CHAPTER-II
REVIEW OF LITERATURE

INTRODUCTION

Literature on declining sex ratio is widely available as it is at the forefront of the social demography debate amongst the demographers, social scientists, academicians, researchers and civil society organisations. Institutions and individuals functioning and operating with demographic data have widely collected and published reports on the trends, transition and variation in sex ratio in India. These include the decennial census records, National Family Health Survey (NFHS) reports, Civil Registration System (CRS), Reproductive Child Health (RCH) reports and so on. These reports are periodic and time-bound in nature. Academicians, researchers and social scientists too have examined and probed the various aspects of the problem of decline in sex ratio with reference to the intensity and extent of the phenomenon, variables affecting the phenomenon and the socio-economic context in which the phenomenon has occurred. Civil society organisations mainly working on the campaigns and implementation of the Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act have widely published their information and communication technique (ICT) material and reports assessing the impact of the campaign in a given geographic region. The literature on the problem of declining sex ratio, child sex ratio (CSR)/ (juvenile sex ratio) and the discussions revolving around it can be broadly classified into:

- **Demographic trends and transitions**- The statistical analysis of declining sex ratio, its trends over a period of time or a particular census report.
- **Regional empirical study**- Empirical study at local, - state, district levels, or a specific urban or rural locality.
- **Factors, causes and impact of declining CSR** - Discussions with special reference to variables, specific causes of the problem, arguments against and in favour of the phenomenon.
- **New reproductive technologies, the campaign and the law**- The New Reproductive Technologies (NRTs), the campaigns for and legal frame work of PCPNDT Act and its implementation.
2.1 DEMOGRAPHIC TRENDS AND TRANSITIONS

Although the decennial census reports of India showed a steady decline in sex ratio right from 1901, the sharp fall post-independence and especially after 1981 had created a great deal of concern amongst the academicians and social scientists. Some of the early concerns were expressed by Visaria (1971), ‘Towards Equality Report’ (1974), Miller (1981) and Sen (1992). Based on the 1961 census which showed a decline of 11 points from 941 to 930 (Census of India, 2001), Visaria highlighted the neglect of and discriminatory behaviour against girls leading to excess female mortality in specific age groups. Later the committee on Status of Women in India constituted by the Ministry of Education and Social Welfare, Government of India, had prepared a comprehensive account of problems of women in India in the report titled ‘Towards Equality’ (1974). In this report the declining sex ratio was discussed with reference to under-enumeration of girls in census, high mortality due to neglect of female infants and the prevalent practise of female infanticide in certain communities, age specific sex ratio, the urban-rural divide in the sex ratio and comparing India’s sex ratio with other countries. Though it did not provide details of the variables affecting sex ratio it definitely raised an alarm much before the debate over NRTs had emerged in academic and activist circles.

Sen’s (1992) famous editorial in the British Medical Journal, ‘Missing Women’ statistically proved the social inequality in the South Asian countries adversely affecting the survival chances of women in these countries. He had emphasised on the magnitude of the problem by a statement “100 million girls missing all over the world” (Sen, 2003: 1297). Almost a decade later in an article in the same journal, he further argued about the positive change in the female mortality from 1991 to 2001 which was counter balanced by SSA. Comparing it with China and Korea, he specifically highlighted that although the sex ratio might have seen a marginal improvement in India, the sex ratios in the northern and western areas are not just lower than the national average but even that of China and Korea.

This international comparison of Asian and European countries’ sex ratios with Indian figures has been a common feature among researchers to draw attention to the dismal conditions in India. Along with Sen (2003), Klasen and Wink (2003), Patel, V. (2005; 2007; 2010), Jha et al (2006), Krishnaji (2000), Lhila and Simon (2008), Chakraborthy and Sinha (2006) have also given statistical analysis of European, South Asian, sub-Saharan African, Chinese and Korean sex ratios to strengthen the argument of declining sex ratio as an
outcome of human and technological intervention and not a natural phenomenon. In fact in several reports while defining the term sex ratio they often highlighted the difference in definition of India with reference to these nations where unlike India, it was defined as number of living boys per 1000 of girls as it was girls who outnumbered boys world over (Patel, V., 2007: 287).

