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Falling sex ratio in Jammu and Kashmir: Trends, determinants and consequences

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The 2011 Census has exposed some noteworthy and perturbing features with regard to regional pattern of sex ratio in Jammu and Kashmir which necessitates some illumination. Since the beginning of this century, the sex ratio in the total population has long been low in Jammu and Kashmir. The provisional data in 2011 Census showed that the overall sex ratio came down to 883 females per 1000 males against 892 females per 1000 males in 2001. Decline in sex ratio in Jammu and Kashmir varies considerably from one region to another. Rapid decline in female-male ratio is a serious problem with severe socio-economic, demographic and cultural implications and if unattended will be disastrous in the very near future. This paper examines the trends, causes and consequences of the decline in sex ratio in the state of Jammu and Kashmir and suggests some possible remedial measures for balancing the male-female population of the state.

Key words: Sex ratio, female-male ratio, Jammu and Kashmir.

INTRODUCTION

Sex ratio is one of the important demographic characteristic of society depending directly on incidence of birth, death and marriage. Sex ratio is a powerful indicator of the social health of any society and is a sensitive indicator of women's status as it conveys a great deal about the state of gender relations (Patel, 2004:887), especially in terms of women's health and position in any society (Barakade, 2012:1). Imbalance in sex ratio reflects the unequal position of females in a highly sexist, gender discriminatory social order. It shows how much artificial interventions and asymmetrical social placement (social status) have distorted the biological trend and natural balance in terms of number of females per thousand males (GoJK, 2008:65).

Noble laureate Economist, Amartya Sen has coined the term "missing women" to describe the growing deficit of women in the world. Referring to the massive decline in the sex ratio in the whole world especially in Asia, he concludes that 100 million of women are missing from the population totals of seven nations (Sen, 1989:14-29). He also noted that while the overall sex ratio for females in China, India and South Korea has marginally improved

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ABBREVATIONS: OSR, Overall Sex Ratio; **CSR**, Child Sex Ratio; **GoJK**; Government of Jammu and Kashmir.

but the alarming fact is that the sex ratio for female children in these countries is actually deteriorating (Sen, 1990) because they are showing a deficit of females for long and still this ratio is in favor of men and proportion of women has continuously been declining (Barakade, 2012:1). In most parts of the globe, fewer females are born, yet females, as compared to their male counter-parts, typically survive longer to exceed the males numerically at any given point of time. However, this demographic attribute eludes India where male decisively out-number the females and women constitute less than half of the total population. Indian subcontinent represents extreme manifestation of adverse female to male sex ratios in the South Asia.

Imbalance in sex ratio (i.e., a gap between number of females and males) generates a lot of demographic, social and ethical problem (Waheed, 2007:33). Decline in sex ratio has attracted the interest and has become a debatable issue not only among demographers but also among scholars working in other fields such as sociology, gender studies, history and medicine, thereby bringing together perspectives from these disciplines. Demographic, sociological and economic research has concentrated on analyzing the reasons for the low and declining sex ratio. Demographers have focused on the number of 'missing women' pointing to fertility decline and son preference as causes; sociologists have analyzed son preference in terms of low status of women, caused by social practices of hypergamous and exogamous marriage systems; and economists focus on lower labor force participation and the consequent need for dowry as compensation. Females are constructed as the inferior, less valuable sex and are often projected as burden on the family while sons are considered valuable for various reasons such as support to parents in old age, continuing the lineage, inheriting property etc. while daughters are constructed as being dispensable (Kaur, 2004:2595) and as a net drain on parental resources in patrilineal and patrilocal communities (Dasgupta, 2000:643-689).

The decline in sex ratio is an issue of great concern as it shows that our society is still dominated by patriarchal values, beliefs and practices manifesting itself in the form of discrimination against females. The concern over the declining trends in sex ratios has been voiced in the Indian Census reports (Nath, 1991: 2148-52). The 2011 Census has exposed some noteworthy and perturbing features with regard to sex ratio. It has not only stayed low but has actually deteriorated. The sex ratio in Jammu and Kashmir is 883 females per thousand males as per 2011 census against 892 in 2001. Sex ratio in Jammu and Kashmir varies considerably from one region to another, reaching its highest levels in the Kashmir Division and lowest in Ladakh.

Objectives

The main objectives of the present study are:

(i) to bring into limelight the trend and pattern of sex ratio in Jammu and Kashmir as well as across its districts;
(ii) to explore the possible causes and consequences of decline in sex ratio; and
(iii) to put forward suggestions for planners and policy makers that might help in resolving the issue of declining sex ratio in the state of Jammu and Kashmir.

DATA BASE AND METHODOLOGY

The present study is based on the secondary sources such as Census of India, National Family Health Surveys and other governmental and non-governmental reports. It is an advantage that latest database regarding sex ratio both at state and district level is available for analysis. The data have been analyzed for sex ratio as the number of females per 1000 males. The sex ratio is calculated by using the formulae,

$$\text{Sex Ratio} = \frac{\text{Female Population}}{\text{Male Population}} * 1000$$

As far as the spatio-temporal analysis of the variation in sex ratio in the state of Jammu and Kashmir is concerned, statistics in terms of measures of central tendency such as minimum (min), maximum (max), average (Mean), standard deviation (S.D) and coefficient of variation (CV) is calculated across both districts and decadal censuses. However it is coefficient of variation which has been used for analysis of spatio-temporal variation in sex ratio in the state of Jammu and Kashmir. Changing trend in sex ratio is explained in terms of increase or decline in number of females across the census decades. Decline or fall in sex ratio is conceptualized as decline or fall in number of females per thousand males and improvement/increase or positive trend in sex ratio as increase in number of females per thousand males. In the present study, pattern and changing trend in sex ratio is discussed in terms of overall sex ratio (OSR). To explain the temporal trend in sex ratio, figures are calculated by subtracting the figures of current census year from preceding census year and decline in sex ratio is made explicit as numbers with negative sign whereas the increase in the same with positive sign. However as far as spatial distribution ofdecline in sex ratio is concerned, analysis of the trend is explained not only at divisional level but also at district level across its rural and urban areas. Though the Census of India has not fully released all the census data but the information provided is sufficient for exploring the pattern and trend in sex ratio in Jammu and Kashmir. Furthermore, data from National Family Health Survey (NFHS-3) of India and Jammu and Kashmir along with District Level Household Survey (DLHS-3) has also been used in support of arguments regarding the causes of decline in sex ratio. The paper is descriptive, analytical and diagnostic in nature.

JAMMU AND KASHMIR AT GLANCE

The State of Jammu and Kashmir is one of the largest States of the Indian Union and is situated in the lap of mighty Himalayas. It lies between $32^{o}15^{'}$ and $37^{o}05^{'}$ North latitude and $72^{o}35^{'}$ and $83^{o}20^{'}$ East longitude. The total area of the state is about 2, 22,236 sq.kms of which 78,114 sq.kms are what constitutes Pakistan administrated Kashmir and 37,555 sq.kms under China. In addition to this 5,180 sq.kms of Jammu and Kashmir were handed over by Pakistan to China. This leaves the State with an area of 1, 01,387 sq.kms, and this is what

constitutes the Indian administrated Kashmir or Jammu and Kashmir. The State of Jammu and Kashmir is one of the largest States of the Indian Union. The Indian State of Jammu and Kashmir comprises three natural regions: Jammu, Kashmir and Ladakh with 22 districts, 82 tehsils, 143 Community Development Blocks and 4128 Panchayats, 6551 villages, and 86 towns (GoJK, 2012:1). Prior to execution of procedural work of 2011 Census, eight new districts were carved out from the fourteen districts of 2001 Census. These newly carved districts are Bandipora, Ganderbal, Shupian, Kulgam, Ramban, Kishtwar, Reasi and Samba. According to the 2011 Provisional Census figures, the total population of the state is twelve million five lakh forty eight thousand nine hundred twenty six (1, 25, 48,926 persons). Further break-up of population by gender shows that six million six lakh sixty five thousand five hundred sixty one (66, 65,561) are males and five million eight lakh eighty three thousand three hundred sixty five (58, 83,365) are females. The distribution of population reveals striking variation at the district level. The accentuation of population is mostly found in the districts of Baramulla, Srinagar, Anantnag and Jammu. Out of the 22 districts of the state, Jammu has the highest population and Kargil has the lowest. The population density of Jammu and Kashmir is 124 in Census 2011, highest in Ganderbal district (1151) and lowest in Leh (3).

