Analysis of the Skewed Sex Ratio and Female Foeticide in India

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Abstract. The present study is aimed at drawing attention and concern of the readers towards nefarious female foeticide problem in India. Female Foeticide is the death sentence to a girl even before her birth. The objectives of the study are met by analysing the problem of female foeticide by studying skewed sex ratio and child sex ratio in India and its states. The primary causes of female foeticide are addressed along with its adverse consequences on society. Study on the status of sex ratio in countries of world lists India at 4rth rank in most skewed sex ratio. Although sex ratio has improved recently yet child sex ratio is still the worst in India. The Northern Indian states & union territories have lowest sex ratio. The rural areas with less literacy have more sex ratio than urban areas with higher literacy. Indian government has taken many initiatives to promote girl child birth and enacted a number of laws to curb female foeticide, yet the immoral female foeticide is still in practice. Present study also suggests some measures to prevent this malpractice and hence empower the Women.

1 Introduction

Female foeticide is the extreme manifestation of violence against women in which female foetus is killed illegally, deliberately and selectively from the mother's womb, after knowing sex of the child through medical techniques. It is violation of "right to life" and "right over body"[1]. It is very shocking that the main perpetrator of this nefarious deed of female foeticide is women (mother or grandmother of foetus). Women oppressed by cultural, social, economic factors and powerful patriarchy devaluate their own gender and commit this crime [2]. It is matter of shame and serious concern. Because of female foeticide and infanticide India lags behind several nations in aspects of education, gender discrimination and health. The advanced medical technology, ultrasound, amniocentesis etc. are misused for carrying illegal female foeticide [3]. Census2011 shows unbalanced declining female to male proportion. Sex ratio is an important parameter indicating balance between male and female. Despite of increased literacy and economic development, this evil has not ended and is continually rising [4] As per Thomson Reuters Trust law recent survey, India ranks at fourth position for women due to increased number of female foeticides, infanticides etc. The obsession of male child in carrying family lineage and property inheritance and the evil of dowry combined with sex determination technologies instigate the sex selective abortions [5]. The act of female foeticide is a grave social issue causing serious ecological and demographical implications. Skewed sex ratio will disturb social balance and increase sexual assault, bridal crisis, women insecurity etc. Latest UNFPA report shows that 4.6crore females are 'missing' due to son preference in India. Indian Government has enforced many laws to curb female foeticide and encourage girl child birth and has launched several campaigns and providing financial aids for saving girl child, yet the weak enforcement of laws is unable to stop female foeticide. To study problem of female foeticide, it is necessary to closely monitor sex ratio in India in context of rural/urban region, religion. In this paper, principal causes of female foeticide, its impacts on society, the legislative measures taken to fight against female foeticide and government initiatives are discussed. The issue of female foeticide requires urgent attention and action.

2 Objectives

1. To analyze sex ratio and child sex ratio (CSR) of India and make its global comparison, analyze the sex ratios of Indian states in various post-independence census years and hence look for prevalence of incidents of female foeticide in rural/urban areas and religion wise. 2. To find out the factors leading to female foeticide and its impacts on society 3. To discuss the laws passed against female foeticide 4. To discuss various government initiatives to curb the female foeticide.

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3 Research Methodology

This study is based exclusively on secondary sources of data. The data is collected from journals, magazines, internet, research papers, official and non-official records of department of planning and welfare, department of economics and statistics.

4 Data Analysis and Discussion

Gender inequality: Sex ratio (no. of women per1000 males) is very important metric to quantify women's deficit at certain point and region. The countries with worst sex ratio i.e., the countries with intense gender discrimination or with unbalanced sex ratio at birth (Source: CIA World Fact book 2016) are presented in table1. Biologically, normal sex ratio at birth varies from 102-106 males for every 100 females [6]. Liechtenstein has 126males, China has 115 males, Armenia has 113 males and India has112 males per 100 females [7].Comparative study of status of countries on sex ratio in the world indicates the position of India at 4th rank is very disappointing. India is behind only Liechtenstein, China and Armenia (tribuneindia.com). Among the most populated nations throughout the world the Russia, Indonesia, Brazil and USA have sex ratio in favour of females while China and India have unbalanced sex ratio in favour of males.

