



# ASSESSMENT OF INTERVENTIONS ON SEX-SELECTION IN NEPAL: LITERATURE REVIEW

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**Mahesh Puri  
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# Abbreviations and Acronyms

CAP	Centre for Awareness Promotion
CBS	Central Bureau of Statistics
CEDAW	Convention on the Elimination of all Forms of Discrimination against Women
CI	Confidence Interval
CREHPA	Center for Research on Environment Health and Population Activities
CSR	Child Sex Ratio
DFID	Department for International Development
DSRB	Desired Sex Ratio at Birth
GBV	Gender Based Violence
MDG	Millennium Development Goal
MoHP	Ministry of Health and Population
NA	Not Applicable
NDHS	Nepal Demographic and Health Survey
ND	No Date
NESOG	Nepal Society of Obstetricians and Gynaecologists
NGO	Non Governmental Organization
NHSSP	Nepal Health Sector Support Programme
NPR	Nepalese Rupee
SRB	Sex Ratio at Birth
TV	Television
UCL	University College London
UN	United Nations
WHO	World Health Organization



# Table of Contents

	Abbreviations and Acronyms	iii
	List of Tables	vii
	List of Figures	vii
	Acknowledgements	ix
Chapter 1	Introduction	1
Chapter 2	Trends and differentials in sex ratio at birth and child sex ratio	5
Chapter 3	Ongoing efforts to reverse the trend	11
Chapter 4	Concluding remarks	15
	References	17





# List of Tables

Table 1:	Trends in SRB in Nepal	5
Table 2:	Trends in SRB1 and CSR by Development Regions, Nepal	6
Table 3:	Sex ratios at birth (male birth per 100 females), by birth order, 1992–2010	7
Table 4:	Summary of available policies, programmes and interventions	13

# List of Figures

Figure 1:	Trends in SRB1 in Nepal, 1952/54–2011	5
Figure 2:	Trends in Child Sex Ratios of boys to girls of ages 0–4 in 2001 and 2011	7
Figure 3:	Child sex ratio of boys to girls at ages 0–4 in 2001 and 2011 by district	8
Figure 4:	Population sex ratio by Caste/Ethnicity (male per 100 females)	9



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# Chapter 1

## Introduction

The objectives of this review are to better understand how best to respond to adverse sex ratios at birth in Nepal, by firstly synthesising at the country-level what is known about levels, trends and factors underlying unbalanced sex ratios at birth as well as programmes and initiatives that have the potential for reversing the trend. The second objective was to build on the insights of the first, and examine, through primary research, the perspectives of stakeholders about the programmes and initiatives that aimed to empower girls to respond to adverse sex ratio at birth in selected settings, and assess the extent to which such a programme or initiative shows promise or may be scalable, if at all. Therefore, this review firstly highlights the situation with regards to the sex ratio at birth including geographic, other disparities and likely antecedents, and secondly synthesises any approaches through which efforts have been made to address the practice of sex selection. Findings are expected to draw attention to gaps in evidence and outline areas of research that are needed to arrive at evidence-based recommendations for action, and to provide evidence-based guidance to help policy-makers and donors determine feasible and effective interventions that may hold promise.

### 1.1 Background

Nepal is geographically located between India in the south, east and west, and China in the north. The southern plains are historically influenced by Hindu culture, and the northern mountains by Tibetan-Buddhist culture. Though this dichotomy of the Nepali population ignores the vitality and uniqueness of many tribal religions and culture, including Muslims; Nepali culture, traditions, values and social norms exhibit many similarities to its neighbours, particularly with India. It is essential to have a son for several reasons that are critical to Nepali culture. These stem from patriarchal traditions that are strongly upheld in the society. Male roles are differently valued than female roles—both roles serve a function but there is a dominance in value attributed to the role of men and sons in society. Women are considered an economic burden, while sons are considered assets. Inheritance and land rights favour males, and ageing parents depend on their sons for their elderly care. Higher participation of males in formal income-generating activities place males in positions of power in a family. Moreover, some religious rituals can only be performed by sons, such as funeral rituals upon a parent's death. Women, on the other hand, leave their parents' home upon marriage and take dowries, making them a perceived unproductive investment, from the parents' perspectives.

Strong son preference can lead to increased number of boys, and differential treatment of girls in terms of resource allocation, leading to female disadvantage in mortality and morbidity. According to the 2011 Census, among the children below 10 years of age in Nepal, the number of male children exceed female children by 2.2 percent. In urban Nepal, 5.6 percent more male than female children were reported as compared to 1.7 percent more male than female children in rural Nepal (Central Bureau of Statistics, 2012). Newborn females have a biological advantage in survival over newborn males and throughout the life same is expected if access to resources such as food and medical care is same for male and female (Waldorn, 1998). In Nepal, however, although more male neonates die than female (Male: 37 deaths per thousand live births, Female: 33 deaths per thousand live births) female post neonatal mortality (between the ages of 28 days and 1 year) is higher (19 per thousand live births) than the male post neonatal mortality rate (17 per thousand live births) (Ministry of Health and Population, New Era and ICF International Inc, 2012).

Strong son preference compounded by availability of sex determination technology (e.g. ultrasonography) enables couples to resort to sex selective abortion which contributes to increased sex ratio at birth (SRB) and an imbalanced population sex ratio (Guilmoto, 2009). Ultrasonography has become more available over the past decade and costs around USD6 even in rural and remote areas of Nepal (Nepal Health Sector Support Programme, 2013). The Government of Nepal is promoting at least two ultrasonography scans as a component of antenatal care (Nepal Health Sector Support Programme, 2013). Fertility is rapidly declining in Nepal. In the past 15 years, fertility of Nepali women has decreased by two children. On average, a woman during 1996 used to have 4.6 births but it decreased to 2.6 births per women in 2011 (Ministry of Health and Population, New Era and ICF International Inc, 2012).

Until recently, maternal mortality ratio (281 per 100,000 live births) of Nepal was among the highest in the world (Ministry of Health and Population, New Era and ICF International Inc, 2007). Significant proportions of maternal deaths and life threatening gynaecological complications were attributed to unsafe abortions (Pradhan et al., 2010). In response to the increasing evidence of maternal deaths and injuries related to unsafe abortions, and to provide Nepali women with increased power to decide on their fertility choices, in 2002 the Government of Nepal amended the *Muluki Ain* 1959 (the main National Legal Code) which had earlier restricted abortion in any case characterising it as an offence against life (Ministry of Law, Justice and Parliamentary Affairs, 1997). This amendment led to development of the National Safe Abortion Policy and Strategy 2002 which ensures access to safe abortion services under the following conditions: up to 12 weeks of gestation upon pregnant women's consent; up to 18 weeks of gestation if the pregnancy results from rape or incest; at any time during pregnancy if it threatens the life, physical or mental health of women or in the case of a deformed foetus with the advice of a medical practitioner and the pregnant women's consent (Ministry of Health and Population, 2002). Furthermore, only certified providers based on certified clinics can perform the procedure. Termination of pregnancy which have indications of sex determination is legally prohibited (Ministry of Health and Population, 2002).

