CHAPTER II

REVIEW OF LITERATURE

2.1 Fertility - A rational choice
2.2 Fertility and family dynamics
2.3 Inter-spouse communication and fertility
2.4 Socio-economic status and fertility
2.5 Value of children and fertility
2.6 Contraception and fertility
2.7 Proximate determinants of fertility
2.8 Education of women and fertility
2.9 Psychological determinants of fertility
2.10 Education and fertility
2.11 Conclusion
REVIEWS OF LITERATURE

The review of related literature is an essential aspect of any investigator. It provides the investigator with the means of getting to the frontier in his particular field of knowledge. For any worthwhile study in any field of knowledge the research worker needs an adequate familiarity with the work which has already been done in the area of his choice. The literature in any field forms the foundation upon which all future work must be built. Failure to build this foundation of knowledge by the review of related literature will result in a work which will be shallow and will often duplicate work that has already been done better by some one else. According to Mouley (1964) The review of related literature promotes a greater understanding of the problems and its crucial aspects and ensures the avoidance of unnecessary duplication'.

According to Stevens et al (1993) the four main functions of the literature review are:

1. To give reasons why the topic is of sufficient importance for it to be researched
2. To provide the reader with a brief up-to-date account and discussions of literature on the issue relevant to the topic.

3. To provide a conceptual and theoretical context in which the topic for research can be suited.

4. To discuss relevant research carried out on the same topic or similar topics.

A review of related studies conducted in India and abroad in the field of fertility has been presented in this chapter.

2.1 Fertility - A rational choice

Majority of the social scientist in developed countries seem to subscribe to the view that fertility is a consequence of rational choice. The micro economic theories of fertility, like Backer (1960) and Easterlin (1978) assume that reproductive behaviour is a response to underlying preferences for children and the constraints imposed by external factors. There is every chance that couple may move from non-decision to active decision making as the parity (number of live births) increases or as a result of the influence of other significant factors. Miller and Godwins (1977) identified decision making based on factors
such as pre-awareness, consideration (which includes gathering information and understanding alternatives), evaluation and implementation or adoption. This set of stages parallels the stages involved in the process of adoption of innovation (Rogers, 1969). This is an idealized situation and certainly we can find great variability in the order of psychological and behavioural events relating to the decision.

2.2 Fertility and Family Dynamics

Hill Stycos and Back (1959) have documented the family dynamics relating to fertility regulation behaviour in Puerto Rico. The study found family size ideals or desires are often not crystallized in the mind of the respondent. The family size desired will indicate not only the number of children but also the strength of commitment to such a number.

It also revealed that the differences between spouses with regard to their perception of ideal family size, and husband - wife communication on matters relating to family size and birth control were found to be very important factors in achieving fertility control. They also identified a number of facilitating and
inhibiting factors in the family organization contributing to
differential fertility. Apart from husband and wife
communication, adequate motivation to take action,
commitment to small family goal, knowledge and acceptability
of efficient family planning methods were found to be important
for successful regulation of fertility by the couple.

Rainwater (1965) has contributed to our understanding about
the role of family organization in controlling fertility through in
depth investigation techniques. The author has obtained
valuable information relating to factors that influence family
size desires and practice by interviewing husband and wife
separately and also simultaneously. Bulato (1983) identified
four distinct categories of decision content: family size desires,
values and disvalues of children, subjective costs of fertility
regulation and perception of child bearing potentials. Changes
in decision content are tied to changes in the socio-economic
setting. In contrary to developed society, children in developing
society are assumed to be more valuable. Since parents from
low socio economic strata expect more substantial benefits from
their offspring as compared to those who are from higher socioeconomic strata (Muller, 1972; Hoffman and Hoffman, 1973; Espandhade, 1973; Nag, 1972; Cain, 1977; Fawcett, 1988; Kagisticibasi, 1982).

2.3 **Inter-spouse** communication and fertility

A number of Indian authors have documented the importance of husband and wife communication in family planning (Mukerji 1975, Khan 1979, Bhatia 1980, Munnikrishna Reddy 1983). Vasanthini (1957) found the husband and mother-in-law is the key persons in decision for family planning.

Potter Berger's (1968) study of a village in Gujarat revealed that in the traditional joint-family setting, effective husband-wife communication seldom took place; Seethalakshmi’s (1969) study in Athoor Block also reported poor husband-wife communication in village households. Ramkumar and Gopal (1972) in a Kerala study, found that women of upper strata discussed more freely with their husbands about family planning. Khan (1979) found that respondents who did not want additional children but were not practicing contraception often
had less husband-wife communication, empathy, less exposure and less perceived burden of children.