Spatio-temporal distribution and variation in sex ratio in Jammu and Kashmir

Sex ratio is one among the demographic characteristics of a population of any country or state and this demographic variable can never remain unaffected by the changes that take place in the socio-economic conditions of a particular region at a particular period of time and over a period of time. Therefore it is necessary to have a look at the pattern of its distribution and variation across the districts in a particular decadal census as well as across decadal censuses in a particular district of the state of Jammu and Kashmir

As far as the analysis of variation in sex ratio across the districts in a particular decadal census as given in Table 1 is concerned, it is the census of 2011 which depicts larger variation with CV (0.09) whereas census of 1991 reported least variation with CV (0.02). The figures for this census are projections because census operation was not carried in Jammu and Kashmir as the state was entrapped in turmoil because it was the time when the leaders of freedom movement overtly began to challenge the Indian occupation of state. Moving away from the analysis of variation in sex ratio across the districts in a particular decadal census to analysis of variation in sex ratio across decadal censuses in a particular district of Jammu and Kashmir, it has been found that, it is the Leh district which has reported larger variation in sex ratio with CV value (0.17) whereas the districts which have reported least variation in sex ratio are Punch, Doda and Kishtwar with CV value (0.01) for each district. Leh is a Buddhist dominated district whereas Punch, Doda and Kishtwar are Muslim dominated districts. It is the Leh district only where females outnumber men in the first three census decades, i.e., 1951, 1961 and 1971, but what is abysmal is that it is also the same district which has now reported the lowest sex ratio in the state in 2011. Such kind of a situation necessitates an intervention on the part of researchers to find out the causes of such a sharp decline and its consequences for the referred geographical area.

Changing trend in sex ratio in Jammu and Kashmir

Sex ratio (number of females per one thousand males) is one of the basic indicators of status of women in society. India's low sex ratio signifies the inferior position which women occupy in society (Mayer, 1999:324). India has been struggling with an unusual problem whereby the sex ratios- numbers of females per 1000 males- have been declining to extremely low levels. While the total population of India has been growing at an alarming rate over the past 50 years, the number of women relative to men has been steadily dwindling though with exceptional increase in some census reports. The changing trend in sex ratio in India and Jammu and Kashmir is made clear in Table 2 and Figure 1.

It can be noticed from Table 2 that the sex ratio or female-male ratio reported in 2011 census in the state of Jammu and Kashmir is 883 which is lower than the sex ratio at national level, i.e. 940 by 57 females per thousand males. Census information that is available reveals that since the independence of India, sex ratio has fallen from 946 in 1951 to 940 in 2011 whereas in case of state of Jammu and Kashmir, it has first shown an upward trend from 873 in 1951 to 892 in 1981 and later a decline from 892 in 1981 to 883 in 2011. This is the time period in which the state on the one hand has remained disturbed due to the ongoing conflict and on the other, has moved ahead on the path of socio-economic development especially education. Why this has been so necessitates further exploration. Furthermore, the state has always lagged behind the country in terms of the sex ratio, though the gap showed a downward trend from 1971 to 2001. However what is important to note is that the sex ratio in the state has improved from 873 in 1951 to 883 in 2011 and this is a healthy sign as far as the status of women in the state is concerned.

While moving away from the comparative analysis of changing trend in sex ratio in India and Jammu and Kashmir, it is felt necessary to explain the changing trend in sex ratio across the districts of the state of Jammu and Kashmir. Having a glance at Table 3 reveals that Ladakh Division (961) shows child sex ratio in favor of females in comparison to Jammu (874) and Kashmir (861) whereas Overall Sex Ratio (OSR) is favorable to females in

Table 1. Spatio-temporal variation in sex ratios in Jammu and Kashmir.

State/ District/Year	Sex ratio											
	1951	1961	1971	1981	1991$	2001	2011	Min.	Max.	Avg.	S.D	C.V
J and K	873	878	878	892	892	892	883	873	892	884	8.02	0.01
Kupwara	874	882	841	858	882	906	843	841	906	869	23.49	0.03
Badgam	838	840	845	880	906	931	883	838	931	875	35.78	0.04
Baramula	858	868	851	876	891	905	873	851	905	875	18.59	0.02
Bandipore	858	824	839	858	876	894	911	824	911	866	30.36	0.04
Srinagar	846	836	854	873	857	841	879	836	879	855	16.04	0.02
Ganderbal	846	829	843	871	894	917	869	829	917	867	30.85	0.04
Pulwama	843	848	859	906	919	942	913	843	942	890	39.29	0.04
Shupiyan	843	848	832	876	913	950	951	832	951	888	50.57	0.06
Anantnag	853	842	847	888	900	911	937	842	937	883	36.26	0.04
Kulgam	853	897	851	887	916	945	951	851	951	900	40.15	0.04
Leh	1011	1010	1002	886	854	823	583	583	1011	881	153.35	0.17
Kargil	970	935	949	853	845	837	775	775	970	881	71.54	0.08
Punch	905	902	903	889	904	919	890	889	919	902	10.13	0.01
Rajouri	911	900	900	906	892	878	863	863	911	893	16.92	0.02
Kathua	896	905	921	917	908	898	877	877	921	903	14.71	0.02
Doda	904	901	902	904	909	913	922	901	922	908	7.52	0.01
Ramban	904	891	862	867	878	889	901	862	904	885	16.17	0.02
Kishtwar	904	913	883	896	900	904	917	883	917	902	11.21	0.01
Udhampur	907	910	920	934	876	846	863	846	934	894	32.38	0.04
Reasi	907	913	888	864	872	880	891	864	913	888	17.75	0.02
Jammu	870	880	915	912	889	865	871	865	915	886	20.35	0.02
Samba	870	919	944	945	896	897	886	870	945	908	28.81	0.03
Min.	838	824	832	853	845	823	583					
Max.	1011	1010	1002	945	919	950	951					
Avg.	885	886	884	888	890	895	875					
S.D	43.21	43.09	44.54	24.55	20.44	35.39	75.63					
C.V	0.05	0.05	0.05	0.03	0.02	0.04	0.09					

Note: $- The Census Operation was not carried in State. Figures given are Projected by Standing Committee of Experts appointed by GOI, on Population Projections, October, 1989; J-Jammu, K-Kashmir; Figures are computed by the authors. Min: Minimum; Max: Maximum; Avg.: Average; S.D: Standard Deviation; C.V.: Coefficient of Variance. Source: Census of India, Jammu and Kashmir, Provisional Population Totals, 2011.

Table 2. Trend in sex ratio in India and Jammu and Kashmir (1951-2011).

Year	1951	1961	1971	1981	1991	2001	2011
India	946	941(-5)	930(-11)	934(+4)	927(-7)	933(+6)	940(+7)
Jammu and Kashmir	873	878(+5)	878(0)	892(+14)	892(0)	892(0)	883(-9)
Gap (India and Jammu and Kashmir)	-73	-63	-52	-42	-35	-41	-57

Note: Figures in parentheses shows the change in sex ratio across a decade. Source: Census of India, 1961, 1981, 2001 and 2011.

