Declaration of Comilla

FINRRAGE – UBINIG
International Conference 1989

Proceedings

Held at:
BARD, Kotbari, Comilla
19-25 March, 1989

Editorial Team:
Farida Akhter, Wilma van Berkel, Natasha Ahmad

Proof reading:
Rumana Siddique

Computer Composes:
Rushia Begum, Nurunnahar Rowshan & Ayesha Akhtar

Photography:
Shahid Hussain Shamim, Shirin Sultana, Helga Satzinger & Johanna Riegler

Production
Abu Baqi
Published by:

UBINIG
5/3 Barabo Mahanpur
Ring Road, Shaymoli
Dhaka 1207, Bangladesh
Tel: 811465/329620
Tlx: 642986 MASIS BJ
Fax: 880-2-813065

Table of Contents

About the Conference and Proceedings/ I

Abut UBINIG/ v

About FINRRAGE/ vi

The Declaration of Comilla/ vii

Process of writing the Declaration of Comilla/ xii

Photo Pages/ xx

Chapter One: Setting the Theme

What Unites, What Divides Women from the North and the South in the Field of Reproductive Technologies? Maria Mies /33

On the Question of the Reproductive Right. A Personal Reflection. Farida Akhter /45

New Reproductive Technologies: Who Profits? Who Pays the Price? Renate Klein / 50

Also / Listening In… Maternal Mortality and Reproductive Rights.

Chapter Two: Family Planning and Population Control

Reproductive Technology, Fertility Control and Women's Health: A Third World Perspective Shila Rani Kaur / 60

The Population Policy Discussion: Are Women Left Out Again? Larraine Sarmiento and Sylvia Estrada-Claudio / 69

The Situation in the Zambia Christine Ngambi / 80

Socio-Economic Impact of Contraceptive Behaviour Among Women of Bangladesh Jhan Ara Begum / 84

Also / Workshop Reports: Choice, Family Planning and Population Control; Medicine and Drugs; Socio-Economic Impact of Oral Contraceptives; Injectables "The 5 year Norplant; Contraceptive Research and Testing / The Rules Worked! / Listening In… Trials and Testing.

Chapter Three: Genetic Engineering

Overview of Areas of Application of Genetic Engineering to Non-Human Life Helga Satzinger / 92

Behind Our Backs, Against out Wills. Opening the door for the environmental release of genetically engineered organisms.

Vandana Shiva and Mira Shiva / 100

The Bhopal Disaster and Update Nalini Bhanot / 112

The History of Colonialism as the History of the Transfer of Plants, Seeds, Genes and Plant Raw Materials from the South to the North Tanja Pless and Sabine Schleiermacher / 119

Also / Workshop Reports – Agriculture, Food Processing and Chemicals; Genetic Engineering, Agriculture and Food; Plant Genetics and Genetic Imperialism / Resolution on the Bhopal Settlement.

Chapter Four: Infertility, Reproductive Technologies and Eugenics

Infertility, Treatment and Effect of Failure on Exposed Women – An Analysis Meena Deval / 173

The New Reproductive Technology and Indian Women

Mira Savara / 129

IVF in Hong Kong Miriam So / 140

The New Spanish Law: A Model for Europe?

Maria Jose Varela Portela and Verena Stolcke / 146

Our Statement *Women's Association against NRT'S in Japan* / 153

The Campaign Against Sex Determination and Sex Pre-Selection

In India – *Our Experiences Forum Against Sex Determination and Sex Pre-Selection* / 156

Also / Infertility is no Dilemma by Itself / Workshop Reports – Infertility Counselling and Support Systems for Women; Infertility; IVF, The Risks; Laws and Commission; Prenatal Diagnosis and Screening; Trafficking in Women, Embryos and Eggs /

Listening In… Eugenics and Disability; Choice.

About the Conference and Proceedings

The FINRRAE-UBINIG International Conference held in March 1989 was a historic occasion. It was held in the peaceful atmosphere of the Bangladesh Academy for rural Development, BARD located in Comilla – a small town nearly 97 km away from the capital city of Dhaka – About 149 participants from 34 countries, including all the continents of the world, were present. After having discussion for over a week, the final outcome was the DECLARATION OF COMILLA – a collective document of women on the reproductive technologies and genetic engineering.

The conference was unique and historic for a number of reasons:

Firstly, in the history of FINRRAGE international conferences, this was the first conference to be held in a country of the south like Bangladesh. As the conference was focussing on the issues of population control, reproductive technologies and genetic engineering affecting women both in the developed and in the developing countries, the location of the conference to be in a developing country was very significant. FINRRAGE could take a real international character with the presence of women from all over the world, mostly from Asia, Africa and Latin America.

Prior to this, the participants from developing countries have been attending the conferences held in the developed nations. The theme, tone and trend of discussions were usually around the realities of developed nations. When women from the developing nations spoke about of the situation of poverty and other forms of economic and social oppression faced by them the intensity of her experience got lost in that environment. It was always very difficult for the western participants to grasp the gravity of the problems faced by women in these regions if they do not see the real situations. The western friends have always been sympathetic to the problems faced by the women in the developing countries, but yet a gap always remained in their perception. The Comilla conference was a bridge to this gap.

Secondly, not only that there was gap between the women from the developed and the developing countries, there was also very little coordination among the women from the developing countries. Although they were living in similar economic, social and political situations yet there were fewer chances of sharing the problems among themselves. There are not much scope for exchange of ideas and information within feminist organisations or individuals of the developing countries on very critical issues affecting women. The decision to hold the conference in Bangladesh was taken after consideration of the above facts as well. Therefore, special efforts were made to bring women from Asia, Africa and Latin American countries. Although we had fewer women from Africa and Latin America, the participation from Asia and Pacific was quite good in number.

Thirdly, this conference marked the beginning of critical discussion on the reproductive technologies and genetic engineering among women crossing the boundaries of different nationalities and geographical borders.

FINRRAGE as a global network of women has always contemplated to understand the common origin of different technologies aimed at women. Even in their contradictory appearance in the developed and underdeveloped countries as pro-fertility and anti-fertility devices or methods the contraceptive and reproductive technologies should not be seen as remotely unconnected. Both are aimed at the uterus and its reproductive power. This common target has brought the women of the developed and the underdeveloped countries to a single platform to discuss the issues related to their bodies and their lives.

The rise of the modern contraceptive technologies is very much linked with the theories of population “explosion” bringing the area of population control. The reduction of the number of population of the third world, especially of the poor and the powerless, is the

explicit objective of the population control agencies. As a consequence third world women are being subjected to the co-ercion of their respective state agencies. The population control policies target the women of the third world quite directly. They are often the receiving end of unsafe and harmful contraceptive methods. Multinational companies, as the producer of contraceptives, have wielded profitable alliance with the population planners around the world and have been successfully exploiting every opportunity to dump their products upon the population of the third world countries. The conference was an opportunity for many third world women to share their experiences in this light.

In the developed countries, on the other hand, women are increasingly becoming the victims of various reproductive technologies and practices of biogenetic engineering. These include abuses of women by such new technologies as in vitro fertilization and embryo transfer, embryo flushing, sex predetermination, prenatal diagnosis and the so-called "surrogate motherhood." The new reproductive technologies, as they are called, are offered to infertile women. But these technologies are not confined to the use in the infertile. The coercive nature of these technologies has already been exposed and criticised by women in many countries. Women are organizing to resist these technologies.

The Comilla Declaration is therefore a very important document for women all over the world as it has grasped the issues of contraceptive technologies, the socalled new reproductive technologies and genetic engineering, the experimentation on women etc. with the common perspective of women from the developed and the developing countries.

How the conference was organised?

FINRRAGE International conferences are held at an interval of two years. Since the inception of FINRRAGE in 1984, the first international conference was held in Spain in 1986. A few conferences were held in european countries with participants from europe, America and Australia. When the decision was made about holding the following international conference in Bangladesh it was a real surprise. The decision was made on the argument that the real international character of FINRRAGE can only be obtained if we can hold the conference in the context of a developing country and make efforts to bring more and more representatives from as many countries of the south as possible. The decision was accepted by the Finrrage members, although it was known that holding such a conference in the context of a country like Bangladesh would be difficult. There are many political, economical & logistical problems associated with the organisation of an international conference. Yet the decision was welcomed with an inspiration of taking up the challenge. All the FINRRAGE members have extended their cooperation to make the conference happen in Bangladesh. However, a few names must be mentioned who have been always on an international phone call with us at UBINIG to discuss the plans and conference organisational matters. They are Jalna Hanmer, Renate Klein and Maria Mies.

For us at UBINIG to organise such a conference in Bangladesh and discuss critically on the issue of population control and reproductive technologies was a real challenge. The government is encouraging such policy and any critical discussion is therefore prevented. To organise an international conference, we needed to follow all the required government procedures. Thanks to the relevant departments of the government who gave us the required permission and cooperation in this regard. At last we were successful in holding a free discussion during the conference.

We wanted that more and more Bangladeshi women should participate. But the issue of reproductive technologies and genetic engineering sounded too remote to them. Therefore, many women did not come. But those who came felt that it was most important thing for them to learn and found clear relevance in the context of their own. However, the introduction was quite successful.

The funds were received from various international organisations. They are OXFAM (UK), Protestant Association for Cooperation in Development (EZE, Germany), Norwegian Development Cooperation in Bangladesh (NORAD), INTER PARES (Canada), CUSO (Canada), World Prayer Day of Women, a Protestant Women's Organisation in Germany, Action for World Solidarity (Germany).

Besides a number of other national organisations have provided support to us. Among them are Gonoshyastha Kendra (GK) and Community Development Library (CDL). The selection of BARD, Comilla as the venue of the conference was deliberate. It is the best place where a genuine atmosphere can be created for discussion and sharing among the participants. It was an excellent place where women felt at home and could use the place in their own way. The place was used day and night. The secretariat, meting rooms, the computer room, the corridors etc. were always busy with participants. Everyone had something to do. Even talking to each other was an important task. The peaceful atmosphere of BARD became lively. Nevertheless, few women became sick because of the change of climate. The green coconuts from the trees of BARD were offered as a remedy besides medication.

The conference was over on 26th March, 1989. Participants left BARA ontowards their respective destinations. BARD became quite again. UBINIG organisers returned to their office in Dhaka.

Proceedings preparation and publication

It is true that the publication of the proceedings of the conference took longer time. A few explanations can be given in lieu of an apology.

There were two different forms of presentations by the participants – direct speech or presenting a written paper. The written papers were easier to handle but the oral presentations were recorded which had to be transcribed later. The open floor discussions and discussions in the workshops were tape-recorded.

The tape-recorded discussions were then transcribed which took much longer time because it was difficult to understand different accent and recover the statements made. Moreover, the subjects of discussion was technical in many respects. So for those who are not familiar with the subject could not understand it.

Then the next step was to edit those transcripts which was a huge task. We hardly could manage our time to edit the transcripts.

We needed the final permission of the authors of the papers before they are printed. We sent out letters to all the authors. Again it was also a lengthy process and killed time.

About this book on proceedings

There are four chapters in this book. These, however, do not reflect the programme of the conference although all the papers included in this book were presented in the conference in different sessions. Since the original conference programme was changed during the course of the conference it was difficult to set the chapters according to the sessions of the programme. Therefore, that four chapter headings are done as logical groupings of the major themes.

But all of the papers which were presented or provided to the conference are not included here. Book length was a factor. If every paper had been included – the proceedings would have stretched to some 500 pages with papers alone! Many of the papers covered similar

themes. Some had been presented to other conferences as well or have been published in other places since the conference. In some cases there was difficulty with locating authors to gain permissions or final editing (of talks) by authors as the book had to be released in time for the conference in Brazil, 1991.

Because of the nature of the transcripts, it was not possible to complete summaries of the discussion. The workshop reports were largely unchanged from the way they were presented either within the transcripts or as written in the bulletin distributed during the conference, Conference Khabar. A couple of important articles from this bulletin has also been included. Conference Khabar was a very important source of tracing the thread of discussion and to see the continuity of the programme of the conference. Thanks to Kanchana Lanzet, Shila Rani Kaur, Nimitta Bhatt, Saroj Iyer and Sarah Franklin, who have worked very hard to bring out the daily bulletins of the conference.

In order to get a sense of the general discussions which were either presented as a comment after the main discussions or has been expressed during the speeches, the concept of nuggets was introduced. The nuggets are quotations from transcripts and concept of nuggets was introduced. The nuggets are quotations from transcripts and papers, in boxes, which are scattered throughout the book – with papers and workshop reports and on special Listening In..pages – and are in all cases identified by being in italic type and shaded boxes. Where possible, the nationality of the participant who made the remark is identified. If this was not clear, no nationality is included. One will note that there are a large number of nuggets from both German and Indian participants – far more than from other countries. In reality, however, there were a relatively large number of participants from these two countries (with the exception of course of Bangladesh) and they were very active and vocal.

As well, during discussions, the authors of papers sometimes elaborated on their paper and some of these comments are included with their paper. Some quotations from the paper themselves are also highlighted in similar fashion.

There is, however, a notable absence from this work – National Reports. Several of the delegations – largely from the European countries – prepared materials related to the legislation and major activities in the field of reproductive technologies and genetic engineering in their countries as well as about the work of their committees in the time since the previous conference. The material was extensive and detailed.

The reasons for exclusion of the material are: the delay in the publication of this work and hence the dated nature of much of the information; the variation in the nature and style of the reports (including an impressive binder of material from the British group) which made the editing task ominous; and, the sheer volume of the material which would have made the overall book huge. In any case, the material is not here. In this respect, this book represents the conference report and not the FINRRAGE organisation report. It certainly gives the feeling of the discussion, energy and dynamism in the conference.

Yet, there might be many mistakes in the book for which we apologise beforehand. But to have the conference in Bangladesh was very important for all of us. We also thank each and every participant for their contribution.

Farida Akhter

On behalf of UBINIG members.

On the Question of the Reproductive Right: A Personal Reflection

by Farida Akhter

The FINRRAGE-UBINIG conference of 1989 is an extraordinary event for the feminist movement. Women from all around the globe have gathered here at Comilla, a small town in Bangladesh, to discuss pertinent issues of reproductive health in general and issues related to contraceptives, new reproductive technologies (NRT) and genetic engineering in particular. We also have a session to discuss the state of genetic engineering in other fields that have far-reaching consequences for environment and ecology. We are threatened by the engineering and industrialization of the life processes taking place in a global society where individualism and selfishness reign supreme, where profit making is the only morality of the civil society, where power and wealth is concentrated in a few hands and the world is divided sharply by rulers and the ruled, developed and underdeveloped, first and third or north and south, etc. We therefore are here to discuss how engineering and industrialization of the life processes of micro-organisms, plants and human beings have become a threat for the very basis of our life and living conditions.

We should and must also discuss what we are going to do about it. We hope that this conference will be an opportunity for all of us to share our ideas so that conditions are created for a deeper solidarity among the feminists coming from different parts of the world. We also hope that we will be able to clarify many questions through intense debate and critical reflection. On the other hand, we will be able to pose new questions as a result of the deeper grasp of the reality in which we women are living around the world.

It is important to understand that we are assembled here, not necessarily to agree on all issues or agree at every level of generalization, although as women our experience may be similar. More so because, although we live in the same world, the objective reality is different for us living in different historical conditions: our economic, social and political problems are different. Specifics of our societies vary and our subjective propensities also make our relation to reality different. Therefore, if we at all disagree with each other we must try hard to understand the social context of that disagreement, the historical conditions that create different ideas and ideologies. Once we can grasp our differences as a historical phenomenon, we immediately enter into a new form of solidarity. Because then, the differences are grasped as transitory, differences that exist in the objective reality, not in our heads. If so, then the task becomes to change and transform the reality to eliminate the differences in our heads.

This new form of solidarity is powerful, because it is based on the task we pose for ourselves. It is based on what we intend to do, based on our dreams and visions. It is not based on the reality alone or on our explanation of that reality. It is rather based on what kind of reality we want to create for all of us, women and men. The vision of a new world becomes the motive force of our movement, we move on to change things that are not acceptable to us.

I would like to emphasize this visionary and transformative intent of the feminists who are gathered here. We are therefore gathered here not simple as feminists, nor by virtue of being simply women. We have beliefs and principles for which we fight, get organized, campaign for our cause and try hard to win friends. The transformative intent is our connecting link, the umbilical cord that has pulled us together here in an early summer in Bangladesh.

I think it is also important to mention here in this context that it is not a women's conference in a general sense. Both FINRRAGE and UBINIG are fairly clear to themselves what they stand for and what their philosophical positions are. As an international network FINRRAGE has historically emerged because of its distinctive philosophical position, which many of you know, but we are sure

we will be able to tell you more in the course of the conference. The same is true of UBINIG as a national organization. It is important that we create conditions in order to collaborate with others on issues of common concern. We should also keep on discussing our differences if any. The transformative intent as I mentioned earlier will definitely bring us closer for a new mode of relating and networking. This conference is aimed to achieve that goal, therefore it has a direction, it is not open ended.

What does the Reproductive Right Mean?

Now I would like to share some of my thoughts with you all on a question that is still a puzzle for me: the question of the reproductive right. Puzzle in the sense that like any feminist, I also often use this word, but I wonder whether it articulates what I mean to say. Moreover I am not sure whether we feminists have given enough thought to its content. Words are not alphabets, they are discourses produced in a definite socio-historical condition and are signs of the state of consciousness of that society. Therefore we should remain continuously critical of what we say.

To be critical does not mean we should be narrow in our perspective. Many of the women from the south may say the reproductive right is a very northern (or western) notion, and therefore not appropriate for the women of the south. I can't agree with them because notions should be judged on the basis of their ideological content that corresponds to the specific social condition of their ideological content that corresponds to the specific social condition of their existence. To judge them by geography, race or nation is a very narrow approach indeed.

By reproductive right one usually asserts the individual right of a woman over her reproductive power. Women often sensationalize the issue extending the concept to include the whole of female physiology; that is, it is the individual right of a woman over her own body. Such formulation may offer pedagogic advantage but we should pause a bit to reflect what is being distorted in this mode of articulation; the female body is seen solely as a reproductive organ. This reduction of the female physiology in our own discourse reflects uncritical acceptance of the image of a woman corresponding to her status in a specific form of society, the society based on private property where women are owned by men as a means of production of the human species.

But a woman's body like a man, is productive in a completely different way. Like man, she transforms nature for the satisfaction of the social need. I am talking about her role in the social production. Is it not true that by over-emphasizing her reproductive role we are undermining her productive role? Are we not then falling into the trap of patriarchal ideology that reduces women's role to the reproductive functions, such as raising the child, household activities, etc.

I can imagine that many of you will disagree with me on what I am trying to say. But though it is hard to believe instantly, such a popular demand of women for their reproductive right is an indication that they too belong to the patriarchal discourse. Let me then put forward a few more points.

What does it actually mean when we say that we want control over our own bodies? It may mean that we are in a state of slavery and demanding our freedom. What form of freedom are we demanding then?

In a bourgeois democratic republic, a citizen is constitutionally and legally free. If she is a wage worker, has no property, and must sell her labour power to earn her existence, it does not matter. She is considered to be enjoying all the bourgeois rights of freedom. Her lack-of-freedom in the sphere of property or economic relationships is seen in complete separation from her political rights. The economic and political spheres are sharply divided in the bourgeois society.

Since the wage worker is free, her right over her own body is recognized by bourgeois society. When she sells her body to a capitalist to be exploited in a factory she can enter into a formal contract with the capitalists for the job she is hired for. And she in turn recognizes the right of the owner of the means of

production over the product of her labour. Social production takes place under this bourgeois law of private production and reciprocal recognition of right.

Are we talking about a similar kind of right? Are we proposing to earn for ourselves a kind of right where we would produce human species on the basis of the bourgeois form of production? In that case the product of our labour will belong to the person who hires us to produce the human product. Or reversely, we as an individual owner of the means of production of the species own the product of the reproductive factory that lies within our body; all we will need then is to buy the semen from the market and use it as raw materials of production. Then, why do we object to surrogate motherhood? or to in-vitro fertilization?

Let us look at it from another angle. The concept of right is based upon the concept of the free will of the individual. To realize that right, a society must be established on the basis of the sovereignty of the will of the individual. It is then a political question and related directly to the political struggle of the society where we should fight side by side with the men, and/or then men should fight side by side with us. But then why are we limiting our demand only to our individual body and not extending the demand to the body of the whole society? Do we think we have already been able to establish our right in the political sphere at the level of the state? Not to mention the sphere of the economy.

Here emerges a different perception of the concept of the reproductive right. Many of us who are living at the margin of life in poverty, coercion, militarization and living in a politico-economic system dictated by external coercion feel that our immediate task is to achieve a democratic society where both men and women can be free. In the process of achieving that society we will achieve our reproductive right as well, but not vice versa. I think many of my sisters from the south will agree with me, especially those who are facing hard political questions of achieving democracy in their own country.

If our concept of right only includes the reproductive sphere, remaining insensitive to the rights to be realized in the sphere of politics and economy, we are then operating within a narrow horizon - a horizon determined by the patriarchal culture. As if, as women we should limit our demand only in the sphere of reproduction, while men should lead the sphere of politics and economy.

This demand has a sharp bourgeois imprint as well. Notice that we are demanding the individual right of woman over her own body. It is a ownership concept we are importing. Implicitly we are demanding that women should own individually the reproductive factory she is carrying within her own body. We are not saying that production of the human species is a social function. Bourgeois individualism blinds our vision so much that we fail to recognize our social being. It is important that we start to see that the reproduction of the human species is primarily a social activity which is realized through individuals, but it is never an individual affair.

Reproductive power of women is a natural power, appropriation of this power establishes a certain relation between men and women, between the individuals of a society. In this sense, it is similar to other forms of appropriation of nature, land for example. But many of us, while standing strongly for collective or communal appropriation of land and nature, at least out of ecological and environmental concerns, think that a similar demand for reproductive functions is absurd. It is because it is a part of the body of a woman, and her body is the material basis of her self, her person, or her essence whatever you like to call it. This self is inseparable from her immediate material basis of existence, it is not external like land.

If so, a woman is naturally in command over her body. She is by nature in possession of herself, then what do we mean by trying to make her a owner of her body?

But a woman's natural state is until now determining her social state. It is explicitly manifested in the gender division of labour, institutions of marriage and family, law of inheritance, etc. The social role of a woman is nothing more than the extension of her natural role. The positive kernel of the demand for the reproductive right is that we are proposing to transform this natural state of human history. We are proposing a new relationship with our personhood and our body, a new social relationship with the society with regard to the natural power we carry within ourselves. The question of the reproductive right then in essence is the question of destroying the existing social relations of reproduction and recreating a new one. But the new one, at least I can say about myself, will not be acceptable to me if it is based on bourgeois individualism giving rise to a form of feminist ego insensitive to other human beings or individuals in a society.

To create new relations of reproduction we should then learn to relate our demand for the dissolution of the existing forms of families based on private property, law of inheritance and property and the gender division of labour, etc.

Making this critique I would not propose that you give up this slogan, I would rather ask you to transcend from this level of articulation both theoretically and practically. This slogan is a historical phase of the development of the feminist movement, a phase which was historically necessary. But if we fail to move forward our movement will remain a sectarian movement, incomplete and inadequate.

How Then Should We Pose the Question?

To transcend this historical phase of the feminist movement we should place our efforts to pose the question of rights not upon any egocentric premise but upon the material basis of human history. For human history to continue, human beings must reproduce the species. That means men and women must relate in a determinate form of relationship with each other, not only in the sphere of reproduction, but also in the sphere of production, because we must produce objects of our need. Until now, this history is a history of patriarchy and privatization of nature and the means of production. Social form of these relationships, relations of reproduction in particular, is embodied in the institution of marriage and the laws of inheritance. These relationships are the basis of patriarchy, giving men command over the sphere of social reproduction. It is time that we start to transform these institutions.

When we fail to do that we tend to seek solutions at the individual level. At that level, technology becomes the answer to the social question. We start thinking that technology is emancipatory and this is an illusion. Because in a patriarchal and coercive society, technologies are bound to be coercive.

At FINRRAGE, we therefore resist technologies; not technologies as such, but technologies that are being produced at this phase of history where patriarchal relations are the dominant mode of relation of reproduction. By resisting patriarchal technologies, we are actually resisting patriarchy.

The question of our reproductive right then is a question of our larger project of social transformation. A right we want to establish on the basis of new relations of reproduction. I hope that we will be able to concretize more of our visions of this future.

New Reproductive Technologies: Who Profits? Who Pays the Price?

by Renate Klein

The world's first test-tube baby, Louise Brown, was born in England, in 1978, just about 10 years ago. Since then, the test-tube baby method - in vitro fertilization (IVF)- has been hailed all over the world as a 'miracle cure' for infertility and an end to the anguish of involuntary childlessness. The media has glamorised this procedure and portrayed the doctors and scientists who promote it as benevolent 'lab-fathers'. Stories about donating eggs and hiring so-called surrogate mothers, freezing eggs and embryos, and setting up egg banks regularly appear in the press. These technological developments have been happening mainly in what is usually called the 'western' part of the world, that is Europe, the USA and Canada, but also Australia, Japan and Brazil although increasingly, IVF clinics are operating in India, Malaysia, Singapore, Hong Kong, China and Argentina too, and new ones are due to open shortly in the Philippines. The general public worldwide continues to be misled that these technologies to 'assist' reproduction are good for women; put differently, that they offer infertile women new choices - and give them their much wished for healthy child.

I contest thes4e claims categorically. Instead I posit that these technologies close down choices for women; most importantly the choice to say 'no' to technological invasion. Furthermore, we must ask what 'choice' means in a world in which women continue to be the world's poor and maltreated because we are part of a global patriarchy that needs to dominate and control women in order to maintain its position of power: Women are the world's poor, illiterate, undernourished and maltreated, but do more than two thirds of all the work - and these conditions are worsening (see among many other references Morgan, 1984 and Waring, 1988).

These technologies also remove control from the woman herself and put it in the hands of 'experts'. Their ideologies and objectives often conflict starkly with a woman's inalienable human 'right' - residing within her and not to be bestowed 'on' her by any outside authority - to dignity, that is integrity of body and soul, as an autonomous human being and not just as contend that these technologies are women-hating, and constitute an insiduous new form of violence against women. The exploit women who are in a vulnerable position because they (or their partner) desperately want a biological child of their own - or society demands of women to bear children (preferably sons) - and therefore feel they have little 'choice' to disagree with what the 'experts' tell them to do. By advocating the use of the new reproductive technologies, the promoters of these technologies offer hope that will not be fulfilled in the majority of case. IVF, an example of reproductive technology, is by and large a failed technology, giving the woman a healthy live child in only 5-10%[1]. The promises of reproductive technology are therefore not only false: they are also cruel.

Although in this talk I will focus on IVF (and it certainly holds a key position in reproductive technology with most technologies at one point needing the availability of women in IVF programmes as I will discuss later), I wish to emphasize that all forms of biomedical intervention from surrogate motherhood to genetic screening and sex selection must be seen on a continuum and as intrinsically linked with one another: they share the ideology that human reproduction should be taken out of women's hands and instead be controlled by doctors, scientists and, increasingly, the state. This, in connection with increased control over women's fertility - more and more long-term acting dangerous contraceptives, more and more compulsory pre-natal check-ups from amniocentesis to repeated ultrasound and chorionic villi biopsy, and the threat to women's own decision whether or not to undergo an abortion (and now: preferably with the new dangerous drug cocktail: RU 486 and prostaglandin) - we are told will ensure a future with 'chosen' babies 'made to order'. The crucial question we need to ask is: who decides which women, where in the world are going to have what kind of babies?' And who pays the price?

IVF: What it really means

Contrary to media presentations that IVF is 'simply putting an egg and sperm together", the medical reality of IVF is much more complicated. Once a couple (never a woman alone) has passed the initial inquiries in an IVF clinic about the stability of their marriage/relationship, the woman undergoes a battery of tests including vaginal swabs and tests for Rubella, Chlamydia and AIDS, whilst the man's sperm is tested for low or no motility and low sperm count. Her hormonal blood levels are assessed. Depending on the outcome most women are instructed to begin ovulation stimulation, also called superovulation. Clomiphene citrate - usually administered as Clomid - is the most frequently used drug. Correctly prescribed, 50 mg (or max. 100 mgs) should be taken daily for 5 days (but the prescription is often much higher and for much longer). In order to further increase the maturation of multiple follicles, a second drug, human menopausal gonadotrophin (hMG), is administered (usually as Perganol) through (painful) injections. Monitoring of the follicle growth through ultrasound plus of the blood levels necessitates daily (sometimes twice daily) visits at the clinic. Once the ovulation seems impending, a hormonal shot of human chorionic gonadotropin (hCG) is given and the woman undergoes egg collection. For many women these 'hormonal cocktails' bring with them a host of adverse effects ranging from vision problems, nausea, dizziness, weight gain to hyperstimulation: a dangerous swelling of the ovaries and/or the production of ovarian cysts, which in most cases means that the cycle has to be 'cancelled' (see Klein/Rowland, 1988, for details). If the hyperstimulation syndrome is not carefully watched, the ovary can burst, necessitate an emergency operation and be followed by a bad infection which may in fact render a formerly fertile woman, who is on the IVF programme because of her partner's low sperm count, infertile. There are also cases reported in the scientific literature where the administration of the 'hormonal cocktails' of fertility drugs has led to the promotion of cancer.

It is important to know - but rarely told - that between 30 and 50 per cent of all women who begin the fertility treatment either never reach the egg retrieval stage, or the eggs have not developed properly and no fertilization takes place. This is an important factor because these women rarely appear in the IVF doctors' statistic: if they did, the 'success' rates would tumbling down even further from the currently internationally acknowledged ones of between 5 and 10 per cent of live births per IVF attempt.

Egg collection is a risky business too. If a laparoscopy is used it necessitates general anaesthesia and so far we have proof of 18 women who died during this process (see Corea in Klein, 1989b). But even newer methods of egg retrieval via the bladder or vagina are not without danger: iliac veins can be injured, the pouch of Douglas can be punctured, and often bad infections result from the invasive procedure which most women also describe as very painful.

If 'good' eggs were 'harvested', they are put together with the partner's sperm (who has in the meantime masturbated in a room at the clinic where often pornography magazines are provided) in a petri dish and fertilization is expected to take place. (Ironically, this is the part of the process that gives the procedure its name: in vitro - in the glass - fossilization.) If embryo development commence, the next day usually 2-4 embryos at the 4-8 cell stage are transferred to the woman's womb. She is often sedated to experience this process as a 'happy' moment. Then begins the waiting period to see if the embryo(s) 'had taken': described by most women as one of the most difficult times in IVF. If the embryos have implanted themselves - but this happens only in about 20% of the roughly 50% of women who make to the egg collection stage - then begins what doctors call a 'clinical' pregnancy: that is a pregnancy leading to the birth of a child. Unfortunately, again up to 50% of these rate IVF pregnancies end in spontaneous abortions, miscarriages, or are ectopics. Most children from IVF are born prematurely and by caesarians. Up to 25% of all women who do get pregnant end up having multiple births due both to the effect of the fertility hormones and the insertion of multiple embryos in their wombs (ruthless doctors implant up to 13 embryos and later use a procedure called 'selective reduction' whereby saline solution is inserted in some of the embryos that then stop growing and disintegrate next to the others which are 'allowed' to develop).

A further danger lies in the effect the superovulation drugs may have on the developing foetus and future child as well as long-term effects on the woman who took them. Birth statistics show a slight increase of spina bifida and transposition of the great vessels in children born from IVF Great cause for concern is the fact that Clomiphene citrate has a very similar chemical structure to DES: a drug which was

given to pregnant women some 40 to 20 years ago and which resulted in a high proportion of children with fertility problems (both sons and daughters), increased rates of cancer of the cervix and the vagina, and, in the mothers, of breast cancer. It is most disturbing that no long-term studies of women who took clomiphene twenty years ago when it was first administered in conventional infertility treatment (for which it is still frequently administered today) are ongoing. A new variation of superovulation used in IVF begins by applying so-called LH-RH analogues (often marketed as Buserelin) as a nasal spray to desensitize the pituitary. This means that women are put into a chemical menopause and experience hot flushes and often dangerous hyperstimulation of the ovaries (called 'flare-up' which is potentially life-threatening). Once the woman's own hormonal cycle has been shut down, fertility hormones are administered (Perganol again, but in up to five times higher doses). This method, already widely employed in Europe and on trial in Australia, does seem to produce more eggs. However, the number of live births has not gone up. The short and long term dangers of this treatment for women are totally unknown, but it is feared that this artificially shutting down and starting again of a woman's own cycle may lead to premature menopause and possibly even cancer by not allowing her ovaries to have the natural rest-period.

Added to the medical reality of IVF is of course the enormous psychological trauma this procedure entails for the woman and her partner. Month after month 'hope' is artificially 'induced' by IVF doctors and hospital staff. Meanwhile, the woman's life is in limbo: what is her life going to be like? Will she give birth to a child? Often, after years on IVF - on the 'roller coaster of emotions', as one woman described it to me (Klein, 1989a) she may be seriously sick and she is almost certainly emotionally drained: a disturbing outcome of a so-called 'beneficial' medical treatment. This is especially alarming as the woman, who after the many attempts is declared a 'non-responder'- the ultimate failure - is dumped by IVF programmes and literally thrown by the wayside with no help whatsoever. For the IVF doctors' purposes (that is to be 'world leaders' and to reap glory and money as IVF 'fathers'), the large majority of 90 to 95% of women for whom IVF does not work are 'fertilization failures' with 'bad eggs', disease tubes' and 'hostile wombs' (all doctors' terms!). Women are thus badly harmed by IVF[2].