Ramanujam (1981) in a study of evaluation of family welfare programme in two rural districts of Tamil Nadu covering 49 Vasectomy and 223 tubectomy acceptors found that 60% of men and 99% of women had discussion with their spouse on limiting the number of children and adopting sterilization. Consequently 79% of men and 90% of women got approval, but decided on their own.

Mahadevan (1971) made a study of decision making process among adopters and found that members of the family, friends, adopters, local leaders and family planning workers influenced decision making. In such a situation it is possible that decision itself is delayed or action has not been taken because of conflicting recommendations from different sources. In another study Mahadevan (1974) found among the non-adopters that lack of knowledge of family planning methods and lack of communication between husband and wife were the factors that contributed to non-adoption.
Chaudry (1978) in a socio-economic survey data of 11,130 women aged 15-49 in Dacca (Bangladesh) found that conjugal role relationship was the second most important variable influencing contraception and fertility, the first being education. Kar and Telbot (1980) found conjugal communication to be more important than joint conjugal power as indexed by decision-making. Rosen and Simmons (1971) reported negative relationship between family size and equality in conjugal decision making.

Bhattia and Neumann (1980) analysed the data from a study conducted in all Indian states except Assam and Jammu-Kashmir, covering 6,300 adult males and females aged above 21, and found that 41% of ever-married respondents had discussed with their spouses about the number of children they should have. Inter-spouse communication was the chief predictor of family planning practice and its influence was much stronger than the combined effect of all other variables included in the multivariate analysis.
Chandra Mauli and Zulfikar Nusrath (1983) found that inter-spouse communication varied with age, number of living children, education and occupation. When spouses were equally freely communicative, the final decision was taken either jointly or by one spouse, but when there was a one-way communication, the wife’s decision was dominant.

Ramanujam (1987) found that husband and wife communication on number and sex composition of children and contraception was greater among the adopters than the non-adopters, higher among the younger age group than the older age groups, and husband and wife differences on matters relating to family size and contraception surfaced more among the adopters because of the facility of communication between the spouses. In a great majority of cases they have resolved such differences successfully and in other cases decision was postponed because lack of agreement.

Sastry (1984) found that the adopter and the non-adopter desired to have only a small family but nearly 40% of non-adopters had exceeded their desired family and could not adopt
family planning method because of other reasons which could not be adequately identified. The non-adopters as a group had experience of child loss and also inadequate use of MCH services including inadequate worker contacts. It is possible that other socio-cultural factors also delayed adoption in their case.

Munz and Ulrich (1994) states that the world population is currently growing at an annual rate of 94 million people, mainly in the Third World, which exerts a negative effect on social and economic development. Population growth in Asia and Latin America has slowed down substantially over the last few years. External factors (mainly, imported medical innovations) have induced the imbalance between fertility and mortality. Without an accelerated fertility decline, world population will probably reach about 12 billion people by the middle of the 21st century. A theoretical model of fertility decline identified two main directions of influence: 1) socioeconomic changes will decrease the number of children for couples by reducing the economic value of children for the family; and 2) in most countries 20-
40% of married women of reproductive age want to delay further births but lack effective contraception

Husband-wife communication and decision-making in the family were shown to be influential variables in explaining effective family limitation (Mitchell, 1972a, 1972b; Chung, 1973).

Cleland (1998) states that fertility decline in developing countries is largely a lagged response to improved survival, but the duration of that lag probably depends upon cultural and political factors which condition the ease and speed with which the new reproductive regime is incorporated. There is little explanatory space for transformations in the economic value of children.

Dasgupta (1995) states the economic value of children induces higher procreation, increased numbers deplete the community's resources, which in turn induces higher fertility to scavenge for diminished firewood and water. Thus, a vicious cycle of growing population, expanding poverty, and environmental destruction
begins. Breaking free from this cycle requires satisfying the unmet need for contraception, improved civil liberties, increased literacy for women, and employment.

2.4 **Socio-economic** status and fertility

Kihhela (1993) states that traditional factors in high fertility are the dependence of female status on maternity and the high social and economic value of children. The concept of a family size that should be exceeded is not widespread, and the menopause is the only true limit to fertile life. Factors that may contribute at present or in the future to fertility decline include increased female age at marriage, urbanization and female education, greater employment of women outside the home, increased communication between spouses resulting from greater educational attainment, increasing economic costs of children, and declines in infant mortality.

