Chapter 3

THEORETICAL BACKGROUND AND CONCEPTUAL FRAMEWORK
3.1. THEORETICAL FRAMEWORK

3.1.1. Behavioural Pattern of Sex Ratio within the Framework of Feminist Theory

Women play a very important role in the development of the society. Without improving the status of women, who constitute almost half of world population, development is not only impossible but also meaningless. Expanding women's opportunities especially in ways that enhance their productivity and earning potential not only raise women's own living standards but also contribute to better economic performance, the reduction of poverty, improved family welfare and slowing down of population growth over time. Since various social and cultural forces influence women's economic productivity, a deliberate and thoughtful effort is required to involve women more effectively in the development process.

The economic contribution of women is known to be substantial. Presently, they produce 50% of world's food supply, account for 60% of working force and contribute up to 30% of the official labour force but receive only 10% of the world economic benefits and more surprisingly own less than 1% of world real estate. The women of the world have been affected more by poverty, lack of opportunities and facilities owing to the innate discrimination prevalent in all societies. There is evidence that development does not necessarily benefit women since for women, the “Trickle Access” effect does not work which further widens gender gap. This results in declining sex ratio, declining economic participation rate and growing gaps in life expectancy and mortality rates between men and women thereby worsening women's position practically in every sphere.

In the light of these issues, women's studies emerges which is not just focussing on women but “it is a critical instrument to examine society which has so far been biased towards men”. The driving force behind women's studies is feminism which is a humanistic movement to assert the interests of women as a
sex. It is a demand to restore half of humanity its rightful place in human society to restore to women to their humanity. A feminist perspective is most aptly described as "to become aware of the situation of women, of the relation of women to the world, of the oppression and discrimination to which women have been subjected and to use this as a power to change the situation. Any socio-economic study relating to gender issues, will be incomplete and unconvincing without a knowledge of feminist theory. Behavioural pattern of sex-ratio which has tremendous implications from the point of view of gender discrimination, therefore, necessitates an overall knowledge of feminist theories. The main tenets of these theories will provide an overall framework within the context of which issues relating to behavioural pattern of sex ratio may be examined.

Feminist theory attempts to explore the conditions which give shape to women's lives and to analyse cultural understandings of what it means to be a woman. It was initially guided by the political aims of the women's movement – the need to understand women's subordination and their exclusion from or marginalisation within a variety of cultural and social areas. Feminists seemed to be largely pre-occupied with the inclusion of women in those spheres from which they had been excluded that is with creating representations which would enable women to be regarded as men's equal. Instead of being ignored by or excluded from theory, women were to be included as possible objects of investigation. Theory, according to feminist is not an abstract intellectual activity divorced from women's lives, but seeks to explain the conditions under which those lives are lived. "Feminist Theory is about thinking for ourselves – women generating knowledge about women and gender for women". [Jackson and Jones : 1998]

Within feminist movement, however, there is a difference in the analysis of the origin of subordinate status of women which gives rise to three major theories described as Liberal Feminism, Marxist Feminism and Radical Feminism. These
three theories do not agree in their analysis of the causes of the subordinate position of women and consequently in their action programme.

3.1.1a. Liberal Feminist

The Liberal Feminists are concerned with the unfair discrimination of women, with doing away with discrimination, with equality and the equal rights of women. J.S. Mill, an ardent liberal argued in his famous work 'The subjection of women', 'the existing relations between the sexes, the legal subordination of one sex to the other, is wrong in itself and now one of the chief hindrances to human improvement and that it ought to be replaced by the perfect equality admitting no power or privilege on the one side nor disability on the other'.

One of the important tenets of liberal feminism is individualism which means that individual possesses the freedom to do what he wants without interferences from others. The liberal feminist believe in the concept of "equality of opportunity". They find that when all privileges and discriminatory practices of a legal, ideological or market economical kind are done away with, there is equality. The equality of opportunity doctrine helps to sort the gifted from the ungifted. [Brock-Utne : 1989].

One of the important corollaries of the positions of the liberals was that they accept the common arrangement by which the man earns the family income and the wife looks after the domestic expenditure. The wife if she goes out to work will not be able to discharge her domestic duties. Hence the sex role differences are accepted but with a provision that both are treated equally. The women should be provided with civil rights, voting right and most importantly they must be given education. The liberal feminism considers the capitalist system of production is an ideal system and also accept the existing social order as valid. Hence, without
altering the existing social structure, they argue for equal rights for women and improvement of social customs, institutions, laws and attitudes.