Kashmir Division (901) in comparison to Ladakh (679) and Jammu Division (888). As far as district wise distribution of child sex ratio (CSR) is concerned, it is highest in Kargil (978) and lowest in Samba (787) district; whereas in case of overall sex ratio (OSR), it is highest in Shupian (951) and Kulgam (951) and lowest in Leh (583). This age specific decline in sex ratio in Ladakh division as well as across its districts might be due to harsh climatic conditions and undulating topography. The role of other possible determinants cannot be underestimated and therefore need to be investigated.

Though census figures from 1951 to 2011 for overall sex ratio across the districts of Jammu and Kashmir are available, in the present study, focus of discussion is

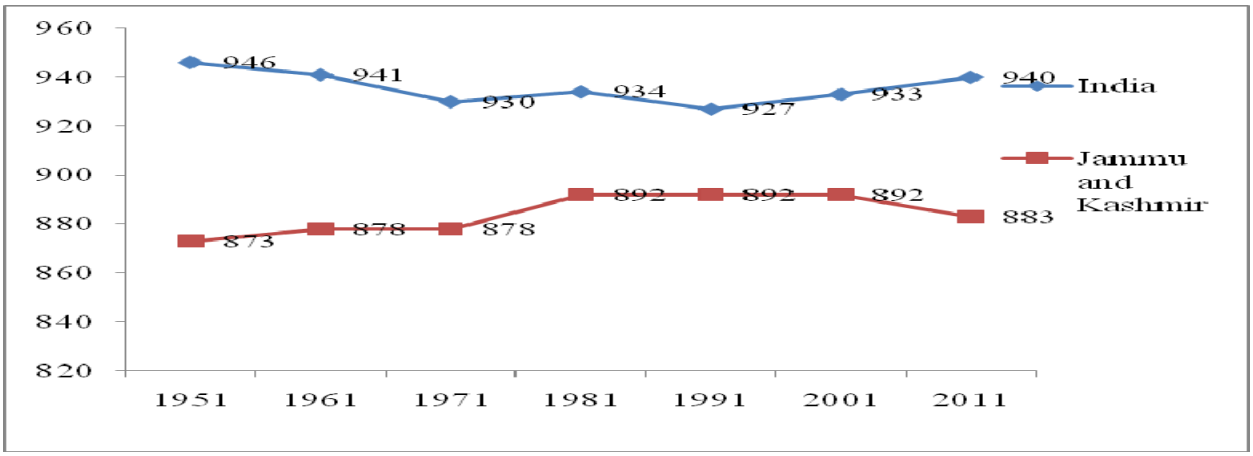

Figure 1. Trend in Sex Ration in India and Jammu and Kashmir.

Table 3. Sex ratios and decadal change in overall sex ratios.

State/ District and Census Year	CSR	Overall Sex Ratios and Decadal Decline in Overall Sex Ratios						
	2011	1951	1961	1971	1981	1991$	2001	2011
Jammu and Kashmir	859	873	878(+5)	878(0)	892(+14)	892(0)	892(0)	883(-9)
Kupwara	854	874	882(+8)	841(-41)	858(+17)	882(+24)	906(+24)	843(-63)
Badgam	832	838	840(+2)	845(+5)	880(+35)	906(+26)	931(+25)	883(-48)
Baramula	866	858	868(+10)	851(-17)	876(+25)	891(+15)	905(+14)	873(-32)
Bandipore	893	858	824(-34)	839(+15)	858(+19)	876(+18)	894(+18)	911(+17)
Srinagar	869	846	836(-10)	854(+18)	873(+19)	857(-16)	841(-16)	879(+38)
Ganderbal	863	846	829(-17)	843(+14)	871(+28)	894(+23)	917(+23)	869(-48)
Pulwama	836	843	848(+5)	859(+11)	906(+47)	919(+13)	942(+23)	913(-29)
Shupiyan	883	843	848(+5)	832(-16)	876(+44)	913(+37)	950(+37)	951(+1)
Anantnag	831	853	842(-11)	847(+5)	888(+41)	900(+12)	911(+11)	937(+26)
Kulgam	882	853	897(+44)	851(-46)	887(+36)	916(+29)	945(+29)	951(+6)
Kashmir Region*	861	851	851(0)	846(-5)	877(+31)	895(+18)	914(+19)	901(-13)
Leh	944	1011	1010(-1)	1002(-8)	886(-116)	854(-32)	823(-31)	583(-240)
Kargil	978	970	935(-35)	949(+14)	853(-96)	845(-8)	837(-8)	775(-62)
Ladakh Region*	961	991	973(-18)	976(+3)	870(-106)	850(-20)	830(-20)	679(-151)
Punch	895	905	902(-3)	903(+1)	889(-14)	904(+15)	919(+15)	890(-29)
Rajouri	837	911	900(-11)	900(0)	906(+6)	892(-14)	878(-14)	863(-15)
Kathua	836	896	905(+9)	921(+16)	917(-4)	908(-9)	898(-10)	877(-21)
Doda	932	904	901(-3)	902(+1)	904(+2)	909(+5)	913(+4)	922(+9)
Ramban	931	904	891(-13)	862(-29)	867(+5)	878(+11)	889(+11)	901(+12)
Kishtwar	922	904	913(-9)	883(-30)	896(+13)	900(+4)	904(+4)	917(+13)
Udhampur	887	907	910(-3)	920(+10)	934(+14)	876(-58)	846(-30)	863(+17)
Reasi	921	907	913(+6)	888(-25)	864(-24)	872(+8)	880(+8)	891(+11)
Jammu	795	870	880(+10)	915(+35)	912(-3)	889(-23)	865(-24)	871(+6)
Samba	787	870	919(+49)	944(+25)	945(+1)	896(-49)	897(+1)	886(-11)
Jammu Region*	874	898	903(+5)	904(+1)	903(-1)	892(-11)	889(-3)	888(-1)
Decadal Growth Rate			21.64	24.80	24.66	23.86	21.54	17.64

Note: $- The Census Operation Was Not Carried In State. Figures Given are Projected by Standing Committee of Experts appointed by GOI, on Population Projections, October, 1989, Figures signed (-) shows the reduction in number of females over the period of reference, * figures under the rows are averages calculated from the districts of the regions; J-Jammu, K-Kashmir. Source: Census of India, Jammu and Kashmir, Provisional Population Totals, 2011.

status and changing trend in OSR in 2001 and 2011. Analysis of the data for the period of study i.e., 2001-2011 depicts that there is decline in sex ratio in state of Jammu and Kashmir (-9) as well as across its divisions-Kashmir (-13), Ladakh division (-151) and Jammu (-1) though the pace of decline is somewhat negligible in case of the latter division. As far as district wise trend in OSR is concerned, the districts which have shown negative trend or decline in sex ratio are Kupwara (-63), Badgam (-48), Baramulla (-32), Ganderbal (-48), Pulwama (-29), Leh (-240), Kargil (-62), Punch (-29), Rajouri (-15), Kathua (-21), and Samba (-11) whereas the districts where the OSR is in favour of females are Bandipora (17), Srinagar (38), Shupian (1), Anantnag (26), Kulgam (6), Doda (9), Ramban (12), Kishtiwar (13), Udhampur (17), Reasi (11), and Jammu (6).