In sum, IVF is by and large a failed, dangerous and dehumanising technology which does not offer women 'choice' but rather the more or less subtle coercion into more and more medicalisation. Control over her reproduction, in fact her life, whilst on IVF is in the hands of outsiders: IVF doctors. Long-term health hazards may impair her life even after she has stopped IVF. Why then, one must ask, is a technology that is so disappointing, pursued? One of the most important answers to this question is that IVF is the gateway to a constant source of a very precious commodity: human embryos on which I will elaborate in the next section[3].

Embryo experimentation and the crucial link with IVF

There is no doubt that research on human embryos has been the 'hot topic' amongst reproductive biologists internationally since the late 80s. A glance at scientific journals demonstrates clearly that the focus from presenting IVF as an option for infertile women is shifting to portraying IVF as a 'treatment' for male infertility (which necessitates embryo manipulation), and for fertile people with genetic diseases who are told that they might, by means of screening their embryos, have a healthy child - of course this would also entail that they use IVF (or flushing out of embryos) as their method of conception.

This very noticeable shift of emphasis, from the promise of 'curing the infertile' to 'preventing' or 'therapeutically remedying defects' in embryos, is alarming. Given the short - and long-term social and ethical dangers, I believe that experiments on embryos must be opposed on three main grounds. Firstly, because they are experiments on women: embryo experimentation is really a misnomer as it can only be done by creating embryos by appropriating women's eggs from her ovaries and fertilizing them with sperm outside her body. Reading about embryo experimentation in scientific journals, an observer from Mars might suspect that embryos are freely available and that they, somehow miraculously, fall from heaven. The reality is, however, that embryos come from eggs and that these eggs come from women. Furthermore, that embryos come from eggs and that these eggs come from women. Furthermore, these eggs are not as easily obtainable as sperm: they have to be extracted from women on IVF programmes by means of invasive procedures which, as I have said, have caused deaths and severe infections and

have also lead to infertility in fertile women who are on the programme because of unknown infertility or their partner's fertility problem. And before these eggs can be 'harvested', the women are given drugs to induce superovulation: as I mentioned, a procedure fraught with dangers.

It needs to be emphasised that all of this has to happen in order to get hold of eggs and to then fertilize them with sperm so they become embryos. It is for this reason that embryo researchers need women in IVF programmes to ensure a constant supply of eggs. Importantly also, once the embryo has been experimented upon - whether by means of embryo biopsy (in which one of the cells of a 4 or 8 cell embryo is extracted and examined for its chromosomal 'normally') or through technologies developed for male infertility, such as microinjection, which is the injection of a single sperm into an egg, these manipulated embryos will have to be put back into a real live woman, who will then have to nurture them to maturity with her own body. Only when such children are born and have become adults will we know for sure if the 'experiment worked'. Of course, to ensure the best outcome, we are told that women pregnant with manipulated embryos must undergo a whole battery of further technological interventions from repeated ultrasound to chorionic villi biopsy and amniocentesis. We are ensured that should something be 'wrong', she cold then always have an abortion. The cruelty of this proposition is mind-boggling to say the least: it is the epitome of using women as 'living laboratories' (a term coined by my Australian colleague Robyn Rowland, 1984) - as living test-sites for an 'exciting' ongoing experiment in the laboratory. Thus, embryo experimentation in fact is experimentation on women. As one woman commented in a study I conducted in Australia with 40 women who has unsuccessfully undergone IVF: 'The only ones it works for are the scientists and doctors - not us'.

Secondly, the underlying rationale of embryo experimentation is eugenic: it is not that embryo screening or therapy may lead to eugenics - it is eugenics, and it is important to stress that there is no qualitative distinction between genetic screening and genetic manipulation. In bot cases the rationale is to eliminate undesirable future people, which throws open the whole question of who decides which traits are deemed 'undesirable'. Again, to speak of 'choice', as advocates of embryo screening do, is to profoundly misjudge the harsh reality of life in a patriarchal world in which, for example, people with disabilities, or certain ethnicities or the 'wrong' sex will not been given as much 'choice' to be born as others.

Sex determination of embryos is a case in point. While scientists have maintained that sexing of embryos is done for cases of sex-linked genetic disease, it clearly offers the opportunity for selection of embryos solely on the basis of sex. Dr. John West, one of the researchers who developed the first genetic test for sex-determination in Scotland said that it would not be ethical to use it for sex determination alone but he admitted: 'we couldn't prevent the technique from being used in that way' (see Ewing, 1988). In India in less then three years, over 78,000 fetuses were aborted on the sole ground that they were female which has already affected the female-male ratio in favour of males. But we know that selective abortion on the basis of sex is happening in Australia and Britain too. And because there is not a single society in the world that prefers girls as first born children, we are actually witnessing what US philosopher Janice Raymond has called the 'pre-victimization' or gynocide of women before they are born (Raymond, 1985).

Thirdly, embryo experimentation not only has the potential power to exert control over peoples' reproduction, but it also necessitates more painful and traumatic decisionmaking specifically for the women involved. I fear, in fact, that if the development and application of these technologies cannot be stopped, the future holds an even more difficult life for people with disabilities or for those who do not fit the norm - whatever 'the norm' is. They, of course, will always exist be it through accidents or illnesses, but for the children who are born with some abnormality, their mothers will increasingly be blamed and told that these children need not exist had they undergone the recommended tests: the 'choice' to use some of the technologies turned control[4]. The 'logical' extension of such a cruel logic is that if it is not obeyed, or the woman has no access to the technology (which of course is true for poor women and women of minority groups in the so-called western world and the great majority of women in the so-called third world), once again it is seen as the woman's 'fault'. It will therefore be seen as her duty to take care of the handicapped child - with even fewer resources provided - which greatly jeopardises the child's survival and in many cases, her own too.

In sum, embryo experimentation - crucially linked with the availability of women on IVF programmes - embodies the revival of the old eugenicist doctrine that someone knows what a 'fit' human being is, and that someone has the 'right' to decide what kind of 'quality control' should become mandatory, and who should be allowed to be born. Furthermore, because the promoters of embryo experimentation appeal to individuals and maintain that these technologies offer new 'choices', they conceal not only the connection between embryo research and reproductive technologies, such as IVF, but also delude people from recognising the amount of control over the production of human life these technological developments seek to exert globally.

Global Connections and Future Developments

The new reproductive technologies - invented, supposedly, to alleviate infertility - must be exposed as the logical extension of the patriarchal quest to gain control over women's fertility. This becomes particularly evident when women from countries such as India, Bangladesh, the Philippines but also from Africa and South America speak out about the damaging nature of contraceptives such as injectables or hormonal implants (Norplant) as well as (enforced) sterilization which, increasingly are the contraceptive 'choices' that women are offered (Akhter, 1988).

It is very important to realise that increasingly, fertility and infertility control are intertwined. Justifying the growing number of IVF clinics in India, Dr. Anand Kumar, Director of the Institute for Research in Reproduction in Bombay said that 'an understanding of these factors [contributing to infertility] may provide clues as to how to induce infertility in fertile couples as a means of family planning (Sheth, 1987, quoted in Lingam, 1989, her emphasis). IVF research has thus become necessarily interlinked with the development for a contraceptive vaccine which is another 'hot' research topic and pursued internationally, e.g. in Brazil, the USA and Australia - funded by the WHO. Vaccines, as Farida Akhter points out, have become very acceptable in the general population as they are seen as 'good medicine'. It is thus easy to envisage how a contraceptive vaccine can be promoted as 'choice' whilst in reality many of the women will not even know what it does to their bodies. Importantly, they will be the 'living laboratories' to see whether, as the promoters of the contraceptive vaccine promise, it is truly reversible. Thus third world women once more are guinea pigs for testing a contraceptive. In connection with IVF facilities this means that they are available as experimental subjects in general. Especially as embryo research in so called 'western' countries becomes more difficult to pursue because of laws or ethical concerns expressed by the community, it must be feared that once more it will be women in poor countries who in return for a little food or money will 'choose' to give their bodies as test-sites for new IVF procedures as well as drugs[5]. If indeed the contraceptive vaccine will be administered on a large scale, IVF might become the method to reverse this induced infertility for those few that the group in power at some point in time deems fit to reproduce: the 'perfect' solution for a worldwide control of population growth. The moment, also, when 'choice' definitely will have turned into coercion.

It is these interconnections between the so-called 'western' and developing countries that must be emphasised in the discussion of the new reproductive technologies. What is advertised as 'choice' for a few privileged white women in reality is the prerequisite for 'control' of ALL women in ALL parts of the world. Concerned feminists worldwide are speaking out about these interconnections and I urge you to join us in exposing the lie of 'choice', to stop these dehumanising, dangerous technologies, and to work towards a world in which women are valued as human beings in their own right and not perceived and treated as human incubators which, in some parts of the world are not fertile enough, whilst in others produce too many children. Reproductive technologies do not offer 'choice': they bring with them a loss of control for women but a gain of control for international technopatriarchy. These technologies are too dangerous to continue. The price to pay for women as individuals and as a social group worldwide is unacceptable. These technologies contribute to the worldwide oppression of women and they must be stopped now.

Notes

Reporting what they call 'crude live births", the British figures established by the Voluntary Licensing Authority (VLA) were 8.6 per cent for both 1985 and 1986. Australian estimates per IVF treatment for 1986-87 were similar: 8.8 per cent of live births (Batman, 1988: 3) Not reflected in these numbers are the significantly increased number of children born prematurely (26.9 percent for 1986, according to the National perinatal Statitstics Unit, Australia 1987) - who are most frequently delivered by caesarian section (43.9 per cent instead of 15-18 percent for 'natural' pregnancies in Australia in 1986) (Stanley, 1988) and therefore of low birth-weight and in need of extra neonatal care. The high proportion of children born with abnormalities is also cause for serious concern. These are mostly neural tube (spina bifida) and cardiac problems (transposition of the great vessels): 2.2 per cent compared with 1.5 per cent from 'natural' pregnancies in Australia. Taking these cases into account (and the premature children needing intensive neonatal care), the Australian government report concludes that the success rate for an 'unproblematic live birth' is 4.8 per cent (Batman, 1988:3). Reports from France put it at 6.9 per cent (Laborie, 1988). But in fact these figures may be even as low as half of that if the roughly 50% of women who start an IVF cycle but never make it to the egg collection stage were to be counted too. Also, there are cases in the scientific literature where after the insertion of 2 embryos, 3 children were born: one conceived naturally (Paulson et al. 1988-40) as well as many examples about women who conceived spontaneously while waiting to go on the IVF programme (see Klein, 1989b for details).

It must be pointed out that a significant number of women and men on the IVF programme have children from former marriages. Also, often it is clearly the man who wants his own biological child rather than considering adoption (see Klein, 1989a for details). In addition, the number of fertile women on IVF programmes is steadily growing a recent US clinic reported as many as 60% of 'patients' with male factor infertility (Miller, 1989).

Another answer is that IVF is a very lucrative enterprise, especially as women are encouraged to try at least 4 or five times. Rates for treatment cycles vary from country to country but they range from a minimum of US$ 1000 per attempt to 5000. This often already excludes the contributions paid by public money (ie in the form of medicare rebates); thus the Australian Government calculated in 1988 that an IVF baby cost the considerable sum of Austr. $ 40,000.00 (approx. US$ 32,000.00). (Batman 1988).

In order to prevent misunderstandings I want to emphasize that I do NOT oppose embryo experimentation on the grounds that it means "killing an unborn child". An embryo, whilst consisting of living cells, cannot exist outside the body of the woman that nurtures and develops it. An embryo is therefore an intrinsic part of a pregnant woman. This feminist concept of conceptualizing woman and embryo as one - and only one - organism instead of focusing on the embryo and fetus, necessitates without question that it must be up to a woman's own decision whether she wants to carry her pregnancy to term or whether her responsible decision is to terminate the pregnancy - a very different reason than handing over control to a third party - embryo researchers or law makers - whose aim is to screen or manipulate the embryo or make laws about it as if it were already an independent being.

One of the most dangerous research projects currently undertaken in the USA, Australia and Britain consists of trying to mature immature eggs in vitro (in the laboratory). Once this procedure is possible - it has been successfully achieved with egg cells from cows and led to the production of the "true" test-tube calf in 1987 (see Vines, 1987)- a slice of an ovary of any woman will do to mature thousands of eggs which can then be fertilized with sperm (easily available) and made into an embryo. What is needed next is the womb of a woman: available, perhaps for little money and under little supervision in poor countries. Alternatively, the artificial womb may soon become a reality. Research is certainly continuing to achieve this 'feat' of the production of life in male hands as the following bizzare experiment carried out in 1987 in Bologna, Italy, shows (Bulletti et al., 1988): in a womb removed from a woman by hysterectomy and kept alive on a perfusion machine a "spare" IVF embryo was injected and kept alive in the laboratory for 52 hours - before the womb collapsed. The embryo was said to develop normally (see Klein, 1989b for more details).

References

Akhter, Farida, 1988. The Norplant Trial: An Investigative Study on the Methodology and Ethical Issues. Hygeia 3(1 and 2): 19-34.

Batman, Gail, 1988. In-vitro fertilisation in Australia. Commonwealth Department of Community Services and Health, Canberra, Australia.

Bulletti, Carlo et al. 1988. Early human pregnancy in vitro utilizing an artificially perfused uterus. In: Fertility and Sterility 49(9): 991-996.

Corea, Gena. 1985. The Mother Machine. Reproductive Technologies from Artificial Insemination to Artificial Wombs. Harper & Row, New York.

Ewing, Christine, 1988. Tailored Genes: IVF, Genetic Engineering and Eugenics. In: Reproductive and Genetic Engineering: Journal of International Feminist Analysis I (1):31-40.

Klein, Renate 1989a. The Exploitation of a Desire. Women's Experiences with In Vitro Fertilisation. Women's Studies Summer Institute, Deakin University Press, Geelong, Victoria, 3217, Australia.

Klein, Renate D. 1989b. Infertility: Women Speak Out About Their Experiences of Reproductive Medicine. Pandora Press, London. Harper San Francisco.

Klein, Renate/Rowland, Robyn, 1988. Women as Test-Sites for Fertility Drugs: Clomiphene Citrate and Hormonal Cocktails. Reproductive and Genetic Engineering; Journal of International Feminist Analysis 1(3); pp. 251-75.

Laborie, Francoise, 1988. New Reproductive Technologies; News from France and Elsewhere. In: Reproductive and Genetic Engineering: Journal of international Feminist Analysis 1(1): 77-86.

Lingam, Lakshmi, 1989. Made in India. A Dossier on the New Reproductive Technologies. Women's Studies Unit. Tata Institute of Social Sciences, Bombay, India.

Miller, Sue, 1989. More older women decide to try in vitro fertilization. The Baltimore Evening Sun. June 18th, 1989.

Morgan, Robin, 1984. Sisterhood is Global. Anchor Press/Doubleday. New York.

Paulson, Richard. J. et al. 1988. Three babies born after two embryos implanted. In: New England Journal of Medicine 318: 1339-40.

Raymond, Janice, 1985. Preface. Man-Made Women. How New Reproductive Technologies Affect Women. Hutchinson, London/Indiana University Press, Bloomington, 1987: 9-13.

Rowland, Robyn, 1984. Reproductive Technologies: The Final Solution to the Woman Question? In Arditti et al. (eds.), Test-Tube Women: What Future for Motherhood?, Pandora Press, London. Harper San Francisco: 356-370.

Stanley, Fiona, 1988. In vitro fertilization - a gift for the infertile or a cycle of despair? In: The Medical Journal of Australia 148 (May 2): 15-19.

Vines, Gail, 1987. Calves a la carte. In: New Scientist, December 3:23.

Waring, Marilyn, 1988. Counting for nothing. What women are worth. Allen & Unwin, New Zealand.

Chapter Two

Contraceptives, Family Planning and Population Control

It is not

population control

programs that reduce

population growth

but the transformation

of existing social and

economic factors

that perpetuate

poverty and

large families.

Shila Rani Kaur

Reproductive Technology, Fertility Control and Women's Health:

A Third World Perspective

by Shila Rani Kaur

Population control policies of recent years have resulted in harm to the health of many women and children. For the birth control movement to become a popular cause that reaches people of all classes it must result in the self-determination of women through increasing the real choices they have in contraception. Contraceptive choices would however be insufficient without making the birth control program a part of an overall program of good medical care, education, primary health care facilities, respect and equal opportunity for all women. Resources should be channeled to developing a comprehensive program to reduce infant mortality. It is not population control programs that reduce population growth but the transformation of existing social and economic factors that perpetuate poverty and large families.

Fertility control can have three major social purposes: to increase the individual freedom of women, to improve and protect health and to control overall population trends. When the modern birth control movement began in the ealry 20th century, its dominant motive was to increase the individual freedom of women. Feminists and other radical political activists concerned with women's rights, formed organisations demanding the legalization of birth control. The medical and populaiton control motivations for supporting fertility control came primarily from other sources which entered the birth control movement later but ended by dominating it.[1]

The three basic assumptions upon which the whole philosophy of population control rests have been proven to be false:

Rapid population growth is a primary cause of the Third World's development problems, such as hunger, environmental destruction, economic stagnation and political instability. It is now proven that rapid population growth is not the root cause of development problems in the Third World but is a symptom of those problems.

People must be persuaded or forced to have fewer children without fundamentally improving the impoverished conditions in which they live. We now know that improvements in living standards and the position of women, via more equitable social and economic development motivate people to want fewer children. If such improvements do not exist, the decrease in population growth will not occur.

Birth control services can be 'delivered' to Third World women in a top-down fashion and in the absence of basic health care systems. It has been proven that safe, effective birth control services cannot be 'delivered' in a top-down technocratic fashion but instead require the development of a popularly based health care system (i.e. not as a separate selective vertical programme but part of integrated primary health care services). Health and safety should be the primary concerns in the development and promotion of contraceptive technology.

In the last two decades these assumptions have shaped the activities of most population control organizations and international aid agencies based in the West and working in Asia, Africa and Latin America, as well as among ethnic minorities and poor communities in many parts of the industrialized world.

Although these agencies have made birth control more accessible they have ignored the overriding goal of family planning programs which is to expand the freedom of individuals to decide whether and when to have children; as a result women's health and well-being have suffered and the programs have been ineffective in terms of the stated goal of lowering growth rates.

There is a logical link between health care and family planning. Improved health leads to reductions in infant mortality and reduces the need for many children.

In many Third World countries today, and industrialized ones too, health care is the prerogative of the rich. Eighty percent of world health expenditures provide expensive curative care for less than 20% of the population. In the majority of Third World countries, scarce medical resources are concentrated in sophisticate urban hospitals, far from the villages where most people live.[3]

In response to this situation at a 1978 UN Conference in Alma Ata. 134 countries endorsed primary health care, which included family planning as one of its components, as the way to Health for All by the Year 2000.[4]

Despite the noble pronouncement made at Alma Ata, few countries have made primary health care a priority. Resources which could finance primary health care and other social services are not only diverted to high technology medicine for a small minority but also to the military. In Third World countries as a whole, almost as much is spent on defence as on education and health combined.[5]

Instead of integrated primary health care services, most governments, often with aid from donor agencies, have focussed attention on selective "cost-effective" interventions such as child immunizaton, oral rehydraton therapy for diarrhoea, mother-child health and family planning. Although these interventions are needed, but the underlying causes of ill health - lack of food, shelter, clean dringking water, in other words poverty - tend to be ignored. In the process, primary health care becomes a technical development exercies. For example, a recent WHO reprot on sanitary progress during the present decade makes it evident that we are not in sight of the time when clean water and adequate sanitation will be generally available in developing countries, particularly in rural areas.[6]

While it is true that good quality family planning services can improve health, it is equally true that badly designed population control programmes have harmed the health of many women and children.

The role of IOCU and HAI

Promoting primary health care is one of the goals of the International Organization of Consumers Unions (IOCU) and Health Action International (HAI). IOCU is a federation of consumer organizations dedicated to the protection and promotion of consumer rights worldwide through information, research and education activities. HAI is an informal cooperating network of consumer, development action and other public interest groups worldwide. It works to further the safe, rational and economic use of pharmaceuticals throughout the world, to promote the full implementation of the WHO's Action Programme on Essential Drugs and to look for non-drug solutions to the problems created by impure water and poor sanitation and nutrition. HAI members have campaigned on a variety of issues and has an active women and drugs working group.

HAI partners around the world have been active in campaigning against the use of hormonally based drugs, including the contraceptive pill, oestrogen used in replacement therapy and would be abortifacients such as EP drugs, used almost exclusively by women. AIDAN, an active campaign-oriented group has been working on getting EP drugs off the Indian market. To date it has succeeded in getting a ban order against EP drugs but is being resisted by the multinational companies marketing tyhem.[7]

UBINIG's study on the hormonal implant Norplant does not need any introduction. HAI partners in Netherlands continue to actively campaign against diethylstibestrol (DES). DES is still available throughout the world and is used for a wide variety of indicatons, including lactaton suppression after childbirth, menopausal complaints, post-coital contraception, and in the treatment of prostatic cancers. Its use is restricted in Western countries to the last indicaton. Its use as a morning-after pill, as a lactation suppressant, or as a drug to prevent miscarriage is no longer approved there. But in several Third World countries, DES continues to be used for precisely these indications.[8]

It is for these reasons, amongst many others, that women around the world need to communicate more frequently to campaign collectively and globally. HAI provides a means for such action and is a framework for global lobbying efforts.

Msaternal and Child Health Care

A promising way of breaking the vicious cycle of poverty, malnutrition, ill health and stagnation would be to improve the health of infants and young children. Mothers should be included in this target group since the state of the mother and her nutritional status determines the infant's health and chance of survival. In addition, the health of post-natal children is determined by the will and ability of the mother to breastfeed and to give proper childcare. Mothers are the most important link in reducing infant mortality. They are most likely the members of the community who first perceive the reduction of infant and child mortality.

For the individual, contraception is very helpful. But how useful is contraception for population control? It must be remembered that European fertility declined to its present level without much reliance on modern contraceptive technology. How has this technology helped to control population growth in the Third World? Officially sponsored family planning programmes cover 75 per cent of the population of the Third World and a further 16 per cent of this population is in countries that give official support to family planning activities.[9]

India and Pakistan have two of the oldest family planning programmes. In Pakistan, the fertility rte in the 1972 census was not significantly lower than in 1961, despite a programme that absorbed 1.4 per cent of the total development expenditure. In India, where massive resources have been diverted to family planning, there was little success even with widespread coercion. However, in India there are widespread differences in fertility. In Bihar, one of the most under-developed states, there has been no change in fertility, while in Kerala, where over 50 per cent of women are educated, the birth rate had declined from 37 per thousand in 1966 to 25 per thousand in 1978[10] and infant mortality is less than half of the whole of India (Table 1).

There is a positive co-relation between infant mortality and fertility (Table 2). The first reason why infant mortality influences fertility is that parents want a surviving male offspring. This is the only insurance for their old age. Poor families in India must produce an average of 6.5 children to be 95 per cent certain of having one surviving son.[11] There are other biological and social reasons. If the infant survives and the mother breastfeeds, the likelihood of conception is reduced during lactation. In many cultures in the Third World, This effect is reinforced by social practices such as sexual abstinence during the early months following a birth and lactation. Therefore decline of infant mortality is essential for fertility decline.

International efforts and resources that go to provide contraceptive technology to the Third World women should therefore be diverted to a comprehensive programme for the reduction of infant mortality.

China and Sri Lanka are classified by the United Nations as low income or least developed countries, however in terms of survival norms, these two countries and the Republic of Korea are far ahead of other developing countries with higher GNPs (Table 2).

Table 2 also shows, not only significant reductions in infant and child mortality and increased life expectancy in China, Sri Lanka and the Republic of Korea, but also reduction in the annual population growth compared to other developing countries.

High morbidity and mortality among infants and young children are major concerns among the poor. There is no society which does not perceive lower infant and child mortality as a positive value. The levels of infant mortality represent the widest disparities not only between developed and developing countries but also between the urban rich and the rural poor communities to developing countries (Table 3).

There is evidence that significant reductions in infant and child mortality can be achieved on relatively low GNP. Countries that were able to achieve such improvements focused their development strategy on satisfying the essential human needs of the poorer sections of their population. The success stories include countries with rapidly growing market-oriented economies like the Republic of Korea,12 centrally planned economies like China13 and mixed economies like Sri Lanka14 and the Indian State of Kerala

India has a federal form of government. The southern state of Kerala is yet to enter the phase of modern economic growth and ranks ninth among the 18 states of India. Public health, sanitation and curative services are assigned to the state government. In spite of the low per capita GNP, Kerala, by the late 1970s, had already achieved the target set by the national government for the year 2000 in such areas as the reduction of general and infant mortality rates and increase in life expectancy at birth. India as a whole lags far behind Kerala (Table 1).

The data in Table 1 indicate that in terms of survival rates, the health situation in Kerala is more comparable to that of more developed countries and contrasts with India as a whole. There are the negligible rural and urban differences in crude death rate and a higher life expectancy for females.

The experience of Kerala demonstrates that it is within the financial resources available in India to bring about significant reductions in infant mortality and increase in life expectancy by appropriate health and non-health development strategies. The state government pursued certain progressive policies in the areas of land reforms, education and public distribution of food grains which contributed significantly to improvement in health status. With the passing of the Kerala Agrarian Relations Act, tenancy was done away with altogether, which in turn has helped to reduce the social and economic inequalities. Conferment of permanent occupancy right, if not de facto ownership, of a specified extent of land around homes of hutment dwellers was another major step in this direction. Education claimed 40 per cent of the total state government expenditure in the 1970s. Sixty per cent of the state's population was literate in 1971 as against 29 per cent for the whole of India. Unlike in other States the level of

literacy among the rural population is not below that of the urban population; more importantly, female literacy is nearly as high as male literacy and far higher than their counterparts in other states.

Kerala imports rice, the staple diet of the people, from other states. The open market price for rice has always been higher than in other states. In this situation, the state government instituted public distribution of rice to provide a cushion for the low income groups. In the absence of this scheme rice would have been beyond the reach of the poor people. [15]

Improvement in the sensitive health indicators in countries with low per capita GNPs was achieved by focussing the development strategy first and foremost on the satisfaction of essential human needs.

The economic and political roots of ill health can usually be traced to poor people's lack of productive resources, such as land, just as women's lack of control over reproduction can be traced to their basic lack of power.

The health connection thus goes far beyond formal models of health and family planning services to encompass the fundamental realities of poverty and power. If these realities are ignored, then the needs of the community for health care and safe contraceptives will not be met. But if ways of addressing these inequities are incorporated into health and family planning services, then they can become positive forces for social change.

A raised standard of living across the population leads to better overall access to health, education and jobs, all factors that allow people to choose smaller families. many countries that have more equitable income distribution policies also consciously gear services toward the poor majority, emphasizing mass primary education. Similarly, countries such as Sri Lanka, China and Cuba, which have developed extensive public health systems, have managed to bring down infant mortality rates at relatively low levels of GNP per capita, while much richer countries have failed.

Also of critical importance is how equitably resources are distributed between men and women. One of the reasons many relatively rich Middle Eastern countries have such high birth rates may be the restrictions imposed on women's participation outside the home, whereas in a country such as Sri Lanka, women's higher status not only gives them greater control over financial resources but over their own reproduction.

Clearly it is not population control programs that reduce population growth, but the transformation of the social and economic constitutions that perpetuate poverty and make people dependent on children for survival.

In neither Cuba, Sri Lanka, Korea nor Kerala was an intensive population control effort responsible for the demographic transition.

Instead, by moving forward on a number of economic and social fronts, these societies, despite their different political systems, created the conditions under which people themselves wanted smaller families. These conditions are:

income and land redistribution

employment opportunities and social security

mass education

improvements in the position of women, including a later age of marriage

accessible health care and family planning services.

The best population policy is to concentrate on improving human welfare.

Table 1: Comparison of Economic, Social & Health Indicators (mid 70's)

Indicator	Kerala	India
Per Capita GNP US$	125	142
Crude death rate (urban)	6.7	9
Crude death rate (rural)	7.1	15.1
Infant mortality rate	47	130
Life expectancy at birth	-	52
Females	67	-
Males	64	-
Literacy rate	60	29

Source: PGK Panikar and CR Soman: Health Status of Kerala - Paradox of Economic Backwardness and Health Dev't, Centre for Dev't Studies, Trivandrum, India, 1984

Table 2: Per Capita GNP and Selected Health and Demographic Indicators in 17 Developing Countries

India	270	101	154	57	2
Rep of China	310	34	47	69	1
Senegal	370	134	227	45	3
Sri Lanka	380	34	46	70	1
Mauritania	420	129	225	46	2
Bolivia	470	113	179	53	3
Yemen	550	123	204	50	3
Ivory Coast	660	102	153	52	4
Nigeria	800	107	178	50	3
Cameroon	810	96	158	53	3
Peru	1010	91	128	61	2
Rep of Korea	2150	25	33	69	2
Algeria	2550	76	112	62	3
Gabon	3670	105	174	51	n.a
Oman	6730	104	166	55	5
Libya	7170	85	125	60	4
Saudi Arabia	8850	74	105	63	4
Source: The State of the World's Children 1988, UNICEF, Table 1, Table 5					

Education

The possibility of a healthier and better life is determined largely by the general level of education, both primary and secondary, and particularly by the education of women.

Table 3: Infant Mortality Rates

Country	Urban	Rural
Bhutan	120	300
Dahomey	46	115
India	74	137
Morocco	100	170
Tanzania	88	215

Sources: (1) Health Care in South East Asia, WHO, SEARO, New Delhi 1985 (2) David Morley, Paediatric Priorities in the Developing World, Butterworth, London (3) Technology Policies in the pharmaceutical sector in the United Rep of Tanzania, UNCTAD [TT] 35

Female literacy can be a vital element in efforts to change traditional attitudes and habits, particularly in regard to infant feeding and childrearing, which may be detrimental to health.

There is evidence that a mother's level of education is a key determinant of her child's survival (Table 4).

Contraceptive Technology

Contraceptive technology has been influenced more by the pursuit of population control, prestige and profit than by people's needs for safe birth control. Millions of dollars have flowed into the development, production and promotion of technically sophisticated contraceptives such as the pill and injectables, despite their health risks while the improvement of safe and simpler barrier methods has been neglected.

In a number of ways, these barrier technologies are highly appropriate to third world conditions - they help prevent the spread of sexually transmitted diseases, have no adverse impact on breastfeeding and are very suitable for birth spacing, even if they are not 100% effective in preventing pregnancy. Yet population agencies do not consider these effective enough because they are under the user's control. The thrust of contraceptive research in fact, has been to remove control of contraception from women. Instead of carrying out more research to make barrier methods more acceptable to people in the Third World, family planning experts have been ignoring these devices by repeating that men in developing countries do not wish to use condoms and the women do not have toilet facilities or education to use diaphragms.

It cannot be denied that there is a need for contraceptive research. By developing new and improved birth control methods of different varieties including barrier methods, reproductive choice is expanded - but only if the individual's need for safe, reliable and voluntary contraception are met first. Finally, the use of contraception is more a social problem; not a technical one. The acceptability of birth control methods already in existence could be greatly enhanced by better health care, counselling and supervision and above all by a change in values.

No reason exists why women's health and safety have to be sacrificed to contraceptive efficiency or why freedom of choice has to be subordinated to population control. Alternatives already exist. A change in current contraceptive practices has to start with a change in values.

No reason exists why women's health and safety have to be sacrificed to contraceptive efficiency or why freedom of choice has to be subordinated to population control. Alternatives already exist. A change in current contraceptive practices has to start with a change in values.

The struggle for birth control today offers opportunities for those concerned with the welfare of women and of the poor - for those concerned with social equality in general - to change its previous direction. Offering women contraceptives without thorough explanation and education does not represent self-determination. Legalized abortion that remains out of the price range of most women does not, for example, represent self-determination. Offering women inadequately tested pills and testing those pills on poor women as has been the habit of drug companies, does not represent inclination toward birth control as a reform. IOCU has been actively involved in campaigns to expose the corrupt practices of drug companies that dump harmful drugs in Third World countries. As an independent consumer organization, IOCU will continue to speak up on behalf of consumers worldwide and work with health, women and other groups through HAI. Concerted action to publicize and expose harmful practices and education and reform of existing systems can lead to self-determination. It makes no sense to offer advice or contraceptives without adequate general medical care.

Self-determination must mean a birth control program that is part of an overall program of good medical care, education, respect and equal opportunity for all women.

Notes

Fee, E. 'Women and Health: The Politics of Sex in Medicine', p.151. Baywood Publishing Company, Inc., 1983.

Hartman, Betsy. 'Reproductive Rights and Wrongs', Harper & Row Publishers, 1987.

'Condensed Background for Journalists' press release, The State of the World Population 1981 Press file, prepared by the New Internationalist Publication Cooperative for the UNFPA (Oxford: 1981) also see Dianna Melrose, Bitter Pills: Medicines and the Third World Poor (Oxford: OXFAM, 1982), for health care priorities in general.

Declaration of Alma-Ata, 12 Sept. 1978.

World Development Report 1984, World Bank, p. 150 (Oxford University Press, 1984).

New Internationalist, UK, August 1976, p.7.

HAI News No. 44, Dec. 1988 and No. 46 April 1989.

See Kathleen McDonnell, 'Adverse Effects: Women and the Pharmaceutical Industry' (IOCU, 1986).

PHK Panikar and CR Soman, 'Health Status of Kerala Paradox of Economic Backwardness and Health Development, Centre for Development Studies, Trivandrum, India, 1984.

New Internationalist, UK, May 1974, p.8.

The State of the World's Children 1988, UNICEF, p.23.

Streeten P. 'First Things First, Meeting Basic Human Needs in Developing Countries', Washington 1981 (World Bank), p. 96-108.

UN, Department of Economic and Social Affairs, 'Poverty, Unemployment and Development Policy', New York, 1975.

Isenman, P. Basic Needs: The Case of Sri Lanka', World Development, Vol. 8, (1980), p.37-258.

Panikar & Soman, op. cit, p.144-145.

