CHAPTER 6

6.1 NEW REPRODUCTIVE TECHNOLOGIES AND SEX SELECTION

Technological progress is always hailed. Technological developments worldwide happen at a pace which was quite unthinkable a few years ago. Unfortunately control over technology in a free market economy is minimal and is not adequate to bring about sufficient protection in terms of rights.

The term “misuse of technology” has new dimensions when the progress for means of “innocent” technology is high. This is true with technology which is used for pre selection and sex determination.

The effect is definitely negative, but what should be the remedy? Should it be an outright ban on the technology or its regulation with its own problem?

The debate is complicated by various arguments raised primarily by manufacturers, sellers, patients and doctors who stand to gain by such technology. Many of these arguments claimed to be based on feminism and medical ethics.

In the context of sex determination and sex pre-selection, what is the stand taken by feminists and can the solution they proposed be used? Again, how effective is medical ethics in a scenario of this nature? So far self regulation as an option seems to have failed miserably. What must be explored is a way to make medical ethics in this context more meaningful by not just legislation but a law which is implemented.

The research questions partially dealt with in this chapter are:

5. How do the various laws and policies dealing with reproductive rights, technology and crime impact-

1. Sex selection trends.

2. The implementation of law relating to sex selection.

Assuming law to be one way of tackling this social problem what can be done in order to ameliorate the current situation?
The chapter looks at the technology as well as the policy behind regulating technology. Although the Preconception and Prenatal Diagnostic Technique Act, the law relating to technology in instant case, that is dealt with separately in a chapter of its own. In this chapter, the focus is on the jurisprudence of regulation, the models available in law and what appropriate regulation would be.

New Reproductive Technologies are those new technologies, particularly in the medical field, which have impacted reproduction or reproductive rights. However this chapter looks specifically at the theoretical and practical dimensions of the impact. New Reproductive Technologies have on sex selection. The main areas that are dealt with are-

1. Choice Rhetoric and Sex Selective Abortions
2. Eugenics and new reproductive technologies
3. Sex Selection-Sex Determination Tests and Sex Selective Technologies
4. New reproductive technologies in India
5. Law and new reproductive technologies
6. The Way Forward

6.2 **Choice Rhetoric and Sex Selective Abortions**

The “Right to Choose” means very little when women are powerless . . . Women make their own reproductive choices, but they do not make them just as they please, they do not make them under conditions which they themselves create, but under moral conditions and constraints which they, as mere individuals the perceptions to change.

Under choice rhetoric, the choice of everything connected with her reproduction rights is considered to depend upon women. In the opinion of the radical feminists women as humans must have the right to bodily integrity without which women’s equality is a myth. Because of their status as humans, they must have sufficient rights to bodily integrity if women are ever going to obtain meaningful equality in society. Most feminists, therefore, supported abortion in the terms of choice and bodily integrity, leaving the choice of determining whether to use her body
to reproduce women, although this has been the basis of feminists’ discussions on reproductive rights. Unfortunately, as patriarchy predominates historically women seldom have had this right. Men’s control over women’s bodies has been used to justify desertion of barren women and even crimes like marital rape.

It is in this context that choice with regard to what we do with our bodies has become central to the feminist discussion of reproductive rights.

Choice as an idea was developed by American feminists. A number of cases like Griswold v. Connecticut have emphasized the individual’s right to control one’s reproduction. With new reproductive technologies, reproductive liberty can become not only the right to have or not to have a child, but the right to have a child by any technologically available means. As Janet Dolgin noted, “reproductive technology, simply by unfolding, invites human beings to become increasingly autonomous and to enter into a range of contracts that may prove unlimited. It thus invites and values choice.” So even though the political and rhetorical utility of choice is problematic, choice has nevertheless been an important part of the feminist fight for the control of our bodies.

Feminists have been greatly divided on the issues of choice and sex selective abortion. Some are of the opinion that although sex selective abortion reduces the value of the girl child, the choice must be left to the mother to decide. They prefer freedom from legal restrictions even though it would mean misuse of the technology against women as a class. Can a mother exercise agency to keep her daughters? What happens to those mothers who make such a decisions? What happens to girls who survive? These are uncomfortable questions raised by those who subscribe to this view and also those who do not.