The distribution pattern and trend in sex ratio in Jammu and Kashmir at the district level across both the census years, i.e., 2001 and 2011 is given in Figures 2 and 3. To make the picture more comprehensible, OSR (overall sex ratio) is subdivided into five categories: (1) >800=very low, (2) 800-849 = low, (3) 850-899 = medium, (4) 900-949 = high, (5) <950 = very high. In 2001 Census, there was no district reporting sex ratio very low or very high whereas in 2011 Census, there are on the one hand two districts namely Leh and Kargil falling in very low category. On the other hand, there are two districts namely Shupian and Kulgam which were successful in minimizing the gap in number of males and females and the sex ratio in these two districts is now above the national average of 940. In the category of low, Kupwara has replaced Leh, Kargil, Srinagar and Udhampur whereas in the medium category, Bandipora and Ramban are replaced by Baramulla, Udhampur, Ganderbal, Kathua, Srinagar, Badgam and Punch. In the category of high, Baramulla, Badgam, Ganderbal, Punch, Kupwara, Shupian and Kulgam are substituted by Ramban and Bandipora. It is surprising to note that among the eight newly carved districts, six have shown sex ratio in favour of females, in spite of the fact that literacy rate in these districts is lagging behind those districts which have reported high literacy rate but male biased sex ratio.

RURAL-URBAN DISTRIBUTION AND CHANGING TREND IN SEX RATIO IN JAMMU AND KASHMIR (2001-2011)

It is a well known fact that place of residence whether rural or urban directly or indirectly affects the socio-economic status of its residents. This is because there are differences in availability of public utilities related to education, employment and health in rural and urban areas and in comparison to rural areas, people in urban areas enjoy better availability of these public utilities.

Table 4 shows the sex ratio for the state as well as districts by rural and urban population across 2001 and

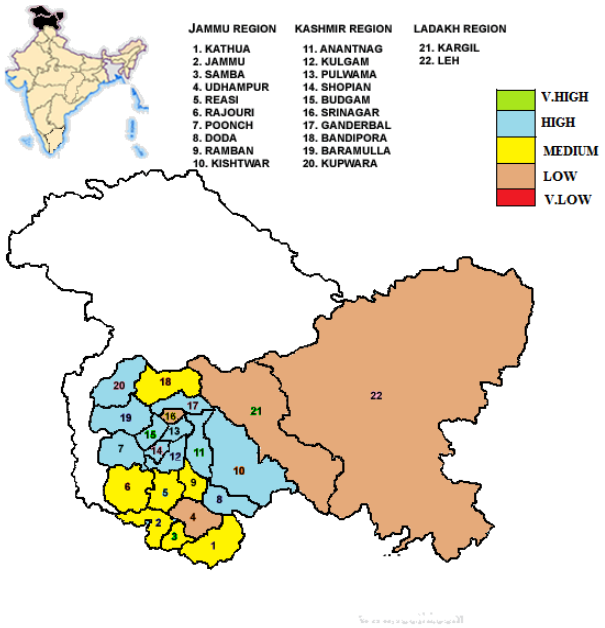

Figure 2. Distribution of Sex Ratio in 2001.

2011 Census. In 2001, there was only one district namely Shupian where the sex ratio in urban areas was higher than the rural areas where as in 2011, there are three districts viz., Badgam, Ganderbal and Kargil where the sex ratio of rural areas is lagging behind the urban areas. This means that in most of the districts, males have outnumbered females in the urban than in rural population, i.e. sex ratio is urban areas is low as compared to rural areas. The reason for this trend is the easy availability and access to sex determination facilities for women in urban areas as well as the constant pressure of limiting the size of family that forces them to minimize the possibility of birth of girl child. As far as the pattern of change in sex ratio during 2001-2011 is concerned, it is aptly clear that decline in sex ratio has been noticed more in rural population than in urban population. The possible cause for this declining trend may the gradual increase in literacy rate and thus awareness in rural population and the availability of advanced medical facilities and both these factors along with the strong patriarchal control over the reproductive capacity of rural women push them to go for sex determination and later the abortion of female fetus.

Sex ratio and literacy rate

According to the Census of India, a person who can both read and write with understanding in any language is considered as literate. A person who can merely read but cannot write is not a literate. The benefits of educating women are manifold, ranging from increased productivity, economic development and increased female autonomy.

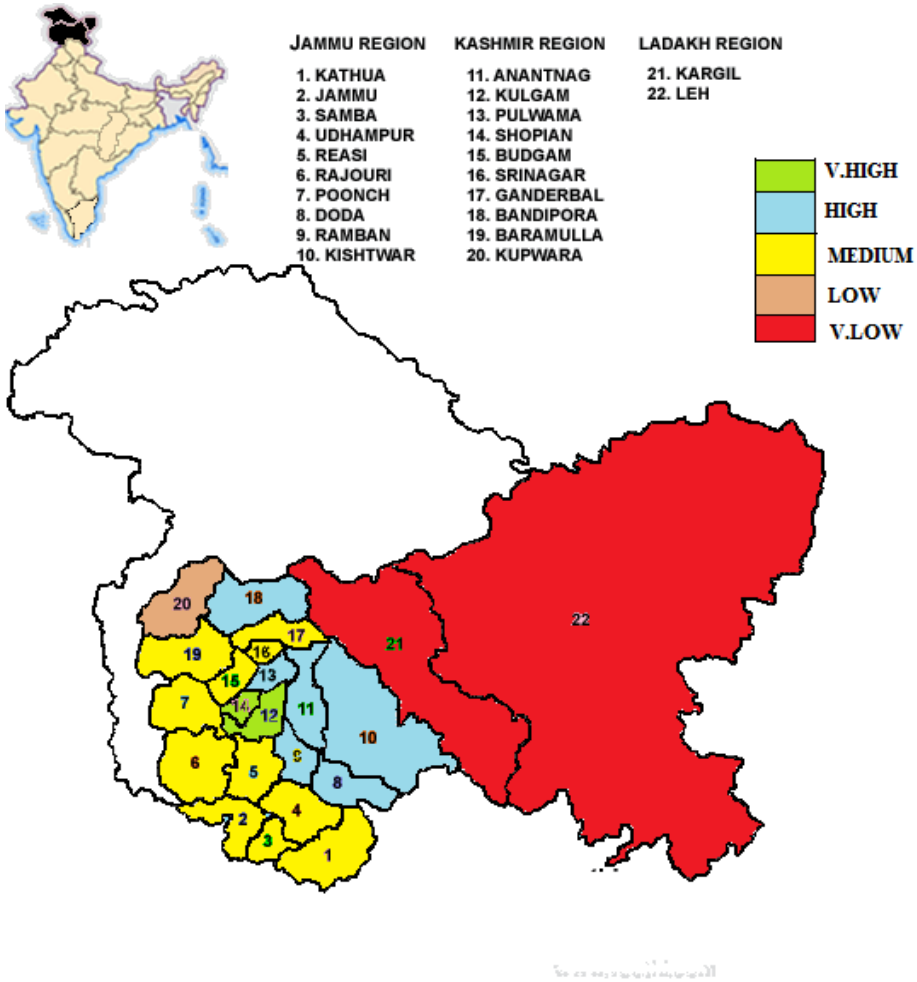

Figure 3. Distribution of Sex Ratio in 2011.

Female literacy is recognized as a basic indicator of development (Browne and Barrett, 1991:275-85) as it was found to be associated proportionally to life expectancy and inversely with child mortality. Educated women have lower levels of fertility, which in turn, are associated with increased survival of female infants because having smaller number of children increases the value of each child (Oberman, 2003:493-514). Better educated women experience lower levels of morbidity, mortality and disability and have fewer children (Ross and Mirowsky, 1999; Doornbous and Kramhout, 1990 cited in Chawla, 2007:1). Thus based on the above statements, it can be rightly deduced that higher the level of literacy rate in society, higher will be the gender parity in society because education not only enhances the status of members of society but also leads to delay in marriages resulting in lowering of fertility rate and increasing the value of each child especially in case of smaller number of children born to a family.