Rank No.	Name of Countries	Percentage of males
1	Liechtenstein	126 %
2	China	115%
3	Armenia	113%
4	India	112%
5	Azerbaijan, Vietnam	111%

Table1: Five countries with the unbalanced sex ratio at birth (Source: CIA World Factbook 2016)

The world factbook (2020 estimates) of sex ratio at birth of India and its neighbouring countries show sex ratio is 1.11(111 males per 100 females) for India and china,1.06 for Myanmar, Nepal,1.05 for Pakistan, Afghanistan, Bhutan and it is 1.04 for Sri Lanka and Bangladesh [8]. Sex selective female foetus killing is at high rate in India and China, while rest of neighboring countries have a better sex ratio. According to WHO, globally the natural sex ratio across population is 952: 1000. Numbers that fall below this are indicative of gender bias. Figure 1 shows sex ratio in post-independence census years. As seen from figure, after independence Sex ratio is always less than 952 in India indicates a great deal of gender inequality. In the three census years 1951, 1961, 1971 sex ratio steadily decreased and in 1981, sex ratio slightly increased than previous decade. After 1991 the sex ratio is increased in 2001 and 2011census [9]. At the national level, sex ratio increased from 933 females in 2001 to 943 females in 2011 to 1021 females per 1000 males, recording an increase by 28 points in the last three decades. As per the new NFHS-5 (2019-21), sex ratio in India has improved to 1021 females per 1000 males and India is moving closer to the global sex ratio, Although India showed encouraging increased sex ratio, yet it is not favorable for child sex ratio. All the seven census years post-independence (1951 to 2011) report continuous decrease in child sex ratio in India. The figure 2 shows child sex ratio in various decennial censuses postindependence. The relation of male, female and total literacy rate with child sex ratio is found for various census years after independence (figure 3, source; census 2011). It is found that although male, female and total literacy rate increased in all census years, yet the CSR decreased recurrently in these census years.

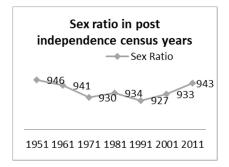


Fig.1: Sex ratio in post independence census years

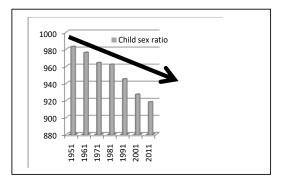


Fig 2: Child sex ratio in various decennial censuses post-independence

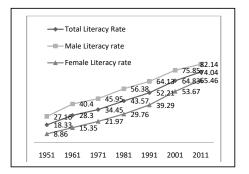


Fig.3: Literacy rate versus child sex ratio in various decennial censuses post-independence

The sex ratio and child sex ratio in census year 2011 in India (state wise) along with literacy in rural and urban regions is presented in table 2. The table shows that there was no state having CSR > 1000 in 2011census, while in1971, five states had CSR > 1000. The rural areas have eighteen points' greater CSRi.e.,923 girls for 1000 boys are reported in rural areas while there are only 905 girls per 1000 boys in urban areas (figure 4).

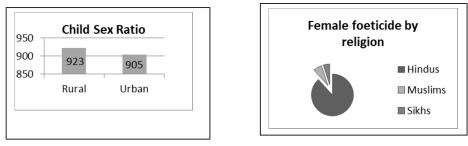


Fig 4: Rural versus urban child sex ratio



The nefarious crime of female foeticide is maximum in hindu religion (figure 5). One of the objectives of 11^{th} five year plan was to improve declining child sex ratio (0-6 age group) to 935 by 2011-12 and 950 by 2016-17 but the CSR of 919 in census 2011 reveals that the goal was not achieved. Table 2 shows that for most of the Indian states, the literacy is higher in urban areas, but the sex ratio is higher in rural areas. Census 2011 shows that higher literacy contributes to declining sex ratio whereas lower literacy results in higher sex ratio. It is attributed to easy access of sex selection technologies in urban areas.

According to census 2011, the Indian states and Union territories with worst sex ratio are Punjab (846), Chandigarh (880), Haryana (834), Delhi (871) and Jammu and Kashmir (862). According to latest and fifth round of National Family Health Survey (NFHS-5) conducted between 2019&2021, the sex ratio of Punjab is 938 women per 1000 men.