The other view, which is predominant especially in India, is that, since choice is not free anyway, should technology be regulated to prevent sex selective abortion.

Choice seems to be completely absent as far as service providers are concerned. In the medical education system, textbooks, including obstetric and gynecological textbooks, dismiss ‘informed consent’ as a formal necessity. Is choice reducing to contraception? Students are not exposed to reproductive rights likely to be violated, including overt and covert coercion, especially for sterilization. Adolescents’
needs and confidentiality issues are also not dealt with. Potential for misuse of new reproductive technologies is not dealt with and despite the fact that sex selective abortion is a burning issue, the Prenatal Diagnostic Techniques Act or the Preconception and Prenatal Diagnostic Techniques Act are not discussed.

6.3 Eugenics and New Reproductive Technologies

It is one thing legislate that an individual should not be forced to practice against her will, and thereby protect legal access to contraceptions or abortions. It is quite another to derive from this legal protection. The belief that the individuals have the right to procreate by any means possible. And, any kind of child hidden in this discourse of ‘means’ is the female person who is used.

With discussions on the Human Genome Project, many worry about a revival of eugenics which has become synonymous with abhorrent projects and practices. What comes to mind is early 20th century sterilization programme in the United States and Scandinavia or, more dramatically, with the Nazi version program of “Racial Hygiene”

Not everyone nowadays, however, thinks that eugenics is necessarily a bad thing altogether. Many morally permissible eugenic practices have received acceptance among ethicists and society. For the purposes of this thesis, selective abortion of foetuses prenatally diagnosed with the severest kinds of genetic disorders is a relevant example. Of course, choice is still in the hands of private individuals and the state may not impose.

The moral lessons to be learned from the “old eugenics,” one might claim, are (1) that reproductive decisions should be made by individuals rather than the government, and (2) that reproductive liberties should be strictly maintained without societal coercion.

China has seen eugenics of sorts incorporated into seemingly harmless legislation and as part of the family planning campaign, one of the stated goals of which is the improvement of the “quality” of the Chinese population. These laws are not contrary, but carry an element of coercion. Certain categories of people, majorly those with hereditary diseases or certain disabilities are prohibited from having children. The guidelines prohibit people with hereditary diseases or family histories of
mental illness or retardation from having children. They also require the abortion of foetuses in some cases where parents fail genetic screening tests. These eugenic measures add to the legitimization of forced abortion and sterilization measures against certain categories of people.

6.4 Sex Selection-Sex Determination Tests and SexSelective Technologies

Sex-selection abortion, however, is different from most new reproductive technologies because its consequences do not result in the disregarding of patriarchal discrimination. Thus, while abortion gives women control over whether and when to save children, sex selective abortion gives families control over the sexual compositions of future generations and perpetuates gender discrimination. Instead of reducing the subordination of women and girls, sex selective abortion increases women’s social, economic, political and reproductive exploitation.

6.5 New Reproductive Technologies in India

The biggest controversy preceding sex selective abortion involving new reproductive technologies in India was perhaps that of the injectable contraceptives Net En and Depo Provera. Developed in the 1950s, all over the world, questions were raised about their safety. When news about clinical trials became public, there was a sustained campaign by the women’s movement as well as the health concerned. The matter went to the apex court and the court upholds a ban placing reproductive rights centre stage.

The increasing privatization of healthcare and the entry of NGOs into the field of health and family planning have thrown up a gamut of increase-their lack of accountability to inadequate monitoring of their activities. This is embedded not just in the Net En matter, but also in sex selective abortion. This concept relies on the clinical trials and post marketing surveillance conducted by pharmaceutical companies for contraceptives. So expecting the manufacturers of appliances and machines used in sex determination or sex pre-selection to be objectionable and ethical would be a pipe dream.
6.6 Law and New Reproductive Technologies

Does the meaning of reproductive include with it the right to access new reproductive technologies?