Table 4: Child Mortality Under 2 Years (per 1000) and Mother's Education in Latin America

Country	Years of Schooling				
	None	1 to 3	4 to 6	7 to 9	10 +
Bolivia (1975)	245	209	176	110	-
Chile (1970)	131	108	92	66	46
Colombia (1973)	126	95	63	42	32
Costa Rica (1973)	125	98	70	51	33
Dom. Rep. (1975)	172	130	106	81	54
Ecuador (1974)	176	134	101	61	46
El Salvador (1971)	158	142	111	58	30
Paraguay	104	80	61	45	27
Source: SH Preston, Mortality, Morbidity and and Development Seminar on Population & Development in the ECWA Region, Sept. 20, 1978					

Workshop Report

Choice, Family Planning and Population Policy

This discussion began with information on the health status of women in Bangladesh. The picture that emerged was quite dismal and similar to other third world countries. The ratio of women is less than that of men. The life expectancy of women is also less than that of men. Male children are preferred and only 16.1% of the female population is literate. 10,000 women die yearly due to illegal abortion, 27,000 die from eclampsia. Out of 4 million babies born, half of them will die in infancy. The immunization programme covers only 3% of the population.

The fourth, five-year plan is being launched in Bangladesh, but it does not have any women's component in it. Women's health continues to be a neglected area. Population control is the government's number 1 priority which sees family planning as the only way to control growth so coercive methods are used. Abortion is a criminal offence. Menstrual regulation is allowed for which abortion can be carried out up to the fourth week. Reproductive health services are grossly inadequate. There are insufficient good contraceptives available. It was felt that more research and funds are necessary and more women in high level of government to make policy changes.

In the 60's the developed countries encouraged family planning to regulate the fertility of the third world. Research analysis into family planning has shown that it does not reduce fertility because fertility has only been reduced by 16%. The US initially spent $2 million on this and the number has increased to $3,000 million. Even then it has been found that except in China, Indonesia and partly in India, it hasn't really helped. Although India was one of the first countries to launch a family planning programme, it has shown only 37% success out of which 90% is sterilization (of women).

Kenya is also an example of failed government policy. The government introduced a family planning program but changed its agricultural policy to take away the agricultural rights of women. The role left for women was mother and the birth rate increased.

It must be remembered that population control of the third world is linked to development policies. Technology, it was said, will not bring liberation to women or solve the problems of child bearing. Only social transformation where the many/woman relationship changes to one of equality can make a real difference.

The Population Policy Discussion: Are Women Left Out Again?

A Review of the Population Program and Policy in the Philippines

by Larraine Sarmiento and Sylvia Estrada Claudio

Miguel Loarca, one of the soldiers brought to the Philippines by the Spanish King's envoy Miguel Lopez de Legazpi in 1565, became one of the early chroniclers of the islands and its people. With this strong Catholic and chauvinist bias he narrated:

It is considered a disgrace among them to have many children or they will all be poor, and that it is better to have one child and leave him wealthy. The women are extremely lewd, and they even encourage their own daughters to a life of unchastity; so that there is nothing so vile for the latter that they cannot do it before their mothers since they incur no punishment. (Blair & Robertson, p. 119)

In the 12th century, one of the first rulers in the archipelago, Datu Sumakwel, had a set of laws written which became known as the Code of Maragtas. The code stipulated, among others, that poor families should not have more than two children. Children who could not be supported would be killed or thrown into swift rivers.

Sex education on the other hand, was one of the 18 orders contained in the Code of Kalantiao in the 15th Century, the set of laws that was enforced in a big part of the Visayas, the central section of the archipelago.

Modern Contraception

Modern contraception was first introduced in the country in 1920 by the Methodist missionaries led by a certain Reverend Housedly. (Population Fact Sheet f2, 1983)

No records are available which show conscious effort by the American colonial governments, both under American or Filipino leadership, for population programs.

While the National Council of Churches in the Philippines (NCCP) opened a counselling clinic - Family Relatons Center (FRC)- in 1957, it was not until the early 60s, that the government started to make family planning services available to the public.

Population Policy Under the Marcos Regime

The Philippines represented by then President Ferdinand Marcos, was one of the 17 signatories to the UN Declaration on Population on December 10, 1967. The declaration stresses that "the population problem must be recognized as a principle element in long range national planning if governments are to achieve their economic goals and fulfill the aspirations of their people" and that "lasting and meaningful peace will depend to a considerable measure upon how the challenge of population growth is met."

Accepting the "narrow" definition of development, and maximizing the deodorizing effect of blaming overpopulation for the country's poverty, the Marcos government aggressively pushed a population program centered on contraceptives.

A project office for Maternal and Child Health of the government's Department of Health was established in 1968. It administered the population program as agreed upon by the U.S. Agency for International Development (US AID) and the National Economic Council (NEC), the former, being the funding source for the project.

Typical of its dictatorial style, the government also issued a string of executive orders and decrees beginning in 1969. The first decree ordered the establishment of the Philippines Commission on Population and the launching of the government's population program.

In 1972, another decree was issued limiting the total number of family dependents entitled to tax exemptions to four and a decree limiting maternity leave benefits to the first four deliveries.

In 1976, the dictator signed a decree requiring marriage license applicants to attend Family Planning counseling sessions and another decree ordering the reimbursement of sterilization expenses by the Government Service Insurance System and the Social Security System.

Coercion and Indifference

In the implementation of the program, quotas were set for family planning workers to meet, often resulting in coercon of the target populace. Interviews we have had with a number of women indicated their mistrust of the family plannign program. Many, for example, have been forced to be ligated or their husbands brided for vasectomy after assurances that these were reversible processes. A number of women even complained that having given birth to their fifth or sixth children in the same hospital, IUD's were inserted in them without their consent.

Certain limited methods were encouraged and promoted. The use of oral contraceptives (pill) and the intra-uterine devices (IUD) were propagated, as these were the only methods available from foreign population agencies. This strengthened the suspicion that these were actually obsolete and banned items from the First World which were being dumped in the Philippines.

In the 80s, cause-oriented groups and some women's organizations brought to the attention of the public the testing and distribution of the injectable Depo. Provera and the Dalkon Shield IUD. As a result Depo Provera was withdrawn while the Dalkon Shield was totally banned. After some protests however, Depo Provera was put back on the market. In 1984, the POPCOM even approved its use for the population program. Despite the protests by concerned women and medical groups around the world against Depo Provera, it is still being used widely in the Philippines and clients are not even warned about its side effects.

Discussions among urban poor women up to the present are replete with anecdotes of side effects and morbidity that were often ignored by government health personnel. A study made by two women researchers between 1982 and 1983 with 152 mothers who gave birth at the biggest government maternity hospital between 1982-1983 bears this out. The women stated that one reason that they did not use contraceptive methods was fear of side effects like headaches, loss of weight and cancer. Couples preferred what according to them are "natural methods" such as withdrawal and abstinence. The study also revealed the lack of rapport with family planning and health personnel who treat the women badly. Finally, the high number of common-law marriages leaves many without the benefit of family planning orientation. The study also found that due to economic difficulty even the services that were available were beyond the purchasing power of the women. (Pastor, p.2-3)

Shortly before the fall of the Marcos regime demography Professor Zelda Zablan decried the inappropriateness of contraceptive technology used in the population program. Zablan stated that these technologies were merely transferred from other countries without considering Philippine culture and

values. These included the preference of some low income families for more children for added labor power and the priority for food in the family budget rather than contraceptive purchase. She also deplored the use of the Filippina's as guinea pigs in contraceptive studies such as Depo Provera and the hormonal implant, Norplant, which have not been proven safe in other countries. (Health Alert f8, Aug. 1985).

But even more insidious was the added burden of debt that the population program imposed on the Filippino people. According to newspaper reports, a total of US$63-6 million debt was incurred by the population program of the Philippines from 1969 to 1987 (Philippine Daily Inquirer, February 19, 1989). Financed mainly by the US AID, the population program also achieved notoriety as being one of the favorite "milking cows" of Imelda Marcos.

It is little wonder that a recent governmental review admits that the program was in fact a failure. The report notes that the crude birth rate declined steadily from a level of 40 per 1,000 in 1965 to 34.8 per 1,000 ten years later. The rate rose, however, to 36.3 per 1,000 in 1978 to 1982. The rate of natural increase similarly declined from about 2.9 per cent in 1965 to 2.6 per cent in 1975 but rose again to 2.8 percent in 1980. This failure, the report continues, was funded by an amount of over a billion and a half-Philippine pesos for the years 1983-1988 (ADHOC Committee Report 1988). It will be noted that the Aquino government has been overseeing the program since 1986.

Under the Aquino government

Indeed, for its apparent lack of a population program, the Aquino government is perhaps worse than the Marcos regime.

A recent article in Newsweek (January 16, 1989), states that the US AID has advised the Philippine Population Commission (POPCOM) that they will withdraw all funding effective January 1, 1989. The letter of the US AID includes a seven page report of the Aquino government's broken promises on the program.

The Population Commission has, in fact, drawn up another five year plan. The problem is no one knows who is to implement it. The POPCOM is under the Department of Social Welfare and the Development of Health. These Departments have serious disagreements on both the philosophy and the strategies for implementation.

Under the Aquino regime, too many voices quarrel over what is to be done with the bodies and fertility of Filipino women.

Church Intervention

It is evident from its moves that the church has a well-financed and long-term campaign to sabotage the population program using, on one hand, moral and religious arguments and on the other, seemingly progressive issues like foreign aid and intervention.

With the church's strong lobby, the 1973 Constitutional provision stating that "it shall be the responsibility of the state to achieve and maintain population levels most conductive to national welfare" was deleted in the 1987 constitution. This same constitution also contains a provision that the state recognizes the "sanctity of family life" and a provision on the "equal right of the unborn from the moment of conception."

Early in 1987, news spread that the population policies were set to be reviewed. A draft executive order had been proposed by the church groups which, in effect, banned the promotion and distribution of "artificial" family planning methods especially contraceptives, which were allegedly abortificants such as the pill and the IUD. Several women's groups were alarmed by this and demanded that President Aquino

reject the proposal. They asked that they first be consulted and be made part of the policy-making process since they are the most affected by it.

The document created "inter-departmental wranglings" in the presidential cabinet as the various ministers competed to get the Population Commission (POPCOM) under their respective ministries. Eventually Mita Pardo de Tavera, the secretary of Social Services and Development (DSSD) who is sympathetic to the church position, was chosen to head the POPCOM. However, due to the women's lobby as well as pressures from population agencies, President Aquino did not sign the draft executive order.

The Church has not let up in its campaign against all kinds of contraceptives and endorsed only modern family planning methods. The Catholic bishops even issued a pastoral letter reminding their flock that the Church does not approve of the use of contraceptives. One church group announced it would sue the government if it allows the import of contraceptives.

Recently, the Health Ministry distributed condoms in the red-light districts around the U.S. military bases as a measaure to prevent AIDS. The church, predictably, condemned this.

Secretary of Health, Alfredo Bengzon, defended the government action by saying that while the Constitution respects the right of the unborn it also respects free choice and responsibility. Bengzon advocated the "cafeteria" style in the provision of various contraceptives. (Health Alert f48).

Laudable though the Health Department's efforts to resist Church intervention may be, it has its own insensitivity to the health of women. Despite its much publicized move against several hundred drugs, which are banned or restricted in other countries and which are still available in the Philippines, the department has not included Depo Provera in its list. Whether the department will eventually get around to rationalizing contraceptives available on the market is yet to be seen.

Pressures From Funding Agencies

The more compelling reason why President Aquino decided not to sign the Church endorsed population policy draft was pressure from the World Bank. Instead, it adopted a population policy statement, which in effect, is a continuation of the old population policy that was started during the Marcos dictatorship. The policy that was signed in April 1987 provided the framework for addressing the problems of inadequate family planning services.

The 1988 World Bank country report identified population policy and family planning programs as one of the five key points for recommendation to the Aquino government, a part of its strategy for poverty alleviation in the Philippines. Therefore, the government must have a sound population program as well as more funding allocated for it.

According to the report, "the Philippines is the only ASEAN country where the average living standard is declining and the number of people living in poverty is increasing" (Summary and Conclusions, p.2). One of the reasons cited, which has caused (and which is also a result of) this poverty situation is rapid population growth.

In the report, the Bank prodded the government to "restrict fertility so as to reduce the population growth rate from the current 2.8% a year to 2.0% by the year 2000." Moreover, it also recommended that government expenditures on family planning be increased and the delivery of service made more effective. (Summary, p.4)

Broadly, the World Bank's lending trend shows its increased bias for population growth rate reduction in the Third World. Says Robert McNamara, one time WB President, "the World Bank helps member countries reduce their rates of population growth". Concretely, this meant lending $84 million for

population projects in 7 countries from 1969-1973 which was increased to $375 million for 23 countries from 1974-1978. (Introduction, Population Policies and Economic Development, 1974).

To many progressive groups, the Bank's transactions are suspicious. It skirts the issue of structural changes in favour of palliatives to alleviate poverty, that includes population programs. As experienced in the Philippines, loans incurred by the government did not reach the beneficiaries but found their way instead into the pockets of high government officials or in the case of the new administration, were left idle or unused. The more important aspect of the deal was the condition imposed by the Bank on debtor countries. In a book that analyzes and exposes WB activities, Walden Bello stresses "It became clear over the decade that the Bank, together with the International Monetary Fund (IMF) was policing the development process often in a manner that directly opposed the mandates of a supposed ideology of empathy."

In a classic case of the "carrot and stick" approach, the withdrawal of US AID support has been replaced by US421 to 26 million starting in June of this year to be provided by the UN Population Fund.

The State of Affairs

The ultimate goal of the national population program as reflected in the "Framework for the Five Year Philippine Population Program Plan 1989-1993" submitted by the Population Commission, is the "improvement of the quality of human life in a just and humane society."

Concretely, this is translated into two more specific objectives:

The reduction of the population growth rate (PGR) from 2.38% in 1988 with an estimated population of 58.7 million to 2.21% in 1992 with an estimated population of 64.3 million by decreasing the fertility rate from an estimated 4.0 in 1988 to 3.7 in 1992 or to 45.6% in 1992; and

"the attainment of balanced regional (national) development and population distribution through the advocacy of policies and measures that can reduce the imbalance in population distribution as this relates to inequities in the social structure" and the "monitoring of all population-related activities (coordinating and integrating) plans and programs at the national levels." (POPCOM,) Jan. 1988).

Because of the lobbying efforts of a few women's groups, some changes in the policy principles have been made. The population program that ended with the ouster of Marcos, was based on five principles namely, non-coercion, integration (population planning was integrated into other development programs in health, education social welfare, community development and others), multi-agency participation (involves the implementation of the population program by several agencies or institutions), partnership of public and private sectors, and unacceptability of abortion. The 1989-1993 plan has nine principles. These are:-

Orientation towards the over improvement of family, not just fertility reduction.

Respect for the rights of couples to determine the size of their family and choose voluntarily the means which conform with their moral convictions and religious beliefs.

Promotion of family solidarity and responsible parenthood.

Rejection of abortion as a means of controlling fertility.

Recognition of socio-cultural variations among regions and among localities within regions.

Promotion of self-reliance through community-based approaches.

Coordination and integration of development efforts at various levels of government.

Encouragement of public-private sector partnership through the complementary participation of non-government organizations or NGOs.

Maximum utilization of participative and consultative approaches.

We take note that four additional principles were added, (3,5,6 and 9) to fill up the inadequacies of the previous program as it was criticized to be insensitive to people's needs and culture, overdependent on foreign assistance and for its undemocratic policy-making and coercive approach.

On paper, the new Philippine population program plan gives more hope towards a more people-oriented approach on the population issue. But then, it also encourages high expectations. The program has not yet been able to deliver even its already limited services in the last three years. Indeed cutbacks in funding including from the US AID, have further decreased the already limited reach of government programs. The breakdown in government services is causing problems for some women who have no alternative source of contraception.

The lack of consensus among the policy and law - making bodies and the lack of political determination by the government go accept the plan framework prepared by the POPCOM, has made the exasperated director of the University of the Philippines Population Institute and incumbent commissioner of the POPCOM to state that at present, the country does not have a population program to speak of (Raymundo, CWR soiree, July, 1988)

On September 2, 1988, senators and congress persons met in a Parliamentarians Conference to tackle legislative actions relative to the population problem. Highlighted in the discussion was the relationship between high population growth and development in such areas as natural resources, labour, social services, and education.

In February 1989, the Asian Parliamentarians Conference on Population was held in the Philippines. A resolution was passed urging Aquino to issue "an unequivocal national policy on population endorsing a small family norm on the basis of responsible parenthood." The organizers stressed that the country has been lagging behind its Asian neighbors in its population program.

Unfortunately, the cacophony of voices to which the government listens does not include the women whose welfare and health must at the center of any policy. In the meantime, the urgent needs of women are neglected.

Of the 8-6 million legally married Filipino couples, 4-8 million do not know anything about family planning according to a recent Survey conducted by the POPCOM.

Yet a recent survey has shown that about 12% or roughly 2.4 million Filipino mothers do not want any more children. In 1987, 63% of urban poor women surveyed, said that they did not want more children, but still most of them do not practice any from the regulating their fertility. This may be attributed to any one of the following reasons:

social pressure such as the value attached to having at least one (preferably several) male child

negative experiences from the past program

sexually aggressive and insensitive husband

lack of information and family planning services

the emphasis or reliance on women as the main implement of the program.

Is it any wonder that according to the Maternal and Child Health (MCH) section of the Department of Health most of the 2,000 maternal death in the Philippines are due to illegal abortions?

Contrary to the stereotype, So per cent of those who seek abortions (which remain illegal in the Philippines) are married women. The MCH goes on to state that 5,000 abortionists perform 155,000 to 750,000 abortions each year. Most of these abortions are performed at the hands of untrained personnel under septic conditions.

Recommendations

While birth control measures are necessary for individual and national interests, and for women especially, it is to our benefit to have control or a voice over the population program that has proven ineffective in promoting our interests as a people and has not respected us as women. We should pressurize the government not only to involve us in re-orienting the population policy and program but to enforce and implement it.

We must build a self-reliant, pro-people and pro-women population program.

Besides a widescale political conscientization effort among population program workers, there has to be active education work among cause-oriented groups to integrate the concern for population issues and fertility regulation that is still inadequate in their alternative programs.

We have to emphasize that couples are both responsible for deciding family size and the means to limit it. This means that contraceptives for men must be available. At the same time we should continuously demand that all options be made available to women to regulate their fertility and for us to decide freely and intelligently.

Part of this freedom entails the development of safe and effective devices by scientists who will listen to women and their feelings. In the Philippines, much work must be done to retrieve herbal methods known to our ancestors and to improve on these.

We must continue the struggle against the narrow and chauvinist attitudes and actions by some church groups, especially the Catholic hierarchy.

We must reject the imposition of international lending and aid institutions over the directions, processes and programs that concerns our people and especially our women.

But if reproductive rights are to be upheld in the Philippines, the discussion must go beyond the narrow confines of reproductive technology and its availability. As long as women remain powerless in our patriarchal families, as long as their morals are dictated by the Church, as long as government views their fertility merely as a stumbling block towards

achieving developmental objectives; as long as poverty, foreign domination and a backward economy beset women - they can never fully gain control of their fertility, their bodies and their lives.

References

Akhter, Farida, 1986. Depopulating Bangladesh: A Brief History of External Intervention into the Reproductive Behavior of a Society. UBINIG Occasional Paper, Bangladesh.

Blair Emma and Robertson, James, 1908. The Philippine Island 1898-1943. Vol. 7. Arthur H. Clark co., Cleveland.

Boston Women's Health Book collective, 1984. The New Our Bodies, Ourselves. Simon and Schuster, New York.

Caruncho Eric S. The Churches Take A Stand. In: Initiatives in Population. 8(1), Population Centre Foundation.

Commission on Population. 1985. The Philippine Population Program. In: Population Bulletin. No.2. Manila.

Duggan, Lynn, 1985. From Birth Control to Population Control. In: Southeast Asia Chronicle, No. 96. California.

HAIN (Health Alert Information Network) Health Alert Issues 2, 8, 47, 48.

Levine, Suzanne and Lyons, Harriet, 1980. The Decade of Women. A paragon book, New York.

Mariano, Danilo-Luis. Selling Contraceptives: A New Challenge. In: Initiatives in Population. Vol. 1. Population Center Foundation.

Pastor, Rene. Trianggulo: Family Planning, Breast Feeding and Pregnancy. PCF Media Service, Population Center Foundation.

Population Center Foundation, 1983. The Philippine Population Program: History Highlights. Population Fact Sheet, No. 2. Manila.

Rogers Barbara, 1980. The Domestication of Women. Tavistock Publication, London.

Rowbotham, Sheila. Hidden from History: Rediscovering: Women in History form the 17th Century to the Present. Vintage Books, New York.

Seager, Joni and Ann Olson, 1986. Women In the World. An International Atlas. Pan Books, London.

Stucos, J. Manone, 1971. Ideology, Faith and Family Planning In Latin America. Population Council, USA.

United Nations 1979, Everyone's UN. New York.

Waldheim, Kurt, 1980. Building The Future Order. The Search for Peace in an Interdependent World. The Free Press.

ISIS and Boston Women Health Book collective, 1980. International Women and Health Resources Guide, Boston.

Report of the Ad Hoc Committee to Review the 1987 and 1988 POPCOM Budget and the 1986 Pil of the PPII.I

Medicine and Drugs

Reports were heard from several different countries on the drug policies and problems in a number countries but there was insufficient time to discuss strategies in any depth. Below are some of the key points raised.

Mira Shiva kicked off the workshop by giving an insight into the pharmaceutical situation in India. She noted that although, the industries are growing, they have not yet fulfilled the needs of the people for essential drugs. However, the availability of non-essential drugs is increasing as they are bringing greatest profits for the industry. The campaign to get rid of high dose EP drugs was begun in 1982 and finally resulted in a ban after 8 years of battle. This is meeting strong resistance from the manufacturers of these drugs. There seems to be an increasing dependency on multinational companies to the detriment of the home industry in India. Medicines are often sold in India without prescription by people who are very untrained and push the medicine which brings their shop the highest profit. At the same time there are about 20,000 pharmacies in India, which is still insufficient to meet the need.

In the Philippines there are 25 to 28 drug companies, with multinationals controlling about 80% of the market. There are 12,000 preparations being sold in the Philippines with raw materials brought from abroad. Companies are allowed to advertise with very little control and patent laws are lacking. The recent enactment of the Generics Act of 1988 now requires drug companies to print the generic name of the drug above the brand name and in a large type size. This is viewed as a positive move by many action groups although it has not found favour with the Philippine Medical Association. After the drug policy was first announced there was no follow-up such as implementation guidelines.

The Philippine Medical Association has questioned the pharmacies changing the brand of drug which have been prescribed by a doctor. Doctors are supposed to give the generic names on prescriptions. Under the Philippine law a druggist can change the drug which has been prescribed if that particular brand is not available in the shop. Another problem faced in the Philippines is that the pharmaceutical company never announce when their drugs are withdrawn, they just keep quiet so that the average person does not know about it. They also insist that generic names be used in banning drugs which are often not recognized.

Its very difficult to bring out any report on the pharmaceutical companies in the Philippines because they do not give out any information. Therefore the people who are working to improve the drug policies have to refer to reports as old as 10 years to which the pharmaceutical industry challenges that the reports are using old figures. There seems to a big problem collecting recent information. Some drugs have been banned in the Philippines but there are court cases still continuing. Hormonal replacement drugs are available, mostly for middle and upper class women, who are going through menopause. These are similar to the high dose EP drugs which have been banned in India.

The lack of implementation of the Bangladesh drugs policy is political: this was the view of one participant as banned drugs are still available here. On a more positive side, the Drug Policy has resulted in increased production of essential drugs while only 36 different drugs are allowed to be prescribed by the doctors. This encourages the national industry to produce cheaper and better quality drugs. One continuing difficulty is if a Bangladeshi company brings out a drug to draw customers the multinational bring out the same drug at more or less the same price.

Although there is a Drug Policy in Thailand the political will to improve it is lacking. Drugs are easily available over the counter an it is not controlled. In Zambia, it was noted, a lack of medicines is the basic problem and any movement to highlight dangerous drugs would be considered anti-government.

The German experience has shown that although drug regulations had been initiated in 1961, most of these drugs were tested for safety and efficiency after their registration and not before as should be the case.

Finally, the workshop participants concluded that information must be shared including fact sheets on drugs. Another strategy must be to monitor violations to the IFPMA code and alternatives to drugs should be investigated. In Malaysia, there is a group called Health Action International and the work of the group is collecting and disseminating information about drugs. This information is collected not only from Malaysia but other countries as well. In Switzerland a hotline has been set up for description of drugs. Efforts in north and south regarding the dissemination of health information and information on EP drugs is an example of shared efforts and information between north and south. It seems that in Europe people cannot understand the political maneuvering necessary in Asian countries and in such cases international support can be harmful to a group's work. Groups working on rational drug use and drug policy implementation are often under suspicion and labelled anti-development.

What we are really talking about is a rational drug policy not just for the countries of the north but also for the countries of south. And more than one group is needed to work on this. We need to take responsibility for sharing information. What we can do as strategy is assign responsibility for collecting information on a specific drug. We need to look not only at the new drugs that are coming out, but also the old drugs- their pros and cons, their availability, the ethics surrounding them and in particular their effect on women, especially pregnant and lactating women.

The Situation in Zambia

by Christine Y. Ngambi

The issue of population control has in recent years become a global concern due to a number of factors, one of them being the global economic crisis.

However, the effects of the economic crisis are conspicuous amongst the third world countries or countries popularly known as the developing countries - where governments cannot adequately provide essential services and goods to their nationals. The most affected still are the poorest of the poor, who are mostly women and children.

This conspicuous poverty with its offshoots of hunger and disease in itself justifies the need for population control, as it is viewed as an integral part of socio-economic development programmes.

Given such as scenario it is imperative that population control or family planning become an integral part of development programmes BUT the package should ensure ample education on the importance of nutrition of health care alongside family planning.

Adequate information should be provided to the users of contraceptive drugs or whatever services that are made available on the market, so as to provide the mothers with maximum benefit healthwise to enable them to participate fully in the economic development of the nation.

The questions that arise in one's mind may vary from one person to another but they have similarities. Do we women as consumers of the contraceptives have adequate information? Do we know enough about what the pill does to our body constitution? Would we be able to tell the danger sings of prolonged intake of the same? The list of such questions may be endless and this in itself indicates a problem.

This makes this august meeting opportune and appropriate as it is only at such forums that we are able to share vast experiences, information and exchange ideas that wold help find answers to some of the many questions and problems.

In Zambia, we have various forms of contraceptives on the market and some of these come into the country through government aid or research. These include:

The Pill - different brands

Loops - Copper T and Plastic Coils

Condoms

Neosampoens, Jellies and Creams

Diaphragm

Depo Provera

Norplant

Natural Family Planning

The Planned Parenthood Association of Zambia is the first non-governmental organization nationally recognized and popularly known for indiscriminate distribution of the top six types of contraceptives. They have had a lot of material and financial support from various donor agencies since their programmes started in the country some ten years ago.

Planned Parenthood in Zambia has covered a lot of areas in the country. It has to be noted here that even big hospitals are understaffed and it is even worse in remote areas where most women are illiterate and need a lot more attention. Do these few members of staff manage to provide ample education to these women on these harmful drugs? Or do they dispense without enough time and patience to educate the recipients on the use of the contraceptives and their pros and cons simply in order to have a wider coverage as regards the number of women provided with the drugs.

Some of these drugs are purchased and dispensed without adequate research to establish their effects. A good example of such a drug is Depo Provera which was dispensed in the form of injection at quarterly intervals to women of fertile age i.e. 22-35 years. A few years later it was discovered that a great number of women developed a lot of complications e.g. lack of periods for extremely long times, bleeding on and off for years, some women would bleed mostly during the bight and consequently husbands would complain about the inconveniences that they were experiencing. Because of inconsistency of periods, women would not know whether they were pregnant or not. Some women would become pregnant without knowing. One doctor said that some women had become extremely fertile - as they would end up having twins after having been on the pill. Normist was a pill that most women fell pregnant whilst on it.

These are only a few of the complications narrated by only a section of women, Some of the complications remain unknown and all we learnt in Zambia was that Depo Provera had been withdrawn from the market. In the meantime a lot of damage had already been done to a number of women.

Currently in Zambia we have yet another form of contraceptive known as Norplant which is implanted in the upper left arm. This is on a experimental basis and I am certain that the women that are being used as guinea pigs have not even been told so. According to observations of the medical personnel involved with family planning some of the women on this contraceptive appear to have put on excessive weight, which concentrates on the upper part of the back near the neck and the women look like someone with Cushings syndrome.

These are only a few of the outward signs. Who will know about the inward ones? These are women who are voiceless.

For how long should the developing countries remain dumping grounds for these harmful drugs?

In conclusion I can only urge the women at this forum remain in solidarity and draw up strategies that would at least minimize this practice.

Natural family planning is promoted by the family life movement but the impact on the community is minimal as this method can only work when both husband and wife are in agreement and a strong Christian foundation is normally the basis for this kind of agreement. Nevertheless a start has been made and progress is being made.

It has to be noted that some of our rural women have also continued to use the traditional family planning methods.

Acknowledgement

My heartfelt gratitude is extended to Alice Munalula who is a trained nurse and midwife extensively involved in family planning who shared with me her wide experiences and contributed a lot to this report.

Reference

Economic Impact - (1973 publication)

Workshop Report

The Socio-Economic Impact of Oral Contraception

Two groups joined together and the workshop was richer for this reason. Discussions were preceded by presentations from Bangladesh, India and Korea. There were also brief reports on the methods of contraception adopted in Fiji and Hong Kong.

Jahan Ara Begum presented a study on the socio-economic impact of contraceptive behavior among rural married women of Bangladesh. An important fact that emerged from the discussions that followed was that in Bangladesh higher dosage pills were in use as opposed to relatively much safer lower dose pills.

Giving an overview of the situation in India, Veena Shatrugna began with the observation that in the eyes of the government, contraception is not seen as a medical problem but linked to socio-cultural factors. In the attempt to blindly push through the programme, it adopted harmful short cuts and simplified the programme to the extent of literally delivering the pill on the women's doorstep.

In India, contraception as a state programme was launched with the introduction of intrauterine devices. As this was set up without the necessary support systems and infrastructure the women complained of pain, bleeding etc. and thus was rejected. Realizing it has failed, the government next pushed vasectomies and tubectomies which reached oppressive heights during the emergency in India. ('75-76). The men in particular rejected sterilization so violently that it became one of the major factors in the overthrow of the government. They therefore changed their tactics and left the men alone and instead focussed on tubectomy which was linked up to incentives like getting house sites. However at home, family pressures work against women going in for tubectomy since it lowers their efficiency in house work. Therefore, despite the dnagers of post-partum sterilization this is often done immediately after the third or fourth child. It is notable that in primary health care centres lacking basic gynaecological equipment such as a speculum, there are laparoscopy kits.

Korean participants talked about the contraceptive situation in their country. They drew attention to the point that the methods of contraception were determined more by state policy based on patriarchal values and structures than on the needs of the women. Condoms and vasectomies have been less popular as contraception is seen purely as women's work.

In Hong Kong, the situation is comparable to that of Korea. 90% of women buy condoms for their men. Because of the side effects of the pill, many women are opting for IUD. A welcome trend is seen here in that the government is actively propagating the role of men in family planning where film stars and singers promote this idea through the media. Injectables are also gaining popularity.

In Fiji, the vasectomy is unheard of. After the birth of three or four children women go in for tubectomy. The most prevalent contraceptive which is also propagated by the government is Depo Provera. Women too find it less cumbersome and they have begun to accept the side effects. No studies or surveys have been done, even by feminist groups who are only now taking up the issues or childbirth and health.

Side effects of the various contraceptive measures have to do not only with the method itself but are also linked to the general low health status of women.

As we cannot say no to contraception, what are the alternatives? The following are some of the suggestions from the workshop:

Women could retrieve what they have lost from their tradition which had perhaps better and safe methods. These would have to be systematically collected and shared.

Promotion of natural family planning methods.

In the Netherlands, women's groups are teaching natural methods of self-abdominal massage to bring on spontaneous abortion. (A critique was made that this is based on an assumption that women knew their own anatomy which is not universally true.)

Acupuncture could be another area of safe abortion. This needs more exploration.

Health activities also advocate diaphragms and cervical caps which are less harmful.

Socio-Economic Impact of Oral Contraceptive Behaviour Among Rural Women of Bangladesh

by Jahan Ara Begum

Introduction

Bangladesh is one of the most populated countries of the world (89.91 million according to the 1981 population census). The total fertility rate is 5.07 per woman and only 18.6% eligible couples are using contraceptive methods (MIS Unit, 1981) but contraceptive practice among women is increasing daily. Today, oral pills are popular not only among urban women, but rural women prefer this method. Although contraceptive prevalence surveys were carried out at the national level in 1979, 1981, 1983, they do not throw light upon the significance of socio-economic variables and their influence on contraceptive prevalence and the side effects and complications of various methods which can endanger the lives of women. In this study an attempt was made to study the socio-economic relationship of pill users as well as side-effects and complications of the contraceptive pill.

Methodology

Three villages of Dhamrai upazila - Islampur, Kumrail and Seibaria - were selected as the study area. The villages are adjacent to the Dhaka-Aricha highway and separated from one another by narrow roads. The population of the three villages was 5000. Females of the reproductive age group numbered about 500 of whom about 400 were married with or without children. The majority of the women were housewives and their husbands were engaged in cultivation, business or in service. The villages were selected on a random basis however the socio-economic status, educational level, and geographic conditions of the selected village are representative of Bangladesh.

The study aimed to cover all the married women of reproductive age in the selected villages. Oral pill users and non-users were included in the study population. Only 325 women out of 400 were interviewed due to limitations of time and resources. Those women who had adopted permanent sterilization were excluded. Those women who were not inhabitants of the study areas but resided permanently were included.

