

A RIGHT TO CHOOSE?: SEX SELECTION IN THE INTERNATIONAL CONTEXT

ASHLEY BUMGARNER*

INTRODUCTION

Assisted Reproductive Technology (ART) has been used in the United States and around the world for decades to help women become pregnant, most commonly through *in vitro* fertilization (IVF)—the transfer of fertilized human embryos into a woman's uterus. The ethical issues surrounding *in vitro* fertilization have received considerable treatment in existing scholarship. As ART advances, however, so does the bioethical debate. Innovations such as sperm sorting and Preimplantation Genetic Diagnosis (PGD) now offer would-be parents the opportunity to select *prenatally* the sex of their offspring.

Sex selection is the practice of using medical techniques to choose the sex of one's offspring. These techniques include sperm sorting, PGD, and selective abortion. Selective abortion in particular has led to national crises in India and China. In India, the desire for male heirs has created an explosion in the number of clinics that use ultrasound to determine the sex of a fetus and in physicians who perform sex-selective abortions.¹ According to a study by *The Lancet*, a premier British medical journal, sex selection claims up to 500,000 female fetuses in India every year.² Since ultrasound machines were first introduced into India in 1979, an estimated ten million female fetuses have been aborted.³

In China, the problem is particularly acute. According to official figures, approximately 119 boys are born for every 100 girls.⁴ Selective abortion in China

* J.D., Duke University School of Law, expected May 2007; B.A., History and Political Science, Wake Forest University, 2004. I would like to thank Elizabeth S. McBrearty, Robert J. Needham, Michael M. Oswalt, Rita B. Trivedi, Ryan S. Higgins, and Justin T. Wilson for their invaluable editorial assistance. I would also like to thank the Wake Forest University Women's and Gender Studies department for encouraging my passion for women's issues, and my husband, Scott Killian, for his continuing support.

1. Neil Samson Katz, *Abortion in India: Selecting by Gender*, WASH. POST, May 20, 2006, at B09. For a discussion of the motivations underlying sex selection in China and India, see Part II.A, *infra*.

2. Scott Baldauf, *India's "Girl Deficit" Deepest Among Educated*, CHRISTIAN SCI. MONITOR, Jan. 13, 2006, World, at 1, available at <http://www.csmonitor.com/2006/0113/p01s04-wosc.html>.

3. *Id.*

4. Simon Parry, *Shortage of Girls Causes China to Criminalise Selective Abortion*, TELEGRAPH (London) (online ed.), Sept. 1, 2005, <http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2005/01/09/wchina09.xml&sSheet=/news/2005/01/09/ixworld.html>. In traditional Chinese culture, male offspring are more desirable than female offspring because sons provide for parents in old age, while daughters become part of their husband's family. *Id.*

is common; nearly every township clinic has an ultrasound machine, and free abortions are readily available under the one-child policy.⁵

In the United States and other Western nations, there is little evidence that abortion is used for the purpose of sex selection. However, recent medical developments have made a variety of less invasive sex-selection techniques available to would-be parents. As noted in the journal *GeneWatch*,

[i]n the United States, some fertility clinics are beginning to openly advertise sex selection. For example, several times in 2004, the Sunday Styles section of *The New York Times* carried an ad from the Virginia-based Genetics & IVF Institute, touting its patented sperm-sorting method. Beside a smiling baby, its boldface headline asked, "Do You Want To Choose the Gender Of Your Next Baby?"⁶

Indeed, some polls suggest that as many as twenty-five percent of Americans,⁷ and forty percent of American women being treated for infertility,⁸ would prefer to choose the sex of their next baby through preimplantation sex-selection procedures.

* * * *

This Note analyzes: (1) the ramifications of sex selection in India, China, and the United States; (2) the laws in those nations that currently govern the sex selection issue; and (3) the legal, social, and political steps required to mitigate the growing challenges presented by harmful sex-selection practices. I argue that sex selection is a legal and ethical issue that both individual states and the international community must examine now in order to manage appropriately the repercussions of the practice of sex selection in the future.

I. AN OVERVIEW OF SEX SELECTIVE PROCEDURES

A. Medical vs. Non-Medical Sex Selection

Sex-selection procedures can be divided into two analytical categories: (1) procedures done for medical reasons; and (2) procedures done for non-medical, elective reasons. While there is some debate among doctors, ethicists, and the general public about the level of medical necessity that should justify a sex-selection procedure, most accept that sex selection for medical reasons is beyond ethical reproach, and in some situations, should even be encouraged.⁹ However, elective, non-medical sex-selection, which is often performed for social or

5. China's "one-child" policy was introduced under Deng Xiaoping in 1979 to slow population growth. Parents who have more children can be fined, lose their jobs, or be forcibly sterilized.

6. Marcy Darnovsky, *Revisiting Sex Selection: The Growing Popularity of New Sex Selection Methods Revives an Old Debate*, 17 *GENEWATCH* 3, 3 (2004) (alteration added).

7. Jason Roberts, *Customizing Conception: A Survey of Preimplantation Genetic Diagnosis and the Resulting Social, Ethical, and Legal Dilemmas*, 2002 *DUKE L. & TECH. REV.* 0012, 26.

8. Sciencedaily.com, *Americans Prefer to Leave Child's Gender to Chance, Survey Finds*, <http://www.sciencedaily.com/releases/2006/02/060216100344.htm> (last visited March 22, 2007).

9. American College of Obstetricians and Gynecologists, *Press Release, ACOG Opposes Sex Selection for Family Planning Purposes*, Feb. 1, 2007, http://www.acog.org/from_home/publications/press_releases/nr02-01-07-2.cfm.

A RIGHT TO CHOOSE? 1291

financial reasons, is the subject greater scrutiny and impassioned ethical debate.¹⁰

Currently, doctors and geneticists are able to diagnose more than five hundred separate medical conditions in a developing fetus.¹¹ Among these conditions are devastating genetic diseases such as hemophilia, Down syndrome, cystic fibrosis, Huntington's disease,¹² and Hunter syndrome. For many parents who know they are genetic carriers of a particular sex-linked disease (such as hemophilia), sex selection can increase the likelihood that their child will be born healthy. This is the essence of medical sex selection.

Non-medical sex selection procedures, on the other hand, are undergone for a variety of reasons, but few are as clear-cut as those cited for medical sex selection. As noted by the Ethics Committee of the American Society for Reproductive Medicine (ASRM),

there are at least four prominent motivations that have historically prompted prospective parents to desire a child of a particular gender: 1) a desire to bear and raise children of the culturally preferred gender, 2) to achieve gender balance among children in a given family, 3) to determine a gendered birth order, and 4) to ensure the economic usefulness of offspring within the family.¹³

One woman opined, regarding her own experience with non-medical sex selection, "I had to have a son this time . . . I dreamed that my husband was laughing and tossing the baby in the air. He had stopped doing that when our third daughter was born. His indifference to my daughters was palpable—to me even more so."¹⁴ Indeed, the motivations for non-medical sex selection are far-ranging and often emotionally charged.

