



Skewed sex ratio, male marriage squeeze and cross-cultural marriages: A study of an ecologically vulnerable region in India

Un quotient de nuptialité des hommes célibataires déséquilibré, une faible probabilité du mariage des hommes et les mariages interculturels : étude de cas d'une région vulnérable de l'Inde

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Abstract:

Shortage of brides, marriage squeeze, and male lifelong bachelorhood are some of the implications for the societies practicing son preference. The probability of finding a local bride is lower for youth who live in regions with male excessive sex ratio. It is amplified with poverty and unemployment prevalent in underdeveloped areas. This paper examines the impact of skewed sex ratio on male nuptial pattern and female marriage migration in the economically poor and ecologically vulnerable Braj-Rajputana region situated in western India. The sex ratio in this region is highly skewed in favour of males (116M/100F), resulting in a shortage of local brides and a high proportion of lifelong bachelors (5.6 per cent). Bringing cross-regional and cross-cultural brides is a solution, but a challenge for residents of this region. This mixed-method study uses data from the Census of India 2001 and 2011 and in-depth interviews with bachelors.

Résumé:

Le manque de filles à épouser, les contraintes du mariage et le célibat endémique des hommes en âge de se marier sont des conséquences des sociétés qui préfèrent les garçons aux filles. Dans les régions ayant un taux de masculinité déséquilibré parmi les hommes célibataires, la probabilité de trouver localement une fille à épouser est faible. Elle est plus accentuée par la pauvreté et le chômage en régions défavorisées. Cet article traite des conséquences du déséquilibre du taux de masculinité parmi les hommes célibataires et la migration de femmes à marier dans la région de Braj-Rajputana connue pour sa vulnérabilité économique dans toute la partie ouest de l'Inde. Le quotient de nuptialité y est de 116 h/100f avec une prévalence de 5,6 % d'hommes célibataires. Trouver des jeunes femmes à marier dans le double contexte interrégional et multiculturel est à la fois une solution et un défi à relever dans cette partie de l'Inde. L'étude réalisée selon la méthode mixte, exploite les données du recensement de 2001 et 2011. L'enquête accorde un intérêt particulier aux hommes célibataires.

Keywords / Mots clés

*Sex ratio, marriage squeeze, marriage migration, cross-cultural marriage, lifelong bachelor
Taux de masculinité, contraintes du mariage, migration de mariage, mariage interculturel, célibat endémique*

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INTRODUCTION

Male-excessive sex ratio or excess of males over females is highly prevalent in many countries of South and Southeast Asia due to a strong cultural preference for sons. When sex ratio becomes dramatically male favoured, a large number of men have little or no prospect of finding a suitable mate and starting a family of their own (Hudson and den Boer, 2004; Kaur, 2013). The phenomenon of a shortage of brides and therefore an excess of bachelors in the society is called male marriage squeeze (Billig, 1991). Based on simulation models on the impact of skewed sex ratio on marriage squeeze in China and India, Guilimoto (2012) estimated that the proportion of men unable to find a spouse will reach 15-21 per cent in China by 2055 and up to 10 per cent in India by 2065. Another indirect implication of skewed sex ratio is realised in terms of cross-cultural/ cross-national migration of brides. In order to meet the

potential local brides, many men opt to bring brides from across the region (Visaria, 2003; Kaur, 2004; Blanchet, 2005; Chaudhry and Mohan, 2011) and even across the country (Palriwala and Uberoi, 2008; Yang and Lu, 2010). In Southeast and East Asia; Japan, Taiwan, and South Korea receive a number of foreign brides hailing from China, Philippines, and South Korea; Vietnam; and China, Vietnam, and Philippines, respectively (Chung, Kim, and Piper, 2016). In Korea, women are trafficked from China (especially ethnic Koreans), Vietnam, Philippines, and Uzbekistan (Kim, 2008) and in China, from Vietnam and North Korea (Fan and Huang, 1998). In India, in recent past, due to the shortage of brides resulting from skewed sex ratio, the north-western states have also witnessed long-distance cross-cultural marriage migration from other regions of the country (Kaur, 2004, 2008, 2013; Blanchet, 2005; Chaudhry and Mohan, 2011).

In the state of Haryana, cross-regional unions are not only being witnessed but also being accepted even in more conservative communities (Mishra, 2013). This new trend of spouse selection is economically mediated (Chaudhry and Mohan, 2011) and cannot be traced to the traditional marriage norms (Baker, 2010).

In addition to the demographic imbalance of sexes, marriage market is also shaped by geographic conditions, socio-economic and cultural factors. For China, projections by Sharygin, Ebenstein, and Das Gupta (2013) indicate that less-educated and low economic status men would be most negatively impacted in the marriage market. For India, where educational level of girls is increasing at a fast pace, Kashyap, Esteve, and García-Román (2015) argue that if educational hypergamy persists, in future the expansion of girls' education would affect the prevalence of male marriages negatively.

Though there are not many pieces of evidence, geographical factors like location, accessibility, tough terrain, and harsh climate also play a significant role in increasing the male marriage squeeze. In Japan, male marriage squeeze is caused by out-migration of females, especially in remote and mountain villages (Ishikawa, 2003 as cited in Yang and Lu, 2010:55). Marriage squeeze in rural areas is also related to hard work required in farming, low and uncertain income, inconvenient village life, and lack of other employment opportunities (Mitsuoka, 1990 as cited in Yang and Lu, 2010:55). Sharygin et al. (2013) indicate that in China bachelors tend to cluster in the rural areas of poor provinces in western China where men are least financially secure due to less access to jobs, social assistance, and social insurance programmes. In Hong Kong, men of older ages, disadvantaged personal traits, and lower socio-economic status have difficulty in finding local brides (Ma, Lin and Zhang, 2010).

Marriages in India are nearly universal and determined by the existing cultural, social, economic, historical, and political factors (Constable, 2005; Fulford, 2013; Chaudhry and Mohan, 2011). Conventionally, marriages in India are arranged between individuals belonging to the same caste, region, religion, class, and culture, termed by Parsons (1951) as moral codes of the society. Most of the marriages, especially in rural areas, are arranged by parents and typically after marriage, a girl leaves her parents' home to join her husband in his home (Fulford, 2013). Majority of female migration in India is attributed to the movement of girls for the purpose of marriage.

Marriages in northern India are also characterised by the practice of territorial exogamy (Agnihotri, 2000; Fulford, 2013). However, the marriage norms try to ensure that the basic cultural environment in which a girl moves after marriage is broadly familiar to her (Kaur, 2013). Thus for females, the share of marriage migration declines consistently with increasing distance between the two places suggesting that marriage field for women is confined to the neighbouring areas only (Premi, 1980; Singh, 1984). On spatial linkages in marriages, Kaur (2004) asserts that the traditional north Indian marriage patterns typically emphasise physical besides social distance, which is within the parameters of an identifiable regional community. The two opposing tendencies of endogamy (marriage within the caste and religion) and exogamy (marriage outside the gotra (clan) and village) place certain social and spatial limits on the extent of marriage networks and patterns in such a way that they typically remain confined to the regional community.