Table 1: Age of Respondents

Group	Acc	Non-A	Total	%
16-20	11	38	49	15.1
21-25	20	79	99	30.5
26-30	24	97	121	37.3
31-55	7	33	40	12.3
36-40	3	13	16	4.92
Mean age	26	26.2	26.1	
N=325 t=1.73 DF=323P/05(N S)				

Table 2: Education of Respondents

Level	Acc	%	Non-A	Total	%
Illiterate	19	29.2	129	148	46
Primary	25	38.5	78	103	32
Secondary	17	26.2	50	67	20
Higher Sec	4	6.15	3	7	2.2
	65		260	325	
X2=9.16m DF=2 P/0.05					

The study was carried out in January, 1986. Interview schedules were prepared beforehand. Data collectors were equipped with an interview schedule, blood pressure instruments and stethoscopes. The interview was conducted by a principal investigator who was accompanied by a family welfare visitor (FWV) and an aya. The FWV and aya were known to the local people. A list of married women of reproductive age was prepared in collaboration with the FWV and aya of the study area.

Each and every house was visited by the team and identification and interviewing of married women ran smoothly. In total, 325 married women of reproductive age were interviewed, 27 women were not found at home and 34 women did not agree to be interviewed. 14 women had adopted sterilization.

Results

The results of the study are outlined in Tables 1 through 10.

Discussion

Oral contraception has been assured an important place for low socio- economic class of rural women. Respondents of this study represented the typical population of rural women of reproductive age. The contraceptive prevalence surveys (1974, 1981, 1983), outline the use of all contraceptive methods among women of different socio-economic backgrounds and the percentage using contraception was 17.9% which was just under half of the present study (33.53), possibly due to greater awareness of the women. Education is the important predicter of fertility behaviour, here 43.07% of pill acceptors were educated at different levels, which was significantly correlated (P /.05). The adult literacy level, especially of women, has been found to be significantly correlated to contraceptive use (Alauddin, 1979, Chowdhury, 1977). Occupation of respondents (P/.05) and income of the family (P/.05) were not significantly correlated with contraception acceptance rate in this small study. But Faruque and Amin (1980) found that, unlike fertility, contraceptive variables are significantly related to socio-economic development,

Table 3: Religion of Respondents

Religion	Acc	Non-A	Total	%
Muslim	56	232	288	88.6
	8	23	31	9.53
	1	5	6	1.85
	65	260	325	

X2-9 DF-1 P/.05(N.S)

Table 4: Husband's Occupation

Occupation	Acc	Non-A	Total	%
Day Labourer	23	95	118	57.8
Cultivator	8	37	45	13.8
Businessmen	16	56	72	22.2
Service holder	18	72	90	27.7
	65	260	325	

X2=214 DF=3 P/.05 (N.S.)

Table 5: Family Income per annum

Class	Acc	Non-A	Total	%
Poor (10-1500)	27	96	123	37.9
Middle (16-40000)	23	80	103	31.7
Rice(41-60000+	15	84	99	30.5
	65	260	325	

X2=2.09 DF=2 P/.05 (N.S.)

Table 6: Occupation of Respondents

Occupation	Acc	Non-A	Total	%
Housewives	57	244	301	92.6
Service holder	8	16	24	7.38
	65	260	325	

X2=2.87 DF=1 P/.07 (N.S)

Table 7: Cont. Methods (Married Women under 45)		
Method	#	%
Oral pills	65	20
Injection	19	5.84
IUD	25	7.69
No method	216	66.5
	325	100
Table 8: Cont. Non-Use		
Reasons	#	%
Religion	45	20.8
Desire of Child	77	35.7
Side effect	24	11.1
Health reasons	10	4.62
Lack of supply	30	13.9
Pregnancy	14	6.48
No reason	16	7.4
	216	100

Table 9: Side-Effects among High and Low Dose Pill Users				
Side effects	High N=18	Low N=47	Total	%
Scanty menstruation	7	19	26	40
Nausea	9	20	29	44.6
Vomiting	3	11	14	21.5
Dizziness	8	27	35	53.8
Headache	7	25	32	49.2
Breast tenderness	5	6	11	16.9
Intermenstrual	4	21	25	39
Bleeding/spotting Weight gain	5	9	14	21.5
Acne	3	4	7	10.8
Leukorrhoea	14	20	34	52.3
Depression	5	3	8	12.3
Hair loss	6	13	19	29.2
Chiloasma	7	9	16	24.6

Table 10: Serious Complication Pill Use			
Conditions	# (prest)	# (abst)	%
Amenorrhoea	0	65	0.00
Severe abdominal pain	0	65	0.00
Severe chest pain	0	65	0.00
Shortness of breath	0	65	0.00
Hirsutism	0	65	0.00
Jaundice	0	65	0.00
Change of eye sight	0	65	0.00
Severe headache	0	65	0.00
Hypertension	1	64	1.54

and more substantial gains can be expected in contraceptive knowledge, attitude and practice. Most of the study women were unaware of side effects and complications of the pill which desire attention from family planning experts.

It is evident from the study that a considerable number of rural married women have been using the pill for several years since their last child's birth, which indicates a positive attitude towards spacing between two births. Further research should be undertaken for safe, easy, less expensive and effective methods of contraception for all social classes of women which may decrease the present fertility rate from 5.3% to 2.4% by the year 2000. (Third five year plan 1985-90)

References

Alauddin, Mohammad, 1979. Rural Development and Family Planning Behaviour in Bangladesh Villages. Ph. D Thesis, University of Michigan, USA.

Amin, R. And Rashid Faruque. Population and Family Planning in Bangladesh: A survey of the research. World Bank staff working paper, No. 557. Washington.

Bangladesh Bureau of Statistics, 1984. Bangladesh Population Census 1981. Dhaka, Bangladesh.

Chaudhury R.H. 1977. Education and Fertility in Bangladesh. Bangladesh Development Studies, 5(1).

MIS Unit, Bangladesh Contraceptive Prevalence Survey 1979, 1981, 983 Government of Bangladesh, Dhaka.

Ministry of Health and Population Control, 1984. Third Five Year Plan 1985-1990, on Population Control Government of Bangladesh.

Workshop Report

Injectable –5 Year Norplant

This group began with sharing of present concerns in the ten different countries which were represented. What came out was that the long acting methods of contraception are being pushed in the developing countries most of the time.

In India, injectables and Norplant are being pushed through social marketing techniques more and more while the opportunities for women's access to health services are much reduced.

It was pointed out that even the health professionals involved in providing these contraceptives do not know the real hazards, side effects and problems. The potential hazards of Norplant and injectables were articulated. It was said that disturbed menstrual cycles, headaches, nausea, depression, skin problems etc. are the most common of all. But some specific hazards with the injectables are contracting of AIDS and congenital malformations in case of pregnancies occurring while hormones are in the body.

It was reported that reports of trials are being distorted in Thailand and published so as to be able to sell the contraceptive. The major problem with the governments trying to push these contraceptives is that there is no adequate follow-up, once they are given to the women. Also, there are problems with removal of Norplant implants after they have finished their term.

Difficulties with effective contraceptives occur at three levels: the provider, the user and the facilities or services available. Steps to solve these include:

dissemination of information to both users and providers

forming support groups to monitor adverse reactions

creating a concerted demand for availability of all choices of contraception through grass roots organizations

conducting reliable and comparative trials in a women oriented ethical way and within a social set up

and effective network to articulate women's needs is required

studies of traditional contraceptive methods.

Listening In….

The Rules Worked!

The Brazilian Campaign Against Norplant

In 1984 a large trial of Norplant was begum in Brazil. At that time, a study commission had been established within the Health Ministry to develop criteria related to human reproduction (including IVF, abortion, sterilization and research on human beings). In addition to the Health Ministry, three ministries were represented: Education, National Council for Women's Rights, and Foreign Affairs (WHO comes under this Ministry). The National council of Doctors was invited to be part of this commission. People inside the administration and people outside were active.

The first issue studied by this commission was the re-evaluation of the Norplant trial. The commission found that the researchers hadn't followed the legal requirements of the application. They had asked for authorization to insert in 2000 women and they had actually implanted 3,500 women. Many girls from 13/14 years old received Norplant and at least two recipients were pregnant. Many women did not know that it was a trial nor would they know what a clinical trial is. The report from the commission was submitted to the National Council of Doctors and the trial was banned.

After the trial was forbidden a group of epidemiologists of the National Council of Doctors that is affiliated with the Health Ministry was formed in order to re-examine some women. Some women in Rio de Janeiro were re-examined by this commission and they found that many side effects were present that had not been included by the researchers in the literature about Norplant. There was a big list of side effects which included menstrual disturbance, acne, weight gain, irritability, headache, libido loss, inflammation of the veins, migraine, dizziness, lack of breath and others. The most visible and dramatic sign was weight gain. One woman had gained 38 kilos or 76 pounds in a period of 9 months and another 27 kilos in 4 months.

As the trial was forbidden, Norplant will not be commercialized in Brazil. This was the first time that a scientific research project was forbidden and at a time when eight universities were involved in the trials. The main university involved was one of the most reputed medical faculties in Brazil and the principal is an advisor to the Population Council. We used the press because we were the authorities and the decisions were at a high level. All of this resulted in a broader discussion and the National Council of Doctors was forced to discuss human experimentation.

This work has given very interesting experience in working with one objective target. We decided to work on a special issue instead of talking in general about population control. The consequence is that it was a method of experiencing confronting with the medical power. I think this was a victory that is very significant for us.

Using the law and the rules we acted. We didn't invent the rules, the rules worked.

Brazilian participant.

Workshop Report

Contraceptive Research and Testing

Discussion in this lively session focussed on the need to not only say what we are against in terms of reproductive technologies but also what we are looking for in terms of both practical and contraceptive techniques and future alternatives in general. "We can change the man-women relationship in 100 years, but right now we have 20 million people who want contraceptives" she argued. This statements was challenged by Renate Klein, who argued that changing men's attitudes about their right to sexual access to women must not be seen as separate issue.

The main emphasis of contraceptive research and testing at present is the longer acting hormonal contraceptives. Male contraception was also discussed, and it was agreed that forms of contraception based on hormonal intervention are equally unacceptable for men and women. This led to a discussion on contraceptive alternatives; recovering lost knowledge about our bodies, the need to determine the safest contraception through research (such as the work of Katrina Sidenius on the diaphragm) and the development of natural family planning methods.

Discussion also focussed upon the development of the immunization/vaccine programmes which may be used for a so-called "pregnancy vaccine". This produces antibodies to the placenta. This "vaccine" is permanent. A variety of techniques are also being developed to produce such a vaccine, and thus has led to considerable concern about immunization programmes. Anna pointed out that such vaccines should be considered biological weapons. There is very little international feminist attention to this issue and it was agreed to take a stand on this.

Chapter Three
Genetic Engineering

Why is it a special concern for us to talk about the application of genetic engineering to non-human life? First of all, women have the right to deal with every aspect in the world that affects life and society. Second, one question of this conference is in what way genetic engineering and its basic philosophy and its various applications will effect the health and socio-economic status of women…….

We are confronted with the type of technological revolution which some people even compare to the discovery of fire… Scientists and politicians and the people of the multi-national companies promise us that genetic engineering will solve all problems the people of the world face today. Hunger, disease and ecological problems.. plants will not need fertilizers and will use their own pesticides, super cows will grow double the size of normal cows and produce medical drugs in their milk, bacteria will clean up the environment and feed on harmful chemicals.. GE will bring us new ecological risks and health hazards

This means, we cannot stick to considering the health situation of women in terms of medicine or in terms of the health movement. We have to consider the ecological situation….

To give you one example, the European community is starting a programme called "predictive medicine" which will investigate the status of genes. The reason given is that the environmental situation is such that it causes inter-relationships with inherited poverty diseases and because the environmental situation cannot be solved we should solve the problems lying in our genes. That means they have to use new reproductive technologies. So the ecological problems of our societies are intended to be solved via manipulating the reproductive power of women.

From an introduction to genetic engineering

By Helga Satzinger

Overview of Areas of Application of Genetic Engineering to Non-Human Life

By Helga Satzinger

Writing in a foreign language sometimes offers some surprising things for the author. Doing this paper I found out that the English language is already appropriate for modern biotechnology – the word "plant" has a strange double meaning: it means trees, flowers, grass, food crops, but it is also used for industrial buildings; nuclear power plants, or plants of the chemical industry.

One thing I want to show with this paper is what this double meaning of "plant" includes in the light of genetic engineering.

The technique of genetic engineering originated in modern molecular biology. Using it people can change a living organism's genetical identity in an irreversible way by adding or removing units of genetic information. The genetic material needed to construct new forms of life comes from cultivated or wild plants, bacteria, viruses, fungi, animals or human beings all over the world. It can also be completely artificial, made out of its chemical elements.

Genetic engineering is based on the idea that in every cell of an organism, the genetic information is present in the chemical substance of DNA. This information is passed on to the next generation, and it is expressed by chemical elements of the cell into the form of proteins. These proteins are seen as the basic elements for the structure and function of cells. They are the "tools" for the synthesis of any other chemical element of the cell – that can be a hormone, like insulin, or the protein which transports the oxygen in the blood, or proteins which help us to digest our food. One other example is silk protein, which is produced by certain glands of the silkworm.

The imagery which molecular biology uses to describe forms of life is the imagery of a chemical production unit or a machine made of chemical elements, the molecules. In this

understanding of life as a certain type of technical product, as a certain type of a machine, genetic engineering and the construction of new forms of life is a logical consequence.

Technically, genetic engineering has become possible since the 70's when proteins had been found which cut DNA into certain fragments. These fragments of DNA – let us take for example the DNA of the silkworm – can be introduced into bacteria in the laboratory, for example bacteria which live in human intestines, called E. Coli. Then you can investigate these bacteria, breed them and look for the ones producing silk. Then you can investigate the properties of the DNA which are responsible for the production of silk. And if you are living in the United States of America, you can go to the patent office and have your silk-producing bacteria patented and earn your money by letting your bacteria produce silk. (I simplified this a bit to make the principle clear.)

I have given you one example – at the moment a theoretical one – to show what genetic engineering will lead to. It leads to a new type of industry using rapidly multiplying cells as producers of certain chemical products.

Genetic Engineering in Science

Until now, these substances were produced in certain species only according to the needs of these species and their role in a specific ecological context. The last 15 years have seen a tremendous shift in biology from a science which merely observes and experiments without major relevance for industrial use, to a crucial science providing the means of changing social and economic relationships in a fundamental way. It provides a technology to reorganize the whole texture of life on earth and make it appropriate to the needs of an industrialized society.

This shift has also brought a shift in biology itself. In West Germany, at least, you have the best chances to get funds for your research if you are doing genetic engineering. That means that the ways in which knowledge is acquired about certain relationships in nature are increasingly being reduced to one way: exploring and manipulating genes.

Genetic engineering has become an important method in biological science, one of its areas of application. Lots and lots of papers are produced in this area of research - but behind these mountains of knowledge we should not overlook the fact that genetic engineering is based on a very narrow theoretical approach or paradigm in the understanding of life. This will lead - I'm sure about this - to a real loss of knowledge in some years.

There is no clear distinction between genetic engineering as a method in biology and a form of application of this knowledge in technology.

What are the areas of application in the non - human field?

Biotechnology

First I want to go back to the example I gave you: bacteria can be genetically modified so that they produce a certain substance which was, until now, only provided by a certain species in the world. The general name for this technology is biotechnology. Biotechnology in its original sense meant the technical use of certain organisms for a certain purpose: producing yoghurt, cheese, bread, compost, wine or beer. But now, with genetic engineering, biotechnology has the potential to become a completely new type of industry.

What can be produced by the new technology?

cell cultures in big fermenters can now produce the aromatic substance of vanilla so that the plant vanilla is no longer a necessary raw material for the production of the flavouring. The vanilla flavouring produced by genetically modified cells is expected to be on the world market in 2 years.

two companies have received patents on a microbial process to produce cacao butter in the laboratory. Once commercialized this process will have severe consequences for the cacao producing countries.

the company Schering in Berlin is working on the cultivation of cells to produce the basic substance for contraceptive hormones, so that they are no longer dependant on importing the original plant from Latin America.

Biotechnology can therefore provide high-value pharmaceuticals, aromatics or other substances that up until now were bound to plants produced in countries of the south or bound to animals or human beings. In this context, human embryos of every age are of great importance for the pharmaceutical industry. Embryonic cells are needed to attempt new treatments for certain diseases like Parkinson's disease, to have the basis for genetic engineering on humans, raw material for developing artificial organs, and raw material in research. So the establishing of IVF clinics in India, for example, is to be seen in this context, because the supply of human embryos has become limited in West Germany due to planned legislation that will restrict the production of embryos during IVF.

Furthermore, biotechnology using genetic engineering leads to an interchangeability of raw material: bacteria or other cell cultures are being engineered, for use in transforming certain raw materials into others. The multinational Unilever is working hard in this field to get bacteria that can transform coconut oil into palm oil or rape oil or other. The intention is to become independent of the raw material they need to make soap, edible fats or washing powder. Bacteria are also constructed to transform sugar or starch from sugar cane, potatoes, wheat, maize or other sources into fuel for engines or vehicles. They are also used to produce new substances that can be used by the chemical industry for new types of plastics or chemicals.

The use of these new biotechnology processes will change the whole raw material market, and they will become an important factor influencing the world's food supply. These industrial processes will become consumers of food in two ways: first, if used to transform food plants into new chemicals or even into fuel to run machines, they become food consumers, and second, more generally, all of them need starch or sugar to feed the bacteria or cells producing the substances they are designed for. (They also will be consumers of a considerable amount of energy. The equipment involved in biotechnology must be sterilized. Waste, dead cells or bacteria have to be sterilized as well. One unsolved problem with these industrial processes is its waste.)

In this context the use of genetically engineered organisms will take place in so-called containment. That means that they are supposed to stay inside labs and factories and not escape. But this is physically and biologically impossible. This is why we started the debate on the non-existing safety of such facilities.

Genetic Engineering in Agriculture

But genetically engineered organisms are also constructed for deliberate release into the environment. One example are bacteria designed to clean up soil or dump sites containing non-degradable chemicals. A big area of application will be agriculture.

For use in agriculture, bacteria are constructed as

pesticide producers when sprayed on plants

producers of nutrients for plants sprayed on the earth, and many more varieties, like the ice-minus bacteria.[1]

new components of the intestines of cows.

The last is a very absurd example of the use of genetic engineering, but it exemplifies the path modern technology can take. In Western Europe, cows are bred to produce a lot of milk. But now the cows can no longer eat enough to produce this amount of milk. To make the cows more efficient, the elements of their intestines are to be changed, to make them consume more food.

Certain viruses which bring diseases and pests like insects and plants or animals are under investigation and are being manipulated genetically. These are designed as a new, non-chemical form of pest control. But they can also be designed for the destruction of a certain variety of crops. If you work on a virus affecting a certain variety of rice, you can also use it to make the virus a weapon against this type of rice.

Plants are also being genetically engineered. This is done to change any property you can imagine - the speed at which the plant grows, the colour of the blossoms, the shape of the leaves, the ingredients of the fruits, or, the trait that allows tropical plants to be grown in northern European climates. I want to give you only two examples of genetically engineered plants.

First, a human gene has been introduced into a common oil seed of Europe so that the plant now produces human growth hormone in its seeds. This plant can be harvested and the growth hormone can be extracted out of the oil. This engineered plant has already been grown in Belgium. Nobody knows the environmental effects of this plant, what will happen to the animals feeding on it or to micro-organisms in the soil decomposing parts of the plant. This is an example of the application of genetic engineering in plant breeding that will lead to a totally new type of plant used only as raw material for industry - a new type of cash crop.

Second, plants can be made resistant to herbicides (These are chemicals that are used to kill the plants you don't want on your field). Many, if not most, are also harmful to people. Some crops like cotton or soya beans are sensitive to many herbicides. So every leading chemical company is now engineering it's own seeds resistant to the chemicals the company produces. This will increase the use of herbicides and offer new markets for the companies.

Artificial seed is made, e.g. for potatoes. Some cells, growth hormones, pesticides and fertilizers are combined and packed into pellets like drugs that can be sown.

In animal husbandry and breeding of livestock, all the techniques now being used are also being applied to women: artificial insemination, surrogate motherhood, in vitro fertilization, genetic engineering, and sex predetermination. As a recent article in Nature showed, female embryos of Holstein-Friesian cattle were transferred into Indian cows to let them give birth to pure breds.2 Genetic engineering has been used already in animal breeding, in vitro fertilization and embryo transfer are the preconditions for this treatment. The gene for human growth hormone has been introduced into pig and cattle embryos. The resulting pigs grew to a bigger size but were very sick also. Fusions of animal embryos have been made, called chimera, using a goat embryo and a sheep embryo, so that the resulting animal is a mixture of both. However whether this animal was healthy was not proven.

New vaccines for animals are been developed. We know that in the NATO countries this research is related to research for new weapons.

One area of application of genetic engineering is the development of a series of diagnostic kits for the detection of certain biochemical properties of plants, animals or humans. This can be used in medicine and in agriculture, for example to detect antibodies in the human blood or certain viruses in a monoculture of plants.

I have already mentioned the use of genetic engineering for the development of new drugs in the area of human medicine. To develop a critique of this type of medicine we have to consider the so-called safety of the production of these drugs and the reductionist understanding of health, disease, and cure in terms of defective genes or malfunctioning chemicals in our body. We have developed a fundamental critique because this technology cannot be controlled due to its in built environmental and health hazards and because of its severe social consequences.

Notes

The ice-minus bacteria were the first genetically engineered bacteria which were released deliberately in the USA in 1987. They are genetically changed so that they prevent water becoming ice crystals at a temperature below 0.C. When sprayed on plants they are supposed to prevent damage due to frost. The original form of these bacteria are responsible for the crystallization of water at temperatures below O'C. They are found all over the world and are crucial initiators of rainfall. Once the engineered ice-minus bacteria take over the ecological role of its natural ancestors and propagate - which is theoretical possible - severe effects of the world's climate will be the consequence. The example of the ice-minus bacteria shows that the change of one single genetical trait can have worldwide consequences.

When I presented this paper at the Comilla conference I invented this example to show a possible application of genetic engineering and reproductive technologies in India. One week later I found the proof that my invented example was already reality. (see RAGE, Vol 2, No. 1, 1989, p. 75)

References

Fowler, Cary, Pat Mooney and Hope Shand. The Laws of Life. Another Development and the New Biotechnologies. In: Development Dialogue, 1988: 1-2, Dag Hammarskjoeld Foundation, Uppsala. Copies may be obtained from the Dag Hammarskjoeld Foundation, Oevre Slottsgatan 2, S - 752 20 Uppsala Sweden

Mooney, Pat et. al. The Law of the Seed: Another Development and Plant Genetic Resources. In: Development Dialogue, 1983, Dag Hammarskjoeld Foundation, Uppsala.

RAGE, Reproductive and Genetic Engineering, Journal of International Feminist Analysis, Pergamon, New York, 1988/1989.

Agriculture, Food Processing and Chemicals

Paula Bradish began by clarifying the difference between genetic engineering and biotechnology. GE is essentially a technology which deals in genes - the recombining of genes outside the original cells to produce newer substances. The science itself is only 15 years old. Biotechnology refers to technology which uses living organisms or parts of living organism to transform into new substances. The classical example is milk converted into yoghurt.

She started the discussion with a concern that it is quite possible that by the year 2000 our supermarkets will be overflowing with many new substances resulting from genetic engineering and technology being sold as food and drink. Consumers will not even be able to know the origin of these new products - whether they are natural or produced in laboratories. A time could come when everything we consume will be produced with the help of GE technology.

The desire to have everything under contorl, the desire to make more and more profits from less investment is going to result in a very few multinational companies controlling resources in the economy. Companies are opting for genetic engineering technology in order to a) increase productivity by use of more capital intensive means so that less labour is needed b) increase the margin of profit by making the products cheaper and cheaper e) gain independence from the outside forces such as third world countries involved in the production of raw materials and adverse climactic conditions.

These new products will use plants and animals initially but later when the raw material is ready, endless manipulation to produce newer varieties will go on. Say for example, enzymes which are produced with the help of this technology will be used for preserving of food, adding flavors, improving texture, improving the looks etc.

GE applied to agriculture is used to improve yields as opposed to improving the quality of the end product. So the major argument in favour of GE is that it provides a much more efficient and cheaper way of production. In reality, what we find is that it is quite sophisticated and mechanized way of production which is very expensive to begin with and marginalizes human labour.

Such research and its application to produce various things is a very lucrative business. For example the French government spent $20 million dollars in research on technology to reduce the time taken to manufacture champagne.

Hazards include a) a possibility of epidemics about which very little can we explained in terms of the causes b) an increase in the amount of allergic reaction c) worker suffering health risks about which little is known d) decrease of employment opportunities.

The socio-economic political problems include a) it is only the multi-national corporation which can use these technologies and so small traditional industries dwindle and a few companies wield immense power the world over. b) more and more substitutes for natural products are being pushed which will put developing countries at a further disadvantage. For example, they could manage to produce sugar from other raw materials.

A deep concern was expressed because UN involvement has been to promote GE technology. Little work has been done to implement laws establishing standards or to establish ethics for GE technology.

Coming to strategies, there is a big gap in information. With increased and detailed information from various sources, movements could be started in various places.

Genetic Engineering, Agriculture and Food

Science and technology have built in ideological values and have created a myth with their own culture, which the ecological and feminist groups have pointed out, said Vandana Shiva, initiating the discussion. The four cultural marking they have created are I) science and technology are bound to be profit generating processes ii) they come out of a certain trait of European culture including a mechanized world view and industrial revolution iii) they have their roots in patriarchal culture iv) they are anti-nature, anti woman & colonial.

The characteristics in this system of thought is a split between man and nature and out of this split derives the problem that man always wants to control nature with systems but he often ends up with a system going out of control. This disrupts life processes and creates new disasters like the Bhopal gas leak and Chernobyl.

Because the technologies have a short life they become obsolete soon making way for newer ones. This deprives us of the learning process. If you release a manipulated organism you can't rely on knowledge you have acquired before. You do it the first time so you never learn from your experience. And there is no mechanism to trace back the causes of the effects of certain activities. There is, hence, no mechanism by which one can trace the cause-effect of a change- thus giving us little clues to catastrophes like Bhopal. Scientists have also made us see certain things while conditioning us not to see or even question many others. This has created ecological instability because not all the inputs are regarded.

The feminist perspective of science & technology and the link between feminism and ecological movement were discussed. We do not want the masculine world view or way of control of "nature". Even discussing nature can be problematic because many people who refer to nature are basically inhuman (they say for example that people in Africa should die because it's overpopulated).

What we as women can do to change technology for the better is to develop science to make it women & people centered. We do not want western technology nor their concept of science and development. We should look for our own alternatives.

The criteria for technology should be reversibility, democratic control and social justice in concrete life situations.

Behind Our Backs, Against Our Wills
(Opening the door for the environmental release

of genetically engineered organisms)

by Vandana Shiva and Mira Shiva

The Bhopal disaster signalled our ignorance about hazards that we are rapidly introducing into the environment and into our lives. Settling claims for compensation to the victims of the disaster signalled the inadequacy of our structures of justice and accountability in the face of transnational 'technological terrorism.'

The sense of ignorance and inadequacy should have infused restraint into our official science policy, so that we could gain time to build up our knowledge of risk-assessment and created democratic structures for public participation in decisions about scientific and technological change, before opening the flood gates for new risks and hazards of the biotechnology era of industrialization. Instead what we have is the creation of an 'open door' science policy for powerful multinational interests, and a 'closed door' science policy for Indian citizens and Indian scientists. Recent policy changes give full freedom to industrialized country governments and corporations to treat this vast subcontinent as a lab and its people as guinea pigs, for testing and marketing genetically engineered organisms, and to by-pass their domestic safety regulations. These policy changes deny Indian citizens the right to information and the right to protection from the hazards posed by the deliberate release into the environment of genetically manipulated viruses, bacteria and plant material.

We will consider the hazards posed to public health and environmental safety by two such policy shifts, one from the area of health, the other from agriculture. The first was made in July 1987, when the Indo-U.S. Vaccine Application Programme (VAP) was cleared. The VAP is an agreement to allow the U.S. to test its genetically engineered vaccines on the Indian people. the second is the New Seed Policy (NSP), which allows the introduction of genetically engineered seeds and plant material into Indian soil. Both policies have been introduced by by-passing the mechanisms of democratic decision-making and public debate. They have been pushed through against our wills, behind our backs.

VAP, Health Care or Hazard?

The VAP was initiated in 1985 as part of the Reagan Gandhi Science and Technology Initiative, and the agreement was signed in Delhi on July 9, 1987. The project document states that 'The announcement of the VAP is an important recognition that vaccines are among the most cost-effective of health technologies, and their widespread use in Both countries is the key to controlling the burden of vaccine – preventable diseases'. The primary purpose of the project is to allow an extended range of trials of bio-engineered vaccines on animals and human subjects. The priority areas have been identified as cholera, typhoidfever, rotavirus, hepatitis, dysentry, rabies, pertussis, pneumonia and malaria, but these could change in succeeding years of the project as other areas of research opportunity are identified.

There are two aspects to VAP which have aroused public concern in India. The first is exaggeration of the role of vaccines in disease control and the second is underestimation of the risks and hazards of bio-engineered vaccines.

The Limitations of Immunization

It is generally believed that vaccine-controllable diseases in industrialized countries have actually been controlled by vaccines. Mortality statistics for the U.K and U.S.A. however show that vaccines/ drugs had a very small part in reducing mortality in these countries. Specific medical technology for each of the infectious diseases developed after a major decline in morbidity and mortality had already taken place. It has been estimated that only 23-25% of the decline in mortality due to infectious diseases took place because of medical interventions. Purification of water, safe disposal of sewage, and improvement in food and nutrition were the most significant causes for disease control in the industrialized West.

In contemporary India, the loss of access to hygienic living conditions and adequate nutrition are the major causes for outbreaks of epidemics of infectious disease. The degradation of environmental conditions is however ignored in the VAP technological fix. The tragic outbreak of cholera during the 1988 monsoons killed nearly a thousand people in the slums of Delhi in spite of immunization. And health experts observe, 'In recent years, doubts have been raised about the usefulness of cholera vaccine as a preventive measure. Anti-cholera immunization has created in the past a false sense of security to both recipients and health administrators.'

The VAP, fails to take these limitations of immunization programmes in disease prevention and disease control into account while offering genetically-engineered vaccines as a miracle cure for the spread of infectious diseases. It also fails to fully address the unprecedented ecological hazards posed by the deliberate release of bio-engineered vaccines.

The use of living viruses as live vaccines and environmental release causes disruption of natural balance in the ecological context. Micro-organisms have existed in nature with other forms of life- and they have co-evolved with animal and plant species. Genetically engineered organisms are not part of this evolutionary process. The exploitation of recombinant DNA viruses as live vaccines increases the probability of initiating major alterations in the genomes of cells, organisms and species throughout the biosphere. They are potentially volatile agents which can spread new forms of disease epidemics even while being offered as a technological fix for old ones. One theory proposed for the spread of the human immune deficiency virus (HIV) in Africa is that it was triggered by the mass-vaccination programme against smallpox in the 1970's.

Exporting Hazards

The public, the scientists, and the official agencies of countries where these technologies are being developed, are aware of these hazards. Genetic engineering companies therefore face regulatory constraints, public protests and court injunctions domestically, and have started to conduct their release experiments involving recombinant organisms in countries where obstacles appear to be fewer due to more lax legislation and lower public awareness. As Dr. Alan Goldhammer of the Industrial Biotechnology Association of the U. S. has stated. 'The pathway may be clearer in foreign nations to getting approval'. The Indian government has welcomed the biotechnology, band wagon of foreign companies by diluting the regulations and eroding the democratic structures that have existed within the country. VAP is clearly designed to by-pass safety regulations prevalent in the U. S. because the memorandum of understanding states that all genetic engineering research 'will be carried out in accordance with the laws and regulations of the country in which the research is conducted'. Since India has no laws regulating genetic engineering, testing vaccines in India amounts to totally unregulated deliberate release.

In 1986, the Wistar Institute based in Philadelphia hit the headlines for testing a bio-engineered rabies vaccine on cattle in Argentina without the consent of the government or people of Argentina. When the government became aware of the bovine rabies vaccine experiment in September 1986, it was immediately terminated. The Argentinian Ministry of Health alleged that farm hands who cared for the vaccinated cows had been infected with the live vaccine.

Wistar was driven out by the Argentinian government, but has been welcomed by the Indian government for participation in VAP. In fact, the project paper for VAP prepared by the U.S government applauds Wister for its achievements in the field of vaccine development; and specifically mentions the bovine rabies vaccine for field trials and other research.

The U.S government is evidently dictating the terms and conditions for these experiments, under VAP. The programme is financed by US AID and the U.S. Public Health Service. The total project cost is $9. 6m of which the U.S. componentis $7. 6m and the Indian is &2m. Throughout the financial input the U.S. government controls the agreement. Thus all "documents, plans, specifications, contracts, schedules and other arrangements with any modifications therein", must be approved by the

US AID. On the other hand, scientists and scientific agencies in India directly concerned with the subject have been excluded from discussions on the programme.

Secrecy and the Violation of Sovereignity

The controversial Indo-US Vaccine project was signed by-passing the high powered Biotechnology Scientific Advisory Committee set up by the government of India. Dr. Pushpa Bhargava, member of the committee and director of the Centre for Cellular and Molecular Biology, said that the steps postulated in the Vaccine agreement "are bound to come in the way of setting up our own research and development and threaten to compromise our national sovereignity". The Union Science Minister, Mr. K.R. Narayanan was not informed of the details to the agreement, nor was Dr. V.S. Arunachalam, the Science Advisor to the Defence Minister. The Director General of the Indian Council of Medical Research stated categorically that he will not allow any vaccine to be tried on Indians unless the same is also approved for use in the U.S. As a result of scientific and public protest, the programme implementation has become even more secretive and totally removed from public gaze.