B. Prenatal vs. Preimplantation Procedures

Sex-selection procedures can also be divided into two technical (and temporal) categories: (1) prenatal procedures; and (2) preimplantation procedures. Prenatal procedures are those that take place after conception and after implantation of the embryo in a woman's uterus. Preimplantation procedures take place even before the sperm or embryo is introduced into the woman's body.

1. Prenatal Procedures

In the first and second trimester, the sex of a fetus can be determined by amniocentesis, Chorionic Villus Sampling (CVS), maternal blood sampling, and

10. *Id.*

11. Roberts, *supra* note 7, at 7.

12. For a discussion of the devastating effects of Huntington's disease and the ramifications for those being genetically tested for the related gene, see Amy Harmon, *Facing Life with a Lethal Gene*, N.Y. TIMES, Mar. 18, 2007, at 11.

13. Judith Daar, *ART and the Search for Perfectionism: On Selecting Gender, Genes, and Gametes*, 9 J. GENDER RACE & JUST. 241, 265–66 (2005).

14. Andrea Krugman, Note, *Being Female Can be Fatal: An Examination of India's Ban on Pre-Natal Gender Testing*, 6 CARDOZO J. INT'L & COMP. L. 215, 219 (1998) (footnotes omitted).

ultrasound imaging.¹⁵ Each of these procedures is described in greater detail below. In a prenatal, non-medical sex-selection scenario, the pregnant woman would undergo one of these procedures and, based on the sex of the fetus, decide whether to continue the pregnancy.

a. *Amniocentesis and CVS*

In the early days of prenatal sex selection, only two options were available to determine the sex of a fetus: amniocentesis and CVS. Amniocentesis involves the withdrawal of a small amount of the amniotic fluid, which surrounds the fetus within the amniotic sac. The CVS procedure involves taking a small biopsy from the placenta.¹⁶ Both of these methods are invasive and carry some risk for both the mother and the fetus.¹⁷ Despite these risks, many women request these procedures. Indeed, some women who have no therapeutic reason to undergo the tests lie about their medical histories in order to convince their doctors that the tests are medically necessary.¹⁸

The timing of these two prenatal sex-determination methods often leave couples faced with the decision of whether to undergo a selective abortion as late as twenty-four weeks into the pregnancy. Such later-stage abortions—whether selective or therapeutic—often place the mother at higher risk for complications and are sometimes associated with higher levels of guilt and grief.¹⁹

b. *Ultrasound*

The expanded use of ultrasound technology in the late 1970s gave would-be parents a faster, less invasive means for determining the sex of a fetus. Using ultrasound imaging technology, health care providers were able to discern the sex of a fetus in the early months of pregnancy.²⁰ The relatively low cost, simplicity, and accessibility of ultrasounds have made it an integral part of most non-medical sex-selection decisions.²¹

c. *Maternal Blood Test*

One new and unproven method of prenatal sex determination is a maternal blood test. Acu-Gen Biolab's Acu-Gender test claims to detect not only the specific genetic marker for a male fetus but also the presence of a female-specific biomarker in the woman's blood sample as early as in the fifth week of pregnancy with "an unprecedented sensitivity and specificity."²² Such a test, if proven accurate and consistent, will provide another avenue for potential

15. Abby Lippman, Note, *Prenatal Genetic Testing and Screening: Constructing Needs and Reinforcing Inequities*, 17 AM. J. L. & MED. 15, 24 (1991).

16. Roberts, *supra* note 7, at 7.

17. American Academy of Family Physicians, *Prenatal Diagnosis: Amniocentesis and CVS*, <http://familydoctor.org/144.xml> (last visited Mar. 26, 2007).

18. See Gina Kolata, *Fetal Sex Test Used as Step to Abortion*, N.Y. TIMES, Dec. 25, 1988, at 1.

19. Roberts, *supra* note 7, at 7.

20. *Id.*

21. *Id.*

22. Acu-Gen Bio Lab, *Frequently Asked Questions*, http://babygendermentor.com/information.php?information_id=6 (last visited Mar. 12, 2007).

A RIGHT TO CHOOSE? 1293

parents to receive rapid sex determination results without undergoing invasive procedures and, notably, in the privacy of their own homes.

2. Preimplantation Procedures

Currently, the two preimplantation sex-selection procedures are available: (1) sperm sorting; and (2) Preimplantation Genetic Diagnosis (PGD).²³ These two technologies present an alternative for would-be parents who would prefer to predetermine the sex of their fetus rather than “waiting and seeing” before deciding whether to selectively abort.

a. Sperm Sorting

Sperm sorting is not a new method of sex selection. While early methods of sorting sperm were generally unreliable,²⁴ the quantity of sperm that can be accurately sorted and accumulated has improved in recent years. The Genetics and IVF Institute in Fairfax, Virginia, claims to have developed a reliable sperm-sorting technique, adapted from an older technique used in livestock.²⁵ The process uses a laser beam to detect florescent-dyed chromosomes within individual sperm.²⁶ Because the X chromosomes have 2.8% more DNA than the Y chromosomes, they glow brighter underneath the laser light.²⁷ After the sperm are identified as either X or Y, they are grouped using an automated sorting machine.²⁸

Previously, because of the small number of sperm that could be sorted, the sperm and egg had to be joined by *in vitro* fertilization (IVF).²⁹ However, if the Institute’s claims can be substantiated, sperm-sorting technology may have already evolved to the point where enough sperm can be sorted for use in intrauterine insemination (a form of artificial insemination where the sperm are introduced directly into the woman’s womb) or even traditional artificial insemination (where the sorted sperm are deposited vaginally), with a sex-selection accuracy between seventy-three and eighty-eight percent.³⁰

Artificial insemination is less burdensome and less costly than IVF because no eggs need to be harvested, and fertilization and implantation occur naturally inside the woman’s body.³¹ These factors make sperm sorting a financially viable option for most Americans. Additionally, because the sorted sperm can be stored, shipped, and used for insemination anywhere in the world, residents of rural and less developed areas could utilize the procedure. Despite recent

23. Rajani Bhatia et al., *Sex Selection: New Technologies, New Forms of Gender Discrimination*, CTR. GENETICS & SOC’Y (Oct. 2003), <http://genetics-and-society.org/resources/background/factsheet.html>.

24. Rachel Remaley, “The Original Sexist Sin”: *Regulating Preconception Sex Selection Technology*, 10 HEALTH MATRIX 249, 254 (2000).

25. *Id.* at 253.

26. *Id.*

27. *Id.*

28. *Id.*

29. *Id.* at 262.