Access to technologies that can determine the sex of foetus, culture of strong preference for sons, expansion of safe abortion services, rapid decline in total fertility rate (Ministry of Health and Population, New Era and ICF International Inc, 2007; 2012) and recent reports of skewing sex ratio at birth in Nepal (Center for Research on Environment Health and Population Activities and UNFPA, 2007; Frost, Puri and Hinde, 2013) has raised some concerns among researchers, policy-makers and programme implementers. Son preference for children has been a global phenomenon (Barot, 2012). Considerable attention has been devoted to this problem because of its harmful effects to the children of the less-desired sex. Moreover, it can have unfavourable demographic and social consequences. For example, strong gender preference can lead to sex-selective abortions, and hence to skewed sex ratios (Guilmoto, 2009). Consequences of skewed sex ratio at birth in countries where the issue has been prevalent for long time are expected to be dire. Daughter preference is less observed around the globe and in countries where sons are preferred to daughters, and SRB is highly skewed, consequences such as shortages of marriageable women, high rate of rape/incest, violence, abduction, trafficking and risky sexual behaviours has been documented (Hesketh and Xing, 2006; UNFPA, 2012; Bien et al., 2013).

## 1.2 Laws on preconception and prenatal diagnostic techniques

Prior to its amendment in 2002, the abortion law in Nepal was highly restrictive: abortion was permitted only to save a woman's life. According to studies published before 2001, unsafe abortion was prevalent and deaths from abortion-related complications accounted for more than half of maternal deaths that occurred in major hospitals. The amendment of the *Muluki Ain* in 2002 guarantees Nepali women the right to safe abortion on wider ground (e.g. for any reason, up to 12 weeks of pregnancy if a woman desires to terminate the pregnancy).

However no separate law regarding preconception and prenatal diagnostic techniques has been enacted in Nepal. In the present *Muluki Ain*, which liberalised the old restrictive law on abortion, there is clause *Number 28A* which restricts the use of technology or any means to determine the sex of a foetus for the purpose of sex-selective abortion. The law states:

*"No one shall commit or cause to be committed an act to identify (determine) the gender of the foetus for the purpose of abortion. A person who commits this offence shall be liable to the punishment of imprisonment for a term ranging from three months to six months."*

According to the law, both the women undergoing the sex determination test and the physician/medical personnel conducting such a test for the purpose of sex selection shall be imprisoned for a term ranging from three to six months. Moreover, if the women undergoing the sex determination test is doing so as a result of family pressure, if it can be proved in the court of law, the family member who had put such a pressure on the women and the medical personnel conducting the test to reveal the sex of the foetus are liable for imprisonment also. However, it is not stated either in the *Muluki Ain* or National Safe Abortion Policy and Strategy 2002 about the institutions responsible for enforcing the law and monitoring its implementation. Until this date, no criminal prosecution has been made in Nepal against the offence of sex determination test or sex selective abortion because of the lack of surveillance mechanisms (Lamichhane et al., 2011).

### 1.3 Socio-cultural context of gender and son preference

Since historic times, Nepal has been a patriarchal society. Women in Nepal face unequal power relations with their male counterparts and strong gender-based barriers to realising their aspirations. Patriarchal values are deeply ingrained in the social and economic spheres of Nepali life which has led to the development of gender-biased institutions and structures, ideology, and social norms which continue to limit the progress of women. These strong biases against women are clearly depicted in the daily reality of son preference in society.

Son preference is a common phenomenon in Nepal. In this country, a son is preferred to a daughter for several reasons; including carrying on family lineage and providing support to elderly parents and performing funeral rituals for deceased parents (Nanda et al., 2012; Subedi, 2011; Puri, 2010). Gender inequality remains prevalence across all religious, social, cultural, economic and political spheres of life. Due to deeply embedded patriarchal values in Nepali society, opportunities in terms of education, health, employment, decision making, and in other social and economic dimensions are limited for girls and women. In addition, gender-based violence is widely practiced and accepted across Nepal, controlling and confining women within the domestic sphere of home (Ministry of Health and Population, New Era and ICF International Inc, 2012).

Limited studies that have focused on gender selection, differentials in health care by gender, desired sex composition of children and contraceptive use, have revealed that son preference has been very strong in Nepal when compared to other countries around the world (Arnold, 1997; Leone, Matthews and Zuanna, 2003; Center for Research on Environment Health and Population Activities and UNFPA, 2007; Jayaraman, Mishra and Arnold, 2009; Frost, Puri and Hinde, 2013; Bongaarts, 2013). Arnold (1997) using data from Nepal Fertility, Family Planning and Health Survey 1991 and 56 Demographic and Health Surveys from 44 other countries conducted during a 10 year period from 1986 to 1995 found that, among all countries, even at parity one, women from Nepal only showed preference for sons (89 percent with a daughter as compared to 79 percent with a son wanted to bear another child). Son preference increased starkly by the second parity as more than three times as many women who had two daughters (77 percent) wanted to continue child bearing as compared to women who had two sons (25 percent). A similar pattern was observed as the parity increased. Statistically a significant difference (at 0.05 level) was observed between the women who had a son as their last child (14 percent) and women who had a daughter at their last birth (17 percent) in terms of desirability of the last birth at the time of pregnancy. Moreover, contraception utilisation rates by sex ratio of the living children also showed extreme son preference among Nepali women. Among women who had permanent sterilisation, the sex ratio of living children was 135 as compared to 95 for women currently not using any contraceptive and 109 for women using any method.

Likewise, Leone, Matthews and Zuanna, 2003 examined son preference and gender bias in Nepal using the data of Nepal Demographic and Health Survey 1996. The study found strong son preference among 4,661 ever-married Nepali women aged 15–49 who had stopped child bearing. The overall sex ratio at last birth was 146, which suggests the way families exercise preference for son, indicating a tendency to stop child bearing when a son was born. Furthermore, the study found the sex ratio of 185 among the women who had stopped child bearing at parity one and parity two which shows that women who stopped childbearing at lower parities are more likely than women who stopped child bearing at higher parities to have had a son as their last child. Women's behaviour in ceasing to bear children after having a son was further strengthened by the evidence that women who had stopped child bearing or had been sterilised after having three children ( $n=1,322$ ), 64 percent had stopped childbearing after having a son as compared to 36 percent after having a daughter. Likewise, great disparity in contraception prevalence was observed as a result of son preference. Among 5,902 women with up to four children, the overall contraception prevalence was 25 percent. If these women had had no desire for a son, the contraceptive prevalence rate would have soared to 33 percent. The effect of sex composition of living children on contraception use are further evident. For example, 44 percent of women with two sons used modern contraception but only 16 percent with two daughters did so. Disparity increased sharply at parity three; women with three sons (44 percent) were seven times more likely to use a modern method of contraception when compared to women with three daughters (6 percent). Similarly, the study showed that son preference among Nepali women had an effect on their fertility also. Among 5666 parous women, the overall total fertility rate was 4.43, which was 6 percent higher than the rate in the ideal scenario of absence of son preference (4.16) (Leone, Matthews and Zuanna, 2003).