With declining ratio of females to males in marriageable age group, some men have lesser prospects of getting a suitable match in their own region and they tend to bring their brides from far-off places

or from different parts of the country. However, cross-regional and cross-cultural bride migration does not occur in random geographic topographies to balance the sex ratio. On the linkage between origin and destination of brides, many empirical studies found bride migration from Bangladesh to Uttar Pradesh (Blanchet, 2005), from West Bengal and Bihar to Uttar Pradesh (Chaudhry and Mohan, 2011) and, from West Bengal, Assam, Kerala and Maharashtra to Haryana (Kaur, 2010). Most of these studies on cross-cultural marriage migration in India are conducted in prosperous states of Punjab, Haryana and western Uttar Pradesh. But very little is known about the male nuptial pattern and cross-cultural brides in a region, where not only sex ratio is skewed, but which is also economically less developed and ecologically more challenged. It is argued that men living in villages of India with difficult terrain, arid climate, water shortage and low economic potential are less preferred in the marriage market. Hence, they face double trouble of marriage squeeze, i.e. shortage of local brides due to skewed sex ratio on one hand, and on the other, less demand in the marriage market due to the hardship of rural life added with ecological vulnerability and economic poverty of the region.

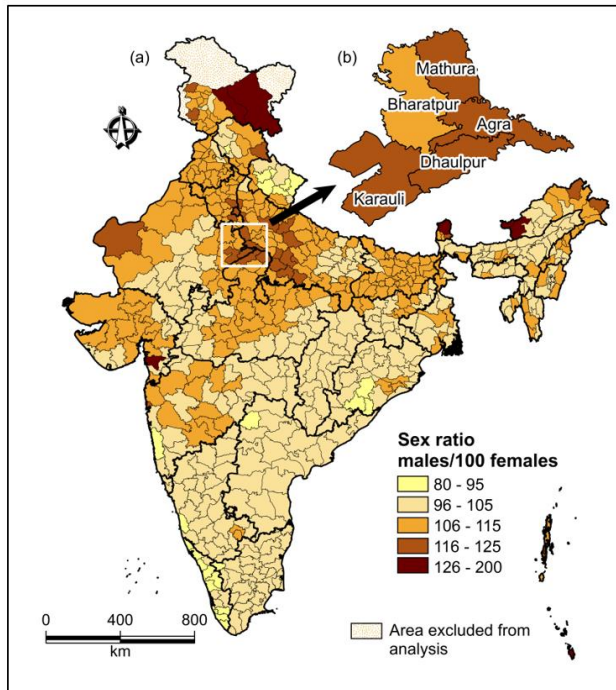
This paper examines this phenomenon in the spatio-cultural region of Braj-Rajputana, which has a highly skewed sex ratio (116 males per 100 females) and is economically not prosperous like its adjoining states of Haryana and western Uttar Pradesh. It investigates some pertinent questions like, what proportion of men in this region remain lifelong bachelors (never married after crossing age 50)? Which are the far-flung districts in India, which send their daughters to the rural areas of this region for marriage? This paper argues that besides the adverse sex ratio there are some inherent socio-economic and geographical factors, which intersect to determine the eligibility of bachelors in the marriage market. Economic hardships (low agricultural productivity, inadequate economic development, poverty and low employability of men) in this region coupled with skewed sex ratio, reduce the chances of finding a local bride resulting into the high prevalence of bachelorhood and inter-regional female marriage migration. The analysis of census data is corroborated by several in-depth interviews with bachelors to assess their concerns and intentions.

The paper is organised into three sections: the first section gives a regional account of the study area with special reference to the region's position in terms of sex ratio in India. The second section deals with male marriage squeeze and perception of bachelors about their life without a wife, and the last section describes female marriage out-migration and in-migration patterns.

SKewed SEX RATIO IN INDIA

In India, the excessive male sex ratio has been noticed right from the beginning of census undertaking in 1881 (Visaria, 1971). Over a span of more than 100 years, the deficit of females per 1000 males progressively increased from 28 in 1901 to 67 in 2001. In the latest census (2011) this situation improved slightly and the deficit reduced to 60. Skewed sex ratio in India is considered the result of under-enumeration of girls and instances of female infanticide, particularly among the landowning castes (Cave Browne, 1857; Vishwanath, 2004; UN Women, 2014). The recent decline is attributed to a strong son preference, sex-selective abortions, and neglect of girls resulting in excessive female mortality (Kulkarni, 2012). Generally, sex ratio at birth favours males (105M/100 F), but as a result of the higher mortality rate of males, sex ratio becomes more balanced in the early childhood (UN Women, 2014), hence we have examined sex ratio of population age 7+ years.

Fig.1a reflects geographical contiguity of imbalanced sex ratio in rural India. There are spatial clusters of homogenous sex ratio, which cut across the state boundaries. The male-excessive sex ratio (116-125 males/100 females) is observed in a big contiguous cluster located in the central-northern part of the country covering the districts of western and southern Uttar Pradesh, northeastern Rajasthan and the adjoining districts of Haryana and Delhi. This contiguous area is termed as 'Bermuda triangle for the girl children' (Oldenburg, 1992). Braj-Rajputana region, a homogeneous pocket extended across the state boundaries of Rajasthan and Uttar Pradesh (magnified image in Fig 1b) is a parcel of a contiguous central north region of male-excessive sex ratio in India. High sex ratio in favour of males across the study region is a manifestation of male predominance in the society, which follows similar cultural practices that determine the low status of women (Kishor, 1993; Agnihotri, 2000).



Source: Prepared by authors based on Table C for all states of India, Census of India, 2001.
Fig. 1: Sex ratio (males per 100 females) in age 7+ population in rural areas of (a) India and (b) Braj-Rajputana region.

REGIONAL ACCOUNT OF THE STUDY REGION

This paper adopts a regional approach to study the issue of skewed sex ratio and male marriage squeeze. According to Agnihotri (2000), the geospatial regions appear to be more appropriate units of study for sex ratio pattern than states because of similarity in cultural practices which determine the position of women in the society. The study region Braj-Rajputana comprises five districts - Agra and Mathura in Uttar Pradesh (Braj segment) and Dhaulpur, Bharatpur, and Karauli in Rajasthan (Rajputana segment) 1. Braj-Rajputana is a contiguous region, surrounded by the Aravali hills in the west, river Yamuna in the north and river Chambal in the southeast. Its northern part (Agra and Mathura of Braj segment) is a plain land, which is agriculturally more productive and economically more developed. The southern and central parts (Dhaulpur, Bharatpur, and Karauli of Rajputana segment) are ecologically more challenged due to their rugged and hilly terrain and ravine topography, which supports mainly bushy vegetation. The climate is semi-arid (annual rainfall of 666 mm) and droughts

are more frequent and extensive. Low per capita land availability, water scarcity, overexploitation of ground water, high content of sodium compound and fluoride are the other major ecological concerns, which make this region agriculturally unattractive and economically backward.