3.1.1b. Marxist Feminist

The Marxist Feminists believe that women's inferior status is deeply rooted in class oppression and the capitalist system of production. There is close interdependence between class and patriarchy. They feel it necessary to organise struggles simultaneously against capitalism and patriarchy since overthrow of the capitalist system will not mean transformation of patriarchal ideology.

Engel holds that the initial oppression of women lies in the emergence of private property. He provides the historical explanation of diabolic relationship between the development of the means of production, the rise of property and subordination of women. He speaks of three phases of society – savagery, barbarism and civilization for tracing the development of means of production.

In savagery, human beings lived almost like animals, gathered food and hunted. Ancestry was through the mother and there was no marriage and no notion of private property. During the phase of barbarism, gathering and hunting continued though gradually agriculture and animal husbandry were also developed. While women stayed home both to look after the children and the homestead, men started moving further to hunt. Sexual division of labour developed gradually though women had power and control over their communities.

When men started domesticating animals, particularly, cattle, it brought forth the initial surplus of wealth over that required for the basic subsistence. Men acquired power over others and started accumulating more wealth in the form of animals. All this led to the formation of private property. Private property, as Engel argues, necessitated strict control over women's sexuality to ensure that inheritance
be guaranteed to the children of the male owners of the property. The necessity that
property itself be passed to the offspring of man resulted from men’s position within
the sexual division of labour. At this stage father’s right to property and inheritance
became conspicuous by the emergence of patriarchy. To ensure this inheritance,
mother’s right was overthrown. According to Engel, “the overthrow of mother’s right
was the world historic defeat of the female sex”. In order to establish the right of the
father, women had to be domesticated and confined and their sexuality regulated
and controlled. Thus, the emergence of wealth in conjunction with men’s role in
producing it brought into being the patriarchal family marked by strict monogamy
and the subjection of women. According to Engel, with the development of the state,
the monogamous family changed into patriarchal family in which the wifes
household labour became a “private service, the wife became a head servant,
excluded from all participation in social production”. Hence, the emergence of the
patriarchal monogamous family by making an end to previously existing communal
family system, brought about a change in sexual division of labour which added to
women’s oppression.

3.1.1c. Radical Feminist

According to Radical Feminist, the system of patriarchy is mainly responsible
for exploitation and discrimination of women in the society. The term ‘patriarchy’
initially meant “the supremacy of the father” or the “patriarch”. Originally, it was used
to describe a specific type of male dominated family where the father was the head
and the family remained intact in the family’s father’s name. Now, it is used more
generally to refer to male domination, to the power relationships by which women
are kept subordinate in a number of ways. The patriarchal society define the role
and status of sexes on the basis of values and needs of dominant male group. The
male dominated society and male culture decree that dominance is the male
temperament and subordination female’s. [Pandey : 1989]
According to Radical feminist, patriarchy preceded private property. They believe that the original and basic contradiction is not between the sexes. They are of the view that there are two systems of social classes (I) the economic class system which is based on relations of production and (ii) the sex class system which is based on relations of reproduction. It is the second system that is responsible for the subordination of women. According to them, the concept of patriarchy refers to this second system of classes, to the rule of women by men, based upon men's ownership and control of women's reproductive capacities which have made women to be physically and psychologically dependent on men.

The Radical feminist's main contention is that the roots of subordination rests in the biological family since the biological distinction i.e., male/ female is used to distinguish social functions and power and ultimately result in the male domination of power over women. Patriarchy has been identified by the radicals as an autonomous historical fact more rooted in biology than in economy. They see patriarchy as male control over women's fertility which is nothing but the male hierarchical ordering of society. The proponents of radical feminism contended that the patriarchal social structure is preserved via marriage and the family through sexual division of labour in the society. The division of labour distinguishes and marks the existence of two genders. It parts the sexes into two mutually exclusive categories of the women and men. "However, it is the constancy of men's power and control over women's reproductive capacities which revolutionary feminists argue constitutes the unchanging basis of patriarchy".

Much of the strategy of radical feminists programmes for change has been to redefine social relations by creating a women centered culture. Radical feminists emphasise the positive capacities of women by focussing on the creative dimensions of women's lives, specially because women's culture and experience are seen as fundamental alternatives to patriarchal institutions and ways of thinking.
The radical feminist's main plea is not only removal of all sex distinctions, but for many, there seems to be no place for men in their life span. Sexual preference, control over one's body, free sex experience and collective child care are some of the action programmes outlined by the radical feminists. [Desai and Krishnaraj : 1987]