The Center for Research on Environment Health and Population Activities and UNFPA (2007) studied gender preference at birth and reasons behind such preferences using qualitative and quantitative techniques in five districts;

Dhanusa, Parsa, Kapilbastu, Gorkha, and Kathmandu. The study was conducted among 2,644 married women of the age group 15–49 years, their husbands and mother-in-laws to understand the aspects of gender preferences. The study showed that in the first pregnancy, the majority of the women (54 percent) had no gender preference, 40 percent preferred sons, and only 6 percent preferred daughters. In general son preference was highest among mothers-in-law (52 percent) followed by husbands (50 percent) whereas daughter preference in the first pregnancy stood very low; at 4 percent and 3 percent respectively for husbands and mothers-in-law. Preference for sons was high in the Terai (low land) communities (51, 47, 42 percentages respectively for Yadav, Terai Dalit and Tharu) as compared to women of Hill communities (28 percent for Hill Brahmin and Magars). Major reasons for son preference that were cited are: elderly parent support (79 percent), economic value (67 percent carrying family lineage (60) and funeral rituals (59 percent). Qualitative findings also revealed similar reasons for son preference. Some of the major reasons for not preferring daughters were that daughters go to the husband's home after marriage, and dowry, making women a perceived unproductive investment. The study also revealed that women face tremendous pressure from husbands (42 percent) and mothers-in-law (41 percent) to bear sons. Women who had daughters as their first children faced different forms of physical and psychological, such as pressure to bear male children (that included hitting/ beating (18 percent), receiving improper meals (38 percent), husband's threatening polygamy (40 percent) and continuous scolding (86 percent). Interestingly, the study found that of the 2,504 ever-pregnant women, 222 had used some measures to influence the sex of their child to be male, which included observing religious rites, visiting shamans or consulting a doctor to find out if any medical measures could help them to bear male children in their next pregnancy.

Another study by Fuse (2008) which measured gender preference attitudes using Demographic and Health Survey data from 40 countries including Nepal Demographic and Health Survey 2006 found that among 10,363 women of reproductive age (15–49 years) from Nepal, 17 percent did not have any gender preference, 52 percent wished that they had an equal number of sons and daughters, 29 percent preferred more sons and 1.6 percent preferred more daughters. Among all the 40 countries, women from Nepal stood at fifth position in terms of son preference and second (to Pakistan) when compared to its South Asian counterparts. Among all the 40 countries, women from Nepal showed least preference for daughters (1.6 percent), putting it at top of the rank in terms of low daughter preference.

Similarly, Jayaraman, Mishra and Arnold, 2009 examined the extent of son preference by studying the influence of family size and composition on reproductive behaviour in three South Asian Countries—Nepal, India and Bangladesh—using the data from Demographic and Health Surveys of respective countries that were conducted around 2006. The analysis based on the responses of 6,950 non-pregnant, currently married women of 15–49 years from Nepal found that the desire for another child decreased as parity increased and at any given parity, women with higher numbers of sons showed the least desire for another child. At parity one, 77 percent of the women with no sons and 64 percent of the women with one son desired for another child. The desire increased starkly at parity two, with 51 percent of women with two daughters desiring another child compared to 6 percent of women with two sons. Similarly at parity three, 45 percent of women with three daughters wanted another child whereas only one percent women with three sons wanted more children. Similar patterns were observed as the parity increased. Contraceptive use patterns also indicated strong son preference. At parity two, nearly two times as many women with two sons (64 percent) used modern contraceptives than women with two daughters (35 percent); that is, women with two sons exceeded the use of modern contraceptives by 29 percent as compared with women having two daughters. Likewise, among the women using permanent contraception at parity two, only 4 percent were women with two daughters as compared to 41 percent with two sons. After controlling for socio-economic factors like education, household wealth, work status of the women, media exposure and participation in household decision making, the effect of sex composition and parity on desire for another child and contraception use was most profound in Nepal, indicating strong desire for sons, as compared to India and Bangladesh.



## Chapter 2

# Trends and differentials in sex ratio at birth and child sex ratio

### 2.1 Trends in sex ratio at birth and child sex ratio

Sex ratio at birth (SRB) is defined as the ratio of male to female births in a population, multiplied by 100. The ratio can vary somewhat due to biological factors, but its normal value usually ranges from 104–106 (World Health Organization, 2011). Accurate figures for sex ratio at birth are difficult to obtain in Nepal as vital statistics are inadequate (World Health Organization, 2014) and Nepal's Census data do not include SRB figures. Most recent estimates of SRB for Nepal by the United Nations (UN) has been fairly consistent at 105 male births per 100 female births for the period of 1950–2010 (United Nations, 2013).

Nepal Demographic and Health Surveys (NDHS) also provide estimates of SRB. Although small sample sizes may affect the estimates, it has been very close to UN estimates (United Nations, 2013). According to NDHS 2011 report, SRB in Nepal stands at an expected normal stable level of 106 (Ministry of Health and Population, New Era and ICF International Inc, 2012). Earlier reports had suggested lower SRB when compared to UN estimates (Table 1).

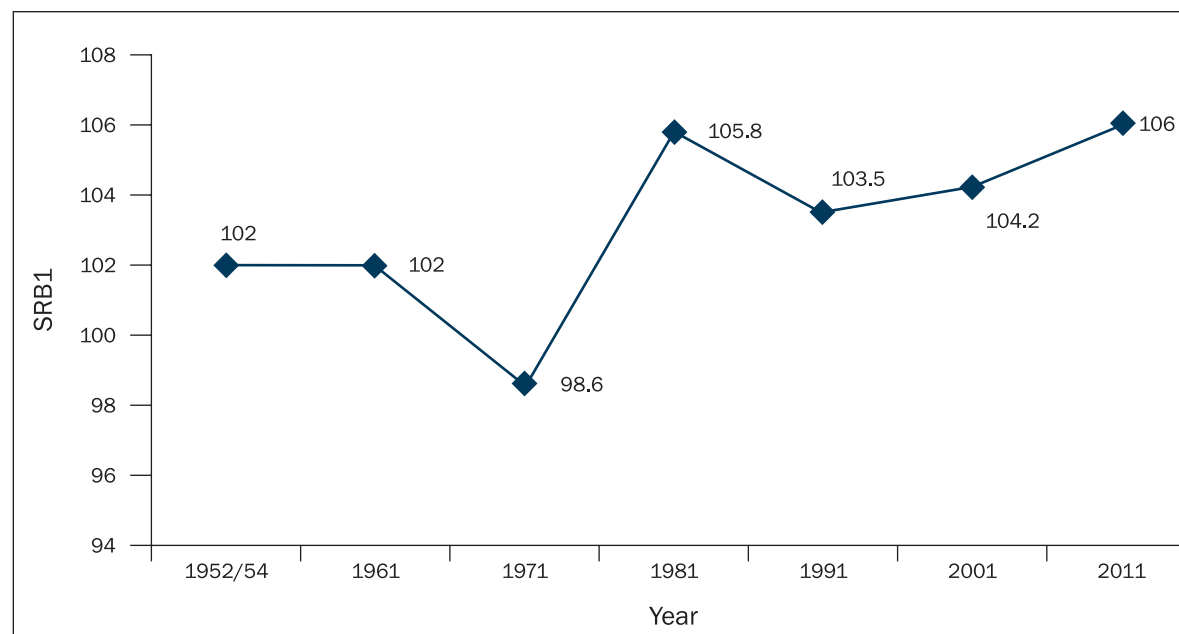
The NDHS despite being a nationally representative survey, had a small sample of births and due to lack of data on SRB based on vital registrations in Nepal, sex ratio for the population below one year of age (SRB1-SRB1 is the sex ratio for the population below one year of age—calculated by total number of male population aged 1 years divided by total number of female population of the same age group (one year age) though affected by sex differentials in infant mortality, is used in this review as a proxy indicator of SRB. This variable was earlier used on a study by CREHPA (2007).

**Table 1:** Trends in SRB in Nepal

Year	Sex ratio at birth
1996	104
2001	103
2006	104
2011	106

Source: Pradhan et al., 1997, MOHP et al., 2002; 2007 and 2012

**Figure 1:** Trends in SRB1 in Nepal, 1952/54–2011



Source: CREHPA 2007; Central Bureau of Statistics, 1993; 2002 and 2012

According to the last three Censuses, SRB1 in Nepal has consistently increased from 103.5 in 1991 (CBS, 1993) to 104 in 2001 (CBS, 2002) and reached its biological ceiling of 106 in 2011 (CBS, 2012) (Figure 1).