A programme that will expose the Indian public to the unknown hazards of live viruses used as vaccines denies the human, subjects of the vaccine experiments – the ethical right to prior informed consent. Human beings everywhere have a fundamental human right to know when they are being treated as guinea pigs, and they have a right to refuse to participate if they fear the exposure to unnecessary risks. With genetically engineered vaccines, the risks are indeed very high. Most researchers consider the use of attenuated lethal viruses as live vaccines too risky. Creating hybrid viruses has been viewed as one way to circumvent these risks. Recombinant DNA technology can be used to add the gene for an antigen of a lethal virus to the genome of a harmless virus, in an attempt to create a harmless living hybrid virus which if used as a vaccine could provide immunity against the lethal virus. However, as Wheale and McNally reported in Genetic Engineering Catastrophe or Utopia? recent research has shown that genetic manipulation of harmless viruses can turn them virulent. There is no "safe" bio-engineered vaccine.

While VAP is totally irresponsible with regard to the protection of people's health and environmental safety in the light of these hazardous implications, it shows great concern for the protection of corporate profits. It has a special clause for an accord on intellectual property which attempts to undo the public interest content of the Indian patent protection system.

The New Seed Policy – Seeds of Disaster?

In October 1988, the Government of India announced a NSP which liberalized the import of seeds, coarse grains, oilseeds and pulses and put under Open General License (OGL) the seeds of vegetables and flowers. The NSP was announced in India two months after the World Bank had issued a $150 million loan for modernizing India's seed industry making it more market-responsive, and increasing the role of the private sector. The privatization and trans-nationalization of this economically and ecologically strategic sector comes in the wake of the biotechnological revolution in the manufacture of seeds, which offers new "miracles" of fertilizer-free, pest-free crops. The dominant assumption of the liberalized seed policy is that it would ensure the supply of the "best available" seeds from "anywhere in the world" and this would give a fresh impetus to our agricultural production.

The Green Revolution and the Destruction of Ecological Stability

India is among the most evolved regions for oilseeds and pulses. We have more diversity in these crops than other parts of the world, a diversity matched to the ecological and cultural diversity of the region. Our oilseeds include sesame, coconut, groundnut, linseed, niger, mustard, sal, mahua, neem, busum, karanj and many others. Legumes and pulses have been central to the maintenance of the ecological balance of our cropping systems and nutritional balance of our diets. Chickpeas lentils, mung, moth, horsegram, pigeon pea, black gram, green gram are only some of the leguminous crops of India. The import of seeds, pulses and oilseeds can only destroy this rich genetic diversity, which has already been severely eroded by the Green Revolution.

Indian agriculture has traditionally been based on mixtures and rotations of cereals, pulses and oilseeds. The decline in production and productivity of pulses and oilseeds was a result of the Green Revolution emphasis on increasing the production of wheat and rice. This happened in a number of ways :

by replacing mixed cropping systems with monoculture of cereals ;

by replacing rotational cropping systems by multiple and rice;

by diverting resources – waste and manures – to enclaves of intensive agriculture, leaving the rest of the agricultural land to fertility decline and desertification;

by creating a disincentive for the cultivation of pulses and oilseeds through special support pricing for wheat and rice.

The scarcity of pulses and oilseeds, the decline in their productivity, the occurrence of pests in rice and wheat monocultures, the waterlogging of irrigated land and the desertification of India's rain fed land are the invisible ecological impacts of the Green Revolution strategy.

India's NSP aims at bringing the "best available" seed from anywhere in the world. However, the Green Revolution has taught us that there are no miracles, only myths of miracle seeds. In most poorly endowed regions, the Green Revolution has left displaced peasants and depleted soils. In the better endowed regions, like Punjab, the ecological and economic costs of the Green Revolution are taking their toll after twenty years. We have learnt that the miracle seeds of the Green Revolution were miracles for chemical companies, not for our small peasants and cultivators.

The main characteristics of the "miracle seeds" or "high yielding varieties" which started the process of the Green Revolution, was that they were biologically engineered to be dwarf varieties. The important feature of these new varieties is not they are particularly productive in themselves but that they can absorb three or four times higher doses of fertilizer than the traditional varieties and convert it into grain, provided proportionately heavy and frequent irrigation applications are also available.

What was unique to the Green Revolution varieties was clearly not the high yielding properties. As Dr. Ingrid Palmer concluded in the United Nations Research Institute for Social Development's 15 nation study of the impact of the seeds, the term "high yielding varieties" is a misnomer because it implies that the new seeds are high-yielding in and of themselves. The distinguishing feature of the seeds, however, is that they are highly responsive to certain key inputs such as fertilizers and irrigation. Palmer therefore suggested the term "high-response varieties" (HRV's) in place of "high yielding varieties" (HYV's).

For the peasants, who could not afford the chemicals, the shift to the chemical intensive varieties meant lower yields and higher rates of indebtedness and faster dispossession.

Privatization and Trans-Nationalization

The NSP seems to repeat the old mistakes of the Green Revolution of setting false miracles and threatens to render totally uneconomic the cultivation of staple food grains for local consumption, thus threatening our food security as a nation. The dependence on the import of seeds on the one hand and export of processed foods on the other, has the very real danger of creating new forms of poverty and deprivation within the country, and making us totally dependent on a handful of multinational interests for the supply of inputs and the purchase of our agricultural commodities. The PepsiCo project for the lab-to-farm-to-factory integration of seeds and agro-processing is an example of what the new liberalization implies. As part of this project, PepsiCo will start a biotechnology based agro-research center for developing high-yielding disease resistant seeds of fruit and vegetable crops which the PepsiCo plant will process. It took more than two years for PepsiCo to get the clearance due to opposition by the public and by local industrialists. But with the NSP, doors have been opened for other multinationals.

The pharmaceutical giant, Sandoz India, has entered into an agreement with Northrup king of the U.S, subsidiary of its multinational parent company and also with the Dutch vegetable king, Zaaduine,

ITC is tying up with Pacific Seeds, a subsidiary of Continental Grains from Australia. The US seed giant Cargill Inc has tied up with the Gilland Company retaining controlling interest of the company. Two other US companies, Seedtec International and Dehlgien, have entered into agreements with Maharashtra Hybrid and Nath Seed Company respectively. Pioneer Hi-bred has started an Indian Subsidiary Pioneer Seed Company. Apart from these, Hindustan Lever is negotiating with a Belgium firm, while Hoechst, Ciba-Geigy and Monsanto are reportedly moving in with other tie-ups.

The Indian research stations and public sector seed producers like the National Seeds Corporation which were until recently applauded for the Green Revolution, are now being reprimanded. And this new stance of the government towards the public sector is being used by it to legitimize the privatization and trans-nationalization of the seed industry. Naturally, the scientific community is alienated. At a seminar on the NSP at the National Institute of Science, Technology and Development (NISTADS) scientists of the Indian Agricultural Research Institute, the Council for Scientific & Industrial Research, the Central Food Technology Research Institute and the National Board for Plant Genetic Resources responded critically to the NSP. These scientific bodies had not been consulted before the NSP was announced. Indigenous research and indigenous genetic resources have been sacrificed for corporate research and a corporate supply of genetic material. Total world retail sales in seeds per annum approximates U.S $13.6 billion, of which $6 billion is proprietary (hybrid or patented seed). Analysts suggest that by 2000 A.D. the world seed market will be $28 billion, and $12 billion of this will be based on contributions from biotechnology. With the opening up by the untapped Indian market, this share will increase as will the experimental ground for trying out new genetically engineered seeds with the ecological risks they carry. As a recent issue of Development Dialogue on the new biotechnologies points out, most of these agricultural inputs from genetic engineering are not "here yet" – they are "arriving.' However, our NSP has opened the door for that arrival, and has already allowed the entry of the multinationals whose corporate strategies and future profits hang on biotechnology.

The false miracle that seed companies are selling with genetic engineering is the possibility of liberating agriculture from chemicals and other ecological risks. However, most of the seed multinationals are also leading chemical companies. These include Ciba-Geigy, ICI, Monsanto and Hoechst. The immediate strategy for these companies is to increase the use of pesticides and herbicides by developing pesticide and herbicide tolerant varieties.

The Nitrogen Fix

Genetic engineering can theoretically create fertilizer free crops by introducing nitrogen fixing genes on plants that do not naturally have them. However, since the process of nitrogen fixation is energy intensive, and this energy is normally provided by the plant with which the bacteria are in symbiosis, genetic engineering of nitrogen-fixation in non-nitrogen fixing plants could divert energy from plant growth to nitrogen fixing. Legumes which are naturally nitrogen fixing are able to overcome the period of nitrogen shortage in early establishment by drawing on the high nitrogen reserves of the seeds. Cereals, however, have a relatively low nitrogen content and require nitrogen at an early state of growth. If nitrogen is not supplied at an early stage, in the first week, then tiller growth is not supported and the yield of grain decreases considerable. These problems have not yet been overcome. Reflecting on these formidable difficulties Roger Salguist, Chief Executive Officer of Calgene claims that the notion of a fertilizer-free agriculture should be stricken from the vocabulary. "I think if you're trying to eliminate things that are peripheral, then eliminate talking about genetically engineering nitrogen fixation. It is the most absurd example that has ever been raised in agricultural biotechnology and it should be permanently stricken from the vocabulary."

The option of improving the nitrogen fixing properties of plants by inoculating them with genetically engineered bacteria, seems to be more feasible in the short run. So far in field experiments, indigenous soil organisms have a competitive edge over the introduced. "superior" strain, and attempts are being made to increase the concentration of bacterial inoculations. The hazards this introduces is that it can transform a non-fatal mutually advantageous bacterial invasion of the legume root system into a fatal one. The addition of new metabolic capabilities such as nitrogen-fixation either in the plant

or in bacteria, changes the ecological relationships compared to the parental strain. This is especially true of genetically engineered bacteria, which have access to a common gene pool and are capable of large genetic jumps.

Genetically engineered nitrogen-fixation when achieved in the field, can also have severe impact on the nutrient balance in the soil. The high response Green Revolution varieties did not merely take up extra NPR, they also had higher uptake of micro-nutrients. Soils which have been planted repeatedly with the so-called "improved" varieties, are today diseased and suffer from severe micro-nutrient deficiencies. Unforeseen ecological impacts on plants and soils will similarly be the outcome of the introduction of genetically engineered plants and bacteria.

These risks are not necessary to take. We do not need genetic engineering to put nitrogen-fixing genes on maize and millet when, for centuries, peasants have used the more ecological option of intercropping maize with nitrogen-fixing beans and millet with nitrogen-fixing pulses. It is not that nature is inadequate, only that corporations cannot make profits without manipulating nature. Transferring nitrogen-fixing genes to cereals becomes a source of profit even as it threatens the source of life held in nature's seeds.

Creating Seeds that like Chemicals

The dominant focus of research in genetic engineering is not by any means on fertilizer free and pest free crops, but pesticide and herbicide resistant varieties. For the seed-chemical multinationals, this might make commercial sense as Cary Fowler and Pat Mooney point out, since it is cheaper to adapt the plant to the chemical than to adapt the chemical to the plant. The cost of developing a new crop variety rarely reaches US $2 million whereas the cost of a new herbicide exceeds $40 million. Herbicide and pesticide resistance will also increase the integration of seeds/chemicals and the control of MNC's in agriculture. A number of major agrochemical companies are developing plants with resistance to their brand of herbicides. Soya beans have been made resistant to Ciba-Geigy's Atrazine herbicide by $120 million. Research is also being done to develop crop plants resistant to other herbicides such as Dupont's 'Gist' and 'Glean' and Monsanto's 'Round-Up' which are lethal to most herbaceous plants and thus cannot be applied directly to crops.

The successful development and sale of crop plants resistant to brand name herbicides will result in further economic concentration of the agro-industry market in increasing the market power of transnational companies. For the Indian farmer this strategy for employing more toxic chemicals on pesticide and herbicide resistant varieties is suicidal, in a literal sense. In India, thousands of people die annually as a result of pesticide poisoning. In 1987, more than 60 farmers in India's prime cotton growing area of Prakasam district in Andhra Pradesh committed suicide by consuming pesticide because of debts incurred for pesticide purchase. The introduction of hybrid cotton created pest problems. Pesticide resistance resulted in epidemics of whitefly and boil worm, for which the peasants used more toxic and expensive pesticides, incurring heavy debts and being driven to suicide. Even when pesticide and herbicides do not kill people, they kill people's sources of livelihoods. The most extreme example of this destruction is that of bathua, an important green leafy vegetable with very high nutritive value which grows as an associate of wheat. However, with intensive chemical fertilizer use, green bathua becomes a major competitor of wheat and has been declared a 'weed' that is killed with herbicides and weedicides.

Herbicide resistance also excludes the possibility of rotational and mixed cropping, which are essential for a sustainable and ecologically balanced agriculture, since the other crops would be destroyed by the herbicide. U.S. estimates now show a loss of US $4 billion per annum due to crop loss as a result of herbicide spraying. The destruction in India will be far greater because of higher plant diversity, and the prevalence of diverse occupations based on plants and biomass. Thousands of rural women who make their living by basket and mat making, with wild reeds and grasses are losing their livelihoods because increased use of herbicides is killing the reeds and grasses. The introduction of herbicide-resistant crops will increase herbicide use and thus increase the damage to economically and ecologically useful plant species.

Strategies in genetic engineering for herbicide resistance which are destroying useful species of plants can also end up creating superweeds. There is an intimate relationship between weeds and crops, especially in the tropics where weedy and cultivated varieties have genetically interacted over centuries and hybridize free to produce new varieties. Genes for herbicide tolerance, pest resistance and stress tolerance that genetic engineers are striving to introduce into crop plants may be transferred to neighbouring weeds as a result of naturally occurring gene transfer.

The outcome of the free import of genetically engineered seeds and crop varieties will lead to a drastic increase in the requirements for chemical herbicides for use on herbicide resistant crops developed by agrochemical companies and to overcome the super weeds that genetic engineers have inadvertently created. In a country where the consumption of agrochemical associated with the Green Revolution has been ecologically and economically a disaster for peasants, the increased use of pesticides and herbicides with the introduction of crops engineered for herbicide tolerance will spell total doom.

The Creation of New Pests and Diseases

The alternative strategy of genetic engineering of Pest-resistant crops is not commercially Desirable for agrochemical concerns in the short run. It is also not ecologically infallible in the long run, since genes for disease resistance can mutate, or they can be overcome by other environmental pressures, leaving the crop vulnerable. Introduced crops are more prone to pest and disease attacks then native varieties, and they often introduce new pests and diseases in ecosystems.

Our anxieties about the release of genetically engineered seeds is based on historical experience with the Green Revolution varieties which brought with them new diseases and pests, even while it was claimed that new varieties were bred for resistance to pests. Since 1966, when new rice varieties were released in Punjab, 40 new insects 12 new diseases have appeared. TN1, the first semi-dwarf variety released in 1966, was susceptible to bacterial blight. In 1968, IR8, which was considered resistant to stem rot and brown spot was released, but proved to be susceptible to both diseases. PR 103, PR 106, PR 108 and PR 109 were especially bred for disease and insect resistance. Since 1976. PR 106 has become susceptible to white-backed polant hopper, stem rot disease, rice leaf folder, hispa, stem borer, and several other insect pests. There is clearly, no invulnerability in breeding for disease resistance. The more the technological claim to invulnerability, the greater is the ecological creation of vulnerability.

The liberalized seed policy has reduced the checks, controls and safeguards for the release of new seeds while it opens the door for the introduction of new ecological hazards through the new varieties. The procedures laid down under the new policy for testing and trial for the imported seeds are weaker than those prevalent during the Green Revolution phase, when breeding technologies were less hazardous, and seeds used to be imported from the international agricultural research centres, not from MNC's and Private breeders.

The usual norm for commercial release of seeds produced under alien agroclimatic conditions is 3 successive years of trial for occurrence of pests and diseases. The NSP has reduced this to a one season trial, which increases the risk of introducing disease and pests. Furthermore, all requirements for post – entry quarantine have been removed. Thus if crop diseases escape the quarantine check at entry, they can create havoc in the country's ecosystems.

Finally, in the case of genetically-engineered seeds and plant material, conventional quarantine methods are inadequate since the transgenetic material itself is a source of ecological hazards.

Our risk-assessment frameworks are highly inadequate for the task of assessing the impact of deliberate release on ecosystems. Instead of Developing methods for assessing risk, and strengthening regulations and structures for the protection of people's health and safety, the government has diluted quarantine procedures and removed import controls. Liberalization has meant freedom for corporate grants to test, experiment and sell their products without constraint, without controls, this necessarily means destruction of the citizen's right to freedom from hazards posed by the new technologies and products. The only remaining hurdle in the large scale distribution of biotechnology seeds at the moment is the issue of propriety rights. For instance. one of the clauses of the NSP directs all companies importing seeds to make a small quantity available to the gene bank to the government controlled National Bureau of Plant

Genetic Resources (NBPGR). The corporate giants are, of course, unwilling accept that clause and want its removal as Jan Nefkins, general manager of Cargill South-East Asia Limited points out : 'No company would be willing to part with what they took years and spent millions of dollars developing. It's a question of intellectual property rights.'

Double Standards:

Protection of Profits Vs. Protection of the Life

Whether it is seeds or vaccines, whether it is agriculture or health care, there is a clear conflict of interest between those who want to protect profits and those who want to protect life. Patents and intellectual property rights are at the centre of the protection of the right to profits. Human rights are at the centre or the heart of the neo-biotechnologies which are expanding and intensifying the domaine and drive for capital accumulation and introducing new risks and hazards for citizens.

'Freedom" and 'protection' are words which have been robbed of their humane meaning, and function increasingly only in the double talk of corporate jargon. with double talk, are associated double standards – one for citizens and one for corporations – one for corporate responsibility and one for corporate profits.

The U.S. is the most sophisticated in the practice of double standards, and the destruction of peoples rights to health and safety in the Third World. On the one hand, it aims at keeping regulation for safeguards restricted to geographical boundaries of the U.S. On the other hand, it aims at destroying the Indian Patents Act of 1970 and replacing it with a strong U. S.- style system of patent protection which is heavily biased in favour of the industrially developed countries.

Via the 1984 amendment to the trade-act, the U.S. government considers lack of patent protection to transnationals as unfair trading practise. It does not consider the destruction of regulations for public safety and environmental protection as unethical and unfair for the citizens of the Third World. The U.S. wants to limit and localize laws for the protection of people, and universalize laws for the protection of profits. The people of India want the reverse – a universalization of the safely regulations protecting peoples right to life and a localization of laws relating to intellectual property and private profits. All life is precious, and it is equally precious for the rich and the poor, for the white and the black, for men and for women. Universalization of laws for the protection of life is an ethical imperative. On the one hand, private property and private profits are culturally and socioeconomically legitimized constructs holding only for some groups. They do not hold for all societies and all cultures. Laws for the protection of private property rights especially as related to life forms cannot and should not be imposed globally, and need to be restrained.

Double standards also exist in the shift from private gain t o social responsibility of environmental costs. When the patenting of life is at issue, arguments from 'novelty' are used. Novelty requires that the subject matter of a pa tent be new, it be the result of an inventive step, and not be something existing in nature. On the other hand, when it comes to legislative safeguards, the argument shifts to 'sameness', to establishing that genetically engineered organisms differ little from parent organisms.

To have one law for environmental responsibility and another for proprietary rights and profits is an expression of double standards. Double standards are ethically unjustified and illegitimate, especially when they deal with life itself. those who want to own profits from genetically engineered organisms should be ready to take responsibility for the costs and hazards generated by the making of profits. Principles of equality and justice demand that we give up these double standards which allow the life of the people and the planet to be sacrificed for the protection of profits.

References

Memorandum of understanding between the Government of the Republic of India and the Government of the U.S. For Implementation of the Indo U. S. Vaccine Programme. 9.7.87. Delhi.

C. Sathyamala, Nirmala Sundharam, Nalini Bhanot. Taking Sides: The Choices before the health worker. June 1986. Delhi p109

David Sanders, The Struggle for Health: Medicine and the Politics of Underdevelopment Macmillan London, 185 p.33

Cary Fowler et al, Laws of Life in Development Dialogue 1988: 1-2. p. 153

'Concern Over Indo- U.S. Vaccine Project : Indians can be used as Guinea Pigs' PTI. Aug 16. 1987.

'Indo U. S. Vaccine Project – a blow to national sovereignity'. Praful Bidwai. Times of India. 26/8/87

Indo – U. S. Vaccine Programme. Dangerous Implications, Delhi Science Forum.

Peter Wheale : and Ruth McNally, Genetic Engineering : Catastrophe or Utopia? Harvester. England, 1988. p. 172

A Bhattacharjee, 'The New Seed Policy'. Economic & Political Weekly of India, October 8, 1988, p2089

Vandana Shiva, 'The Oilseed Mission : A Critical Appraisal', Paper presented at Meting on Oilseeds of the Association for the Propagation of Indigenous Genetic Resources (APIGR), Wardha, April 1988, and Lokayan's debate on Technology, Missions, April 1988.

R. O. D. Dixon and C.T. Wheeler, Nitrogen Fixation in Plants. Blackie, London, 1986. p138.

Vandana Shiva, The Green Revolution and the Punjab Tragedy, UNU.

Vandana Shiva, Staying Alive : Women Ecology & Development, Zed Books 1988.

G.S. Sidhu 'The Green Revolution and Rice diseases in Punjab' Mimeo

Vanaja Ramprasad, Hidden Hunger, Research Foundation for Science & Ecology, 1988.

'Seeds : A Hard Row to Hoe'. India Today Feb 15, 1989.

'Apples do not grow in Punjab', Delhi Science Forum.

'Scientists Seethe at Seed Policy. 'Economic Times, 12.1.89

G.V. Ramana 'Import of Seeds : Review of new policy'. Economic times, 12.1.89

J. Bandyopadhyay. The Ecology of Drought and Desertification, Research Foundation for Science & Ecology. 1988.

	HEALTH Indo-U.S. Vaccine Application Programme (VAP)	AGRICULTURE New Seed Policy (NSP)
Funding Push	$7.6m from US AID for $9.6m VAP which is part of the Reagan-Gandhi Science and Technology Initiative	$150m from World Bank for seed project to liberalize India's Seed Policy and make it more "market responsive".
Bypassing Regulatory Systems	Release of vaccine not tested and cleared in the U.S. Regulations for public health and environmental safety as evolved in the U.S. to be bypassed. Total neglect of ethical criteria of prior informed consent of human subjects	Release of seeds without adequate safeguards. Seed imports put on open general licence (OGL) and quarantine regulations reduced to one season trials. Dilution of standards of disease and pest controls built up during Green Revolution phase.
Erosion of Indian Patent Law	Requirement that India accept U.S. regulations in the area of intellectual property, copyrights and patent provisions	Pressure on India to accept U.S. regulation in the area of intellectual property and plant breeder rights or seed patents.
The Non-Essential Option	Vaccines account for only 3.5% of the decline of communicable diseases in the industrialized countries. The remaining 96.5 disease control is accounted for by improvement in nutritional and environmental conditions. Genetically engineered vaccines build on the 3.5% option for disease control while increasing risk of environmental and health hazards.	The so called "miracle" seeds of the Green Revolution were not high yielding in and of themselves. Their yields were dependent on intensive fertilizer and irrigation inputs, without which they performed worse than native varieties. Even where intensive irrigation and agro chemicals were ensured, as in Punjab, the Green Revolution has petered out and left serious ecological damage to soils, water and genetic resource systems. Genetically engineered seeds will be more vulnerable than Green Revolution seeds and will introduce new ecological vulnerabilities in agriculture. Coarse grains, oilseeds and pulses which are the categories of seeds to be imported have done badly because these crops were pushed out by the Green Revolution in rice and wheat. Removing the earlier imbalance is a more reliable mechanism for improving the productivity in these crops than importing exotic strains which will be prone to disease and pest problems.

The Bhopal Disaster

by Nalini Bhanot

We know by now that disasters have occurred and are likely to occur again. But what happens when a disaster of the nature of Bhopal occurs in a third world country? What are the forces that come together to prevent us from even taking ordinary and basic remedial measures?

I will start with the bare facts. On the night of December 2&3, 1984, there as a massive leak of a lethal gas from the Union Carbide pesticide plant in Bhopal, India. It was caused by negligence in safety standards and according to official reports approximately 3000 people died and lakhs of people were affected (unofficial reports place the death toll as high as 5 to 10 thousand). According to some, there is not a single resident of Bhopal who has not been affected by the disaster in some way or the other.

We have been talking about technology and the way it develops. Generally speaking, the belief is that if something goes wrong with a technology, a solution can be found by using or developing another technology. In this case, the possibility of a solution rests on the assumption that we know what has gone wrong. However, in the Bhopal disaster, the accident was the result of a run away situation which could not be controlled, reversed or neutralized. Nobody even knew the composition of the gases which had leaked. It was not in the interest of Union Carbide to divulge whatever information they had, and the Indian government had no power to force them to disclose this information. Union Carbide cold shelter under the Trade Secrets Act.

Right from the beginning, Union Carbide launched a campaign of half-truths and wrong information. They started off by saying that the gas was actually harmless, just a mild irritant. However, when people continued to die, even days after the gas leak, Union Carbide was longer able to deny the lethal nature of the gas. So they started propagating another theory – that Methyl Isocyanate (MIC) was the only gas that has leaked, and that this gas did not have any systemic and persistant toxicity in the bodies of the gas victims. Evidence pointed to a cycanide-like poisoning and Sodium Thiosulphate was advocated as an antidote. These conflicting claims about the nature of the gas created a lot of confusion and controversy in medical circles. While the Indian Council of Medical Research, after doing some studies, recommended detoxification of the victims with Sodium Thiosulphate, a dominant section of the medical community in Bhopal, backed by the State health administration, believed in Union carbide's theory, and continued to deny the usefulness of Sodium Thiosulphate. Finally, it was left to the treating physician to decide whether to use Sodium Thiosulphate or not. Unfortunately, neither Union Carbide's claim, nor that of the Indian Council of Medical Research could explain all the medical evidence. Secrecy and suppression of information from both sides compounded the prevailing confusion. Voluntary agencies which set up clinics to start administering Sodium Thiosulphate, were forced to shut down, and the activists were arrested. Ironically, today, while Union Carbide goes scott free, the cases against these activists continue.

Now, just consider the implications of the situation. A scientific approach to the diagnosis and treatment of the gas exposed population rested entirely on being able to identify the chemical composition of the toxic gases. In the absence of this, it was impossible to evolve any form of rational therapy. There has been death on a massive scale. People continued to die everyday, and nobody knew what to do for these people. Panic stricken victims continued to flock to health centres and hospitals, choking due to the gas, only to be given cough syrups and inhalants. None cold tell them what was wrong with them. Private practitioners in particular thrived by prescribing antibiotics and steroids. Repeated visits to doctors brought little relief. Instead, the doctors started telling the victims that they were just over-reacting and coined the phrase "compensation neurosis". Adding insult to injury, the suffering and tragedy of the victims only got compounded.

Another assumption that we often make is that if a technology is available, it will be used for the best interests of the people. We have been talking about amniocentesis and its misuse for sex determination. In Bhopal, a number of women had been pregnant at the time of the gas leak. Conceptions had also occurred after the gas leak. Voluntary groups demanded that amniocentesis be made available for these women so as to detect congenital malformations. This concern arose not only because of the effects of the gas but also because of the indiscriminate prescription of drugs after the gas leak. However, the medical establishment

refused to take a stand on this issue. Union Carbide consistently denied any long term effects and the victims were denied the use of technology that could have reduced their trauma.

This is the power of information, and the power of those who control it. The victims had no access to the truth, and activitists working with the victims were faced with a stone wall. Inspite of all the technology and the hundreds of experts who flew to Bhopal, no one was able to do anything for the victims – medically or otherwise.

We come to another important aspect of this disaster. There has been a lethal gas leak. Thousands of people had died and lakhs continue to suffer. A case had to be filed against Union Carbide and claims had to be made for compensation. Soon after the disaster, thousands of cases were filed in the Indian courts. Several U.S. lawyers, who had flown to Bhopal, also persuaded many victims to file cases in the U.S. To protect the victims from these U.S. "ambulance chasers" and in recognition of the victims' lack of resources to sustain litigation against the multinational Union Carbide, the Indian government passed an Act in February, 1985, the Bhopal Gas Disaster (Processing of Claims) Act, by which it assumed the role of a Parens Patriae. Under this Act, the government was to fight the case on behalf of all the victims. While this seemed like a good idea to prevent exploitation of the victims who were poor and illiterate, the fact was that the Indian government as also liable for having allowed Union carbide to set up and operate a plant involving hazardous production without adequate safeguards.

The case was initially field in the US Courts but Judge Keenan sent it back to India and the hearings began in the District Court of Bhopal in September, 1986. At that time, the Indian government estimated the value of total claims to be US $3000 million. Several attempts at arriving at an out of court settlement, initiated by both the U.S. and Indian courts did not materialize because the victims protested when they heard that such a settlement was being negotiated.

In December, 1987, the District Court of Bhopal ordered Union Carbide to pay Rs 350 crores (approximately US $270 million) as interim relief to the victims. Union Carbide promptly appealed against this order to the High Court which upheld the order of interim relief, but reduced the amount to US $195 million. Both the Indian government and Union carbide appealed against this order to the Supreme Court, and it was this matter which was being heard when suddenly, out of the blue, the full and final settlement with Union Carbide was announced for US $470 million. The Supreme Court, by passing an order, put its seal of approval on the settlement. In a totally unconstitutional manner, the Supreme Court had transferred all cases against Union Carbide, both civil and criminal, to itself, and quashed further proceedings in all these cases. Union Carbide was absolved of all liability – no responsibility had been fixed, no punishment meted out to the perpetrators of the worst industrial disaster in the world.

There was widespread protest against this outrageous settlement, but the government maintained that those opposing the settlement were being anti-victim, because it would have taken 20 years or more to fight the case to the end. In the meantime, the victims would not have been able to sustain themselves. The government was behaving as if it had no responsibility towards the victims. The Bhopal Act, through which the government had assumed the role of parents to the victims, implied that they would also take responsibility for providing medical relief and rehabilitation to the victims during the course of litigation. Noone was expecting that the case would end in 2-3 years. Even divorce cases take longer than that so the duration of litigation was not the question.

Not just our country, but the entire third world was looking up to the Indian Supreme Court to establish an important moral and legal precedent by fixing the liability of Union Carbide. Instead, it is apparent that the Indian government colluded with Union Carbide and the Supreme Court in arriving at this immoral settlement. They did not want to set a Precedent. The fact is that our government wants to woo multinationals. They do not want to make it mandatory for multinationals to have stringent safety standards for them to declare what kind of products and processes they are using and what is the effect of these. As a result of this settlement, any company can get away after killing and maiming people and escape all punishment.

The Bhopal victims were given a pittance as compensation compared to what two U.S. corporations, John Manville and A.H. Robins recently had to pay to settle claims of people by asbestos and the Dalkon Shield respectively. However, we were made to believe that this was the best deal India could have got. There were numerous articles in the newspapers about how Indians are greedy and that their life span and earning capacity could not be compared with that of an American. What the victims would have got would not even have been enough to meet their needs for treatment and hospitalization, leave alone compensate them for all their suffering or provide them a means of subsistence.

Bhopal offers an important lesson for people like us who are struggling against the use of hazardous technology, or trying to stop it once it has been introduced. Our experiences over the years, not just with Bhopal but with other cases as well, such as the one against hazardous contraceptives, is extremely disastrous. While we all theoretically understand the politics of the situation, we are left with very few options when we are confronted with the actual situation. For instance, inspite of our critique of the legal system and how it operates, and inspite of the Supreme Court having given legal sanction to a collusive settlement, we were compelled to go back to this same court in the hope of a better judgement. Pitted against the power, resources, information etc. which governments and multinationals control, how much can groups like ours do? How much can we cope with and what is our power? This when the meaning of powerlessness comes home in a larger sense, the collective powerlessness to deal effectively with the situation once a disaster occurs as a consequence of using hazardous technology. We have to rethink our strategies on this issue.

I have here with me a pamphlet which we had printed soon after the settlement order was passed. I also have an appeal letter which is basically asking people for funds. What we request all of you to do is one, if we can pass a resolution from this conference condemning the Indian government and the settlement which has been given legal sanction by the Supreme Court. Two, is that if people could go back to their countries and send telegrams of protest to the Prime Minister or President of India, it would be helpful in exerting pressure. And three, if people could send any donations, the address etc, is written here. What we are trying to do, basically is to ask that the court case be reverted to the position that it was in before this judgement was made. That is, the court was discussing interim relief, it was discussing questions of liability and it was not quashing any of these cases. Also, we are asking that the Bhopal victims should have the right to appeal in the future. This is because the progeny of the victims may also be affected due to genetically transmitted damage. The Bhopal Act does not mean that the legal rights of these future citizens should be denied.

These are the basic things which the Bhopal victims are fighting for. Soon after the settlement, about three Thousand women and children came from Bhopal and demonstrated in front of the Supreme Court. They came again to Delhi when the court was to hear the case for the first time. We have formed a solidarity group in Delhi which is cutting across party lines, so it consists of trade unions, intellectuals, doctors, lawyers, voluntary agencies, science groups and consumer groups. Even though most of us do not have too many resources, we have tried to keep up the pressure by continuous protest and at the same time file cases in court to have this settlement revoked.

Update on the Bhopal Situation

by Nalini Bhanot

More than two years have passe since the collusive settlement between Union Carbide and the Indian government in February, 1989. As a result of the widespread protest against this settlement, several review and writ petitions were filed before the Supreme Court. These petitions pointed out that the victims had neither been consulted nor heard in the matter, that the settlement amount was pitifully inadequate and questioned the termination of all civil and criminal proceedings, The settlement was also challenged because a petition challenging the validity of the Bhopal Gas Disaster (Processing of claims) Act 1985, had yet to be heard.