3.1.1d. Gender And Sex

To make any investigation relating to feminist studies, it is necessary to distinguish between gender and sex. Sex distinction refers to physical and biological distinction between men and women, the gender distinction is a natural outcome of sex distinction resulting from differing social roles of men and women. If sex is determined biologically, gender is a psychological concept that is shaped by specific cultural framework. The concept of gender as distinct from the biological fact of sex includes thus a complex of sociological, cultural and psychological associations within it. Gender is of great use as an analytical category as it is created by the social structure and is a system of relationships rather than a set of personality traits and the division between male and female is deeply interwoven into the organisations of instructions and everyday life. It is not just a division, but an asymmetry with men having more power and status. The fact of being male and female carries connotations of different power and status, although other situational and relational factors may mitigate these connotations. [Kalpagam : 1986] Gender has, therefore, been expressed in "sex role" as socially constructed. In this connection, it is necessary to examine the general ideological positions on sex role in its wider sociological setting and to discern from it the feminist's ideological position in contemporary society.
3.1.1e. Sex Role and Feminist's Ideological Position

The term "Sex Role" has been used in a different way, such as 'sex stratification', gender differentiation', etc. It is the attachment of gender to a particular social position that gives rise to the layering effect that exists in virtually all known societies. It refers to the process by which the individual develops the attributes like behaviour, personality, characteristics, emotional responses, attitudes and beliefs defined as appropriate for the individual in the society or in the culture [Vijayalakshmi : 1989]. Here, we intend to give a brief presentation of the feminist's ideological positions on the sex roles.

The roots of the early liberal ideological position on sex role lies in the doctrine of natural rights and the age of reason. Women are basically alike and have the same natural rights and hence equality between the sexes. It implies that women shall have the right to equal treatment in all domains of life – education, inheritance, law, marriage, occupation or elections to public positions. The legal or political equality for women would automatically result in their emancipation in other fields. Mill, an ardent liberal thinker, opines that married women would continue to discharge their duties as mothers and housewives which would 'cease' the opportunity to be gainfully employed. Thus in the liberal position, no change was envisaged in women's status of the house, except for the right to legal equality. [Pandey : 1989]

The ideological position of Marxian Feminism on sex roles has some similarity with early liberalist view. In Marxism, like liberal view, men and women are of equal value socially and the main goals to pursue are the emancipation and equality of women. However, they differ from liberal's view in terms of realising the objectives. According to Marxist ideology, family life has changed in to a patriarchal system in which women is enslaved, suppressed and isolated from the public life of
the community. Once emancipated, women will be reintroduced to work in the community and this results in joint participation of both the sexes in such work thereby achieving real equality. They believe that by replacing capitalist system of production by a socialist system, complete freedom can be achieved.

The radical ideology believes in the absolute equality between the sexes. It believes that, discrimination between the sexes should be fought until men and women are treated equally as regards vocational training, employment, pay, homemaking and child rearing. The radicals suggest for the extension of equality within the family as well as social and economic independence of women with men. According to them, the emancipation of women can never become a reality until they actively pursue life long careers and reject the housewife ideal as well as the idea that family is a means of their support.

3.1.1f. Feminist Theory and Study of Sex Ratio

Our present study which is concerned with the behavioural pattern of sex ratio and its determinants in Barak Valley reveals (from the literature so far surveyed by us) that the steadily declining sex ratio is due to excess female mortality which results from gender biasness in the Indian society particularly in the field of health, nutrition, access to education and more importantly labour market. It has been found that strong preference for son reflecting patriarchal social order is the key reason for gender discrimination. This leads us to understand that Radical Feminism has strong relevance in the context of our study because according to this school of thought, it is the system of patriarchy which is responsible for exploitation of women and all forms of gender discrimination. Infact, gender discrimination leads to female child receiving less food, medical care and other resources necessary for her upbringing and welfare. This is a typical case of entitlement failure of Amartya Sen assigned to “access inequality”. The adverse
impact on survival rates of females because of discriminatory intra-household resource allocation can provide us more insight on the behavioural pattern of sex ratio. Consequently, the results of all our empirical analysis will be examined in the light of the ideas on Feminist school within the broad framework of the theory of 'Co-operative conflict' approach of intra-household resource allocation of Amartya Sen, the concept of which is discussed in the next section. It needs to be highlighted here that no work of this nature has been undertaken within any theoretical framework. To this extent, the present study seeks to fill in the long existing gap in studies relating to sex ratio which will be examined here in terms of feminist ideology within the broad theoretical framework of Sen's model. This would definitely be a great contribution to the feminist school especially from theoretical point of view.

