

ABORTION ASSESSMENT PROJECT - INDIA

**'NEGATIVE CHOICE'
SEX DETERMINATION AND
SEX SELECTIVE
ABORTION IN INDIA**

RUPSA MALLIK



**‘NEGATIVE CHOICE’
SEX DETERMINATION AND SEX SELECTIVE
ABORTION IN INDIA**

Rupsa Mallik

Abortion Assessment Project - India

First Published in September 2003

By

Centre for Enquiry into Health and Allied Themes

Survey No. 2804 & 2805

Aaram Society Road

Vakola, Santacruz (East)

Mumbai - 400 055

Tel. : 91-22-26147727 / 26132027

Fax : 22-26132039

E-mail : cehat@vsnl.com

Website : www.cehat.org

© CEHAT/HEALTHWATCH

The views and opinions expressed in this publication are those of the author alone and do not necessarily reflect the views of the collaborating organizations.

Printed at
Chintanakshar Graphics
Mumbai 400 031

TABLE OF CONTENTS

PREFACE	v
ABSTRACT	ix
ACKNOWLEDGEMENT	ix
GLOSSARY OF TERMS AND ABBREVIATIONS	x
I. INTRODUCTION	1
A. SCOPE AND ORGANISATION OF THE PAPER	1
B. METHODOLOGY AND DATA SOURCE	2
II. INTERSECTING SITES OF DISCRIMINATION AGAINST FEMALE CHILDREN	2
A. SON PREFERENCE - THE SOCIO-CULTURAL CONTEXT	3
B. POLITICAL ECONOMY OF DIAGNOSTIC TECHNOLOGIES	4
C. THE TWO-CHILD NORM AND SEX SELECTION	6
D. SHIFTING PATTERNS AND INTENSIFICATION IN SD AND SSA	7
III. OVERVIEW OF THE CAMPAIGN(S) AGAINST SEX DETERMINATION AND SEX SELECTIVE ABORTION	8
A. THE FIRST DECADE OF ACTIVISM FORUM AGAINST SEX DETERMINATION AND SEX PRE-SELECTION	8
B. THE PRE-NATAL DIAGNOSTIC TECHNIQUES (REGULATION AND PREVENTION OF MISUSE) ACT, 1994	9
C. THE SECOND DECADE OF ACTIVISM	11
D. PUBLIC INTEREST LITIGATION BY DR. SABU GEORGE, MASUM AND CEHAT (2000-02)	12
E. THE PRE-CONCEPTION AND PRE-NATAL SEX SELECTION/DETERMINATION (PROHIBITION AND REGULATION) ACT, 2001	14
IV. ACTIVISTS/DOCTORS: ARGUMENTS/COUNTER-ARGUMENTS	15
A. GENDERED TECHNOLOGIES / SCIENTIFIC PROGRESS	15
B. REGULATION / DEREGULATION OF REPRODUCTIVE TECHNOLOGIES AND THEIR USE	17
C. SEX SELECTIVE ABORTION / RIGHT AND ACCESS TO SAFE ABORTION	18
V. CONCLUSION	20
A. SEX DETERMINATION AND SEX SELECTIVE ABORTION - EMERGING PATTERNS	20
B. NEW FRONTIERS OF DISCRIMINATION	20
REFERENCES	23

PREFACE

Abortions have been around forever. But at different points of time in history it has received attention for differing reasons, some in support of it, but often against it. Abortion is primarily a health concern of women but it is increasingly being governed by patriarchal interests which more often than not curb the freedom of women to seek abortion as a right.

In present times with the entire focus of women's health being on her reproduction, infact preventing or terminating it, abortion practice becomes a critical issue. Given the official perspective of understanding abortion within the context of contraception, it is important to review abortion and abortion practice in India.

The Abortion Assessment Project India (AAP-I) has evolved precisely with this concern and a wide range of studies are being undertaken by a number of institutions and researchers across the length and breadth of the country. The project has five components:

- I. Overview paper on policy related issues, series of working papers based on existing data / research and workshops to pool existing knowledge and information in order to feed into this project.
- II. Multicentric facility survey in six states focusing on the numerous dimensions of provision of abortion services in the public and private sectors
- III. Eight qualitative studies on specific issues to compliment the multicentric studies. These would attempt to understand the abortion and related issues

from the women's perspective.

- IV. Household studies to estimate incidence of abortion in two states in India.
- V. Dissemination of information and literature widely and development of an advocacy strategy

This five-pronged approach will, hopefully, capture the complex situation as it is obtained on the ground and also give policy makers, administrators and medical professionals' valuable insights into abortion care and what are the areas for public policy interventions and advocacy.

The present publication is the fifth in the AAP-I series of working papers Rupsa Mallik has presented significant analysis on Sex Determination and Sex Selective Abortion practice in India. It is followed by relevant information on debate between activists and Medical professionals on the need to prevent SD and SSA .

We thank Ms. Sunanda Bhattacharjea for assisting in the language editing of this publication and Mr. Ravindra Thipse and Ms. Muriel Carvalho for timely publication of this entire series.

This working paper series has been supported from project grants from Rockefeller Foundation USA and The Ford Foundation, New Delhi. We acknowledge this support gratefully.

We look forward to comments and feedback which may be sent to cehat@vsnl.com Information on this project can be obtained by writing to us or accessing it from the website : www.cehat.org

ABSTRACT

Any engagement with abortion in India cannot be undertaken without engaging with the issue of sex determination (SD) and sex selective abortion (SSA). SSA adds to and underscores the profound complexities that surround the abortion debate in India. The Abortion Assessment Project - India (AAP-I) has created space for reengagement and exploration of some of these complexities. This paper is part of that initiative.

Today, more than ever, there is wide-ranging consensus in India that sex determination and sex selective abortion is morally and ethically unacceptable and the urgency to address it has gained tremendous momentum. However, the intersecting 'spaces' inhabited by sex selective abortion and women's right and access to safe abortion often creates a number of thorny overlaps that makes the consensus urging a ban on sex determination *appear* laden with ambivalence and contradictions. The activism to ban sex determination and prevent SSA is an illuminating 'case study' that provides a roadmap for discourse as well as action in our dual efforts to secure an effective ban on sex determination while continuing to raise demands for women's right and access to safe abortion.

In this paper a three-part analysis of SD and SSA is undertaken. In the first section,

the factors that can be said to fuel this practice – son preference, growth in the political economy of diagnostic technologies and enforcement of a small family norm - have been discussed. In the second section the campaign(s) undertaken to advocate for laws that regulate diagnostic technologies and ban sex determination – Forum Against Sex Determination and Sex Pre-Selection (FASDSP) and PIL filed in the Supreme Court - has been examined with a focus on the legislative provisions that have been a key demand of both these campaign(s). In the third section key debates between activists who spearheaded the campaign and the medical community have been examined along thematic lines. Discourse analysis, is used both as a methodology as well as an interpretive framework to undertake what in essence is a political enquiry of a problem.

To write a paper on this subject has been a challenging process. Especially, as during the course of writing the paper efforts to address SD and SSA gained fresh momentum and added volatility to a discussion that is already complex. I hope I have been successful in illustrating the richness of the existing literature on the subject as well as able to provide an insightful analysis of past and current developments surrounding the issue through my discussions. Any shortcomings are my own.

ACKNOWLEDGEMENT

I am grateful to the Centre for Enquiry into Health and Allied Themes (CEHAT) and Healthwatch India Trust, Co-ordinators: Abortion Assessment Project, for commissioning me to write this paper.

Thanks are due to the anonymous reviewer(s) of this paper for their comments.

I owe tremendous debt to my colleagues at the Center for Health and Gender Equity for reviewing an earlier draft of this paper and providing me with useful comments.

GLOSSARY OF TERMS AND ABBREVIATIONS

AA	Appropriate Authorities
AID	Alternative for India Development
ASRM	American Society for Reproductive Medicine
CEHAT	Centre for Enquiry into Health and Allied Themes
CSB	Central Supervisory Board
CVS	Chorionic Villious Sampling
DA	Discourse analysis
DMA	Delhi Medical Association
FASDSP	Forum against Sex Determination and Sex Pre-Selection
FWP	National Family Welfare Program
GOI	Government of India
HFEA	Human Fertilisation and Embryology Authority
HGA	Human Genetics Alert
IVF	in vitro fertilisation
MASUM	Mahila Sarvangeen Utkarsh Mandal
MTP	Medical Termination of Pregnancy
MTP Act, 1971	The Medical Termination of Pregnancy Act, 1971
MTP Bill, 2002	The Medical Termination of Pregnancy (Amendment) Bill, 2002
NPP	National Population Policy
NGOs	Non-Government organisations
PIL	Public Interest Litigation
PNDT Act, 1994	The Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994
PGD	Pre-implantation genetic diagnosis (also referred to as embryo screening)
RTs	Reproductive technologies
SD	Sex determination
SSA	Sex selective abortion
SC	Supreme Court of India
SRB	Sex ratio at birth
TFR	Total fertility rate
UTs	Union Territories

'NEGATIVE CHOICE' SEX DETERMINATION AND SEX SELECTIVE ABORTION IN INDIA

I. INTRODUCTION

Choices exist that did not before, people make decisions about procreation in the context of an expanding range of possibilities... the arenas of decision-making have proliferated, there are new domains and social actors involved, new alliances of medicine, ethics and law, not to speak of commerce (Edwards, et al., 1999:2).

The right to bodily integrity, defined as the inalienable right of women to have control and autonomy over their bodies, has been central to arguments made by reproductive health advocates. It focuses on the demand for women's access to reproductive technologies (RTs) including abortion. Access to reproductive and genetic technologies have indeed provided women with expanded choice as well as numerous benefits with regard to reproductive decision-making. At the same time, unregulated provision and use of RTs has served to create new challenges and ethical dilemmas. The one that is of utmost concern is the manner in which the language of choice is being misappropriated by various actors - doctors, manufacturers, families - to rationalise the non-medical use of RTs which in turn serve to exacerbate gender-based inequities. The widespread misuse of prenatal diagnostic technologies for sex determination and sex selective abortion of female foetuses in India is one such example of the misuse of technologies to obtain a *negative choice* - the birth of sons.

A. SCOPE AND ORGANATION OF THE PAPER

In this paper, a three-part analysis of

the practice of sex determination (SD) and sex selective abortion (SSA) in India will be undertaken.

In the first section, three important factors - a strong son preference, growth in the political economy of diagnostic technologies and enforcement of the small family norm through population policies - will be examined to illustrate the factors that guide the recent shifts and intensified use of SD and SSA.