The new reproductive technology industry has often built its preface through reinforcing gender-based stereotypes and inequalities. New reproductive technologies dealing with infertility and the way they look at infertile women to an incomplete woman without the all-saving boon of motherhood and the incompleteness of the family without a son have harmed women. New Reproductive technologies have gained legitimacy as a result of their potential to alter the balance of power between individual men and women.

Access to certain types of RTs (reproductive technologies) have indeed saved women’s lives and often provided them with expanded choice with regard to reproductive decision-making. However, there is a continued need to evaluate the role of RTs in gendered terms and examine their role in providing women with real choice. This needs become particularly acute in the face of the growth of the non-medical use of RTs to satisfy individual and socio-cultural needs. Women’s bodies in particular her reproductive functions, are increasingly being subjected to techno medical interventions to satisfy non-medical aspirations with regard to conception and procreation.

Legal rights have been a mixed bag for feminists. Rights discourse has been a political tool used in the fight for reproductive rights, and against harmful effects of new reproductive technologies it has been fierce. On the other hand, there have been attempts to posit the rights of the foetus against that of the woman. The maternal-foetal conflict has been created. This conflict is visible in law as well as medicine and is one in which physicians and judges favor foetal interests over the pregnant woman’s non-consent or the pregnant woman’s freedom.

Is the ultimate goal total liberty? If this were true, it would mean a system of no law. Total liberty in the context of new reproductive technologies and law would mean that sex determination and sex selective abortion would be allowed. It would be utilitarian in its motivation, reducing the number of children while providing the
parents with the children they desire. If liberty to be curtailed and new reproductive
technologies and law looked as from a feminist perspective, how do we resolve the
issue? Catharine MacKinnon proclaims that feminist jurisprudence is the analysis of
law from the perspective of all women. This would mean women in the past, present
and future. From the point of view of ethics, most view such abortions undesirable, if
not immoral. However, the reason for the abortion no more justifies restrictions
designed to protect foetuses in sex selection case of designated donation of foetal
issue.\(^1\)

### 6.7 The Way Forward

Hence, rights and rights rhetoric can only be useful if they are not separated
from issues of social justice and other ethical concerns. In the reproductive arena, out
focus on individual rights has sometime allowed us to neglect large issues of social
need and justice.\(^2\)

The universal declaration of human rights (UDHR),\(^3\) sets minimum conditions
for membership. The charter seeks to promote and encourage respect for human rights
and for fundamental freedom for all and is billed as a common standard of
achievement for all peoples and all nations. At the Cairo International Conference on
Population and Development in 1994, participating countries affirmed that all people
are entitled to all the rights and freedoms set forth in the UDHR, stressing that human
beings are at the centre of concerns for sustainable development. People are the most
important and valuable resource of any nation, and the lack of development may not
be invoked to justify the abridgement of internationally recognized human rights.\(^4\)

Suppose we accept prenatal diagnosis and the selective abortion of foetuses
that test positive for severe genetic disorders to be both morally and socially
acceptable. Should we consider genetic interventions for non-therapeutic purpose to
be acceptable as well? Interventions aimed at enhancement would in many cases be
available to those who are financially fortunate. A worry is that unequal access to

\(^1\) Lynne Marie Kohn, “Sex Selection Abortion and the Boomerang Effect of a Woman’s Rights to
Choose: A Paradox of the Skeptics”, 4 Wm. & Mary J. Women & L. 91 at 7

\(^2\) April L. Cherry, “Choosing Substantive Justice: A Discussion of “Choice”, “Rights” and the New
Reproductive Technologies”, 11 Wis. Women’s L.J. 431 at 3

(1948) [hereinafter UDHR] at 32 & 33

\(^4\) Report of the International Conference on Population and Development
enhancements that provide competitive advantages to offspring will further and more permanently increase existing unjust disparities between the haves and have nots. The aim to promote liberty might thus conflict with the social aim of equality.\textsuperscript{5}

There is also the general worry that a significant portion of limited medical resources will be directed in the promotion of profits and higher incomes towards uses that are less fruitful than others which might be pursued instead.\textsuperscript{6}

What then is the solution? Should the determination of whether a medical technology is ‘good’ or ‘bad’ be left for a group of bureaucrats to decide? In that case, technologies beneficial to women as compared to men may not find favour in their eyes? But then, how is technology be regulated? What are the alternatives?