3.1.2. Co-Operative Conflict Approach of Amartya Sen

The unequal survival between males and females expressed in terms of unfavourable sex ratio may be best viewed in terms of Amartya Sen's concept of co-operative conflict. According to Sen "In the social relations that inter alia determine the entitlements enjoyed by different people, there tends to be a existence of conflict and congruence of interests. There are in most situations, clear advantages to be gained by different people through co-operation with each other and yet there are also elements of conflict reflecting the partly divergent interests of the same people. 'Co-operative conflict' refers to this coexistence of congruence and conflict of interests, providing grounds for co-operation as well as for disputes and battles" [Dreze and Sen: 1993]. Thus, there are co-operative elements in these arrangements but also elements of conflict in the choice of one arrangement rather than other. Such problems have been investigated in the literature of economics and game theory in different ways, e.g, what J.F. Nash (1953) calls the bargaining
problem is a case of co-operative conflict in which each party has well defined and well understood interests which coincide with each other.

The theory of co-operative conflict can throw considerable light on the behavioural pattern of sex ratio. The prosperity of the household depends on the totality of various activities like getting money income, purchasing food materials and so on. Thus it may be in the interest of all the members of a family to co-operate in living together. But, the members of the household face two different types of problem simultaneously one involving co-operation (adding to total availabilities among the members of the household). Social arrangements regarding who does what, who gets to consume what and who takes what decision can be seen as responses to this combined problem of co-operation and conflict. In case of intra family distribution, it may be in the interest of husband to secure a higher share of benefit and a lower share of household chores compared to his wife. Thus, against the background of generally co-operative behaviour, there may arise conflicts involved in gender division. Infact, given the importance of co-operation in family living, the elements of conflict may be kept hidden or suppressed by the use of conventional norms. Sen (1990) argues that the lack of perception of personal interest combined with a great concern for family welfare are responsible for sustaining the traditional inequalities. When Indian women are asked about their own welfare, they typically answer in terms of how well their family is doing. The difficulty they have in perceiving the distinctiveness of their own interests further reduces their ability to claim a share of domestic resources.

The issue of perception can thus be a very important aspect of the problem of gender based inequality. Actually, perception failure has become a common characteristic of inequality and unusual deprivation in the case of within family distribution. Though the family is seen as an area of affection, love and sacrifice for one another, but this general element of good sense in the selflessness of family
members gets hopelessly mixed up with extracting unequal and unusual sacrifices from Indian women producing an enormous inequality in the position of women in traditional Indian society. The traditional Indian family is a great compound of warmth on the one hand and exploitation on the other [Sen: 1983].

Nor perception of the deep inequalities that exist both reflects the depth of these inequalities and also serves to sustain them. Role education of boys and girls trains them implicitly for the inequalities of the respective positions [ibid]. Hence, Sen [1990] brings in the role of perceptions about the contributions made and the importance attached by different members to their well being. These perceptions affect the allocative behaviour in an important way. Three propositions are made about the outcome of the bargaining.

1. **Breakdown well being response**: Given other things, if the breakdown position of one person were worse in terms of well being, then the collusive solution, if different, would be less favourable to his or her well being [Breakdown position indicates a person's vulnerability or strength in the bargaining].

2. **Perceived interest response**: Given other things, if the self interest perception of one of the persons were to attach less value to his or her own well being, then the collusive solution, if different, would be less favourable to that person, in terms of well being.

3. **Perceived contribution response**: Given other things, if in the accounting of the respective outcomes, a person was perceived as making a larger contribution to the overall opulence of the group, then the collusive solution, if different, would be more favourable to that person.

All these directional features open up the possibility of considering the role of perception and more importantly power which shapes these perceptions. Perception
may become crucial when it comes to contribution. Women manifest committed motivations, in accepting social norms that devalue their contribution to domestic resources. Women and men share a perception of relative contributions that gives greater credit to men’s wage earning than to women’s unpaid domestic labour and lower paid employment. The wife is cast as dependent on her husband, obscuring the ways in which his productivity depends on her providing for his physical needs in kind (cooking, cleaning, sewing, shopping, obtaining water and fire wood etc.) as well as on her assuming responsibility for caring for his children and sometimes his elderly parents as well. In accepting norms that devalue their contributions, women again get less from domestic resources.

The perception biases become unfavourable to women, both in terms of distancing perceived interests from well being and recording productive contribution inadequately. Sen argue that, the greater vulnerability of women is closely connected with lesser opportunities for getting outside work and paid employment.