In the second section a narrative of the two decades of activism against SD and SSA is undertaken. A significant focus of activism has centred on the demand for laws that ban sex determination and regulate the medical use of diagnostic technologies. Recently, the focus has simultaneously been on the effective implementation of the new laws. The history of activism has been divided into two phases. *The first decade of activism* is an account of the campaign by the Forum Against Sex Determination and Sex Pre-Selection (FASDSP) and includes commentary on the law that was drafted in response to the FASDSP campaign. *The second decade of activism* has been symbolised by renewed activism on the issue of SD and SSA. This has been guided mainly by a public interest litigation (PIL) filed in the Supreme Court of India by the Centre for Enquiry into Health and Allied Themes (CEHAT), Mahila Sarvangeen Utkarsh Mandal (MASUM) and Dr Sabu George.

The third section of the paper deals with key debates between activists and the medical community on the need to prevent SD and

SSA. These will be examined along thematic lines and the focus is primarily on the way activists have framed their arguments on these issues.

In conclusion some of the emerging trends with regard to SD and SSA in different parts of the country will be discussed. In a final section the need to examine the transnational context of the non-medical use of diagnostic and genetic technologies for sex selection will be debated.

B. METHODOLOGY AND DATA SOURCE

A discussion of the campaign(s) undertaken to advocate for laws that ban SD guides the analysis of SSA in India. In particular, focus is on the FASDSP campaign and the recent PIL filed in the Supreme Court of India on the issue. The locus therefore is on the legislative route to address the issue through the original PNDT Act (1994) and more recent amendments to that law.

Discourse analysis (DA) provides a broader interpretative framework to analyse the context as well as the actual content of activism on the issue. For the purpose of this paper a sociological definition of discourse (Chalaby; 1996) has been used. Chalaby's definition disassociates discourse from the linguistic realm of a specific language and text, as is otherwise the conventional norm when using DA as a method of inquiry. The use of this definition allows for methodological extension of DA to include inter-textual data sources. This has allowed the selection of wide-ranging literature on the issue of SD and SSA for analysis in this paper.

Critical DA is a useful tool as a method of political inquiry. Some have pointed out that DA is not so much a method as it is a way of approaching a problem. Particularly while analysing issues related to gender, the social dimensions of discourse - the actual interactions as well as the context that shape discourse can be effectively analysed using this method. The postulation a priori of con-

textual categories like gender and power to be able to understand and explain the ongoing 'talk' is considered valid (Van Dijk; 1999).

The other important tool that critical DA provides and has proved useful for the purpose of this paper has been the separation and independent analysis of the context (Section I) and talk (Section II and III) on SD and SSA. Theorists of critical DA point out that once a distinctive feature of a particular context within which the problem is located has been observed, for example in this instance it is son preference, this is then used to explore whether and how such a feature affects or is affected by other factors. DA therefore allows discussion on a specific issue to be both loosely and at the same time freely constructed to include talk about power, dominance and inequality and the way they are expressed, enacted and reproduced through discourse.

For all these reasons DA is a useful methodological tool to analyse complex issues like SD and SSA. The objective of this method and that of this paper is to understand the conditions behind a problem and not necessarily to provide absolute answers. Data and information for this analysis is based mainly on wide-ranging secondary sources. Narratives of the campaign by FASDSP members and the PIL by the petitioners have been used from published sources to (de) construct the 'context' and 'talk' on the issue. Newspaper articles where doctors have been quoted have also been accepted as proxy evidence of the counter discourse on SD and SSA. In this paper, state and community-level interventions to prevent SD and SSA have not been examined, nor evidence collected on women's decision and experience to undergo SD and SSA (George and Pavalam, 2000; Ganatra, Hirve, et al., 2001).

II. INTERSECTING SITES OF DISCRIMINATION AGAINST FEMALE CHILDREN

It is through relationships rather than roles and rules that the interaction of struc-

tural constraints, practice, and agency can be understood. (Palriwala; 1994:3).

For women, family based relationships are a source of support as well as sanction. However, this support often rests on conformity with predetermined norms. Childbearing, in particular the birth of sons is one such norm and results in support as well as reduced disadvantages for women within the family network. The availability and use of diagnostic technologies for sex selection coupled with increased desire for smaller families has created a new dynamism in family building strategies. The use of these technologies for sex selection has altered what was once considered the 'immutable processes' of childbirth (Edwards; 1993:2) to include 'discretionary childbearing' (Goodkind; 1996:115) to prevent the birth of daughters and guarantee that only sons are born. In this section some of the factors that have served to create the context within which SD and SSA is legitimised and practised in India will be discussed.

The emergence of the contemporary phenomenon of sex determination should not be viewed as a *sudden* consequence that has arisen as a result of the easy availability of diagnostic technologies. It should be seen as an additive strategy (Goodkind; 1996) within the existing continuum of discrimination and violence against women and female children that has resulted in excess female mortality and contributed to a decline in the sex ratio since the turn of the century.

A. SON PREFERENCE - THE SOCIO-CULTURAL CONTEXT

There are numerous accounts of the prevalence of strategies for discrimination against girl children. This has ranged from female infanticide (George, 1997; Venkatachalam and Srinivasan, 1993; Chunkath and Athreya, 1997; Das Gupta, 1987) to care and food related deprivation. Further, there is evidence to suggest that excess female infant mortality significantly

contributes to the overall decline in the sex ratio in India (Miller, 1981; Sudha and Rajan, 1999; Census of India, 2001).

Son preference has resulted in discrimination against girl children in India. Son preference in turn rests on norms surrounding kinship building that almost always favours sons over daughters. One such example is patrilineal descent where sons are necessary to continue the family name. Prescribed patrilocal norms (exogamy) in building marriage alliances for daughters create conditions within which son preference continues to persist. Principles of exogamy when strictly applied result in marrying the daughter outside her natal kin, clan or village. Sudha and Rajan argue (1999) that exogamous marriage makes women vulnerable by separating them from their natal families and at the same time placing them amongst marital families who are virtual strangers. In such situations of extreme vulnerability one of the ways to gain acceptance and prove themselves as 'good' daughters-in-law is to give birth to sons.

Mutharayappa, et al. have described three major factors that result in sons being favoured over daughters in India.

First, is the continued belief in their economic utility. Sons it is believed are more likely than daughters to provide family labour on the farm or in a family business, earn wages and support their parents during old age. In addition, they can attract a substantial dowry during marriage.

The second factor that guides son preference is their socio-cultural utility as patrilineal descent and inheritance continues to be the predominant form of kinship building.

The third and compelling factor can be linked to religion where sons have been accorded the unique privilege of performing various rituals and functions including the funeral rites for deceased parents.

On the other hand a number of socio-economic costs are associated with having

daughters. An important example is the practice of dowry. Dowry has often been cited as the principal cause to not have daughters.

- 1 First, is the actual economic cost borne by the girl's family while paying dowry.
- 1 Second, is the sense of dishonour associated with the payment of dowry. Within certain communities the dishonour experienced at the hands of the grooms family is reason enough to not have daughters.

Dowry serves to enhance women's disadvantage in multiple ways. Giving dowry during marriage is often used to deny daughters the right to inherit natal property and assets. In reality, dowry payments often take the form of affinal presentations, as a gift to the family, rather than representing any real asset for the newly married woman. These have served to enhance women's vulnerability within their marital homes and severely restrict their autonomy. The cycle of discrimination continues from natal to marital home and in turn leads to the continuation of discriminatory norms like the selective birth of sons.

This is by no means a comprehensive account of the complex circumstances - both at the macro and micro level - which has created a strong preference for sons and results in the systematic elimination of girls. For example scholars have cited the shift from labour-intensive to mechanised agriculture as a factor that has contributed to further marginalise women within the household (Miller, 1981). In Punjab and Haryana the Green Revolution resulted in a shift to cash crops and mechanisation of agriculture both of which led to a decline in the need for female labour. The accompanying prosperity served to increase ostentatious marriage ceremonies and also a demand for higher dowry, both of which were seen to hamper capital accumulation (George, 1997). In these two states in particular, this perception of the economic liability of having daugh-

ters has resulted in widespread use of sex selection techniques.

Interestingly modernisation, defined as increased access to education and communication technology, has contributed in the diffusion of SD and SSA. This is perceivable in the role that mass media plays in the spread of upper caste values with its accompanying anti-female bias. This bias is increasingly adopted by communities and caste groups that have traditionally been more egalitarian towards women but now accept discriminatory norms like dowry as part of their efforts for upward mobility (Agnihotri; 2000). Another aspect of modernisation that has played an important role has been the high rate of female literacy. This has in some instances equipped some women to be able to plan smaller families and at the same time be able to have the desired number of sons by undergoing SD and SSA (Dasgupta, 1987; Oldenburg, 1992).

This in brief is the context within which son preference continues to persist and is translated into practices like sex determination and sex selective abortion of female foetuses. SD and SSA will not however be feasible for a large number of families unless technologies that allow this are not only available but also affordable and find some degree of support amongst the medical community.

B. POLITICAL ECONOMY OF DIAGNOSTIC TECHNOLOGIES

The emergence and use of prenatal diagnosis for sex selection needs to be examined in some detail. This becomes particularly important to be able to understand the context in which a particular technology, in this instance obstetric ultrasound, becomes widely used for SD as opposed to some other technique. There is little that distinguishes the legitimate use of this technology to monitor foetal growth from its illegal use for sex determination. From the perspective of the user there is relative ease of use and only a

remote possibility of detection. From the point of view of the activists seeking to curb SD this poses serious challenges.

But first, the three diagnostic technologies that are used for sex determination are amniocentesis, chorionic villous sampling (CVS) and obstetric ultrasound. Amniocentesis and CVS are intrusive trans-abdominal procedures that involve removal of fluid from the intra-uterine environment at different stages of foetus development. In both instances the use of obstetric ultrasound to guide the procedures has been recommended. Neither of the two procedures can be conducted prior to 11-12 weeks of pregnancy. The accuracy of the diagnosis increases if the tests are conducted during later stages of the pregnancy. The tests carry the risk of miscarriage and haemorrhage.

Obstetric ultrasound on the other hand is a non-intrusive method and considered a safe procedure. The current equipment that is used for ultrasound are called real-time scanners that provide a continuous picture of the moving foetus. However, in the case of ultrasound as is the case with the two other tests, detection of the sex of the foetus is possible after 16 weeks of gestation and 95-100 per cent accuracy rates have been reported when the test is conducted after 20 weeks. Ultrasound does not carry with it some of the hazards that amniocentesis and CVS entail, but the chances of the diagnosis being inaccurate are fairly high. This is because accurate SD is affected by various factors including foetal position; potential over-diagnosis as a result of inadequately trained staff and the use of poor equipment.