Most of the demographers and social scientists have produced statistically rich accounts of trends in sex ratio, child/juvenile sex ratio (0-6 years) or analysis of sex ratio from particular census reports. Krishnaji (2000), Premi (2001), Bose (2001), Bhat (2002), Arnold, Kishor and Roy (2002), Agnihotri (2003), Jha et al (2006), Ravindra (2007), Visaria, L. (2007), Patel V. (2007), Patel T. (2007) and Larsen, Hatti and Gooch (2008) have all examined the trends in sex ratio and CSR in great detail. They have presented, analysed and comprehended the statistical data from census, National Family Health survey (NFHS) or Civil Registration System (CRS) to reveal the changing trends in mortality, infant mortality or female mortality influencing the sex ratio figures. Krishnaji analysed the different responses of experts to 1991 census and located the sex ratio problem in the larger framework of status of women in the northern and southern states of India. In the present study, the analysis of the trends in CSR are drawn from the works of Krishnaji (2000), Premi (2001), Bose (2001), Bhat (2002), Arnold, Kishor and Roy (2002), Agnihotri (2003) and Jha et al (2006), however the study further looks at the changes in the trend in 2011 census, on which the data available is limited.

Analysing the 2001 census, that saw a landmark paradox with positive shift in overall sex ratio but a decline in CSR, Bose (2001) and Premi (2001) examined the micro level changes at state and district levels, the trend over a period of time (specially after 1980s) in child mortality, sex ratio and CSR in specific age groups. The age specific sex ratio has also been examined in detail by Bhat, by classifying the age groups in smaller brackets with a four year class interval right from 0-4 years up to 55 years and covering a wide span from the first census of 1881 to 2001. Using the NFHS-2 data, Arnold and others observed the trend of induced abortions and the extent of use of ultrasound machines resulting in declining sex ratio in the country. Agnihotri (2003) goes a step further by not just distinguishing the trend between different states but giving the vast urban-rural divide in terms of sex ratios. Using the National Sample Survey Organisation data (NSSO), he contradicted the popular myth that urban areas with high level of literacy and high per capita income (PCI) have favourable sex
ratio. Examining the detailed data on co-relations between average per capita income and annual monthly expenditure of urban households with the female-male ratio, he proved the argument that more the income worse is the sex ratio.

Jha and others (2006) in a massive survey report of 1.1 million households attempted to prove the hypothesis that with every birth order, the sex ratio declines if the preceding child is a girl i.e. family do not prefer a second child as a girl if they already have one. In such cases the adjusted sex ratio was as low as 759 per 1000 males (Jha et al, 2006: 211). Tracing the history of sex ratio changes, Ravindra (2007) proposed a term ‘betimaru’ instead of BIMARU states to depict the paradigm shift in the discourse on sex ratio. Patel T.’s (2007) significant compilation of essays in ‘Sex Selective Abortion in India: Gender, Society and New Reproductive Technologies’ contain a series of papers on the overall picture of sex determination (SD) and sex selective abortion (SSA) in the country.

Demographer Bose (2001a) has gone beyond the discussion on the general trend and has analysed the initial results of 2001 census with special reference to sex ratio in detail. It was here that he used the acronym term DEMARU for Daughter eliminating states (D for daughter and MARU for killing) instead of his famous acronym BIMARU for group of backward states for the first time (Bose, 2001a: 1687). Economic and Political Weekly (EPW), an Indian journal came out with special issues on census reports after the 2001 and 2011 censuses. The journal discussed the problems of census 2011 with special reference to girl child. With the provisional data it examined the marginal rise in the overall sex ratio (933 to 940) but an alarming decline in the CSR (927-914). In the same issue John, M. (2011) brought to light the phenomenon of widening of circle of states with a declining trend from rich north-western states to poorer belts of the country (John, 2011: 11). The present study draws from the assumptions made by these scholars and further tries to analyse it in context of Vadodara.