Bargaining Theory recommends that if women are to improve their situation, they ought to seek employment outside the home. “A women’s opportunity to get gainful work outside is one of the crucial variables affecting extended exchange entitlement mapping. First, such employment would enhance the overall command of the household that is, family entitlement. Second, for a given family entitlement, the women’s relative share may also respond positively to her outside earnings. This latter influence corresponds of course to the element of pure conflict in ‘Cooperative Conflict’ and the directional link described here would reflect some combination of the three responses discussed earlier. Outside earnings can give the women in question (1) a better breakdown position (2) possibly a clearer perception of her individuality and well being and (3) a higher ‘perceived contribution’ to the family’s economic position”. In so far as perceived contributions are an important factor in determining who ought to get how much, the involvement of women in
productive activities definitely increases women's entitlement to a better share of the household joint benefits and tend to go with less anti female discrimination.

Thus, bargaining power of women in the family, being an important component of 'co-operative conflict' has emerged as the main determinant of household equalities which in turn would like to bring about balance in the proportion of sexes. This leads us to understand that the present study of the behavioural pattern of sex ratio can be very well linked with the Sen's cooperative conflict approach which recognises the importance of allocative behaviour within the household. Any inequality in it is likely to affect adversely the survival benefits of females resulting into excess female mortality. It is this aspect which have prompted Amartya Sen to develop his well known thesis of 'Missing Women', the concept of which has been taken up in the next section.

3.1.3. Concept of Missing Women

There is strong evidence that given access to similar food, care and medical attention, fewer women die at all ages than men because they are biologically stronger. This is expected to result in a sex ratio favourable to women. The developed countries of the world usually have higher sex ratio for women. However, in India, the sex ratio is not only unfavourable to women but the fact that it has been declining over the years indicating an increasing gender gap between health and survival in India. The difference between the expected sex ratio and the actual sex ratio is reflective of the failure of large number of female infants to survive till adulthood inspite of their biological superiority. These women are referred to as the 'Missing Women', the concept of which is developed by Amartya Sen. According to Sen, the 'Missing Women' shows the shortfall of women in the total population primarily reflecting excess female mortality at present and in the recent past of the concerned region [Sen: 1992].
The number of "Missing Women" for a particular country is calculated as the difference between (1) the number of women the country would have if its female male ratio or sex ratio was the same as that of Sub-Saharan Africa (i.e., 1.022) given its actual male population and (2) the number of women it actually has. The proportion of 'missing women' is the ratio of missing women to the actual number of women in a particular country [Dreze and Sen: 1993].

The number of 'missing women' in absolute terms is highest in China, but proportionate to the total population, it is 8.6% as compared to 9.5% in India, 8.7% in Bangladesh. In fact, Pakistan has the highest proportion of 'missing women' as high as 12.9%. There are also significant numbers of 'missing women' in West Asia, North Africa even in Latin America with 7.8%, 3.9% and 2.2% respectively.

The number of 'missing women' reveals an aspect of a complex and terrible problem. The shortage of women in India and China results from a higher sex differential in mortality rates than Sub-Saharan African nations and is reflective of a strong anti-female bias in social divisions. Sen says that, it is interesting to note that while Sub-Saharan Africa is identified as a 'problem region' of the world in some respects, when it comes to sex bias, the more problematic countries are elsewhere, i.e., South Asia. This sharp contrast between South Asia and Sub-Saharan Africa in terms of sex ratio emerges from the fact that anti-female discrimination in terms of food intake, health, nutritional status and survival chances are much more intense in South Asia, but much less noticeable perhaps even absent in Sub-Saharan African countries. Moreover, there is a good deal of statistical evidence on the greater autonomy of African women in terms of land rights, access to gainful employment, control over property etc. in comparison with the general picture of South Asian women since all these factors are instrumental in combating the deprivation of women in many parts of the world which in turn will reduce the number of missing women.
To know, in which way the process of economic growth affects the sex composition of population of a country, we have linked up sex ratio with stages of demographic transition in the next section.

3.1.4. Sex Ratio and Stages of Demographic Transition

C.P. Blacker (1947) has identified the following five stages of change from high birth and death rates to low birth and death rates in a country in the theory of demographic transition;

(1) the high stationary phase marked by high birth rates and high death rates,
(2) the early expanding phase marked by high birth rates and high but declining death rates,
(3) the late expanding phase with falling birth rate but more rapidly declining death rates,
(4) the low stationary phase marked by low birth rates balanced by equally low death rates and
(5) the declining phase with low death rates, lower birth rates with an excess of deaths over births.

The time required for moving from one stage to another has been found to vary from one population group to another. On the basis of above categories, the population of different regions of the world have been classified into six groups in order to understand the pattern of sex ratio of population in different stages of demographic transition, viz.