When looking at the sub-national level, during the period of 2001 to 2011, SRB1 in four development regions increased (Table 2) but remained within its expected normal range of 104–106. The Western Development Region was an exception; SRB1 in this region starkly increased from 105 in 2001 to 110 in 2011 (Table 2). Census reports earlier than 2011 did not provide information about population below one year of age at a lower level of disaggregation (below development regions), therefore, comparison of trends at administrative or geographical levels below development regions was not possible. However, Center for Research on Environment Health and Population Activities and UNFPA, 2007 stated that in 2001, at an ecological regional level (Mountain, Hill and Terai) SRB1 was comparable to national SRB1 (104) and did not vary much between Mountain, Hill and Terai.

**Table 2:** Trends in SRB1 and CSR by Development Regions, Nepal

Development Region	SRB1		CSR	
	2001	2011	2001	2011
Eastern	105	106	103	104
Central	105	106	103	105
Western	105	110	103	107
Mid-Western	101	104	101	104
Far-Western	104	106	103	105

Source: Central Bureau of Statistics, 2002; 2012

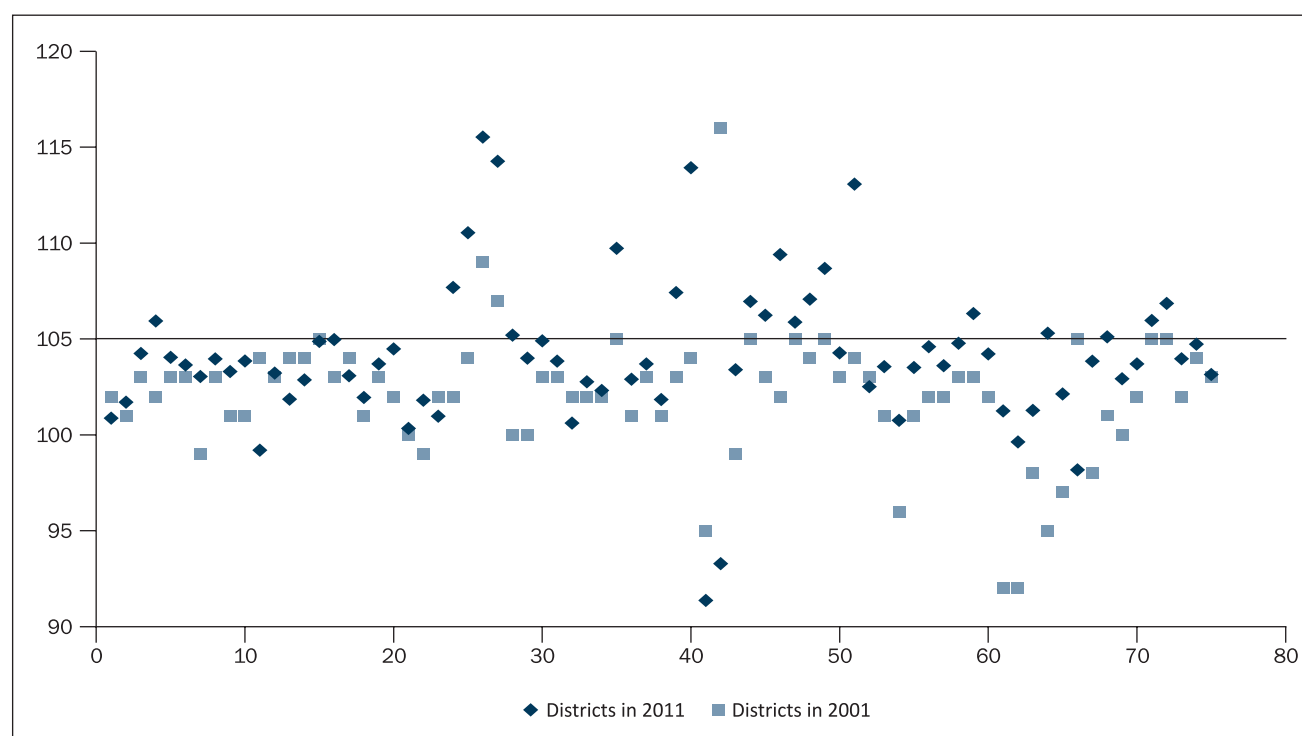
However in 2011, SRB1 for Hill and Terai region increased to 107 (above its biological ceiling) but in the Mountain region SRB1 stood at 103 (Central Bureau of Statistics, 2012).

Child sex ratio (CSR) is assumed to be within the normal range of 104–106 like SRB. More boys than girls die during the first month of life and more girls than boys die at ages 1–59 months (Ministry of Health and Population, New Era and ICF International Inc, 2012). Since Census reports are the only source of complete demographic data and Nepal's Census reports provide information about age of population in terms of single years or in group of five years, for this review, a child has been defined as an individual from the ages of 0–4 years.

According to last three Censuses, CSR had been constant at 103 during 1991 (Central Bureau of Statistics, 1993) and 2001 (Central Bureau of Statistics, 2002) which increased to 105 in 2011 (Central Bureau of Statistics, 2012). When compared at the development region level, during 2001, CSR was the same as its national average (103) in four development regions whereas in the Mid-Western development region (101) it was lower than expected (Table 2). In 2011, CSR increased in all development regions and reached the expected normal value in four development regions (104 in two and 105 in other two) with the exception of Western Development Region where the CSR crossed its biological ceiling at 107 (Table 2). Moreover, during 2001, only three districts (Figure 2), two from Central Development Region (Bhaktapur, Kathmandu) and one from Western Development Region (Mustang) had CSR greater than its biological ceiling at 109, 107 and 116 respectively. However, in 2011, districts with CSR greater than 106 increased to 13 (Figure 2) among which five districts (Kavrepalanchowk, Bhaktapur, Lalitpur, Kathmandu and Chitwan) were from the Central Development Region, seven from the Western Development Region (Nawalparasi, Rupandehi, Argakhachi, Syanga, Gulmi, Prapat and Kaski) and one from the Far Western Development Region (Kanchanpur).

Frost, Puri and Hinde, 2013 using data from four rounds of Nepal Demographic and Health Survey 1996, 2001, 2006 and 2011 analysed sex ratio at birth according to time, birth order and socio-economic characteristics of mothers to identify if sex selection is prevalent in Nepal. In their study, sex ratio at birth was defined as the number of female births per 1,000 male births, however, to maintain consistency across this review, reported sex ratios were converted to number of male births per 100 female births. In the absence of human interventions such as sex selective abortion, sex ratios rarely vary from the normal biological range of 104–106 by birth order and the sex of previous birth. To examine if human intervention is taking place, conditional sex ratio, which is sex ratio by birth order

**Figure 2:** Trends in Child Sex Ratios of boys to girls of ages 0–4 in 2001 and 2011



Source: Central Bureau of Statistics, 2002; 2012

and sex of previous birth can bring some light to this question. The study found no statistically significant overall SRB higher than biological normal during the period of 1992–2010 and similar results were obtained for sex ratios of first order births (95 percent of sex ratios were within normal biological limits) (Table 3, 95 percent CI not shown the table). However, at second order birth when the first born was a female, statistically significant sex ratio of 135 (95 percent CI: 109 to 167) was observed during the period of 2007–2010. Sex ratio of second order birth when first child is female indicates sex selective abortion being practiced in a population (Jha et. al., 2011). No statistically significant high sex ratio was observed in higher order births. This lack of statistical significance is partly due to the small number of births during the study period and as the birth order increased, the number of births decreased significantly (refer to Frost, Puri and Hinde, 2013).