Table 1 presents relevant socio-economic and demographic features of the rural population in this region. The manifestation of the topographical and climatic diversity is clearly visible in its population. Overall, Braj-Rajputana region is one of the backward regions of India, where low per capita land availability, water scarcity, overexploitation of ground water, high content of sodium compound and fluoride are the major ecological concerns, which make this region agriculturally unattractive and economically lagging. The situation remains more dismal in the Rajputana segment of this region. Its ecological vulnerability and backward economy coupled with locational proximity to the national capital region is conducive to out-migration.

Characteristics	State		Region					District of Rajputana region			District of Braj region	
	India	Rajasthan	Uttar Pradesh	Braj-Rajputana	Rajputana	Braj	Bharatpur	Dhaulpur	Karauli	Mathura	Agra	
Demographic												
Total Population, (in 00000) ^a	1210	996	1998	1218	52	69	26	12	15	25	44	
Rural Population (in 00000) ^a	8338	515	1554	844	43	42	21	10	12	18	24	
Rural % Male ^a	51	52	52	54	54	54	53	54	54	54	54	
Rural Population Density (PPSq) ^a	279	153	666	433	333	597	418	324	228	562	631	
Rural Sex Ratio (M/F *100) ^a	105	107	109	116	117	116	114	119	117	116	116	
Rural Sex Ratio at Birth ^a (converted into M/F*100)*2011	110	114	110	122	120	125	116	125	119	127	123	
Rural 7+ Sex Ratio (M/F *100) ^a	102	107	109	116	116	116	113	119	116	116	115	
Mean Age at Marriage (DLHS-3) ^b	24.0	20.7	21.6	21.0	20.6	21.7	20.7	20.5	20.6	21.9	21.5	
Male (Total)	19.8	17.7	18.4	18.0	17.6	18.6	18.2	18.1	16.6	18.5	18.7	
Female (Total)												
Socio-Economic												
Rural % SC/ST population ^a	29.7	31.3	21.3	27.7	31.9	21.3	34.0	28.2	46.8	19.9	22.6	
Rural Male Work Participation Rate ^a	53.2	51.5	47.7	48.2	49.0	46.9	47.7	51.9	47.4	46.5	47.3	
Rural Female Work Participation Rate ^a	25.5	35.1	16.7	27.5	35.7	15.3	35.5	33.3	38.2	17.4	13.2	
Rural Male Main Worker in Agriculture (cultivator+ agr. labourer) ^a	68.6	66.9	73.7	69.0	71.0	66.1	72.1	72.9	68.1	64.9	67.2	
Avg Land Holding Size (hectare) ^c	1.15	1.5	0.76	1.3	1.1	1.5	1.3	1.3	1.5	1.5	1.1	
Avg Yield of Food Grains (kg/ha) ^d	2120	2484	1334	2385	2095	2819	2187	2400	1699	3006	2582	
Geographical												
Average Annual Rainfall (mm) ^e	1161	519	656	666	685	637	754	709	552	519	754	
% Waste land (Agricultural waste) ^f	-	-	-	17.5	20.3	13.5	16.0	27.9	16.9	14.4	12.5	

DATA AND METHODS

The data for this study are derived from the Census of India C-Series Tables of 2001 and 2011 and used for computation of sex ratio and estimation of prevalence of bachelorhood in the study region. D03-Series data (2001) and D05-Series data (2011) are used for examining the pattern of marriage migration to the states under study. D13 table of 2001 gives migration information at the district level and is used to compute flow and magnitude of migrants from different parts of India to the five districts in the study region. This is done by preparing and analysing a matrix of districts for both male and female migrants. This paper also uses eight in-depth interviews with bachelors to examine their anxiety, need for marriage, intention to marry, and potential approach to get a spouse. These interviews were conducted in November-December 2014 with the help of a Non-Government Organization. Pseudonyms are used for the study participants to maintain their confidentiality.

The present study has one limitation related to migration data. Census of India has not yet published complete migration data for 2011. And data on reasons of migration are available only at the state level. Thus in the absence of district level data on reasons of migration, state level information is used as a proxy for district level reasons. It is worth noting that 86 per cent of the female in-migration in Uttar Pradesh and 79 per cent in Rajasthan occurred for marriage only (Table 5). Hence, it is assumed that in this populous and geographically and culturally diverse country, where marriage is strictly regulated by socio-cultural and economic norms, long-distance migration of females to this region of limited economic opportunities is mainly for marriage.

RESULTS

Sex ratio

As per 2011 census, in rural areas of the study region, there were 116 males for every 100 females (Table 1). It infers that in this culturally identical region, males comprise about 15 per cent more than the population of females, which accounts for over 6,752,000 males in excess of females. The sex ratio (M/100 F) in rural areas of this region ranged from 114 (Bharatpur) to 119 (Dhaulpur), which is much higher than national and state levels. Table 2 presents the sex ratio across age-groups. Except for a few, the sex ratio remains in favour of males in all the age groups. The range of variation in sex ratio is quite high in the study region. It varies from a deficit of 6 males to a surplus of 29 males for every 100 females in comparison to the state (-11 to +15) and the country (-9 to +15).

Variation in sex ratio is much higher at the village level, varying from 73 to 190 males per 100 females. There are a total of 4,467 villages in this region, excluding smaller villages with less than 100 people, and only six per cent of these villages have normal sex ratio (95 to 105 males per 100 females). Half of the villages have sex ratio between 111 and 120 and one-fourth have more than 120.

Table 2: Males per 100 females by age-group in states and districts of the Braj-Rajputana region, 2011