<table>
<thead>
<tr>
<th>Group</th>
<th>Birth rate</th>
<th>Death rate</th>
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<tbody>
<tr>
<td>I</td>
<td>High</td>
<td>High</td>
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<tr>
<td>II</td>
<td>High</td>
<td>Declining</td>
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<tr>
<td>III</td>
<td>Declining</td>
<td>Declining</td>
</tr>
<tr>
<td>IV</td>
<td>Declining</td>
<td>Low</td>
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<tr>
<td>V</td>
<td>Low</td>
<td>Declining</td>
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<tr>
<td>VI</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>
The first group of population with high fertility and high mortality represents the first stage of demographic transition while the second group with high fertility and declining mortality represents the second stage. In the third group, both fertility and mortality start declining thereby representing the third stage. It is followed by fourth stage where in mortality has reached lower levels but not the stable stage with fertility continuing to decline. The fifth and sixth groups together represent the fifth stage of Demographic Transition.

In moving from one stage to another stage of demographic transition, high sex ratio is found in earlier and later stages with low sex ratio in the middle [Ananthram:1989]. In the absence of medical facilities, females enjoy advantage over males in terms of survival while with the availability of medical facilities, but not in adequate quantities, females are at disadvantage. In the stage when medical facilities are sufficiently available, females enjoy advantage due to their biological strength. Thus it is easily observed that sex ratio is high in the first and last stages (stages of stable rates either high or low fertility and mortality rates), while sex ratio is low in the other stages i.e., stages of instability in fertility and mortality rates. At present India is passing through the third group with low sex ratio as the current birth rate is declining and the death rate is also declining, but much faster than the birth rate. If there is further decline in birth rate in India in future, one can expect an improvement in sex ratio [ibid]. D'souza (1993) and Meyer (1999) have also substantiated the present trend of declining sex ratio in India to the process of Demographic Transition. Both of them argue that the trend toward increasing musculinity of sex ratio in India will continue until the Demographic Transition reaches its final stage.
3.2. CONCEPTUAL FRAMEWORK

3.2.1. Sex Ratio

The sex ratio is the numerical proportion of the sexes within a group. In biological literature, it is generally defined as the number of males per 100 females and is expressed as the percentage of males in the data examined. In another method, it is recorded as the proportion of males as a decimal of unity. With the operation of sex determining mechanism in any bisexual species, there must be a sex ratio at all times.

The sex ratio of a population may either be expressed as the number of males per 100 females or as the number of females per 100 males. The former definition is followed all over the world. In many of the developed and developing countries of the world sex composition is measured as the number of males per 100 females. But the situation is entirely different in case of India where sex ratio is usually defined as the number of females per 1000 males. The primary reason for measuring sex ratio differently in the former case is because of the deficit of males whereas in the case of India, it is decreasing proportion of female population in contrast to males which has prompted the difference in measurement. When the sex ratio is defined as the number of females per 1000 males, the ratio above 1000 indicates a favourable sex ratio for females while that below 1000 is considered to be low or unfavourable sex ratio. The sex ratio of the total population at a point of time is known as the “overall ratio”.

In the life history of an individual, it may be convenient to take conception, birth and maturity as the three salient points to compute the sex ratio of the species and the proportions which obtain at these three stages are known as the primary, the secondary and the tertiary sex ratio respectively. [Encyclopaedia Britannica: 1960].
3.2.1.a. The Primary Sex Ratio

The study of primary or prenatal sex ratio is at a very crude level of development. It refers to the proportion of males at the time of conception or at the earliest period of embryonic development. Thus nothing can be said with surety since embryos under five months of age are difficult to sex with accuracy and theories are highly speculative. It has been felt by the scholars that the sex ratio at the time of conception is extremely unbalanced towards males and that the imbalance gradually declines throughout gestation. This decline may be because male embryo is less hardy than female embryo and more often aborts spontaneously. Therefore, throughout the duration of conception, more male foetuses than female are lost resulting in a comparatively less preponderance of males at the time of birth. This pattern of greater foetal wastage of males may be attributed to the greater birth stress males suffer as a result of their larger size. [Miller : 1981]

3.2.1.b. The Secondary Sex Ratio Or Sex Ratio At Birth

The secondary sex ratio which is most commonly referred to as Sex Ratio at birth is the number of males per 100 females among live births only. It is determined biologically and it appears that nature's balance is slightly more favourable to males. Though hereditary sexual mechanism provides that as a general rule, there shall be approximately equal numbers of males and females, but the ratios are not exactly equal even in man and other mammals. In all races of mankind, more boys than girls are born [Encyclopaedia Britannica : 1960]. It must be noted that there is no 1:1 correspondence in the male and female births, the number of males babies is always slightly higher. The excess of male births though differs according to races, nationalities and years, but is seldom more than 107 or less than 104 males
to 100 females. For all races combined, there is an average of approximately 105.5 boys to 100 girls at birth.