Quite a different level of moral complexity is opened up when we examine the validity of using amniocentesis to determine foetal abnormality. The FASDAP is clear that it does not want a blanket ban on pre-natal testing and, thus, implicitly endorses such testing for the detection of ‘abnormal’ foetuses and their subsequent abortion.\textsuperscript{7}

However, once we accept that there can be a hierarchy of human beings based on physical characteristics, and that it is legitimate to withhold the right to be born from those at lower levels of this hierarchy, than this reasoning can be extended to other categories, whether female, ‘inferior’ races, or any other. One feminist response to this dilemma is to argue that since women would have to look after handicapped children, they should be able to decide whether to bear them or not. It hardly bears repeating that the identical argument can be made about female children-that because the social pressure to bear male children falls entirely on the women. She should have the right to abort a female foetus.\textsuperscript{8}

The work of Raynn Rapp on genetic counseling in New York City radically problematises the language of individualism and pro choice\textsuperscript{9} feminism that validates the abortion of ‘abnormal’ foetuses.\textsuperscript{10}

\textsuperscript{6} Ibid at 5
\textsuperscript{7} Ravindra R. P., ‘Campaign’, p. 30
\textsuperscript{8} Nivedita Menon, \textit{Recovering Subversion – Feminist Politics Beyond the Law}, Permanent Black, New Delhi (2004) at 96
\textsuperscript{9} Id
Similarly, Veena Das points out that it is not inscribed in the nature of things that a physically or mentally retarded individual should\textsuperscript{11} have poor quality of life. It is the great value placed on individual autonomy and on competition that makes this seem like a self evident fact.\textsuperscript{12,13}

The prospect of consumer eugenics is particularly threatening for groups that have been historically targeted and disempowered.\textsuperscript{14} The underlying technologies are of special concern to women because they are so closely tied to reproduction and women’s health, and their use would dangerously transform the lives of women and children and exacerbate existing trends toward corporate-dominated “reproductions for profit”.\textsuperscript{15}

Disability rights advocates in particular have been critical of the uncontrolled use of pre-implantation genetic diagnosis. They point out that the definition of “disease” is of same extent subjective, and the people with disabilities can live full and happy lives.

The hearing of the Parliamentary Committee on the empowerment of women on the issue of Pre-natal Diagnostic Techniques (Regulation and Prevention of Misuse) Amendment Bill 2002, considered representations from the public to proposed modifications in the Prenatal Diagnostic Techniques Act. The modifications, in essence, sought to include a range of pre-implantation diagnostic techniques in the purview of the Act, making their use for sex-selection actionable. Monitoring and punitive measures were tightening. Representatives of the medical industry objected to the proposals on the grounds that such technologies were essential to prevent maternal mortality and congenital abnormalities. Representatives


\textsuperscript{11} Nivedita Menon, \textit{Recovering Subversion – Feminist Politics Beyond the Law}, Permanent Black, New Delhi (2004) at 96

\textsuperscript{12} \textit{Id}

\textsuperscript{13} Veena Das, ‘Deciding Moral Issues: the Case of Abortion’, In: Diana L. Eck and Devaki Jain, eds; \textit{Speaking of Faith, New Delhi, Kali for Women} 1986.

\textsuperscript{14} “Social Justice & The New Human Genetic Technologies”, Centre for Genetics and Society, Reference Materials- II, Round Table on Sex Selection in India, HIVOS, Bangalore, 17-18 February 2005 at 1.

\textsuperscript{15} \textit{Ibid}
of health groups and women’s groups pointed out that the medical profession’s commitment to bringing down congenital abnormalities is highly selective and, thus, deeply suspicious.\(^\text{16}\)

Madhu Kishwar, one of the leading feminists in India has argued that women in India exhibited choice, indeed agency, when they undertook sex selective abortions. It is not for the state to intervene in the family – the deeply personal. On the other hand, Kishwar also argued that a corrupt state merely brought in laws in order to increase levels of corruption. Indeed, she argued that doctors were by and large helpless. Coerced into performing sex selective abortion by influential peoples. What has forgotten of course is that far from showing their agency. Women who took recourse to sex-selective abortions were doing so under pressure from families\(^\text{17}\) and what this also reveals is the miraculous power of the concept of reified rights to turn things on the head, and indeed become part of the arsenal to further oppress and subordinate women.