However the picture coming out from the analysis of Table 5 seems quite opposite to the statements as it is quite difficult to explain the relationship between relative change in education and sex ratio because on the one hand, those districts which have recorded fairly high literacy rate (e.g., Leh, Kargil, Samba, Jammu) have reported low sex ratio; and on the other, there are districts (e.g., Bandipora, Kulgam, Anantnag, Doda) which despite of having low literacy have shown sex ratios in favor of females. This is especially the case with female literacy and sex ratio because on the one hand the districts which have shown increase in female literary rate especially in rural areas have also revealed a decline in sex ratio and on the other hand, there are districts where the female urban literacy rate has not improved too much, the sex ratio is in favor of females. Therefore, it is possible that factors other than education are still playing key role in deciding the fate of female child in both rural and urban areas of the state in general and districts in particular. The situation is complicated and it is not easy to find out which factor or factors are directly or indirectly influencing the trend in sex ratio in the state. Exploration of such factors therefore necessitates

Table 4. Rural-urban differentials in sex ratio across districts in Jammu and Kashmir in 2001 and 2011.

State/ District	Sex Ratio (No. of Females per 1000 Males)								Change in Sex Ratio (2011-2001)		
	2001				2011						
	T	R	U	R-U Gap	T	R	U	R-U Gap	T	R	U
J and K	892	917	819	98	883	899	840	59	-9	-18	21
Kupwara	906	916	688	228	843	856	749	107	-63	-60	61
Badgam	931	942	854	88	883	881	922	-41	-48	-61	68
Baramula	905	916	853	63	873	876	861	15	-32	-40	8
Bandipore	894	898	875	23	911	923	853	70	17	25	-22
Srinagar	841	906	834	72	879	938	877	61	38	32	43
Ganderbal	917	918	915	3	869	866	884	-18	-48	-52	-31
Pulwama	942	954	869	85	913	930	814	116	-29	-24	-55
Shupiyan	950	950	954	-4	951	956	878	78	1	6	-76
Anantnag	911	928	839	89	937	943	922	21	26	15	83
Kulgam	945	949	867	82	951	954	938	16	6	5	71
Kashmir Division	914	928	855	73	901	912	870	43	-13	-14	15
Leh	823	904	611	293	583	881	308	573	-240	-23	-303
Kargil	837	869	559	310	775	762	915	-153	-62	-107	356
Ladakh Division	830	887	585	302	679	822	612	210	-151	-65	27
Punch	919	932	745	187	890	904	744	160	-29	-28	-1
Rajouri	878	890	736	154	863	885	617	268	-15	-5	-119
Kathua	898	910	835	75	877	878	871	7	-21	-32	36
Doda	913	927	750	177	922	933	807	126	9	6	57
Ramban	889	899	721	178	901	909	738	171	12	10	17
Kishtwar	904	924	698	226	917	925	813	112	13	1	115
Udhampur	846	898	673	225	863	916	674	242	17	18	1
Reasi	880	893	739	154	891	898	820	78	11	5	81
Jammu	865	893	833	60	871	894	848	46	6	1	15
Samba	897	939	776	163	886	904	799	105	-11	-35	23
Jammu Division	889	911	751	160	888	905	773	132	-1	-6	23

Note: J: Jammu; K: Kashmir; T: Total; R: Rural; U: Urban, figures with –ve sign represent the decline in sex ratio from 2001 to 2011.
Source: Census of India, Jammu and Kashmir, Provisional Population Totals, 2011.

empirical investigation.

CAUSES OF DECLINE IN SEX RATIO

In Indian society, gender discrimination prevails from womb to tomb. Decline in number of females per 1000 males or what we call sex ratio is one such illustration of gender discrimination. It is difficult to point out any particular reason for the decline in sex ratio in the area of study. Some of the factors which are responsible for decline in sex ratio are: son preference and sex selective abortions, neglect of females in nutrition and health care resulting in higher mortality and socio-cultural practices like dowry. These factors are briefly elaborated in the following sub-headings.

Son preference and female foeticide

The problem of imbalanced sex ratios exists because sons are associated with prestige in the community and social power. Through sons, a family can perpetuate the family line and ensure the continuity of the family name. Furthermore, any lands given to a son will most likely remain within the family (Bandyopadhyay, 2003:910-27). In agrarian societies, sons are desirable as hands to work in the field, and small towns value sons as an asset in the fight against the “encroaching” urban society (Khanna, 1997:171-80). In addition, many couples depend on a son to care for them in their old age and assist in the financial stability of the family (Sheth, 2006:185-86). The fact that the contribution of female as daughter, sister, wife and mother in taking care of family members especially in the contemporary society cannot be denied but what is unfortunate is that it is not recognized in the similar way as that of their male counterparts (Abbott, 2005:171-97). In analysis of data as given in NFHS-3, Jammu and Kashmir substantiates these arguments. The percentage of ever married women aged 15-49 years who prefer more sons than daughters is 29.0 per cents

Table 5. Relative change in sex ratio and literacy rate by residence across districts of Jammu and Kashmir (2001-2011).

State /Districts	Sex Ratio			Literacy Rate (%)					
				Male			Female		
	T	R	U	T	R	U	T	R	U
J and K	-9	-18	21	11.66	13.86	4.90	15.01	16.62	8.21
Kupwara	-63	-60	61	21.00	20.84	10.65	26.11	25.77	16.24
Badgam	-48	-61	68	15.43	16.61	7.62	16.81	17.58	9.77
Baramula	-32	-40	8	17.80	19.54	10.69	20.60	21.89	14.71
Bandipore	17	25	-22	18.15	17.69	18.66	20.01	19.87	19.68
Srinagar	38	32	43	5.39	12.16	3.71	11.69	14.88	9.69
Ganderbal	-48	-52	-31	18.60	18.63	6.42	20.12	19.40	13.84
Pulwama	-29	-24	-55	11.87	12.20	8.92	14.50	14.29	15.84
Shupiyan	1	6	-76	17.48	17.97	10.41	18.43	18.94	12.55
Anantnag	26	15	83	15.42	16.36	8.18	18.92	18.90	13.67
Kulgam	6	5	71	15.33	14.45	8.03	16.93	15.80	13.14
Kashmir Division	-13	-14	15	15.65	16.64	9.33	18.41	18.73	13.91
Leh	-240	-23	-303	13.84	11.12	7.94	11.82	12.50	3.94
Kargil	-62	-107	356	10.90	12.14	2.91	15.67	16.41	2.61
Ladakh Division	-151	-65	27	12.37	11.63	5.42	13.75	14.46	3.28
Punch	-29	-28	-1	16.00	16.87	1.77	18.84	19.62	-0.06
Rajouri	-15	-5	-119	8.62	8.81	3.46	12.69	13.23	6.37
Kathua	-21	-32	36	6.38	6.88	4.98	11.01	11.66	8.07
Doda	9	6	57	9.76	10.12	3.58	15.65	15.78	7.39
Ramban	12	10	17	12.46	17.11	5.9	15.83	16.45	9.15
Kishtwar	13	1	115	14.58	16.16	4.26	16.39	17.40	6.66
Udhampur	17	18	1	8.72	11.16	2.02	13.14	15.61	4.51
Reasi	11	5	81	9.82	10.80	0.22	11.98	12.58	2.58
Jammu	6	1	15	4.97	5.82	5.72	8.15	9.42	5.85
Samba	-11	-35	23	7.11	7.40	8.08	9.89	9.97	12.37
Jammu Division	-1	-6	23	9.84	11.11	3.10	13.36	14.17	6.29

Note: Figures are calculated by authors, J-Jammu, K-Kashmir. Source: Census of India, Jammu and Kashmir, Provisional Population Totals, 2011.

against 3.6 per cent of those who prefer more daughters than sons. Similarly percentage of ever married women who wish to have at least one son is 83.5 per cent against 78.7 percent of those (ever married women) who wish to have at least one daughter (IIPSb, 2006:46). This means that patriarchal ideological is all pervasive in the state of Jammu and Kashmir because preference for sons is still higher than preference for daughters and this has its repercussions in declining number of female child.