Its sex ratio at birth is 904 girls born per 1000 boys, is different figure as it estimates of all births over the last five calendar years. Punjab's numbers are lower than national average for both, the sex ratio (1020:1000) as well as the sex ratio at birth (929). The evil of female foeticide is prevailing in Indian society from several years due to desire for male child. There are many religious beliefs, social factors, and economic factors etc. that lead to this malpractice.

Table 2: The sex ratio and child sex ratio in census year 2011 in India (state wise) along with literacy in rural and urban regions

Census 2011	Sex Ratio	Rural	Urban	Literacy (2011)	Rural	Urban	Total CSR
India	943	949	929	74.04	literacy 67.772	literacy 84.107	919
Punjab	943 895	949 907	929 875	75.84	71.419	83.180	846
Haryana	879	882	873 822	75.55	71.416	83.141	834
Chandigarh	818	690	-	86.05	80.745	86.193	880
Delhi	868	852	868	86.21	81.860	86.318	871
Gujarat	919	949	880	78.03	71.714	86.311	890
Himachal Pradesh	972	986	853	82.80	81.852	81.102	909
Uttaranchal	963	1000	884	78.82	76.313	84.450	890
Rajasthan	928	933	914	66.11	61.440	79.681	888
Maharashtra	929	952	903	82.34	77.009	88.692	894
Uttar Pradesh	912	918	894	67.68	65.464	75.141	902
Daman & Diu	618	864	551	87.10	81.364	88.958	904
Madhya Pradesh	931	936	918	69.32	93.941	82.847	918
Goa	973	1003	956	88.70	86.650	89.954	942
Jammu & Kashmir	889	908	840	67.16	63.179	77.121	862
Bihar	918	921	895	61.80	59.783	76.864	935
Tamilnadu	996	993	1000	80.09	73.540	87.042	943
Karnataka	973	979	963	75.36	68.734	85.777	948
Orissa	979	989	932	72.87	70.219	85.748	941
Manipur	992	976	1026	76.94	76.202	85.380	936
Andaman & Nicobar	876	877	874	86.63	84.501	90.103	968
Lakshadweep	946	952	945	91.85	91.847	91.579	911
West Bengal	950	953	944	76.26	72.134	84.780	956
Kerala	1084	1078	1091	94.00	93.996	92.982	964
Andhra Pradesh	993	996	987	67.02	60.449	80.091	939
Sikkim	890	882	913	81.42	78.947	88.706	957
Arunachal Pradesh	938	953	890	65.38	59.940	82.929	972
Nagaland	931	940	908	79.55	75.346	89.624	943
Mizoram	976	952	998	91.33	84.095	97.627	970
Assam	958	960	946	72.19	69.344	88.469	962
Jharkhand	948	961	910	66.41	61.114	82.259	948
Tripura	960	955	973	87.22	84.902	93.469	957
Pondicherry	1037	1028	1042	85.85	80.095	88.490	967
Meghalaya	989	986	1001	74.43	69.923	90.791	970
Chhattisgarh	991	1001	956	70.28	65.989	84.049	969
Dadra & Nagar Haveli	774	863	682	76.24	64.124	89.786	926

5 Principal reasons behind female foeticide

Customs/Traditions [1] (GargandNath,2008)	Malicious traditions such as dowry, child marriage, purdah system
Social Factors	 Patriarchal, patrilineal, patrilocal society believes men bear identity of his family Women considered unable to carry family linage further Lack of women empowerment Safety of girl child
Economic factors [11]	 Male children viewed as asset and female as economic burden Poverty

Illiteracy Religious beliefs, cultural factors and superstitions [12]	 Ignorance of human body and its functioning Ignorance of laws in force Low literacy among women Only Men administer last/funeral rites. Hindu Vedas and law books relegate subordinate position to women A number of folk songs reflects on preference and daughter aversion
Misuse of medical technology	Illegal sex determination and abortions
Weak implementation of Laws	 Abortions legalized under 1971MTP (Medical termination of pregnancy) act Weak implementation of PCPNDT (Preconception and pre-natal diagnostic technique) Act 1994

6 Consequences of female foeticide

Female foeticide is a social issue that causes gender disparity in the society. The impacts of this malpractice are huge and some of them are summarized below [13].