2.2 REGIONAL EMPIRICAL STUDY

While most of the studies and reports included the overall general picture of the sex ratio, a few of them did underline the regional variation in the figures based on the varied social structure and customs in different parts of the nation. In one of their earliest works, Miller (1981) and Dyson and Moore (1983) delineates the regional differences of kinship patterns, norms of marriage and relations based on such a pattern affecting the sex ratios.
They also analysed the female work force participations in northern and southern India as one of the factors affecting the sex ratio variation in Indian society. Although the works are almost three decades old they are relevant even in current context where in the differences in northern and southern norms do affect the survival of girl child in these areas. Based on their work, in the present study, the kinship pattern, norms of marriage and family relations of Gujarat are studied to locate the cause for decline in CSR.

Retherford and Roy (2003), Bhargava and Hiremath (2005) gave a detailed statistical account of regional variations in different states of India. Retherford and Roy analysed the NFHS-I and NFHS-II to find out the factors affecting SSA in Indian states. A detailed examination of data on birth order, socio-economic status of women in different groups of states made it a valuable resource document on the subject area. Bhargava and Hiremath assessed the regional variation in proximate determinants of sex ratio in a pure demographic manner in terms of index, standard deviation and other parameters. Visaria, L. (2007) highlighted the magnitude of deficit of girls on the basis of census 2001 and pointed that even a state like Kerala where the sex ratio has been favourable has started experiencing a downfall in CSR and has joined the league of Haryana, Punjab, Rajasthan and Gujarat which have deteriorated further. John, M. (2011) also provided regional variation in sex ratio figures from the 2011 census. Where there had been a new entrant like Maharashtra, Goa or even Andhra Pradesh which had joined the group of female-deficit states from north-western India like Punjab, Haryana, Himachal Pradesh and Gujarat (John, 2011: 12).

Though there is extensive work available on declining sex ratio in India very little focus is there on the local dynamics of culture and customs in different parts of the nation which influences such decline. The majority of the work is based on the secondary data like census records, NFHS data, NSSO reports, CRS reports, among others. A small number of them have been local studies and an even smaller number have been empirical investigation in a particular location. Just as the overall alarming figures in last couple of decades has intensified the sex ratio debate, the local studies have been taken up only in last twenty years. The present study attempts to contribute to bridge the gap in this area.

One of the oldest local studies worth mentioning is that of rural Punjab by Das Gupta (1987). Since then several studies have been taken up in north western India specially Punjab, Haryana, Himachal Pradesh, Rajasthan and Gujarat. Tamil Nadu is one of the rare southern states which has a history of female infanticide and thus have been selected by a few
researchers. Bumiller (1991), Krishnakumar (1998), George and Dahiya (1998), Shah, Ghelani and Choksi (2001), Patel T. (2007), Kuruvilla (2007), Deshpande (2007), Visaria (2007), Larsen et al (2008a), Bora and Tyagi (2008), CHETNA (2008), John et al (2008 & 2009), have published such local level, i.e. either state, district, urban-rural level studies. Das Gupta’s was one of the first empirical studies on sex discrimination against girls in historically female deficit Punjab. Studying the female mortality in 11 villages of Ludhiana, Punjab, she had concluded that in spite of the increase in female education, decline in overall child mortality, better nutrition and better health care delivery had not brought any positive results in female mortality. It was the family, specially the parents who played an important role in deciding the size and sex composition of the family and son-preference is culturally determined in these places.