30. *Id.* See also Genetics and IVF Institute, MicroSort General Information, <http://www.microsort.net> (last visited Mar. 26, 2007).

31. Remaley, *supra* note 24, at 262.

advances, however, sperm sorting remains less effective than the other, more costly and invasive methods of preimplantation sex selection.³²

b. *Preimplantation Genetic Diagnosis*

Preimplantation Genetic Diagnosis (PGD) is an alternative to sperm-sorting techniques. PGD is perhaps one of the most scientifically promising—and controversial—innovations in ART. PGD is the process by which embryos fertilized *in vitro* are screened for genetic disorders and sex.³³ After the eggs are withdrawn from the woman and fertilized *in vitro*, one cell, known as a blastomere, is removed from a cleaving embryo and tested for specific genetic conditions.³⁴ The process destroys the test cell because it must be glued to a glass slide and heated and cooled several times,³⁵ but it does not damage the developing six-to-ten-celled embryo.³⁶ This is because all of the embryo's cells at this stage of development are totipotent—having “all potential”—meaning these cells can differentiate into any type of human cell.³⁷ The PGD procedure simply stalls cell division for a few hours, a period that the embryo quickly overcomes to continue in its expected development.³⁸ The embryos with the desired genetic characteristic(s) are then implanted in the woman's body.

The advantage of PGD is that it can avert the twenty-five-to-fifty percent chance of passing on certain genetic abnormalities by giving would-be parents the opportunity to select, *in vitro*, only healthy embryos for implantation.³⁹ But, PGD also has drawbacks. A single PGD attempt comes with the hefty average price tag of \$15,000, and several attempts are often required.⁴⁰ Furthermore, IVF exposes the potential mother to significant risks, including potentially life-threatening ovarian hyper-stimulation syndrome or dangerous multiple births.⁴¹ Because of these drawbacks, the PGD procedure is not yet widely used for non-therapeutic purposes.

II. CURRENT APPLICATION OF SEX-SELECTION PRACTICES

The prevalence of sex-selection practices in India, China, and other parts of Asian has been widely reported. Population statistics reveal the alarming effects of such procedures: The 2001 Indian Census indicates a sex ratio of 933 females

32. STAFF BACKGROUND PAPER: THINKING ABOUT SEX SELECTION (President's Council on Bioethics, Working Paper 3a, 2002) (citing the success rates for the Genetics and IVF Institute sperm sorting technique as ninety percent for female children and a seventy-three percent success rate for male children).

33. Kimberly Downing, *A Feminist is a Person Who Answers “Yes” to the Question, “Are Women Human?”: An Argument Against the Use of Preimplantation Genetic Diagnosis for Gender Selection*, 8 DEPAUL J. HEALTH CARE L. 431, 433 (2005).

34. *Id.*

35. Daar, *supra* note 13, at 249.

36. *Id.*

37. *Id.*

38. *Id.*

39. Roberts, *supra* note 7, at 9.

40. Downing, *supra* note 33, at 433.

41. Bhatia, *supra* note 23.

A RIGHT TO CHOOSE? 1295

to every 1000 males.⁴² Recent Chinese census data suggest a similarly alarming trend in that country, where there were “116.9 male births for every 100 female births in 2000, up from 111.3 boys for every 100 girls born in 1990.”⁴³ When considering the magnitude of these figures in the global context, it is important to note that China and India account for more than thirty-eight percent of the world’s population.⁴⁴

A. Motivations for Sex Selection in India and China

One factor that contributes to the prevalence of non-medical sex selection in India and China is an entrenched patriarchal culture that values men and boys more than women and girls.⁴⁵ But such a culture is not unique to India, China, or Asia generally; rather, gendered power structures are common throughout the world.⁴⁶ Why then is the practice of sex selection so prevalent in these two nations? India and China share a similar mix of patriarchal culture; family structure; agrarian histories; rapid economic, technological, and scientific development; and robust governmental initiatives for population control. *In toto*, this proves a fatal mix for potential females.⁴⁷

1. India

In Indian culture, females are commonly viewed as an economic and social burden to their birth families.⁴⁸ For example, an old Indian proverb declares that, “Grooming a girl is like watering a neighbor’s garden.”⁴⁹ The reality of this unpleasant statement lies in the structure of Indian familial relationships and in the endurance of the outlawed dowry system.⁵⁰

Indian women need male offspring to secure their economic and social status; sons are responsible for supporting their parents in old age, where as daughters are thought to become part of their husbands’ families at marriage.⁵¹ Furthermore, sons may bring wealth into their birth family through a dowry payment—and an extra set of working female hands—as a result of marriage.⁵²

42. Census of India, Sex Composition of the Population, 2001, available at <http://www.censusindia.net/data/chapter6.pdf>.

43. Leslie Hollingsworth, *Ethical Considerations in Prenatal Sex Selection*, HEALTH & SOC. WORK, May 2005, at 128.

44. Felicia Lee, *Engineering More Sons than Daughters: Will it Tip the Scales Toward War?*, N.Y. TIMES, July 3, 2004, at B7.

45. See, e.g., Downing, *supra* note 33.

46. *Id.*

47. See, e.g., Reed Boland, *Civil & Political Rights and the Right to Nondiscrimination: Population Policies, Human Rights, and Legal Change*, 44 AM. U. L. REV. 1257 (1995); Carla Power, *But what if it's a girl?*, NEW STATESMAN (London), Apr. 24, 2006, available at <http://www.newstatesman.com/200604240018>.

48. Downing, *supra* note 33, at 440.

49. *Id.*

50. This practice has been noted across geographic, educational, and economic boundaries. See *infra* notes 54–57 and accompanying text.

51. Krugman, *supra* note 14, at 223.

52. *Id.* See also *India's Female Freefall*, CNN.COM, June 19, 2001, <http://edition.cnn.com/2001/WORLD/asiapcf/south/06/19/india.ultrasound/index.html>.