The three major pre-natal diagnostic tests that are being used as sex determination tests are as follows:

1. Amniocentesis
2. Chorionic villus biopsy
3. Ultrasonography

\textit{6.7.1 Amniocentesis}

Amniocentesis is an embro pre-natal test by which certain genetic defects and the sex of the unborn baby can be determined. It is a procedure in which 15-20 ml of amniotic fluid is taken out. The genetic disease or defect can be ascertained or analysed by chromosomal studies. The process can be performed between 14 to 16 weeks of pregnancy and has nearly 1 – 2 percent risk of abortion. For accurate

\(^{16}\) Delhi Science Forum (2002), Memorandum to Marga Alva, Chair Parliamentary Committee on the Empowerment of Women, 6\(^\text{th}\) September 2002, New Delhi at 26. Some years back, when health groups for women’s groups were involved in a campaign against high-dose oestrogen-progesterone based contraceptives, since banned, the medical profession completely disregarded the existing scientific information and campaigned against the ban. C.f. Mohan Rao, Female Sex Selection Abortions: Some Issues”, IDPAD Newsletter Vol II, No. 1 January- June 2004 at 23.

determination of the sex, the cells have to be cultured for three weeks; else inaccuracy rate is 10 – 20 percent. It is a useful tool to detect fetal abnormalities, such as mongolism, haelophilia, retarded muscular growth, and other gender related disorders. This test is normally used for women after 35 years of age when the incidence of Down’s syndrome babies and deformed children increases.

6.7.2  **Chorionic Villus Biospy**

This test can be performed in the first 7-11 weeks of pregnancy. A plastic canula is passed through cervix upto the amniotic sac, and a few chorionic cells, which occur at the site of future placenta, surrounding the sac are aspirated under ultrasound session. These cells are cultured in a specific solution. This technique is used to diagnose some inherited diseases such as thalassemia, cystic fibrosis and muscular dystrophy, etc. These diseases affect tissues and organs, which develop after the first few weeks. It is also possible to diagnose the congenital defects in an unborn fetus.\(^\text{18}\)

6.7.3  **Ultrasonography**

Ultrasonogram is the most commonly used test under ultrasonography. It is an imaging technology. It is a non-invasive technology. This technology uses the ‘echo’ of sound waves to ‘visualise’ the form of the fetus in the womb as early as from 11-14 weeks after conception. Through ultrasonography, it is possible to diagnose 50 percent of the abnormalities related to the central nervous system. This technology has gained immense popularity Tamil Nadu to determine the sex of the foetus. If the foetus is female, a second trimester or third trimester abortion is carried out either by a doctor or by a quack. The chance of correct prediction is 95-96 percent depending upon the expertise of the ultrasonologist. As pregnancy advances, the chance of accuracy also increases.

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\(^\text{18}\) “Understanding Female Foeticide”, CASSA, Reference materials – 1, Round Table on sex Selection, HIVOS, Bangalore, 17-18 February, 2005 at 3.
6.8 Sex Selection Techniques

X-Y Separation

The various methods currently in use for X-Y separation are:

1. Ericsson Method
2. Albumen Column
3. Percoll Gradient
4. Sephadex Column
5. Modified Swim Up
6. Flow Cytometric Separation

After separating X and Y chromosome carrying sperms, the Y chromosome sperms are injected back into the uterus to ensure that a boy is conceived. The success rate of this method is 65-70 percent.

6.9 The Pre-implantation Genetic Diagnosis (PGD)

As early as three days after fertilization, one or two cells are removed from an 8-10 celled embryo and tested. The selected embryo is then re-implanted into the uterus. The success rate is about 90 percent for couples wanting girls and 70 percent for those wanting boys.

19 “Understanding Female Foeticide”, CASSA, Reference materials – 1, Round Table on sex Selection, HIVOS, Bangalore, 17-18 February, 2005 at 4.