Zhou (1993) states the economic values of children in pre-modern times are based both on children’s contribution to labor and their costs.
Food and Agriculture Organization of the United Nations states that an approach should be adopted for promoting incentives for environmentally sound management of natural resources in farm and domestic activities and for reducing time and labor requirements for securing family food and welfare. National development policies and programs have a vested interest in providing rural women with economic and social conditions and the technical facility to actively change their living conditions. Gender issues must be incorporated into population policies and programs that address the social and economic value of children and attitudes about family size.

2.5 Value of children and fertility

Basu (1991) founds in India high fertility has been the most intractable in the states of Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh. Evidence seems to indicate that this is the cause of greater demand for children, therefore some factors are identified that could be manipulated by policies to reduce this demand. The value and costs of children and the demand for them denote the economic and non economic benefits and
disadvantages of children. The economic value of children consists of the direct productive and indirect productive (household maintenance) value of children. Child labor is also a factor, as shown by the 1971 census, which classified 11.3% of boys and 4.5% of girls as productively employed. The costs of children comprise the: 1) direct costs and 2) the opportunity or time costs foregone in order to rear children. The net value of children is probably more positive in these 4 states than in other parts of the country. Household perceptions about the value of children have 2 components: perceptions about the economic value of children per second perceptions about the control that the household has on this value. The non economic value of children and demand for them connotes the status, power, physical security, and emotional satisfaction they confer. Child mortality and sex preference for sons also increased the demand. The latent demand for contraception exists, especially among those who want no more children.

Saha T (1990) states the economic value of children to their parents varies substantially by the family characteristics that
influence the cost-benefit ratio. The study hypothesized that parents’ educational, occupational, and income status are inversely related to the probability that children will be used as a source of income. Variables that were positively and significantly correlated with child labor included a single-parent household (widowed and divorced women), rural residence, Muslim religious affiliation, landless households, father’s employment in agriculture, and low parental educational achievement. The variables that were most positively associated with children providing unpaid assistance in the home were a household with no land, Muslim religion, rural residence, and the presence of 2 parents in the household. Oppong (1985) states Children have high economic value, and children frequently work and live with relatives other than their biological parents.

Hamzawai (1985) states the economic values of children accounted for 80% of the high fertility motives expressed by husbands and wives. In addition, children are valued as a source of security in parents' old age; this depends solely on the
number of sons a couple has, since daughters marry outside the village.

Folmar (1985) on the other hand attempted to probe the assumptions that urban fertility is lower than rural fertility because the economic value of children is less in the urban area, and fertility varies with the economic value of children. The results of this survey demonstrated that village children begin working earlier, work longer hours, and spend more time productively employed than city children. Cohort analysis of the demographic data demonstrates that fertility has changed in both the rural and urban area over the past 20 years.

Rogers (1990) states the state has not gained legitimacy sufficient to unseat the governing role of the mosque and family in determining the social value of children, reproductive behavior, and gender prejudices. To effectively implement and see through family planning interventions, the government must gain legitimacy, and encourage clerical and community leader collaboration in projects. Further, efforts must be made especially to increase literacy and the level of education of girls.
and women. Overwhelmingly, women in Pakistan tend to be illiterate and uneducated, with few alternatives to motherhood. Improving female education and literacy should therefore be a political imperative in attempting to curb fertility and population growth.

Woods (1983) ascertained the relationship between fertility and living standard. Generally the association between these two variables is perceived as linear; but the analysis proved the relationship curvilinear. The linear associations were proposed by Malthus and Marx. Malthus argued that fertility was positively associated with the standard of living among population living below or near the subsistence level. He maintained that population growth was limited by the availability of resources. Marx, on the other hand, argued that fertility was negatively associated with the standard of living, but discussed the relationship only in reference to the capitalistic period of history. If the association is perceived as curvilinear, the contraindications between the Malthusian and Marxist position can be resolved. The relationship between
fertility and the standard of living varies in reference to standard of living levels. When the standard of living is relatively low, fertility has a positive impact on the standard of living. When the standard of living is moderate, fertility will have a negative impact on the standard of living. Finally, when the standard of living is moderate, fertility will have no impact on the standard of living. Two thresholds marking the transition from low to moderate living standard and moderate to high living standards are identified. The first threshold is reached when the average individual in a society is guaranteed the means of subsistence, and the second is reached when almost all of the population is guaranteed the means of subsistence. The economic and social value of children must also be considered. During the 1st phase, i.e., when the standard of living is low, the value of children is primarily economic. As the standard of living increases, the balance between the economic and social value of children changes. Eventually the value of children is predominantly social. At that point, the relationship between the standard of living and fertility disappears. The proposed curvilinear association
recognizes that: 1) the level of the standard of living determines the relationship between the standard of living and fertility; 2) the Malthusian relationship holds during the pre-industrial era, and the Marxist relationship applies to industrial societies; 3) once fertility is determined by the social value of children, the relationship between the standard of living and fertility ceases to exist; and 4) changes in the relationship between the standard of living and fertility are defined by the distribution of standards of living in a specific population.