Although a new generation of ultrasound technology has become available recently, which allows trans-abdominal sex determination at an earlier stage of pregnancy, this is still not widely used. Doctors claim that this technology can be used as early as 14 weeks of pregnancy to detect the sex of a foetus (with 90 per cent accuracy). Further,

trans-vaginal ultrasound, can be used at 12 weeks for sex detection and is already beginning to be used in the larger metropolitan cities in India. All of these new developments nevertheless have implications for the practice of SD and SSA. This new generation of ultrasound equipment will make early-term sex selective abortion feasible. First trimester abortions are easier to obtain and are relatively safe. All these factors together can result in creating conditions that facilitate seeking sex selective abortion.

The growing availability of pre-conception and pre-implantation diagnosis (PGD) illustrates the complexity of framing an analysis on sex selection. Three decades ago the use of prenatal diagnostic technologies was unheard of. In the past two decades the use of ultrasound to screen the foetus has been normalised as an essential part of prenatal care. This can easily be accompanied with sex determination and in turn lead to shifts in abortion-seeking behaviour. Sex selection techniques can have a similar effect resulting in the increased use of in vitro fertilisation (IVF) for non-medical purpose like sex selection.

Evidence collected in the 1980s indicated widespread prevalence of clinics in urban centres that exclusively perform sex determination. For example one study (1986) estimated that there were 248 clinics and laboratories, and approximately 16,000 tests performed annually in the Mumbai metropolitan region (Lingam; 1998). In another survey conducted amongst 50 gynaecologists in Mumbai, 27 admitted that they performed amniocentesis for the sole purpose of sex determination. It was further calculated that on an average, 42 gynaecologists perform 271 SD tests per month (Kulkarni quoted in Lingam; 1998). There are reports from Punjab that the state has close to 1500 ultrasound clinics (*UNESCO Courier*; 1999). This is in all likelihood a conservative estimate, as it has been pointed out that Punjab has one of the highest sex ratios at birth (1.20)

in the world, indicating a very high level of sex-selective abortion (Retherford and Roy; 2003b: 2). In Haryana, in one district alone, Faridabad, 65 ultrasound centres have been registered (*The Week*; 2001). In Alwar, a small town in Rajasthan, there are close to 20 diagnostic laboratories (*Outlook*; 2002). The Indian Radiology and Imaging Association has 4000 registered members. Currently five multinational companies manufacture and sell ultrasound machines in India - Philips, Symonds, Toshiba, Larsen and Toubro and Wipro GE (Bose; 2002).

The current cost of obtaining an ultrasound test for sex determination can fluctuate between Rupees 500-1500 (\$10-30). However, as a result of laws that ban the practice as well as more effective implementation there are reports of the cost going up to \$85-100 for seeking SD clandestinely. CNN too reported recently that the cost of getting a sex determination test has doubled in the last few years as a result of the ban that limits its availability coupled with a growing demand for the tests.

C. THE TWO-CHILD NORM AND SEX SELECTION

In India, over the last three decades (1966-96) the family planning program pursued a targeted approach where the Central government gave states numeric targets for method specific contraceptive acceptors. These targets were based on estimates to attain replacement levels of fertility that in turn would lead to population stabilisation. In terms of strategy, undue emphasis was placed on the use of terminal methods, which resulted in a bias towards female sterilisation. However, during the nineties the GOI decided to reorient the program based on data that showed that contraceptive prevalence as well as decline in birth rates were both stagnating. In 1996 the adoption of a target free approach marked a significant shift in program orientation. The reorientation of the program encompassed

an expanded Reproductive and Child Health (RCH) approach.

Despite these progressive trends at the national level, shortly after the announcement of a national population policy, a number of states formulated their own population policies. These emphasised both the achievement of a two-child norm as an important goal and advocated the use of incentives and disincentives to achieve it (GOAP, 1997; GOUP, 2000).

It is important to note that during the past two decades the average family size has been declining. This has been a result of voluntary acceptance by couples of smaller families, in response to a number of economic and social changes and partly due to the governments efforts to hasten the transition through the family planning program (Mallik; 2002b).

However, George (1997) and others have pointed to the fact that a small family norm is not necessarily accompanied by a preference for a fewer number of sons. Son-preference continues to be a significant determinant in family building strategies. The National Family Health Survey (NFHS-2, 1998-99) collected information on the role that son preference plays in determining family planning practices. At the all-India level 83 per cent of every married woman in the age group 15-49 with two sons and 76 per cent with one son said they did not want any more children. On the other hand significantly fewer women, 47 per cent, with two daughters said they did not want more children (IIPS and ORC Macro; 2000:7).

Further, Retherford and Roy (2003b: 3) use NFHS-2 data to point out that this trend currently appears to be strongest in families that already have two children. This they attribute to the fact that the current total fertility rate (TFR) for India is about three and as a large proportion of women wish to stop childbearing after having three children, a strong sex preference, mainly for sons,

clearly determines the third birth order. It is also worth highlighting that son preference and abortion can be linked in two distinct ways. First, through the specific use of SD and SSA to identify and eliminate female fetuses and the second is abortion. These decisions purportedly appear to be for family planning but the sex of living children constitutes an important basis for the decision (Arnold, Kishor, et al.; 2003:769).

The use of coercive measures in implementing population policies particularly undue emphasis on the use of terminal methods can easily lead to an intensifying trend towards sex determination and sex selective abortion (Mallik; 2002).

D. SHIFTING PATTERNS AND INTENSIFICATION OF SD AND SSA

All of these factors - son preference; the unregulated spread in the political economy of diagnostic technologies and a growing desire for smaller families as a result of the fertility transition that is currently underway in India - have served to create conditions where SD and SSA can flourish. This practice needs to be seen both as a shift as well as an intensification of discrimination against females.

Data collected during NFHS-1 and NFHS-2 on the sex ratio at birth has been used as an indirect indicator of SSA to assess both prevalence and determinants of the practice. Retherford and Roy argue that different factors influence the levels of SSA confounding the effect of any single variable. Some of these important predictor variables include a composite variable of both the child's birth order and the number of living sons borne by the mother; education levels and urban-rural residence. All of these characteristics are those most strongly associated with a high sex ratio at birth. While NFHS-2 data provides evidence of abortion of girls NFHS-1 does not indicate a trend toward greater use of SSA during the six years between the surveys. The evidence is strongest in the case of sec-

ond and third order births for women with no sons (Retherford and Roy; 2003a).

The potential for possible intensification of this trend needs to be taken seriously. Retherford and Roy point out that the potential for SSA to increase is greatest in states like Uttar Pradesh, Bihar and Rajasthan where there is evidence of strong son preference but low actual sex ratios at birth. On the other hand, during this decade there might in fact be a decline in SSA in states like Punjab and Haryana where the practice has already peaked. However, analysis of ideal sex ratios indicate that although there is an overall decline in son preference in many states, the sex ratio at birth still substantially exceeds the naturally occurring sex ratio at birth (SRB) of 1.05. Considerable potential therefore continues to exist even in states that record a decline in son preference for a further increase in the prevalence of SSA.

During the last two decades a high sex ratio* has been increasingly linked to a shift in patterns of discrimination symbolised by SSA. In the past researchers have used both Census data as well as other evidence to corroborate this (Goodkind, 1996; FASDSP, 1992; Ravindra, 1993; Sudha and Rajan, 1999; Menon, 1995). A little less than a decade after amniocentesis had been introduced in India, as early as 1981, Miller observed a growing trend in the Punjab of technology use for sex determination of the foetus. Three decades later the Census of India, 2001, provides overwhelming evidence of the intensifying trend that supports Miller's claims. The only difference being the preferred technology of use is ultrasound and the trend of SSA encompasses more than just the single state of Punjab. As Retherford and Roy do with the use of composite and predictor variables, others in the past also urged for the need to undertake disaggregated analysis. This takes into account the age of population, birth order and rural/urban differences to allow for better sense to be made of the phenomenon. (Rajan, et al., 1992; Visaria; 1991).

III. AN OVERVIEW OF THE CAMPAIGN AGAINST SEX SELECTION AND SEX SELECTIVE ABORTION

The contours of public morality in large part determine the shape of private morality. Indeed, it is in the public realm that the boundaries of the private are drawn. (Tronto, 1987:654)

Since the mid-seventies the issue of SD and SSA in India has been the subject of a number of public debates and discussions. In particular, concern has often been expressed by health and women's rights activists on the potential of these technologies to eliminate the birth of female children thereby intensifying the problem of South Asia's 'missing women' (Sen; 1990). This concern soon resulted in an undertaking to enact a law to ban the use of prenatal diagnosis for sex determination. In this section the two decades of activism will be examined and discussed along with the law(s) - Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994 and the Pre-Conception and Pre-Natal Sex Selection/Determination (Prohibition and Regulation) Act, 2001 - that have been enacted as a result of the advocacy. The discussion on the campaign has been divided into two chronological periods characterised as the first decade (early 1980s - early 1990s) and the second decade of campaign (mid-1990s - till date). The search for a legislative recourse to enforce an effective ban on SD was the fulcrum that served to create widespread awareness on the issue and resulted in various other efforts that extended beyond legislative means to curb the practice.

A. *THE FIRST DECADE OF ACTIVISM*

Forum against Sex Determination and Sex Pre-Selection (FASDSP): 1986-1994

As a prelude to discussing the campaign it is worth noting that prenatal diagnostic technology became available in India at least a decade prior to the FASDSP campaign. Dur-

ing its introduction (1974) the All India Institute of Medical Sciences, New Delhi, initiated a clinical trial on the efficacy and acceptability of the available procedure, amniocentesis. It was found that almost 90% of those who were part of the trial aborted the foetus if the procedure revealed the sex of the child to be female. Women's groups in Delhi were rightly concerned about this finding and immediately launched a protest to demand a ban on the use of these technologies for sex determination. The Government of India (GOI) responded by imposing a ban on sex determination tests in public hospitals (1975-76). The ban imposed by the GOI on the availability of SD in public facilities was no doubt a positive step in the early stages of the introduction of diagnostic technology in the country. However, some researchers see this ban as directly resulting in the rapid commercialisation and growth of the private sector for sex determinations tests (Balakrishnan, 1994).

The extent of availability of SD tests in private hospitals soon came to light as a result of an incident that took place in the New Bhandari Hospital in Amritsar, Punjab, during 1985. The incident was an error in accurately determining the sex of the foetus as a result of which a male foetus was mistakenly aborted. The 'wronged' client was an important public figure and he soon made the incident public to be able to discredit the hospital. The accompanying media coverage served to stir up controversy on the issue in Punjab and the issue of SD spiralled into a national level discussion. This has been described as a critical turning point and served as a catalyst in the coming together of the FASDSP (Patel, 1993; Ravindra, 1993).