Indeed, sons may receive favorable treatment throughout their lives: Some evidence suggests that sons are fed more nutritious food, receive better educations, and are more likely to inherit property.⁵³

In India, it is still customary—although illegal—for the bride's family to pay a marriage dowry to the groom's family. The dowry system originated with a traditional practice known as *streedhan*, in which the bride's relatives gave gifts of property to the groom's family.⁵⁴ Because women once lacked the ability to inherit property, the system provided a way in which daughters could share in their parents' assets.⁵⁵ Today, the dowry system is often out of control, with dowries and wedding expenses regularly costing upper-class brides' families over one million rupees (approximately U.S. \$35,000) per daughter, in a country where the average civil servant earns about 100,000 rupees (approximately U.S. \$3500) per year.⁵⁶ Dowry payments can prove as dangerous to the brides as they are costly to the families; since 1990, more than 20,000 brides have been killed, usually by immolation, because their husbands were unhappy with the amount or promptness of their dowry payment.⁵⁷

Given the social and economic ramifications of raising a daughter in India, it is not difficult to understand why would-be parents—male and female alike—would desire only male offspring. What is more, the wife is sometimes blamed if she gives birth to girls.⁵⁸ Indeed, it is a common practice for in-laws to threaten their daughters-in-law with punishment if they fail to produce a son; many young Indian women have been beaten or divorced for not bearing sons.⁵⁹

The Indian government has encouraged smaller families and family planning through a combination of financial incentives and public campaigns calling families to have, at most, two children. This only increases the pressure on women to have sons because parents have but two chances.⁶⁰ These pressures have led many Indian couples to seek out prenatal sex selection as a way to prevent the births of unwanted daughters.⁶¹ In abusive situations, pregnant women may be forced to undergo fetal-sex-determination procedures and then coerced to abort if the fetus is female.⁶² More frequently, however, women choose sex selection rather than dealing with the negative consequences of having a daughter. One Indian doctor noted, "I don't know any woman who's pregnant whose [sic] got daughters who doesn't know where it is done, how

53. *Id.* at 222.

54. Downing, *supra* note 33, at 440.

55. *Id.*

56. Krugman, *supra* note 14, at 224 (alteration added).

57. *Id.* See also Amelia Gentleman, *Brides Pay the Price for Indian Dowry Fever*, INT'L HERALD TRIB., Oct. 23, 2006, at 2.

58. Bhatia, *supra* note 23.

59. *Id.* See generally also Guttmacher Institute, *Indian Women Who Have Daughters but no Sons Face an Increased Risk of Marital Dissolution*, 30 INT'L FAMILY PLANNING PERSP. 48–49 (Mar. 2004), available at <http://www.guttmacher.org/pubs/journals/3004504a.pdf>.

60. Baldauf, *supra* note 2.

61. *Id.*

62. Bhatia, *supra* note 23.

A RIGHT TO CHOOSE? 1297

much it costs and she doesn't care what the boy/girl ratio in the country or the world is, she wants a son and she's willing to kill her daughter for that"⁶³

Those hoping to minimize sex-selective abortions have long argued that the procedure predominates among the poor, who cannot afford the extra costs associated with female children.⁶⁴ However, multiple studies demonstrate that sex selection is commonplace among India's well-educated middle class living in the most affluent part of south Delhi.⁶⁵ One such study in Western India affirmed this conclusion and shed light on the social realities of middle- and upper-class women, finding:

[S]ex-selective abortion-seekers were significantly more likely to come from joint families and were better off economically than women who had abortions for other reasons. However, they had less autonomy and mobility, and were less likely to play a major role in family decision-making. They were also less likely to have an independent source of personal income and even when they did earn money, a significantly lower proportion of these women were able to keep or spend their earned income.⁶⁶

These results suggest that personal autonomy and family influence are of greater consequence than economic status in shaping women's decisions to undergo sex-selective abortions.

Whatever their reasons, Indian women from all classes have been selectively aborting female fetuses at high rates for many years. One UNICEF study reported that, in 1984, 8000 Indian women underwent abortions after obtaining the results of sex-determination ultrasounds; 7999 of those fetuses were female.⁶⁷ In the twenty-three years since, with more accessible technology and push for smaller families, those numbers have grown steadily.⁶⁸

2. China

In China, patriarchal family structures and inheritance practices—coupled with the notorious One Child Policy—create similar, if not more extreme, pressures on Chinese women.⁶⁹ In the rural Fujian Mountains, where couples are allowed to have two children if the first is a girl,⁷⁰ the pressure to have a boy as a second child is colossal. Upon the birth of her second child, a normally joyous occasion, Liao Yanqing claims “to have seriously contemplated suicide because

63. Nat'l Pub. Radio, *All Things Considered: India Confronts Gender-Selective Abortion* (radio broadcast, Mar. 21, 2006), available at <http://www.npr.org/templates/story/story.php?storyId=5293148> (last visited Mar. 12, 2007).

64. Baldauf, *supra* note 60.

65. *Id.*

66. Bela Ganatra et al., *Sex-Selective Abortion: Evidence from a Community-Based Study in Western India*, ASIA-PACIFIC POP. J., June 2001, at 113.

67. Downing, *supra* note 33, at 431.

68. Baldauf, *supra* note 60.

69. Alexa Olesen, *China Sticking to One-Child Policy*, WASH. POST (online ed.), Jan. 23, 2007, available at <http://www.washingtonpost.com/wp-dyn/content/article/2007/01/23/AR2007012300398.html>.

70. *China Steps up "One Child" Policy*, BBC NEWS, Sep. 25, 2000, <http://news.bbc.co.uk/2/hi/asia-pacific/941511.stm>.

the baby was another girl.”⁷¹ Stories like this one are not uncommon among Chinese women. However, but as the reality of China’s “missing girls” becomes more palpable, even young men experience the consequences.⁷²

Recently, Chinese men have begun to protest the fact that Chinese women are selecting only men of the highest economic status as mates, and Chinese society, accustomed to a nearly universal rate of marriage, is faced with finding a solution for the many men who do not have mates.⁷³ For generations, the Chinese have considered male bachelors, previously an unusual occurrence in the society, as “bare branches”—poor young men who face a future with no marriage or offspring.⁷⁴ Some scholars argue that the only way for society to absorb the increasing number of bare branches is to engage them in the military, partially in an effort to occupy their time and prevent them from becoming a “volatile social force.”⁷⁵

B. Sex Selection in the United States

The United States is not immune to the temptations offered by sex-selection techniques. In one study, twenty-five percent of American couples claimed that they would consider utilizing a pre-implantation sex selection technique.⁷⁶ And although American attitudes towards women differ significantly from those in many parts of the world, the demand for male offspring is still apparent, with “81 percent of men and 94 percent of women admitting that they would desire their first child to be a boy.”⁷⁷ Interestingly, the preference for a male firstborn is greater among African Americans and Hispanics than among White Americans.⁷⁸ The preference for males and firstborn males, though subtle, indicates that gender stereotypes and inequities still exist in parental decision-making in the U.S. today.