A special bench of the Supreme Court set up in March, 1989 heard the petition on the Bhopal Act and in December, 1989 upheld the constitutional validity of the Act but recognized the right of the gas victims to be heard before any settlement was made. The judges further ruled that the Act did not

empower the government to terminate criminal proceedings related to the case. They also held the government responsible for providing interim relief to the victims. This judgement strengthened the case of the victims.

Although the terms of the settlement had closed all possibility of appeal, the Supreme Court bowed to public pressure and decided to entertain all petitions against the settlement. In addition to the above-mentioned arguments, victims' organizations also challenged the method of categorization being adopted by the Madhya Pradesh state government to assess the injuries of the victims. A study carried out by a voluntary group in October 1989, 'Against all Odds – The Health Status of the Bhopal Survivors' showed that previously asymptomatic persons were becoming symptomatic, that the disease was progressively deteriorating, that the immune system was damaged manifesting as cyclical illness, that new diseases and impairment might emerge and that there was a possibility of long term genetic damage. Since the evaluation done by the Madhya Pradesh government was a on-time exercise without any provision for monitoring and follow up, the method was arbitrary and unrelated to the nature of diseases suffered by the gas victims. As a result the government had come up with an absurdly low and unrealistic number of persons injured.

The Supreme Court heard these petitions from January to August 1990, and reserved judgement. Unfortunately, before a verdict could be given, the Chief Justice of India Passed away, necessitating a complete rehearing of the case, which took place from November to December 1990. The Supreme Court once again reserved judgement and is still to give its verdict.

In the meantime victims' organizations maintained continuous pressure on the government for relief and rehabilitation. In particular they demanded interim relief for all gas-affected people based on proof of residence in any one of the gas-affected localities, deeming this to be the only just and fair method in the absence of any scientific method of assessing injuries. In January 1990, the newly elected National Front government acceded to this demand and announced payment of Rs. 200 per month to all the gas-affected people for a period of three years, irrespective of their categorization status. this government also vowed to do its best t o unsettle the settlement, stating that 'Indian life was not cheap'.

Aside from these small gains the condition of the victims remains much the same as it was in 1984 at the time of the gas disaster. The victims continue to receive symptomatic treatment for their health problems as it has not been possible to evolve any rational therapy until now. Demands for adequate housing, sanitation, clean drinking water to mitigate ill-health among the gas affected continue to be largely unheard by successive governments. No effective arrangements have been made for the economic rehabilitation of victims, many of whom cannot continue their old occupations due to ill health.

Even 6 years after the disaster, crucial issues related to the case remain unresolved. The most basic is the question of evolving a scientific and just method to evaluate the nature of injuries and the number of persons injured. Equally vexing is the problem of computing the amount of compensation to be paid to the various categories of the injured, particularly in the light of possible future damage due to cancer or genetic reasons. Another crucial issue is that the settlement vacated the order of the Bhopal District Court for Union Carbide to be obliged to maintain US $3000 million worth of unencumbered assets. Union Carbide has been at liberty since then to dispose of their assets and unless the court restores the past binding, the victims may find themselves faced with a bankrupt corporation, if not a non-existent one. The fact that there have been three government changes since the gas leak, and a fourth is to be elected shortly, lends further uncertainty to the fate of the Bhopal victims.

The History of Colonization as the History of the Transfer of Plants, Seeds, Genes and Plant Raw Materials from the South to the North

by Tanja pless and Sabine Schleiermacher

I Introduction

Since the beginning of agricultural cultivation, there have been struggles about plants, seeds and about plant raw material of commercial interest (Mooney 1983).These struggles were most obvious during the time of colonialism in the last century and in the century before the last. But the struggle started long before colonial times with the agro-industrial production and processing of sugar (Mintz 1987). It finds its continuation in developments after the formal end of colonialism, which might be described with the key words: Green Revolution, cash crop production, biotechnology and genetic engineering.

Today nearly all plants which are cultivated for human consumption originate from less than a dozen areas of genetic plurality, the-so-called Vavilov-centres. But 55% of the collected genetic resources of plants are kept in the industrialized nations, 31% are kept in the third World and 14% are kept with international institutions (GID No. 35, 1988).

On the occasion of the FINRRAGE-UBINIG Conference in Comilla, Bangladesh we would like to try to contribute to the discussion about consequences of gene technology in the field of plant production with three hypotheses. These hypotheses will be illustrated with the example of two plants, which will be followed through history. Additionally the institutional forms of plant research will be demonstrated with an example from the time of the Nazi-regime in Germany.

Hypothesis No 1

In history, economically interested persons have utilized the corresponding technologies of their time period to gain profit. In this regard, biotechnology and gene technology are new and effective vehicles for the success of economic interest. They are a continuation of earlier developments.

Hypothesis No 2

The means to solve problems of malnutrition and hunger which are offered to the Third World by the First World (Green Revolution, bio- and gene technology) are no solution, as they are based on a false definition of the problems. Bio- and gene technology on the contrary will sharpen the existing problems between North and South in the field of plant production.

Hypothesis No. 3

Through the control of plant breeding the “owners of high-performance genes” have means to influence population politics. Through the ownership of gene banks by fewer and fewer persons/ nations/institutions, this control is increasingly centralized in the North.

II. The Sugar Cane Example

Whereas the botanical origin of sugar cane(Saccarum Officinarum) and the exact identity of the wild forms of the cultivated sugar cane plant remains unclear, the first mention of sugar cane in literature seems to originate from India. It may be considered as an indication of early utilization and processing of sugar cane as a food item in India that the classical Indian language Sanskrit had different words for various steps in the processing of sugar.

Through was contacts as well as trade contacts, Alexander the Great (around 327 B.C.) and Greeks and Romans (around first century A.D.) as well as Europeans first came into contact with sugar cane. (Rosenfeld 1955, Mintz 1987). The Arabian expansion towards the West into the whole Mediterranean during the 8^{th} and 9^{th} century carried the product, as well as the knowledge about sugar technology and refining to Europe. Sugar in that sense followed the Koran. For northern Europeans it seems to be the crusades of the 11^{th} and 12^{th} century which provided the first opportunity to appreciate the product sugar and to study its cultivation and processing. Christian crusaders soon gained control over sugar production in the areas which were conquered from the Arabs. In this sense the knowledge about sugar was a “souvenier” of the Christian crusades. (Crosby 1986, Mintz 1987)

The next stopover of sugar cane on its way from south to north and from east to west was the island of Madeira, which is found near the coastline of Africa. In 1452 the Portuguese crown gave permission

for the first water-run sugar mill on the island of Madeira and in 1456 sugar was exported from Madeira to Bristol in England.

Although slaves are not mentioned in the files of the island of Madeira until 1466, Crosby states that the fundamental pattern of plantation colonies of the following generations could already be found here (Crosby 1984).

When the European demand for sugar increased, the plantation economy of sugar extended to the Canary Islands. Under European rulers, African slaves were used to an increasing extent to enable expansion of the commercial agrarian product from island to island. On the other hand the control over the end-product was pressed into the hands of the northern Europeans who controlled processing.

When Columbus reached the Caribbean in 1492, a new bloody chapter was opened in the history of the Caribbean and a new chapter of trade contacts between south and north began. This was called the first revolution. On his second journey, Columbus is said to have carried sugar cane plants from the Canary Islands to Haiti. But it took 200 years until world sugar production shifted from the Mediterranean to the Atlantic.

The extended cultivation of sugar cane in huge plantations in the Caribbean became possible after around 1530 when slaves were directly shipped to the Caribbean from Africa. As early as 1450 the production factor “cheap human labour in the form of slaves” was “discovered” for the rice and sugar cane fields in the south of Spain. (Hobhouse 1988).

On the basis of the input factor “forced human labour” the famous triangle trade developed. Swords, guns, iron and copperware, cloth and salt from Liverpool, Bremen and Amsterdam to West Africa; slaves from West Africa to the West Indies; and, rum and sugar from the West Indies to England. Hobhouse says that between 1690 and 1790 twelve million tons of sugar were imported to Europe and that the same amount of people, 12 million, lost their lives due to slave trade. Or to put it in a different way, each ton of sugar which was imported to Europe cost the life of one slave (Imfeld 1983, Hobhouse 1988). The people who gained their profit out of sugar cultivation and trade destroyed both numerous human lives and the forests of the Caribbean.

Imfeld states that the tremendous accumulation of capital through the triangle trade was the basis of the British industrial revolution. At the beginning of the 19th century three new factors stepped onto the world stage of sugar. They decisively influenced the further developments of the sugar trade and were later called the second sugar revolution.

First, the discovery in 1747 that the beet root contains considerable amounts of sugar resulted in systematic cultivation trials as well as the opening of the first beet sugar refinery in 1801. (Franke 1975, Agro-Rund Brief 12/87, Mintz 1987)

Second, the French sugar freighters had to run against a blockade of the Royal British Marine in the Caribbean during the Napoleonic war between France and England. At the same time the sugar imports from England to France subsided because of Napoleon’s continental blockade.

Third, the British crown had to prohibit trade in slaves mainly under the pressure of North Americans in 1807.

These three facts provided the deciding stimulus for a European beet-based sugar production.

The sugar war of cane versus beet which followed these incidents continues until today. It is accompanied by a high number of changing protectionist measures of individual states (nations) or group of nations. Price regulations, taxes for different processing steps, duties, cultivation quotas, export subsidy, export and import quotas, dominant measures have in common that they primarily protect the economic interests of the ones who gain profit due to sugar. Never did the workers who cultivate the sugar, rarely the environment, play any role. (Hobhouse 1988, Agro-Rundbrief 12&87, EEC, AKP states etc.)

In 1879, a new competitor from the chemical industry, appeared on the stage of world trade with the rise of the worldwide addition to the sweet taste: the first artificial sweetener, Saccharin.

Today a person in the Federal Republic of Germany consumes around 40 kg of sugar per year. Since 1975/76 the EEC has been a surplus producer of sugar. The EEC appears on the world market as a powerful competitor with several small producers and is today the biggest seller with an export volume

of 4.5 million tons a year. In 1984 around 50 million people in countries of the Third World were employed in cultivation and processing of sugar, out of which 15-20 million worked for sugar export (GID Aug. 1988).

In the future three developments will determine the world market with the sweet tooth, which are all products of biotechnological research and development. Biotechnology is playing the role of a new vehicle for the implementation of economic interest:

The development of alternative sweeteners on the basis of grain and on a synthetic basis.

The utilization of sugar cane for the production of ethanol to run cars (renewable raw material) and for products of the chemical industry.

The production of foods through composition out of fats, proteins, carbohydrates etc, of different plant origin (food design)

For sugar cane it is expected that with the help of cell culture technique a doubling of yield can be achieved (GID Aug. 1988).

The goals of development for the utilization of bio- and gene technology in the field of sugar are the increase of yield on the one hand. This means for the cultivators a compulsion for further intensification and mechanization as well as an increase in inputs such as pesticides, fertilizer etc. On the other hand there is the goal of a further diversification of markets and the spectrum of products before and during colonial times many countries faced a conversion of agricultural production towards export-orientated cultivation. After the Green Revolution which was aimed at the increase of exports accompanied by a wave of rationalization using chemical, technical progress, many countries are now losing these new markets. Through the possibility of producing sweeteners out of a number of plant materials, these raw materials can be cultivated and traded according to the current political and market situation.

For these reasons it can be expected that the utilization of bio- and gene technology will not contribute to the solution of problems of malnutrition and hunger in countries of the Third World. On the contrary, the conflicts between South and North, poor and rich, will be further sharpened.

III The Potato Example

The potato, botanically known as solanum tuberosum, originates from the Andes in Latin America. It grows there at an altitude of 2500 metres and above, above the “grain” of the Indians, corn. Hobhouse says that the Incas were interesting for the Spanish because of their treasures of gold and silver, but what they donated to the world was corn and potatoes (Hobhouse 1988). There are a number of tales containing more or less truth regarding the route which the potato took from Latin-America to first of all Europe, then Asia and Africa, as well as regarding the exact date of this transfer. What is certain is that Pizarro got to know the potato plant as soon as 1526, when he proceeded into Indian territory. When the first potato seeds reached Europe, they were seen more as a curiosity, as a decorative plant for gardens than as a food item. One has to ask the reverse question – which factors in Europe and especially in Ireland led to the situation that the plant was converted into a staple food in Europe and into a food item in Ireland within a very short period of time?

When the potato gained importance in Ireland around 1620, indigenous agriculture was based on cattle. After 1600, British influence increased in Ireland. After putting down an Irish rebellion by Cromwell in 1649/50, the Protestant British conquerers took hold of the land and distributed it among themselves, as the country was lacking a traditional legal system of land ownership. The Irish were displaced onto the worst soil where they soon reached the limits of their traditional agriculture. Only the potato remained possible to cultivate. This might have been the main deciding factor that as early as 1625 the potato started to be successful as a staple food. Salaman (1949) states that until 1953 the population of Ireland was diminished by 5&6 through starvation and emigration. Those left survived thanks to the potato. As the cultivated varieties were very limited, maybe it was even only one variety which was cultivated in the whole of North Europe. The potato plant was of an extreme genetic uniformity and was plainly inviting epidemics. Ireland had to face local hunger before the introduction of the potato. After the traditional agriculture structure was destroyed through the British conquest the number and extent of hunger catastrophes increased in proportion to dependence from the genetically uniform plant potato. The potato

harvest failed fifteen times between 1724 and 1749, nine times between 1800 and 1824. In 1821/22, 150,000 people are supposed to have died in Ireland from hunger and hunger related disease.

Different fungi and viruses became the killers of the potato. During the so-called "big" hunger catastrophe in Ireland up to I million people died in 1845/46 and approximately 1.5 million immigrated. Until the First World War, 5.5 million inhabitants left Ireland. One can speculate that the history of Great Britain and the USA, the main countries of immigration, would have taken a different route, if the central influencing factor, the potato and the failures of the potato harvest, had not happened. The improvement of the general infrastructure and a diversification of varieties of potato have lessened the probability of hunger catastrophes. Nonetheless Europe is still dependent regarding genetic material from the south.

In the field of genetic manipulation the potato made history when Georg Melcher succeeded in creating his "Tomotoffel", a mixed plant out of potato and tomato (Rosenbladt 1988). In the new field of industrial research on "herbicide resistant plants", the potato stands on the list of plants which have been made resistant against the broadband herbicide of the Hoechst Company, "Basta" in 1987. The International Potato Centre. CIP in Lima in Peru offers virus free potatoes which are cultivated in test-tubes. Subsequent generations of plants are not immune against attack from disease.

With the potato we finds, as with sugar, tendencies to integrate the plant into the pool of renewable raw materials for example in the form of research for amyiopectin-rich potato varieties, which are used as lubrication for oil-drilling.

When high-yielding varieties and/or hybrid varieties were introduced during the Green Revolution, it could still be claimed that we did not know that this decision meant an increased usage of agro-chemicals with all the ecological consequences and follow-up-costs, soil erosion, compulsory mectramination and displacement of several traditional varieties as well as traditional systems of agriculture in favour of super-breeds.

When genetically engineered seeds are offered to farmers today with the same promise of increasing yields as the Green Revolution, these experiences can hardly be put aside. People and nations of the South are again made objects of a strategy for agricultural development, which is designed and dictated by the North. One can even predict that markets for plant raw materials, which are today supplied by Third World countries, will be lost because the products can be produced in the First World.

The political impact of research in plant genetics was already known in Germany before World War 1. But in collaboration with a programme in population polities of the Nazi regime, plant genetics gained a renewed political role. The Nazi programme of population policies contained the promotion of "most effective and productive" plant and human "material" as well as the destruction of "non-effective and non-productive" plant and human "material".

Hans Bruecher, a German geneticist, started his research work during the "Third Reich", wrote the following statement in his introduction for a very well known handbook about tropical useful plants in 1977. Bruecher put a successful end to his career as a UNESCO senior officer (Kuerschner 1950) He wrote:

For more than a quarter of century ... we did not tire ... in appealing to the responsibility of the powerful and ruling people and to stimulating the enthusiasm of young researchers. As one of the first we urged 30 years ago .. In the lonely valley of the mountains there is still a hidden and unused richness. The genetic researcher knows ways and means of finding this rich treasure and making it useful for cultivation and nutrition. Time is running out and every year is lost which is not properly utilized for breeding which has to be calculared in generations and decade. Therefore, the wild species have to be collected and their valuable genes have to be utilised for the future (Bruecher 1977).

IV Expedition and its Current Meaning for Political Research

With the election of Adolf Hitler as "Reichkaizer" in 1933 national socialism started. This was most encouraged by industry. The anti-democratic and fascist government interned communists and social democrats in concentration camps. On the basis of their racist and social darwinist ideology they persecuted ill people as well as people who lived outside of civilized society and killed in an industrial style 6 million people, among them almost all European Jews.

With the attack by the German army of the neighbouring country of Poland and the beginning of the occupation of Eastern Europe in 1939, the Second World War started. In this connection, large political population programs were carried out. Parallel to the national authority, the ruling NSDAP had its own police and army, the "Schutzstaffel", better known as "SS" was founded for the protection of Adolf Hitler. With the general SS (1929), the German police (1936) and the weapon SS (1938) Himmler supervised political and civil society, like a state in a state. This included the guarding and organization of the concentration camps. This organization was condemned in the trial of war criminals in Nuremberg.

In 1935 the SS research foundation "Ahnenerbe" was founded by the "Reichsfuehrer SS" Heinrich Himmler, the "Reichsbauernfuehrer" (head of farmers) Waler Darre and others.

First they promoted research of Aryan culture. Since the beginning of the Second World War (1939) basic medical and biological research as well as its military utilization was promoted. The elite research, scientific and ideological requirements were meant to be in accordance with the NS government and Second World War.

Their interest was to get new colonies in East Europe. The term colonies in this context does not refer to earlier colonies, for example in Africa. The medical and biological research was conducted to increase the effectiveness and productivity of human beings and to improve the food supply for Germans.

The main research was located at the Institute of Military Research. It was founded in 1942. The research was on anthropology of races, plant genetics, microbiology, chemical warfare and research of epidemics, military medicine mathematics and botany. The laboratories were situated in concentration camps.

The "Ahnenerbe" was financed by government, by banks and by industry. They all showed a strong interest in scientific results. Funds were also given by the "German Science Association" called DFG. The DFG is still today one of the most important funding agencies for basic research in Germany.

The "Ahnenerbe" was also attractive to researchers in many ways. First they got admittance to the concentration camps. There they found infrastructure as well as human beings as workers and guinea-pigs. They were sure to get all the funds they needed for their research (Schleiermacher 1988).

The "German Hindukisch Expedition" (1935) and the "SS Tibet-Expedition" (1938/39)

Bruechers opinion is based on theories of the Russian botanist Nikolai I. Vavilov, according to whom "the origin of the various useful plants" is suspected to be confined to small geographical areas. These areas are located in "alpine mountains with a great variability of climates, in geological areas" which are separated from each other by "deserts and geographical barriers" (Brucher 1977). In these so-called gene centers, useful plants are said to prevail with a great variety of sub-species and races.

The German Hindukisch expedition was conducted to collect new data for the work of German plant breeders. The expedition was made possible with funds of the DFG the Research Service of National Working Groups for Agriculture Science, the Ministry for Food and Agriculture, and the Foreign Ministry. It was conducted by the Institute of Agriculture and Botany of the University of Halle under the management of the plant breeder Arnold Scheibe (Scheibe 1937).

Parallel to race anthropology research mainly grains such as wheat and barley were collected, but also seeds of legumes, fruits and vegetables. The botanist hypothesis was that "in the rough climate of these areas a strong selection had taken place, and only the specimens were left which were more highly developed. In these areas the plant was forced ... to adapt itself to different temperatures ... Like people only fighting results in high breeding" (BA NS 21/432). Back in Germany they tried to get a lot of genes of different kinds and combined them systematically with the already available genes to get new breeding material.

In 1938/39, the zoologist and botanist Erns Schaefer led an expedition to "Central Tibet". He had already joined the American expedition of 1930/31 and 1934/35. He was accompanied by anthropologists, a geophysician, a preparator, a entomologist and photographer. Next to geophysical, anthropological and ethnological as well as zoological research, this expedition also had the aim of collecting primitive races of all sorts of corn and useful plants as well as ornamental plants which

existed in this area (Rauch 1939). This expedition was mainly financed by the advertising council of the German economy and industry. Tools were delivered by the electronics company Siemens and the photography company Agfa gave the films (LIZ 7.s 1405). In public this was celebrated by the SS as well as by the members of the expedition as a big "SS Tibet Expedition". And in the introduction Schaefer did not forget to express his thanks to Himmler :

.... With the help of the Reichsfuehrer of the SS H. Himmler, to whom I reported my plans years ago, I was able to produce a new synthesis in the field of Tibet research during my last expedition in 1938/39. A synthesis of natural and human science the registration of rules of a life for a very important region of life (BAR 135/30).

During the process of 'denatification' which was carried out by the Allies in 1949 and intended to eliminate the National Socialists, Schaefer and his staff, however, denied that he was founded by the SS-research foundation "Ahnenerbe" (IFZ Ap3). A part of the expedition results were to have been analysed by the "Institute for Inner-Asia Research and Expeditions", which was called "Svea Hedin Institute of Inner Asia Research and Expedition" Since 1943 and founded in 1940 within the "Ahnenerbe" (kater 1974).

This institute was situated at the University of Munich in co-operation with the Indo-Germanist and chancellor of this university. Since 1943 Schaefer was the director of all matural science work which was established by the "Ahnenerbe".

The "Institute of Plant Genetics" in the "Institute for Military Research".

On January 9th, 1940 Himmler was asked to take over the "research of cultivation" for the sweet lupines" and the "oil lupines". The research started in the 1930's at the Kaiser Wilhelm Institute for Cultivation Research in Muencheberg/Mark, today the Max Planck Association by Erwin Baur, an important botanist in Germany.

Lupines were very important for the political ceremony because they were rape substitutes and gave oil, albumin and fibres. They were to become the basis for the colonization of the occupied areas in the East. It was suggested to Himmler that his country estate and possibilities which the SS arranged, i.e. concentration camps be used to get up a "station of plant civilization". This should have a centralized structure and organization of the cultivation institution was also suggested to him that the plant material collected by Schaefer during his Tibet-expedition should now all be handled from this new station (IFZ MA 294).

Useful plant research was very important because it was a guarantee for the nutrition of the German people. Himmler described this in a public speech held in 1940.

The colonies which Germany ... will obtain are firstly important for the production of commercial raw materials. There will be no colony just for illusions, only planned commercial areas (Roth 1985).

The Division of Agriculture Science and General Biology in the "Reichsforschnungsrat", had the task of organizing German research for the Second World War. Because of its importance, they got the biggest sum of money in the years of 1937-43 (Zierold 1968).

Therefore, the "Reichssfuehrer SS" decided that an Institute for Plant Genetics had to be built. This was done with the structure of "Ahnenerbe", located in a castle near Lannach, in 1943. Heinz Bruecher was made director (Kater 1974). Until then he had worked at the Kaiser. Wilhelm Institute for cultivation research in Muencheberg / Mark (Kuerschner 1970). The plant material which was until then sowed at the Institute for Plant Cultivation at the University of Halle was to be bred in this new place (BAR 135/51).

During an expedition to the Crimea and the South of Russia in 1943, Vavilov's research was stolen. These so-called remnants of "Vavilovs valuable world collection" were then brought to the "institute for Plant Genetics" in Lannach (BAR 26III/175).

The "Ahnenerbe" was not only interested in Vavilov's research. Besides race anthropological research they wanted to find the "gene pools" for fruits and vegetables described by Vavilov.

In 1943 Bruecher wrote during his preparation for the expedition.

The conquest of East-Europe will be important for the nutrition of Germany in future. The aim of breeding to settle in the East will be winter and drought resistance... short period of vegetation, hardiness, resistance against parasites and pests (Bruecher 1943).

Because the war changed its direction, this could not be carried out.

Consequently, in March 1944 Bruecher got a research order with the code name "useful plants for the east". This meant the breeding of frost and drought resistant plants which were important for the resettlement programme of the government in the Second World War (BAR 26III/729).

The institute of Lannach was not only by the "Ahnenerbe". They worked together with the former leader of the Hindukusch expedition and the University of Halle (BAR 26II/175).

The Kaiser-Wilhelm-Institute for Cultivated Plant Research

The scientific and political meaning of cultivated plant research was also recognized by botanists and agriculture researchers of the Kaiser Wilhelm Association. Even before the initiative of the SS, on April 4th, 1939, the "Central Station for Wild Form and Primitive Races of Cultivated Plants" was founded.

The purpose of this foundation was preservation and collection" of cultivated plants, which could be used in future research and which, without collection, would be destroyed (MPG AI/79). Because of the climate it was located in Vienna. The institute was financed by private money (BAR 26III/701).

In 1943 Hans Stubbe became director of this institute. He worked together with the Russian geneticist Timofeef Ressowsky from the Kaiser Wilhelm-Institute of Biology. The experiments of these important German researchers were radioactive radiation on plants (Jahn 1982, Weingarr 1988).

1936 Stubbe was discharged from the Kaiser Wilhelm-Institute for breeding research because of his anti-national socialist behaviour. Therefore, in the following years he did not get a job in the Kaiser Wilhelm-Institutes or universities (IFZ Sp3). The "Ahnenerbe" tried to get influence on deciding who should be the director of this new – founded institute.

Although he was not a national socialist, the job was given to him because, firstly, no other researcher had the same important knowledge as Stubbe had, and secondly, with him Germany got the leading position in breeding research. The "Reichsfuehrer SS" and the "Ahnenerbe" wanted to work with them, as they also wanted to GE a dominate position in breeding (BANS 21/962,977).

Continuity

The academic evaluation of research in the "Ahnenerbe" has gone through different reformulation since 1975. Some historians are of the opinion that this kind of research was ineffective and was not scientific. The condition brought about by the national socialism made this kind of research possible.

The continuity of the research politics, scientific methodology and organization of research before, during and after 1945 must make us question more deeply developments in today's science.

Many scientists to whom I referred have continued their research careers after the end of the Second World War. For example Bruecher migrated to Latin America and published an important natural science journal about gene centres (Bruecher 1969). Hans Stubbe got the national prize of the German Democratic Republic in 1949. He became the director of the Institute of Genetics at the University of Halle and president of the Academy of Agriculture Research (Jahn 1982).

Archives

Bundesarchiv (BA) Koblenz : R 26 111/175, 701, 729. R 135/30, 45,S1. NS 21/432,962,977. Institute fuer Zeitgeschichte (IfZ) Muenchen : MA 3(7),294; Doc Ec 453 ; Sp3; Zs 1405 Archivder Max Planck-Gesellschaft (MPG)/Berlin : AI/79,S.22.

References

Heinz Bruecher. Gibt es Gen-Zenren? Naturwissenschaften 56 (1969) 2,8,77-84

Heinz Bruecher. Tropische Nutzpflanzen Ursprung, Evolution, Domestikation. Berlin, Neidelberg, New York, 1977. S, 4f, 17.

Heinz Bruecher. Die Wildrassen des Kaukasus und ihre Bedeurung fuer die deutsche Pflanzenzuechtung. Der Biologe 1943, Heft 4&5,S.93.

Ilse Jahn u.a. Geschichte der Biologie. Theorie, Methoden, Institutionen, Kurzbiographien. Jena 1982, S. 559, 737.

Michael Kater. Das "Ahnenerbe" der SS 1935-45. Ein Beitrag zur Kulturpolitik des Drirren Reichs. Studien zur Zeltgeschichte herausgegeben vom Institute fuer Zeitgeschichte, Stuttgart, 1974, s.211-219

Kuerschners Deutscher Gelehrten Kalender. Berlin 1950, S. 239, 1970, S. 345

Konrad v. Rauch. Die Erste Deutsche SS – Tibet-Expedition. Der Biologe 8 (1939) 4,S. 113-127.

Karl Heinz Roth. Erster "Generalphan-Ost". Mitteilungen der Dokumentationsteile NS Gesundheits-und Sozialpolitik. 1(1985) 4.

Arnold Scheibe. Deutsche in Hindukusch, Bericht der Deutschen

Hindukusch-Expedition 1935 der Deutschen Forschungsgemein- schaft. Schriften der

Deutschen Forschungsgemeinschaft, Neve Folge Bd. 1, Berlin 1937.

Sabine Schleiermacher. Die SS- Stiftung "Ahnenerbe". Menschen als Material fuer "erakre Wissenschaft" Ralner Osnowski (Hrsg.). Menschenversuche, Wahnsinn und Wirklichkeit. Koeln 1988. S. 70-88.

Kurt Zierold. Forschungsfoerderung in drei Epochen. Deutsche.

Forschungsgemeinschaft-Geschichte, Arbeitsweise, Kommentar. Wiesbaden 1968, S. 233.

Peter Weingart Rasse, Blut und Gene, Frankfurt, New York 1988, S.550.

Plant Genetics and Genetic Imperialism

This workshop was conducted by Tanja Pless and Sabine Schleiermacher. In their paper, they traced the historical continuity of ideas that determine the growth and control of plant genetics and genetic technology. The group felt that the papers showed that there was no difference between plant genetics and human genetics.

Today gene technology is offered with the same promise as the Green Revolution. This concept was crucial to the conference. We have to be very careful and think deeply of all the various aspects of genetics and bio-technologies which are controlled by those with economic power.

If we don't try to resist this we would have been facing the same problem that those one in power would also determine that the certain kind of people would live and the rest of the world work and provide for the chosen people.

Chapter Four

Infertility, Reproductive Technologies and Eugenics

As men try to gain control of an area of life to which they do not have natural access, they increasingly label women's physical processes as pathological and as requiring medical intervention. The dehumanization accompanying these developments is explicit in the language used to describe them.

Women are never referred to as

human but are labelled "embryo carrier's" and "maternal environments". The language and techniques are often derived from the very sophisticated science of animal breeding.

Indian participant

Infertility and Treatment – An analysis

by Meena Deval

It is an age old story that women are an oppressed class all over the world. This oppression is at all levels and at all stages of life. If a woman is educated and earning, her oppression might be to a lesser degree but this does not mean that all women who are educated and working are free from oppression. It may take another form, and atrocities do continue. Ultimately, the degree of oppression depends upon the woman's personality and her psyche. If a women is aware of her rights and sufficiently assertive, then only can she free herself from oppression to a certain extent and only for such women, education and earning capacity can help.

On the other hand, a woman who is handicapped, weak or who is not an ideal woman as per the norms of the society, becomes an easy target for oppression, and she is subjected to a variety of atrocities. Her own ignorance, her own superstitions and inferiority complex help to further these atrocities and she goes on suffering.

A childless woman is considered a handicapped person. She is not an ideal woman as per the norms the society. The stigma of childlessness makes her an easy target of exploitation. No one takes into consideration whether she is solely responsible for her infertility. Many times the husband might be the factor responsible for her sterility, or her malnutrition right from childhood, or even her mother's malnutrition might be the factor causing her infertility. Nobody gives any thought to the cause but all come to take advantage of her helplessness. All sectors of the society take part in the exploitation; family, doctors, scientists, researchers and society at large join hands for this purpose.

The atrocities faced by an infertile woman have been the same for several centuries, whether it is from society or family. This will continue to be, so long as the attitude to glorify biological motherhood continues. Change of social attitudes is a long term process. The benefits of this change reaching all strata of the society is almost a dream which is a thousand years away.

If we look into world history, and especially Asian history, we see that infertile women were exposed to unscientific, so-called medical, remedies and as if this was not enough, were given over to the witchcraft of some local priest or mendicant friar. In a number of cases these so called holy people

abused these women sexually. In a number of places, this was considered a socially acceptable way of having progeny. Propagation of the human race is the job of both sexes, however it was never thought that the male partner can have the problem of infertility, hence the husband was never exposed to any witchcraft or quack. The husband of an infertile couple was advised to marry a second, or even third, time. If these multiple marriages did not result in a successful pregnancy, all the wives were considered abnormal and asked to go through religious rituals. The blessings of a holy priest or mendicant friar was one of the essential parts of these rituals. The blessings of a holy priest or mendicant friar was one of the essential parts of these rituals. These blessings in the form of a child could be compared to artificial insemination by donor today.

Though social and family awareness is increasing, this state of affairs still continues to a large extent among rural populations and to a lesser extent among urban educated classes.

Social history at least shows a ray of hope if the awareness raising attempts are done enthusiastically, but the history of medical and paramedical research projects a gloomy picture. The researchers, scientists, and practicing doctors are trying to find newer ways to exploit the motherhood-thirsty female population. The only change that has taken place with time is the change in the means, while the subject and the end remains unchanged. The worst part of the whole story is that a halo of glorification is produced around these newer means in the name of scientific research by various media.

The history of the modern medical sciences in the field of infertility is not very old. If a couple did not produce an issue after three to four years of marriage, age old unscientific methods were first tried before approaching a medical person.

This so-called medical export in the field of infertility would examine the wife without even thinking about any possible problem with the husband. The first thing this specialist would do was dilation and curettage to examine the uterine endometrium. I do not understand how such an operation could be performed without examining the husband for azoospermia, oligospermia or necrospermia. It may be noted that semen examination is a harmless procedure where no death is as yet recorded while d & c involves a risk to the life and a number of deaths have been recorded due to perforation of the uterus and infection following this procedure. In spite of this risk, the wife was exposed to this procedure 3 or 4 times. If this procedure was a failure (how could it help if the husband was abnormal?) and the couple was economically well off, the wife was told that she had a retroverted uterus. The history of medical science shows that hundreds of such unfortunate women have undergone a major operative procedure for the correction of this retroversion. I do not understand why this so called “simple” operation is no longer in practice nowadays. Is it because the medical world has realized the futility of this operation, or is it because women universally have ceased to have retroverted uterus?