3.2.1.c. The Tertiary Sex Ratio

The tertiary sex ratio is the ratio at maturity or adulthood. The tertiary sex ratio will be identical with the secondary sex ratio unless during the period birth maturity sex reversal commonly occurs or unless a sexually selective mortality has been operating. It is only due to selective post natal mortality that the difference between the secondary and tertiary ratios occur which can serve as an indication of the relative post natal survival value of the sexes [ibid].

In man, primary ratio is always higher than the secondary ratio since more males than females die during prenatal development. The secondary sex ratio or sex ratio at birth which is always above 100 is higher than tertiary ratio which is invariably below 100. If the sex ratio of still birth is examined, it will be found to be higher than that of live births because there is a comparatively higher proportion of male babies among stillborn babies. [Bhende and Kanitkar : 1978]. If the sex ratio of abortions is next examined, it will be found to be considerably higher than that of still births. The empirical data only extend back to about the third month of pregnancy, but it is still established that the relative mortality increases the nearer conception is approached so that the primary sex ratio must be considerably higher than that encountered in the latter part of pregnancy. [Encyclopaedia Britannica : 1960].

Among primary, secondary and tertiary sex ratios, the secondary sex ratio has received most attention since secondary sex ratio or the sex ratio at birth is one of the ‘initial condition’ which determines the sex ratio of the overall population. This necessitates a thorough investigation into the factor that influence sex ratio at birth.
3.2.2. Factors Influencing Sex Ratio at Birth

Though sex ratio at birth is biologically determined, but variations may occur due to some demographic factors which influence it individually and severally. Consequently, their role vis-à-vis the sex ratio at birth is discussed in the following.

3.2.2a. Birth Rate

Sex ratio at birth is very much influenced by birth rate since a lower birth rate implies a lower number of children for the mother in the reproductive period thus leading to a higher proportion of lower order births. Throughout the population’s history and in the face of the other changes, there have been consistent, statistically significant negative correlations between birth order in a conjugal union and sex ratio at birth [Martin : 1994]. It has been found that there is a greater preponderance of males over that of females in lower order births while higher order births are increasingly females. Any reduction in birth rate would reduce the number of higher order births which in turn would mean an increase in overall sex ratio at birth.

3.2.2b. Age at Marriage

There is again negative relationship between maternal age and birth sex ratio. This correlation between the two in any population derives from the correlations between birth order and sex ratio [ibid]. Since lower order births which are predominantly masculine are associated with the lower ages of mothers, there occurs a negative relationship between the age of the mother and the sex ratio at births. Low age at marriage for females leads to a higher incidence of still births and foetal losses, particularly if the age of conception is very low. It has been observed that in cases of very early conceptions, there are high foetal losses, high still births and high neonatal deaths which are masculine. Thus one can expect that the
influence of greater male foetal losses and of still births would be of a lesser degree in the recent past than in the distant past [Sharma : 1996].

3.2.2.c. Mortality Rates

High mortality rates mean high infant mortality, high maternal mortality, high incidence of widowhood. High infant mortality results in larger number of issues per woman to ensure insurance against death. Since sex ratio at birth is low for higher order births, thus high birth ratio because of high death rate implies lower sex ratio at birth. On the other hand, reduction in infant mortality increases lower order births and brings about a reduction in still birth rates thereby increasing the survival chances of more male babies than female babies. Thus a decline in infant mortality rate has led to some increase in the sex ratio at birth. However, a reduction in maternal mortality and widowhood rates gives rise to higher order births. [ibid].

3.2.3. Sex Ratio at Different Age group

In developed countries, the effect of excess male mortality is seen in the swing of the sex ratio (males per 100 females) of the population, 104:100 at birth, which reduces to 94.2 : 100 upto age 15. During the 15 – 20 age periods sex ratio increases because of increased mortality of females during 10 – 15 age groups as a result of the exhaustion of puberty in the females. From this point on, sex ratio declines continuously with the exception of a slight rise between 40 and 50 caused by an increased mortality of females from reproductive disorders during the period 40 – 45 years. In old ages, the ratio is only 52.2 ; 100 [Encyclopaedia Britannica : 1960] which implies that the number of male population is only more than half of the females.