Bumiller concentrated her study on practice of infanticide in Tamil Nadu vis-a-vis SSA in Bombay which was becoming a boon with new reproductive technologies introduced in Bombay during 1980s. Both were based on empirical studies of the people including men and women in their reproductive age, gynaecologists, obstetrician etc. and gave a rich account of these stakeholders’ attitude towards son-preference and SSA. Krishnakumar (1998) and George and Dahiya (1998) used the same techniques of data collection in villages of Tamil Nadu and Haryana respectively. According to these reports both the states having a history of female infanticide had replaced the heinous practice with a more ‘sophisticated’ one of SSA on a large scale. Patel T. (2007), Visaria, L. and Bora and Tyagi (2008) in their studies on Delhi, Rajasthan, Gujarat, Haryana and north-western states have focused on the son-preference as the major cause for declining sex ratio in these regions. John et al (2008) presented a comparative study of villages in Punjab, Haryana, Himachal Pradesh, Rajasthan, and Madhya Pradesh all with different socio-economic background but had a common feature of son-preference and daughter aversion. Some of the rare locations like Karnataka, Uttaranchal, Maharashtra and Kerala found its place in the studies of Larsen et al (2008), Deshpande (2007) and Kuruvilla (2007) respectively. All three based on empirical investigation brought out very unique and recent changes in sex ratio in these states. None of these four states were historically female deficit and had experienced the upheaval only in last couple of decades. The studies revealed the recent socio-economic changes, spread of evil of dowry (especially in so called ‘gender–equal’ Kerala) and easy availability of SD tests that have played havoc in these areas.
The geographical area in this research, Vadodara has also been the focus of a couple of empirical researches. Though there was a dearth of research on sex ratio in Gujarat in general and more so in Vadodara in particular, a study by two civil society organisations CHETNA (at Mehsana) and Sahiyar (at Vadodara by Shah, T. et al) and also by Leela Visaria (at Mehsana, 2007a) does provide a framework for further research in the area. Using the same methodology and techniques they have conducted exploratory study on causes, impact and access to SD tests. Since the studies were not just based on a state or district level but at taluka (block) level it provided a grassroots micro depiction of people’s attitude towards girl child and SSAs. Shah et al (2002) had also gone further to examine the role of society, government and medical practitioners in declining sex ratio. However, their study was conducted on a very small sample and had thus, created a scope for an in depth and extensive study, which the present study aims to accomplish. The present study draws from the methods used by these scholars to conduct the field work. More or less they all have used similar tools of data collection with qualitative analysis which are used in the present study as well.

Since Sahiyar’s (2002) work partially covers the area of Vadodara, the present study built its framework of the field work with their report as foundation. However, their work is limited to the causes of the decline alone and do not discuss the impact or campaigns in details. It is this gap in the existing data that this study proposes to bridge. Also the studies so far conducted in Gujarat do not reflect on the norms and patterns of family relations assumed to be responsible for the decline, which is undertaken in this study by the researcher.

2.3 FACTORS, CAUSES AND IMPACT OF DECLINING CSR

More or less all the literature on declining CSR focuses on the possible causes of this problem. In order to give a balanced view, reports and articles examine the arguments against and in favour of the use of SD tests followed by SSA. The traditional argument that low sex ratio is attributed to high level of migration of men from rural to urban areas and under enumeration of girls (specially child brides or women in purdah) in census records had been rejected outright by demographers (Visaria, L., 2003; Das, 2004; Ravindra, 2007). The migration argument does not hold true for the age group of 0-6 years where the sex ratio is rapidly declining and under enumeration argument has been ruled out on the basis of census reports in post independence era which are prepared with meticulous efforts and precision.
Son-preference and daughter aversion in the larger structure of patriarchy had been the most common and prominent feature of all the literature on factors causing SSAs and subsequent declining sex ratio (Mazumdar, 1994; Mutharayappa et al, 1997; Mallik, 2003, Visaria, L. 2007; Patel T. 2007; Ravindra, R. 2007; Bora and Tygai, 2008; Larsen, et al, 2008; Samaiyar, 2008). The socio economic and cultural reasons of son-preference were well covered by these scholars. Within the patriarchal structure the need of a son as a breadwinner, as an old age support, as heir to property, land or business, carrier of family name and one who performs the last funeral rites all find their place in their discussions. There is also an argument that the normative constructions surrounding a girl child as a liability or burden to her parents create an aversion towards the daughters (Karkal, 1991; Phillip and Kathakali, 1995; Visaria, L., 2003; Das, 2004).