**Table 3:** Sex ratios at birth (male birth per 100 females), by birth order, 1992–2010

Birth order	All	First born	Second born		Third born		Fourth or above	
Sex of previous children	NA	NA	First born male	First born female	Both male	Both female	One male, one female	NA
Year	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
1992–1994	103	104	94	105	123	97	102	104
1995–1997	105	114	117	103	108	103	88	105
1998–2000	103	109	111	98	100	118	105	99
2001–2003	108	110	122	106	107	115	113	103
2004–2006	104	103	103	120	108	118	96	101
2007–2010	107	99	122	135*	112	130	107	91

\*95 percent CI fell outside biological normal range (104–106)

Source: Frost, Puri and Hinde, 2013

Recently, Bongaarts (2013) using Demographic and Health Survey (DHS) data from 61 countries including Nepal (NDHS 2006) and UN estimates of sex ratio at birth examined son preference and ways of these preferences being expressed. This study showed that Nepal ranked fifth among the 12 countries in which son preference was strongest, showing that desired sex ratio at birth (DSRB) exceeded 120.

A hospital-based study conducted in Kathmandu using retrospective data of birth histories during the period between 2003 and 2008 (Adhikari, Ghimire and Ansari, 2008). This study found that among 31,288 live births during the period, 17,439 were male and 13,849 were female with an overall sex ratio of 114. Further, when the live births were divided as first live births, second live births and, third and subsequent births indicating birth order, the sex ratios were 106.4, 118.2 and 177 respectively indicating high son preferences among the women delivering in the study hospital. The authors indicated that prenatal detection of sex of fetuses might have altered the sex ratio of second and subsequent births, but cannot be confirmed from the hospital data.

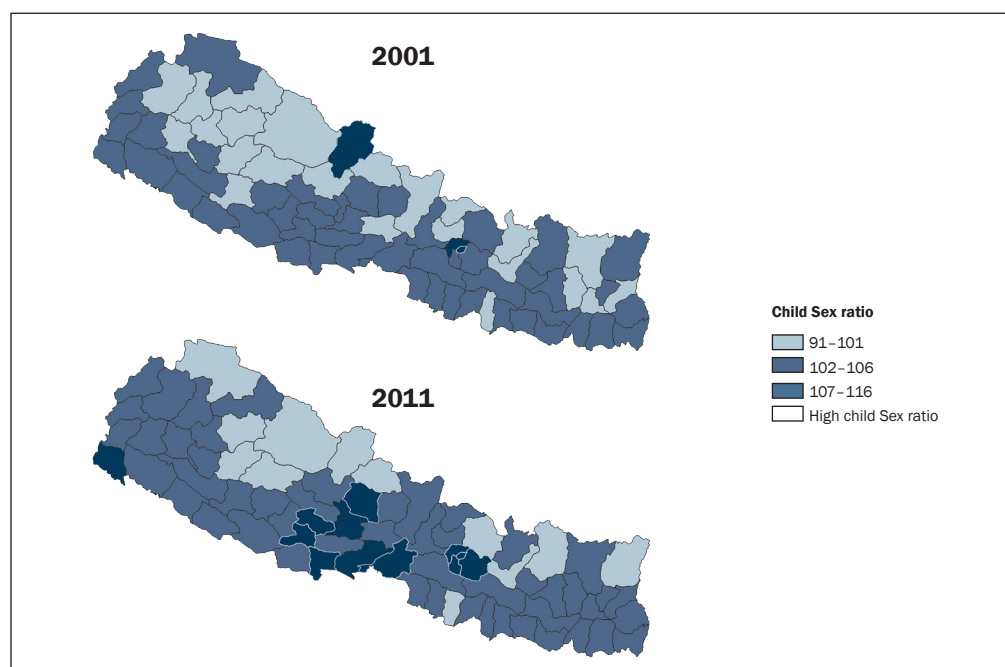
## 2.2 Differentials in sex ratios

### 2.2.1 Region

According to the Census 2011, SRB1 varies greatly in different parts of Nepal. Despite being within its normal range in the country (106), SRB1 was found to be high in urban (112) areas when compared to rural areas (106). Similarly it was higher than expected in Hill and Terai regions with SRB1 of 107, whereas in Mountain regions, it fell below its normal range (103). As reported earlier in this review, SRB1 was normal in four out of five development regions whereas in the Western Development Region SRB1 was high at 110 (Table 2). Though high SRB1 is only noticeable in one development region, inconsistency within these development regions is revealed when examined more deeply. When five development regions were divided into 15 eco-development regions (each of the five development regions divided according to three ecological regions), it was observed that the Eastern Terai had higher SRB1 (107) which was earlier masked under SRB1 of Eastern Development Region (106). Similarly, the Central Hill region which falls under the Central Development Region had elevated SRB1 at 110.

When the Central Hill region was further disaggregated to the district level, it was observed that four districts had very high CSR (Kavrepalanchowk-108, Bhaktapur-116, Lalitpur-111 and Kathmandu-114) (Figure 3). Further, it was observed that both Western Hill and Western Terai had high SBR1 at 110 which is the same as the Western Development Region (110). Looking deeper into the situation in the Western Development Region reveals that four

**Figure 3:** Child sex ratio of boys to girls at ages 0–4 in 2001 and 2011 by district



districts from the Western Hill area (Kaski-114, Parbat-107, Gulmi-109, Arghakhachi-113) and two districts from the Western Terai (Nawalparasi-107 and Rupandehi-109) (Figure 3) have exceeded the biological ceiling of CSR. In case of Mid-Western Mountain, Hill and Terai regions and districts within them, none of the areas showed SRB1 or CSR favouring males. However, in the case of Far Western Development Region, Far Western Terai showed abnormal SBR1 at 109 and a district within it-Kanchanpur—had elevated CSR at 107 (Figure 3), while in Far Western Mountain and Hill regions, normal SRB1 and CSR were observed.