Turchi and Bryant (1979) state the social, economic, and cultural contexts within which reproductive behavior takes place in a model. The variables immediately determining parental demand for children include the social value of children, the economic cost and value, the psychological value and cost, the time and money cost, and the actual wealth available to the family. Changes in any of these factors can lead to reproductive changes. The demographic transition theory is reviewed as a background to understanding the fertility mores of developing countries.
Mason et al (1971) developed a model of family fertility decisions, using fertility as a function of economic and social value of children and of the ability to control fertility, plus residual factors such as the biological capability of reproduction by the parents. The utility of children involves family income, education, social status, religion, and access to family planning programs. The ability to control fertility is a function of education, status of women, and access to family planning programs. These hypotheses were tested and the results revealed that 1) the developing countries had a tendency for an inverse relationship of family income to fertility; for transitional societies, the relationship was inconsistent; developed countries had a direct relationship; 2) developed countries had a variable relationship between general socioeconomic status (SES); developing countries had an inverse relationship of SES to fertility; 3) social and geographic mobility both failed to affect fertility; 4) education had a strong inverse relationship to fertility; 5) family structure was inconsistently related to fertility although when defined as functional inclusiveness the value of children -- and fertility — rose; 6) religion did affect
fertility, but it was also influenced by level of modernity; and 7) family planning supported by the government appeared more effective in lowering fertility.

2.6 Contraception and fertility

Srinivasan (1989) found the stagnation of fertility levels during the past decade can be partly explained by increases in natural fertility counteracting the effects of contraception. The acceptance and use of family planning has varied from state to state depending on a number of factors, including socioeconomic conditions and program implementation. Modernisation and the family planning program may have opposite effects on fertility.

An effective IEC (information, education, and communication) program and improved services would be necessary to increase motivation and demand. IEC and alternative mass media messages that could be understood by the large illiterate population are considered important interventions (PRC, 1994).

Rao et al (1993) found that Family planning efforts should be
directed to spacing methods and temporary methods. Misconceptions about family planning need to be dispelled. IEC should be strengthened in order to motivate people to adopt family planning.

Lee (1992) observed that family planning information, education, and communication (IEC) activities encouraged couples to demand and invest more for their children. In Korea's family planning program, family planning and MCH programs were integrated at peripheral levels but greater attention is given to IEC activities.

Jayne and Guilkey (1998) pointed the following policy conclusions: 1) access to family planning is important; 2) economic conditions are still a constraining factor even among those motivated to restrict fertility; 3) IUDs and sterilization are the most accessible and subsidized methods and are therefore less constrained as contraceptive choices by economic circumstances; 4) IEC matters more than has been anticipated; 5) IEC (information, education, and communication) has a greater effect in affecting use among those who are already
motivated than in producing motivation; and 6) the variety of methods available has a significant effect on increasing both motivation and use.

She (1997) states the aim is to improve the quality of life, to improve population structure, to meet the needs of reproductive-age women for services, and to promote socioeconomic and sustainable development. IEC needs to be intensified and to use improved techniques. IEC funding should be increased. Information should be promoted about the importance of educating people about the basic national conditions and the state's basic policies. People need to be informed about the need for a balanced population and socioeconomic development at all cadre levels. Family planning workers need to be encouraged to serve the people's needs "wholeheartedly." People have to be informed about the advantages of fewer births, greater prosperity and comfortable living can be achieved and family planning should be an integral part of poverty alleviation.
In underdeveloped areas, the development programming aims to quickly increase income and reduce fertility, to promote IEC, and to popularize contraceptive knowledge. More developed areas use quality improvements and "scientific management" as effective program efforts (Xiao, 1995).

According to Sud (1991) level of education had positive effect on FP communication; illiteracy and low levels of education had the strongest negative impacts. The SES of the husband had a stronger effect on communication and type of power structure than the employment status of women. Communication is conducive to smaller family size desires and FP acceptance and is a prerequisite for joint decision making. The extent of communication depends on the power structure. Sociopsychological variables were found to be better determinants of fertility than SES and demographic variables.