Demand for PGD and sperm-sorting services in the U.S. seems to be on the rise.⁷⁹ Additionally, thousands of Americans are reported to visit catchy, non-scientific web sites, such as www.choosethesexofyourbaby.com and www.myboyorgirl.com, every day; many such sites even tout money back guarantees if the desired sex is not achieved.⁸⁰ Many of these American couples are seeking what has been dubbed “gender variety” or “family balancing”—both euphemisms for the belief that families should have at least one child of each sex, perhaps in a certain order.⁸¹

71. Jim Yardley, *Fearing Future, China Starts to Give Girls Their Due*, N.Y. TIMES, Jan. 31, 2005, at A3.

72. Hollingsworth, *supra* note 43, at 129.

73. *Id.*

74. Lee, *supra* note 44.

75. *Id.*

76. Roberts, *supra* note 7, at 26.

77. *Id.*

78. Hollingsworth, *supra* note 43, at 126.

79. Claudia Kalb, *Brave New Babies*, NEWSWEEK, Jan. 26, 2004, at 38.

80. *Id.*

81. Bhatia, *supra* note 23.

A RIGHT TO CHOOSE? 1299

However, even in the U.S., some would-be parents hope to avoid female births. Ads touting sex selection techniques have appeared in leading newspapers, such as *The New York Times*, and in newspapers with large immigrant readership, such as the North American editions of *Indian Express* and *India Abroad*, which have specifically targeted South Asians living in the United States⁸² with headlines including “Desire a Son?” and “Choosing the sex of your baby: new scientific reality.”⁸³ American and Canadian therapists and counselors who work with families of South Asian heritage indicate that, whether it comes from family, culture or personal desire, the pressure on these immigrant couples to have at least one son is just as powerful here as it is in their native countries.⁸⁴

As in China and India, sex-selection in the U.S. is big business. As *Fortune* magazine reported,

Each year, some 3.9 million babies are born in the United States. In surveys, a consistent 25 percent to 35 percent of parents and prospective parents say they would use sex selection if it were available. If just 2 percent of the 25 percent were to use [Microsort’s new sperm sorting technology], that’s 20,000 customers . . . and a \$200-million-a-year business in the US alone.⁸⁵

This figure is even larger if you consider the business realized by U.S. companies marketing sex-selection equipment and technology abroad. General Electric, for example, has the largest market share of ultrasound machines in India and sold a disproportionate number of machines in Northwest India, where the preference for boys is strongest and sex ratios are the most skewed in that country.⁸⁶

While Americans continue to export materials integral to sex-selective abortions elsewhere in the world, they tend to favor preimplantation methods of sex selection over sex selective abortion for their own use.⁸⁷ Given the preference of Americans for preimplantation sex selection, as compared to sex-selective abortion, it seems likely that PGD will be embraced by a number of Americans. It also is possible for Americans to embrace the idea of using PGD to select traits other than sex when and if such selection becomes available. Sperm and egg donor registries in the U.S. are already filled with information on height, weight, education, skin tone, and occupation.⁸⁸ The question of whether parents should be allowed to control such genetic attributes through PGD technology is an often-debated ethical issue not likely to diminish in the coming years.

82. *Id.*

83. Susan Sachs, *Clinics’ Pitch to Indian Émigrés: It’s a Boy*, N.Y. TIMES, Aug. 15, 2001, at A1.

84. *Id.*

85. STAFF BACKGROUND PAPER, *supra* note 32 (quoting Meredith Wadman, *So You Want a Girl?*, FORTUNE, Feb. 19, 2001, at 174).

86. Bhatia, *supra* note 28.

87. Susan Faust, *Baby Girl or Baby Boy? Now You Can Choose: A Look at New Biology and No Law*, 10 ALB. L.J. SCI. & TECH. 281, 295 (2000).

88. Roberts, *supra* note 7, at 31.

III. THE REPERCUSSIONS OF SEX SELECTION PRACTICES

A. Population

As discussed above, sex selection can have a staggering effect on population sex ratios. In the natural state, approximately 105 to 106 males are born for every 100 females. However, because males tend to die at a slightly higher rate than females, males and females are equally represented in the general population.⁸⁹ In India, by contrast, the number of females per 1000 males aged zero to six dropped from 945 in 1991 to 927 in 2001. “In New Delhi and Mumbai, [two of the nation’s population centers,] fewer than 900 girls were born for every 1000 boys. In one district in Punjab region, the census revealed [only] 754 girls for every 1000 boys”⁹⁰

Some population-control experts have suggested that sex-selection technology serves as a tool to control population growth in underdeveloped countries, such as India. This position posits that couples who are able to have a child of the desired sex—presumably male—will have no need to “keep trying,” resulting in slowed population growth.⁹¹ On the other hand, it is conceivable that some couples would want to have as many children as possible if they could be assured of having only *male* children. Thus, it is possible that percentage of women in the population could drop significantly while the overall population grows or stays the same.⁹²

B. Exacerbated Class Disparities

Concomitant with the arrival of new and expensive technology comes the concern that its fruits will not be shared equitably among the haves and the have-nots. While one doctor in India speculates that “the expense, limited availability and comparative inefficiency of sexing by embryo biopsy [PGD]’ make it unlikely to significantly impact the gender ratios of any populations,”⁹³ others worry less about the impact of new preimplantation technology on sex ratios and more about the possibility that groups of lower socioeconomic status will be left with older, less desirable sex-selection methods. In other words, low-income, poor, and rural families in India and China will be left with traditional, less seemly methods of sex selection, such as abortion and infanticide, while the growing upper and middle classes will have access to the costly and more time-consuming PGD technology that carries with it less societal stigma and fewer emotional consequences on the mother.⁹⁴

Another doctor surmises that the current effects on society from the use of PGD and similar technologies are insignificant, but thinks that eventually, wealthy parents will be able “create” children who are more robust and less

89. Remaley, *supra* note 24, at 277.

90. Downing, *supra* note 33, at 442.

91. Krugman, *supra* note 14, at 232.

92. *Id.*

93. Roberts, *supra* note 7, at 25.

94. See John Robertson, *Procreative Liberty in the Era of Genomics*, 29 AM. J.L. & MED. 439, 462 (2003).

A RIGHT TO CHOOSE? 1301

prone to disease.⁹⁵ Moreover, he argues that this effect, when considered in conjunction with the fact that children from affluent families generally have the additional advantage of enhanced home environments, will further widen the growing divide between haves and the have-nots.⁹⁶

C. Effects on Women

Women around the globe struggle against gender discrimination and misogyny. The subordination of women is even more pronounced in highly patriarchal and gendered societies such as those in India and China. Societies in which men significantly outnumber women—called “high sex ratio” societies—tend to relegate women even more to the traditional role of homemaker, limit in numerous ways women’s political and financial resources, and minimize the number of women holding any positions of power or involved in any lobbying efforts.⁹⁷

Some scholars have argued that the economic principle of supply and demand should operate in high sex ratio societies to the benefit of women—that is, a scarcity of women in society should lead to an increased valuation of women, as reflected through decreased dowry prices, higher bride prices paid by potential husbands, and the overall better treatment of women.⁹⁸ Others predict different results if market forces are left to do their work. These analysts claim that, if there are not enough acceptable brides to go around, men in patriarchal societies “will take by force what they cannot get legally;”⁹⁹ in other words, rape, kidnapping, prostitution and trafficking of women would increase, further undermining the status of women.¹⁰⁰

D. Ethical Ramifications

In addition to exacerbating social ills, sex selection raises important moral and ethical issues. As one scholar noted, “[t]he potential for baby shopping—selecting a child’s gender (or, hypothetically, eye-color, intelligence and athletic ability)—commoditizes fetuses, poses a threat of discrimination, and undermines diversity in our society” and thus, promotion of such agendas should not be treated as ethical.¹⁰¹ Others claim that ethical opinions on the issue vary widely and that it is unfair for those who are bothered by sex selection to impose ethical limitations on those who believe the practice is harmless or even beneficial.¹⁰²

Although the ethical issues surrounding sex-selection have attracted some scholarly attention, they have received comparably little popular attention.