The FASDSP initiated its campaign in Mumbai to raise awareness on SD and SSA and secure an effective ban during 1986. The Forum membership ranged from varied backgrounds and interests ranging from feminists, public health advocates to activists from

the people's science movement. The diversity of interest and opinion within the Forum led to the creation of a broader ideological platform on the issue of SD and SSA. This proved to be a positive feature in broadening the scope of the debate, which proved beneficial in that it was able to reach out to a wider constituency. As Ravindra points out, 'the entire frame of reference of the problem altered. Earlier, during the early eighties, the issue involved *just* amniocentesis, now the entire spectrum of sex determination and sex pre-selection techniques was questioned... More over, although discrimination against women was a facet of the issue discussed other concerns like misuse of technology and people's right to know and participate in decision-making in science and technology also became part of the general debate' (Ravindra, 1987:490)(*Italics mine*).

In particular the focus on women's needs was a common rallying point for groups who otherwise had divergent ideologies. In this instance common ground was forged amongst groups ranging from the Young Women's Christian Association, NSUI (student's wing of the national Congress party), UNICEF, National Media Centre and the Humanist party. The main agenda of the campaign was the demand for a ban on SD. Although there was widespread support to the campaign amongst varied organisations as well as the media it also had an equally large number of sceptics who considered the Forum's efforts as merely a magnification of what appeared to be a localised issue.

The FASDSP's activities have been well documented and are therefore not discussed at length in this paper (FASDSP, 1992; Jesani, 1998; Patel, 1993; Ravindra, 1993; Ravindra, 1987). However, as a result of the sustained campaign a new law was framed to ban SD and subsequently passed by the Maharashtra state legislature titled the Maharashtra Regulation of Prenatal Diagnostic Techniques Act, 1988. This was

later expanded into a national level legislation titled the Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act (PNDT), 1994.

B. THE PRE-NATAL DIAGNOSTIC TECHNIQUES (REGULATION AND PREVENTION OF MISUSE) ACT, 1994

The PNDT Act is a unique piece of legislation that not only guides the appropriate use of diagnostic technologies but also opened up space for articulating the need to regulate other types of reproductive and genetic technologies that were beginning to enter the Indian market. The objective of the Act is to 'provide for the regulation of the use of pre-natal diagnostic techniques for the purpose of detecting genetic or metabolic disorders or chromosomal abnormalities or certain congenital malformations or sex linked disorders and for the prevention of the misuse of such techniques for the purpose of pre-natal sex determination leading to female feticide' (MOHFW; 1994). The law has the dual objective of regulation of prenatal diagnostic technologies and prevention of misuse of these technologies for sex determination.

Some of the regulatory mechanisms include registration of genetic counselling centres, laboratories and clinics as well as the equipment used for performing the tests. Additionally, clinics are also mandated to employ personnel with a minimum skill base as prescribed by law. The Act also states that even if the practitioner is fully qualified s/he cannot conduct a test or procedure in an unregistered site.

The Act also frames rules that regulate the terms of use of prenatal diagnostic techniques. A list of medical conditions is outlined, the existence of one or more of which is deemed to justify the recommendation for a pregnant woman to undergo pre-natal diagnosis (Box 1.). Where the test is being provided, written and informed consent from women undergoing the test has also been mandated.

Box 1. Guidelines for Provision of Prenatal Diagnosis

The age of the pregnant woman is above thirty-five years.

The pregnant woman has undergone two or more abortions or foetal loss.

The pregnant woman has been exposed to potentially teratogenic agents such as drugs, radiation, infection or chemicals.

The pregnant woman has a family history of mental retardation or physical deformities or any other genetic disease.

Any other condition that may be specified by the Central Supervisory Board.

A number of institutional mechanisms have been outlined to ensure effective implementation of the law and in particular to prevent misuse of diagnostic technologies. The Central Supervisory Board (CSB) is a national-level body with high-ranking officials from both the central and state governments, members of Parliament, eminent scientists and representatives of women's NGOs. The role of the Board is to advise the government on policy matters related to implementation of the PNDT Act, review implementation as well as recommend changes to the Act. The Central Supervisory Board has also been assigned the role of raising public awareness on the issue as well as specifying code(s) of conduct for personnel in genetic clinics.

At the state-level the Act includes provision for the establishment of an Appropriate Authority (AA) as well as an Advisory Committee. Both these bodies to be appointed by the state government have as their main function the registration of genetic clinics as well as enforcement of standards for clinic conduct. AAs have also been empowered to investigate complaints against clinics as well as individual doctors. Some have critiqued the prominent and central role assigned to AA's as being too cumbersome as well as stifling individual initiative while investigating any type of misconduct or malpractice by

a clinic or doctor. One example of this is the fact that individual and social organisations have to serve a thirty-day notice of intent to the AA before being allowed to lodge a complaint in a court of law on evidence they might have gathered.

The task of regulation of prenatal diagnostic technologies through universal registration of clinics, equipment and licensing of practitioners is easier to enforce compared to implementing a complete ban on using the approved technology for sex determination. Registration of clinics while important, cannot in itself prevent misuse of these technologies, particularly in the case of ultrasound where the sex of the foetus can be easily detected and communicated through verbal or other gestures leaving no visible marks on the woman's body.

An important provision of the PNDT Act is to prohibit advertisements that publicise technologies for SD or advertise clinics where the tests are available by making any violation of the prohibition a punishable offence. This is important for a number of reasons, not the least of which has been an effective clamp down on use of the media and public spaces like billboards to promote SD technologies. As George (2002) points out, the fact that the media has played a supportive role in condemning SD through news reports does not prevent nor guarantee against those same newspapers publishing advertisements to publicise the availability of a technology for sex determination.

Unlike the previous provision that can be considered an important tool to limit the unethical promotion of SD another clause that deems the user of these services as having committed a punishable offence was considered problematic. The user of the technology is a pregnant woman. Therefore a provision such as the above could well result in women being tried and punished for seeking sex determination. The law of course can

be open to broader interpretation in a court of law. Nonetheless, it rests very much on the individual willingness of a judge or lawyer to do so based on his or her understanding of the socio-cultural motivations behind a woman's action. This makes it evident that SD and SSA is less often the result of a woman's independent decision or desire. There are provisions in the Act to protect women from being made out to be the guilty party. But evidence from the past use of laws in cases of rape, female infanticide, dowry do not present positive evidence nor promise too much hope in terms of safeguarding women's interest and well-being in the court of law.

This brief analysis of the PNMT Act 1994, serves to highlight some of the strengths as well as weaknesses that guide this unique effort to legislate the medical use of reproductive and genetic technologies on the one hand, and on the other, impose a ban on their non-medical use for sex determination. Key areas of critique have focused on the fact that in adopting the route of registration of clinics and equipment the law ends up sanctioning the private industry that has sprung up around provision of sex determination under the guise of pregnancy screening. Registration could well serve to legitimise these clinics as having a stamp of approval but it might not be effective in monitoring misuse or misconduct. Another critique has been the short-term view the law has taken with regard to RTs limiting it to include ultrasound, CVS and amniocentesis, all technologies for SD. However, even as this law was being debated new pre-implantation (PGD) and preconception technologies were being introduced in the country by doctors trained abroad as well as manufacturers who considered India to be a good market to promote these technologies and harvest profits. As a result of this limited definition of the technologies that were included in the PNMT Act, 1994, Lingam (1998) points out that the law almost immediately appeared obsolete.

The use of law to regulate RTs has often served to generate a debate with regard to the effective implementation of those laws. In India, in particular, laws have for long been accompanied by a culture of misuse resulting in both corruption and extortion. The discussion tends to get blurred between framing a good law and issues to do with its effective implementation which often results in the idea of any type of regulation by law being shot down rather than any effort being made to guarantee its effective implementation.

It is worth noting that most countries have some set of guidelines with regard to the sale, provision and use of pre-natal diagnostic technologies that serve as a proxy to having a law on the same. In other words, while these guidelines serve as 'advice' and are perhaps not enforceable in a court of law, they do allow a space for ethical norms with regard to use of RTs. The far-reaching potential of these new technologies and the consequences they bring to bear on issues of birth and procreation is being recognised and the need to discuss their appropriate use and regulation has indeed been the subject of national debates in UK and Canada amongst other countries. Although the content of the discussions have at times been divergent from the Indian one, today there is a growing consensus that regardless of what the tools might be to regulate these technologies, regulation is essential. Besides which, this oversight needs to be undertaken by a public entity and not rely solely on notions of self-regulation being exercised by doctors and users.

C. THE SECOND DECADE OF ACTIVISM

Almost a decade after the enactment of the Maharashtra legislation (1988) and six years after the national PNMT Act, 1994, was passed by the Indian parliament there was little to show that the government was taking any serious steps to ensure implementation of this new law. Box -2 provides evi-

dence in the form of almost non-existent registration of cases. For example in Punjab, a state that currently has one of the highest sex ratios at birth (Retherford and Roy, 2003; Census of India, 2001) not a single case was recorded during 1997 and during the subsequent years only two (1998) and three (1999) have been recorded. Haryana and Maharashtra had slightly better records with regard to implementation but this was possibly the result of sustained activism in the two states rather than any serious efforts by the government to be more vigilant.

Box 2. Cases Registered during the period 1997-99

State/Union territories (UTs)	1997	1998	1999
Punjab	0	2	3
Haryana	3	12	9
Maharashtra	19	25	6
Uttar Pradesh	02	0	0
Rajasthan	3	4	3
Chandigarh	2	0	0
Delhi	3	2	0

Source : MOHFW

Anecdotal evidence with regard to the widespread use of SD continued to surface both in the media as well as through smaller pilot projects. This served to create evidence on the on-going prevalence of SD as well as the neglect of this issue by both the national and state governments. This information proved to be substantial enough to file a public interest litigation (PIL) in the Supreme Court of India.

D. PUBLIC INTEREST LITIGATION BY DR. SABU GEORGE, MASUM AND CEHAT

PIL has for three decades been used in India as an important legal device to highlight social problems as well as bring about social change. Individuals and organisations have been enabled to approach the court on behalf of those unable to do so and bring charges against the government or other

private actors on behalf of that unnamed public (Anant and Singh, 2002). Dr Sabu George, Centre for Enquiry into Health and Allied Themes (CEHAT) and the Mahila Sarvangeen Utkarsh Mandal (MASUM) filed the PIL on SD in the Supreme Court of India in February 2000. The original petition provided evidence to validate claims that the PNDT Act, 1994, had failed to achieve its goals. The PIL also urged the Court to allow for an amendment to the Act that would allow for the inclusion of new techniques such as pre-implantation genetic diagnosis (PGD) and other pre-conception techniques for sex

In response to the Writ Petition the Supreme Court issued notices to both the Central and State governments to file a response (5 May 2000). The States took almost a year to file their affidavits and soon after an interim judgement was delivered by the Supreme Court on 4 May 2001. The Court expressed strong concern about the non-implementation of the PNDT Act, 1994. The judgement included directives to the GOI and state governments to immediately activate the supervisory board in charge of implementation of the PNDT Act at the national level, Central Supervisory Board (CSB), as well as the state-level authorities, AAs, all of which till then remained largely defunct. Regular half-yearly meetings till then not a regular feature of the CSB were ordered. The CSB was also given the mandate to examine the necessity of amending the existing Act - a demand made in the petition, mainly in recognition of the fact that new technologies that could be used for sex selection were becoming available in the Indian market and needed to be brought under the purview of the Act.