Reddy (1986) applied multiple step-wise regression analysis to estimate the amount of variance in fertility behavior that could be explained by the following independent variables: psychological correlates—value of children, preference for male
child, infant and child mortality; modernization factors—general planning, aspiration for education of children, inter-spouse communication; socioeconomic status—perceived economic capacity to raise children; and demographic factors—age at marriage, duration of marriage, closed birth interval. The total variance in fertility explained by all 24 independent variables considered was 68% for slum dwellers and 52% for nonslum dwellers. Sociopsychological and demographic factors were of equal importance in predicting the fertility of nonslum dwellers, accounting for 24% and 25%, respectively, of the total variance in fertility; on the other hand, in slum dwellers, demographic factors were the prime determinants of fertility, accounting for 50% of the variance compared with only 13% for sociopsychological variables. Differentials in the duration of marriage accounted for most of the variation in fertility, particularly among slum dwellers. Among the psychological factors, differentials in value of sons and perceived ease of raising children were the predominant predictors of fertility variance among the nonslum and slum dwellers, respectively.
2.7 Proximate Determinants of Fertility

Shariff (1997) analysed the relative role of individual factors on fertility. The study revealed that child loss and women's age had positive and significant effects on children ever born (CEB). The relative role of household level factors indicated that compared to wage earners the other occupations had higher CEB.

Rajaretnam (1996) examined the proximate determinants of fertility in Athoor block of Tamil Nadu. The Fertility trends showed rapid decline among women aged 30 years and older, a large decline in fourth and higher order births and an increase in the open birth interval. The two main determinants of fertility in Athoor block were the increase in contraceptive use and the decrease in the proportion of women married due to an increased marital age. It was observed that 30% of the fertility decline was accounted for by changes in the proportion married during 1959-85 and 70% of the fertility was accounted for by changes in marital age. The findings support the findings of Retherford and Rele (1989) about the determinants of India's
fertility. The findings indicate fertility decline despite the low level of socioeconomic development. It is argued that the intensive family planning program of this block was responsible for creating a desire for smaller families and wider use of modern contraception.

Kerala was the first among the Indian states to experience fertility decline (Zachariah ,1995). Tamil Nadu's success in fertility decline occurred despite high poverty and illiteracy levels and low dietary energy intake. Tamil Nadu provided a new model of fertility decline that was not dependent on improved socioeconomic conditions. The family planning program in Tamil Nadu had an effective administration, political will, and social reforms—mostly top-down factors.

Zhang (1994) states that occupational status of husband and place of childhood are important factors affecting parity-specific fertility, while the education of wife and husband were of little effect. Mortality and sex of previous children are highly significant in affecting fertility at current parity in keeping with the expected replacement effect and preference for sons.
Finally, family planning policy introduced in the early 1970s seems to have led to a declining importance of socioeconomic variables in affecting cumulative fertility.

2.8 Educations of women and Fertility

Anisworth (1994) states women’s schooling was found to be the most consistently significant determinant of fertility and contraceptive use. Levels of female schooling are very low across the continent, with only a few exceptions. In most cases, men's schooling was also found to be relatively low. Most governments must therefore work to raise the levels of schooling for both men and women. Reducing the levels of child mortality will also help to lower fertility.

Woman’s education has been shown to have a significant effect on delaying the timing or on the wife’s age at first pregnancy, but its effect on the pace of subsequent pregnancies is much smaller and often positive. On the other hand, the woman’s education has a consistently positive effect on the probability of a pregnancy ending in an abortion although the effect shows a steady decline over time(Cho and Ahn, 1993).
Vidal-Zeballos (1993) states that the proportion married, contraceptive usage, and postpartum infecundability accounted for most of the variation in fertility levels. 95% of the variance was explained by proportion married, contraceptive usage, induced abortion, and postpartum infecundability. Early marriage age explained the higher fertility in the low lands and rural areas. In the individual analysis, duration of marriage, second birth interval, and first birth interval were the main proximate determinants of fertility. Increased education contributes to marriage postponement, lower fertility, and limited breast feeding, which contributes to increased natural fertility.