95. Roberts, *supra* note 7, at 36.

96. *Id.*

97. *Id.*

98. *Id.*

99. *Id.* at 227.

100. *Id.*

101. Downing, *supra* note 33, at 437.

102. See generally David McCarthy, *Why Sex Selection Should be Legal*, 27 J. MED. ETHICS 302, 302 (2001).

Neither the morality of choosing for sex, nor the eventual societal effects of widespread sex selection, nor the eugenic implication of this practice have garnered the same kind of public focus as has, for example, human cloning. This is somewhat surprising, given that while cloning is but a possibility on the horizon, sex selection is practiced today.¹⁰³

Public dialogue on this issue would help raise awareness of both the potential benefits and hazards of sex selection.

IV. NATIONAL RESPONSES TO SEX SELECTION PRACTICES

Some of the nations hit hardest by the negative effects of sex selection have enacted legislation that attempts to curb the practice. Such laws, though well-intentioned, tend to fall short of their stated goals because of poor enforcement, the under-inclusiveness of the laws themselves, governmental corruption, and strong opposition from some medical professionals. Other nations chose to act proactively by limiting the scope of sex-selection practices before they became widespread, while still others have failed to address this issue at all.

A. India

In 1994, the Indian Government passed The Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act.¹⁰⁴ This act prohibited doctors, clinics, and all other persons from using prenatal diagnostic techniques, including ultrasound, to determine the sex of a fetus.¹⁰⁵ They were also prohibited from referring patients to other clinics for such a procedure.¹⁰⁶ The law allowed for prenatal diagnostics, including ultrasound, to be used only when there is an independent medical need, such as age of the mother or a previous miscarriage.¹⁰⁷ First offenders faced a penalty of up to three years imprisonment and a 10,000 rupee fine, and repeat offenders faced up to five years imprisonment and a 50,000 rupee fine.¹⁰⁸

The law also banned all advertising for facilities providing prenatal sex determination; those who issued, distributed or published such advertisements faced up to three years imprisonment and a 10,000 rupee fine.¹⁰⁹ Legislators believed such a strict law was necessary to curb the explosion of dramatic advertisements for clinics with such headlines as “spend 500 rupees today and save 50,000 rupees tomorrow” on the sides of buses and in commercials at movie theaters.¹¹⁰

The law also established a rebuttable presumption that any woman undergoing such a diagnostic procedure illegally was compelled to do so by her

103. STAFF BACKGROUND PAPER, *supra* note 32.

104. The Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, No. 57 of 1994; India Code (1994), available at <http://nrcw.nic.in/shared/sublinkimages/78.htm>.

105. *Id.*

106. *Id.*

107. *Id.*

108. *Id.*

109. *Id.*

110. Krugman, *supra* note 14, at 217.

A RIGHT TO CHOOSE? 1303

husband or another relative.¹¹¹ That husband or relative, unless he or she could prove that the pregnant woman was not coerced, was subject to conviction and the three-year imprisonment and a 10,000 rupee fine.¹¹²

In 2003, in light of the advent of PGD technology, the Indian Government amended the 1994 Act.¹¹³ The amended version, renamed The Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act, limits the use of the newest pre-implantation procedures, including PGD, to those situations in which their use is medically indicated.¹¹⁴

This amended version also sought to clamp down further on ultrasound providers by requiring registration and detailed records for each machine.¹¹⁵ Soon after the 1994 Act, it became clear that such a provision was necessary because thousands of black-market entrepreneurs had established portable "clinics," consisting of battery-powered ultrasound machines installed in the back of large vans.¹¹⁶ Portable ultrasounds were not technically covered under the 1994 Act, because that Act focused on the physical clinics rather than the machines themselves.¹¹⁷ Rural villages, home to over three quarters of the Indian population, were particularly ripe markets for mobile ultrasound machines.¹¹⁸ Mobile ultrasound is an estimated \$100 million business in India, despite statutory prohibitions on the practice.¹¹⁹

It is not yet clear, however, whether the 2003 amendments have significantly curtailed the operation mobile or stationary ultrasound clinics. Indian officials acknowledge that the law is poorly enforced: Indeed, while over 300 doctors have been prosecuted in India for violating the law, only a handful of them have actually been convicted.¹²⁰ Indian officials also claim they have experienced significant "pressure and lobbying" from the medical community not to prosecute doctors who have been caught, usually through the use of hidden cameras, revealing the sex of a fetus.¹²¹

In an effort to force the central and local governments to comply with the 2003 law, non-governmental organizations have repeatedly filed suit in the Indian Supreme Court. In a 2003 case, the Court acknowledged that the law was improperly implemented but claimed that the Court itself could do no more

111. *Id.*

112. *Id.*

113. The Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) (Amendment) Act, 2003, No. 14, Acts of Parliament, 2003, available at http://www.medindia.net/Indian_Health_Act/PNDT/PNDT2002.asp (last visited March 12, 2007).

114. Seema Kamda, *Sex Selection Law Tightened*, ECON. TIMES, June 6, 2003, available at 2003 WL 4462779.

115. *Id.*

116. Krugman, *supra* note 14, at 230.

117. *Id.*

118. *Id.*

119. Baldauf, *supra* note 60, at 1.

120. Ganapati Mudar, *Doctors in India Prosecuted for Sex Determination, But Few Convicted*, BRITISH MED. J., Feb. 4, 2006, <http://bmj.bmjournals.com/cgi/content/full/332/7536/257-c>.

121. *Id.*

than urge local governments to comply with its previously issued directives to enforce the statute as written.¹²²

B. China

The Chinese Government, much like the Indian Government, has issued a regulation banning sex-selective abortions and criminalizing ultrasounds and other prenatal sex-determination procedures.¹²³ The regulation mandates that ultrasound scans, abortions, and the issuance of morning after pills can be done only at government-approved centers, and that three doctors must agree that a sex-identification test is medically indicated.¹²⁴ Subsequently, an amendment was submitted to the Standing Committee of the National People's Congress in 2005 that extends the scope of the regulation to anyone who assists another with fetal sex selection; those found in violation of the regulation or amendment face hefty fines and a three-year jail sentence.¹²⁵

To date, there has been little indication as to whether the Central Chinese Government is willing to pursue criminal sanctions for those involved in sex selection. Twenty-nine provincial congresses, however, have already enacted laws outlawing sex-selection procedures that are not medically necessary.¹²⁶ It remains to be seen whether these penalties will act as actual deterrents from sex selection or whether they will simply push such activity underground, as in the case of mobile clinics in India.