Prominent media coverage of the Court proceedings served to do two things, create greater public awareness on the issue as well as create pressure for the government to undertake concrete action. The Court in its directive also asked that governments raise awareness on the issue and use the

electronic media to do so. However, as George (2002) points out, the non-inclusion of new technologies that could be used for sex selection proved to be problematic. He cites the case of a reputed national newspaper, Times of India (TOI), that published advertisements trying to promote a new pre-conception sex selection kit by an American company Gen-Select in November, 2001, at a time when public attention on the issue was at a height as a result of the PIL. Faced with protest the Times published an editorial defending its position asserting that Indian women must be given freedom of choice. It did point to the dangers of leaving the introduction of genetic and reproductive technologies like Gen-Select out of the provision of the law. At the time the advertisement was published the law still did not include pre-conception techniques within its purview and therefore from a legal standpoint the TOI could not be faulted.

On 11 December 2001 the Supreme Court of India issued a second order directing five multinational companies - Philips, Symonds, Toshiba, Larsen and Toubro and Wipro GE - to give the names and addresses of the clinics and persons to whom machines had been sold during a five years period, 1996-2001. The objective was to provide State governments a list that would make it easier for them to track down individuals and clinics and in particular allow confiscation of equipment that was not registered and therefore their possession deemed illegal. As of February 2002, different companies had provided over 11,000 names to the Court. The Court also asked the medical association to provide lists of members who used ultrasound machines. George (2002) provides an interesting critique of the role being played by companies that manufacture and market these technologies in India. He points out that as a result of the Court order GE-WIPRO provided a list of 5000 buyers of the technology revealing that a disproportionate number of those machines had been sold in north-

west India; the region which records some of the lowest child sex ratios as well as sex ratio at birth in the whole country. Further, he analyses GE-WIPRO's market strategy and finds a focus on smaller towns to market its medical equipment including ultrasound scanners. These he thinks needs to be viewed with some concern. 'Once a private practitioner in a small town buys a machine then there is great pressure on other doctors to buy. Multiple machines where there is little demand for legitimate prenatal care increases competition, reduces scan rates and motivates abuse to include foetal SD so that clinics can recover their investment' (George; 2002:192).

The Health secretaries from Punjab, Haryana, Delhi, Bihar, Uttar Pradesh, Maharashtra, Gujarat, Andhra Pradesh, Kerala, Rajasthan and West Bengal were present for the January, 2002 hearing as per the Court's orders and had to explain steps taken by them to curb SD and SSA. This pressure by the Court did result in a clamp down on clinics and doctors. Newspaper articles published reports that stated that 300 complaints had been registered against doctors as well as patients during this period. According to George (2002) since the Supreme Court judgement, registration of clinics and of ultrasound machines is largely being undertaken at the district level though he describes the pace as being tardy in some states.

The Secretary of Family Welfare, GOI recently stated in a meeting that since the Supreme Court judgement 365 cases against clinics and doctors have been initiated throughout the country as a result of surprise checks conducted by AAs. Also a national-level monitoring and implementation committee has been constituted at the Centre to take stock of the ground realities. The Human Right Laws Network has prepared a handbook on the PNDT Act. The various resources that currently exist only in English need to be translated into Hindi and other regional languages. The MOHFW is also in

the process of setting up a resource centre; working with various national and international organisations to develop national advocacy strategies and is also undertaking a number of media initiatives through All India Radio as well as Doordarshan to create greater awareness on the issue.

The CSB undertook a review of the existing PNDT Act, 1994 and recommended amendments. Recommendation included amongst others things the broadening of the scope of technologies to be regulated to include pre-implantation and preconception sex selection. Deliberations on the amendments proceeded swiftly and the amended Act was approved by the Parliament in December 2002.

The PIL has played an important role in creating widespread awareness of the criminality of SD and SSA. The role of law and in particular the response of the Supreme Court demonstrates that an important role can indeed be played by laws, in particular where the executive lacks the will to act against powerful lobbies such as medical associations and doctors (George, 2002)

E. THE PRE-CONCEPTION AND PRE-NATAL SEX SELECTION / DETERMINATION (PROHIBITION AND REGULATION) ACT, 2002

One of the key changes in the Act is the inclusion of technologies that allow sex selection to be undertaken during the preconception and pre-implantation stage previously not included within the purview of the Act. Another important addition is the requirement on the part of clinics and doctors who provide ultrasound to maintain written records that detail the specific reason why an ultrasound or amniocentesis test had been recommended to a pregnant woman. The Indian Council of Medical Research has already prescribed 23 indicators that guide ultrasound use to monitor maternal health and foetal growth.

The AAs at the district and sub-district level are now authorised with greater powers - equal to civil courts - and can now register complaints, confiscate illegal equipment and conduct raids without prior notice. In addition the national-level CSB will now be complemented by State Supervisory Boards and help monitor implementation of the law. The Supreme Court in its judgement had emphasised the importance of involving women and legal experts as office bearers in the various monitoring and implementation agencies and this has been incorporated into the law.

The amendments to the PNDT Act, 1994, have not gone unchallenged. Challenges have been filed in the lower courts at the state level to challenge as well as subvert the enactment of a new law as well as its enforcement. Petitions to this effect have been filed in the High Courts of West Bengal, Karnataka, Rajasthan and Kerala (George, 2002:191). The Delhi Medical Association (DMA) too has filed a public interest litigation in the Supreme Court. The Association contends that the newly amended PNDT Act curtails the use of essential diagnostic techniques thereby depriving women of their basic rights. They cite the broader use of diagnostic procedures and charge that regulation of these technologies, albeit their pre-natal use, can result in more harm than good.

Some of the demands being made by the medical community include the demand to separate the legitimate use of ultrasound from the law that regulates misuse of ultrasound for sex determination. One of the suggestions made by the Delhi Medical Association has been to separate the regulation of ultrasound clinics from other genetic testing facilities. Currently, the law makes no distinction between the various genetic facilities for tests and counselling with regard to standards for registration, maintenance of written records amongst other requirements, to be enforced by law. The DMA in its

counter petition to the 2001 PIL also urges the Supreme Court to separate the use of ultrasound on males and non-pregnant women and make these exempt from the PNDT Act.

An interesting contradiction worth noting is the fact that even as better enforcement of the PNDT Act limits the scope to use ultrasound on pregnant women the tests themselves have gained widespread acceptance as an important component of prenatal care particularly in urban centres. The medical associations too continue to emphasise the importance and universal use of ultrasound as much as possible to confirm and evaluate all pregnancies. The DMA petition urges the Court to delete the conditions prescribed in the law to guide provision of prenatal diagnosis for pregnant women.

Finally, Arnold, et al. uses NFHS-2 data to provide direct information on the pattern of use of the two principal tests. They contend that in North India, the three states where sex-selective abortions are thought to be most common have much higher levels of ultrasound use (19-23 per cent) than any other state except Delhi. These results they argue 'provide evidence that ultrasound is widely available and is often used by women during pregnancy, with the attendant possibility of misuse of the test for the purpose of sex determination of the foetus and sex selective abortion' (Arnold, Kishor, et al.; 2002:774). NFHS-2 data also shows that women who do not have sons are more likely than other women to undergo ultrasound tests. The authors also point out that 'a consistent pattern of differences in the use of these procedures by the sex of living children demonstrates the use of these procedures for the purpose of sex determination' (Arnold, et al.; 2002:774). This illustrates more than ever the need for strict vigil and regulation of the use of ultrasound despite protests by the medical community against such norms.

The two decades of activism and the resultant laws has shown that a coherent legal framework can be articulated and implemented to regulate genetic and reproductive technologies. Flaws and weaknesses apart, some of which have since been amended, the legislature and judiciary has played a positive role in creating pressure on the executive to act to counter this heinous practice. Unlike community based action or other programmatic efforts, laws often provoke extreme reactions mainly because they represent something that is binding and enforceable in a court of law. On this issue many within the women's movement in India as well as the medical communities have been at the centre of the debate on the role of law.

IV. ACTIVISTS / DOCTORS : ARGUMENTS / COUNTER-ARGUMENTS

A. *GENDERED TECHNOLOGIES / SCIENTIFIC PROGRESS*

FASDSP does not believe in saying a categorical 'No' to technology. But certain questions have to be asked: Is there a qualitative difference between the various technologies? If so, how does one identify it and if not, how does one evolve criteria by which a distinction can be made to help determine those technologies that are desirable and appropriate? (FASDSP, 1992:91).

There is a need not to view the political economy of reproductive technologies through a lens that restricts analysis to isolated medical procedures as this limits analysis of RTs and the broader socio-cultural and economic considerations that often mediate their (mis)use. The most significant contribution of feminist analysis of RTs has been to demonstrate the gendered context within which these technologies are often used. Although, now this understanding is part of our common knowledge, this has been the result of decades of struggle to change perceptions that saw RTs as neutral scientific progress that helped improve women's health and well being.

The discussion around RTs continues to be framed overwhelmingly as tools to reduce women's reproductive 'burden'. However, there is enough evidence that suggests that the introduction of technologies and this view of them as magic bullets to solve problems does little unless equal efforts are made to address the unequal arrangement and disproportionate burden that women bear with regard to reproduction (Birke, et al; 1990). The case of SD and SSA is a good example of how RTs can result in reinforcing women's oppression even where it apparently reduces the reproductive burden of repeated childbirth. Reproductive health advocates continue to be divided with regard to defining their position on new reproductive technologies. Some (e.g. Feminist International Network of Resistance to reproductive and Genetic Engineering) have advocated a blanket ban. Others emphasise the ambivalent effects that RTs have on women's lives.

As this analysis has demonstrated, certain types of technologies have the capacity more than others to be used towards reinforcement of traditional norms that determine reproduction and childbearing. Some scholars point to the fact that the same factors, e.g. technologies that are seen to fuel modernisation often do not transform society or unbalance the status quo particularly with regard to gender and power based inequities but help perpetuate traditional norms (Bose, 1994:387).