Chamratrithirong et.al, (1992) mentioned that older ages affects a decrease on fertility, migrants having fewer children, higher female education and higher occupational status of husband’s lower fertility. When marriage status is controlled at parity 0 the relationship between individual variables and marriage shows sign changes and reduced effects. The effects of
individual variables are strongest at parity 4 and over, but affect all parities. Variations between regions on individual variables are small. Status of women results shows significant negative effects at parity 4 for the central and northern regions. At parity 1-3 the status of women with contextual variables shows status as an important determinant of fertility. Provinces with higher levels of education had lower fertility. The value of children is negatively associated with fertility. The effect is greatest for parity 1-3 women. The policy implications are that increasing the opportunities for women will have an impact on fertility, and fertility would be indirectly affected through improvements in women’s status.

Contraceptive use has the most potential for exerted changes in fertility; there was an increase from 4.0% to 11% in use of at least 1 method between 1978 and 1986 according to (Onuoha, 1992). Method effectiveness should be promoted, since acceptability appears to have been accomplished.

Ying (1992) noticed that women’s education is usually associated negatively with family size through delayed age at
first marriage, but the effects may vary within ethnic groups. Stronger associations between education and fertility are found for urban and rural Chinese and urban Indians, but socioeconomic factors such as husband’s education and family income replace education in importance. The effect of education on family planning and contraceptive usage is more consistent across ethnic groups. Female employment, income, urbanization, migration, infant mortality, and other socioeconomic factors and their association with fertility are also reviewed. Ethnicity affects method of use, as does religion. Malays desire larger families, marry at earlier ages, and are less likely to use contraception which cannot be explained by compositional effects, and are weakly explained by cultural factors.

Ananta et al, (1992) states the proximate determinants were breast feeding, fertile period (non-amenorrhea), sexual exposure, and contraceptive use. Socioeconomic variables were husband’s education, wife’s education, husband’s occupation, religion, urban/rural status, and region of residence. The logit
regression analysis is controlled by the age of the respondent and number of children ever born at the time of the survey. Fertility is lower when the duration of breast feeding and level of contraceptive use is higher. Fertility is found to be higher when the length of the fertile period and sexual exposure is higher. Education showed no significant impact on duration of breast feeding, but when, both parents' education is considered, women's lack of education is related to having longer fertile periods (an average of 64 months). When the wife's education is considered alone, women with no schooling and less education have 56-44 more months of sexual exposure. The husband's education considered alone followed the same pattern. As level of parents' education rose, the probability of contraception increased. Women have shorter fertile periods when husbands are farmers. Religion explains duration of breast feeding and contraception. All four proximate determinants were found effect on fertility; most socioeconomic factors had no net effect on current fertility. Contraceptive use had the strongest effect on limiting fertility.
Osheba (1992) observed that the change in marriage pattern had the largest contribution to the decline in the total fertility rate (TFR) in only urban Upper Egypt. The change in marriage pattern accounted for 1.48 live births, while the fertility inhibiting effects of contraceptive use and the impact of 1.20 live births cancelled out the fertility promoting effects of the decline in breast feeding of 1.03 live births. Fertility promotion has also been affected by the decline in fetal mortality and the reduction in sterility accounted for by health improvements and increased socioeconomic development. In rural Lower Egypt, the fertility inhibiting impact of contraceptive use (1.7 live births) was greater than the fertility promoting effect of the decline in breast feeding (1.2 live births).

Identification of factors lead people to limit their fertility is one of the most pressing questions posed by demographers and population planners. Education, employment, land ownership, family income, and religion are the factors most often studied in relation to fertility. Empirical evidence suggests that the
hypothesized relationships between socioeconomic variables and fertility are not always consistent, especially in developing countries (Rob, 1992).

Korra (1991) acknowledged that age at 1st marriage is negatively associated with fertility. Mean children ever born (CEB) decreases with the increase in age of 1st marriage in all age and place of residence groups. The differences between urban and rural women are small, but urban women tend to have lower fertility. The age difference between spouses and CEB showed that mean CEB increases when the age difference between spouses widens for total women and rural women. For urban women, CEB decreased as the age gap widens. Differences by religious preference, schooling, and work status are also examined. The highest cumulative fertility is among those who married at the earlier age.

According to Wolde (1991) the most important variables in producing differentials in cumulative fertility, contraceptive use and knowledge, age at 1st marriage, duration of breast feeding, child survival, and desired and total children were education,
childhood place of residence, and occupation. Other variables that did not significantly affect fertility, contraceptive use, or intervening variables were religion and region of residence. In the regression analysis, 72% of the variance in children ever born (CEB) is explained by socioeconomic and demographic variables, followed by additional number of children desired, current age, and age at marriage. Demographic variables have greater explanatory power than socioeconomic variables. It is suggested that raising the level of education and promoting greater urbanization would lead to fertility reduction; infant mortality should also be reduced.