Unbalanced Sex ratio	Bridal crisis and Polyandry	
 Women kidnapping and trafficking 	 Selling of women like commodities 	
Enhancing crime like rape and assaults	Drug and Alcohol Abuse	
Decline in population	 Mother suffer physically, morally, mentally and psychologically 	
Deterioration in fertility of women	 Violation of rules, regulations and religious ethics 	
 Increased child marriage 		

A number of measures have been taken to control the female foeticide and protect the society from its adverse effects. Indian government has taken no. of steps like offering aids to girls and their parents, enforcement of laws against female foeticide

7 The laws passed in India to reduce the menace of female foeticide [14]

- 1 **The Pre-Conception and Pre Natal diagnostic Techniques (PCPNDT) Act, 1994:** The act was passed to prevent menace of female foeticide by prohibiting sex selection [15].
- 2 **Dowry Prohibition Act,1961:** The act is passed with goal to prohibit families from giving and accepting dowry. It is punishable offence leading to imprisonment
- 3 The Immoral Traffic (prevention) Act, 1956: The act aims to prevent immoral trafficking and prostitution in females.
- 4 Special marriage Act, 1954: The act permits people from two distinct religions to solemnize and register their marriage.
- 5 The Hindu succession Act, 1956: This act was modified in 2005. Amendment in this act provides equal rights in property to daughters also.
- 6 **The Hindu Adoption and Maintenance Act, 1956:** The law deals with legal procedure to adopt children by Hindu, maintenance of children, wife and in laws.
- 7 **Protection of Women from Domestic Violence Act, 2005:** An act passed to protect rights of women victim of any kind of domestic abuse in their family
- 8 **Equal Remuneration Act, 1976:** To prevent male-female discrimination of pay at workplaces, the act was passed to pay equally for equal labour irrespective of the gender.
- 9 Hindu Undivided Family Act: In the absence of senior male member, the act has allowed to the senior women of a joint family to be the manager or Karta of the family.

8 Government Initiatives (wcd.nic.in, pib.gov.in)[16,17]

1. Balika Samriddhi Yojana, 1997: A scheme to support the birth and education of girl child. With the aim of enhancing female children enrolment and retention in school, the scheme covers girl children in families below poverty line in both rural and urban settings across India.

