 2012-13 to study as to what extent use of ultrasound is associated with induced abortion and finally with SRB.

Findings

During 2001-11, the population of Jammu and Kashmir has increased by 23.7% as against 17.6% at the national level. Among the major states, Bihar is the only state which has slightly higher growth than J&K. If we compare the decadal population growth rate during 2001-11 with the natural growth rate during the last 10 years for different States of India, it can be seen that there is only a difference of 2% between the two rates at the national level and for most of the major states but this difference is 11% for J&K which is the highest for any state. Considering J&K a outmigration State, and the recent fall in fertility, such a huge increase in population is surprising.

Now let us look at the 0-6 child population. This age group constitutes 13% of the total population of the country as against 16% for Jammu and Kashmir and 17% in Bihar. As the birth rate during the last one decade in India was higher than the birth rate in J&K and one could have expected a decline in the proportion of child population of J&K during 2001-2011. While this decline can be observed in India and in most other states where fertility has declined, but surprisingly J&K has registered an increase in the proportion of 0-6 population during the last decade. The size of 0-6 population depends upon the birth rate and infant and child mortality rate during the last 6 years and migration does not play a role in the overall size of the 0-6 population. But if we compare the crude birth rate and the percentage of 0-6 population to total population, this relationship is established for large majority of the States except J&K. Well slightly lower infant and child mortality rate in J&K than at national level can only explain less than 0.5% of this difference. As there are no brutal changes in the age structure or in the age specific fertility in the State as evident from NFHS-3 and DLHS-3 and SRS, therefore, proportion of 0-6 child population in J&K seems to be on a higher side. So, we should not rule out the possibility of over-enumeration of 0-6 population also during Census-2011. Thus there are issues with internal consistency of information with Census.

Information about child sex ratio is available from National Family Health Survey-3 (NFHS-3) conducted in 2006 and District Level House Hold Survey-3 (DLHS-3) conducted in 2008. Both these surveys also reflect the grim reality of lopsided sex ratio at national level and in different States. NFHS-3 and DLHS-3 have reported a child sex ratio of 918 at the National level which closely matches with the Census-2011 figure of 914. But as far as J&K is concerned, both NFHS-3 and DLHS-3 have estimated a lower child sex ratio of (903-905), which is far higher than the Census 2011 figure of 859. Thus, the question remains why the Census and Demographic Surveys estimates do match at national level and not for J&K.

In demographic literature, there are three factors that can help to explain a sharp decline in child sex ratio in any society. They are (a) decline in the normal sex ratio at birth (mainly due to sex selective abortions), (b) increase in female child mortality and (c) under enumeration of girls.

According to NFHS-3, the sex ratio at birth at the national level for children under six years was 107 as against 108 for Jammu and Kashmir. DLHS-3 data also supports the NFHS-3 statistics. Latest data about Sex ratio at birth is available from website of the Health Management Information System, National Rural Health Mission (NRHM), Ministry of Health and Family Welfare (GOI). This is a real time data set updated every month for each facility by the District Programme Management Units under working under NRHM. Jammu and Kashmir is one of the states in the country who have taken a lead in facility based reporting of information. Though, there are certain data quality issues for some indicators, but a few studies conducted by Population Research Centre have shown that SRB is one of the indicators where we have no data quality issues. A look at information contained in **Table:1** shows that during 2010-13, information regarding the sex ratio at birth in J&K is available for 5665851 live births. Of these births 296591 are male and 269260 are female. Thus the sex ratio at birth for the State works out to be 110. The sex ratio at birth in Kashmir is 106 and it is 105 in Ladakh. Jammu region in general and districts which have a huge concentration of Hindu population have an abnormal SRB of 117. This means that though some couples in J&K are avoiding the birth of girls while ensuring the birth of boys but this problem is much more acute in Jammu region and not in Kashmir Valley. A SRB ranging between 115-124 in most of the Hindu majority districts, clearly bring out that sex selective abortion is much more prevalent in Jammu region than projected by Census-2011. Besides, contrary to the Census findings, Kashmir and Ladakh region have a normal sex ratio.

Civil Registration System (CRS) though presently covers only 70 percent of the births in the State also do not show much deviation in the Sex Ratio at Birth. During the last 10 years (2000-10), SRB at birth averages 108. With an improvement in birth reporting coverage under CRS in rural areas under CRS, the SRB during the last three years in Kashmir has been recorded between 107-109, and in Jammu region it ranges between 109-112, again indicating that the problem of sex selective abortions is much more prevalent in Jammu.

Another important reason that could be considered to explain huge female deficit is sex differentials in infant and childhood mortality. While girls in India have higher under-five mortality than boys but luckily gender differences in under-five mortality in J&K are minimum. For example, under-five mortality according to NFHS-3 in India was 70 for boys and 79 for girls and for Jammu and Kashmir it was 54 for both boys and girls. Similarly, if we look at the under five mortality published by Sample Registration System-2008, boys and girls under five mortality accounted for 17 percent and 18 percent of total male and female deaths respectively. Neonatal mortality rate among the male and female is 35 and 28 respectively. Similarly, there are hardly any gender difference in full immunization coverage and various nutritional indicators. Thus, gender differences in infant and child mortality cannot explain huge deficit of females in the State.