C. Western Nations

While several European countries¹²⁷ and Canada¹²⁸ have prohibited the use of PGD for non-medical genetic selection, there is no such prohibition in the United States.¹²⁹ Indeed, there is little movement for a prohibition in the U.S.,¹³⁰ and several U.S. clinics openly advertise and perform PGD for sex selection.¹³¹

One explanation the relative inactivity in the U.S. can be gleaned from the results of a 1994 study in which 2903 geneticists and genetic counselors worldwide were asked their reasons for providing or not providing pre-natal diagnosis for fetal sex.¹³² American respondents placed the highest value on

122. *Ctr. for Enquiry into Health & Allied Themes v. Union of India*, 4 I.L.R. 107 (S.C. 2003).

123. Gao Yan, *Sex-selection Abortions Banned to end Population Imbalance: Mainland Doctors Performing Ultrasound Scans Will not be able to Tell Parents the Gender of Their Babies Under a New Law*, SOUTH CHINA MORNING POST, Mar. 25, 2002, <http://www.laogai.org/news/newsdetail.php?id=1996>.

124. *Id.*

125. Liu Chang, *Jail for Those who Help Sex Selection*, CHINA DAILY (online ed.), Dec. 26, 2005, http://www.chinadaily.com.cn/english/doc/2005-12/26/content_506443.htm.

126. *Id.*

127. Kalb, *supra* note 79, at 38.

128. Bhatia, *supra* note 23.

129. *Id.*

130. *Id.*

131. *Id.*

132. See generally Dorothy Wertz & John Fletcher, *Ethical and Social Issues in Prenatal Sex Selection: A Survey of Geneticists in Thirty-Seven Nations*, 46 SOC. SCI. & MED. 255 (Jan. 1998).

A RIGHT TO CHOOSE? 1305

individual autonomy, the professional's role and personal integrity, the moral status of the fetus, and family psychodynamics; respondents in many developing countries focused greater attention on societal effects, limiting the birth rate, and the status of women.¹³³ The American focus on individuals and autonomy rather than on society may account for the reluctance to take a stand either for or against sex-selection procedures. Additionally, abortion providers and their supporters in the U.S.—already under significant pressure from anti-abortion groups—may be unlikely to support a measure that could be seen as hindering in any way a woman's right to reproductive autonomy.¹³⁴

V. REPRODUCTIVE CHOICE?

The debate surrounding sex selection is a loaded one for feminist scholars. Those who would ordinarily be concerned most by the negative impacts of sex selection on women and on society—namely feminists and women's rights activists—are often torn between their support for reproductive autonomy and their distaste for sex-selection practices driven by a gendered and patriarchal society.¹³⁵ Sex-selective abortion procedures place feminists in a difficult moral quandary: “can abortion-rights activists demand that limits be placed on a woman's right to choose?”¹³⁶

On the one hand, traditional liberal feminism teaches that liberty and autonomy—particularly reproductive autonomy—provide the foundation for formal equality.¹³⁷ In many ways, women in India, China, and the rest of the world are exercising their reproductive autonomy when they choose to end a pregnancy that, if carried to term, could significantly hinder their hopes for their future or their social stability. In fact, one could even argue that a preference for male children is a legitimate, rational, economic, and socially maximizing choice for women in gendered and patriarchal societies.¹³⁸

This autonomy approach is fueled by anti-paternalistic and imperialistic ideas about the exercise of privilege. Affluent Western men and women—often the first to challenge oppression in the developing world—sometimes fail to recognize that their privilege prevents them from truly understanding the needs and desires of oppressed women worldwide, and thus they erroneously assert, like the actual oppressors, that they alone know what is good for these women.

On the other hand, traditional liberal feminism asserts that patriarchal systems of sex preference and valuation can never be tolerated because such systems will lead to the further subjugation of women and minorities elsewhere in society.¹³⁹ Feminists following this line of logic would argue that paying any attention to the gender of an offspring is inherently sexist, particularly when

133. *Id.* at 265.

134. *Id.* at 272.

135. *See, e.g.,* Krugman, *supra* note 14.

136. *Id.* at 231.

137. *See, e.g.,* ROSEMARIE TONG, *FEMINIST THOUGHT: A MORE COMPREHENSIVE INTRODUCTION* (Westview Press 1998) (1989).

138. Krugman, *supra* note 14, at 232.

139. Tong, *supra* note 137.

social attitudes play such an important role in constructing parental and societal sex-role expectations and behaviors.¹⁴⁰

This author believes that decreasing the number of women and girls through sex selection will diminish the political and economic power of women overall; women will become more isolated from one another and even more locked into traditional homemaking roles. Furthermore, it is reasonable to assume that the context in which most women around the world deal with sex selection is not truly autonomous. To pretend that women facing economic and social pressures to choose sex selection nevertheless are autonomous—an assumption made only for the sake of encompassing them within traditional Western feminist ideology—is impractical and undesirable.

Moreover, there is disagreement within the feminist community regarding whether legislation in the area of sex selection will set a precedent for other restrictions on reproductive freedom.¹⁴¹ The various strategies of anti-sex-selection activists reveal a great deal about the intersections of the sex selection and reproductive choice issues. One Indian activist speaks of organizing mock funerals at the homes of families who have aborted a female fetus:

We mourned the death of a girl child just the way people mourn at a funeral to make people aware that she's been killed before she could be born. They feel that they've done something wrong, and they start to question why they did it, and they say they shouldn't have done it.¹⁴²

In a similar vein, opponents of PGD often cite the sanctity of the embryo or, as these proposals call it, an “unborn child” or “living human concepts.”¹⁴³

Arguments styling embryos as humans with rights similar, if not equal to, the women who carry them are no doubt offensive to the sensibilities of those who respect a woman's right to control her body and her reproduction. If such arguments gained legal and political acceptance, reproductive freedoms would be compromised. At the same time, such arguments provide one of only a few ways to combat a procedure that perpetuates oppression and patriarchy.

The feminist conundrum in the area of sex selection is indicative of the true nature of the issue itself. The problem is multifaceted and solutions are difficult to find.

VI. A WORKABLE PLAN

A. Enforcement of Existing Law

The existing laws and regulations aimed at stemming the flood of non-medical sex-selection procedures in India and China are imperfect. In order to truly eliminate the practice of sex selecting against female fetuses, significant changes need to be made to existing social, familial, and economic structures—not just to the laws of the land. But cultures do not change overnight, and it is

140. Robertson, *supra* note 94, at 463.

141. Remaley, *supra* note 24, at 289.

142. *India Confronts Gender-Selective Abortion*, *supra* note 57.