The increasing menace of dowry had been posed as an important cause of devaluing daughter. Dowry has also spread in communities where it was not a custom including the state of Kerala which was much appraised for high female literacy (Kuruvilla, 2007). The fear of violence caused at the marital home if not satisfied with the given dowry is also a deterrent factor of bringing up a girl child (Visaria, L. 2003). Female infanticide as a common practice prevailing in north and north-western states of Punjab, Haryana or Rajasthan and few communities in Gujarat or southern state of Tamil Nadu had been mentioned in several local studies to identify the reasons for historical deficit of females in these areas (Das Gupta, 1987; Mazumdar, 1994; Phillip and Kathakali, 1995; Visaria, L., 2003, 2007; Patel, V., 2005; Aravmundan, 2007). Small family norm propagated by government to control the population indirectly results in son-preference where couples intending to have a small family desire for at least one son and can go to the limits of eliminating number of daughters to get a desired sex composition of the family (Mallik, R, 2003a). The economic component of recent social change as a cause for declining sex ratio finds place only in one discussion by Larsen et al (2008). For them, the rise of wage economy and service sector, increasing consumerism, expansion of media and communication has helped in spreading information regarding sex selection techniques. It has changed the social structure of the family in favour of sons and resulting in discrimination against daughters. However, studies conducted across the country do not look at increasing marriage cost as a substitute of dowry in certain communities or areas as an important cause for aversion to daughters. In the present study, this phenomenon is taken into consideration, especially amongst communities where dowry is not very prominent.
With the introduction of NRTs there was a section of society comprising of medical fraternity and bureaucrats who supported the SD tests. On the other hand academicians and activists have pointed out the negative effects of SD. The arguments in favour were based on a view that SD tests provide a ‘choice’ or ‘power’ to women regarding the sex composition and size of the family and her right to control her body. Based on the theory of demand and supply there were assumptions that women being scarcer in number than the demand, her position and status will rise. Medical practitioners portrayed the practice as an act of ‘social service’ wherein they are helping in population control or giving in to the demands of parents to have a balanced family (Ravindra, 1986; Lingam, 1991; Mazumdar, 1994; Phillip and Kathakali, 1995; Kishwar, 1999; Mallik, 2003a; Patel, V., 2005; John et al, 2009).

The data on the impact of the decline in CSR is rather limited. Some of the imperative studies that attempts to gauge the impact of CSR on different structures of the society include Kaur’s work in North India (2004; 2008 and 2013), Gulimonto’s (2012) and Hesketh and Xing’s (2006) works in China and India. However, in India it is restricted to certain areas, specially the northern states alone. One of the reasons for this paucity of data could be the extent of impact of gender balance still being low in other parts of the country. The decline in all the states of India has been sharpest only in last three censuses and yet to experience the severity of the impact which is generally seen when the surplus male population reach marriageable age. As discussed in detail in her field data, Kaur (2013) delineate the consequences and classify into six broad categories and interconnected themes – (1) Marriage squeeze; (2) Surplus males, crime and violence against women; (3) Effect of the marriage squeeze on marriage patterns and practices; (4) Effect on marriage payments (dowry, bride price) and on economic behaviour; (5) Effects on men’s sexual behaviour and health; and (6) Effect on women’s status and gender equity prospects (Kaur, 2013: 37).

Bose et al (2013) have attempted to examine the consequences of male surplus on the possible intimate partner violence. They assume that relative shortage of women may lead to increased competition for them and stricter control on married women potentially resulting in increased intimate partner violence. Examining the extensive violence against women data, they tried to establish a co-relation between the male surplus and increased violence against women. They argued that, “A relative scarcity of women implies that husbands would be vigilant about controlling their wives’ access to other men when such men (adult, non-kin) are plentiful in the local community. The power imbalance, combined with competition for
the scarce number of women and a social tolerance for chastising “errant” wives, suggest that men may be likely to use violence to control women to limit their ability to form relationships or interact with other men who are in copious supply in the community” (Bose et al, 2013: 55). They also posed a threat that women may be kidnapped or bought from their families and forced into marriage with men who are culturally and linguistically different from them. For India, Guilmonto (2012) as cited in Kaur, (2013) predicts that the cumulative number of additional men remaining single during 2020-80 will be closer to 40 million, as Indian population cohorts will be comparatively larger. Whereas Hudson and Den Boer (2004) calculating the number of surplus males in India assumes that by 2020 the number will be between 28 and 32 million”. (Hudson and Den Boer, 2004: 129 as cited in Kaur, 2013: 38).

Similarly, Aravamudan (2007) in her book based on fieldwork in different parts of the country highlights the increasing problem of bride dearth in parts North India. Citing Kaur’s work she uses the term ‘surreptitious fraternal polyandry’ for this kind of bride purchase. On this pretext, the present study attempts to gauge the impact of imbalance in the CSR in Vadodara, especially on marriage market, bride purchase and violence against women which is not looked at by any study so far.