Excess female child mortality is most pronounced for girls who have older sisters, and that it is usually absent or slight in the case of first born girls (Das Gupta, 1987:77-100; Arnold et. al., 1998:301-15). This statement is substantiated by the figures as given in DLHS, Jammu and Kashmir in which it is reported that the sex of additional/ next child is still preferred male and it increases as the number of living children increases while as in case of girl child, the trend is vice-versa. The preference for additional/ next child as son is 13.3 per cent in case of where the women has no child and it climbs up to 71.1 per cent in families where there are already four plus children. On the contrary, the preference for girl child is as low as 2.3 percent among women with no child. Though there first seems to be an improvement in preference for girl child in situations where women have one (12.9 per cent) or two children (14.2 per cent) but it again shows a declining trend among women with more than 4 children (6.2 per cent). However as far as percentage share of women for whom gender of new born child 'doesn't matter' and those who left this decision 'up to God' has been highest in case of no child and then shows a declining trend as the number of children increases (IIPSc, 2010:59). This suffices the dictum "*First by Chance and Second by Choice*", i.e., if the fetus of second pregnancy is female in the case where the first birth is female, it has diminished chances of going to full term. A female baby born under these conditions has very low chances of survival. The stronger

the son preference, the more intense will be the discrimination against the daughters. This, in its most extreme form results in the death of daughters either in the form of foeticide through abortions or infanticide through neglect.

In the recent times, infanticide has taken the shape of female foeticide, i.e., killing of baby inside the womb, more popularly known as feticide. The decline in sex ratio has been interpreted as the consequence of more sex selective abortions of the female fetuses. Because of the sophisticated machines and madicalisation of birth, it becomes easier for parents to get rid of their "unwanted girl child" because it is the girl child which has to bear the brunt of gender bias and deep rooted prejudice as inferior sex. It highlights the impact of perverse social and cultural factors related to marriage practice and dowry, as well as role of women in household level decisions (GoJK, 2008:66). Recent developments in medical technology have increased parental choice and reduced the cost of choosing boys. The latest advances in modern medical sciences have quickened the pace of death of girl child from the born to unborn stage (Goswami, 2007:335). The development of amniocentesis in the 1980s and ultrasound screening subsequently made foetal sex determination possible, thereby permitting selective abortion. Though the act of carrying out the pre-natal sex determination test has been declared illegal under the Pre-Natal Diagnostic Techniques Act, 1994 in India (which was later amended in May, 2001 to make it more stringent), what is unfortunate is that the Act from its very inception in 1994 has not been successful to curb the misuse of medical technology and it is now illegal used even now in rural areas. The misuse of this modern technology is so rampant in India that it is believed that around 10 million female fetuses may have been aborted over the last two decades. This kind of pre-selection had caused a loss of about 50,000 female fetuses every year (Aravamudan, 2007:47). Since pre-selection of fetus has been declared illegal, so there is no accurate information about how many clinics are performing this illegal act and how many such incidences of female foeticide and abortions are carried out resulting in diminution of number of girl child in the country in general and in the state of Jammu and Kashmir in particular.

Gender discrimination in nutrition and health care

India's low sex ratio is "the starkest index of the oppression of women" and the higher death rate among women is because girls are given less food and health care (Omvedt, 1978:382) which has contributed to their higher mortality (Srinivasan, 1994:3233). The excess mortality of females is the consequence of 'discrimination against females' that include less favorable access to food and health care for females (Das Gupta, 1987:77-100; Kundu and Sahu, 1991:2341-42). About half of the population, particularly women and children –the most vulnerable groups- suffer from various forms of malnutrition and a quarter of them suffer from severe malnutrition. Gender disparities in nutrition are evident from infancy to adulthood. Girls are breastfed less frequently and for shorter durations in infancy; in childhood and adulthood, males are fed first and better. Adult women consume fewer calories per day than men. The percentage share of women in consumption of food items such as milk or curd, pulses or beans, dark green leafy vegetables, fruits, eggs, fish, chicken or meat, and fish is 70.7, 71.6, 90.5, 49.6, 20.4, 3.0, 44.0, and 44.4 per cent against 79.8, 77.0, 94.5, 57.4, 31.7, 7.0, 46.9 and 48.1 per cent among men respectively (IIPSa, 2007:302-03). This means that consumption of all food items especially of those which are rich in protein content such as fish, egg, milk or curd and pulses or beans at least once in a week among women in Jammu and Kashmir is low in comparison to their male counterparts. Two major consequences of nutritional deprivation for women are failure to achieve their full growth potential and widespread anemia. These conditions not only complicate childbearing and result in maternal and infant deaths, maternal depletion, and low birth weight infants, but also severely affect women's productivity and quality of life. The risk of malnutrition is higher among children especially girls whose mothers suffer from chronic energy deficiency (Radhakrishna and Ravi, 2004:675).

Women's height can be used to identify women at risk of having a difficult delivery, since small stature is often related to small pelvic size. This often creates complication at the time of delivery and may even lead to maternal death. The risk of having a baby with a low birth weight is also higher for mothers who are short. In Jammu and Kashmir, 4.8 percent of women are under 145 cm in height (IIPSa, 2007:308) meaning that they are nutritionally at risk. Another indicator which is vibrantly used to assess the extent of malnutrition is Body Mass Index (BMI). Body Mass Index is calculated as $BMI = \frac{Weight}{Height}$. BMI below 18.4 and above 24.9 is categorized as thin and overweight or obese respectively. The percentage of women in the state of Jammu and Kashmir who fall in the category of thin include 24.6 percent of those who are total thin (>18.5 BMI), 15.5 percent who are mildly thin (17.0-18.4 BMI) and 9.1 percent of those who are moderately or severely thin (<17.0 BMI). Further the percentage of women who fall in the category of overweight or obese include 16.7 per cent of those who are overweight or obese (≥25.0 BMI), 13.4 per cent of those who are overweight (25.0-29.9 BMI) and 3.3 per cent of those who are obese (≥30.0 BMI) (IIPSa, 2007:308). Women of the state suffer from a dual burden of malnutrition, with near half being either too thin or overweight.

Anaemia is yet another important index of diet related problems. It is a condition where the number of red blood

cells in the blood is below 'normal' for age and sex of the individual (Kumar and Devi, 2010:15). Anaemia can result in maternal mortality, weakness, diminished physical and mental capacity, increased morbidity from infectious diseases, perinatal mortality, premature delivery, low birth weight, and (in children) impaired cognitive performance, motor development, and scholastic achievement (IIPSb, 2009:20). More than half of women aged 15-49 years (52.1%) in Jammu and Kashmir have anaemia, including 37.3 percent with mild anaemia, 13.1 percent with moderate anaemia, and 1.6 percent with severe anaemia (IIPSb, 2009:89). Children of mothers who have anemia are much more likely to be anemic. Women in the state also suffer from the health problem of asthma (897), diabetes (540) and goiter (237) (IIPSb, 2009:99). Therefore, it can be rightly stated that female mortality either due to malnutrition or due to prevalence of diseases can be cause responsible for decline in number of females in the state.

Research using longitudinal data from Bangladesh has been important in suggesting that what really counts in modern circumstances are differences in the behavior of parents toward sons and daughters in matters of health care. Thus, if a son becomes ill, he is more likely to receive medical treatment (Chen et al., 1981:55-70). This gender biasness in behavior of parents in medical treatment of their children is also found in Jammu and Kashmir where in case of diseases like fever and pneumonia, boys in comparison to girls were paid more attention and medical treatment was sought for them (IIPSb, 2009:70). Discrimination of girl child in relation to health care would exacerbate the incidences of mortality in female population.