The debate on science and technology is often framed around two broad issues - that of political control and of morality and ethical standards (Nelkin, 1992:x). Particularly, with regard to RTs the instrumental reasoning that often guides their development and use is increasingly being questioned. The FASDSP's demand to regulate diagnostic technologies and ban SD tests sought to frame the discussion in a manner that highlighted both the overwhelming political control that the medical community exercised

over the use of these technologies as well as the absence of moral or ethical standards that guided that control, resulting in misuse.

The doctors on their part continued to claim that the use of amniocentesis and ultrasound was part of routine antenatal care and necessary to judge the quality of the pregnancy. These new genetic and RTs have during the last decade vested medical professionals with even greater power and control in overseeing conception, pregnancy and childbirth. They now wield enormous power to guide what till recently were seen as immutable processes of procreation. The need for regulatory norms to guide ethical use of these new RTs is unavoidable to avoid the slippery slope of abuse of technologies for commercial gain, as has been the case with SD and SSA.

Dr M L Verma, the attending doctor on Saturday, met this reporter when she visited the hospital posing as a pregnant woman. The story trotted out was that she and her husband did not want the baby. But as her in-laws insisted on a boy, she wanted to get the test done. Dr Verma was willing to do it, assuring her that the test was very simple. He added that if the sex of the baby was 'not satisfactory,' they would carry out an abortion the very next day. He did not even conduct a cursory medical examination and when asked about the well known dangers of the test, dismissed it... 'Today in the morning I have done three tests.' He said that they had conducted 20 tests in a week (Chaturvedi, 1994).

Doctors argue that they provide SD tests because the patient demands it. In fact some have gone so far as to say that when they have refused tests this has often resulted in them being labelled as bad doctors. This in turn has affected their practice and resulted in their providing SD. However, there are others who consider SD to be the lesser of two social evils where the other option is to give birth to a female infant who will subse-

quently be the victim of gender-based violence.

Dr V K Vats in charge of the Hiralal Nursing Homes is completely unabashed about carrying out sex determination tests. 'It has been going on for a long time and a handful of city people cannot decide what the rural people want. In my opinion, it is better to abort a female foetus rather than give birth to her. In all probability, she will be burnt for not bringing enough dowry' (Gupta: 1994).

The scope as well as pace of development of RTs as well as their rapid introduction into the world market has made regulation a complex and dynamic process. Yet efforts to monitor their use, no matter how uphill a task, needs to be undertaken. Concurrently the government needs to make a serious commitment to address gender and power based inequities to be able to create an environment where RTs can indeed be reclaimed as tools that will improve women's reproductive health and well-being.

B. REGULATION / DEREGULATION OF REPRODUCTIVE TECHNOLOGIES AND THEIR USE

It is one thing to legislate that an individual should not be forced to procreate against her will, and thereby protect legal access to contraception or abortion. It is quite another to derive from this legal protection the belief that individuals have the right to procreate by any means possible. Hidden in this discourse of means is the female person who is used. (Raymond, 1993:79).

To some, e.g. members of FASDSP, the need to regulate the use of RTs appears self-evident. But there are many whose opinion is still divided on the issue. In fact, the FASDSP demand for a law to regulate prenatal diagnostic techniques and ban their use for sex determination was met with a lot of opposition not only from the medical community, certain sections of the women's movement in India as well as by the international feminist movement. They feared that regu-

lation of these technologies by the state could undermine reproductive freedom, in particular the right to abortion that women had struggled so hard to win. This did not mean that these groups did not condemn the practice but the correct strategy to address SD and SSA has often been contentious (Renteln, 1992).

The medical community too, opposes regulation of any kind. In the past when the PNDT Act, 1994 was being framed as national level legislation, they put pressure on the central government and succeeded in watering down a number of provisions that were included in the original Maharashtra legislation, 1988. At times attempts to legislate on the issue has proved to be counter-productive as provisions were included that resulted in penalising women, granting licenses to private clinics and thereby legitimising the huge private industry that had sprung up around SD tests as detailed earlier in Section II.

In spite of these setbacks the PNDT Act sets an important legal precedent in regulating RTs and serves to act as a balance against unethical use. The existence and provisions of this law has served to restrain what had been till then rampant growth of SD clinics and clearly makes it difficult for those who continue to provide these tests to publicise them openly. The law also serves to highlight the negative role of the medical community in the wide spread misuse of diagnostic technologies. Framing a social problem in the language of law helps identify not only the key actors who have contributed in creating the problem but also helps create widespread awareness that could potentially result in social change.

Many have pointed out that laws are at best a shortcut to avoid addressing the deep-rooted systemic factors that mediate discrimination and violence against women and female children. Others have pointed to the fact that regulatory mechanisms with regard

to the use of diagnostic technologies for sex determination are ineffective unless loopholes within the Medical Termination of Pregnancy Act (MTP), 1971, are tightened. MTP is allowed in India for various reasons including contraceptive failure and this often makes it hard to specifically link an abortion decision to SD. Yet as George has pointed out, a law and effective use of the judiciary can bring pressure on the executive branch of government to do a better job of monitoring use of these technologies. It could guide medical ethics that till date has been seriously lacking with regard to SD and SSA and at the same time serve as a catalyst to address deep-rooted patriarchal norms within Indian society.

Legislation and regulation can then be said to provide a framework within which the role of multiple actors and institutions can be evaluated. The economic motivation that guides SD and SSA is another reason why the profit optimisation principles of the free market might not result in self-regulation of RTs that allow SD as they are increasingly being viewed as a 'trade' and a quick way for doctors to make money (Sarin, 1994: The Pioneer, 20 November) rather than as a medical technology to serve the well-being of pregnant women.

Aggressive strategies for marketing have included the now famous slogan 'pay Rupees 500 now and save Rupees 500,000 later' to encourage couples to get a SD test to prevent female births and therefore avoid dowry payment at a later date. The larger industry that has sprung up around reproduction of which doctors are only a part, needs to be noted. It is the role of this medical and pharmaceutical industry as much as those of an individual doctor that needs to be monitored.

The difficulty of regulating technologies like ultrasound and their non-obstetric use for SD should not become the basis of an argument for deregulation. A number of mea-

asures can lead to effective regulation. For example under both the MTP Act, 1971 and the PNDT Act, 1994, specific sites have been classified for legal provision of these services. Universal registration of these sites and listing of diagnostic equipment, granting licenses and a provision that they be prominently displayed could go a long way in curbing misuse. The PNDT Act can be the first step in a broader effort to regulate the private healthcare sector. The law fails in that it does not specify the role that has been played almost single-handedly by the private sector in spreading SD and SSA across the country. It is worth noting that SD was banned in all public facilities in the mid-seventies.

As a counterbalance to the growing role of the private sector, government public health facilities could be improved. Provision of safe abortion in particular and universal coverage of antenatal care could result in families and women seeking public facilities. Financial assistance can be made available to district hospitals and community health centres for constructing operation theatres labour rooms, water supply and electricity and upgrading of primary health centres. The law can be interpreted and used effectively to demand that the government fulfil its obligation. This can include the demand for budgets sufficient to carry out the above activities.

C. SEX SELECTIVE ABORTION/RIGHT AND ACCESS TO ABORTION

The non-medical use of technology and abortion for the sole purpose of sex selection needs to be distinguished from women's right and access to safe abortion. Some within the medical community have argued that if women have the right to abortion then by extension they also have the right to choose the sex of the offspring and therefore SSA. Ravindra, points out that the argument is often made that women should have the right to decide not only how many children they

should have and when to have them but also be able to exercise the right to choose the sex of their off-spring (Ravindra; 1995).

Sex selective abortion is not the result of an unintended or unwanted pregnancy. It is a gendered preference for a certain type of pregnancy that guides the decision to undergo sex selective abortion (Mallik; 2002).

The MTP Act guarantees women's right and access to safe abortion. In spite of this legal provision, even after 30 years, access to abortion is limited to 4600 medical facilities and 15000 physicians who have received approval to perform abortions (Balakrishnan, 1994). While many practitioners might have the qualifications to perform an abortion but are not registered as required by the law, it is also a fact that women often turn to quacks to obtain abortions. India has one of the highest rates of unsafe abortions.

The tendency to conflate unsafe abortions with SSA sometimes results in a demand to 'tighten' the MTP Act. Women's vulnerability will increase as a result of such measures, as their limited access will become further restricted. SD and SSA contribute to the rate of unsafe abortion and cannot be addressed solely by placing limits on the availability of abortions for women. Johnston notes that not only is India's second trimester abortion rate one of the highest in the world but this is often the result of women undergoing SD and sex selective abortion (Johnston; 2002). Therefore curbing SD and adopting broader strategies to reverse the strong emphasis on the birth of sons appears to be more reasonable than placing restriction on women's access to abortions as that will only result in them seeking unsafe abortions from quacks if all else remains unchanged.

SD and SSA need to be viewed as a continuum. This makes it evident that effectively curbing SD will automatically lead to a reduction in SSA. On the other hand it is

easy to see that arguments that favour curbing abortion do little to address or reduce SD.

Health risks posed by SD and SSA that might otherwise not occur also need to be highlighted. Tests like amniocentesis carry with them the risks of spontaneous abortion and infections. Amniocentesis requires trained medical technicians to carry out the test, and even in those instances the possibility of injury to the placenta or to the foetus remains. There is evidence of tests being performed by untrained persons with inadequate equipment and in poor conditions (Ravindra, 1995).

Johnston describes the 'double illegality' of obtaining SSA as heightening the risks faced by women.

- 1 First, it is hard to access second trimester abortions that often result in women going to uncertified providers.
- 1 Secondly, the PNMT Act has made SD illegal.

These two factors 'mediate and increase the propensity and prevalence of unsafe abortion. In 1989, 11 per cent abortions [likely a conservative estimate] were thought to be to abort a female fetus' (Johnston; 2002: 7&11). In some sense the conflation of the discussion on SSA and later-term abortions has served to jeopardise and stigmatise any discussion on late-term abortion (legal up to 20 weeks) in India. The need to untangle the two therefore becomes critical besides the necessity for simultaneous efforts to increase access to safe and early abortions.

The entanglement of language used to advocate the right and access to abortion and those that argue for the right to SSA makes any discussion on this subject difficult and complex.

Yes, it is true that women seek amniocentesis to have female fetuses aborted, but should the state compel a woman to rear a daughter she does not want? A ban on sex determination tests will impose unwanted

pregnancies on women... [it] will restrict the right of Indian women on having abortions. It will tell women that they can decide the number of children, but not their sex (Kala, 1994).

The divergence in strategies to reduce unsafe abortion and SSA provides the possibility of emphasising difference between the two. Unsafe abortions can be reduced through access to contraception in particular spacing methods as well as emergency contraception; improving the efficacy of the methods; better antenatal care amongst other things are factors which can help prevent an unintended pregnancy. SSA on the other hand is part of a family building strategy that emphasises the birth of sons and rests on the easy availability of SD. SSA is an act of violence against women.