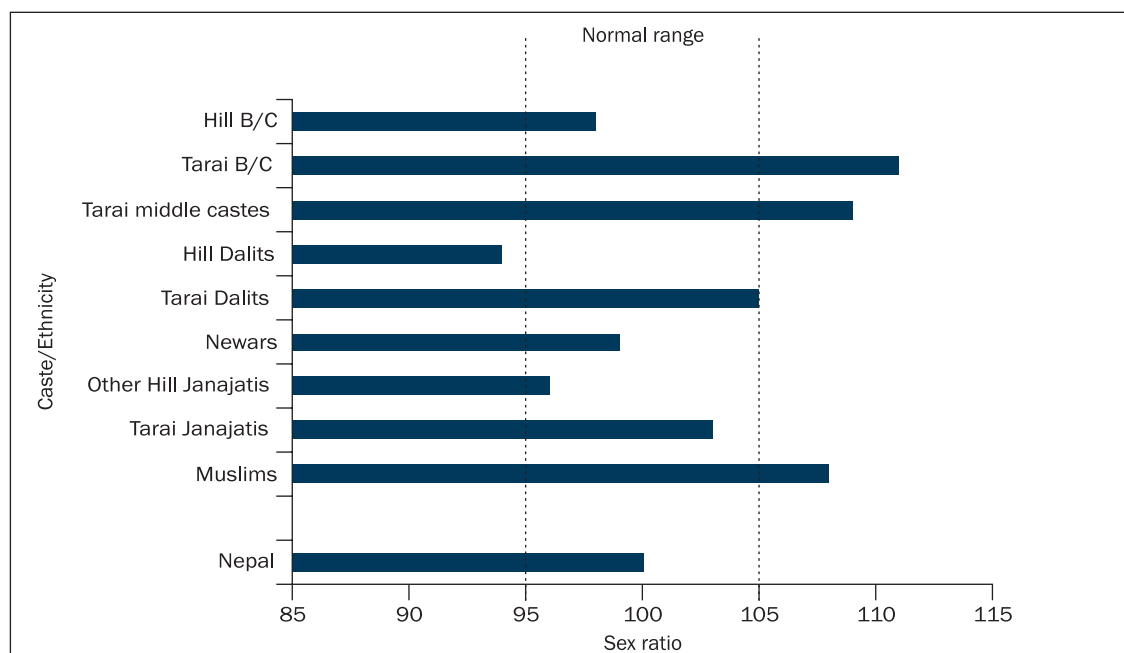
As Figure 3 shows, nine districts of Nepal (Kathmandu, Bhaktapur, Lalitpur, Kavrepalanchowk, Chitwan, Kaski, Syanga, Arghakhachi and Rupandehi) have high child sex ratio (>108) in the last two Censuses. Mustang is an exception (due to a small population).

## 2.2.2 Socio-demographic

Studies on socio-economic and demographic differentials in SRB or sex ratios are rare in Nepal. Frost, Puri and Hinde, 2013 found high variations in sex ratio of second order birth when the first child was a female (Conditional Sex Ratio) according to the education and wealth status of the women. Dramatic increases in sex ratio was observed for those women who have at least a School Leaving Certificate or above. Five years prior to NDHS 2006, CSR for this group of women stood at 153 males per 100 females which increased to 271 five years prior to NDHS 2011. The increase in CSR five years prior to NDHS 2011 was significant at a 5 percent level for all educational groups except those with no education. Similarly, a significant increase ( $p < 0.05$ ) in CSR from 106 males per 100 females during 1992–2003 to 114 was observed among the richest urban women.

Figure 4 shows population sex ratio by caste/ethnicity. Although population sex ratio alone is not a good measure to assess the evidence of alteration in sex ratio at birth, according to a study, the Terai-based caste groups had higher sex ratio than the Hill-based caste groups indicating missing women in the Terai region of the country (Department for International Development and World Bank, 2006). Among Terai-based castes/ethnicities, Hindu high caste groups (Kayastha, Rajput, Baniya, Mawadi, Jaine, Nurang and Bengali) had the highest sex ratio followed by the Terai middle caste groups (Yadav, Teli, Kalwar, Sudi, Sonar, Lohar, Koiri, Kurmi, Kanu, Haluwai, Hajam/thakur, Dadhe, Rajbhar, kawat Mallah, Numhar, Khar, Lodha, Bingh/Banda, Bhediyar and Malim Kamar Dhanian) and Terai dalits (Chamar, Mushar, Tatma, Batar, Dhusadadh/Paswan, Kahtway, Dom, Chidimar, Dhobi, Halkhor and Unidentified Dalit) and Muslim communities respectively.

**Figure 4:** Population sex ratio by Caste/Ethnicity (male per 100 females)



Source: DFID and World Bank, 2006

A rare study that looked at the male perspectives of son preference in Nepal showed that occupation, age and ethnicity of the respondents had a significant effect on son preference (Nanda et al., 2012). As the age increased the likelihood of high or moderate son preference increased (odds ratio of 1.00, 2.05, 2.45 respectively for the age group 18–24, 25–34 and 35–49 years). Disadvantaged non-Dalit Terai caste group had high or moderate levels of son preference (odds ratio 3.82 at  $p < 0.01$ ) compared to Brahmin/Chhetri caste groups. Likewise men with manual employment as compared to men with higher professional employment were less likely to have high/moderate son preference. Education, type of family and marital status of the respondents did not have significant association with high/moderate levels of son preference.

## 2.3 Potential for further skewing of sex ratio at birth and child sex ratio

Guilmoto (2009) suggested three necessary preconditions that must be fulfilled to achieve the desired sex ratio in any given population. These include: access to the sex determination and abortion technology, low or decreasing fertility, and preference for a particular gender. If we believe in these three pre-conditions, Nepal will experience an increase in adverse SRB in the future. This is due firstly to declining fertility. The total fertility rate in Nepal has been declining from 4.6 births per women in 1996 to 2.6 births per women in 2011, a decline of two children per woman in the past 15 years (Ministry of Health and Population, New Era and ICF International Inc, 2012). Secondly, son preference continues to be an entrenched social norm. Although Nepali women increasingly follow two child norms (Brunson, 2010; Ministry of Health and Population, New Era and ICF International Inc, 2012 and Central Bureau of Statistics, 2012), pressure continues to be placed on women to achieve the desired sex composition of children as well as desired number of offspring. Therefore, sex selective abortion may be the first adopted by certain groups as a response to the fertility predicament: reducing the number of children while maximising the probability of having at least one son (Guilmoto, 2009). Thirdly, though numbers of ultrasound machines are not widely known in the country, these facilities are now cheaply available in Nepal (Center for Research on Environment Health and Population Activities and UNFPA, 2007). Even in remote districts, access to ultrasonographs where available, usually cost NPR 500 (USD6) (Nepal Health Sector Support Programme, 2013). The availability of portable ultrasonographs, is expected to increase in future both at public and private facilities. Moreover, the Government of Nepal has recently implemented a program to increase access to ultrasonography to identify pregnancy-related complications and foetal anomalies (Nepal Health Sector Support Programme, 2013). Increased access to such services can have both a positive and a negative impact. If proper orientation about the law on sex determination tests and skills to deal with requests to reveal the sex of the foetus is not provided to technicians, increased access to such technologies may have negative effects, since technicians come from the same society where son preference is very strong and may be sympathetic towards women in the light of violence women may face if they fail to bear a son. A study showed that 17 percent of men reported that their wife/partner had ever gone for an ultrasound test and many of them had undergone more than one ultrasound test during their last pregnancy. One in 10 men whose partner had had an ultrasound test reported that it was because they wanted a son. Furthermore, 32 percent of the men reported that the sex of the foetus was disclosed by the service providers while undergoing an ultrasound test (Nanda et al., 2012). This suggests that disclosure of the sex of the foetus and violation of the existing law is not uncommon. Anecdotal reports and news frequently accuses private facilities of providing sex selective abortions. In addition, women may access multiple sex determination tests and sex selective abortion services from more than one clinic so as to hide their intention (Lamichhane et al., 2011). Many health workers described the dilemma they faced in serving women seeking abortion for legal conditions beyond 12 weeks (legal gestation limit for abortion) when some of them might be trying to select for sex. Some providers described how women tried to convince them to perform abortions by giving reasons that are not legally indicted but might garner their sympathy, such as contraceptive failures, unwanted pregnancy, and misperceptions about fertility. Providers also expressed empathy for patients and their pressures to bear male children, but were conflicted in their desires to help and conform to the law (Lamichhane et al., 2011).