Mortality differentials

Higher female mortality is a prime reason for low female-male ratios (Visaria, P.M, 1971). India's low sex ratio appears to be the result of differential mortality arising from the neglect of female children (Sen, 1985). There is a definite sequence in discrimination against the girl child that increases with age. Excess female child mortality is encountered in the post-neonatal period itself (Agnihotri, 2000). Excess female mortality from discriminatory behavior can extend well beyond childhood. Female death rates in India now exceed those of males at all ages below 20 years. But as recently as 1970, female death rates were higher at all ages below 40 years (Visaria, L. 2005:32-56). Thus, it can be rightly argued that discrimination against females begin at the unborn stage in the form of foeticide and is latter transformed in different forms of mortalities such as under-five mortality, natal mortality-neo-natal and post-neo-natal and child mortality. Under-five mortality in state as well as in its rural and urban areas is 54, 55 and 45 for girls against 46, 49 and 34 for boys respectively (SRS, 2009). This gender gap in under-five mortality is cause of worry because higher the gender gap in under-five mortality, the more adverse will be the consequences in terms of decline in sex ratio. The incidence of neo-natal mortality is higher among boys (35.2 per cent) than girls (28.2 per cent) whereas post-neo-natal mortality is higher among girls (14.4 per cent) than boys (12.9 per cent). What is surprising to note is that child mortality among girls (11.6 per cent) is two times higher than boys (6.2 per cent) (IIPSb, 2009:59). This analysis is therefore in congruence with the statement that female mortality increase with the age. Excess female mortality may therefore be one among the reasons for decrease in the number of females in population of state.

Dowry

Committee on the 'Status of Women in India' in its land marking report concluded that "an increase in the neglect of female lives as an expendable asset" is "the only reasonable explanation for the declining sex ratio observed to persist over several decades" (GOI, 1975:375). Many communities in India still practice the custom of dowry in which a daughter's family gives money or property to the family of groom. The dowry is usually given either to show off and maintain family's honor or as a necessary condition for a suitable mate for the daughter. Various studies have concluded that it is this custom of dowry which is the main factor behind daughter disfavor (Murthy, 1996:20-27). The custom of dowry is practiced in the state of Jammu and Kashmir though its degree and kind varies across region, religion and social categories. It has changed its form from being mere voluntary gifts to huge demands made by bride's in-laws in the form of cash and kind to the family of the bride. Dowry has many ill effects in the society. In paying this dowry, many families exhaust their resources and many have to borrow funds either from relatives and friends or in some cases from commercial banks to fulfill the demands. Accordingly, families avoid these situations by carefully monitoring the number of daughters in their family. This process can take many forms and can vary from subtle neglect to outright cruelty in the forms of feticide or infanticide. Dowry has now become a social problem reflected in bride burning, harassment and physical torture of the young brides and various kinds of pressure tactics being adopted by the husband and/or in-laws that affect the well being of the victimized women. Hence it lowers the status of women in the society and therefore could be one of the factors responsible for decline in sex ratio in the state of Jammu and Kashmir.

Under-enumeration of females

Under-enumeration of females as a cause of decline in

sex ratio is not agreed upon by all scholars. However, there are few scholars such as Bhat (2002:244-45) who argues that in a society, where female autonomy is low and son preference is strong; there is possibility that females are under-counted more than males in censuses. Females might have been under-enumerated in the state of Jammu and Kashmir especially in cases where the gender of previous births is female. This is because some families feel sense of ignominy in reporting the birth of the new born child when the gender of the same is female. Secondly, there would have been under counting of females particularly elderly widows and single women especially where the enumerators are newly recruited local employees. The ongoing turmoil situation in state might have aggravated this process of under-enumeration especially in remote and hilly areas where there is threat among enumerators of either being killed due to accidents or become the victim of armed conflict. Further, the enumerators are mainly government servants and they sometimes take things for granted and in some cases are pressurized by the authorities to manipulate the figures to avoid the criticism of the state apparatus.

It is however possible that there may be other determinants of decline in female-male ratio which have not been dealt in the present study. They need to be investigated through field work research.

CONSEQUENCES AND REMEDIES

Decline in female-male ratio or sex ratio has potentially many serious consequences. Few important ones are briefly discussed below:

1. Imbalance in sex population of society helps to sustain patriarchy. Females would fear for their safety because excess female child mortality will move up the ratio of men to women at adult ages, and so extend the age range over which men outnumber women in the population. This fear will restrict the free movement of women as they will remain under the constant threat of being victim of crimes like abduction, rape, molestation, eve teasing and even murder. Such incidents have been recently reported in the various regions of the state (Bhat, 2014).
2. Bride trafficking will become rampant and women will be forced by their families to marry at younger ages (South, 1988:19-31). Young brides and their children are also more likely to susceptible to increased morbidity and mortality associated with early pregnancy and child birth. Non-availability of marriageable women will lead to ‘import’ of women from areas with a better sex ratio. The price put on such a girl is much less than what people pay for cattle. After marriage, these brides are condemned to a life of slavery (Jain, 2006:22). This is happening in states like Punjab and Haryana because in these states, men of marriageable age are not able to find suitable partners and thus they buy brides from other states like Assam, West Bengal, and Bihar etc. The import of women from other states for marriage is now practiced especially among the lower echelons of the society in Jammu and Kashmir.
3. Bride-sharing or what is called as forced polyandry–in which multiple men, typically related, share the same women as wife can lead to increased maternal mortality rate and sex related violence (Khanna, 1997:171-80). This would even lead to abduction and trafficking of girls and even the expansion of the sex industry with the magnitude of spreading sexually transmitted diseases. Though such cases have not yet been reported overtly, if the problem of decline in sex ratio is not solved right now, the practice of bride-sharing will become a norm in our society.
4. Excess female mortality would result in availability of fewer women of reproductive age in the population and this will exert a downward effect on birth rates.

Despite the many programmes and legal exercises enacted in an attempt to improve the status of females by helping them to achieve a better and more equal position in all spheres of life, India’s progress towards balancing sex ratio continues to be constant challenge. There is an urgent need to address the number of critical issues which lie beneath the problem of this form of gender discrimination. These issues need to be addressed carefully so as to evolve a strategy to combat the problem. Keeping this in view some remedial measures are suggested below:

1. There is desperate need for carrying out series of activities for generating awareness through rallies, wall writing campaigns, poster competitions, street plays, mass media both electronic and print etc. among the people about the decline in sex ratio and its dire consequences on the society at large. There is need for gender sensitization. Females should be treated at par with males in all spheres of life. Participation of civil society, political and social activists, professional bodies as well religious and spiritual leaders in these activities is not only important but essential.
2. Economic support in the form of scholarships, free health care and education and social support at the time of marriage should be provided to families with higher number of girls.
3. State should take steps to enforce the laws related to rights of females properly in letter and spirit. Laws like Pre-Conception and Pre-Natal Diagnostics Techniques (Prohibition of Sex Selection) Act, 1994 and the Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 (PNDT) need to be made more stringent to stop the heinous crime of female foeticide. Sting operations on illegal ultrasound clinics and nursing homes need to be carried out so that the guilty are punished. The police along with Judiciary should act

promptly when such cases are reported to them so that justice is delivered by punishing the culprits at right time.
4. There is need to bring attitudinal change among the planners by sensitizing them to be gender neutral as and when they formulate programmes and policies so that more focus should be on gender equality and justice; and
5. NGOs independently or in collaboration with government authorities have to play a very important role to intervene in solving this problem which if unattended will lead to catastrophic situation where men will act like beasts always busy in predating women's body and sexuality.

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Conflict of Interests

The author has not declared any conflict of interests.