2.4 NEW REPRODUCTIVE TECHNOLOGIES (NRTs), THE CAMPAIGN AND THE LAW

Right from the time the NRTs along with ultrasound sonography, chronic villi biopsy and others were introduced in early 1980s in India, its use and misuse has been at the centre of debate amongst the medical fraternity, social scientists and civil society organisations (Ravindra, 1986; Bhandari, 1991; Kishwar, 1999; Saheli, 2006, Patel, T. 2007a; Zavier and Bhat, 2007). Originally introduced to detect the abnormality in the foetus it was reported to be rampantly used to detect the sex of the foetus. Ravindra (1986) and Patel, T. (2007a) had analysed the pros and cons of different SD methods in detail. Along with them, Kishwar and Bhandari had discussed the history and growing popularity of these tests from its introduction in early 1980s in All India Institute of Medical Sciences (AIIMS) and Harkisandadas Hospital in Bombay (Ravindra, 1986; Bhandari, 1990; Kishwar, 1999; Patel, T. 2007a). They have all stressed upon the role media and advertisements played in making these tests popular all over the country within the span of a decade.
There was also sufficient amount of literature on the campaign and the subsequent introduction and imposition of Pre-Natal Diagnostic Technique (PNDT) (Regulation and Misuse Prevention) Act 1994 and PCPNDT (Prohibition of Sex Selection) Act 2003 (Madhiwalla, 2001; Contractor, 2002; Sharma, 2002; Gupte, 2003; Mahabal, 2004 and 2005). The campaign that started in 1982 with formation of Forum Against SD and Sex Pre-Selection Techniques (FASDSP) followed by the PIL filed by Centre for the Enquiry of Health and Allied Themes (CEHAT), Mahila Sarvangeen Utkarsh Mandal (MASUM) and Dr. Sabu George filed in 2000 had been well covered by these scholars. The legal battle, loopholes in the Act and its social implications are discussed in their writings. Nivedita Menon (2004) had gone a step further and highlighted the constant debate between right to abortion and prevention of SD and SSA. For her the ‘pro-choice’ MTP Act might give rise to an ‘anti-women’ practice of SSA. Aravamudan (2007) from her extensive fieldwork undertaken with the tool of investigative reporting, compiled a book on the complexity of the use and misuse of new reproductive technologies, the power relation and nexus between the medical fraternity and the families of expectant mothers and the patriarchal structures within which the disempowered women’s body is used for attaining a ‘designed family’. It is one of the most comprehensive empirical works pertaining to the issue. And the present study makes use of her arguments to depict the power relations in the use of NRTs.

The implementation of the PCPNDT Act and its impact on sex ratio was also an unexplored area which is currently limited only to newspaper reports. For Gujarat in general and Vadodara in particular there was scarcity of literature available on the legal aspect of the problem. The documentation on the implementation of PCPNDT Act in Gujarat was published by the Health and Family Welfare Department of Government of Gujarat (2007) and Population Research Centre, Vadodara (Das et al, 2004). It has given taluka-wise detailed account of the CSR, number of registered sonography machines, PNDT registration centres and action taken under the implementation of the Act. But apart from these two, there is not much literature available on the assessment of the impact of the campaigns run by government or civil society organisations to address the issue of SD and SSA. Hence, the study will also try and bridge the gap between the campaigns undertaken and the absence of literature to assess its impact.
CONCLUSION

It can be inferred from the above section that although there is a wide range and amount of data available on the problem of declining sex ratio emerging due to SD and SSA, it is more of a statistical analysis of the problem. The gap between the numerical data and field reality has not been bridged satisfactorily. Inadequacy of reports on local studies and causal relations between the variables need more exploration and in-depth study. Although the causes have been discussed at the national level, the normative construction of a girl child within the local customs or traditions also needs to be studied. The impact of the PCPNDT Act has also not been assessed at local levels. Hence this study intends to bridge these gaps through local study on Vadodara city with reference to the causes, impact and campaigns against SD and SSA.

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