2.9 Psychological determinants of fertility

The changes in fertility-related values tend to lag behind changes in fertility behavior partly because values are widely and quickly shared, suggesting a high degree of homogeneity in the country (Retherford et al., 1999). Many important value changes affecting fertility are linked with major educational and job gains of women, leading to a greater economic independence and increasing emphasis on values of individualism and
equality between males and females. Similarly, this has led to a major increase in mean age at marriage and a major decline in fertility period. Although marital fertility and family size has decreased over the past 2 decades, downward pressures on both figures have been building.

Sathar ZA (1998) states that fertility change has occurred due to macroeconomic trends that have caused household economic stress and social change that has reduced the influence of extended kin and increased husband-wife decision-making about family size. Fertility decline is directly affected by the decline in family size desires and lower social, cultural, and psychic costs of contraception. Family planning service improvements contribute only peripherally to the onset of decline, but will have a key role in sustaining decline after the turn of the century. The obstacles to be overcome are the perception of contraceptive side effects and husband's opposition. There has been a steady increase in marriage age. Analysis of fertility decline with proximate determinants is inconclusive. Socioeconomic changes have occurred over the
past decades and should contribute to fertility decline. Factors that sustained high fertility weakened during the 1990s. Fertility declined due to changes in demand for children, family planning services, and other factors constraining contraceptive use.

Dow et al (1997) states that the respondent's level of education, husband's approval of use of contraception, spousal agreement of number of desired children, and number of living children were the most important and consistent determinants of desired number of children reported by men in 1981 and 1992 and by wives in 1992. The independent contribution of wealth flow and emotional nucleation variables was only 7-10% in 1981 and 10-18% in 1992. To adequately tap the dynamic forces behind the decline in achieved and desired fertility, future research will include qualitative data gained from panel group discussions.

Oates (1997) opinioned that the number of children does not affect self-esteem, for both men and women and for different socioeconomic groups. There is no evidence of nonlinearity in
the relationship between number of children and self-esteem. Moreover, self-esteem does not affect whether men or women have children.

Zodgekar (1996) suggests that it is time for the family welfare program to shift directions. The emphasis of family welfare programs should focus on improving the quality of people's lives rather than on demographic targets or on birth control in a very narrow sense. Quality of life improvements would entail increased literacy, a higher status for women, reduced infant mortality, and reduced poverty. The responsibility for family planning must be placed on individual families and not government effort. In order to achieve almost replacement level fertility by 2010, contraceptive prevalence must increase from the present 44% to at least 70%. Increased contraceptive prevalence will not occur without the adoption of the small family norm and improvement in socioeconomic conditions. Family planning programs and services must be accessible at the village level. Sustained fertility decline is achieved by sustained effort and not short-term drastic actions.
Sandhu (1996) states fertility variation was not explained well by household type, inter-spousal communication, and women's decision making role. These variables and value orientation were correlated with socioeconomic and demographic variables. Religiosity, ideal number of children, and son preference were positively related to fertility. Family planning awareness and attitudes and contraceptive usage were positively related to one another and negatively related to fertility. 13 variables explained 63% of the variance in fertility. Significant independent effects occurred for duration of marriage, experience of infant and child mortality, caste, ideal number of children, and household type. 45% of the variance was explained by marriage duration and child mortality experience.

According to flutter et. al, (.1996) state human development, changes people's desires, and family planning programs provide the means to attain desired fertility. The speed of change depends upon information dissemination, about the benefits of small families and the means to achieve small family size. The
model illustrates how the effectiveness of population policies is influenced by variables at all levels in between policy and individual decision making. Dynamic integrated fertility models provide a means to analyze the complex interactions between biological, behavioral, and social processes determining fertility.

Yadava (1995) analysed the fertility among high-status women and noted that it was lower by two children than fertility among low- and middle-status women. The gross reproduction rate was 4.4 births among low-status women and 2.5 births among high-status women. Use of contraception was found related to the exposure and interaction outside the confines of the household. The relationship between fertility and household economic status followed a U-shaped pattern in each woman’s status group. Women had higher female roles among the lowest education and income populations.

Isiugo-Abanihe (1994) reported that fertility and inter-spousal communication about family planning, monogamy, and inter-spousal age differences were positively related. Cultural factors reduced the impact of social status factors. The trends were
similar for desired family size. The analysis of women by (20-34 years and 34-49 years) showed only son preference and patriarchy affecting younger women, but for older women all three cultural factors were significantly related. Education, urban residence, and marriage had significant effects on children ever born and desired family size among younger women. Culture was more important for older women. In the reduced model, urban residence, higher education, and inter-spousal communication were significantly and inversely related to the desire for six or more children. Desire for more children was inversely related to number of surviving children; surviving children was positively related to current contraceptive use, particularly among younger women. Contraceptive use was inversely related to the three cultural variables. Among older women, closer spouse age was related to a lower likelihood of contraceptive use.