REFERENCES

Abbott P, Wallace C, Tyler M (2005). *An Introduction to Sociology: Feminist Perspectives*, London: Routledge, pp.171-197.
Agnihotri SB (2000). *Sex Ratio Patterns in the Indian Population: A Fresh Exploration*, New Delhi: Sage Publications.
Aravamudan G (2007). *Disappearing Daughters: The Tragedy of Female Foeticide*, Delhi: Penguin Books Publication, p.47.
Arnold F, Choe MK, Roy TK (1998). "Son Preference, the Family Building Process and Child Mortality in India" in *Population Studies,* 52(3):301–15.
Bandyopadhyay M (2003). "Missing Girls and Son Preference in Rural India: Looking beyond Popular Myth" in *Health Care for Women International,* 24(10):910-927.
Barakade AJ (2012). "Declining Sex Ratio: An Analysis with Special Reference to Maharashtra State" in *Geoscience Research*, 3(1):1.
Barakade, A.J. op. cit., p.1.
Bhat FA (2014). "From Gendercide to Gender-based Violence" in *Kashmir Images,* June 23, Retrieved at http://www.dailykashmirimages.com/new s-from-gendercide-to-gender-based-v iolence-62187.aspx.
Bhat PNM (2002). "On the Trail of Missing Indian Females- II: Illusion and Reality" in *Economic and Political Weekly*, 37(52)244-45.
Browne AW, Barrett HR (1991). "Female Education in Sub-Saharan Africa: The Key to Development" in *Comparative Education*, 27(3):275-285.
Chawla B (2007). "*Women's Education, Health and Fertility in India: Examining three states in India: Bihar, Rajasthan and Tamil Nadu*", Monograph, International Comparative Education, School of Education, Stanford University, p. 1.
Chen LC, Huq E, D'Souza S (1981). "Sex bias in the family allocation of food and health care in rural Bangladesh" in Population and Development Review,7(1): 55–70.
Das Gupta M (1987). "Selective Discrimination against Female Children in Rural Punjab" in *Population and Development Review*, 13(1) :77–100;
Das Gupta, M. op.cit., pp.77–100;
Dasgupta P (2000). "Population and Resources: An Exploration of Reproductive and Environmental Externalities" in *Population and Development Review*, 26(4): 643-689.
Goswami S (2007). *Female Infanticide and Child Marriage*, Jaipur: Rawat Publications, p.335.
Government of India (GOI) (1975). Committee on the Status of Women in India, "*Towards Equality: Report of the Committee on the Status of Women in India*", New Delhi: Department of Social Welfare, Ministry of Education and Social Welfare, p.373.
Government of India (GOI) (2011). *Family Welfare Statistics in India*, New Delhi: Statistics Division, Ministry of Health and Family Welfare, Table A. 20. Retrieved from http://www.2cnpop.net/uploads/1/0/2/1/10215849/mohfw_statistics_2011_revised_31_10_11.pdf
Government of Jammu and Kashmir (GoJK) (2008), *Below Poverty Line Survey*, op.cit., p.66.
Government of Jammu and Kashmir (GoJK) (2008). *Below Poverty Line Survey*, Srinagar: Directorate of Economics and Statistics, p. 65.
Government of Jammu and Kashmir (GoJK) (2012). *Digest of Statistics* (2011-12), Srinagar: Directorate of Economics and Statistics, p.1.
International Institute for Population Sciences (IIPSc) (2010), *District Level Household and Facility Survey (DLHS-3), 2007-08, India, Jammu & Kashmir*, Mumbai: IIPS, p. 59.
International Institute for Population Sciences and Macro International (IIPSb).(2009). *National Family Health Survey (NFHS-3b), India, 2005–06: Jammu and Kashmir*, Mumbai: IIPS, p.46.
International Institute for Population Sciences and Macro International (IIPSa) (2007). *National Family Health Survey (NFHS-3a), 2005–06: India: Volume I*, Mumbai: IIPS, 302-303.
International Institute for Population Sciences and Macro International (IIPSa) (2007).op.cit., p.308.
International Institute for Population Sciences and Macro International (IIPSa) (2007). op.cit., p.308.
International Institute for Population Sciences and Macro International (IIPSb) (2009). op.cit., p.20.
International Institute for Population Sciences and Macro International (IIPSb) (2009). op.cit., p.89.
International Institute for Population Sciences and Macro International (IIPSb) (2009). op.cit., p.99.
International Institute for Population Sciences and Macro International (IIPSb) (2009). op.cit., p.70.
International Institute for Population Sciences and Macro International (IIPSb) (2009). op.cit., p.59.
Jain AK (2006). *The Saga of Female Foeticide in India: Socio-Legal Offshoots*, New Delhi: Ascent Publications, p.22.
Kaur R (2004). "Across-Region Marriages: Poverty, Female Migration and the Sex Ratio" in *Economic and Political Weekly*, 39(25):2595.
Khanna SK (1997). "Traditions and Reproductive Technology in an Urbanizing North Indian Village" in *Social Science and Medicine*, 44(2):171-180.
Khanna, S. K. op.cit., pp.171-180.
Kumar NA, Devi DR (2010). *Health of Women in Kerala: Current Status and Emerging Issues*, Kochi Kerala: Centre for Socio-economic and Environmental Studies, Working Paper Series No. 23, p.15. Retrieved from http://csesindia.org/admin/modules/cms/docs/publication/24.pdf
Kundu A, Sahu MK (1991). "Variation in the Sex Ratio: Development Implications" in *Economic and Political Weekly*, 26(41):2341-42.
Mayer P (1999). "India's Falling Sex Ratios" in *Population and Development Review*, 25(2):324.
Murthy RK (1996). "Fighting Female Infanticide by Working with Midwives: An Indian Case Study" in *Gender and Development*, 4(2):20-27.
Nath V (1991). "1991 Population Census: Some Facts and Policy Issues" in *Economic and Political Weekly*, 26(37):2148-2152.
Oberman M (2003). "Mothers Who Kill: Cross-Cultural Patterns in and Perspectives on Contemporary Maternal Filicide" in *International Journal of Law and Psychiatry*, 26(5):493-514.
Omvedt G (1978). "Women and Rural Revolt in India" in *Journal of Peasant Studies*, 5(3):382.
Patel T (2004). "Missing Girls in India" in *Economic and Political Weekly*, 39(9): 887.

Radhakrishna R, Ravi C (2004). “Malnutrition in India: Trends and Determinants”, *Economic and Political Weekly*, 39(7) 675. (pp.671-676)

Sen A (1985). *Commodities and Capabilities,* Amsterdam: North Holland.

Sen A (1989). “Women’s Survival as a Development Problem” in *Bulletin of the American Academy of Arts and Science*s, 43 (2),:14-29.

Sen A (1990). “More than 100 Million Women are Missing” in *New York Review of Books*, 37(20) (December, 1990), pp. 61-66.,

Sheth SS (2006). “Missing Female Births in India” in *Lancet*, 367 (9506):185-186.

South SJ (1988). “Sex Ratios, Economic Power, and Women’s Roles: A Theoretical Extension and Empirical Test” in *Journal of Marriage and the Family*, 50(1)19-31.

Srinivasan K (1994). “Sex Ratios: What they Hide and what they Reveal” in *Economic and Political Weekly*, 39(51/52):3233.

Visaria L (2005). “Mortality Trends and the Health Transition” in Tim Dyson, Rober H Cassen, and Leela Visaria, (eds.) “*Twenty-First Century India*”, Oxford: Oxford University Press, pp. 32–56.

Visaria PM (1971). *The Sex Ratio of the Population of India*, Census of India 1962, Volume 1, Monograph 10, New Delhi: Office of the Registrar General.

Waheed A (2007). “Sex-ratio Among Muslims in Uttar Pradesh” in Abdul Waheed (ed.), “*Muslims of Uttar Pradesh*”, Aligarh: Centre for Promotion of Educational and Cultural Advancement of Muslims in India (CEPECAMI), p.33.