Any discussion on SSA needs to build on inclusive rather than an exclusive definition of the problem that rests solely on a framework that sees easy access to abortion as being the culprit. There is a critical need to build on women's own perspectives and dilemmas both with regard to seeking abortion and in particular SSA. It is particularly important to frame the debate within the larger context of medical professionals who provide the tests; quacks who are willing to perform abortions without any questions asked; population policies that continue to emphasise small families that result in reinforcing a preference for sons and elimination of daughters.

V. CONCLUSION

A. **SEX DETERMINATION AND SEX SELECTIVE ABORTION - EMERGING PATTERNS?**

As India goes through a fertility transition, regional patterns appear to be emerging that appear to fuel sex determination and sex selective abortion in different parts of the country (See diagrams below). In each of the categories the primary factors that contrib-

ute to and result in SSA has been identified. The inter-relatedness of these various factors cannot be emphasised enough. The intention, however, is not to generalise or strictly allocate any one type to a particular region/state but to illustrate the complexity embedded in the host of issues that constitute the terrain within which SD and SSA takes place in India. The objective is to illustrate the need for a multi-pronged policy and programmatic approach within which laws and their effective implementation have an important role to play.

In the southern states that have attained replacement levels of fertility at birth order two, there is a strong preference for balance that is evident also at higher birth orders. This indicates a growing trend towards family balancing in these states. This can result in an intensifying trend in SSA as women who want to stop at two children are not only proportionally more but increasingly want to have one child of each sex. Cause for serious concern is, however, for the northern states that continue to record high fertility as well as high son preference. It is the next stage of fertility transition in these states that needs to be watched carefully as that will be the moment when SD and SSA will be increasingly adopted (Retherford and Roy; 2003a).

B. **NEW FRONTIERS OF DISCRIMINATION**

In conclusion, it is worth noting that in an interesting case of role reversal, just as India completes two decades of debate and legislation on the non-medical use of reproductive and genetic technologies for SD and SSA, countries like the UK and USA are on the threshold of engagement on the issue.

Recently a campaign has been launched by a UK based NGO, Human Genetics Alert (HGA) and an Indian NGO, Alternative for India Development (AID). The campaign calls for an outright ban on all methods of sex selection in UK. Part of the motivation for the campaign has been a result of the discovery

by HGA and AID of clinics in London, Birmingham and Glasgow that have been advertising sex selection through the Punjabi press. The advertisement appeared in the Punjabi language, UK based newspaper 'Des Pardes'. The timing of the campaign is particularly helpful as it coincided with a public consultation through a survey by the Human Fertilization and Embryology Authority (HFEA) on the use of non-medical use of pre-implantation and preconception techniques for sex selection.

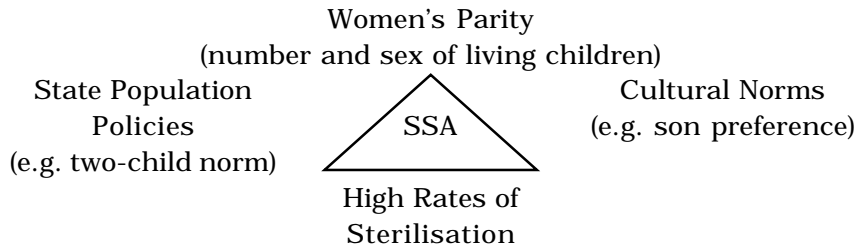
In UK abortion purely on the grounds of sex is banned by the Abortion Act, 1967 how-

ever, it does not ban doctors from telling parents the sex of the child while undergoing an ultrasound scan. Further, techniques like sperm sorting in use for pre-conception sex selection are currently not covered by any law in the UK (HGA; 2002).

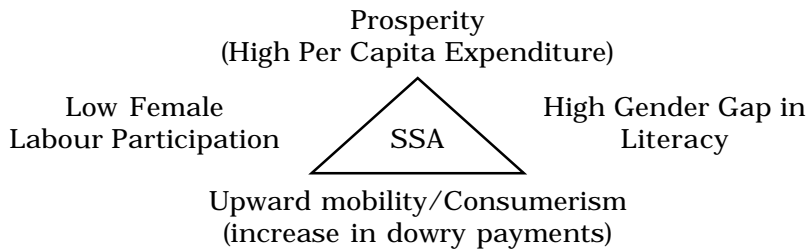
Many are of the opinion that the current lack of rules with regard to the use of reproductive technologies has left them open to misuse.

In the US, controversy erupted when the head of the ethics committee of the American Society for Reproductive Medicine (ASRM), made public his opinion that it is

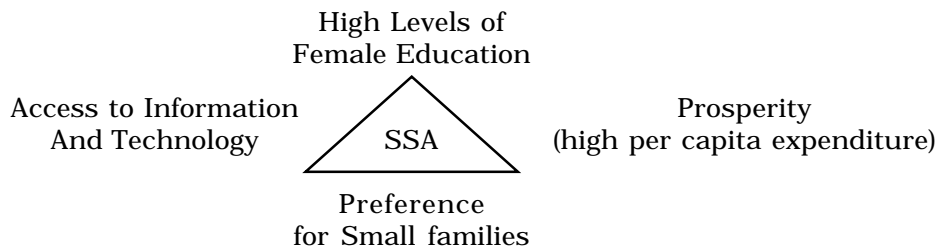
Type A : Driven by Cultural Factors and Family Planning Goals (e.g. Tamil Nadu)



Type B: Driven by Economic Factors (e.g. Punjab and Haryana)



Type C: Driven by Notions of Choice and Autonomy (e.g. Delhi and Chandigarh)



acceptable for couples to choose the sex of their children. Most clinics in the US usually abide by ethical standards laid down by the ASRM (Kolkata; 2001). In developed countries with no clear evidence of bias against female children the term used to rationalise the use of sex selection procedures is the desire by couples for gender variety or balance in family size and composition.

Bernard Dickens in a guest editorial in the *Journal of Medical Ethics* (December, 2002 issue) asked the question 'Can Sex Selection be Ethically Tolerated?' Although he made compelling arguments against a ban on sex selection, the premise on which he based his arguments appear deeply problematic and symptomatic of the way the issue is viewed in the developed world. Although scholars continue to speak out for the theoretical right to sex selection, this has been accompanied by activism against it. The targeting of the South Asian community with its known preference for sons, demonstrates the lack of ethics that often guides the non-medical use of these technologies. Taken together all of these new developments create the need to explore new strategies as well as require a fresh engagement with the issue at the international level.

First, and foremost as a colleague from India pointed out (Jesani; 2002, personal communication) there is a need to avoid stigmatising the issue as a South Asian problem, based on a socio-cultural preference for sons. Doctors, clinics and ethicists in countries like the US have delineated this part of the practice as being sexist and therefore unethical while continuing to argue that sex selection for family balancing is ethical. This

has served to limit the discussion on other gendered aspects embodied in the use of these technologies. There has also been little discussion on the high rates of failure and lack of efficacy in the use of some of these technologies for sex selection. There is need to clearly articulate the universality of the gendered content of the use of these technologies for sex selection in all socio-cultural contexts. In other words there is a need to move away from son preference as the only measuring yardstick to evaluate sexist use of these technologies.

Further, there is a need to oppose the growing trend of using reproductive technologies for non-medical, non-compelling reasons. Family balancing is one such 'cosmetic use'. What now needs to be stressed is that non-medical use of these technologies does not necessarily mean they do not carry reproductive health burdens for women as a result of the use - a fact that is often ignored.

In conclusion it is important to emphasise that rapid advance in the field of genetic knowledge and development of reproductive technologies has created a situation where there has been a breakdown of the moral consensus with regard to the use and benefits that such technologies provide. The negative impact of this moral incoherence is being felt by societies across the globe, particularly women. The issue of sex determination and sex selective abortion in India serves to highlight the urgent need to find a new moral consensus with regard to the availability and use of reproductive technologies. This needs to be accompanied by mechanisms at both the national and international level to help prevent misuse.

REFERENCES

- Agnihotri, S. B. (2000) *Sex Ratio Patterns in the Indian Population - A Fresh Exploration*. New Delhi: Sage Publications.
- Anant, and Singh. (2002) 'Economic Analysis of Judicial Activism.' *Economic and Political Weekly*. October 26. Mumbai: Sameeksha Trust Publication.
- Arnold, F; S. Kishor and T.K.Roy. (2002) 'Sex Selective Abortions in India.' *Population and Development Review*. December. New York: Population Council. Vol 28(4): 759-785.
- Balakrishnan, R. (1994) 'The Social Context of Sex Selection and the Politics of Abortion in India,' pp 267-86, in Sen, G. and Snow, R. C. (eds.) *Power and Decision: The Social Control of Reproduction*. Cambridge: Harvard School of Public Health.
- Bandewar, S. (2003) 'Abortion Services and Providers' Perceptions: Gender Dimensions.' *Economic and Political Weekly*. May 24. Mumbai: Sameeksha Trust Publication. Vol XXXVIII (21).
- Basu, A.M. (1999) 'Fertility Decline and Increasing Gender Imbalance, Including a Possible South Indian Turnaround.' *Development and Change*. The Hague: Institute of Social Studies.
- Birke, L., Himmelweit, S. and Vines, G. (1990) *Tomorrow's Child: Reproductive Technologies in the 90s*. London: Virago Press.
- Bose, A.(1994) 'Gender Issues and Population Change: Tradition, Technology and Social Turbulence.' *International Social Science Journal*. United Kingdom: Blackwell Publishers (on behalf of UNESCO) XLVI (3): 387-95.
- Bose, A. (2001) 'Census of India 2001 and After.' *Economic and Political Weekly*. Mumbai: Sameeksha Trust Publication. May 19. Volume 36(20): 1685-87.
- Bose, A. (2001) 'Fighting Female Feticide: Growing Greed and Shrinking Child Sex Ratio.' *Economic and Political Weekly*. Mumbai: Sameeksha Trust Publication. September 8. Volume 36(36): 3427:29.
- Bose, A. (2002) 'Curbing Female Feticide: Doctors, Governments and Civil Society Ensure Failure.' *Economic and Political Weekly*. Mumbai: Sameeksha Trust Publication. February 23. Volume 37(8): 696-97.
- Census of India. (2001) New Delhi: Registrar General of India
- Chalaby, J.K. (1996) 'Beyond the Prison-House of Language: Discourse as a Sociological Concept.' *British Journal of Sociology*. London: Routledge. December. 47(4): 684-98.
- Chhabra, R and S.C Nuna. (1994) 'Abortion in India - An Overview.' New Delhi.
- Chunkath, S.R. and Athreya, V.B. (1997) 'Female Infanticide in Tamil Nadu: Some Evidence.' *Economic and Political Weekly*. 26 April. WS-21. Mumbai: Sameeksha Trust Publication.
- Dasgupta, M. (1987) 'Selective Discrimination against Female Children in Rural Punjab, India.' *Population and Development Review*. March. 13 (1): 77- 100.
- Edwards, J., Franklin, S, Hirsch, E., Price, F. and Strathern, M. (1999) *Technologies of Procreation: Kinship in the Age of Assisted Conception*. London: Routledge.