- 2. Dhan Lakshmi Scheme, 2008: The scheme focuses to reduce female infanticide cases in India by providing insurance coverage and educational incentive. For girls born after November 8, 2008 and registered under this scheme, initial cash reward of Rs.5000 is given. Immunization cash incentives of Rs.1250 were given to girls aged 6 to 24 months. The scheme covers cost of a girl child's education, from her enrolment to retention in school until eighth grade. To prevent early girl child marriage when girl turns 18, parents are given insurance cover of 11akh
- **3.** Kanya Jagriti Jyoti Scheme, 1996 (Punjab State Government): Girls who are born on or after 26 January 1996 in the families with low annual income (less than 20,000) and has followed two children family policy can take the benefit. It is mandatory that the girl should study up to metric. At the time of birth of female child Rs. 5000 is paid. Every year a scholarship of Rs. 1200 (age group 6-12 years) and Rs. 2400 (age group12-18 years) will be paid to the beneficiaries or lump sum amount will be paid at the age of 18 or in 21 years as per the wish of the family.
- 4. Balri Rakshak Yojna, 2007: This scheme provides an incentive of Rs. 500 per month to those girl children whose parents adopt terminal method of sterilization after birth of the second girl child.
- 5. Nanhi Chaan, 2008: It aims at creating awareness to curb declining number of both females and trees.
- 6. Bebe Nanki Ladli Beti Kalyan Scheme: With the aim to curb the female foeticide and to provide better education to girls, this scheme provides benefit of Rs. 20,000 at birth of girl child. The money is invested in the name of the child with LIC and the girl receives enhanced payments at various stages of life. The benefit is limited to a maximum of two girls per family.
- 7. Bhagya Lakshmi Scheme, 2007: It is launched by govt. of Karnataka from2006-07 with the aim of encouraging birth of girl children in low-income families. Financial assistance to girl child is given through mother, father, guardian to fulfil certain conditions. A girl child born in BPL family after March 31st, 2006 can enroll as beneficiary of this scheme. After enrolling and verifying, the govt. of Karnataka will deposit Rs. 19300 in the elite financial institution under first girl's name and Rs. 18300 under the second girl. After girl child gets 18 years of age, an amount of Rs.100097 and 100052 is given to first and second girl child in the same family.
- 8. Mukhya Mantri Kanya Suraksha Yojana: It was launched in Bihar in 2008. The objectives are to prevent female foeticide, to encourage birth of girl child, to improve sex ratio etc. Under this scheme, govt. of Bihar contributes Rs 2000 for every girl child born on or after November 22, 2007 & belonging to BPL families. The amount is fixed deposited in UCO & IDBI banks. After completing 18 years, amount equal to maturity will be paid to girl child.
- 9. Delhi Ladli Scheme, 2008: The scheme is launched with objectives to control female foeticide, to improve sex ratio and put an end to gender prejudice. Financial assistance is provided in the form of end deposits-Rs. 11000 if born in hospital, Rs. 10,000 if born at home at the time of registration and Rs. 5000/ each when girl gets admission in class I, VI, IX, XI, XII
- **10.** Beti Bachao, Beti Padhao (BBBP): Launched in 2015, this addresses declining child sex ratio, prevent foeticide-biased abortion and related issues of women empowerment. Indian government extends financial help to run this scheme.
- 11. CBSE Udaan Scholarship Scheme: It was launched in 2014 with the aim to promote educational opportunities among girl students.
- 12. Sukanya Samridhi Yojana: Launched in 2015, A welfare scheme developed as a part of beti bachao, beti padhao campaign it is a saving scheme aimed at betterment of girl child in country
- 13. National Scheme of incentives to girls for secondary education: A centrally sponsored scheme launched in 2008 aims to encourage enrolment of girl child in age group of 14-18 for secondary education. A sum of 3000/ is fixed deposited in name of unmarried girls on enrolment in class IX, they can withdraw money and interest on completing 18 years and passing class X.
- 14. Mukhbir Yojna: To arrest the cases of female foeticide, the yojana was launched in Uttar Pradesh. Under the scheme government gives reward of 2 lakh to the informer who alerts authorities about incidents of female foeticide.
- **15.** State government schemes for the girl child: "Mamta scheme" a government initiative in Goa, provides financial incentive of 10,000 to the mother delivering female child in registered medical institution. Govt. of Haryana provides "Ladli Social security Allowance Scheme" providing financial help to families of girl child/children. Government of Uttar Pradesh provides financial help of Rs. 2000-5000 as scholarships under monetary benefit scheme 'Kanya Sumangala Yojana'. The government of Madhya Pradesh provides financial help upto Rs.30,000 in the name of girl child under the scheme 'Ladli Laxmi Yojana'. The'Bangaru Talli' scheme of Andhra Pradesh support girl's family from her birth till graduation.

9 Suggestions

1. Cradle Baby Scheme: To curb female foeticide and improve sex ratio, a scheme called Bhangura

scheme" runs in Amritsar where people leave unwanted child in cradle fixed in Red cross societies for adoption rather than killing. The practice can be followed in other Indian states too.

- 2. Strict enforcement of existing laws: Though in India, most laws are framed efficiently, but their execution is ineffective.
- **3.** Harsh Action against Defaulters: License of the doctors who are found guilty of doing this misdeed should be cancelled and fined heavily. Judicial action should be taken against parents, who knowingly kill their girl child before her birth. Heavy penalties should be imposed on companies who sell medical instruments used in pre-natal sex determination, to unlicensed clinics and hospitals.
- 4. Awareness generating Campaigns: Campaigns like "Save the Girl Child Campaign" is required to create an aura in everyone's mind and heart that there is no difference between sons and daughters.
- 5. Women Empowerment: Women empowerment is the best tool to fight malpractice of female foeticide and it can be achieved by improving self-image and education level of women
- 6. Role of Medical Colleges and Professional bodies: Medical colleges and professional bodies such as IMA, FOGS and association of radiologists play a significant role to burn this burning issue. Medical students should be sensitized towards the adverse sex ratio and unethical issues in female foeticide.
- 7. Girl child welfare schemes: Indian Government has started many welfare schemes for the upliftment of the socio-economic status of women so as to improve the unbalanced sex ratio. There is need to raise awareness about these schemes so as to promote birth of girl child and balance the declined sex ratio.
- 8. Financial incentives: Several financial perks and incentives offered by government on birth of second girl child and to single girl child are helpful to some extent to stop female foeticide.