The vital question is, why have thousands of women had to undergo risky and major surgeries? Just because they were mute? Just because they were ignorant? This is only a 20 year old story. We have to learn a lesson from all these poor mute women.

The next ‘progress’ in the field of infertility, was realization of the male role in this problem. This brought forth a series of investigations like semen examination, testicular biopsy etc. and treatment like hormone injections and surgery like vago-epldedimal anaestomasis.

The female partner of an infertile couple mutely accepted the modern medical therapy, but it was not so with the men folk. An azoospermic is not impotent. He can lead a normal sex life. The knowledge that the fault of infertility lies with him and not with the wife produces an inferiority complex. If the facts about his problem are known to the family and friends the inferiority complex is further aggravated. People start considering his as impotent or subhuman or he is afraid that they might think so. The only way open for him to show his superiority is to torture his normal wife physically or mentally. In such couples if the wife becomes pregnant 3 problems could be solved viz.

1) The hurt ego of the husband is boosted up.

2) His inferiority is not exposed.

3) Family problems come to an end.

The medical world came with a grand solution to these problems in the form of artificial insemination by donor (AID). With AID if the woman is normal, usually after 3 cycles she conceives. In each cycle insemination is done thrice. In private clinics the charge is Rs. 500 to 700 per insemination with Rs. 100 going to the donor. But it is observed that very few doctors have their selective donors. Otherwise in the majority of Indian clinics, any normal or subnormal sample from semen investigating laboratories is used. This is a well known secret. There are many disadvantages in this and some might be quite serious.

First, laboratory semen is not fresh semen. For insemination, semen should be used within one hour of ejaculation but a laboratory sample is kept in the laboratory until it liquefies. Only then can the sperm count and other examinations be done. As a result, such semen is used after 3 or 4 hours. Another serious disadvantage is that the donor is not investigated for venereal disease or any other diseases such as AIDS. The shocking thing is that nothing is being done or can be done about this malpractice. There is not sufficient counselling about AIDs in many centres. If the husband wishes and pays sufficiently, many times AID is done without the wife's knowledge.

The doctors who provide sufficient counselling say that husbands prefer the wife's child to an adopted child because they know that this is the only way to get rid of the stigma of infertility. When asked whether husbands force AID on their wives against her will, the doctor told me that a normal woman is always willing to bear a child whether or not by the husband, but she is afraid to show her willingness until she knows her husband's reaction. Her willingness can be seen at a subtle level. The moment she is sure abut her husband's willingness she radiates happiness. In addition she develops a feeling of obligation towards her husband for allowing her to bear somebody else's child. Many couples come to have AID for a second time as well.

The practice is rampant in India. According to one survey every fifth pregnancy in a sterility centre is an AID pregnancy. I met a couple who had a son via the AID procedure. The boy is now of college-going age and the family seems quite happy. They went to the doctor to give sweets when the boy passed his final examination.

When I asked one psychiatrist to opine on the AID procedure, he said that the father will always have a feeling that he is a step father of the child. If in the course of time the relation between husband and wife becomes strained, the problem might become severe. Such a person will not be able to disown the child openly because that will expose his inability to produce but that inner turmoil will always be there.

The donor's name and details are always kept secret from the acceptors. One doctor told me that these couples are very choosy and usually a tall, fair and intelligent donor is demanded. Many times couples ask for a donor of their own caste. Of course all this is possible only where there is no cheating or malpractice.

Artificial insemination by the husband is another common procedure. In all cases of oligospermia and unexplained sterility, this procedure is adopted by the doctors. In cases of unexplained sterility the success rate after AIH is quite low. In cases of oligospermia, timed coitus is the best method as per medical journals. That means the doctor just has to study the menstrual cycle and vise the couple about ovulation day. In the natural course of time, conception is possible, but the doctors have no time to give such advice and they immediately adopt AIH procedure. Just explaining about ovulation is going to give them neither money nor credit so why should they bother?

The practicing doctors adopting AID and AIH procedures told me that the sub-fertile couples have a tremendous feeling of insecurity. All the time they feel that they are being taken for a ride. They do a lot of shopping i.e. they change doctors frequently. My question is, who is at fault for this feeling of insecurity? If every new doctor the couple seeks is giving them a different version of their problem and false hope, is it not natural that they will feel insecure?

Until now, all 'progress' was based upon one fundamental fact, that the female partner in a sterile couple has to be anatomically and physiologically normal. Those unfortunate women who had either conginated or acquired anomaly of the reproductive system had no hope. The development of microsurgery introduced the possibility of successful plastic repair of fallopian tubes. Whatever the fate of this technique may be, the attention was definitely diverted with the invention of laproscopy. The

research was totally directed towards the treatment of female problems and IVF is the recent development of this research.

In India, IVF success is only a 3 year old story but even then the popularity of this technique has exceeded any other technique so we have to study carefully the real status of this treatment.

There is tremendous secrecy about the name and addresses of the patients undergoing IVF. From the records which I could get from one general hospital in Bombay, it is quite obvious that the name of the patient and other treatment records is open up to the first diagnostic laparoscopy and first ovum pick up, Afterwards, records about embryo transplant or conception is under lock and key. In certain ectopic pregnancy cases the name of the patient is marked with a certain sign. In two months time she is taken for ovum pick up and after that, no record is available. Why this secrecy? Is it to guard the patient's interest alone or is the doctor's interest also involved?

The doctor's interest is definitely at stake because if the record is kept open, questions regarding selection of the patient are bound to arise. For example, a patient with ectopic pregnancy might have one normal tube, so why was this young woman of age 25 not given a chance to conceive naturally with the help of her single potent tube? Why was she immediately taken for IVF? No doctor would like to answer such awkward questions. The doctors' reluctance to give interviews to feminist activists is also clearly an indication of this.

As far as the patient's interest in maintaining secrecy is concerned, there are many social reasons for this tendency. Lay people do not have sufficient knowledge to differentiate between different methods. In a lay man's language an AID baby is a test tube baby and as far as AIH or IVF is concerned, people at large have a notion that the father is somebody else. No father would like to give such a notion to society about his child, so the patients tend to keep secrecy about their IVF treatment.

Most of the addresses which I got of IVF patients were from my doctor friends who had referred the patient for IVF, or who were treating patients who had already tried IVF. Even then, the tendency was to deny the fact that they are going to an IVF clinic. Every time, the first question asked was how I came to know about their treatment. Ultimately I could interview only those patients whom I knew personally or with whom I could develop a certain amount of rapport.

In a way, it is good that the doctor is keeping the record secret for the interest of the doctor and the patient are guarded in this way. While going through the records, it was found that in a particular hospital in Bombay, on average, 200 patients attended the IVF clinic in one month. Out of these 65% were from outside Bombay. They came from distances of thousands of kilometers from all over India to attend these clinics. All 200 of these new patients might not be suitable candidates for IVF, since IVF is useful only in the cases of tubal blockage. Of the total population of women in India, females with tubal blockage constitute only one percent. Of course, among these 200 patients who attend IVF clinics, the percentage is quite high. 60% of the new patients in the clinic have tubal blockage because many of them are referred patients. Out of these 60%, some are rejected due to advanced age, diseases or some other complication. There are a large number of drop-out cases as well. These drop-outs attend the IVF clinic for some time and then they do not turn up at all.

The reasons behind drop-outs are:

The waiting list is too long.

Difficulty in travelling frequently from distant native places to Bombay.

Inability to afford expenses of hormone treatment.

The patients who are ultimately taken up for IVF have to undergo repeated laparosecopy, ovum stimulation, ovum pick up and embryo transplant. The success rate is very low. The official rate of success is not given publicly, but according to one doctor associated with this IVF clinic, the rate is 5% per laparoscopy. For every ovulation stimulation treatment a patient has to buy injections worth Rs. 3000/-.

It is reported that so far, 12 babies have been born in this particular general hospital. That means about 300 ovum pickups have been done (taking into consideration the lower success rate at the beginning of the technique). For these 300 ovum pickups, money spent for super ovulation hormones is nine lakh. In the beginning in 1983-84, very few pick ups had been done. There were 10 ovum pickups in 1983 and only 8 ovum pick ups in 1984. In 1985, more than 25 ovum pick ups were done, out of which one case was successful. The patient delivered (after caesarian section) the first Indian test tube baby. This baby was given a lot of publicity. The result was the sudden rush at this clinic. In the IVF clinic, 100 pick ups were performed in 1986 and more than a hundred in 1987. In 1988, in the month of January alone, 25 ovum pick ups were done. This shows how more and more people are attracted towards IVF. People are travelling thousands of kilometers to attend IVF clinics.

Somehow the IVF technique is kept in the limelight continuously. The first test tube baby's parents had some social problems due to misconception about test tube baby and AID so now it is not possible to publicize each and every IVF baby with photographys of the mother and all that, so another publicity stunt was tried. In one day, three IVF babies were born in the same clinic and it became a big news. The doctor's photograph appeared with three newborns on the front page. The story behind this is, all three deliveries were caesarian sections. For a planned caesarian, the doctor can always shorten one pregnancy or prolong another by a few days, so what was so big about three babies being born on the same day? The problem was, after the publicity of the first baby the media was quiet for a long time so such a trick became a must.

The glorification of IVF success stories does not take into consideration the failures. Those women who undergo repeated ovum pick-ups or embryo transplants are never mentioned. Details of the IVF technique is never told to the public, so people do not know the hazards of the technique. Indications for IVF are also not commonly known, so people at large feel that for each and every sterility problem the easiest solution is IVF. One woman who has gone beyond menopausal age came to attend the IVF clinic and asked for a frozen embryo donation. There is no embryo bank in India. Then how come people get such wrong notions? Who gives them these false hopes? Among the patients I interviewed, some parts in the story were always common. The social and family torture experienced by these women is the same for all. Then, the added tortuous experience of going from one doctor to another, the trauma of trying and waiting for a baby. Finally, the anticipated hope about IVF and the ultimate void feeling, after repeated trials long waits and a lot of expenses.

I would like to present a few special cases here. One couple I met is from a higher class in the society. The husband is working with Air India, so it is possible for them to go abroad for treatment. They went to Australia for IVF, stayed there for two months, during which time the wife was taken twice for ovum pick up. Both times the doctor was unable to aspirate an ovum. The expenses were too high so they had to give up. This was before 1985. After 1986 when the first test tube baby was born in India, they wanted to try IVF in India. Here she was not considered as a suitable candidate for IVF because to boost up success rate only patients with no other complications were being taken up for IVF during that period. Ultimately, she ended up at a private sterility centre. The husband was found to be oligospermic and the wife's laparoscopy revealed that she had the problem of endometriosis so she was treated with a simple drug, dynazol. Both of them were educated, so with timed coitus she conceived and the child is now one year old.

In another case, the woman had undergone tuboplasty for tubal blockage. This is major surgery. The success rate of surgery is quoted up to two years because some patients might not conceive immediately after surgery. This particular patient was given a notion that IVF is superior to tuboplasty and so she had no patience to wait to see the result of tuboplasty. No proper advice was given to her to wait. Laproscopy and ovum pick up is difficult when there is abdominal scar. Still she was taken up twice for ovum pick up but she does not know whether ova were picked up or not. But the expenses of one major surgery and two ovum stimulation therapies became too much for the couple, they went in debt and ultimately had to give up the trials.

In the third case, the husband was azoospermic. Three years after marriage, the wife had amenorrhea for 2 months. She thought she was pregnant. In the third month she started bleeding. The family thought she had aborted. No treatment was given, no curettage was done as she was in a remote village at that time. She was bleeding for fifteen days. That time she must have had some infection. After 8 years of marriage when she came to a sterility clinic, it was found that she had blocked tubes. This woman was quite healthy, her age was 30, there were no other complications so she was immediately taken for IVF. Though the husband was azoospermic he was left alone, no other investigations were done on him. Both of them were asked to sign a form. On the record paper the doctor wrote "consent for AID". Actually they were not told anything about AID. This woman has undergone the procedure of ovum pick-up twice. The first time ovum could not be aspirated, the second time fertilization with donors semen did not take place. Each time the patient had to spend Rs. 3000/- for the hormonal treatment. Now the couple is waiting for 3-4 months during which period they will try to raise money for a third trial. The women has told me that if the third trail also fails, she is ready for adoption. In such cases where husband and wife both have problems, why go at all for the treatment? Adoption is the best way out, but the attraction for IVF is so tremendous that any rational thinking is out of the question. The IVF clinic doctors claim that they always advocate adoption in interviews saying that adoption is a better way than IVF. But there is no counselling of the IVF patients at all. They are not informed at all about the pros and cons of IVF, or about other alternatives like adoption. Why? Just getting the signature on a consent form relieves the doctor from all his ethical and moral responsibilities.

There is no shortage of children to be adopted in India. But many couples do not know who to approach for adopting a child and what the procedures are. Nothing is being done to change the attitude of the childless couples towards adoption, as well as the attitude of the society towards adopted children. Why ? Is it because such attempts will hamper the interest of the medical world and interest of the multi-national pharmaceutical companies? If we consider the research programmes during this period, it is noticed that clinical trends are reflected here. Some fifteen years back, research was being done on spermatogenesis, sperm capacitation etc. Attempts were made to raise sperm counts and motility by doing research on different male hormones. Techniques of vazo epididiamla anaestomosis surgery was improving. Sperm concentration methods, removal of unwanted antibodies from the semen were major challenges for researchers. But now there is not much research on sperm or male hormones. Now the concentration is on the fertilization phenomenon and how to control or manipulate it.

Nowadays if the husband is azoospermic or oligospermic, before treating him the doctors direct them for AID. Let the first child be born in time and then the husband might or might not be treated is the tendency. Husbands are saved from surgery or hormonal treatment altogether. There is no concept of biological fatherhood.

In short was can say that whatever may be the reason of sterility the man is always left alone. It is the woman who suffers socially as well as clinically.

Breakdown of Cause and Treatment for Infertility (100 couples)	
No.	Cause (C) of Infertility and Treatment (T)
25	C Problem with male partner T Woman undergoes procedures like AIH or AID
10	C Couples having unexplained infertility T Woman undergoes diagnostic laparoscopy, repeated d&c, AID, AIH etc.
15	C Both partners at sub-fertile level T Woman undergoes all sorts of procedures
20	C Female partner with cervical problem T Woman has to undergo AIH procedures
10	C Female partner with tubal block T Woman has to face tubal surgery or IVF procedure
10	C Uterine cause of infertility. (small or unicornovate uterus or uterus with fibroid or septum) T Even major surgery might not be the solution for them Many times the husband marries a second time as a
5	C Female partner with ovarian defect T Woman has to take hormonal treatment
3	C Other endocrinal disorder, psychological or systemic problem etc. T Woman has to face variety of treatment & operational procedures

Infertility is no dilemma by Itself

Yesterday after dinner, someone asked me whether I would be willing to write some comments or notes for our conference bulletin. Here is something which struck me when it came up: the suffering of being infertile.

Renate Klein pointed out that although we reject reproductive technologies like IVF designed to "overcome" (female) infertility, we should not overlook and ignore the serious situation of those women who are infertile and their sorrow. Well I agree with Renate and the others who made similar remarks that we should not leave those women to the technodocs; that indeed we should find ways (like those carried out by the feminist health center in Frankfurt, FRG) to give support to women who are infertile but desire to bear and have a child.

At the same time I think it is the wrong approach to call these women suffering (even if some of them are.) To me it is just another disability and as long as it does not give pain by itself (as opposed to as a result of social discrimination) there is no reason to feel sorry about a disability. It is just another state of being and human beings have always been different with respect to race, gender, physical or mental status and ability, etc. Vandana Shiva and many more women have talked about the integrity of life with all its varieties as the guiding principle of the feminist agenda.

Farida Akhter has criticised the reduction of female physiology to a reproductive organ. She highlighted the implied uncritical acceptance of the image of women in patriarchal, private property-

based society. If we take these analyses seriously and apply them to the situation of infertile women, then they are just different (socially productive) women. And if we think further, then it is even wrong to divide women into fertile and infertile groups. Because women are diverse and there is no valid norm of a real woman.

If this is true, infertility is no dilemma by itself. If we suffer from it, we suffer from the system which makes us feel that way. I think we should made that clearer when we talk about "taking the situation of infertile women seriously".

Excerpt from on article by Theresia Degener

From the Conference Khabar, March 25, 1989

Workshop Report

Infertility Counselling and Support Systems for Women

Marilyn Crawshaw suggested we need to develop a feminist support system for women and that this comes from defining infertility as a social issue not a medical one. Leaving aside interventions needed – early socialization of girls, etc. – we talked about ways of offering support both formally and informally. Formal support should be offered from within the system. It should start at the beginning with the realization that there are fertility problems. It needs to be acknowledged that there are emotional needs. In Britain, counselling and/or support groups are rarely available, except in IVF clinics. Counsellors are otherwise usually only involved if the women\couples reaction is deemed to be either normal or deviant in some way. By thus separating out and pathologizing emotional needs, the counsellor is immediately colluding with that assessment.

Formal counselling should not only be available to all, and earlier, but it must also be feminist. The counsellor will therefore have an awareness of the context within which women's lives are set, and the "dislocated reality" which women experience between how they feel inside and how they react and are acted upon from the outside. In experiencing fertility problems, the woman's externally defined role as sexual partner and reproducer is being challenged, and can create a crisis for her and those around her. The feminist counsellor can try to help the woman recognize that dislocated reality to make sense of what is happening.

Women's creativity is traditionally defined as expressed through reproduction. Counselling can aim to release women's creativity which has been repressed. Women need to retain control over what is happening to them and their bodies. The counsellor must help with that. The counselling can take various forms – work with individuals, couples, groups. Feminist counselling will be aware of the differences between women's and men's needs.

Informal support is also essential. This can involve self-help groups, individual support available to women by individual feminists or women's centres. We need to constantly seek out new ways of offering direct support.

For counsellors themselves, Marilyn talked about an increased interest in infertility counselling in Britain. This resulted in the formation of a British infertility counsellor's association (BICA) in September 1988. This is not a feminist group, and is dominated by counsellors from IVF clinics. Most accept the medical model of infertility and are employed by the clinic itself. There is little critical awareness.

The British government is very interested in BICA. It is proposing to include a provision for counselling in infertility clinics in forthcoming legislation. The danger is that a non-feminist

counselling service will be used to present the human face of infertility to claim that informed consent to any following procedures has taken place and to say that women \ couples have made a free and informed choice.

We need to be aware of developments in counselling, and to offer a feminist perspective. We need to seek alternative or complimentary feminist support systems for women with fertility problems outside the system too. Only in these way can we express our concern for infertile women while maintaining our opposition to the NRTs

Infertility

Meena Deval gave her paper. A discussion emerged about how the social problems of childlessness are being addressed by the medical/scientific profession as medical ones with a technical solution. Women feel responsible for reproduction in general – they perceive that it is important for their husbands masculinity to pass on their genetic components.

From her experience with interviewing women on IVF in England, Sarah Franklin raised the question of how we can talk about IVF to women on the programmes in terms which make sense to them. The strongest supporters of IVF are often those women who have been failed by the technology. Success to these women may not necessarily be seen in terms of taking home a baby. Women in Bangladesh do not have IVF as an avenue for having a baby. They may attend spiritual healers or priest to help them gain their fertility.

Questions were raised as to basic right not being addressed. We have the right to live in a clean environment yet rights are talked about in terms of one's right to have a child. This is ironic in that environmental pollutants may be the cause of much infertility. After a lively discussion several main points emerged.

There needs to be more investigation of the physical and psychological causes of infertility.

We should talk more about our basic living conditions and women's health in general – not center only on fertility.

How can we answer the question "What about infertile women when we oppose IVF?" Different arguments must be used to bridge women's opinions on the programs and one position of resistance. Perhaps this can be achieved by communicating more with women on IVF and trying to understand what they perceive as positive from the program and what are the circumstances of their lives that they perceive this experience as positive even though like at least 90% of women on IVF do not take home a baby.

We must emphasize IVF is not pro-fertility but is disguised selective population control where genetic engineering is made possible to select good qualities and eliminate unsuitable qualities in the population. We should make the eugenic ideology of IVF clear in the way we address the issue.

IVF in Hong Kong

by Miriam M.L. So

As a highly industrialized city and financial centre in South East Asia, Hong Kong is an ideal place to market new technologies. In order to maintain a competitive edge with western societies, it is

predicted that reproductive technology will be a flourishing industry in the years to come. This hi-tech baby business of IVF is beginning to gain acceptance by the local people.

Unlike western societies whose research centres or institutions normally announce the type of research currently conducted, those in Hong Kong have been conducting IVF research in almost total secrecy. At present, there are three IVF centres. They are at the Hong Kong Sanatorium and Hospital (a private hospital), department of Gynaecology & Obstetrics in the Faculty of Medicine at the Hong Kong University, and the Departments of Anatomy and Obstetrics/Gynaecology at the Chinese University of Hong Kong.

IVF Centres

IVF first began in 1984 at the private hospital and after two years of trials of the first 14 women, 12 had embryo transplants and one had a confirmed pregnancy. The first IVF baby was born in December 1987. Since the legal status of the baby is still unknown, IVF could only be performed on the natural mother, by either AIH or AID. The centre can handle 8 new cases per month and at present, 70 women are on the waiting list. The centre has an initial investment of HK $2 million (about US $250,000) on equipment and facilities for this industry. It costs about HK $30,000 to $50,000 per attempt, excluding hospital costs and other medical fees. No sex selection is performed. Since then, the private unit has produced 5 successful pregnancies.

The IVF unit at the Chinese University of Hong Kong is a joint venture between the Department of Anatomy and Department of Gynaecology & Obstetrics. The unit claims itself largely a research program which started in Apparel 1986. No patient has been rejected and neither is the program selective. However, a large number of the patients are in their late 30s, most with complications of pelvic tuberculosis, in addition to infertility problems. They are all referred to the unit from the Prince of Wales hospital. In the past several years, prior to its first successful transplant, among 45 patients, the unit has had a number of biochemical pregnancies, 4 clinical pregnancies and not a single patient has so far been able to carry the embryo long enough for it to become well established. It is reported that there is a success case. But the doctor concerned (unnamed) still emphasized that it is a research program and said they will start the latest egg collection method to improve the method.

(1) The unit at the University of Hong Kong in collaboration with a government hospital (Queen Mary Hospital) started its IVF scheme in June 1986. The unit is conducting its work in total secrecy (2) and has been keeping quiet about its IVF plans. This is largely because of the autonomy nature of the unit, it is neither under the university nor the Medical Health Department of Hong Kong. The latter have no knowledge of any stages of the progress or how many patients it is treating. So far, no success has been reported. It is said that it might expect it’s first baby at the end of this year.

Five of the six IVF babies born in Hong Kong to date are from the private unit, the sixth one is from the Chinese University of Hong Kong.

It is apparent that competition will naturally arise among the three centres. It is reported that the 3 centres are vying for the honour of being the first to succeed with a new technique in the developing field of IVF, i.e. GIFT(3). It is claimed that several females are heavily pregnant at the three centres and the centre at the Chinese University may be the first. In the private unit of Hong Kong Sanatorium, 14 of the 34 women who had GIFT became pregnant and these include an ectopic pregnancy which had aborted, one a smooth pregnancy, and of the remaining 13, one involved a twin and another a triplet.

It is apparent that as competition continues, there will be fierce battles among the three centres in Hong Kong. The centre at the Chinese University has already claimed the first GIFT baby. The private centre claimed a higher success rate and better facilities. And now it seems that the centre at the University of Hong Kong must try to think of a ''first''in something. Furthermore, since the private centre is planning to expand its business by appointing a financial manager to oversee its expansion in the near future, they are thinking of more investment in this big business. It is capitalizing on the

favourable geographical location of Hong Kong in South East Asia. If they can claim a better or a success rate equivalent to that in the west or the U.S. they will sell their business to neighbouring countries and overseas (4). The fees for each attempt is HK %3,000 to HK $50,000 which is considerably lower than in the US. Travel to Hong Kong is cheaper than to US and since the reproductive industry can flourish here, Hong Kong can also prevent foreign investment from gaining a foothold. Some Australian firms expressed interest in marketing their techniques here.

The Chinese Mentality

The Chinese, who make up 98% of the local population, are a conservative people. The Chinese mentality had turned down the whole issue of reproductive technology. There are, of course, a number of reasons underlying our apparent lack of enthusiasm in this matter. First of all, sex is still a taboo to the Chinese and sex education is grossly lacking. Topics of infertility, family planning and contraception almost never enter social or even family conversation, Even though women in Hong Kong have already gained recognition in the business world, and there are innumerable successful career women, we do not normally let such issues slip from our lips. It then is not surprising to find virtually no comment and discussion in the Chinese newspapers and all the information on IVF and argument for and against the technique first appeared in the local English newspaper. Secondly, the task of childbearing, contraception and pregnancy are all thought to be women's business. If there is any problem associated with infertility, the women are the accused ones and they must find the means to resolve the problem themselves, not the men. It is almost unthinkable for the man to be responsible for any inadequacies. The traditional masculinity means proving one can father children, and therefore women are blamed and discarded for a better breed when they fail to deliver a baby. There is an additional pressure on the women by the in-laws who definitely desire a boy over a girl. Numerous incidences of divorce occur because the wife fails to produce a son in spite of the fact that men produce X- and Y- bearing sperms and women only produce one type of egg. There are cases where the birth of a son is rewarded with astronomical sums of money.

The problem of infertility is never discussed openly or confided to close friends, neither would we visit a counsellor for family/marital/personal problems for fear of being ridiculed. It requires tremendous courage to visit a fertility clinic. No wonder many go abroad for treatment, not here.

Thirdly, it follows that these 'success' babies borne of IVF technology in Hong Kong are 'nameless and parentless', a stark contrast to those abroad where the baby is pictured with the proud mother who would tell her personal story how she has overcame the problem and sought appropriate treatment, at all costs. The techno-babies remain nameless and no parent would want their identity revealed. Fourthly, adoption of children is not as common as in the west. Older Chinese sometimes adopt children for other reasons. The Chinese saying 'blood is thicker than water' expresses the desire of a man to have his own child, and not with the help of any third party.

The abuse of women is evident. We have to bear the guilt and shame of infertility. We have to resolve problems of contraception; our bodies are living laboratories where organs and cells are tinkered with. We are expected to produce the desired result. In this male dominated society, we have to undergo all the pains of a hi-tech baby to satisfy the masculine instinct of the man. Women are to be submissive even at the expense of endangering their health.

Legal Problems

In view of the increasing problems associated with the IVF process, the local government has now decided to establish an advisory committee composed of legal experts, personnel from the Family Planning Association medical experts to issue some guidelines for the IVF process. Some of the problems identified are:

Legal status of the IVF babies.

Test-tube incest fear because of the unique demographic condition in Hong Kong where more than 5.5 million people live in an extremely small and compact place.

The challenge to the right of the director of IVF centres to decide on the use/disposal of non-transplanted embryos and other legal matters if the partners die.

Opposition from pro-life and religious groups on the respect of human life which should not be treated as a product of technology or merchandise.

The advisory committee is using reports published elsewhere as possible references. These included the Senate Report on Human Embryo Experimentation in Australia and the British Warnock Committee Report. (5)

References

South China Morning Post

February 1988 (2) November 1987 (3) February 1988 (4) September 1988 (5) March 1987.

IVF – The Risks

The workshop participants went through the various steps of IVF discussing the risks at each step and what cold be done to alleviate them. Basically the risks were as reported in the medical literature and as discovered by some feminists doing interviews in questionnaires that it is not scientific.

We can pretty well guess it is a lot higher because people can't afford negative reports. There was not too much prestige to gain by saying you have a paper that describes an accident that happened in your lab. So we therefore suspect there were a lot more that we don't know about.

We looked at short range and long range effects of various stages of the process

Hormonal injections: headaches, ovarian cyst, ovarian cancer, adverse or allergic reactions (one death reported), irregular menstruation cycles, worse cramping and premature menopause.

Surgery and the ultra sound directed egg recovery stage; blood vessel puncture, valve puncture and anaesthesia accidents (one death and severe vomiting reported which had to be controlled with medication).

Multiple pregnancies impact on both the health of the women and the health of the children.

Ectopic pregnancies.

Long range effects of hormones on the offspring which could be birth effects (statistically significant increase of spina bifida and transposition of the great vessels).

A guide to .....

"Newer" New Reproductive Technologies

The terms terms artificial insemination, in vitro fertilization and amniocentesis and initials such as AID, AIH, IVF are widely and popularly known. These two pages give a quick guide to some of the other "NRTs" which are being developed and used increasingly in labs and clinics around the world but which may be less familiar. The focus of many of these techniques are increasingly ex predetermination, sex selection and assessing the "quality" of the foetus.

GIFT

Gamete Intrafallopian Transfer literally means that sperm and unfertilized eggs (gametes) are transferred into the fallopian tubes of a woman. This can be done only if the woman has one healthy tube. Sperm are collected and prepared as in IVF and the eggs collected by laproscopy. In the lab, the sperm and eggs, along with the culture fluid, are put back into the woman's fallopian tube. GIFT differs from IVF in that the actual fertilization occurs within the woman's body.

PROST

Pronuclear Stage Transfer (also known as Zygote intrafallopian transfer – ZIFT) involves the implantation of a zygote. A zygote is a fertilized egg before it starts to divide. The technique involves transferring an egg to the tube before the nucleus of the egg has merged with the nucleus of the sperm, though scientists can see that the sperm has penetrated the zona. The technique is only possible for those women who have one open tube.

DIP

Direct intraperitoneal insemination is another possibility where one tube is open. Eggs and sperm are placed in the pouch of Douglas, an area between the uretus and rectum. Originally doctors thought eggs occasionally fell into the pouch naturally and were picked up by the fimbria (the open end of the tube), but some now think this happens in all cases thus some argue DIP may be even more "natural" than GIFT.

Surrogate Embryo Transfer:

This is often called lavage or "flushing". Used if a women has blocked tubes, or no eggs, and the husband is fertile. The husband donates his sperm and AID is done on a donor woman in whose body the fertilization occurs. After a few days, the embryo (i.e. the fertilized egg) can be removed using a flushing technique. This embryo can then be put into the womb of the wife. Thus fertilization does not occur in a "dish" but in another woman, and is then transferred to "infertile" woman. If all does not go well, the donor woman may become pregnant and the embryo may not get flushed out, and if the pregnancy is viable she will have to choose either to abort or to carry the child to full term (in which case she becomes a surrogate mother).

Chorionic Villi Biopsy

The technique involves the removal of the elongated cells (villi) of the chorion (tissue surrounding the foetus) through the cervix. The chorion is tested by DNA probes or by sex chromatin studies. Can be used to determine the sex of the foetus and also in assessing abnormalities. The advantage of this method over amniocentesis is that it can be carried out between the 6^{th} and 13^{th} week of pregnancy, thus abortion can be carried out in the first trimester. Less painful and more accurate than amniocentesis, this technique still carries a 3% to 5% risk of bleeding, pain and spontaneous abortion.

Separation of X and Y Bearing Sperm

The main focus of sex pre-selection research. Methods research have included the following. Sedimentation or centrifugation is based on the premise that X bearing sperm contain 3-4% more chromosomal material than their Y counterpart and hence can be separated. Ericsson method is based on the premise that Y bearing sperm swim faster than X bearing sperm when placed in a column filled with dense liqueid protein fluid. Electrophoresis, ion exchange through resins and froth flotation are some other methods being explored.

The information in these two pages was extracted from the paper "New Reproductive Technology and Indian Women" presented by Mira Savara and the paper from the Campaign Against Sex Determination and Sex Pre-selection (see this chapter) presented at the conference. ed.

The New Spanish Law:

A Model for Europe?

by Maria Jose Varela Portela and Verena Stolcke

New Reproductive Technologies (NRTs) are presented to the public as an advance in science in the service of women. Nevertheless, if one analyses these new technologies more closely, their implications and consequences turn out to be far removed from these alleged goals.

In effect, the presentation of the NRTs as methods which revolutionize the ancient patriarchal conception of the family is totally false when one examines the reasons given for their development. The primary justification consists in presenting infertility as an illness and motherhood as a "compulsory" social function of women which requires the acceptance of any kind of risk, sacrifice, or danger.

It has been difficult enough to guarantee the rights of women in law. The recent Spanish law regulating the NRTs in that country constitutes a distinct text of the law on "Technologies for Assisted Reproduction' (TAR) which is the first law regulating the NRTs and which establishes the legal conditions under which artificial insemination (AI), in vitro fertilization with embryo transfer (IVFET) and gamete intrafallopian transfer (GIFT) can be carried out.

This event is important. For the first time since the passage of the new Spanish constitution which penalized discrimination on the basis of sex, laws are being introduced which apply directly to women. This is to say, it is no longer a question of modifying existing law. Instead the formulation of the law regulating the NRTs took place against the background of the acknowledgement of women as full citizens.

The Legislative Process

The history of the Spanish law on TAR is worth looking at. The way in which the definitive text was produced says a lot about its final content.

Initially the Spanish Congress set up a special commission composed of six deputies who received the mandate to study the subject, to gather information from experts in the field and to draw up a report which was to provide the necessary elements for the formulation of a bill on the NRTs. Only one of the members of the commission was a woman and of the reports the commission received, only three were authored by a single or a group of women.

On January 1986 a report containing a total of 155 recommendations regarding the regulation of the so-called assisted reproduction were made public as the result of the above inquiry. Among these recommendations, number 136 surprisingly, exonerates physicians and researchers from any responsibilities that might derive from the application of these technologies. Other recommendations are of dubious constitutionality. Ten of the recommendations propose that homosexual couples should not be authorized to make use of the NRTs; the consent of the spouse is required in 46 recommendations; and, in another 97 maximum phenotypical and immunological similarity is demanded between the donor, the woman undergoing fertilization, and her husband; children born

when the reproductive material was not in the uterus of their mother when the father died, are denied the rights enjoyed by legitimate children in 13 recommendations etc.