# Chapter 3

## Ongoing efforts to reverse the trend

### 3.1 Initiatives intended to restrict and monitor the use of technology for prenatal sex selection and law enforcement

No literature is available to review the initiatives undertaken by the Government of Nepal or other organisations known to be closely looking into the matter of SRB or sex selective abortion. According to anecdotal information provided by concerned authorities, strict enforcement of the law was difficult due to the difficulty in identifying the cases of abortions that have proceeded after determining the sex of the foetus, and lack of filed complaints. Very recently, a few initiatives that aimed to orient radiologists and other concerned medical technicians about the abortion law and illegality of revealing the sex of the foetus have been planned. A few NGOs and the media have started awareness raising campaigns against sex selection among the general public. However, to our knowledge no prosecutions have been made in response to violation of the law to date. Moreover, it was stated that monitoring of such violations is difficult as such cases would occur clandestinely under mutual understanding of the provider and the clients.

Though the socio-economic and demographic variations in sex selective abortion practices and its impact in Nepal is not fully understood, the Frost, Puri and Hinde, 2012 study signals that sex selective abortions may have already started to have an effect in altering sex ratios at birth in certain areas of Nepal. Although DHS-based estimates of sex ratios may need careful interpretation because of the risk of sampling bias (Bongaarts 2013), the data does provide a clear warning sign. The 2011 Population Census reflects abnormal sex ratios of the population below one year of age as well as in the population aged 0–4 years in a higher number of districts and in urban areas, as compared to the earlier 2001 Census. This pattern may spread to other districts and regions as innovation diffuses.

### 3.2 Initiatives to build gender equality

The Interim Constitution of Nepal (2007) (Nepal Law Commission, 2007) has various provisions that support gender equality. It recognises women as a marginalised group and ensures women receive special treatment from the State. Provisions in the Constitution that directly address gender inequality include: the provision of positive discrimination against women (Article 13, clause (3)), rights of women on ancestral property and reproductive rights (Article 20) and the right to social justice on the basis of proportional representation of women in state structures (Article 21). The government is implementing numerous initiatives intended to improve gender equity. The year 2010 was declared as “the year against Gender-Based Violence (GBV)”, with a multi-sectoral Action Plan formulated and a Gender and Empowerment Coordination Unit (formerly known as the GBV unit) established at the Prime Minister’s Office. GBV Coordination Committees have been established at the more decentralised levels. The Gender Equality Act was promulgated in 2006. Its main objective is to eliminate various types of GBV and discrimination against women, and promotion of gender equality and women’s empowerment. A Human Trafficking (Control) Act has been introduced in 2007, as well as a Domestic Violence Act in 2009. The Standard Operating Procedures for the prevention of and response to GBV has been endorsed and Gender Based Violence Information Management System has been established. Gender and social inclusion, gender mainstreaming and women’s empowerment including gender-based budgeting have received prime importance in the national agenda. Similarly, the 2007 amendment to the Civil Service Act reserves 44 percent of the vacant posts for excluded groups, from which 33 percent is reserved for women. However, a report in 2009 revealed that Nepal had 96 discriminatory provisions and 92 schedules (mainly on nationality, marriage and family relations, sexual offences, and property rights). A bill to address these discriminatory provisions has been drafted and is awaiting parliamentary decision.

Nepal has been a signatory of several Conventions which commits to non-discrimination, gender equality and social justice. For example, the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) was ratified in 1991. Similarly, the Beijing Platform for Action 1995, International Conference on Population and Development 1994 and Millennium Development Goals (MDGs) 2000 all provide impetus to address gender inequality.

As of date, no focused policy or programmes exists to address imbalance in sex ratios in Nepal. It may be due to the fact that the issue of imbalance in sex ratios at birth is a new phenomenon in the country and population level changes in demography have not yet been observed. However, the Government of Nepal has been working to improve gender equality in all spheres of life. Some awareness raising and advocacy initiatives against sex selection have been introduced, but no impact evaluation of such activities has been carried out. Unfortunately, unlike in India, Nepal does not have conditional cash transfer programmes to motivate more equal opportunities for girls in Nepal.

### 3.3 Advocacy and communication activities

Though very few, advocacy and communication activities are a very recent phenomenon in Nepal. In 2013, the Nepal Society of Obstetricians and Gynaecologists (NESOG) developed a poster and a story-based educational (documentary) film aimed at ending female foeticide, promoting gender equality and cautioning the general public about the illegality of revealing sex of the foetus. NESOG requested all of their members to place the poster in their hospitals and clinics (Nepal Society of Obstetricians and Gynaecologists, 2013). NESOG also organised a few talk programs about the social effects of sex selective abortion. For example, on 30th August 2013, it conducted an awareness program called ANURODH (meaning 'Request'). Likewise, in collaboration with the Nepal Peace Fund and Nepal Television, short videos of about 20 seconds are broadcasted every day at different times with a message- "No gender preference during childbirth" (Nepal Television n.d). Similarly, a discussion on the issue of sex selection was telecast by one of the private television channels (Kantipur TV) inviting a research expert and the chairperson of Nepal Medical Council to speak. Some FM radio stations are also airing jingles against son preference and sex selection.

A summary of available interventions discussed above are provided in Table 4:

**Table 4:** Summary of available policies, programmes and interventions

Programme/ Intervention	Objectives	Activities	Effectiveness	Source
<b>Initiatives to ensure that the law is implemented</b>				
Various efforts to raise awareness of the law	To enhance knowledge and adherence to the law	<ul style="list-style-type: none"> <li>Initiatives to orient radiologists and medical technicians about the law</li> <li>NGOs and mass media have initiative awareness raising campaigns against sex selection</li> </ul>	No prosecutions made thus far	NESOG, 2013; Nepal Television, n.d. Kantipur Television n.d.
<b>Initiatives for protection of a girl child</b>				
Child helpline	To safeguard the rights of children by providing emergency rescue services and psychosocial counselling to at risk children.	<ul style="list-style-type: none"> <li>Currently running in 13 districts</li> <li>Provides emergency rescue services, relief and psychosocial counselling to at risk children.</li> <li>Family and social integration of children</li> <li>Referral services</li> <li>First aid services</li> <li>Educational support for drop out children or at risk of drop out.</li> </ul>	Not Known	CWIN Annual Report 2007
<b>Initiatives intended to build gender equality</b>				
Year Against GBV 2010	To reduce violence against women	<ul style="list-style-type: none"> <li>Multisectoral National plan of Action formulated</li> <li>Gender, Empowerment and Coordination Unit (formerly known as GBV Unit) in Prime Minister's Office</li> </ul>	Raised	Puri, Shah and Tamang, 2013

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Table 4: (Cont'd)

Programme/ Intervention	Objectives	Activities	Effectiveness	Source
Celebration of International Day of the Girl Child	To focus attention on the need to address the unique challenges girls face and to promote girls' empowerment and the fulfilment of their human rights.	<ul style="list-style-type: none"> <li>Consultations with adolescent boys and girls (mostly girls) to inform National Plan of Action for the Holistic Development of Adolescents held in October 2014</li> </ul>	Not Known	UNICEF, 2014
Gender Equality Act 2006	To eliminate violence against women (VAW) and gender discrimination, promote gender equality and women's empowerment	<ul style="list-style-type: none"> <li>No activities because it is still waiting for approval from parliament</li> </ul>	—	—
Domestic Violence and Punishment Act, 2009	To prevent domestic violence	<ul style="list-style-type: none"> <li>GBV desk at District Development Committee office established</li> <li>Gender Violence Control Fund established</li> <li>GBV information management system database under National women's commission set up</li> <li>One-stop crisis management centres in 15 districts, with service centres established</li> </ul>	Weak and few gaps in laws identified	CREHPA, UCL, UNFPA et al., 2013
Human Trafficking and Transportation Control Act (2007)	To address human trafficking and transportation problems	—	Moderate	—
2007 Amendment to Civil Service Act	Reserves 44% of vacant groups for excluded groups; 33% for women	—	Not known	—
The Country Code (Eleventh Amendment) on property rights	To recognize that son and daughter have equal rights to their ancestral property.	—	Not known	Country Code (Muluki Ain)
The Country Code chapter on Marriage; number 10	To enforce punishment for committing polygamy	—	Not known	Country Code (Muluki Ain)