10 Conclusions

Female foeticide is the biggest sin against humanity when unborn innocent females are slaughtered by their parents. Women are given lower status, disrespected and disregarded due to ignorance because of culturalsocial, religious reasons, poverty, illiteracy and practice of dowry. Patriarchy, easy availability of cheap technology and weak enforcement of laws in India has led to female foeticide. Female foeticide has severe consequences like unbalanced sex ratio, women trafficking, bride deficit, and increase in rapes and assault, polyandry and population decline. There should be strict enforcement of existing laws, banning of tests for sex determination and abortions. Defaulters should be punished and women should be empowered so that they can stand themselves against discrimination and harassment. More girl welfare schemes should be started for holistic development and empowerment of girl children. A combined initiative by the medical, law and teaching professionals, administrative leaders, NGOs, media, and the society is the need of the hour.

11 References

- 1. Geeta Rani. "Female foeticide in India: Challenge for the society." International Journal of Advanced research in management and Social Sciences 3, 11 (2014):108.
- T.Kanitkar, M. Mistry. "Status of women in India-an Interstate Comparison". Indian Journal of Social Work 61, 3 (2000):366.
- 3. Mona Arora. "A cry still unheard: A menace of female foeticide societal attitude towards female foeticide". Journal of Social Sciences, COES & RJ-JSS.2, 1 (2013):1.
- 4. Mehraj Ud Din Shah. "A Correlational Study Between Sex Ratio and Literacy Rate Matrix in India: A Case Study of Jammu and Kashmir State."ARPHA Preprints (2022) doi: 10.3897/arphapreprints.e81572
- 5. M. Bhalla. "The land of vanishing girls: Sex–Selective Abortion in Punjab". In: The Unheard Scream: Reproductive Health and Women's Lives in India, (ed.) M. Rao. (2004): 259. New Delhi: Zubaan.
- https://www.tribuneindia.com/news/archive/nation/india-has-company-worst-sex-ratio-is-in-Liechtenstein-263329
- https://www.downtoearth.org.in/news/health/India-witnesses-one-ofthe-female-infanticide-incidents-in the-world-5480
- 8. https://en.m.wikipedia.org/wiki/list-of-sovereign-states-by-sex-ratio
- Prabhas Chandra Chakraborty, Abhishek Das "Female Foeticide in India-Past, Present and Future." Indian Journal of Perinatology and Reproductive Biology 3,3 (2013):28.
- Suneela Garg, A. Nath. "Female Foeticide in India: Issues and Concerns". Journal of Postgraduate Medicine. 54, 4 (2008):276.
- 11. Rangitade Silvade Alwis." Domestic violence law making in Asia: Some Innovative Trends in Feminist Law making."Pacific Basin Law Journal. 29 (2012):176.
- 12. Foram Patel, Mitsu Parikh. "Dilemma of justice: When victim is the perpetrator-Female Foeticide in India." Journal of positive Psychology.6, 4 (2022):127.
- 13. Radhika Kapur. "Campaign against Female foeticide." Acta Scientific Women's Health.1, 4 (2019):19.
- 14. Yogendra Singh."Female Foeticide and Gender Crises: A growing Menace in India." In: Academic Heights Publication, New Delhi. (2015): 82.
- 15. Nidhi Ranka."Female foeticide: A socio-legal Enigma." International Journal of Law Management &

- Humanities.2, 2, 2019:1. 16. https://wcd.nic.in/schemes-listing/2405 17. https://pib.gov.in/newsite/printRelease.aspx?relid=175325