- Forum against Sex Determination and Sex Pre Selection (FASDSP). (1992) 'Using Technology, Choosing Sex.' *Development Dialogue*. Uppsala: Dag Hammarskjold Foundation. 1&2:91-102.
- Ganatra, B; S. Hirve and V.N.Rao. (2001) 'Sex Selective Abortion: Evidence from a Community-Based Study in Western India.' *Asia-Pacific Population Journal*. June. Vol 16(2): 109-124.
- George, S.M. (1997) 'Female Infanticide in Tamil Nadu: From Recognition Back to Denial?' *Reproductive Health Matters*. November. 10:124-32.
- George, S.M. (2002) 'Sex Selection/ Determination in India: Contemporary Developments' *Reproductive Health Matters*. USA: Elsevier Science. Volume 10(19): 190-92.
- George, S.M. and Dahiya, R.S. (1998) 'Female Feticide in Rural Haryana.' *Economic and Political Weekly*. Mumbai: Sameeksha Publications Trust. August 8. XXXIII (32): 2191-98.
- George, S.M. and P. Phavalam (Eds.). (2000) *Female Feticide in Tamil Nadu - Report of the State Level Consultation*. Madurai: SIRD. December 2-3.
- Goodkind, D. (1996) 'On Substituting Sex Preference Strategies in East Asia: Does Pre-Natal Sex Selection Reduce Post-Natal Discrimination?' *Population and Development Review*. 22(1): 111-25.
- Government of Andhra Pradesh. (1997) *Andhra Pradesh Population Policy*.
- Government of India. (1996) *The Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, 1994*. New Delhi: Gazette of India.
- Government of India. (2003) *The Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Amendment Bill, 2002*. January. New Delhi: Gazette of India.
- Government of Uttar Pradesh. (2000) *Uttar Pradesh Population Policy*.
- Gupte, M; S. Bandewar and H. Pisal. (1996) 'Women's Role in Decision-Making in Abortion: Profiles from Rural Maharashtra.' Mumbai: CEHAT. (Paper presented for XIV International Conference of the Social Science and Medicine at Peebles, Scotland, September 2-6).
- Human Genetics Alert. (2002) Press Release. London: HGA.
- International Institute for Population Sciences (IIPS) and ORC Macro. (2000) National Family Health Survey (NFHS-2), 1998-99: India. Mumbai: IIPS.
- Jesani, A. (1998) 'Banning Pre-Natal Sex Determination: The Scope and the Limits of the Maharashtra Legislation' in Lingam, L (ed) *Understanding Women's Health Issues: A Reader*.
- Johnston, H.B. (2002) Abortion Practice in India: A Review of Literature. Mumbai: CEHAT & Healthwatch. May.
- Kolkata, G. (2001) 'Fertility Ethics Authority Approves Sex Selection.' New York: *The New York Times*. 28 September.
- Lingam, L. (1998) 'Sex Detection Tests and Female Feticide: Discrimination before Birth.' In Lingam, L (Ed.) *Understanding Women's Health Issues- A Reader*. New Delhi: Kali for Women.
- Mallik, R. (2002a) *India- Recent Developments Affecting Women's Reproductive Rights*. Takoma Park, MD: Center for Health and Gender Equity (CHANGE). December. www.genderhealth.org <<http://www.genderhealth.org>>
- Mallik, R. (2002b) A Less Valued Life: Population Policy and Sex Selection in India. Takoma Park, MD: Center for Health and Gender Equity (CHANGE). October. www.genderhealth.org <<http://www.genderhealth.org>>
- Mallik, R. (2002c) 'Sex Selection: A Gender-Based Preference for a Pregnancy.' *Reproductive Health Matters*. US: Elsevier Science. Volume 10(19): 189-90.

- Menon, N. (1995) 'The Impossibility of "Justice": Female Feticide and Feminist Discourse on Abortion.' *Contributions to Indian Sociology*. New Delhi: Sage Publications. 29(1&2): 369-92.
- Miller, B.D. (1981) *The Endangered Sex: Neglect of Female Children in Rural North India*. Ithaca: Cornell University Press.
- Nelkin, D. (ed) (1992) *Controversy - Politics of Technical Decisions*. London: Sage Publications.
- Oldenburg, P. (1992) 'Sex Ratio, Son Preference and Violence in India - A Research Note.' *Economic and Political Weekly*. Mumbai: Sameeksha Publications Trust. December 5-12. XXVII (49&50): 2657-62.
- Oomman, N. and B. R. Ganatra. (2002) 'Sex Selection: The Systematic Elimination of Girls.' *Reproductive Health Matters*. USA: Elsevier Science. Volume 10(19): 184-188.
- Palriwala, R. (1994) *Changing Kinship, Family and Gender Relations in South Asia: Processes, Trends and Issues*. Leiden: Women and Autonomy Centre (VENA)
- Patel, V.(1993) 'Campaigns Against Gender Violence in India 1977-1993.' *Resources for Feminist Research*. Ontario. Fall. 23(3): 37-40.
- Premi, M. (2001) 'The Missing Girl Child.' *Economic and Political Weekly*. Mumbai: Sameeksha Trust Publication. May 26. Volume 36(21): 1875-80.
- Patel, V, (1985) 'Women's Liberation in India.' *New Left Review*. London: New Left Review. September-October. (153): 75-86.
- Rajan, I.S., Mishra, U.S. and Navaneetham, K. (1992) 'Decline in Sex Ratio: Alternative Explanation Revisited.' *Economic and Political Weekly*. Mumbai: Sameeksha Publications Trust. November 14. XXVII (46): 2502-08.
- Ravindra, R.P. (1987) 'Struggle Against Sex Determination Techniques - Unfinished Battle.' *Economic and Political Weekly*. Mumbai: Sameeksha Trust Publication. March 12. XXII (12): 490-92.
- Ravindra, R.P. (1993) 'The Campaign Against Sex Determination Tests,' pp 51-99, in Datar, C (ed.) *The Struggle Against Violence*. Calcutta: Stree Publications.
- Ravindra, R.P. (1995) 'Myths about Sex Determination Tests.' *Facts against Myths*. Mumbai: Vikas Adhyayan Kendra. June. 2(3): 1-6.
- Raymond, J.G. (1993) *Women as Wombs - Reproductive Technologies and the Battle over Women's Freedom*. San Francisco: Harper Collins.
- Renteln, A.D. (1992) 'Sex Selection and Reproductive Freedom.' *Women's Studies International Forum*. USA: Pergamon Press. 15 (3): 405-26.
- Retherford, R.D. and T.K.Roy. (2003a) *Factors Affecting Sex-Selective Abortion in India and 17 Major States*. National Family Health Survey Subject Reports. Number 21. January. Mumbai and Hawaii: IIPS and East West Center.
- Retherford, R.D. and T.K. Roy. (2003b) 'Factors Affecting Sex Selective Abortion in India.' *National Family Health Survey Bulletin*. Number 17. January. Mumbai and Hawaii: IIPS and East West Center.
- Rowland, R. (1985) 'A Child at Any Price? An Overview of Issues in the Use of the New Reproductive Technologies, and the Threat to Women.' *Women's Studies International Forum*. 8(6): 539-46.
- Sen, A. (1990) 'More than 100 Million Women are Missing.' *New York Review of Books*. December 20.
- Sudha, S. and Rajan I.S. (1999) 'Female Demographic Disadvantage in India 1981-1991: Sex Selective Abortions and Female Infanticide.' *Development and Change*. Oxford: Blackwell Publishers. July.30: 585-618.

Van Dijk, T.A. (1999). 'Critical Discourse Analysis and Conversation.' *Discourse and Society*. London: Sage Publications. Volume 10(4): 459-60.

Venkatachalam, R. and Srinivasan, V. (1993). *Female Infanticide*. New Delhi: Har Anand Publications

Visaria, P. (1991). 'Overall Stability in Growth, not Demographic Inertia.' New Delhi: *The Economic Times*. April 18.

Vishwanath, L.S. (2001). 'Female Feticide and Infanticide.' *Economic and Political Weekly*. Mumbai: Sameeksha Trust Publication. September, 1. Volume 36(35): 3411-12

Walby, S. (1990). *Theorizing Patriarchy*. Oxford: Blackwell Publishers.

NEWSPAPER ARTICLES

Chaturvedi, S. ((1994) 'Boy or a Girl? They will tell you for a Price.' Delhi: *The Statesman*. 22 May (newspaper clipping, no page number available)

Dasgupta, R. (1994) 'Female Foeticide Rampant in WB (West Bengal)' Calcutta: *The Telegraph*. 23 October.

Dasgupta, R. (1994) 'Is it 'Freedom of Choice' or Female Foeticide?' Calcutta: *The Telegraph*. 27 October.

Jain, M. and Singh, H. (1994) 'Fetal Divide.' Calcutta: *Sunday Magazine*. 24-30 July. pp 16-18.

Kala, A. (1994) 'Why Ban Sex Determination Tests?' Delhi: *The Statesman*. 19 February.

Sarin, R. (1994) 'Boy or Girl? The Debate Continues.' Delhi: *The Pioneer*. 20 November.

Sharma, G. (1995) 'Loopholes in Act to Ban Sex Determination of Foetus.' Calcutta: *The Telegraph*. 11 January.

McKinnon, I. (2002) 'The Rare Woman: India's Well-Off Want No Matter the Social Costs.' *Newsweek*. 11 November.

Pushkarna, V. (2002) 'Where Have All the Girls Gone?' Kerala: *The Week*. 7 July.

Sehgal, R. (2002) 'Female Feticide Leaves Haryanvi Grooms a Begging.' New Delhi: *Times of India*. 11 November.

ABOUT THE AUTHOR

Rupsa Mallik

Rupsa Mallik has an MA in Development Studies from the Institute of Social Studies, the Netherlands. She is currently Program Director, South Asia at the Center for Health and Gender Equity (CHANGE) and has been on CHANGE staff since 2001. Prior to this she has worked for the National Foundation for India (NFI) since 1994, most recently as a Senior Program Officer. Much of her work at NFI focused on defining and implementing the Foundation's work in one of its core program areas -Gender Equity and Justice. She focuses on CHANGE's in-country work in India with a particular focus on population policies, sex selection and contraceptive choice and access.

ISBN : 81-89042-21-1