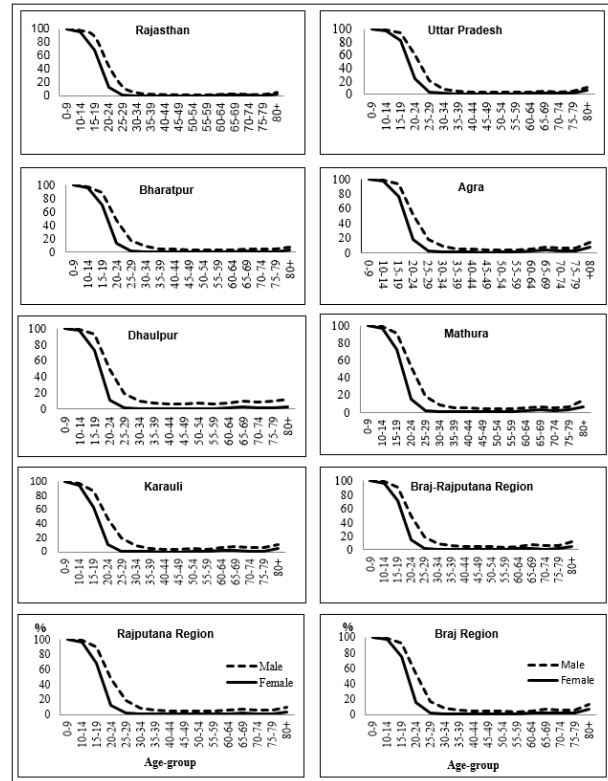
Country	State		Region			District of Rajputana region				District of Braj region	
	India	Rajasthan	U.P.	Braj-Rajputana	Rajputana	Braj	Bharatpur	Dhaulpur	Karauli	Mathura	/
All ages	105	107	109	116	116	116	114	119	117	116	
0-9	108	112	111	116	116	116	114	117	118	115	
10-14	110	112	112	119	120	119	118	123	120	119	
15-19	115	113	115	129	130	127	124	136	134	131	
20-24	107	112	114	125	125	124	121	130	128	128	
25-29	102	107	104	114	117	111	115	118	120	112	
30-34	100	101	97	105	106	104	105	109	107	103	
35-39	101	103	104	109	110	108	108	115	108	109	
40-44	107	106	112	116	114	118	113	117	112	118	
45-49	105	103	107	110	109	112	109	110	108	114	
50-54	110	114	118	120	118	123	117	119	119	121	
55-59	94	93	89	100	100	99	100	101	99	101	
60-64	97	98	108	107	102	111	102	106	102	109	
65-69	95	86	103	96	93	99	95	94	90	100	
70-74	102	93	120	111	108	113	108	111	108	109	
75-79	95	80	104	101	97	105	96	97	98	104	
80+	91	75	109	109	107	111	110	108	101	109	

Source: Computed by authors using C 13 Table of Census of India, 2011

Nuptial patterns, bride shortage, and prevalence of bachelorhood

Nuptial patterns in India are characterized by three features: universality of marriage, low age at marriage especially for females, and age and educational asymmetry in marital unions (Kashyap et al., 2015). Data from the third District Level Household Survey (IIPS, 2010), shown in Table 1, demonstrate that the mean age at marriage for both males and females is much lower than the national average (24 for males and 19.8 for females). The mean age at marriage for females in all the districts of this region is slightly above the minimum legal age at marriage for females (18 years), except for Karauli (16.6 years), indicating that a large proportion of girls get married before reaching the legal age at marriage. The situation is even worse for males. In all the three districts of Rajputana segment, mean age at marriage for males is less than the legal minimum age at marriage for males (21 years) and in the two districts of Braj segment it is slightly above the legal marriageable age.

The age group-wise proportion of never married males and females are shown in Fig 2. A wide gender gap in marital status is clearly noticed in the graph. Marriage for females starts early, starting from a small proportion in age 10-14 to approximately 100 per cent in age 25-29, while for males, the onset of marriage is late and continues to higher ages. As a result, the gender gap in never-married population starts widening from age 10-14 and reaches a peak at age 25-29. The gender gap in never-married population is uniform across the region. Karauli and Dhaulpur districts have the worst situation where the gap is widest and remains so until older ages.



Source: computed by authors from Table C2, Census of India 2011

Figure 2: Gender differential in proportion of never-married in rural area of study region, 2011.

The imbalance between the number of marriageable males and females entails that some males would not be able to choose their spouse according to the set social norms (Jiang, Feldman, and Li, 2014; Baker, 2010). This results in male marriage squeeze, where the number of potential grooms is much higher than potential brides leading to a considerable proportion of lifelong bachelors in the society. In terms of the female-male ratio of never-married population in different age groups, all the districts in the study area have the worse condition than the country and their respective states (Table 3). In the age group 15-19, these districts have 55 to 66 never-married females for every 100 never-married males. The ratio dips down to 5-12 never-married females per 100 never-married males at age 25-29 and it further slashes down in the subsequent reproductive age groups. Thus a smaller pool of never-married women than the pool of never-married men leads to a deficit of local brides and male marriage squeeze in this region.

In 2011, the proportion of never-married men at the national level was 2.1 per cent in age 50+, lower than the states of Rajasthan (2.4 per cent) and Uttar Pradesh (3.8 per cent). In the study region, lifelong bachelorhood (50+) varied from 7.6 per cent in Dhaulpur to 3.9 per cent in Bharatpur. Thus in the study region lifelong bachelorhood has a high prevalence rate; the situation is particularly worse in the Rajputana segment.

Low sex ratio and prevalence of universal marriage of females (98.8 per cent) leave a large pool of unmarried males. As per 2011 census, at three cut-off ages, i.e., 30+, 40+ and 50+, the pool of never-married persons in the Braj-Rajputana region consisted 84,687; 47,259 and 30,019 men, and 10,741; 7,913 and 6,774 women, respectively (Table 4).

Table 3: Never-married females per 100 never-married males by age-group in states and districts of Braj-Rajputana region, 2011

Age group	India		State					Region					District of Rajputana				District of Braj	
			Rajasthan	UP	Braj-Rajputana	Rajputana		Bharatpur	Dhaulpur	Karauli	Mathura	Agra						
15-19	69	68	76	61	59	64	63	57	55	60	66							
20-24	34	26	35	23	20	25	24	16	18	22	27							
25-29	21	11	18	9	6	11	7	5	6	10	12							
30-34	24	10	16	8	5	11	6	3	5	10	11							
35-39	35	10	16	7	5	10	6	3	5	10	10							
40-44	41	10	14	6	4	9	5	3	4	8	9							
45-49	46	10	15	7	5	9	5	4	4	9	9							

Source: Computed by authors from Table C2, Census of India 2011

The proportion of never-married men in the respective cut-off ages accounted for 6 per cent, 5.2 per cent, and 5.7 per cent, while the share of never-married women was less than 1 per cent for age 30+ and 40+, and 1.4 per cent for age 50+. The age of 50+ is considered the threshold age for lifelong bachelorhood since these people have passed the normal age of marriage (even late marriage) and are unlikely to marry. A large proportion of never-married men at this age is perplexing in a society where marriage is considered important for personal and social wellbeing as well as carrying forward family lineage.