143. See, e.g., Bratislav Stankovic, “It’s a Designer Baby!”: *Opinions on Regulation of Preimplantation Genetic Diagnosis*, 2005 UCLA J.L. TECH. 3 (2005).

A RIGHT TO CHOOSE? 1307

little wonder that activists against sex selection have been focusing public attention on regulating the technology that makes such choices possible, usually the ultrasound.¹⁴⁴

While even robust enforcement of these laws would not stop someone truly bent on determining the sex of their fetus and avoiding female births, accurate and effective enforcement may deter women who are ambivalent about sex selection or are coerced to undergo such a procedure. Effective enforcement of existing prenatal sex selection laws will also curb doctors' willingness to perform the procedure, and costs—both financial and professional—would increase for those still willing to risk the consequences. In order to achieve more effective enforcement, governments should implement incentive programs, heightened training for enforcement officials, and increased rewards for whistleblowers willing to report illegal behavior. Such measures will create greater ability and willingness among local governments and citizens to enforce the law.

B. Creative solutions to encourage valuing female children

In the Indian state of Haryana, there are only 874 women per 1000 men.¹⁴⁵ To ameliorate this problem, the state government decided to experiment with a scheme designed to combat some of the root causes of sex bias. The government invests 2500 rupees in the name of a newborn girl in a savings plan designed to yield 25,000 rupees when the girl reaches eighteen, the legal age of marriage. At eighteen, the girl can use the money for maintenance of herself or her family, or use it for a dowry, as many families still insist upon despite the illegality of the practice, thus minimizing the economic stress her family would have in paying a dowry or other expenses from its own finances. While enrollment in the plan is restricted to families with an annual income below 11,000 rupees and with no more than two children, the applicability of such a scheme is broad.¹⁴⁶

Similarly, the Chinese Government “has introduced a test program under which about 300,000 rural elderly people are receiving annual pensions of \$180, a good amount in the countryside, if they had only one child or if they had [only] daughters.”¹⁴⁷ The daughters also are allowed to attend school free of charge throughout their education.¹⁴⁸ Again, the program is small given the rural Chinese population, but the idea is laudable.

These two pilot projects suggest an alternative means of combating the sex-selection problem. By creatively ameliorating some of the specific problems residents encounter without sex selection, such programs make it easier for people to let nature take its course. Stipends, free primary, secondary and higher education for women, inexpensive loans, government welfare contracts, and pension plans are all possible incentives to end sex-selection practices.

144. Baldauf, *supra* note 60, at 1.

145. Krugman, *supra* note 14, at 234.

146. For general information on this plan, see *id.*

147. Yardley, *supra* note 71.

148. *Id.*

C. Education for Women and Laws for Equality

In a recent study on democracy in Muslim countries, Professor Steven Fish examined 150 countries with populations over 500,000 and concluded that “the status of women, more than anything else, explained the strength or weakness of [the] democracy.”¹⁴⁹ Two important indicators of the status of females, he noted, were sex ratios and the gap in literacy between men and women.¹⁵⁰ This observation is particularly relevant in the Indian context where democratic stability is still a key issue. In India, where half the males are literate, less than a quarter of the female population is literate.¹⁵¹

General literacy programs, education for women, and better anti-discrimination laws not only enhance political stability, they also tend to increase economic and sex ratio stability. The best example is in the Indian state of Kerala, where sex selection for births has been largely overcome through improvements in education and inheritance laws for women. As a result, Kerala was the only state in India that had a higher population of females than males in 1991.¹⁵²

While stabilizing democracy is not a political concern of the Chinese government, the development of its growing tourism, science and technology, and manufacturing industries is a financial concern. Encouraging women’s literacy and education programs like the pilot program described above¹⁵³ will not only help to strengthen the work force for China’s rapidly expanding economy, but will also encourage the societal valuation of girls and women and will promote greater willingness of families to carry girl children to term and to raise them as only children.

D. Organizing and Mobilization

It is imperative that organizations such as those that sued to enforce India’s 1994 sex selection law remain active forces in the fight against harmful sex-selection practices and against the subjugation of women in general. Women’s and human rights groups need to overcome their avoidance of sex-selection issues based on reproductive rights grounds and must discern and guard against potentially harmful advances in medical and genetic technology. Both government and private-sector actors should be educated as to the effects of such technology on those at the margins of society and on society as a whole.

E. Possibilities for the United States and other Western Nations

Some supporters of access to PGD for non-medical sex selection advocate a requirement that clinics maintain a 1:1 sex ratio in their PGD practices. However, such an approach does not address sex selection’s other harms,

149. Lee, *supra* note 44.

150. *Id.*

151. Krugman, *supra* note 14, at 234.

152. *Id.* at 235.

153. Yardley, *supra* note 71.

A RIGHT TO CHOOSE? 1309

including increased discrimination against women and potential physical and emotional affects on children born of such technologies.¹⁵⁴

Another suggestion already adopted by several nations is banning pre-conception sex- and trait-selection practices when they are not medically indicated. The European Council, for example, held a human rights and biomedicine convention to oversee the creation of a bioethical standard for the European nations.¹⁵⁵ “With regard to sex selection, the Council prohibited medically-assisted sex selection except where it is necessary to avoid a serious hereditary sex-related disease. It is left up to the internal law of the countries to determine the ‘seriousness of a hereditary sex-related disease.’”¹⁵⁶

Such an approach may be most promising in the United States. It allows for the medical benefits associated with PGD and similar technology but prohibits more experimental, and ethically questionable, procedures until they can be further evaluated and discussed. Additionally, this approach could be supported by feminists and reproductive rights advocates without creating the conflicts of interests that might accompany a ban on prenatal procedures, such as ultrasound and selective abortion.

VII. CONCLUSION

Sex-selection technology is a multi-headed hydra of medical breakthroughs, societal problems, genetic mysteries, and ethical quandaries. Identifying approaches to deal with the old and new sex-selection technologies will prove to be a challenge at the state, national, and international level for years to come. In searching for ways to ameliorate the extant and potentially negative effects of sex selection, it is important to strike a balance between the autonomy of the individual—whether parent, family member, or doctor—and the welfare of society as a whole.

In the U.S., comprehensive legislation should be enacted to eliminate the potential for harmful sex-selection practices and to manage ethically new sex-selection technology. In India, China, and other parts of Asia, effective sex-selection practices will include enforcement mechanisms for existing anti-sex-selection laws coupled with incentive programs for families with daughters and improved educational access for women. While such plans are currently necessary to begin curbing the troubling tide of non-medical sex selection, they can be only partially effective. A true change in the practice can be achieved only by confronting the deep, societal roots of gender preference.

154. Remaley, *supra* note 24, at 292–93.

155. Faust, *supra* note 87, at 301.

156. *Id.*