On April 10th, 1986, the special commission's report was presented to the plenary of Congress which passed it with hardly any debate. Following the Report's recommendations the socialist deputies in 1987 presented the first draft of a law regulating the NRTs. This bill surprisingly contained a list of prohibited practices such as cloning, sex preselection, genetic engineering with the aim of destroying undesired embryos etc. but omitted a definition of the sanctions to be applied to those infringing these prohibitions. It also contained a provision referring to 'single' women – i.e. women who are not married or who do not live in a stable, heterosexual union – who were required to fulfill special conditions in order to have access to the NRTs.

This draft was debated by another special commission with powers for approval for only two days. That means, it was not submitted to a plenary session of the Congress and thus reached the Senate with only a few amendments (for example, a series of penalties for malpractice were introduced). During the passage of the bill through the Upper House some more substantial amendments were made. In particular the discriminatory treatment of single women was dropped and instead, any adult woman able to work, independently of her marital status and her life style was declared habilitated to use the NRTs.

Again, in spite of the fact that what was at stake was the artificial creation of life, the debate was minimal and superficial. Not only did Parliament devote little effort and attention to the issue, in addition, the public was provided with hardly any information on the wide ranging implications and possibilities of the NRTs and the legislative process.

The Approved Text of the Law

The law on TAR covers, in a generic and rather undifferentiated way, three reproductive technologies which are quite distinct, namely in vitro fertilization with embryo transfer (IVFET), artificial insemination (AI) and gamete intrafallopian transfer (GIFT). This lack of differentiation between reproductive technologies makes the treatment of the possible consequences even more difficult. Artificial insemination, for example, can achieve a pregnancy without coitus and does not carry the same physical and social risks as IVFET which involves health risks and psychological hardship for the woman at the same time opening the door to human genetic engineering.

The Goals of the Law

The goals of the law set out in the introduction make reference to a number of aspects which ought to be looked into more closely. In the first place, it is argued that in Spain there are 700,000 married sterile couples of fertile age, of whom between 10 to 13 per cent could benefit from the NRTs. Implicitly, the legislator supposes that all these couples want offspring which is nonsense, or they are, as it were, thought to be obliged to reproduce. But elsewhere it is said that only for 40 per cent of these couples IBFET is indicated. This means that the law is in effect, made for 36,400 couples and if we take into account that, at most 12 per cent of the couples, or rather women, will succeed in bearing a child, this figure drops further to 4,368. In view of the grave deficiencies of the Spanish health system, this low demand for the NRTs should give food for thought.

Surprising is also the fact that for the first time a Spanish legal text distinguishes the different stages of gestation. Thus, the new so-called "pre-embryo," defined as such from the day of conception to day 14, is distinguished from the embryo which is understood to come into being on day 14 developing until the third month when the fetus begins its life in the uterus until birth takes place. This pretentiously scientific distinction is not an idle one since research, experimentation with, and manipulation of pre-embryos becomes permissible and legal under this reconceptualization. On the other hand, the preservation of the embryos beyond day 14 is declared a very serious legal infringement.

This obligation to destroy embryos stands in direct contradiction with the Spanish law on abortion which is punitive and extremely restrictive. In Spain, abortions are legal only in case of rape or for therapeutic or eugenic reasons. Still, this law constitutes no obstacle for the scientific community to proceed with its endeavour to master the principles of life even if this implies an act (the destruction of embryos) which, were the agent a woman, would be criminalized, ie, she would be sentenced to jail.

The Woman as User

Throughout the text of the law the absolute contempt and disregard for women is patent. The legislators do not appear to be aware that the principle object of the NRTs are women. No satisfactory safeguards are contained in the law to protect women subjecting themselves to these technologies from physical and psychological harm.

The law is riddled with ambiguous terms which usually endow the physician with the power of decision making. Article 1.1 for example, establishes that the NRTs should be applied "when scientifically and clinically indicated". But the particular conditions for their use are not specified. Article 2.a states that these technologies should be used "when there are reasonable chances of success". Still, the wording is so ambiguous that it is not clear whether the 12 per cent of success we regard as reasonable in the case of IVFET, is the rate considered in the law. The same article also indicates that the NRTs will only be applied when "no serious risk for the health of the woman is to be expected". The word "serious" was added to the initial version because no scientist in the field can affirm with certainly that these technologies are free of any risk. According to the law it is now the physician who will decide whether the procedure is safe or not. Information of the woman undergoing "assisted fertilization" and advice is in the hands of the respective physician (Article 2a). This also means that he will decide about the suitable number of pre-embryos to be transferred into the uterus to guarantee pregnancy (Article 4). And it means, that what really matters to the medical profession is the rate of success rather than women'' health. Even in Article 192, medical responsibility is established only in the case of malpractice in this way excluding those risks which are inherent to the technologies themselves. As a consequence of its generally medico-technocratic philosophy (even though the discrimination against the single woman has been eliminated) the law restricts the freedom even of the married woman since it demands the husband'' consent (Article 6.3).

The Rights of Mean

The rights of men, on the other hand, are protected with rigour and subtlety. The donor of reproductive material, for example, is to remain anonymous. An infringement of this norm is penalized in the same terms as cloning or the creation of hybrids: the husband's consent is required even though it is the wife who wishes to undergo an artificial fertilization. And Article 6.5 establishes that there should be a phenotypical likeness between the donor, the woman and her "environment".

New Discriminations on Account of Birth

The law in general grants children born by means of the NRTs the same rights as "natural" offspring. Still, there is an exception stipulated in Article 9, which refers to those children whose biological fathers die, their reproductive material (whether in the form of semen or embryos) not being in the mothers uterus but deposited in a bank. In such instances, the children are denied hereditary rights except when gestation has taken place within six months following the man's death and he has established by will or other

public documents his will that the child be regarded his heir. These children are discriminated on account of their origin which is in contradiction with the new Spanish Constitution of 1978 which precludes any distinction between offspring in terms of hereditary rights. The reason for this legal formulation seems to be the fear of men that women might squander the inheritance accumulated by fathers during their lifetime by giving birth to new claimants.

Surrogate Motherhood

The new law on TAR declares null and void surrogate motherhood contracts independent of whether they imply payment or are for free in agreement with the earlier prohibition of such practices. But should there be surrogate motherhood, filiation will be determined by birth, i.e. the mother will always be the woman who has given birth. This position seems to be adequate since it renders without effect possible practices which may give rise to some form of female reproductive slavery. Still, Article 19, contains the following final paragraph; "the possible legal action by the biological father claiming paternity will be safeguarded." In other words, the law authorizes the contracting man to petition a judge for a certificate of paternity. If the man succeeds and is recognized as the father he could also take custody of the child. Moreover, this is not improbable if we bear in mind that this man will probably belong to a relatively better-off class than the pregnant mother. In view of this, in practice it will be of the little use that the surrogate motherhood contract is declared null and void.

An Open Door for Genetic Engineering

The law authorizes the intervention in "pre-embryos" for purpose of diagnosis and treatment while they are alive in order to determine their viability or to detect or treat diseases. The intervention in embryos or fetuses in the womb is equally permitted if this is for their well-being or may favour their development. However, information on the procedure to be used and the associated risks is required and the couple must give its consent in writing. The medical team will provide this information, which once again enjoys full power in this respect.

Another requirement made, is that intervention in embryos or fetuses in the womb should only be carried out in cases of clearly diagnosed disease and reasonable certainty of success. The diseases which allow intervention and justify treatment are however, not mentioned although a list of such is promised to be made public by Royal Decree in the space of six months. Intervention should be carried out in an authorized centre. Lastly, these interventions should not influence hereditary non-pathological characteristics which in fact, allows intervention in the case of pathological traits.

Investigation and experimentation with gametes and "pre-embryos". As regards gametes, Article 16, contains a list of authorized practices although it concludes granting ample powers for "any other investigation considered suitable for authorization or failing that by the National Multi-disciplinary Commission." This means that official agencies may be entitled to grant such permission.

Article 14, which prohibits fertilizations between human and animal gametes ranging from tests on hamsters to dividing an ovum into two cells, contains, nonetheless, the qualification that those practices should be excluded from the prohibition "which count with the permission of the relevant official authority".

Investigation and experimentation is permitted with pre-embryos "in vitro" for pharmaceutical purposes if the "pre-embryos" are not viable. In the case of dead embryos the authorization is granted for "scientific" purposes. It should be noted here that aborted fetuses are also considered as non-viable pre- or embryos depending on the moment when the abortion occurred.

Sanctions

The enormous risks involved for society consist of a whole range of aberrant practices made possible by genetic engineering, such as cloning, trading in pre-embryos or their use for cosmetics or similar purposes, sex preselection, etc. are defined as very grave infringements in the law. They carry an administrative sanction of a fine of a maximum of 100,000 pesetas being regulated by a sanitary law. This means that these practices are not regarded as criminal offenses but instead a price is put on them which can very well be paid by certain multinationals.

The infringements are enumerated and the same fine is stipulated for keeping fertilized ova alive beyond the 14th day or disclosing the anonymity of a donor, for creating hybrids or transferring gametes of different donors to a woman's uterus, or for utilizing genetic engineering for military purposes or for exterminating the human species.

But the undesirable social consequences of these technologies are not mentioned. Nothing is said, for example, about the possible uses of the mapping of the human genome, for instance, to exclude applicants for certain jobs, for life insurance policies or for purposes of the general control of the population.

Control Mechanisms

Under this law, IVFET programmes can be carried out without any qualms at authorized public or private centres. The investigation, experimentation and intervention in gametes, pre-embryos, embryos or fetuses will not be subject to any control beyond the authorization by a governmental agency, i.e. by a political instance. The National Commission for Assisted Fertilization will be endowed with maximum powers. This Commission is supposed to be created within six months of the passage of the law. It will be constituted by representatives of the government and of the administration and of entities engaged in issues of fertility as well as of a wide range of social interests. In spite of the definition of its constitution, it is clear, however, that women and their organizations have no place in it and hence no way of exerting control over the application of the law.

Conclusion

In view of the grave implication of the NRTs and the especially far-reaching consequences for women, we disagree with a law which fails to protect the rights of women as privileged objects and users and which does not provide adequate means of control of and penalties for the technological aggressions which they can entail. The law was passed with irresponsible haste which may have grave consequences particular for society in general and women in particular.

Neither has adequate information been provided nor has any public debate taken place. In an almost cryptic way a law has been formulated and passed which leaves us without defenses.

Our endeavours should now be directed at informing all women about the true meaning of the NRTs for them. If we as women do not yield our bodies, our wombs and our ova, those who defend and want to implement these technologies will not be able to advance along the path which they have taken. If nobody goes to the clinics, it will be impossible to put into practice the NRTs.

Bibliography

Spain, Congreso de los Diputatos, Informe de la Commission Especial sobre Fecundacion Asistida, January 1986.

Spain, Boletin Official del Estado, Ley sobre Tecnicas de Reproduccion Asistida, November 24, 1988.

Laws and Commissions

The major part of the workshop was taken up by discussions about the relationship between the general feminist analysis of genetic and reproductive engineering on one side and the problems each individual woman/feminist ^^finds herself in practical political life.

One issue was the German law proposal to allow enforced sterilization of handicapped people. The dilemma here is between the wish of severely mentally disabled people's parents

wanting sterilization of the child versus the political wish for disabled women to have the children they want.

The concept of reproductive rights came up several times. One view was that our political analysis should not use bourgeois liberal concepts as individual rights, another was that if we are to operate at theoretical and practical levels at the same time, it is necessary to consider the individual person.

We agreed that the concept of rights were problematic, that the concept was increasingly being used for other than basic human condition of existence. The right to a child by IVF or the right to a heart transplant were examples of this. At the same time, it was argued that demands for political rights in certain areas were necessary. Abortion was mentioned as an example. Adoption was also mentioned as a important area of discussion where strategies are concerned. Adoption is often presented as an alternative to IVF but since adoption often is made possible because Third World children are stolen this was a troublesome solution. We agreed that one criteria for the evaluation of a strategy was that its global consequences be considered.

The workshop id not reach an agreement on the issue of legal action beyond the principal view that laws are good and useful as the system they function in. The Dalkon Shield case, for example, was really an issue where women have won the case against a company claiming that women have been used as experimental subjects. So actually the Dalkon Shield case proved that legal action could have positive results for women. This led to the conclusion that national differences were important and that the women would have to decide what was the proper relationship between legal action and social movement work in their country.

Our Statement

Seisyoku-gijutu wo Tou, Natsugensuru Onnatachi no Kai

(Women's Association against NRTs in Japan)

20 January 1987

We have seen new developments in reproductive technology for the last few years and the mass media has paid attention to such developments. Since these technologies are highly specialized, its discussions are monopolized by a handful of doctors and professionals behind closed doors, preventing ordinary people's participation. We believe new reproductive technologies have a great deal to do with our values on life, therefore should be discussed and examined by people of all walks of life. Particularly, when women's bodies are the targets of these technologies, we cannot leave decisions to professionals. As a result of our numerous study meetings and discussions concerning these technologies ... i.e., IVF-ET, sex selection, fetal check, fetus treatment, and experiments on fetus and ovum – our positions are as follows:

1. On IVF-ET

The first Japanese test tube baby was born to a couple suffering from tubal obstruction. Now it is being applied to cases of male infertility and immunological infertility, and the range of applications will further be enlarged as the technique is simplified.

IVF-ET separates an ovum from the uterus. Freezing sperm has been conducted in Japan for the last thirty years while in other countries freezing embryos and ova has been successful. It is now possible to divide women into a group of those from whose ova are to be extracted and the other of

those who carry the fetus in their uterus and give birth. We are not optimistic enough to believe what is happening overseas will not happen to us in Japan.

Even if that doesn't happen to us, the technology to extract ovum and sperm for the purpose of fertilization removed from a man- woman relationship will open the door to ideas that would treat a life as simple the thing possible to be produced any time, thus taking away the joy of sex, pregnancy and birth. Similarly, an ovum and uterus are removed from a women and will be reduced to mere parts for reproduction. It has always been women who have been the object of infertility treatments.

IVF-ET also facilitates eugenic manipulation. That is, intervention in fertility by selection of ovum and sperm from the viewpoint that a baby born through advance technology should have no disability or a Nobel sperm bank in the U.S. is related to the trend that considers life as a 'thing' and intends to increase such 'things' of 'excellent quality' thus reinforcing the existing discrimination.

2. On Sex Selection

Keio University Hospital has been developing a sex selection technique conception by percoll density gradient centrifugation, claiming it is effective to prevent sex-linked inheritance. However, all six reported cases had nothing to do with such diseases. With that fact, and observing public reactions, we find it obvious that this technology will be used regardless of hereditary diseases. Since there have not been enough discussions on whether, to which extent, prevention of hereditary diseases is necessary and also the effect of this technology on prevention of sex-linked inheritance is questioned. This technology may reinforce the prejudice against those who have hereditary diseases.

Some say that the ratio of parents who desire boys and who desire girls is about one to one, therefore sex selective births will have no impact on the man-woman ratio of the entire population. But according to Dr. Sugiyama's clinical data, 340 parents desired boys whereas 44 desired girls, making the ratio 8 to 1. It is evident from this that more parents desire boys, reflecting the male-dominant nature of our society.

We women insist that sex selection in our current society reinforces and advances sex discrimination and the sexual division of labor. We also maintain neither parents nor doctors have the right to select freely the sex of children.

3. Fetal Diagnosis

Amniocentesis in the second trimester has been conducted in Japan since the 1970's, and was promoted as part of "Campaign Not to Give Birth to an Unfortunate Child" in Hyogo Prefecture.

Recently, chorionic biopsy has developed for the first trimester, and we fear that when it becomes easily available at any Ob/Gyn clinic, women will be forced to have a fetal check as part of pregnancy test. That will lead to fetus treatment despite the danger to women's body when the fetus is found to have curable problems while in the case of incurable problems, abortion will be recommended.

Fetal check may appear to increase the range of choice for women. Actually, however, it pressures a woman who carries a baby with some disability to have an abortion. Furthermore, when fetal check comes to be commonly taken, women who give birth to handicapped babies will be made even more responsible, blamed for either not having fetal check or ignoring the test result. That will be used as an excuse to remove them from the welfare system. Thus, the true nature of fetal check is the quality control of life, responding to the demand of the state that handicapped children should not be born.

We women will not take part in spreading eugenic ideas which consider that abnormal fetuses should be automatically aborted. Rather, we wold ask this question; Is the wide-spread belief true that the handicapped and their parents are unfortunate? Most hardships the handicapped people experience in their lives are imposed upon them by the society. We must change such a society itself which discriminates and tries to exterminate handicapped people.

4. Covering up Failed Experiments on Technology

It is evident that NRTs did not develop overnight. While we hear only successes through information made public, there are numerous failures kept undisclosed. We can see, even with disclosed data, experiments are being conducted with ova extracted by using a laparoscopy or from ovaries that are removed from women's bodies, and organs extracted from aborted fetuses—without consent of women concerned. We oppose the development of NRTs through such experimentation.

We women are left outside the knowledge as to what experiments are being done, to what degree, and how they are applied. We must know more about them, for NRTs concerns not only women's body but women's way of life as well. Thus, we demand all information and data concerning NRTs be disclosed in public.

5. Final Notes

Progress of science has both positive and negative aspects. Advancement of modern medicine has helped medical professionals treat diseases and relieve pain, but at the same time has made medicine too specialized for patients to understand their treatment, thus they tend to leave everything to medical professionals. At the same time, modern medicine has enlarged its range of application to areas that were not formerly considered the objects of treatment. For example, infertility itself is now treated as a medical problem even when it poses no threats to health or life.

The way in which science observes a human being as a thing divides a women's body into parts for reproduction. Thus, technology has developed in order to make women produce children of "superior quality".

Now is the time to fully investigate NRTs. First of all, the primary subject should be the one who receives the treatment, not medical professionals. Each individual should understand and learn about his/her own body. When we depend on medical professionals, we find that there are more problems that they cannot solve than those they can. Human life is full of anxieties and injustices. However modern scientific technology, no matter how advanced they might be, can provide neither 'perfect health' nor 'perfect happiness' to each of us.

When we stop rendering our bodies and lives to others, we can achieve sense of self-fulfillment in life. We will need medicine and social welfare for ourselves then, but most of NRTs being developed against nature will be unnecessary. With that prospect, we.

(A) oppose using women's bodies for experimentation to further the advancement of NRTs;

(B)oppose development of technology that would reinforce discrimination against women and handicapped;

(C) demand public disclosure of information on NRTs in such a way that we subjects of medical treatment can understand; and hope there will be vigorous discussions on these matters.

The Campaign Against Sex Determination

and Sex Pre-Selection in India-

Our Experiences

by the Forum Against Sex Determination and Sex Pre-Selection –Bombay

Introduction

"Ashta Putra Saubhagyavati Bhava"

This sanskrit language proverb meaning 'May you become the blessed mother of eight sons is a part of living folklore in India, which acts as the basis of the dominant social culture dictating the lives of women from most modern metropolitan cities down to villages. The birth of a female child continues to be mourned in almost every family. On the other hand, arrival of a male child is greeted with joyous conch shells and sweets. Discrimination begins right at birth. From her infancy onwards, she grows up as a 'burdensome appendage' and is faced with neglect at every turn. As a result female infant morality for exceeds that of male, not withstanding the fact that the female child is biologically stronger. Considered a non-person, both inside and outside the family, right through her infancy to old age, women are denied a living at every threshold. The barbaric inhuman practices of female infanticide, wife burning and 'sati' are the spine-chilling realities of a woman's life in India. Surrounded by centuries old on-going traditions and established values, and a constant threat of violence both within and outside the home, a woman has to struggle hard to remain just 'alive'.

It is these realities of discriminatory and inhuman life faced by girls and women, which has alarmingly brought down the ratio of women to men over the years in India. The sex ratio declined from 972 females per 1000 males in 1901 to 933 in 1981. India is only one of a few countries with an adverse female ratio.

15 years ago, another barbaric practice was added to the long history of discrimination and oppression in our country. A largely unknown technique of chromosomal analysis to detect genetic abnormalities in a foetus – amniocentesis – has since grown into a multi-million business of sex determination for selective abortion of female foetus in our 'male child crazy' society. Along with other sex determination techniques like chorionic villi biopsy (CVB), ultrasonography and emerging scientific techniques, these are seeking to eliminate women even before birth.

From the very beginning the women's groups in the country have reacted strongly against these new refined techniques of elimination of women and demanded a 'ban' on these techniques for sex determination. As this new threat to 'survival' of women began proliferating various other voices joined in protesting against this barbaric practice. A concerted campaign to stop the misuse of amniocentesis and other pre-natal diagnostic techniques for the purpose of sex determination has emerged over the last four years. This write-up is an account of our collective experiences in this campaign.

Proliferation of Sex Determination Clinics

In 1974, amniocentesis was being clinically tested in India as a technique for detecting genetic abnormalities in government-run hospitals. The survey outcome of 11,000 couples who had volunteered for this test at the All India Institute of Medical Sciences, Delhi, revealed that the basic motivation for such an enthusiastic response had been the possibility of getting to know the sex of

the child in utero. following protests by women's groups, these techniques were banned by Janata government in 1978 for sex determination in government run hospitals.

Similar clinical research also began at the Institute of Research in Reproduction (IRR) and Harkishandas Hospital, Bombay. For almost five to six years these tests continued to be performed for research purposes. However, in 1979, such tests became available through private clinics/ hospitals and began to draw large numbers of people who were lured by the promise of a safe and reliable method to detect the sex of their foetus. New Bhandari anti-natal sex determination clinic in Amritsar was perhaps the first one to start the commercial use of the test. By 1980, these clinics began to blatantly advertise these techniques for the specific use of sex determination through wall posters, boardings, and pambphlets. Several such clinics had sprung up in cities like Amritsar, Bombay, Meerut and Kanpur.

It was only in July 1982, that a controversy broke out, when an error in the analysis resulted in the abortion of a male foetus by Dr. Bhandari of Amritsar. After this, began the first attempts to gauge the extent of proliferation of the sex determination clinics. Occasional reports about the existence of sex determination clinics in the country began appearing in the media.

As per the most conservative estimates made by a research team of Bombay, sponsored by the Women's Centre and based on their survey of 6 hospitals/clinics, 10 women underwent these tests daily in Bombay city alone in the year 1982. It is roughly estimated that between 1978 and 1983, 78,000 female foetuses were aborted after sex determination tests in our country (reported in The Times of India, June 1982). So widespread had been the use of these tests that in a seminar organized by M/S. Larsen & Toubro in Bombay, in 1985, it was reported that the company's workers were submitting bills for reimbursement of costs incurred by them on sex determination tests.

In other countries, the amniocentesis test is very expensive and under strict government control, while in India this test can be done for few hundred rupees. Hence, not only upper class but even working class people can easily avail of this facility. A survey of several slum dwellers in Bombay showed that many women had undergone the test and after knowing that the sex of foetus was female, had undergone abortion in the 18^{th} or 19^{th} week of pregnancy. In rural areas even marginal farmers and landless labourers were found to be willing to pay 25% compound interest on loans from money lenders to avail of these tests.

The data collected by the government of Maharashtra state in 1986-87, showed that from less than 10 clinics in 1982, in Bombay city, the number of clinics had gone up to 248 in 1986. These 248 centres where amniotic fluid is collected, were linked to 16 genetic labs (ones which determine the sex of foetus). These 16 labs were in fact known to receive bottles of amniotic fluid from clinics located in towns as far as 500 km away from Bombay. According to an estimate made by a group of doctors, between 30000 and 50000 female foetuses were aborted in a year. The business became so profitable that in a brief period from 1984-87, a backward tribal district of Dhulia in Maharashtra where basic amenities like potable water and electricity do not exist, has double the number of clinics offering amniocentesis. Whereas the rural health centres in this area do not have cold storage facilities for oral polio vaccine, amniotic fluid in ice packs was being routinely being sent to Bombay city for analysis by special courier services.

In 1986, Dr. Sanjeev Kulkarni of the Foundation for Research In community Health, Bombay, conducted a study of the pre-natal sex determination test and female foeticide in Bombay city, at the initiative of the government of Maharashtra. This study disclosed that about 84% of 42 gynecologists interviewed for the study were performing the amniocentesis for sex determination. These 42 doctors were found to perform on an average 270 sex determination tests per month. Some of them had been performing the tests for the last 10-12 years. But the majority of them had been performing the tests for the last 10-12 years. But the majority of them had started the commercial exploitation of amniocentesis for sex determination only in the last 5 years.

During the last 10 years, since amniocentesis was first commercially introduced in the country, the wave of sex determination tests has spread to small towns of Punjab, Harayana, Uttar Bihar, Rajasthan and Gujarat, besides Maharashtra. Lately sex determination clinics have also been reported to exist in Hyderabad (Andhra Pradesh), Mangalore, Bangalore (Karnataka), Madras (Tamil Nadu) and Calcutta (West Bengal). The advertisements of these tests are appearing in almost every newspaper, trains, buses and streets. Most people (including educated) do not know that these tests are actually meant to be used for detection of genetic abnormalities.

During the last 5 years, the sex determination clinics have proliferated in Gujarat on a large scale. According to a survey conducted by Garbh Parikshan Virodhi Manch, 2400 tests were conducted in Baroda city alone in the year 1987. A well known genetic lab in Baroda has tested 20,000 samples of amniotic fluid in the last 10 years.

There has been a further proliferation of sex determination clinics in Gujarat. Many new clinics have opened up since April, 1988 when legislation banning them in Maharashtra was passed. Today rural health centres in Gujarat and maharashta are sending samples of amniotic fluid through courier service to district towns of Rajkot, Bhavnagar Anand, Ahmedabad and Baroda for analysis. Since the ban, the sex determination clinics and genetic labs in Bombay still continue to operate, although not as openly as before. The advertising in newspapers has disappeared, but tests are now conducted at prices ranging between rupees 2,000 to 10,000 by arrangement with other doctors who refer the couples to sex determination clinics verbally.

Beginning of the Campaign

The first protest against sex determination techniques was registered by 6 women's groups from Bombay who demanded a ban on the misuse of amniocentesis for sex determination in 1976. The protest was a sequel to the publication of survey results indicating that the overwhelming majority (90%) of couples, who had volunteered for clinical trials in Delhi, at the All India Institute of Medical Sciences, were interested in aborting after knowing that the sex of the foetus is female. But, the issue was forgotten once the government banned the tests in government hospitals. It may not be incorrect to point out that the existence of private clinics remained unknown until the national dailies began carrying the advertisements of Dr. Bhandari's sex determination clinics in 1982. Immediately, women's groups from Bombay, Delhi and other places issued statements against these tests. People's science and health groups such as Lok Vidnyan Sanghatana and Medico Friends Circle, and research organizations such as Research Unit on Women's Studies, SNDT, Bombay, Centre for Women's Development, Delhi and Voluntary Health Association joined in the protest action. They questioned the role of scientists and doctors who helped in propagating the tests. But a concerted campaign did not emerge and the response of the government remained one of passive silence.

It was sometime in November, 1985, that a group of activists from women's and people's science groups in Bombay felt the need for a more consistent action for banning sex determination tests. After a series of discussions, a broad joint action group, 'Forum Against Sex Determination & Sex Pre-Selection' was born. Keeping in mind that the primary weaknesses of the earlier attempts at building a coordinated action was lack of emergence of broader perspective, it was decided that the campaign must consider the issue at multiple levels. The issue of sex determination and sex pre-selection must be seen as: (a) an integral part of women's oppression and discrimination, (b) misuse of science and technology against people in general and women in particular, (c) a concern of human rights.

Evolving the Campaign Strategy

A day long workshop in Bombay to discuss the issue, gave a new direction to the campaign. It emerged that primarily it is a social problem arising out of deep rooted bias in the socio cultural ethos of a male dominated society which discriminates against women and reduces them to the

status of 'male producing machines'. Hence the issue of discrimination against women should form the basis of the campaign. Irrespective of the reason one joins the campaign, the technical aspects like the hazards of the technique to foetus or pregnant women should be secondary, since safer and refined techniques to circumvent hazards posed by amniocentesis and other tests are on the way. Further, the scientists in this 'male crazy' society are not content with just sex determination tests. Efforts are underway to find cheaper 100% foolproof techniques of sex pre-selection to get a son.

While endorsing a total ban on these techniques for the purpose of sex determination, it was decided that the use of these techniques for detection of genetic abnormalities should be allowed only in government run hospitals since regulation and monitoring of private hospitals is extremely difficult.

During various discussions which followed, a two-level strategy emerged to guide the campaign. At the immediate level, concerted action was initiated to build an 'awakened' public opinion against the practice, which cold bring pressure on the government for banning the use of these techniques for sex determination. This has been sought to be achieved by (a) country-wide petitions for banning these tests (b) writing of various articles in newspapers and magazines, raising the issue on debate as well as highlighting the extent of the proliferation of tests (c) public debates on TV (d) participation of representatives of 'Forum' and other voluntary groups in the process of drafting of government regulations banning these tests. The news media has played an extremely important role in this campaign in raising the issue at various times, and forcing the government to commit to a stand on the issue.

Raising the consciousness of people, aimed at changing the existing social attitudes and values has been the long term objective of the campaign. Towards this end, various activities have been organized. All these efforts have raised the public awareness and an increasing number of sensitive lawyers journalists, artists and social groups have joined the campaign. The campaign led to formation of a doctor's forum fighting against sex determination and sex pre- selection. The doctor's forum and other social activist and journalists unanimously have done research, investigation and surveys in particular about proliferation of sex determination clinics to build up a successful campaign.

Struggle against Social and Cultural Biases

The phenomenal popularity of sex determination tests in India has its roots in the strong male-dominated social structure which does not treat women as human beings and perpetuates traditional disregard for women's health and life. The inequitable status of women is further reinforced by poverty and illiteracy (literacy among Indian women is only 24.8% compared to 46.9% among men). Indian traditional cultures, in particular Hindu and related cultures, have a strong inbuilt preference for a male child. A son is absolutely essential for ultimate salvation (to secure a place in heaven) as he along can perform final rites after death. Adoption, until very recently, meant only adoption of a son. After the marriage, the marital as well as natal family, look forward anxiously to the birth of a son. The first born is expected to be a son. If a woman gives birth successively to daughters, and fails to bear a son, she is cursed for bringing misfortune to the family. Thousands of women face ridicule and ill treatment in the families and there are many instances when men abandon their wives for a not bearing a son.

The preference for males is apparent in cultures of other countries also. It now known that the 'one child family' policy of the Chinese government has led to sex determination and sex pre-selection tests being used by families to get a long son. Dr. Eriesson who has a chain of sex pre-selection clinics in 46 countries in Europe, America, Asia and Latin America, claims in his handout that out of 263 couples who approached him for begetting an offspring, 243 selected boys and 15 selected girls.

India had a legacy of killing a female child by applying opium on the mother's nipple or suffocating her to death by putting raw cereals or placenta (after birth) into her mouth or by just wrapping her into a blanket. The practice exists even today among some communities. A recent survey by researchers of 'India Today' in June 1986 showed that in Tamil Nadu, among the Kadllar community, mothers are forced to kill baby girls by feeding them with milk from poisonous oleander berries. There are also instances of families in Rajasthan who have been practicing female infanticide for generations together. Prevalence of infanticide is also not ruled out in Punjab, Uttar Pradesh, Rajasthan, Madhya Pradesh, Bihar and Gujarat.

Even the present modern society by and large looks down upon women as 'burdens' to be disposed of Commercial advertising seeks to promote the stereotyped images of women as mere housewife or mother. Financial saving schemes continue to be advertised as useful for son's education and daughter's wedding.

Keeping in view this socio-cultural milieu in the country, it is not surprising that both modern as well as traditional society has seen the emergence of sex determination test as a boon in disguise. They have readily accepted these as a less barbaric practice than infanticide. With the commercial spread of sex pre-selection techniques, these refined techniques will proliferate still faster since sex pre-selection does not have the stigma of abortion. Apart from the unscrupulous doctor's lobby, a large section of an otherwise informed opinion have vehemently opposed the idea of banning the misuse of these techniques for sex determination. As the campaign has intensified, we have been confronted by ministers, members of parliament, doctors, social workers, scientists, government officials and sometimes even well meaning activists of other groups trying to convince us about the futility of our campaign. They argue that one cannot cure social prejudices merely by banning the tests – raising public- awareness is the real solution. Yes, we are aware of this, but at the same time, the ban on sex determination tests definitely will take away respectability from this scientific advancement aggressively advocated by our unscrupulous doctors. Doctors who openly boast in seminars like demi-gods, will be forced to do it under the carpet, a punishable crime. Some of the other representative arguments showing the extent of support these tests derive at the socio-cultural level are given below:

During our sit-in at Harkishandas Hospital, Bombay, we confronted the Dean and other doctors of the hospital. They tried to convince us that they were doing a social service by catering to the psycho-social needs of people by making known the sex of the child and allowing them to make their own choice. Further, they clarified that since they believe in the Gandhian principle of non-violence, they do not support abortion. But on humanitarian grounds "we send patients to other hospitals". It is ironic that none amongst the commercial doctor's lobby who partake in this glib talk of humanitarianism intervened to provide the equipment for pre- natal diagnosis for pregnant women who were victims in the Bhopal gas tragedy, who needed it most to avert the birth of congenitally malformed babies. On the other hand, the doctors were busy commercially exploiting the MIC victims by prescribing expensive and useless drugs like steriods.

Often the doctors and scientists have argued that since the women themselves go to the clinics for sex determination, why do women's groups stop them from exercising their choice? While it is true that a large number of women do go, (often it may be pregnant women along with the mother-in-law) does this behaviour of women represent exercising of free choice? Denied an independent existence and identity through cultural values of submission and being subjected to enormous family pressures, their choices can never be termed as free choices. The interaction of campaign activists with women has shown that from their heart they do not by and large support sex determination tests.