Table 4: Number and percentage of never married males and females in rural area of states and districts of Braj-Rajputana region by cut-off ages of: 40+ and 50+ year, 2011

Area	Male						Female						
	30+		40+		50+		30+		40+		50+		
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	
Country	India	6,693,304	3.6	2,607,617	2.1	1,566,661	2.1	2,453,779	1.3	1,344,134	1.1	895,988	
State	Rajasthan	296,674	2.8	135,414	2.2	83,678	2.4	42,272	0.5	29,234	0.5	24,235	
	Uttar Pradesh	1,250,968	4.4	657,720	3.5	430,039	3.8	293,455	1.1	198,059	1.2	165,839	
Region	Braj-Rajputana	84,687	6.0	47,259	5.2	30,019	5.7	10,741	0.8	7,913	0.9	6,774	
	Rajputana	42,469	6.1	23,122	5.3	14,646	5.8	3,607	0.5	2,681	0.6	2,316	
	Braj	42,218	5.8	24,137	5.1	15,373	5.6	7,134	1.1	5,232	1.2	4,458	
Districts of Rajputana	Bharatpur	17,722	5.0	8,859	3.9	5,255	3.9	1,610	0.5	1,108	0.5	931	
	Dhaulpur	11,897	7.5	6,885	6.9	4,383	7.6	721	0.5	565	0.6	473	
	Karauli	12,851	5.8	7,378	5.2	5,007	6.0	1,276	0.6	1,008	0.8	911	
Districts of Braj	Mathura	16,114	5.7	10,499	5.1	6,690	5.5	2,969	1.0	2,209	1.2	1,894	
	Agra	24,104	5.8	13,638	5.2	8,683	5.7	4,145	1.1	3,023	1.3	2,564	

Note: Data on age not stated is adjusted on the basis of prorata method
Source: Computed by authors using C2 table on marital status by age and sex, Census of India 2011

Bachelors' perception of marriage squeeze

In-depth interviews of eight bachelors from this region help us in understanding their anxiety and potential solutions to marriage squeeze. These bachelors were between 35 and 58 years of age. They realized that the scarcity of girls in their community, socio-cultural norms related to marriage, and physical and economic conditions of the region are the root causes of increasing number of lifelong bachelors.

Parental preference for male children, the practice of dowry and burden of meeting marriage expenses are considered the major causes for bachelorhood in the society. Tripa Singh (36) said, 'Bachelorhood is not a new phenomenon, but it is increasing because people do not want to have a girl child, as she would cost them huge money in marriage expenses and dowry when she grows up'. To reduce marriage expenditure, some parents prefer to arrange the wedding of all their daughters in one ceremony on the same day, irrespective of their age. This is also one of the reasons for the prevalence of child marriages. It also causes a shortage of eligible girls at a later age leading to male marriage squeeze.

A 58-year-old bachelor from Bharatpur apprised that in this area an unmarried man reaching 24-25 years of age is considered over-age for marriage and his chances of getting a local bride become bleak. He further explained the process of marginalisation in the marriage market as 'initially potential grooms look for the handsome amount of dowry and refuse any proposal from poor families; with the passage of time they are considered over-age in the marriage market and unfit for a bride in the local community'.

Bachelors also realize that tough geographical conditions, dry climate and low agricultural productivity of the region act as repulsive factors in the marriage market. Ashutosh Sharma (35), a bachelor from Dhaulpur, who also has a younger brother, bachelor like him, believes that due to hilly and rugged terrain, and poor

connectivity of his village, parents do not want their daughters to marry a man in this village. Another 36-year old cultivator, who owns approximately three hectares of agricultural land in a village in Mathura, expressed, 'due to lack of irrigation facility, poor soil fertility, and saline water, I cannot cultivate more than one crop a year. This limits my agricultural income and I have to work as a daily-wage worker in the nearby cities of Bharatpur and Mathura'. There are many men in a similar situation who own small pieces of land and cannot grow enough crops to fulfill their economic needs. Such men are marginalised in the marriage market and their chances of remaining lifelong bachelor go up. Ram Dhani (40) from Mathura added, 'parents do not want their daughters to get married to those men who do not have enough money, a successful business or a government job'.

Mohan Singh (38) from a village in Dhaulpur, who also has a bachelor older brother (40), added that having property in a village is not enough to get a suitable match; it is important to have a house in a town also. 'Had I owned a house in a nearby town I would have easily found a bride.' Rup Singh (37) highlighted the importance of a government job in becoming eligible for getting a bride from one's own community. He asserted, 'had I been employed in the defence services, a number of girls would be willing to marry me even at this age, but nobody wants to marry an unemployed man like me'.

These case studies clearly demonstrate that bachelors do realise the shortage of girls in their communities and the role of parents in creating that shortage. They also realise that other factors, such as social restrictions on inter-caste, inter-religion marriages, low income in the agricultural sector and poor geographical conditions also play an important role in squeezing the male marriage market. Even large agricultural land holdings in those villages are not attractive enough to woo parents of girls for a marriage proposal for their daughters because of the rugged terrain, poor quality of agricultural land, brackish groundwater unsuitable for irrigation, coupled with hardships and uncertain income associated with working in the agricultural sector. The poor connectivity of villages further adds to the difficulty of finding a suitable bride. Therefore, many bachelors look for brides outside their community, region, caste and religion and some are even willing to pay for a bride. They prefer to adopt a socially rebellious attitude to achieve their personal ambitions and family goals (Olson, Fine, and Lloyd, 2005).

External brides as a solution to bachelorhood

This section focuses on the areas from where brides come to this economically backward and ecologically vulnerable region. Census of India provides information on reasons of migration to the place of destination only at the state level. Since more than 80 per cent women migrate as a result of marriage, researchers used this information as a proxy to determine district level migration of brides from the Census data.

Female migration at the state level

Table 5 shows that between 2001 and 2011 the volume of total female in-migrants in rural areas of these states increased from 3.2 million to 4.3 million in Rajasthan and 6.6 million to 8.0 million in Uttar Pradesh. The marriage remained the predominant reason for 86 per cent female in-migrants in Uttar Pradesh and 79 per cent in Rajasthan. In both the states, around 94 per cent of marriage migration occurred either within the same district or other districts of the same state. The remaining 6 per cent of the marriage migrants were from other states. In absolute numbers, over 283,600 females (5 per cent) in Uttar Pradesh, and over 169,250 (7 per cent)

in Rajasthan came from other states for the purpose of marriage.