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Table 4: (Cont'd)

Programme/ Intervention	Objectives	Activities	Effectiveness	Source
<b>Advocacy, communication initiatives and community mobilization efforts</b>				
Nepal Society of Obstetricians and Gynaecologists	To address gender biased sex selection and promote gender equality	<ul style="list-style-type: none"> <li>• Poster on gender biased sex selection to be placed in hospitals and clinics</li> <li>• Story based educational film aimed at ending gender biased sex selection</li> <li>• Awareness programme ANURODH and talk programmes on social effects of gender biased sex selection</li> </ul>	Not available	NESOG, 2013
Nepal Peace Fund and Nepal Television	To address gender biased sex selection	<ul style="list-style-type: none"> <li>• Short videos (20 seconds) broadcast daily on “no gender preference during childbirth”</li> </ul>	Not available	Nepal Television, n.d.
Kantipur TV and FM radio stations	To address gender biased sex selection	<ul style="list-style-type: none"> <li>• Talk shows by experts</li> <li>• Jingles on FM radio</li> </ul>	Not available	
Centre for Awareness Promotion's Daughter Project	Fight against the cultural preference for sons	<ul style="list-style-type: none"> <li>• Raise awareness</li> <li>• Counselling sessions for mothers and pregnant women at one public hospital</li> <li>• Theatre programmes</li> <li>• Organising festivals/rituals traditionally favouring boys to honour girls</li> </ul>	Not available	Center for Awareness Promotion, 2010
CREHPA's Enable project	Safe abortion awareness and advocacy programme	<ul style="list-style-type: none"> <li>• Provides information about the illegality of sex determination and sex selective abortion</li> </ul>	Not available	CREHPA, n.d.

Centre for Awareness Promotion (CAP) Nepal, an NGO, is implementing a project entitled: “The Daughter Project” (Centre for Awareness Promotion, 2012). The main objective of the project is to fight against cultural preferences for sons in Nepal by raising gender awareness, providing counselling sessions for mothers and pregnant women at a largest maternity hospital based in Kathmandu to deter sex selection as well as through arts and theatre programs involving youth to spread the message of gender equality among new generations. Under “The Daughter Project” is a program called “A Sisters Network” which uniquely seeks to decrease the value of masculinity in religious rituals. Particularly, a Nepali festival called *Tihar* (popularly known as festival of lights in India) in which a sister cares for her younger and/or elder brothers, prepares food for them, gives gifts and puts Tika on their forehead, is a highly celebrated festival. Though celebrated widely, it is however a festival which reinforces the preference of male siblings and puts a greater value on the male gender role in a family. The Sister Network targets to break that value put on masculinity by encouraging females to do the same rituals between sisters (but without excluding brothers) and with other women, if sisters are not available during the day of *Tihar*. The program is in its early stage (started in 2013) and covers a Village Development Committee on the outskirts of Kathmandu Valley. Moreover, CAP Nepal also coordinates with a large private hospital, OM Hospital and Research Center, which is popular for its maternity services, to put a board in its gate to make the public as well as medical practitioners aware about moral and legal aspects of sex selective abortion. The safe abortion awareness and advocacy program of CREHPA (Enable Project) implemented by its district based NGO partners provides information on the illegality of sex determination and sex selective abortion in the country. Unfortunately, the impacts of these few initiatives have not yet been systematically evaluated. Evaluations of such initiatives may provide insight for future policy and programme designs.

# Chapter 4

## Concluding remarks

### Summary

The reviews revealed that sex selective abortion is an emerging issue in Nepal, very much connected to the easy accessibility to prenatal sex-determination technology, the religious and socio-economic value given to sons over daughters, pressure put on women to bear sons and the dowry system prevalent in Nepal, all of which increase the likelihood of sex selective abortion. The situation is further accentuated by the lack of focused policies and programs to address gender discrimination and weak enforcement of law relating to dowry and sex determination practices, meaning that the demand for sex selective abortion could increase in the future. With declining fertility levels, couples are pressured to fewer children of the desired sex (preferably son) may aggravated for abnormal sex ratios at births. Though very limited, studies indicated that the practice of sex selection is more prevalent among relatively rich, educated, urbanite women and in areas bordering with India. However, more research is needed to validate this information.

The review also revealed that no separate Act or policy addressing the root causes of gender discrimination, son preference and conditional cash transfer programs for every girl child is present in Nepal. No special program exists for this, except a general program that supports parents for the education of their daughters. Although the Interim Constitution of Nepal 2003 mentions that the State shall not discriminate against citizens on grounds of sex, religion, race, caste, tribe, sex, origin, language, a report in 2009 revealed that there are still several discriminatory provisions and schedules, mainly on nationality, marriage and family relations, sexual offences, and property rights, all of which counter the rights of women and the girl child. A bill to address these discriminatory provisions is drafted and waiting for Cabinet approval. Gender and social inclusion, gender mainstreaming and women's empowerment including gender-based budgeting have received prime importance in the national agenda, and the National Plan of Action for Gender Equality and Women's Empowerment have been implemented by the government since 2004. However, no focused programs to address sex selection has been developed and implemented yet by the Government. Although the law strictly prohibits sex determination tests and sex selective abortion, enforcement of such laws is weak and unregulated.

Rights-based civil society organisations, professionals and activists are confronted with two pronged issues when it comes to sex selective abortion: firstly, how to preserve Nepalese women's rights to safe and legal abortion, and secondly, how to prevent sex selective abortion which is so deeply conjoined with deeply entrenched gender-based discrimination, son preference and Nepali tradition and culture. The issue of sex selection will pose a greater challenge in the coming years as Nepali couples begin to realise the social and economic advantages of having a small family size. There is an urgency to establish new evidence on the determinants and motivating factors of sex selective abortion practices, and to develop a national strategic plan for the country based on the evidence.

### Recommendations for further research

- There are data gaps on the causes of high sex ratio imbalances in certain districts of Nepal, especially those districts bordering India. There is not enough empirical evidence on variations of son preferences by geography, place of residence, religion, education, socio-economic status on son preference and reasons for such variation in Nepal. Research is needed to establish new evidence on the determinants and motivating factors of son preference, and to further understand the impact of poverty, gender-based discrimination, child marriage and the dowry system on sex selective abortions.
- There is little information on the extent of pressure placed on a woman by her spouse and in-laws to deliver a son. There is a need to understand the extent such pressures have on the women during the pregnancy cycle and after the birth of the child, and the impacts on the mother if it is a daughter who is born, rather than a desired son.

- Despite the legal gestational age limits for abortion, some women seek abortion at a later stage (beyond 12 weeks). Facility-based research is required to explore the possible linkages between the demand for second-trimester abortion and pre-natal sex determination.
- Though few, advocacy efforts are being implemented by NGOs and the media to raising awareness on sex selective abortions. However little is known about changing attitudes, practices of the general population, and/or health care provider attitudes towards the issues. Therefore, a systematic evaluation of such initiatives is highly warranted.

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