2.10 Education and fertility

Rahman (1993) states 63% of 3145 women having a live birth within 5 years compared with 66% of the 4075 women in the
comparison area. 48% of women in the treatment area, who used contraception after the birth of the index child, had a live birth compared with 80% of nonusers in the treatment area. For parities 2 through 5, the probability of birth was always greatest for women with no surviving sons. Fertility would be lower by 13% in the treatment area and 6% in the control area without gender preference. Several models were generated for parities of 4 or more in the multivariate analysis. The findings confirm that gender composition and socio-demographic factors affect birth spacing in Matlab, particularly in the treatment area. Preferences vary by area, but not by mother's educational level or religion. The preference is for at least 1 or 2 sons and at least a daughter; this preference is stronger in the treatment area and among contraceptive users with small and large families. The risk of conception declines significantly with the number of sons.

When all covariants were included in a single model, joint decision making within the household, husband's education (completion of at least primary school), and wife's land
ownership were found to decrease women’s son reliance while arranged marriage and women’s dependence on financial aid from the husband’s family increased son reliance (Kritz, 1993). Only 24% of female respondents indicated they did not desire additional children. When age and parity were held constant in a combined model, the desire to terminate childbearing was positively associated with spousal communication regarding family size and contraceptive use, female ownership of land, and expense sharing between husbands and wives. Female educational attainment was found to raise rather than lower family sizes preferences in this rural sample.

Ogawa et al., (1993) found that women’s rising educational attainment plays an important role in inducing the new marriage and fertility pattern. The effect of women’s education is associated with a number of related socioeconomic changes, including rising wages of women and higher opportunity costs of marriage and childbearing, as well as changes in values.

Vidal-Zeballos (1993) reported that the proportion married, contraceptive usage, and postpartum infecundability accounted
for most of the variation in fertility levels. 95% of the variance was explained by proportion married, contraceptive usage, induced abortion, and postpartum infecundability. Early marriage age explained the higher fertility in the lowlands and rural areas. Breast feeding for 18.31 months in the highlands and 17.92 months in rural areas inhibited natural fertility. The lowlands had higher natural fertility and lower total marital fertility. Observed fertility was 4.9. Total fertility in the highlands and valleys was inhibited by extended breast feeding and later age at marriage. In individual analysis, duration of marriage, second birth interval, and first birth interval were the main proximate determinants of fertility. Duration of marriage had the strongest impact, with a birth every 2.5 years over a 30-year period. Contraceptive use for total population was explained by cost of regulation. Modernization and cultural factors are interrelated in their impact on fertility. Increased education contributes to marriage postponement, lower fertility, and limited breast feeding, which contributes to increased natural fertility.
The level of education appears to be more closely related to economic status than mass media exposure or domestic autonomy. The relationship is examined further by analysis of the effect of female education on intervening variables and the filled: ol intervening variables on fertility (Jejeebhoy ,1993). intervening variables are identified as marriage age and duration, duration of breast feeding, duration of postpartum abstinence and amenorrhea, birth intervals, infant and child survival, and relative importance of the components of the supply of births. Other impacts are identified as’ son preference, fertility preference, child labor support tot he family, expectations of future old age support, alternative sources of income security, and investment in children’s education. The findings of the study indicate that women's education is moderately related to fertility promoting and fertility inhibiting intervening variables. Education affects fertility through age at marriage.

Becker (1992) found fertility and the demand for children are linked to parental incomes and the cost of rearing children, which is affected by public policies that change the costs.
Demand is also related to child and adult mortality; and uncertainty about sex of the child. Fertility in one generation affects fertility in the next. Malthusian and neoclassical models do not capture the current model of modern economies with rising per capita income and human and physical capital, extensive involvement of married women in the labor force, and declining fertility to very low levels. The implication is that a rise in income could reduce the demand for children when education and training of children increases.

2.12 Conclusion

From the review of related literature it is found that there are number of studies analysing the socio-economic and demographic determinants of fertility. However, investigations to probe the psycho-social variables as determinants of fertility are conspicuous by their absence especially in rural regions in India. Hence the present study is carried out in a block to find out the psycho-social determinants of fertility.