Table 5: Pattern of female marriage in-migrants in rural Uttar Pradesh and Rajasthan during 1991-2001 and 2001-2011

		During 1991-2001					
		Total female in-migrants to the rural areas of the state		Female in-migration for marriage purpose			
		Total		Intra-state		Inter-state	
State	Number	Number	%	Number	%	Number	%
Uttar Pradesh	6,619,582	5,881,018	89	4,078,069	69	1,519,346	26
Rajasthan	3,205,019	2,525,555	79	1,881,481	74	482,534	19

		During 2001-2011					
State	Number	Number	%	Intra-state		Inter-state	
				Number	%	Number	%
Uttar Pradesh	8,012,603	6,919,831	86	NA		NA	
Rajasthan	4,271,351	3,361,576	79	NA		NA	

Source: Computed by authors from D-Series, Migration Tables, Census of India, 2001 and D-5 Table 2011

Cross-cultural marriage migration

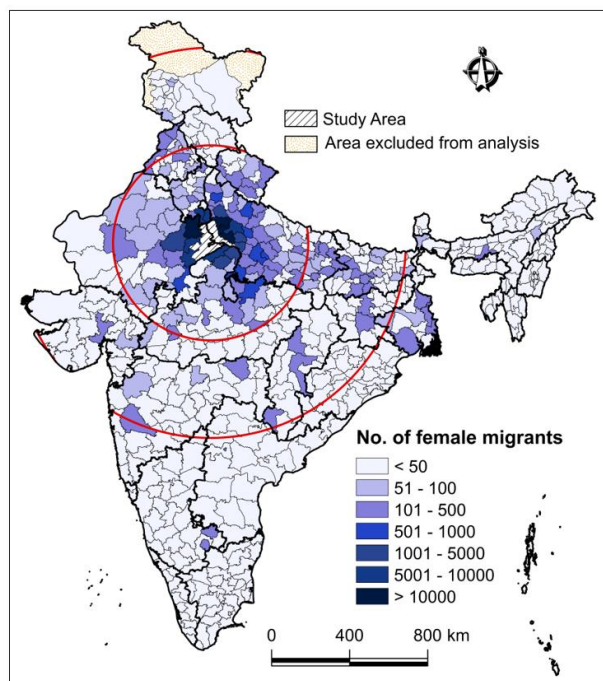
Inter-district migration matrix was computed for all the 593 districts of India to determine the districts from where females migrated in and migrated out of the study region. Fig. 3 and Table 6 throw light on patterns of female migration in the rural areas of Braj-Rajputana. More than 395,000 females changed their usual place of residence within the region. The study region sent more than 78,000 females to the neighbouring districts² while received over 114,000 from them, a net gain of nearly 36,000 women. Similarly, in comparison to over 27,000 female out-migrants, the region received over 42,000 female in-migrants from other districts of their home states. As far as the inter-state migration of females is concerned, this region sent less than 19,000 females while received nearly 63,000 from outside their home states, excluding their neighbouring districts. Thus, this region is a net female in-migrating area with a net gain of more than 95,000 females between 1991 and 2001. Nearly 16 per cent gain was due to in-migration from other districts of the home states, 38 per cent from neighbouring districts, and 46 per cent from far-off districts of other states. At district level the volume of female in-migrants from other states was lowest in the rural areas of ecologically vulnerable and economically poor districts of Karauli (2,766) and Dhaulpur (16,038), compared to relatively prosperous districts of Bharatpur (37,427), Mathura (52,061) and Agra (64,373) (Table not shown).

Table 6: Flow of female migration (in-migration, out-migration and net migration) in Braj-Rajputana by distance, 2001

Flow of female migrants by distance	Females migrating out of the region		Females migrating into the region		Net gain/loss of females due to migration	
	Out migration (volume)	%	In migration (volume)	%	Net migration (volume)	%
Within home state (UP and Rajasthan)	479,847	92	514,626	84	34,779	37
Outside home state	39,130	8	99,462	16	60,332	63
Total	518,977	100	614,088	100	95,111	100
Within the region	395,024	76	395,024	64	00	00
Neighbouring districts	78,195	15	114,008	19	35,813	38
Districts of home state (excl. own region & neighbouring districts)	27,064	5	42,166	7	15,102	16
Districts of other states (excl. home state & neighbouring districts)	18,694	4	62,890	10	44,196	46
Total	518,977	100	614,088	100	95,111	100

*excluding cases of destination unstated
Source: Prepared by authors based on Table D13, Census of India, 2001

The districts from where females migrated to this region are shown in Fig 3. As depicted in the map, female in-migration to Braj-Rajputana shows two distinct patterns; a) a contiguous area located within 500 km distance from the centre of the region with some parts extending beyond this circle, and b) some non-contiguous districts located far away from this region in the second concentric zone (500-1000 km) and beyond. Many women came from far-off districts situated beyond 1000 km as shown in the Fig 3³. Most of these districts are economically and socially backward and some of them have a high concentration of tribal population. Although the number of female in-migrants from these districts is very small, they outnumber their male counterparts.



Source: Prepared by authors based on Table D13, Census of India, 2001.

Figure 3: Female In-Migrants to rural Braj-Rajputana region from other Districts of India.

Note: Two concentric circles were drawn taking region's middle as centre. The inner and outer circles refer to 500 km and 1000 km of distance from the centre of the region.

Further to examine association between sex ratio and cross-cultural marriage migration and to identify districts of cross-cultural marriage migration, analysis was focused only on the Rajputana segment (Dhaulpur, Bharatpur, and Karauli), which has ravine land topography and little economic opportunities (Table 1). Data were filtered with two considerations: a) the districts of origin located beyond 500 km from the Rajputana region, and b) female migrants from these districts considerably outnumber male migrants.

It is argued that because of ravine land topography and little economic opportunities in rural areas of Rajputana segment, the possibility of economically motivated migration to this region would be negligible. The other possibility for females to migrate here is through family migration. Theoretically, in family migration sex ratio should be even. If a large proportion of in-migrants are females, then the possibility of marriage migration outweighs the chances of family migration. It has been noted earlier that a vast majority of female migration at the state level is due to marriage related movement.

Fourteen such districts⁴ are identified which are located 500 km away from the region and from where female migrants to this region outnumber male migrants. For example, female migrants from the districts of Hazaribagh and Bilaspur outnumbered their male counterparts by more than twelve times (Table 7). There is a numeric imbalance in sex ratio between the far-flung districts of origin and destination. The districts of destination have a much higher male-excessive sex ratio than the districts of origin, while the female migrant sending districts have a higher proportion of the female population or balanced sex ratio.

Table 7: Profile of destination and origin districts of female migrant to rural area of Rajputana region, 2001

District	7 and above sex ratio m/f*100	6-and-below sex ratio m/f*100	Male to total pop. (%)	Female literacy (%)	SC/ST pop. (%)	Rural lifelong bachelor (%)	Migrant female (no.)	Migrant male (no.)
Destination districts of female migrants								
Bharatpur	117	114	54	44	24	3.8	-	-
Dhaulpur	122	116	55	42	25	8.6	-	-
Karauli	117	114	54	45	46	5.4	-	-
Origin districts of female migrants								
Bilaspur	99	113	50	71	38	-	87	7
Nawada	106	103	51	33	24	-	248	74
Dhalai	107	103	52	52	70	-	12	9
Dhubri	107	102	51	43	06	-	13	4
Barpeta	107	104	52	48	13	-	7	1
Hazaribag	106	104	51	43	27	-	90	7
Shajapur	108	107	52	58	25	-	56	9
Jhabua	100	103	50	26	90	-	64	27
Indore	110	110	52	64	22	-	60	32
Dindori	101	101	50	38	70	-	12	3
Akola	107	107	52	74	17	-	24	9
Amravati	107	106	52	76	31	-	24	6
Nagpur	107	105	52	78	28	-	46	31
Karaikal	97	102	49	75	18	-	29	6

- Not applicable
Source: Computed by authors based on Tables C2 and D13, Census of India 2001.