But in underdeveloped countries like India, the picture is completely different. Sex ratio (females per 1000 males) is observed to have a decline with age upto 19
years, 890 : 1000 in 1981 census. During 20 – 24, there is a rise in the ratio of 978:1000. From this point on, there is a continuous decline up to 59 years of age because females would be expected to experience higher mortality risk due to child bearing. Only exception is found in the 40 – 44 years of age when there is a marginal improvement of 3 points. The ratio which reduces to 930 : 1000 in 55 – 59 age group starts improving beyond 59 years of age and reaches 981 : 1000 in 65+ age group. [Rao and Balakrishna : 1992]. Researchers, like Visaria, Mitra and others have also observed such variation in sex ratio by age group with unfavourable sex ratio in childhood and reproductive periods and much balanced ratio in the old age period.

What emerges from the above is that for developed countries, a rising curve is derived when sex ratio is plotted according to age group. On the other hand, in case of UDCs like India, the curve assumes skewed U shape. This difference in the shape of sex ratio curve when plotted by age group between developed and underdeveloped countries is due to the difference in the mortality rate between male female which is an inter play of two forces – biological and environmental and the variation in environmental factors explains much of the inter country differential in mortality rate by ages.

3.2.4. Sex Ratio by Rural Urban Residence

In the way sex ratio differs widely among different age groups, the rural and urban population in the country are also characterised by contrasting sex composition depending upon different socio-economic traits. Although women are outnumbered by men, in India’s population as a whole, women however outnumber men in rural to rural migration streams where sex ratio is favourable to females when estimated by place of birth. In rural to urban migration streams, however, males outnumber females as a result sex ratio of urban population is lower than that
of rural population where as urban to urban migration streams contain about equal numbers of men and women. [Singh :1982]. It is in contrast to the western countries where the sex ratios are higher in urban area than in rural areas indicating that women outnumber men in rural areas. In USA, job opportunities for women in urban areas are greater because the urban areas with clerical jobs are mainly feminine and the nature of agricultural work is responsible for a higher proportion of males in the rural areas.

The rural urban differentials in India are the product of sex selectivity among the rural urban migrants which take place due to the push and pull forces operating in the two areas. As a result, studying the sex ratio of a region or a nation in general, without trying to demarcate the ratio for the urban and rural areas would be incomplete and one sided. This is particularly called for since factors determining rural sex ratio are different from the ones determining the urban sex ratio.

3.2.5. Sex Ratio by Religion

Since religion has a more significant influence on demographic behaviour in a developing country like India, it is perhaps useful to breakup the overall sex ratio further by religion. India is a country with multi religious composition of population. Among them, Hindus form a majority with 82% followed by Muslims with 12%. Data from different decadal censuses show that except during 1941-51, the growth rate of Muslims has been higher than that of Hindus. According to 1951 census, the proportion of Hindu in the total population was 84.9% and it has declined to 82% in 1991, whereas, the share of Muslim has increase from 9.9% to 12.1% during the same period. Hence it would be interesting to know whether the Muslims who have experienced significant growth of population, also register an increase in sex ratio or not. The sex composition of different religious groups may be determined by the various socio economic and cultural characteristics of the respective groups.
Information about such differentials is necessary to identify the factors and assess the prospect for change in the sex of population in various religious groups. Moreover, it provides clues about future sex ratio trends of the various religion.

3.2.6. Sex Ratio by Social Groups

Overall population in any region is not homogenous and sex ratio among its different sub strata differ not just by age but by socio cultural factors like caste or class. Scholars have observed different patterns of sex ratio behaviour among three social groups of population, Schedule Castes, Schedule Tribe and General Category. Scheduled Tribes have higher sex ratio compared to Scheduled Caste and General Category.

The SCs and STs constituting about 16% and 8% of the country’s population respectively represent historically the disadvantaged sections of the society. The SCs represent the socially isolated groups at the bottom of the caste hierarchy. The STs represent certain ethnic aboriginal groups inhibiting specific spatial clusters by and large unsuited for settled agriculture. Both SCs and STs share certain common features. They are poor and have marginal land assets both qualitatively and quantitatively and major suppliers of casual and agricultural labour. (Agnihotri:2000).

The economic and cultural values of women is likely to differ by caste. Women of lower castes have greater economic and cultural values since there are fewer restrictions placed on their autonomy, their mobility and their economic activities. The tribals have very high work participation of females and their farming system is very much similar to the type of farming system discussed by Boserup. Tribal societies have other features like kinship system and property rights that enhance the relative survival chances of female children. All these features relating
to tribal population might have contributed in favourable sex ratio that is witnessed among these groups.

As a result, studying the sex ratio of a region or a nation in general without trying to demarcate the ratio for different age group, rural urban residence, different religious and socio economic groups would be incomplete and one sided. This is particularly called for since factors determining each of these categories are different from one another. The study thus hopes to provide an useful insight not only to the researchers but also to the policy makers in formulating policy decisions that will make a positive contribution in this field.

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