The third plausible reason for a dip in child sex ratio can be biasness in under-enumeration of female child during Census-2011 or coverage of certain sensitive areas in Kashmir. While, it is difficult to prove that Census has underreported females, but India Census has a tradition of underreporting females. Further, conduct of Census in a sensitive State like J&K has always been a challenging job. Due to the security concerns, Census was not conducted in J&K in 1991. During 2001 also, militants were opposed to the conduct of census and issued threats to the staff participating in census enumeration. This created a sense of insecurity among enumerating staff, but Government wanted to have a census at all costs and consequently, when the Census results were out, there were few takers and even the various State Departments questioned the quality of Census data. For example, the State Government not satisfied with the overall sex ratio figures of 2001 Census, conducted a special Sex Ratio census in the State in 2003.

Civil society doubted the figures pertaining to the religious composition of the State and a good number of write-ups appeared in the local press criticizing the Government of India for deliberately changing the religious composition of the State by including non state subjects. During 2011, though the militant organizations did not oppose the conduct of census but requested all Muslims of the State to get enumerated and the Census staff of the Valley was asked to fulfill all obligations towards its community, so that the Muslim majority character of the State gets reflected in the Census. Thus, the conduct of census during the last three decades in J&K has been much politicized and used as a weapon both by the militant organizations as well as by the State Government to show their strength.

We were told by a number of enumerators and supervisors that during the current Census rumor spread in Kashmir Valley that Hindu enumerators in Jammu region are over reporting the Hindu population with a view to get more funds under State plan. The enumerators in Kashmir also reacted by over enumeration of population. As it is easy to over enumerate 0-6 population than adult population, because enumerator has to just fill 3-4 columns for a child as compared to more than 15 columns for an adult. So enumerators generally prefer to report more young people than adults in case they resorted to over reporting of population. In this process of over enumeration, enumerators have somehow preferred to differentially over-enumerate boys and girls.

Use of ultrasound and Sex Ratio at Birth

Government of India has launched a new scheme "Janani Sishu Suraksha Karyakram", under which all pregnant women delivering in public health institutions are entitled to absolutely free and no expense delivery including free ultrasound. Various details including address and contact Nos of women who undergo ultrasound are maintained in a separate register by he institutions where ultrasound facilities are available. There is also a parallel data base called "Mother and Child Tracking System" under which complete information of the pregnant women about the ANC, PNC including pregnancy outcome and sex of the child is maintained. This register is available at all health facilities. We collected these two types of registers from District Hospital Kupwara and CHC Kupwara and identified women who existed I both the registers by matching address and contact Nos and only those cases were matched who had delivered during the last 6 months (April-August, 2012). In other words, the two registers were matched to identify women who had both used ultrasound and also delivered or aborted. Of the 839 women who had used both ultrasound and for whom delivery details were available in the register during the reference period, we could match only 694 women. Of these 694 women, the proportion of live births was 92 percent, still birth 3 percent and abortion was recorded for 5 percent. While looking at the sex ratio of 21 still births, 11 were male and 9 are female. Of the 638 live births, 329 are male and 309 are female resulting in a SRB of 106.5. Thus it appears that use of ultrasound at least in Kashmir Valley is not misused for sex detection or sex selective abortion.

Though, it was a small sample size, but I believe that this methodology can help us to keep a vigil on the misuse of ultrasound at least in Public Health Institutions, provided they properly maintain the data base of users of ultrasound.

Table:1 HMIS SRB and Census Child Sex Ratio & % child population in J&K

District	HMIS			Census-2011		District	HMIS			Census-2011	
	Male	Female	SRB	CSR	% 0-6 Pop		Male	Female	SRB	CSR	% 0-6 Pop
Kupwara	20215	19226	105.1	854.0	22.5	Kishtwar	6755	6215	108.7	921.9	16.9
Baramulla	15495	15164	102.2	866.4	15.9	Ramban	8801	7896	111.5	930.8	19.3
Bandipora	5900	5545	106.4	893.0	15.7	Doda	14974	13608	110.0	931.9	17.3
Ganderbal	4204	3868	108.7	863.5	17.0	Udhampur	14976	13320	112.4	886.7	14.9

Srinagar	25083	25418	98.7	868.8	12.3	**Reasi**	8287	7163	115.7	920.9	17.7
Badgam	10001	9515	105.1	832.0	20.7	**Poonch**	18897	16790	112.5	894.8	17.6
Pulwama	7898	7633	103.5	836.2	17.1	**Rajouri**	17329	15752	110.0	837.3	19.1
Shopian	5011	4754	103.5	883.5	15.1	**Jammu**	50772	41550	122.2	794.9	10.5
Kulgam	8888	8055	110.3	882.3	16.6	**Samba**	5675	4580	123.9	786.8	11.9
Anantnag	25980	24359	106.7	831.5	19.3	**Kathua**	14606	12399	117.8	836.4	13.0
Kargil	3548	3355	105.8	977.6	14.2	**Kashmir Region**	**67487**	**63456**	**106.4**	**854.3**	**17.3**
Leh	3296	3095	106.5	943.7	8.0	**Ladakh Region**	**4066**	**3856**	**105.4**	**965.1**	**11.1**
						Jammu Region	**58748**	**50014**	**117.5**	**861.3**	**14.7**
						J&K	**296591**	**269260**	**110.2**	**858.7**	**16.0**