DISCUSSION AND CONCLUSION

Braj-Rajputana is one of the backward regions of India, where Rajputana segment of the region faces a more dismal situation. The rural areas of this region have highly skewed sex ratio (116 males for every 100 females), leading to over 6,752,000 males in excess of females in 2011. Using this region as an example, the present study aimed to explore the prevalence of nuptial patters in a paradoxical situation where males are disproportionately more than females, and at the same time, marriage is considered compulsory for social status, community recognition, reproductive needs, and continuity of family lineage.

The findings of the mixed method approach adopted in this study suggest that the mean age at marriage in the region for both males and females is much lower than the national average. Marriage for females becomes universal by age 25 while about one-fifth of the males remain never married at that age. The imbalance between the number of marriageable males and females entails that some males would not be able to choose their spouse according to the set social norms (Jiang, et al., 2014; Baker, 2010).

A smaller pool of never-married women than never-married men (5-12 never-married women per 100 never-married men at age 25-29) results in male marriage squeeze, where the number of potential grooms is much higher than potential brides (84,687 never married men against 10,741 never married women, at age 30 and above). The proportion of never-married men at age 30+, 40+ and 50+ accounted for 6 per cent, 5.2 per cent, and 5.7 per cent. The situation is worse in the Rajputana segment where 7 per cent of 50+ males are bachelors. The village level analysis shows that half of the larger villages (more than 100 people) have between 111 to 120 and another one-fourth more than 120 males per 100 females.

The results of in-depth interviews also support the quantitative findings. The bachelors in the study region realize that cultural factors (dowry practice and marriage expenditure) are the root causes of son preference and a lower proportion of girls in the community, resulting into a shortage of potential brides. Other factors, such as low income in the agricultural sector and poor geographical conditions also play an important role in squeezing the marriage market. Men with sustainable sources of income either from successful business or government job and those who have a house in an urban area are preferred in the marriage market. Even large agricultural land holdings in those villages are not attractive enough to woo parents of girls for a marriage proposal for their daughters because of the rugged terrain, poor quality of agricultural land, brackish groundwater unsuitable for irrigation, coupled with hardships and uncertain income associated with working in the

agricultural sector. The poor connectivity of villages further adds to the difficulty of finding a suitable bride. Thus poverty, unemployment, and hard living conditions put men in a disadvantageous position resulting into a higher prevalence of lifelong bachelorhood among the poor.

Data on the female in- and out-migration from the districts of home states and other states show that the rural areas of Braj-Rajputana gained over 95,000 net female migrants between 1991 and 2001. This can be attributed to marriage migration, the major cause of female migration according to the Census of India. Nearly half of the in-migrant women came from far-flung districts of other states with a different language, dialect, food habits, clothing, cultural norms, and values. Most of these districts are socio-economically less developed with a high share of Scheduled Castes or Scheduled Tribes and a higher proportion of females in the population compared to the districts in the study region. It can be emphasized that despite the cultural differences, these districts complement the study region for marital unions and function as supply zones for spousal search. Earlier studies by Kaur (2013) and Blanchet (2005) also found cross-cultural marriage migration linked to the shortage of brides.

From the district level female in-migration data in Rajputana region, the role of regional imbalance in sex ratio cannot be nullified completely in cross-regional female marriage migration. This study supports the findings of Fulford (2013) in asserting that marriage migration is not driven by imbalanced geographical sex ratio alone, it is also governed by cultural practices (dowry, status of women, need for family lineage), economic conditions (income, employment) and social factors (caste consciousness) that operate in a community. Despite the gain of females through interstate migration, Karauli and Dhaulpur of Rajputana receive the lowest number of female migrants indicating that males in the villages of Rajputana segment suffer more from the marriage squeeze (7 per cent lifelong bachelors), as skewed sex ratio limits the availability of local brides on one hand, and harsher geographical conditions, underdevelopment and lack of economic opportunities reduce the scope of getting cross-regional brides, on the other. Many other studies (Kaur, 2013; Sharygin et al., 2013; Srinivasan, 2015) have also revealed that men without regular income or permanent job are less preferred in the marriage market. However, more quantitative and qualitative studies need to be conducted at the micro level for further exploration of this phenomenon.

Notes

1. This part belongs to the eastern area of Rajputana region in Rajasthan.
2. The neighbouring districts in the proximity of the study region are - Firozabad, Aligarh and Hathras in Uttar Pradesh; Faridabad and Gurgaon in Haryana; Alwar, Dausa and Sawai Madhopur in Rajasthan; and Morena and Sheohar in Madhya Pradesh.
3. The districts are Amravati (Maharashtra); Belgaum (Karnataka); Kolkata, Darjeeling, Birbhum, Kuch Bihar and Purulia (West Bengal); Kamrup, Dhubri, Lakhimpur and Sibsagar (Assam); Ukhrul (Manipur); East Khasi Hills and Jaintia (Meghalaya); Karaikal (Puducherry); Bilaspur (Himachal Pradesh); and Jhabua (Madhya Pradesh).
4. The districts are Nawada (Bihar); Hazaribagh (Jharkhand); Bilaspur (Himachal Pradesh); Jhabua, Indore, Shajapur and Dindori (Madhya Pradesh); Ankola, Amravati and Nagpur (Maharashtra); Dhubri and Barpeta (Assam); Dhalai (Tripura); and Karaikal (Puducherry).

References

- CHUNG, C., Kim, K., and Piper, N. 2016. "Marriage Migration in Southeast and East Asia Revisited through a Migration-Development Nexus Lens", *Critical Asian Studies*, Vol.48 No. 4: 463–472. [on line] <http://doi.org/10.1080/14672715.2016.1226600>
- CONSTABLE, N. 2005. "Introduction: Cross-Border Marriages, Gendered Mobility, and Global Hypergamy", in N. Constable (Ed.), *Cross-border marriages: Gender and mobility in transnational Asia*, Philadelphia: University of Pennsylvania Press, 1–16. [On line] <http://www.jstor.org/stable/j.ctt3fhv66.3>
- FAN, C. C., and Huang, Y. 1998. "Waves of Rural Brides: Female Marriage Migration in China", *Annals of the Association of American Geographers*, Vol. 88 No. 2: 227–251. [On line] <http://doi.org/10.1111/1467-8306.00092>
- FULFORD, S. 2013. *The Puzzle of Marriage Migration in India*. Boston College Working Paper in Economics, No. 820. [On line] <http://fmwww.bc.edu/EC-P/wp820.pdf>
- GUILMOTO, C. Z. 2012. Skewed Sex Ratios at Birth and Future Marriage Squeeze in China and India, 2005–2100. *Demography*, Vol. 49, No.1: 77–100. [On line] <http://doi.org/10.1007/s13524-011-0083-7>
- HUDSON, V., and den Boer, A. 2004. *Bare Branches: The Security Implications of Asia's Surplus Male Population*, Cambridge, Mass: The MIT Press.
- IIPS. 2010. *District Level Household and Facility Survey (DLHS-3), 2007–08*, Mumbai: International Institute for Population Sciences IIPS.
- ISHIKAWA, Y. 2003. *Wagakuni Nosonbu Denshi Jinko No Kekkon Nan (Marriage Squeeze of Male Population In Rural Japan)*, in M. Liaw, K. Ochiai E. In, Yang W. and Lu (Eds.), *Noson Kukan No Kenkyu Ge (Studies in Rural Space)* Second ed., Tokyo: Taimeido, 289–305.
- JIANG, Q., Feldman, M. W., and Li, S. 2014. Marriage Squeeze, Never-Married Proportion, and Mean Age at First Marriage in China. *Population Research Policy Review*, 33, 189–204. [On line] <http://doi.org/10.1007/s11113-013-9283-8>.
- KASHYAP, R., Esteve, A., and García-Román, J. 2015. Potential Mismatch? Marriage Markets Amidst Sociodemographic Change in India, 2005–2050. *Demography*, Vol.52, No.1:183–208. [On line] [//doi.org/10.1007/s13524-014-0366-x](http://doi.org/10.1007/s13524-014-0366-x)
- KAUR, R. 2004. Across-Region Marriage: Poverty, Female Migration and the Sex Ratio. *Economic and Political Weekly*, Vol.39, No.25: 2595–2603.
- KAUR, R. 2008. Dispensable daughters and bachelor sons: Sex discrimination in north India. *Economic and Political Weekly*, Vol.43, No.30: 109–114.
- KAUR, R. 2010. Bengali bridal diaspora: Marriage as a livelihood strategy. *Economic And Political Weekly*, Vol 45, No. 5: 16–18.
- KAUR, R. 2013. Mapping the Adverse Consequences of Sex Selection and Gender Imbalance in India and China. *Economic and Political Weekly*, Vol. 48, No.35: 37–44.
- KIM, A. E. 2008. "Global Migration and South Korea: Foreign Workers, Foreign Brides And the Making of a Multicultural Society", *Ethnic and Racial Studies*, Vol.32, No.1: 70–92, [on line] <https://www.tandfonline.com/doi/abs/10.1080/01419870802044197>.
- KIM, A. E. 2008. "Global Migration and South Korea: Foreign Workers, Foreign Brides And the Making of a Multicultural Society", *Ethnic and Racial Studies*, Vol.32, No.1: 70–92, [on line] <https://www.tandfonline.com/doi/abs/10.1080/01419870802044197>.
- KISHOR, S. 1993. "May God give Sons to All": Gender and Child Mortality in India. *American Sociological Review*, Vol. 58, No. 2: 247–265.
- KULKARNI, P. 2012. "India's Child Sex Ratio: Worsening Imbalance", *Indian Journal of Medical Ethics*, Vol. 9 No.2: 9–12. [On line] <http://ijme.in/articles/indias-child-sex-ratio-worsening-imbalance/?galley=html>
- MA, Z., Lin, G., and Zhang, F. 2010. "Examining Cross-Border Marriage in Hong Kong: 1998–2005", in W. Yang and M. Lu (Eds.) *Asian Cross-Border Marriage Migration: Demographic Patterns and Social Issues*, Amsterdam:Amsterdam University Press, 87–102. [On line] <https://www.jstor.org/stable/j.ctt45kfn7>
- MISHRA, P. 2013. "Sex Ratios, Cross-Region Marriages and the Challenge to Caste Endogamy in Haryana", *Economic and Political Weekly*, Vol. 48, No. 35: 70–78.
- OLDENBURG, P. 1992. Sex Ratio, Son Preference and Violence in India-A Research Note. *Economic and Political Weekly*, Vol. 27, No.49–50.
- OLSON, L., Fine, M., and Lloyd, S. 2005. "Theorizing about Aggression between Intimates: A Dialectical Approach", in D. K. V. Bengtson, A. Acock, K. Allen, and P. Dilworth-Anderson (Eds.), *Sourcebook of Family Theory and Research*, Thousand Oaks, CA: Sage Publications, 315–331
- PALRIWALA, R., and Uberoi, P. 2008. "Marriage, Migration and Gender", in R. Palriwala and P. Uberoi (Eds.), *United Nations Expert Group Meeting on International Migration and Development in Asia and the Pacific*, Vol. 5, New Delhi: SAGE Publications Inc., 1–18.
- PARSONS, T. 1951. *The social systems*. New York: Free Press.
- PREMI, M. K. 1980. Aspects of Female Migration in India. *Economic and Political Weekly*, Vol. 15, No.15: 714–720, [on line] <http://www.jstor.org/stable/4368564>
- SHARYGIN, E., Ebenstein, A., and Das Gupta, M. 2013. "Implications of China's Future Bride Shortage for the Geographical Distribution and Social Protection Needs of Never-Married Men", *Population Studies*, Vol. 67, Np.1: 39–59. [On line] <http://doi.org/10.1080/00324728.2012.723893>
- SINGH, J. P. 1984. "Distance Patterns of Rural to Urban Migration in India", *Genus*, Vol. 40, No. 1/2: 119–129. [On line] <http://www.jstor.org/stable/29788404>
- SRINIVASAN, S. 2015. Between Daughter Deficit and Development Deficit: Situation of Unmarried Men in a South Indian Community", *Economic and Political Weekly*, Vol. 50, No.38: 61–70.
- UN WOMEN. 2014. "Sex Ratios and Gender Biased Sex Selection: History Debates and Future Direction. UNFPA. [On line] <http://www.unwomensouthasia.org/assets/Sex-Ratios-and-Gender-Biased-Sex-Selection.pdf>
- VISARIA, L. 2003, December. "The Missing Girls", Seminar # 532. [On line] <http://www.india-seminar.com/2003/532/532%20leela%20visaria.htm>

VISARIA, P. 1971. The Sex Ratio of the Population of India, Census of India 1961, Monograph No. 10. New Delhi: Office of the Registrar General, India.

VISHWANATH, L. S. 2004. "Female Infanticide: The Colonial Experience", *Economic and Political Weekly*, Vol. 39, No. 22: 2313–2318.

YANG, W.-S., and Lu, M.-W. (Eds.) 2010. *Asian Cross-Border Marriage Migration: Demographic Patterns and Social Issues*, Vol. 2, IIAS Publication Series, Amsterdam: Amsterdam University Press. [On line] <http://www.jstor.org/stable/j.ctt45kfn7>

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